

## Alexandra Boltasseva

**Ron and Dotty Garvin Tonjes Distinguished Professor of Electrical and Computer Engineering**  
**Professor of Materials Engineering** (courtesy)

Elmore Family School of Electrical and Computer Engineering  
Birck Nanotechnology Center and Purdue Quantum Science and Engineering Institute  
Purdue University  
1205 West State Street, West Lafayette, Indiana, USA 47907-2057  
+1 765 494 0301 (Phone) [aeb@purdue.edu](mailto:aeb@purdue.edu) (e-mail)

### Summary:

Prof. Boltasseva's team specializes in nano- and quantum photonics, optical materials, plasmonics, optical metamaterials, and nanofabrication. The central theme of Boltasseva's research is to find new ways for the discovery, realization, and machine-learning-assisted optimization of nanophotonic structures - from material growth to advanced photonic designs and device demonstrations. Prof. Boltasseva's team aims at developing new platforms to unlock properties of nanophotonic structures in previously unavailable designs and wavelength regimes and to enable new generations of low-loss, tunable, reconfigurable, semiconductor-compatible devices for applications in on-chip circuitry, information processing, data recording/storage, sensing, medical imaging and therapy, energy conversion and quantum information technologies.

### Education and Training:

- 1999 B.S. Applied Physics & Mathematics, Moscow Institute of Physics and Technology, Russia (summa cum laude) (Dr. A. Bogatov)
- 2000 M.S. Applied Physics & Mathematics, Moscow Institute of Physics and Technology, Russia (summa cum laude) (Dr. A. Bogatov)
- 2004 Ph.D. Electrical Engineering, Research Center COM, Technical University of Denmark, Denmark (Prof. S. Bozhevolnyi)

### Professional Career:

|                                                                                                                            |                   |
|----------------------------------------------------------------------------------------------------------------------------|-------------------|
| Ron and Dotty Garvin Tonjes Distinguished Professor of ECE                                                                 | 08/2023 – present |
| Ron and Dotty Garvin Tonjes Professor of ECE                                                                               | 08/2020 – present |
| Professor, Materials Engineering, courtesy appointment, Purdue University                                                  | 10/2018 – present |
| Professor of ECE, Purdue University                                                                                        | 08/2016 – present |
| Associate Prof. (tenured) of ECE, Purdue University                                                                        | 08/2013 - 07/2016 |
| Adjunct Associate Professor, DTU Fotonik, Technical University of Denmark                                                  | 10/2011 - present |
| Assistant Prof. (tenure track) at ECE, Purdue University                                                                   | 09/2008 - 08/2013 |
| Guest Prof. at SAOT, Universität Erlangen-Nürnberg, Germany                                                                | 11/2009 - 12/2012 |
| Associate Prof. (tenured) at DTU Fotonik, Technical University of Denmark                                                  | 07/2008 - 08/2010 |
| Assistant Professor at COM•DTU, Technical University of Denmark                                                            | 2007 – 2008       |
| Post. Doc. at COM•DTU, Technical University of Denmark                                                                     | 2005 – 2007       |
| Research Scientist at Alight Technologies A/S, Denmark                                                                     | 2004 – 2005       |
| Research Assistant (Ph.D. candidate) at Micro Managed Photons A/S, Denmark                                                 | 2002 – 2004       |
| Research Assistant (M.S. candidate) at P. N. Lebedev Physical Institute of the Russian Academy of Sciences, Moscow, Russia | 1998 – 2000       |

### Professional Recognitions, Honors, Appointments and Awards:

- 2025 Featured in the “QUANTUM 100” initiative (<https://quantum2025.org/quantum-100-hub/>)
- 2024 **Highly Cited Researcher** (Cross-Field), Web of Science Researcher (Years: 2024, 2022, 2021, 2020)
- 2023 **Fellow of American Physical Society (APS)**
- 2023 **R. W. Wood Prize**, Optica
- 2023 MRS Meeting Chair, Materials Research Society 2023 Fall Meeting
- 2022 **Guggenheim Fellow**
- 2021 **Fellow of the MRS** – Materials Research Society
- 2020 **Fellow of the National Academy of Inventors** (NAI)

|           |                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2020      | Ron and Dotty Garvin Tonjes Named Professor of ECE, Purdue University                                                                                                                                                                                                                                                                                                                                            |
| 2020      | <b>Fellow of the IEEE</b> - the Institute of Electrical and Electronics Engineers                                                                                                                                                                                                                                                                                                                                |
| 2019      | Inaugural Discovery Park Fellow, Purdue University                                                                                                                                                                                                                                                                                                                                                               |
| 2018      | <b>Blavatnik National Award Finalist</b> , Young Scientists in Physical Sciences and Engineering                                                                                                                                                                                                                                                                                                                 |
| 2017      | <b>Fellow of the SPIE</b> - International Society for Optical Engineers                                                                                                                                                                                                                                                                                                                                          |
| 2016      | <b>Editor-in-Chief</b> , Optical Society of America (OSA)'s Optical Materials Express (2016 - 2021)                                                                                                                                                                                                                                                                                                              |
| 2015      | National Academy of Engineering (NAE) U.S. Frontiers of Engineering (FOE) Symposium Invited Speaker, September 9-11, 2015, National Academies' Beckman Center in Irvine, California, USA                                                                                                                                                                                                                         |
| 2015      | <b>Fellow of the OSA</b> - Optical Society of America                                                                                                                                                                                                                                                                                                                                                            |
| 2014      | Selected to Purdue Innovator Hall of Fame, Purdue Research Foundation, Purdue University                                                                                                                                                                                                                                                                                                                         |
| 2014      | Inaugural "DANIELA PUCCI" prize at NanoPlasm Conference, June 16-20, 2014, Cetraro, Italy                                                                                                                                                                                                                                                                                                                        |
| 2014      | Elected to <b>MRS Board of Directors</b> - Materials Research Society (two-year term 2014-2016)                                                                                                                                                                                                                                                                                                                  |
| 2014      | University <b>Faculty Scholar</b> , College of Engineering, Purdue University ( <i>awarded to faculty "on an accelerated path toward academic distinction" with additional funding for research</i> )                                                                                                                                                                                                            |
| 2013      | <b>Materials Research Society (MRS) Outstanding Young Investigator Award</b> ( <i>awarded annually to one young scientist for "interdisciplinary scientific work in materials research and "exceptional promise as a developing leader in the materials area"</i> )                                                                                                                                              |
| 2013      | <b>Institute of Electrical and Electronics Engineers (IEEE) Photonics Society Young Investigator Award</b> ( <i>awarded annually to an individual who has made outstanding technical contributions to photonics prior to his or her 35<sup>th</sup> birthday</i> )                                                                                                                                               |
| 2012      | National Academy of Engineering (NAE) U.S. Frontiers of Engineering (FOE) Symposium participant, September 13-15, 2012, GM Technical Center, Warren, Michigan, USA ( <i>invitation-only symposium gathering 78 outstanding engineers under the age of 45</i> )                                                                                                                                                   |
| 2012      | Purdue College of Engineering <b>Early Career Research Award</b> ( <i>for 'early excellence with clear potential for future preeminence in research'</i> )                                                                                                                                                                                                                                                       |
| 2011      | <b>MIT Technology Review TR35 Award</b> ( <i>Technology Review magazine published by MIT 'honors 35 innovators under 35 each year whose work promises to change the world'</i> )                                                                                                                                                                                                                                 |
| 2010      | The Acorn Award: Seed for Success, Purdue ( <i>PI and co-PIs garnering \$1 million or more in research grants, with Prof. Shalaeu and Prof. Narimanov</i> )                                                                                                                                                                                                                                                      |
| 2009      | Erlangen Graduate School in Advanced Optical Technologies (SAOT) <b>Young Researcher Award in Advanced Optical Technologies</b> , Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany ( <i>awarded annually to an outstanding young scientist in the field of optics and photonics', prize money EUR 100,000 to be used freely for establishing collaborative activities and research links to SAOT</i> ) |
| 2009      | Chicago Alumni New Faculty Award, Purdue faculty start-up package                                                                                                                                                                                                                                                                                                                                                |
| 2008      | <b>Young Researcher Participant, 58th Meeting of Nobel Prize Winners in Physics</b> , Council for the Lindau Nobel Laureate Meetings, Lindau, Germany ( <i>Nomination by the Danish Research Council, chosen in closed competition among young scientists worldwide, 1 out of total 2 participants from Denmark</i> )                                                                                            |
| 2008      | <b>"Ung Eliteforskerpris": Young Elite-Researcher Award</b> from the Danish Councils for Independent Research, Denmark ( <i>awarded annually to only 20 scientists across all disciplines, including liberal arts</i> )                                                                                                                                                                                          |
| 2006      | "UBVAs forfatterlegat": Danish Confederation of Professional Associations prize for PhD dissertation                                                                                                                                                                                                                                                                                                             |
| 2004      | <b>"Talent Project" grant</b> from the Danish Technical Research Council, Denmark ( <i>independent postdoc grant to establish own activities</i> )                                                                                                                                                                                                                                                               |
| 1999      | Lenin's scholarship for academic excellence, Russia ( <i>the highest award for academic excellence</i> )                                                                                                                                                                                                                                                                                                         |
| 1996-1999 | Moscow Institute of Physics and Technology Lenin Scholarship for academic excellence, Russia                                                                                                                                                                                                                                                                                                                     |
| 1993,1994 | Winner of High-School Physics Olympics of Chuvash Republic, Russia                                                                                                                                                                                                                                                                                                                                               |
| 1993      | Honor Award for the best experimental work at All-Russian Physics Olympics, Russia (1993)                                                                                                                                                                                                                                                                                                                        |

## Research Grants and Contracts Received:

- [1] Principal Investigator (**PI**), Surface Plasmon Polariton Optics Using Advanced Nanotechnology, Danish Technical Research Council (FTP) grant #26-04-0268, \$300,000, 2005-2007
- [2] **PI**, On-Chip Nano-Imaging Using Superlens (NanoMIUS), Danish Research Council for Technology and Production Sciences (FTP) grant #274-07-0057, \$900,000, 2009-2011
- [3] **PI**, Improved Plasmonic Materials for Nanophotonics, Purdue Research Foundation (PRF) grant, \$16,750, 2009-2010
- [4] **PI**, Searching for Better Plasmonic Materials, Army Research Office (ARO), grant #W911NF-09-1-0516, \$50,000, 09/15/2009 – 06/14/2010

- [5] co-PI (PI: D. Smith, DukeU), Transformation Optical Metamaterials, Army Research Office (ARO) Multidisciplinary University Research Initiative (MURI), grant #56154-PH-MUR (W911NF-09-1-0539), Boltasseva's part \$0.6M, 09/28/2009 – 01/27/2014
- [6] **PI**, School in Advanced Optical Technologies (SAOT) Young Researcher Award in Advanced Optical Technologies, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany, total funds ~\$145,000, 2009-2012
- [7] **PI**, Glancing Angle Deposition System for Transformation-Optics Devices, Defense University Research Instrumentation program (DURIP), Army Research Office (ARO), grant #57566-PHRIP (W911NF-10-1-0380), \$150,000, 08/10/2010-09/09/2011
- [8] co-PI (PI: N. Engheta, UPenn) Large-Area 3D Optical Metamaterials with Tunability and Low Loss, Office of Naval Research (ONR) Multidisciplinary University Research Initiative (MURI), grant #N00014-10-1-0942, Boltasseva's part \$0.9M, 08/01/2010-07/31/2015
- [9] **PI**, Unlocking new physics with improved plasmonic materials, Army Research Office (ARO), grant #57981-PH (W911NF-11-1-0359), \$400,000, 08/01/2011-07/30/2014
- [10] Co-PI, (PI: T. Norris, University of Michigan), Center for Photonic and Multiscale Nanomaterials (C-PHOM), NSF grant DMR-1120923, Materials Research Science and Engineering Center (MRSEC), Boltasseva's part 100k/year, 09/15/2011-08/31/2018
- [11] **PI**, Office of the Vice President for Research (OVPR) Laboratory Equipment Program, Purdue University, grant #206391, proposal #13055326, \$50,000, 01/05/2012-31/12/2013
- [12] co-PI (PI: V. Shalaev, Purdue), Flat Photonics with Metasurfaces, Army Research Office (ARO), grant #106619, total \$1M; Boltasseva's part \$0.5M (\$100,000/year), 07/01/2013-06/30/2017
- [13] Co-PI, (PI: M. Stockman, Georgia State University), Office of Naval Research (ONR) Multidisciplinary University Research Initiative (MURI), Novel Nonlinear Optical Processes in Active, Random, and Nanostructured Systems, Boltasseva's part \$180,000/year, 10/01/2013-08/31/2020
- [14] **PI**, Air Force Office of Scientific Research (AFOSR), CMOS-Compatible Plasmonics for Hybrid Nanophotonic Circuits, total \$600,000, 06/01/2014 - 05/31/2017
- [15] **PI**, Air Force Office of Scientific Research (AFOSR) equipment grant, Tunable Femtosecond Laser System for Advanced Linear and Nonlinear Investigation of Novel Alternative Plasmonic Materials and Devices, \$318,623.00, 06/01/2015 - 05/31/2017
- [16] Co-PI, (PI: F. Capasso, Harvard), Air Force Office of Scientific Research (AFOSR) MURI, Active Metasurfaces for Advanced Wavefront Engineering and Waveguiding, Boltasseva's part \$160K/year, 07/01/2014 – 06/30/2019
- [17] **PI**, National Science Foundation, Enabling High-Temperature Photonics with Plasmonic Ceramics, Total \$500,000, 09/01/2015-08/31/2018
- [18] **PI**, Office of the Vice President for Research (OVPR) Laboratory Equipment Program, Purdue University, \$37,349.35, 12/16/2015-06/01/2016
- [19] Co-PI, (PI: V. Shalaev, Purdue), Office of Naval Research (ONR) DURIP, Time-Resolved Fluorescence Spectroscopy with Nanoscale Manipulation Capability for Novel On-Chip Nanophotonic Quantum Devices, \$278,000, 07/15/2016-07/14/2017
- [20] Co-PI, (PI: E. Marinero, Purdue), Office of Naval Research (ONR), Merging Spintronics and Nanophotonics: The Confluence of Spin, Photons, Plasmons and Charge for Novel Hybrid Photonics and Nano-electronic Device, Total \$300,000, 09/01/2016-08/31/2018
- [21] **PI**, Sandia National Laboratory, Near Infrared Nanophotonics through Dynamic Control Carrier Density in Conducting Ceramics, \$55,000/year, 11/2016-10/2019
- [22] **PI**, Air Force Office of Scientific Research (AFOSR), Hot-Electrons Generation in New Plasmonic Materials for Integrated On-Chip Devices, total \$750,000, 04/27/2017 – 04/26/2020
- [23] **PI**, Office of Naval Research (ONR), Defense University Research Instrumentation program (DURIP), Optical Characterization System for Novel On-Chip Nanoscale Light Sources, Total \$170,000, 06/01/2017-05/31/2018
- [24] co-PI (PI: V. Shalaev), Air Force Office of Scientific Research (AFOSR), Space-Time Photonic Metamaterials: From Design and Materials to Device Concepts, total \$795,000; Boltasseva's budget \$125,000/year, 11/15/2017-05/31/2022
- [25] **PI**, Basic Energy Sciences (BES), U.S. DOE Office of Science, Control of light-matter interaction with epsilon-near-zero homogeneous alternative plasmonic materials, total \$1,309,000, 07/01/2017-06/30/2020
- [26] Co-PI (PI: Y. Chen, Purdue), Purdue University, Big Idea Challenge Research Grant, Photonics Technologies for Bio Security, Food Safety and other Health Applications, Boltasseva's budget 30k, 04/01/2017-03/31/2019

- [27] Co-PI, Office of Naval Research (ONR) DURIP, Versatile Sputtering Tool for New Optical Materials for High-Temperature Plasmonics, Robust On-chip Nanophotonics, and Quantum Devices, \$456,000, 07/15/2018-07/14/2019
- [28] Co-PI, (PI: E. Marinero, Purdue), Office of Naval Research (ONR), Topology and Magneto-Photonics: Novel Platform for Advanced Metasurface and Magnonic Devices, Total \$450,000, 08/01/2018-07/31/2021
- [29] Co-PI (PI: V. Shalaev, Purdue) Office of Naval Research (ONR) DURIP, Advanced Pulsed Laser Deposition for Ultrafast, Tunable Metal and Magneto Oxide Nanophotonic Devices, \$162,150, 7/1/2019-6/30/2020
- [30] **PI**, Office of Naval Research (ONR), Extreme Nonlinear Optics with Low-Index Materials, total \$300,000, 01/01/2020 -01/31/2023
- [31] **PI**, Air Force Office of Scientific Research (AFOSR), Trans-Dimensional Photonics: From Evolution of Material Properties to Exploring, total: \$800K, 01/01/2020 -05/31/2024
- [32] co-PI, (PI: V. Shalaev, Purdue), Office of Naval Research (ONR) DURIP, Ultra-high Vacuum Tool for Growth of Hybrid Magnetic and Plasmonic/Photonic Materials for Novel Magnetophotonic Devices and Quantum Information, \$968,275; 02/01/2020-01/31/2021
- [33] **PI**, Breakthrough Prize Foundation, Exploring Materials and Nanophotonic Structures for LightSail: From Temperature-Dependent Properties to Global Design Optimization, total \$150,000; 11/1/2019-10/31/2021
- [34] **PI**, Basic Energy Sciences (BES), U.S. DOE Office of Science, Opening New Frontiers of Near-Zero-Index Optics: from Photonic Time Crystals to Non-Reciprocity and Novel Localization Regimes, renewal; total \$1,403,000, 07/01/2020-06/30/2023
- [35] Co-PI (PI: V. Shalaev, Purdue), National Science Foundation, Quantum MetaQuantum: Hybrid Photonic Meta-Structures for Quantum Information Systems, total \$420,000; 09/15/2020-12/31/2023
- [36] **PI**, National Science Foundation, Machine-Learning-Optimized Refractory Metasurfaces for Thermophotovoltaic Energy Conversion, \$450,000; 09/15/2020-12/31/2024
- [37] Co-PI (PI: M. Khajavikhan, University of Southern California), Air Force Office of Scientific Research (AFOSR) Multidisciplinary University Research Initiative (MURI), Novel Light-Matter Interactions in Topologically Non-Trivial Weyl Semimetal Structures and Systems, Total \$2,483,750; Boltasseva part \$200,000; 09/15/2020-10/14/2025
- [38] Co-PI, (PI: V. Shalaev, Purdue University), Office of Naval Research (ONR) Multidisciplinary University Research Initiative (MURI) renewal, Novel Materials and Approaches for Nanolasing, Total \$4,826,764, Boltasseva part \$400,000/year; 09/01/2020-12/31/2024
- [39] Co-PI (Purdue PI: Y. Chen), Quantum Workforce Development Lead, the U.S. Department of Energy (DOE) Office of Science National Quantum Information Science Research Center, the Quantum Science Center (QSC), Total \$11,066,000; Purdue \$1.466M (Y1), \$2.4M (Y2-Y5); Boltasseva part \$250,000/year, 10/01/2020-09/30/2025
- [40] Co-PI (PI: E. Marinero, Purdue), Office of Naval Research (ONR), Magneto-Plasmonic Magnonics: Spin Wave Manipulation and Topological Magnonic and Photonic Crystals, Total \$300,000, 07/01/2021-06/30/2024
- [41] **PI**, (co-PI: F. Capasso, Harvard) Office of Naval Research (ONR), Meta-Cavity-Mediated Strong Light-Matter Coupling in Two-Dimensional Materials, total award \$1,050,000, 07/2022 -12/2026
- [42] Co-PI (PI: V. Shalaev, Purdue), Air Force Office of Scientific Research (AFOSR), Hybrid, Room-Temperature, Quantum On-Chip Photonic Systems: Integrating Quantum Emitters with Nanoplasmonics, Boltasseva's part \$150,000/year, 07/01/2022-06/30/2026
- [43] **PI**, the U.S. DOE Office of Science, Basic Energy Sciences (BES), Control of light-matter interaction with epsilon-near-zero homogeneous alternative plasmonic materials, Renewal, total \$1,400,000, 07/01/2023-06/30/2026
- [44] Collaborator (PI: H. Alaeian), Department of Defense, 2022 Defense Established Program to Stimulate Competitive Research (DEPSCoR) Research Collaboration, Rydberg Photonics: Quantum Many-Body Simulator with Photons, 05/31/2023-04/30/2024
- [45] Co-PI (PI: H. Alaeian), Air Force Office of Scientific Research (AFOSR), total \$600,000, 08/01/2023-07/31/2026
- [46] Co-PI (PI: L. Huang, Purdue), deputy director, The U.S. Department of Energy (DOE) Energy Frontier Research Center (EFRC) Quantum Photonics Integrated Design Center (QuPIDC), total amount \$16,000,000, 09/2024-08/2028

- [47] Co-PI (PI: J. Liu, Northeastern), National Science Foundation (NSF) Collaborative Research: DMREF: Accelerating the Design and Development of Engineered Photonic Materials on a Data-Driven Deep Learning Approach, Boltasseva's part \$375,000; 10/01/2024-09/30/2029
- [48] Co-PI (PI: H. Alaeian), The U.S. Department of Energy (DOE) Energy, Basic Energy Sciences (BES), Quantum Rydberg Photonics, total \$900,000, 03/2024-02/2027
- [49] National Science Foundation (NSF) National Quantum Virtual Laboratory (NQVL) Quantum Science and Technology Demonstration (QSTD) center: Quantum Photonic Integration and Deployment (QuPID), participant, Boltasseva's part 100,000/year, 12/2024-11/2029
- [50] Co-PI (PI: A. Banerjee, Purdue), WM Keck Foundation, Uncovering Elusive Kitaev Topological States with Strain and Optical Probes, total amount \$1,200,000 01/01/2025-12/31/2027
- [51] PI, Army Research Office (ARO), Ultrafast Space-Time Photonics and Single-Photon Optical Modulators, total amount \$950,000 01/2025-12/2027
- [52] PI, (Co-PI: Y. Gogotsi, Drexel University) National Science Foundation (NSF), Collaborative Research: Unlocking New Properties of MXenes: From Optical Response to Novel Electronic Phenomena, total amount \$722,000 09/2025-08/2028
- [53] Co-PI, (PI: V. Shalaev, Purdue University), Army Research Office (ARO), Exploring Kitaev Topological Materials: From Strain Engineering to Novel Optical Probes, total amount \$900,000 09/2025-08/2028

## Professional Activities and Affiliations:

### Leadership:

- Purdue Faculty Representative, Chicago Quantum Exchange (CQE) Steering Committee (2024-present)
- Deputy Director, the U.S. Department of Energy (DOE) Energy Frontier Research Center (EFRC) Quantum Photonics Integrated Design Center (QuPIDC) (2024-present)
- Workforce Development Lead, the U.S. Department of Energy (DOE) Office of Science National Quantum Information Science Research Center, the Quantum Science Center (QSC) (10/2020 – 09/2025)
- Elmore ECE Emerging Frontiers Center “Crossroads of Quantum and AI,” Elmore Family School of Electrical and Computer Engineering, Purdue University, Director (2021-2025)
- 2023 MRS Fall Meeting Chair
- The White House National Quantum Initiative Center Summit invitee, the National Quantum Coordination Office (NQCO) (October 2022)
- OPTICA Publication Council member (2022-2025)

### Professional Society activities and memberships:

American Physical Society (APS) **Fellow** (2023)  
 Materials Research Society (MRS) **Fellow** (2021)  
 National Academy of Inventors (NAI) **Fellow** (2020)  
 The Institute of Electrical and Electronics Engineers, **IEEE Fellow** (2020)  
 International Society for Optical Engineers, **SPIE Fellow** (2017)  
 OPTICA (formerly Optical Society of America OSA) **Fellow** (2015)  
 Elected member of the Materials Research Society, **MRS Board of Directors** (2014-2017)  
 Materials Research Society, **MRS Congressional Visits** Day participant, United States Congress, Washington, DC (2014)  
 Optical Society of America OSA Student chapter advisor, Purdue (2014-present)  
 SPIE, International Society for Optical Engineers Student chapter advisor, Purdue (2014-present)  
 Purdue Performance Collaborative faculty advisor (2017-present)  
 Member of the Advisory Network, Optical Society of America OSA (since 2011)  
 Member, Optical Society of America OSA (since 2009), senior member (since 2011)  
 Member, SPIE, International Society for Optical Engineers (since 2008), senior member (since 2015)  
 Member, Danish Optical Society, DOPS (2007-2009)  
 Member, Network for Women in Physics in Denmark, KIF (2005-2010)  
 Member, Nordic Network for Women in Physics, NorWiP (2005-2010)

### Editorial:

**ACS Photonics**  
**Applied Physical Reviews**

Editorial Advisory Board member (2023-2025)  
 Member of the Editorial Board (2021-present)

**Optical Materials Express**  
**Optical Materials Express**  
**MRS Communications**

**Optics Letters**

**ACS Photonics**

**Advanced Optical Materials**

**Scientific Reports (Nature Publishing Group)**

**EDP** (publisher of European Physics Journal and EPL)

**Advances in Optoelectronics**

**Advanced Electromagnetics**

**Journal of Optics**

**Materials**

**Journal of Optics**

**Editor-in-Chief** (01/2016 – 12/2021)

Guest Editor, focus issue "Plasmonics" (2015)

Guest Editor, focus issue "Frontiers in Photonics, Plasmonics and Metamaterials" (2015)

Topical Editor (03/2011 - 03/2014)

(04/2014 – 12/2015)

Member of the Editorial Board (2015-2016)

Editorial advisory board member (2014-2016)

Editorial Board member, Topical Editor (2014-2016)

Editorial Board member (2013-2016)

Guest Editor, special issue, Modern Trends in Metamaterial Applications (2012)

Editor and editorial board member (ISSN 2119-0275) (2011-2012)

Topical Editor, Nanophotonics and Plasmonics (2011-2012)

Guest Editor, special issue on Next Wave of Metamaterials (ISSN 1996-1944) (2010-2011)

Deputy Topical Editor, Nanophotonics and Plasmonics (2009-2010)

#### **Advisory Boards and Awards Committees:**

- XPANCEO (xpanceo.com), Scientific Advisory Board member (2025-present)
- Purdue Faculty Representative, Chicago Quantum Exchange (CQE) Steering Committee (2024-present)
- Center for Polariton-driven Light-Matter Interactions (POLIMA), University of Southern Denmark, Advisory Board member (2022-present)
- Constructor University, Strategic Advisory Board member (2022-present)
- Australian Research Council Centre of Excellence for Transformative Meta-Optical Systems (TMOS), Scientific Advisory Board member (2021-present)
- Division of Laser Science, American Physical Society (APS) (2024-present) - Nomination Committee member
- IEEE Photonics Society Emerging Technologies Taskforce committee member (2023-2024)
- 2023 IEEE Photonics Society (IPS) Joint Awards Committee (JAC) member
- IEEE Photonics Society (IPS) Awards committee member (2022-2023)
- IEEE Photonics Society Emerging Technologies Taskforce committee member on Quantum Photonics (2021-2024)
- Transformative Quantum Technologies (TQT) center, University of Waterloo, Scientific Advisory Committee (SAC) member (2021-2024)
- EU TOCHA program on "Dissipationless topological channels for information transfer and quantum metrology", Scientific Advisory Board Member (2019-2022)
- Quantum Economic Development Consortium (QED-C), Workforce Committee member (2019-2021)
- 2019 Nick Holonyak Jr. Award Committee **Chair** (Past Chair, 2020) (03/2019-02/2021)
- Technical University of Denmark, Department of Nanotechnology (2019), External Member of the search committee
- European VISORSURF: A Hardware Platform for Software-driven Functional Metasurfaces program, Advisory Board Member (2017-2021)
- 2018 Nick Holonyak Jr. Award Committee member, Optical Society of America (OSA) (2018-2020)
- Marie Curie Co-funding of Regional, National and International Programmes (COFUND) program MULTIPLY Selection & Evaluation Committee, Member (2017-2018)
- "Japan Prize" (awarded to one scientist in each field, approx. US\$450,000), Official Nominator <http://www.japanprize.jp/en/> (2015, 2016, 2023)
- 2015 Prize for Research into the Science of Light Jury committee, Quantum Electronics and Optics Division (QEOD), European Physical Society (EPS), Member (8 in total) (2014)

#### **International expert/reviewer panels (on-site):**

- **Novo Nordisk Foundation**, Denmark, the Natural and Technical Sciences committee member (2020-2025)
- Helmholtz Association evaluation panel, Germany - review of the **Karlsruhe Institute of Technology (KIT)** in the field of "Key Technologies – Material", Karlsruhe, Germany (2025)

- The Optica Foundation Challenge, selection committee member (awards 10 US\$100,000 grants to early-career professionals “to use optics to change the world for the better”) (2023 and 2024)
- Helmholtz Association evaluation panel, Germany - review of the **Karlsruhe Institute of Technology (KIT)** in the field of “Key Technologies – Material”, Karlsruhe, Germany (2017)
- Ireland Future Research Leaders Programme evaluation committee, **Science Foundation Ireland** (2017)

#### **Activities as Referee/Jury:**

**Referee** for Journal of Optical Society of America B, Optics Letters, Nature Photonics, Metamaterials, Materials, Nano Letters, Science, Nature Physics, Optics Express, Journal of Lightwave Technology, Optics Communications, IEEE Journal of Quantum Electronics, IEEE Photonics Technology Letters, IEEE Antennas and Wireless Propagation Letters, Microelectronic Engineering

**Reviewer:** Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials (2008, 2010, 2011, 2012, 2013, 2015, 2016, 2017, 2018, 2021, 2022, 2023)

**Referee for Funding Agencies:** USA: National Science Foundation NSF, Divisions ECCS and EPM (Electronic and Photonic Materials), Division of Materials Research (DMR); Army Research Office; U. S. Department of Energy DOE Office of Basic Energy Sciences (BES), DOE Early Career program

*International:* General Research Fund Hong Kong; Swiss National Science Foundation; U.S.-Israel Binational Science Foundation; European Commission programs; Science Foundation Ireland, Dublin; Estonian Science Foundation, ETH Zurich Research Commission; Israel Science Foundation; DFG/German Research Foundation

#### **Conference Committees:**

1. International Conference on Materials for Advanced Technologies, ICMAT 2009, Singapore, June 28-July 3, 2009 – Member of the program committee
2. Conference on Lasers and Electro-Optics and Conference on Quantum Electronics and Laser Science CLEO/QELS 2009, Baltimore, Maryland, USA, May 31-June 5, 2009 – Member of the QELS technical subcommittee “Fundamentals of Metamaterials”
3. CLEO/QELS 2010, San Jose, California, USA, May 16-21, 2010 – Member of the QELS-03 “Metamaterials and Complex Media” technical subcommittee
4. International Conference on Coherent and Nonlinear Optics (ICONO-2010), Kazan, Russia, August 23-27, 2010 – Member of program subcommittee on “Physics of Metamaterials, Periodic and Random Media”
5. International Conference on Fiber Optics and Photonics, “PHOTONICS – 2010,” Guwahati, India, December 11 – 15, 2010 - Member of the International Advisory Committee
6. Electronic Materials Conference 2011, Santa Barbara, CA, USA, June 22-24, 2011 – Member of the organizing committee
7. CLEO/QELS 2012 – Member of the QELS “Metamaterials and Complex Media” technical subcommittee
8. International Workshop “Novel Ideas in Optics: From Advanced Materials to Revolutionary Applications,” West Lafayette, IN, USA, May 31-June 2, 2012 – Member of the organizing committee
9. CLEO/Europe 2013 – Member of the “Micro and Nano Photonics” subcommittee
10. International Conference on Coherent and Nonlinear Optics and Conference on Lasers, Applications, and Technologies ICONO/LAT 2013, Moscow, Russia, June 18-22, 2013 – **co-chair** of the ICONO subcommittee on “Nano-Optics and Plasmonics”
11. International Conference on Materials for Advanced Technologies, ICMAT 2013, Singapore, June 30-July 5, 2013 – **co-chair** of the symposium on “Plasmonics and Metamaterials”
12. SPIE Optics and Photonics, San Diego, California, USA, August 25-29, 2013 – member of the program committee on “Metamaterials”
13. 2013 IEEE Photonics Conference, September 8-12, 2013 – member of the Photonic Materials and Metamaterials Subcommittee
14. 8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2014, Copenhagen, Denmark, August 25-28, 2014 - member of the Technical Program Committee
15. SPIE Optics and Photonics, San Diego, CA, USA, August 17-21, 2014 - members of the Program Committee of the “Metamaterials, Metadevices, and Metasystems” conference
16. 2014 IEEE Photonics Conference, San Diego, California USA, October 12-16, 2014 – member of the Photonic Materials and Metamaterials Subcommittee, *special event organizer: **panel discussion*** on Metamaterials
17. 5th International Topical Meeting on Nanophotonics and Metamaterials (NANOMETA-2015), Seefeld, Tirol, Austria, 5-8 January, 2015 – member of Technical Programme Committee

18. CLEO/Europe and European Quantum Electronics Conference (EQEC) 2015, Munich, Germany, June 21 - 25, 2015 – member of the sub-committee “Micro- and Nano-Photonics”
19. SPIE Optics and Photonics, San Diego, CA, USA, August 5-12, 2015 – members of the Program Committee of the “Metamaterials, Metadevices, and Metasystems” conference
20. 2015 MRS Fall Meeting, November 29 - December 4, 2015, Boston, Massachusetts, USA – member of the organizing committee
21. 9th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2015, September 7-12, 2015, Oxford, UK – member of the Technical Program Committee
22. Novel Optical Materials and Applications (NOMA), Advanced Photonics Congress, OSA, 27 June – 1 July, 2015, Boston, MA, USA – member of the program committee
23. New Materials for Photonics, Integrated Photonics Research (IPR), Silicon and Nano Photonics OSA topical meeting, 27 June – 1 July, 2015, Boston, MA, USA – subcommittee member
24. 2015 IEEE Photonics Conference, 28th Annual Conference of the IEEE Photonics Society, Hyatt Regency Reston, Reston, Virginia USA, October 4-8, 2015 – subcommittee member
25. IEEE Photonics Society meeting, 2015 - Nanophotonics subcommittee member
26. New Materials for Photonics, Integrated Photonics Research (IPR), Silicon and Nano Photonics OSA topical meeting, 2016 – subcommittee member
27. "Novel Optical Materials and Applications Conference", OSA Advanced Photonics Congress, Vancouver, Canada, July 18-20, 2016 – Program Committee member
28. The European Optical Society Bi-Annual Meeting, Adlershof, Berlin, September 26-30, 2016 – scientific committee member of "Trends in resonant nanophotonics"
29. IEEE Photonics Conference (IPC), 2016, Hawaii and 2017, Orlando – Nanophotonics (NANO) committee member
30. 2017 MRS Spring meeting - symposium organizer
31. CLEO/Europe-EQEC 2017 - program committee member
32. Integrated Optics: Devices, Materials, and Technologies XXI, SPIE Photonics West, January 20-27, 2017 - program committee member.
33. PR 2017 - Integrated High-precision Photonics, New Orleans, Louisiana, USA, 24 - 28 July 2017 – program committee member
34. Advanced Solid-State Lasers (ASSL), Nagoya, Japan, 1 October – 5 October 2017 – program committee member
35. SPIE Photonics West, Integrated Optics Conference 2018 – committee member
36. 2018 MRS Spring Meeting – symposium organizer
37. SPIE Photonics Europe, April 2018, Strasbourg, France – committee member
38. IEEE RAPID Conference, Miramar Beach, FL, USA, 22-24 August 2018 – session organizer, opening address
39. OSA Nonlinear Photonics conference, Zurich, Switzerland, 02 - 05 July 2018 – member of the technical program subcommittee on the topic “Nonlinear Nanophotonics, Plasmonics, and Metamaterials”
40. European Optical Society Annual Meeting (EOSAM), Delft, Netherlands, 8-12 October 2018 – member of the Scientific Committee
41. Metamaterials 2018, the 12th International Congress on Engineered Material Platforms for Novel Wave Phenomena, Finland August 27--September 1, 2018 – member of Technical Program Committee (TPC)
42. Advanced Solid-State Lasers (ASSL) 2018 – Material Committee Member
43. SPIE Photonics West Integrated Optics Conference 2019 – committee member
44. IEEE RAPID Conference, Miramar Beach, FL, USA, 19-21 August 2019 – session organizer
45. SPIE Optics and Photonics, San Diego, California, USA, 2019 – Metamaterials, Metadevices, and Metasystems conference, committee member
46. Advanced Solid-State Lasers (ASSL) 2019, Vienna, Austria, 29 September 2019 – 03 October 2019, – Material Committee Member
47. Photonics in Switching and Computing (PSC), part of OSA Advanced Photonics Congress, Montréal, Canada, July 12-16, 2020 - technical program committee member for "Photonics in computing systems and deep learning applications" (online conference)
48. Annual meeting of the European Optical Society (EOSAM), Porto, Portugal, September 7-11, 2020 – Scientific Committee of the TOM 5 “Metamaterials, Plasmonics and Resonant Nanophotonics”
49. Nonlinear Photonics (NP) 2020, OSA conference, part of the Advanced Photonics Congress 2020, July 13-16, 2020, Montreal, Canada - subcommittee member on "Nonlinear conservative systems and interactions in photonic structures"
50. SPIE Optics and Photonics, San Diego, California, USA, August 2020 – Metamaterials, Metadevices, and Metasystems conference, committee member

51. IEEE RAPID Conference, Miramar Beach, FL, USA, 18-20 August 2020 – session organizer, session chair (online conference)
52. Quantum Summer School, the U.S. Department of Energy (DOE) Office of Science National Quantum Information Science Research Center, the Quantum Science Center (QSC), West Lafayette, IN, USA, May 2021 (online) – Chair of the organizing committee
53. The 51<sup>th</sup> Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 5-9, 2022 – session organizer (postponed from 2021)
54. Annual meeting of the European Optical Society (EOSAM) 2021, Rome, Italy, September 13-17, 2021 – Scientific Committee of the TOM 5 “Metamaterials, Plasmonics and Resonant Nanophotonics”
55. OSA Topical Meeting on Photonics in Switching and Computing 2021, September 27-29, 2021 – Member of the Technical Program Committee (online conference)
56. SPIE Photonics West, Integrated Optics Conference 2022 – committee member
57. Quantum Summer School, the U.S. Department of Energy (DOE) Office of Science National Quantum Information Science Research Center, the Quantum Science Center (QSC), West Lafayette, IN, USA, May 2022 – Chair of the organizing committee
58. SPIE Optics and Photonics, San Diego, California, USA, August 2022 – Metamaterials, Metadevices, and Metasystems conference, committee member
59. The 51st Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 8-13, 2023 – session organizer
60. The 14th International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials), Siena, Italy, September 12-17, 2022 – Technical Program Committee member, reviewer
61. The 52nd Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 8-13, 2023 – session organizer
62. SPIE Photonics West, Integrated Optics Conference 2023 – committee member
63. Quantum Summer School, the U.S. Department of Energy (DOE) Office of Science National Quantum Information Science Research Center, the Quantum Science Center (QSC), West Lafayette, IN, USA, May 2023 – Chair of the organizing committee
64. The 17th International Congress on Artificial Materials for Novel Wave Phenomena, Metamaterials 2023, Crete (Greece), September 11-16, 2023 – member of the Scientific Advisory Board, reviewer
65. SPIE Optics and Photonics, San Diego, California, USA, August 20-24, 2023 – Metamaterials, Metadevices, and Metasystems conference, committee member
66. The 5th International Conference of Telecommunication and Photonics, ICTP 2023 - International Advisory Committee (IAC) member
67. International Topical Meeting on Nanophotonics and Metamaterial Conference (NANOMETA 2024), Seefeld (Tirol), Austria, January 3-6, 2024 – technical program committee member
68. The 53rd Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 7-12, 2024 – session organizer
69. 2024 SPIE Photonics West Integrated Optics Conference – committee member
70. 2024 SPIE Photonics Europe, ‘Machine learning in photonics’ sub-conference – committee member
71. Quantum Summer School, the U.S. Department of Energy (DOE) Office of Science National Quantum Information Science Research Center, the Quantum Science Center (QSC), West Lafayette, IN, USA, April 30-May 3, 2024 – Chair of the organizing committee
72. SPIE Optics & Photonics, San Diego, California, USA, August 18-22, 2024 – Conference OP105, Photonic Computing: From Materials and Devices to Systems and Applications, committee member
73. SPIE Optics & Photonics, San Diego, California, USA, August 18-22, 2024 – Conference OP101, Metamaterials, Metadevices, and Metasystems conference, committee member
74. The 17th International Conference on Near Field Optics, Nanophotonics and Related Techniques (NFO-17), Melbourne, Australia, 2-6 December 2024 – member of International Program Committee
75. The 18th International Congress on Artificial Materials for Novel Wave Phenomena, Metamaterials 2024, Crete (Greece), September 9-14, 2024 – member of the Scientific Advisory Board, reviewer
76. The Frontiers in Optics + Laser Science Conference, annual meeting of Optica and the APS Division of Laser Science, Denver, USA, September 23-26, 2024 - Subcommittee Chair for LS1: Nanophotonics, Plasmonics, and Metamaterials
77. Fast ML conference, Purdue University, October 15-18, 2024 – organizer, session chair, closing remarks
78. 2025 SPIE Photonics West Integrated Optics Conference, San Francisco, CA, USA, January 25-30, 2025 – committee member
79. Quantum Summer School, the U.S. Department of Energy (DOE) Office of Science National Quantum Information Science Research Center, the Quantum Science Center (QSC), West Lafayette, IN, USA, April 22-25, 2025 – Chair of the organizing committee

80. The Waves in Time Varying Media Workshop, Madrid, Spain, May 20-22, 2025 – member of the Advisory Committee
81. SPIE OP105 conference, Photonic Computing: From Materials and Devices to Systems and Applications, SPIE Optics + Photonics, August 3–7, 2025, San Diego, California – member of the conference committee
82. 2026 SPIE Photonics West Integrated Optics Conference, San Francisco, CA, USA, January 17-23, 2026 – committee member
83. 2026 IEEE Research and Applications of Photonics in Defense Conference (RAPID), August 5-7, 2026, Miramar Beach, Florida, USA - Technical Program Committee member
84. The Twentieth International Congress on Artificial Materials for Novel Wave Phenomena, Metamaterials'2026, August 31 - September 3, 2026, New York City, USA – member of the Technical Program Committee (TPC)

#### **Conferences with Session Chairing/Presiding Invitations:**

1. 2006 SPIE Optics and Photonics, Plasmonics: Nanoimaging, Nanofabrication, and Their Applications II, San Diego, California, USA, August 13-17, 2006
2. CLEO/QELS and PhAST 2007, Baltimore, Maryland, USA, May 6-11, 2007
3. 33rd International Conference on Micro- and Nano-Engineering MNE07, Copenhagen, Denmark, September 23-26, 2007 - **Plenary session chair**
4. 2nd European Topical Meeting on Nanophotonics and Metamaterials (NANOMETA 2009) Seefeld, Austria, January 5-8, 2009
5. CLEO/IQEC 2009, Baltimore, Maryland, USA, May 31-June 5, 2009
6. International Conference on Materials for Advanced Technologies, ICMAT 2009, Singapore, June 28 - July 3, 2009
7. SPIE Optics and Photonics: Plasmonics, San Diego, California, USA, August 2-6, 2009
8. SPIE Photonics Europe, Brussels, Belgium, April 12 – 16, 2010
9. SPIE Optics and Photonics, San Diego, California, USA, August 21-25, 2011
10. Physics of Quantum Electronics, Snowbird, Utah, USA, January 2-7, 2012
11. CLEO/QELS 2012, San Jose, CA, USA, May 6-11, 2012
12. OSA meeting, Integrated Photonics Research (IPR), Colorado Springs, Colorado, USA, June 17-22, 2012
13. 6<sup>th</sup> Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2012, St. Petersburg, Russia, September 17-22, 2012
14. 4th International Topical Meeting on Nanophotonics and Metamaterials (NANOMETA 2013), Seefeld, Austria, January 2-6, 2013
15. CLEO/QELS 2013, San Jose, CA, USA, June 9-14, 2013 – session chair
16. 7th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2013, Bordeaux, France, September 16-21, 2013
17. SPIE Optics and Photonics, San Diego, California, USA, August 16-21, 2014
18. 8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2014, Copenhagen, Denmark, August 25-28, 2014
19. 5th International Topical Meeting on Nanophotonics and Metamaterial Conference (NANOMETA 2015), Seefeld (Tirol), Austria, 5-8 January, 2015 – **Breakthrough session chair**
20. Summer school on Complex Photonics, International School of Physics "Enrico Fermi", Como lake, Italy, July 12-18, 2015 – lectures chairing and discussion leader
21. 2015 OSA Frontiers in Optics/Laser Science Conference, San Jose, CA, October 18-22, 2015 – session chair
22. CLEO/QELS 2016, San Jose, CA, USA, June 5-10 – session chair
23. 2016 Gordon Research Conference on Nanophotonics and Plasmonics, Sunday River Resort, Newry, Maine, USA, July 9-14, 2016 – Discussion leader
24. CLEO/QELS 2017, San Jose, CA, USA, May 14-18, 2017 – session chair
25. The 8th International Conference on Surface Plasmon Photonics (SPP8), Taipei, Taiwan, May 22-26, 2017 – session chair
26. 13<sup>th</sup> Mediterranean Workshop and Topical Meeting “Novel Optical Materials and Applications” NOMA2017, June 4-10, 2017 – session chair
27. SPIE Optics and Photonics, San Diego, California, USA, August 6-11, 2017 – session chair
28. Nanoplasm, Cetraro, Italy, June 10-16, 2018 – **Plenary session chair**
29. META 2018, the 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Costa Diadema, June 24 - July 1, 2018 – session chair

30. IEEE RAPID Conference, Miramar Beach, FL, USA, 22-24 August 2018 – session chair, opening address
31. Novel Concepts in Photonics Research 2019 conference, Ein Gedi, Israel, February 10 – 15, 2019 – session chair
32. 14<sup>th</sup> Mediterranean Workshop and Topical Meeting “Novel Optical Materials and Applications” NOMA2019, Cetraro, Italy, June 2-9, 2019 – session chair
33. “Topological Photonics and Beyond,” Tianjin, China, June 30 - July 3, 2019 – session chair
34. SPIE Optics and Photonics, San Diego, California, USA, August 11-16, 2019 – session chair
35. IEEE RAPID Conference, Miramar Beach, FL, USA, 19-21 August 2019 – session chair
36. The 13th International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials), Rome, Italy, September 16-21, 2019 – session chair
37. IEEE RAPID Conference, Miramar Beach, FL, USA, 18-20 August 2020 – session chair (online)
38. 95th IUVESTA Workshop on Plasmonic Thin Films: Theory, Synthesis and Applications, City of Guimarães, Portugal, June 20-23, 2022 – session chair
39. NanoPlasm, Cetraro, Italy, June 13-17, 2022 – session chair
40. The 14th International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials), Siena, Italy, September 12-17, 2022 – session chair
41. The 52nd Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 8-13, 2023 – session organizer, session chair
42. The 53rd Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 7-12, 2024 – session organizer, session chair
43. Forefront of Ultrafast Nanophotonics (Meta FUN), Palermo, Italy, July 23-26, 2024 – session chair
44. Fast ML conference, Purdue University, October 15-18, 2024 – organizer, session chair
45. The 54th Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 5-10, 2025 – session organizer, session chair
46. 2025 SPIE Photonics West Integrated Optics Conference, San Francisco, CA, USA, January 25-30, 2025 – session chair
47. 55th Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 5-10, 2026 – session organizer, session chair
48. Plasmonics and Nanophotonics Gordon Research Conference, Newry, Maine, USA, July 19 - 24, 2026 – discussion leader

#### **Committee Activities at Purdue:**

Search committee member for EVPR (2025)  
 Search committee for COE quantum hire, chair (2023-2024)  
 Search committee for Dean of Engineering, co-chair (2022)  
 Birck Nanotechnology Center Internal Advisory Committee (2009)  
 Birck Policy and Procedure Committee (2009)  
 Graduate Admission Committee (2009-present)  
 ECE Curriculum Committee (2010-2013)  
 ECE Graduate Curriculum Committee (2013-2016)  
 Search committee for faculty for Atomic and Molecular Optics area, Physics Department, member (2014)  
 Search committee for faculty for “Quantum Photonics” Preeminent team, member (2014-2016)  
 Search committee for faculty for Turner Professor of Engineering School of Materials Engineering and Electrical and Computer Engineering, member (2014-2015)  
 Search committee for Chief Scientist & Executive Director of Discovery Park, member (2014-2015)  
 Discovery Park Internal Strategy Advisory Board member (2016-present)  
 Engineering Advisory Council member (Senior faculty representative) (2016-2019)  
 Birck Nanotechnology Faculty Leadership Council member (2017-present)  
 Head of Search committee for the Head of Bindley bioscience Center (2017-2018)  
 Search committee for CSE faculty, ECE, member (2018-2019)  
 Search committee for Head of Department of ECE, member (2018-2019)  
 150<sup>th</sup> Anniversary cross-cutting committee, member (2018-2019)  
 Big Idea Challenge organizer, as part of Discovery Park Fellow activities  
 Purdue Galleries Advisory Council (2019-present)

Other:

- Member of the Steering Committee of the Russian-speaking Academic Science Association (RASA)
- Member of the organizing committee for the workshop of Russian and former Soviet Union scientists “On the way to Nanotechnological Revolution,” France, October 5-11, 2008

## Recognitions, Honors, and Awards Received by Students:

- 2026 **Society of Vacuum Coaters Foundation (the SVC Foundation)** “SVCF Scholarship” (\$2,500, Peigang Chen) (co-advised with V. ShalaeV)
- 2026 **Society of Vacuum Coaters Foundation (the SVC Foundation)** “John B. Fenn Sr. Endowed Scholarship” (\$2,500, Karthik Pagadala)
- 2026 **Society of Vacuum Coaters Foundation (the SVC Foundation)** “Helen & Rolf Illsley Scholarship” (\$2,500, Ian Hoffman) (co-advised with V. ShalaeV)
- 2026 **Society of Vacuum Coaters Foundation (the SVC Foundation)** “Kathe and Gary Vergason Endowed Scholarship Honoring Michael Andreasen” (\$2,500, Yuheng Chen)
- 2025 **SPIE Optical Design and Engineering Scholarship** (\$5000, Yuheng Chen)
- 2025 The School of Electrical and Computer Engineering **Bilsland Dissertation Fellowship**, Peigang Chen (co-advised with V. ShalaeV)
- 2025 The School of Electrical and Computer Engineering **Bilsland Dissertation Fellowship**, Mustafa Ozlu (co-advised with V. ShalaeV)
- 2025 **Society of Vacuum Coaters Foundation (the SVC Foundation)** “SVC Foundation Scholarship” (\$2,500, Miroslava Marinova)
- 2025 **Society of Vacuum Coaters Foundation (the SVC Foundation)** “Clark & Karen Bright Endowed Scholarship honoring Angus Macleod” (\$2,500, Jae-Ik Choi)
- 2025 **Society of Vacuum Coaters Foundation (the SVC Foundation)** “SVC Foundation Scholarship” (\$5,000, Artem Kryvobok, co-advised with V. ShalaeV)
- 2023 **Corning Women in Optics Award** (Xiaohui Xu)
- 2022 SPIE Optics and Photonics Education Scholarship (\$4000) (Xiaohui Xu)
- 2022 IEEE Photonics Society Graduate Student Scholarship (Xiaohui Xu)
- 2022 First place in the oral and poster presentations of the 9th Annual Graduate Industrial Research Symposium at Purdue (Xiaohui Xu)
- 2022 Phi Kappa Phi Love of Learning Award (Xiaohui Xu)
- 2022 **Corning Women in Optical Communications Scholarship** (Sarah Chowdhury)
- 2022 **Maria Goeppert Mayer Fellowship**, Argonne National Lab (Soham Saha)
- 2021 Director's Fellowship, Los Alamos National Lab (Soham Saha)
- 2021 COE **Outstanding Graduate Student Research Award**, College of Engineering, Purdue University (Soham Saha)
- 2021 **Corning Women in Optical Communications Scholarship** (Deesha Shah)
- 2022 **J.A. Woollam Company Scholarship**, the Society of Vacuum Coaters Foundation (\$2,500) (Sarah Chowdhury)
- 2021 The School of Electrical and Computer Engineering **Bilsland Dissertation Fellowship** (Deesha Shah)
- 2021 The **2021 Dimitris N. Chorafas Foundation award** (Soham Saha)
- 2021 SPIE Optics and Photonics Education Scholarship (\$4000) (Sarah Choudhury)
- 2021 Inaugural Quantum Science Center Postdocs and Graduate Students Poster Session, top poster award (Xiaohui Xu)
- 2021 IEEE Photonics Conference 2021 Best Student Paper Award, 3rd place (Xiaohui Xu)
- 2020 Best Student Presentation Award, 2020 MRS Fall Meeting (Sarah Choudhury)
- 2020 The **2024 Foundation Scholarship**, Society of Vacuum Coaters (\$5,000) (Xiaohui Xu)
- 2019 The Society of Vacuum Coaters Foundation (SVC Foundation) travel scholarship (Sarah Choudhury)
- 2019 SPIE Optics and Photonics Education Scholarship (Soham Saha)
- 2019 COE **Outstanding Graduate Student Research Award**, College of Engineering, Purdue University (Krishnakali Chaudhuri)
- 2018 **Outstanding Poster Presentation Award**, OSA Optical Material Studies Technical Group, CLEO 2018 (Shaimaa Azzam)
- 2018 Best Poster Award in **Gordon Research Conference** on Lasers in Micro, Nano and Bio Systems (Shaimaa Azzam)
- 2018 **Society of Vacuum Coaters Foundation (the SVC Foundation) scholarship**, the Bernard Henry Fund of SVCF (Deesha Shah)
- 2018 **SPIE Optics and Photonics Education Scholarship** (Oksana Makarova)
- 2018 Purdue Office of Undergraduate Research Scholarship (Oksana Makarova)
- 2018 University of Waterloo travel grant, Undergraduate School on Experimental Quantum Information Processing (Oksana Makarova)
- 2017 **Dimitris N. Chorafas Foundation Award for Outstanding PhD Dissertation** (Justus Ndukaife)

- 2017 **Society of Vacuum Coaters Foundation (the SVC Foundation) scholarship**, the Bernard Henry Fund of SVCF (Soham Saha)
- 2016 Elected **Gordon Research Seminars** co-chair, GRS 2018 (Justus Ndukaife)
- 2016 **Gordon Research Conference** Emerging Topic Talk (Selected One out of all participants), GRC on Plasmonics and Nanophotonic, 2016 (Justus Ndukaife)
- 2016 Selected to give an invited talk at the 2016 **Gordon Research Seminar** (GRS) on Plasmonics and Nanophotonics (Justus Ndukaife)
- 2016 **Outstanding Graduate Student Research Award**, College of Engineering, Purdue University (Justus Ndukaife)
- 2015 **'Best Poster'** award for "Hybrid Electrothermoplasmonic Nanotweezer," NSF student poster competition, ASME 2015 International Mechanical Engineering Congress, Houston, Texas, USA, November 17-19, 2015 (Justus Ndukaife)
- 2015 Symposium Chair Assistant, MRS Fall meeting (Justus Ndukaife)
- 2015 SPIE Active Photonics **Best Student Paper Award**, SPIE Optics and Photonics conference, August 9-13, 2015, San Diego, CA, USA (Nathaniel Kinsey)
- 2015 Engineering Travel Grant to attend 2015 IEEE Photonics Society Summer Topicals meeting, College of Engineering, Purdue University (Nathaniel Kinsey)
- 2015 **Outstanding Graduate Student Research Award**, College of Engineering, Purdue University (Nathaniel Kinsey)
- 2015 Symposium Chair Assistant, MRS Spring meeting, Session Chair for Symposium V: Resonant Optics - Fundamentals and Applications (Jongbum Kim)
- 2015 **Bilsland Fellowship**, Purdue University graduate school (Nathaniel Kinsey)
- 2014 **Golden Torch Award** by the National Society of Black Engineers (Justus Ndukaife)
- 2014 SPIE travel grant, SPIE Optics and Photonics, San Diego, CA, August 16-21, 2014 (Naresh Emani)
- 2013 **IEEE Photonics Society (IPS) 2013 Graduate Student Fellowship** (Gururaj Naik)
- 2013 **Outstanding Graduate Student Research Award**, CoE, Purdue University (Gururaj Naik)

### Media Interviews and Other Coverage:

1. "8 Forskerhistorier 2006", Danish Research Council for Technology and Production Sciences report (2006) (*highlighting 8 granted research projects every year*)
2. "Superlinse kan spare medicinforsøg", **Ingeniøren** (2007) (*major Danish engineering Newspaper*)
3. Danish Agency for Science, Technology and Innovation press-release (2007) (*highlighting only 2 research projects out of all granted in 2007 in Denmark*)
4. Articles in major Danish newspapers: "Spåkonen og superlinsen", Politiken; "Forgylt nanoforsker udvikler superlinser", Børsen; "Forskerkarrieren har mest at byde på", **Ingeniøren** (2008)
5. "Nobelsvindere forventer flere store gennembrud i fysik", Danish scientific news media **Videnskab.dk** on Lindau Nobel meeting and Danish participants (07-21-2008)
6. In "News and Highlights", **Laser & Photonics Reviews** 3, 4, A31-A32 (2009)
7. P. West, S. Ishii, G. Naik, N. Emani and A. Boltasseva, "Identifying low-loss plasmonic materials", SPIE Newsroom (2010-10-10), DOI: 10.1117/2.1201009.003167; Featured article on **MaterialsViews.com** (10-21-2010)
8. Numerous Science blogs: sciencedaily.com, scienceblog.com, nextbigfuture.com and others (2011) (*on Science Perspective paper on New Plasmonic Materials*)
9. A. Boltasseva and H. Atwater, "New materials could turn near-fantastic devices like invisibility cloaks and hyperlenses into reality", **2Physics** (02-27-2011)
10. R. Won, "In search of new materials", in News and Views, **Nature Photonics** 5, 139-140 (2011), DOI: 10.1038/nphoton.2011.30
11. M. May, "Magnifying biology with metamaterials", **BioOptics World** (11-10-2011)
12. G. Naik and A. Boltasseva, "Plasmonics and metamaterials: looking beyond gold and silver", **SPIE Newsroom** (2012-01-30), DOI:10.1117/2.1201201.004077
13. "Researchers Discover a New Path for Light Through Metal: Novel Plasmonic Material May Merge Photonic and Electronic Technologies", **OSA press-release** (03-27-2012) and numerous science blogs (03-2012) (*on Optical Materials Express 2, 478-489 (2012) paper*)
14. K. Krieger, "Metamaterials step into the light", **IEEE Spectrum** (04-2012) (*on Invited talk at APS March meeting 2012*)
15. G. Naik and A. Boltasseva, "Near-infrared metamaterials go beyond metals", **2Physics** (06-2012)
16. IEEE Photonics Society News featuring 2013 Young Investigator Award recipient: Alexandra Boltasseva, **IEEE Photonics Society News journal** (02-2013)

17. Interview on **MRS TV** 2013 Spring Meeting in connection with the 2013 Outstanding Young Investigator Award, [http://www.websedge.com/videos/mrs\\_tv\\_2013\\_spring\\_meeting](http://www.websedge.com/videos/mrs_tv_2013_spring_meeting) (04-2013)
18. S. Karlin, "Alexandra Boltasseva: A Rising Star – Creating new materials to manipulate light," profile contribution, **IEEE Photonics Spectrum** (6 December 2013)
19. N. Kinsey, M. Ferrera, V. Shalaev, A. Boltasseva, "A platform for practical plasmonics," **SPIE Newsroom** (2014-05-08), DOI: 10.1117/2.1201404.005462
20. **Wiles Magazine's** annual **Hot List of female engineers** featuring Alexandra Boltasseva (August 21, 2014)
21. Alexandra Boltasseva, Garbi Schmidt, Vi er for ringe til at fastholde højtuddannede udlændinge i landet, Politiken, 2014
22. Featured in **SPIE Women in Optics** Planner, 18-months calendar-planner distributed in more than 25 countries (2015)
23. Y. Tsuboi, "Plasmonic optical tweezers: A long arm and a tight grip," News and Views, Nature Nanotechnology 11, 5–6 (November 02, 2015) (*on our Nature Nanotechnology paper on electrothermoplasmonic nanotweezer*)
24. "Where now for plasmonics?" Nature Nanotechnology 11, 1 (2016) (*on our Faraday Discussions paper "Plasmonics on the slope of enlightenment: the role of transition metal nitrides"*)
25. Alexandra Boltasseva interview featured on **OSA 100** stories, [http://www.osa.org/en-us/100/osa\\_stories/](http://www.osa.org/en-us/100/osa_stories/)
26. "Catching and controlling light rays," Fireside chat, Discovery Park Open House and Convergence Conference, September 23, 2016
27. Alexandra Boltasseva, "Discovering new plasmonic materials," Interview, 9 January 2017, **SPIE Newsroom**. DOI: 10.1117/2.3201701.02 1.
28. "Complex Refractory Plasmonic Designs," by Advanced Science News (April 16, 2017) on our work published in Advanced Optical Materials <http://www.advancedsciencenews.com/complex-refractory-plasmonic-designs/>
29. Interview with International Business Times, "Beyond Graphene: New Nanomaterials For Solar Energy, Computers, Curing Cancer And A Lot More," by Himanshu Goenka, <http://www.ibtimes.com/beyond-graphene-new-nanomaterials-solar-energy-computers-curing-cancer-lot-more-2565725> (July 14, 2017)
30. "Faces of Photonics" social media campaign by **SPIE** [www.instagram.com/explore/tags/facesofphotonics/](http://www.instagram.com/explore/tags/facesofphotonics/) (August 2017)
31. Purdue-in-the-know TED talk, Purdue Homecoming (September 2017)
32. A. Boltasseva, J. Hu, New Journal prize to recognize the best paper from an emerging researcher, Optical Materials Express 8 (6), 1695-1695 (June 1, 2018)
33. **2018 Blavatnik Science Symposium**, The New York Academy of Science (July 16-17, 2018) LIVE interview <https://www.facebook.com/blavatnikawards/videos/1087987621355886/>
34. Featured in The New York Academy of Sciences (NYAS) **Ask Me Anything** (AMA) online program (October 2018)
35. Interview for **Materials Zone** | Distributed Scientific Research: [www.materials.zone](http://www.materials.zone) [https://www.youtube.com/watch?time\\_continue=6&v=cUKhY\\_HoMAM](https://www.youtube.com/watch?time_continue=6&v=cUKhY_HoMAM)
36. "Single NV centers produce 30 million photons per second at room temperature," **Optics and Photonics News** (December 2018)
37. A. Boltasseva, "Overcoming Doubts with Help from Advisors and Role Models," The New York Academy of Sciences NYAS.org, published February 01, 2019
38. Featured lecture at The New York Academy of Sciences (NYAS) "Manipulating light using novel materials" webinar, May 22, 2020
39. Featured interview with The New York Academy of Sciences NYAS.org, "Blending Artificial Intelligence and Physical Sciences: What Can We Expect?" by L. Dong, September 14, 2020
40. A. Boltasseva, "Machine-Learning-Assisted Photonics" webinar, The New York Academy of Sciences, Webinar on "AI for Materials: from Discovery to Production," October 6-7, 2020
41. S. Saha, D. Shah, V. M. Shalaev, A. Boltasseva, "Tunable Metasurfaces: Controlling Light in Space and Time," Optical Society of America, Optics and Photonics News Journal 32 (7), 34-41, July 1, 2021
42. A. Boltasseva, "From Basic Research to a Quantum-Smart Society: Merging AI and Quantum Science," Quantum for the People: Connecting Quantum Information Science and Society session, 2022 American Association for the Advancement of Science (AAAS) Annual Meeting, February 2022, invited talk, panelist
43. 2022 NVIDIA GPU Technology Conference (GTC), Accelerating Quantum Computing Research with GPUs panelist, September 19-22, 2022
44. PillarQ&A interview, "Research and Workforce Development at the Intersection of Quantum and Artificial Intelligence," October 27, 2022
45. "Campfire Session: Machine Learning and Photonics - Great Successes and Open Challenges," OPTICA Optoelectronics Technical Group webinar, October 4, 2023

46. “Advancing Photonics with Machine Learning,” Photonics Media (200,000+ subscribers) webinar (targeted audience of engineers, researchers, VPs, CTOs, business owners, educators, students) November 1, 2023
47. S. Martin, “Purdue deep-learning innovation secures semiconductors against counterfeit chips,” Purdue University press-release, September 16, 2024
48. “Purdue researchers tame the interplay of light and matter to build a 'playground' for novel physics,” Purdue University press-release, December 5, 2024
49. “Single-photon switch could enable photonic computing,” Purdue University press-release, November 20, 2025, featured by EurekAlert.org, Phys.org, PhotonicsOnline.com, QuantumWire.com, ScienceVega.com, TheQuantumInsider.com
50. A. Boltasseva, “Tailorable Materials for Dynamic Photonics,” Optics and Photonics News, November 1, 2025

### **Invited Seminars/Webinars:**

- Trinity College Dublin, Dublin, Ireland, July 12, 2026 – Prof. O. Hess
- Université Mohammed V de Rabat, Morocco, May 4, 2026 – Prof. Z. Sekkat
- MIT seminar – Prof. D. Englund, April 9, 2026 (remote)
- Distinguished Holonyak Micro and Nanotechnology Colloquium, University of Illinois at Urbana-Champaign, IL, USA, November 12, 2025 – Prof. Y. Zhao
- Aerospace and Mechanical Engineering department seminar, University of Notre Dame, IN, USA, September 30, 2025 – Prof. S. Neretina
- Constructor University Bremen, Bremen, Germany, May 30, 2025
- Department of Materials Science and Engineering Seminar, Northwestern University, Evanston, IL, USA, April 29, 2025 – Prof. R. Trudy
- Materials Engineering Colloquium speaker, Stanford, January 29, 2025 – Prof. A. Mannix
- ETH, Zurich, Switzerland, June 3, 2024 – Prof. E. Demler
- ICFO - The Institute of Photonic Sciences, Barcelona, Spain, May 30, 2024 – Prof. J. Garcia de Abajo
- CREOL - The College of Optics and Photonics Orlando, USA, April 11, 2024 – Prof. K. Vodopyanov
- Purdue Physics Department Colloquium, January 25, 2024 – Prof. D. Nolte
- Photonics Media webinar, November 1, 2023
- Institute of Nanoscience CNR-NANO Istituto Nanoscienze, Modena, Italy, June 2023 – Dr. Arrigo Calzolari
- Center for Nano Science and Technology (CNST), Istituto Italiano di Tecnologia (IIT), Milan, Italy, June 2023 – Dr. A. Ambrosio
- Center for Polariton-driven Light-Matter Interactions (POLIMA), University of Southern Denmark, June 2023 – Prof. N. A. Mortensen
- London Centre for Nanotechnology, the Net-Zero Centre and London Institute for Advanced Light Technologies, King's College London, May 2023 – Prof. A. Zayats
- Technion, Israel, December 2022 – Prof. M. Segev
- Australian Research Council Centre of Excellence for Transformative Meta-Optical Systems (TMOS), November 2022 – Prof. D. Neshev
- University of Technology Sydney, November 2022 – Prof. I. Aharonovich
- Advanced Science Research Center, CUNY, New York, NY, USA, October 2022 – Prof. Andrea Alu
- Georgia Institute of Technology, October 2022 – Prof. Wenshan Cai
- 2022 NVIDIA GPU Technology Conference (GTC), Accelerating Quantum Computing Research with GPUs, September 2022 – panelist
- Technical University of Denmark, June 2022 – Profs. D. Zibar and A. Lavrinenko
- Quantum Seminar, Harvard University, November 2021 – Prof. E. Hu and Prof. M. Lukin
- Karlsruhe School of Optics and Photonics (KSOP) “Days of Photonics” webinar lecture, November 2021 – Prof. U. Lemmer
- Invited webinar, an International Seminar Series on Nanophotonics, Ludwig-Maximilians University Munich (LMU), November 10, 2021 – Prof. S. Maier, Prof. A. Tittle, Prof. L. Menezes
- Quantum Seminar, Niels Bohr Institute, University of Copenhagen, June 2021 – Prof. E. Polzik
- University of Southern Denmark, June 2021 – Prof. S. Bozhevolnyi
- Invited webinar, European Association of Mechanical, Acoustic and Thermal Metamaterials, April 14, 2021 – Dr Bogdan Ungureanu, Imperial College London
- Optical Society of America webinar, January 27, 2021

- Mid-infrared Discussions (MIDI), webinar series, University of Southampton, November 5, 2020 - Prof. S. De Liberato and Prof. S. Maier
- The New York Academy of Sciences (NYAS) webinar, “AI for Materials: from Discovery to Production,” October 6-7, 2020
- The New York Academy of Sciences (NYAS) “Manipulating light using novel materials” webinar, May 22, 2020
- University of Oklahoma, October 19, 2019 – Prof. T. Diaz de la Rubia
- Joint Quantum Seminar, Harvard University, November 20, 2019 – Prof. E. Hu and Prof. M. Lukin
- Indiana University Purdue University Indianapolis (IUPUI), November 15, 2019 – Prof. Chair A. D. Gavrinn
- Case Western University, October 31, 2019 – Prof. G. Strangi
- Stanford, May 2019 – Prof. J. Fan
- Materials Science Seminar, MIT, April 2019
- GE Global Research, June 2018 – Dr. L. Tsakalakos
- The 2nd George Stegeman Symposium, College of Optics and Photonics/CREOL, March 12-13, 2018, Orlando, Florida – Profs D. Christodoulides, R. Stegeman, D. Hagan
- The Princeton Institute for the Science and Technology of Materials (PRISM) and the Princeton Center for Complex Materials (PCCM) Seminar Series, Princeton University (February 2018) – Prof. N. de Leon
- Northwestern University (February 2018) – Profs. N. Stern, A. Tchekhovskoy
- University of Maryland (February 2018) – Prof. M. Leite
- Argonne National Laboratory, Center for Nanoscale Materials (January 2018) – Dr. G. Wiederrecht
- Siberian Federal University, Institute of Physics, Russia (July 2017) – Prof. A. Vyunishev
- Hebrew University, Jerusalem, Israel (June 2017) – Prof. U. Levy
- DTU Nanotech, Technical University of Denmark, invited seminar (April 2017) – Prof. A. Kristensen
- Collaborative Research Center “Hybrid Inorganic/Organic Systems for Opto-Electronics (HIOS)” invited seminar, Berlin (January 2017) – Prof. O. Benson
- Technical University of Denmark, Center for Nanostructured Graphene, Denmark (May 2016) – Prof. A. N. Mortensen
- ICFO, The Institute of Photonic Sciences, Barcelona, Spain (May 2016) – Prof. J. Garcia de Abajo & F. Koppens
- Niels Bohr Institute, University of Copenhagen, Denmark (March 2016) – Prof. P. Lodahl
- Heriot-Watt University, Scotland, UK (March 2016) – Prof. M. Ferrera
- Technical University of Denmark, DTU Fotonik, Denmark (March 2016) – Prof. A. Lavrinenko
- University of Southampton, Optoelectronics Research Centre retreat (March 2016) – Prof. N. Zheludev
- Joint Quantum Sciences Seminar, Harvard Quantum Optics Center (HQOC) and Institute for Theoretical Atomic Molecular and Optical Physics (ITAMP), Harvard-Smithsonian Center for Astrophysics (February 2016) – Prof. M. Lukin
- Data Storage Institute, A\*STAR, Singapore (December 2015) – Prof. A. Kuznetsov
- National University of Singapore (December 2015) – Prof. V. Venkatesan
- University of Southern Denmark (June 2015) – Prof. S. Bozhevolnyi
- Applied Physics Department, Yale University (January 2015) – Prof. H. Cao
- Institute for Nanoscale Science and Engineering, Vanderbilt University (January 2015) – Prof. R. F. Haglund
- Indiana University-Purdue University Indianapolis (January 2015) – Prof. G. Vemuri
- Kazan Federal University, Russia (June 2014) – Prof. S. Kharintsev
- Krasnoyarsk Institute of Physics, Russia (June 2014) – Prof. V. Zyryanov
- UCLA (June 2014) – Prof. M. Jarrahi
- Northwestern University (April 2014) – Prof. K. Aydin
- Technion-Israel Institute of Technology, Haifa, Israel (October 2013) – Prof. M. Segev
- University of California, Berkeley, CA, USA (June 2013) – Prof. X. Zhang
- Kirensky Institute of Physics, Krasnoyarsk, Russia (February 2013) – Prof. V. Zyryanov
- Moscow Institute of Physics and Technology, Moscow, Russia (February 2013) – Dr. Y. Alasheev
- Russian Quantum Center, Moscow, Russia (February 2013) – Dr. A. Akimov
- Lebedev Physical Institute, Russian Academy of Sciences, Moscow, Russia (February 2013) – Dr. A. Akimov
- Geballe Laboratory for Advanced Materials, Stanford student OSA/SPIE chapter, Stanford University (February 2013) – Prof. M. Brongersma, Mr. F. Afshinmanesh
- ECE Silicon Valley Symposium, School of Electrical and Computer Engineering, Purdue (February 2013) – Prof. and Head of ECE, V. Balakrishnan
- ECE Advisory Board Meeting, School of Electrical and Computer Engineering, Purdue (October 2012) – Prof. and Head of ECE, V. Balakrishnan
- Technical University of Denmark, Denmark (April 2012) - Prof. A. Lavrinenko

- Condensed Matter Seminar, Physics Department, Purdue University (March 2012) - Prof. Y. Chen
- Instrument Technology Research Center and National Taiwan University, Taiwan (December 2010) - Prof. Din Ping Tsai
- Ilmenau University, Institute of Micro and Nanotechnology, Germany (June 2010) – Prof. Thomas Klar
- Harvard University, Applied Physics Colloquium, USA (March 2010) – Prof. Eric Mazur
- Moscow Institute of Physics and Technology, Moscow, Russia (October 2009) – Prof. Vladimir Lebedev, Prof. Mikhail Trunin
- Institut für Physik, Humboldt-Universität zu Berlin, Berlin, Germany (May 2009) – Prof. Dr. Oliver Benson
- SAOT Erlangen Graduate School in Advanced Optical Technology, Erlangen, Germany (November 2008) – Prof. Dr. Alfred Leipertz
- Institute of Optics, Information and Photonics (Max Planck Research Group), University of Erlangen-Nuremberg, Germany (June 2008) – Prof. Dr. Gerd Leuchs
- Tyndall Photonics Seminar, Cork, Ireland (April 2008) - Dr. Tomasz J. Ochalski
- Nano•DTU, DTU, Denmark (November 2007) – Prof. Jesper Mørk
- Ecole Supérieure de Physique et de Chimie Industrielles, Paris, France (July 2007) – Dr. Samuel Gresillon
- University of Iceland, Reykjavík, Iceland (November 2006) – Prof. Kristjan Leosson
- Max-Planck Institute for Polymer Research, Mainz, Germany (June 2005) – Prof. Metamaterials’2026 Congress Dr. Wolfgang Knoll

### Conferences with Invited Talks and Invited Lectures:

- The Twentieth International Congress on Artificial Materials for Novel Wave Phenomena, Metamaterials’2026 Congress, New York City, USA, August 31-September 3, 2026 – invited talk
- 2026 SPIE Optics & Photonics conference, San Diego, USA, August 23-27, 2026 – **KEYNOTE** and invited talks
- 2026 Workshop on the Frontier in Light-Matter Interactions, Cetraro, Italy, July 27-31, 2026 – invited talk
- META 2026, the 16<sup>th</sup> international conference series on Metamaterials, Photonic Crystals and Plasmonics, Dublin, Ireland, July 14-17, 2026 – **PLENARY** talk, invited talk
- The Nobel Symposium ‘Metamaterials science and technology: structuring light and sound in space and time’, Umeå, Sweden, June 29-July 1, 2026 – invited talk
- NanoPlasm conference, Cetraro, Italy, June 14-19, 2026 – invited talk
- AES, the International Conference on Antennas and Electromagnetic Systems, Sicily, Italy, June 3-6, 2026 – **KEYNOTE** talk
- The Royal Society meeting “Light-driven Chemistry for Sustainable Future,” London, UK, June 1-2, 2026 – invited talk
- QUANTUMatter2026, Barcelona, Spain, April 17-May 1, 2026 - **KEYNOTE** talk
- 2026 Global Physics Summit, Physical Review Applied special session “The Cutting Edge of Applied Science,” Denver, CO, USA, March 15-21, 2026 – Invited talk
- SPIE Photonics West, San Francisco, California, USA, January 17-22, 2026 – three invited talks
- 55th Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 5-10, 2026 – **PLENARY** talk
- 2025 MRS Fall Meeting, Boston, MA, USA, December 1-6, 2025 – two invited talks
- Purdue Quantum AI workshop, West Lafayette, IN, USA, October 23-24, 2025 – invited talk
- Workshop on Quantum Applications for Space, West Lafayette, IN, USA, October 22, 2025 – invited talk
- Workshop on Metamaterials: Origins, Present, and Frontiers, Philadelphia, PA, USA, October 9-10, 2025 – invited talk
- Quantum Metaphotonics workshop, Balleroy, France, August 28-31, 2025 – invited talk
- 2025 SPIE Optics & Photonics conference, San Diego, USA, August 3-7, 2025 – **KEYNOTE** and invited talks
- META 2025 conference, the international conference series on Metamaterials, Photonic Crystals and Plasmonics, Malaga, Spain, July 22-27, 2025 – **KEYNOTE** talk
- Workshop on Time-Varying Media, Cetraro, Italy, July 15-22, 2025 – Invited talk
- International Workshop: Emerging Trends in Optics, Odense, Denmark, June 18-20, 2025 – Invited talk
- The 17th Mediterranean Workshop and Topical Meeting “Novel Optical Materials and Applications” NOMA 2025, Cetraro, Italy, June 7-15, 2025 – Invited talk
- 2025 Photonics North Conference, Ottawa, Canada, May 20-22, 2025 – **PLENARY** talk
- 2025 Conference on Lasers and Electro-Optics (CLEO), Long Beach, California, USA, May 4-9, 2025 – **PLENARY and Tutorial** talks

- 2025 MRS Spring Meeting, Seattle, Washington, USA, April 7-11, 2025 – Invited talk
- SPIE Photonics West, San Francisco, CA, USA, January 25-30, 2025 – 3 Invited talks
- The 54<sup>th</sup> Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 7-12, 2025 – **PLENARY** talk, session organizer
- 2024 MRS Fall Meeting, Boston, MA, USA, December 1-6, 2024 – Invited talk
- Simons Collaboration Annual Meeting, October 23-25, 2024, New York, USA – Invited talk
- 2024 SPIE Optics & Photonics conference, San Diego, USA, August 18-22, 2024 – **PLENARY, KEYNOTE** and invited talks
- The 1st International Conference on Physics of Excitons and Polaritons in Semiconductors (PEPS), Reykjavik, Iceland, August 6-10, 2024 – Invited talk
- META 2024, the international conference series on Metamaterials, Photonic Crystals and Plasmonics, Toyama, Japan, July 16-19, 2024 – Invited talk
- 2024 Plasmonics and Nanophotonics Gordon Research Conference, Newry, Maine, USA, July 7-12, 2024 – Invited talk
- 2024 Gordon Research Seminar (GRS), Newry, Maine, USA, July 6 -7, 2024 – **KEYNOTE** talk
- NanoPlasm conference, Cetraro, Italy, June 15-19, 2024 – invited talk
- Asia Photonics Exhibition 2024 and the Light Conference 2024, Singapore, March 6-9, 2024 – **PLENARY** talk
- SPIE Photonics West, San Francisco, CA, USA, January 27-February 1, 2024 – Invited talk
- The 53<sup>d</sup> Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 8-13, 2024 – **PLENARY** talk, session organizer
- Australian Research Council Centre of Excellence for Transformative Meta-Optical Systems (TMOS) META Together conference, Adelaide, Australia, December 11-16, 2023 – Invited talk
- 2023 MRS Fall Meeting, Boston, MA, USA, November 27-December 1, 2023 – 2 invited talks
- The 17th International Congress on Artificial Materials for Novel Wave Phenomena, 2023 Metamaterials Congress, Crete, Greece, September 11-16, 2023 – Invited talk
- US-Ukraine Quantum Forum 2023, online workshop, August 28-31, 2023 – Invited talk
- 2023 SPIE Optics & Photonics conference, San Diego, USA, August 20-24, 2023 – **PLENARY** (cancelled due to hurricane), **KEYNOTE** and invited talks
- META 2023, the international conference series on Metamaterials, Photonic Crystals and Plasmonics, Paris, France, July 18-21, 2023 – **KEYNOTE** talk
- The 2023 Optica Nonlinear Optics Topical Meeting, Honolulu, Hawaii, USA, July 10 – 13, 2023 – Invited talk
- Optics of Excitons in Confined Systems conference, Lecce, Italy, June 12-16, 2023 – invited talk
- The 16th Mediterranean Workshop and Topical Meeting “Novel Optical Materials and Applications” NOMA 2023, Cetraro, Italy, June 4-10, 2023 – Invited talk
- Photonics for Quantum and Net-Zero symposium, Kings College London, May 31, 2023 – Invited speaker
- The 10th International Conference on Surface Plasmon Photonics (SPP10), Houston, Texas, May 21-26, 2023 – Invited talk
- The 2nd “Waves in Time-Varying Media” workshop, New York, NY, USA, May 2-5, 2023 – Invited talk
- The 52<sup>nd</sup> Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 8-13, 2023 – **PLENARY** talk, session organizer
- International workshop on Photonics and Artificial Intelligence, Boston University Photonics Center, December 1, 2022 – Invited talk
- MRS Fall Meeting, Boston, MA, USA, November 29-December 2, 2022 – two invited talks
- The 14th International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials), Siena, Italy, September 12-17, 2022 – Invited talk
- 2022 NVIDIA GPU Technology Conference (GTC), Accelerating Quantum Computing Research with GPUs, September 19-22, 2022 – Invited **panelist**
- Lake Como School on Advanced Studies on Machine Learning Photonics, Como, Italy, August 28 to September 2, 2022 – Invited lecturer
- 2022 SPIE Optics & Photonics conference, San Diego, USA, August 21-25, 2022 - **KEYNOTE**, invited talks
- Metamaterials 3.1 workshop, Cetraro, Calabria, Italy, August 1-5, 2022 – Invited talk (postponed from 2020)
- 022 OPTICA Advanced Photonics Congress, Maastricht, the Netherlands, 25-28 July 2022 – Invited talk
- META 2022, the 12th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Torremolinos, Spain, July 19 - 22, 2022 - **PLENARY** Talk
- 30th Annual International Laser Physics Workshop (LPHYS), July 18-22, 2022 – Invited talk
- Gordon Research Conference on Plasmonics and Nanophotonics, Nanoscale Light-Matter Interactions for Sustainability, Newry, ME, United States, July 10 - 15, 2022 – Invited talk (cancelled)

- International Workshop on Structured materials and structured light, Erice, Sicily, Italy, July 3-9, 2022 – Invited talk
- 95th IUUVSTA Workshop on Plasmonic Thin Films: Theory, Synthesis and Applications, City of Guimarães, Portugal, June 20-23, 2022 – Invited talk
- NanoPlasm, Cetraro, Italy, June 13-17, 2022 – **PLENARY** talk (postponed from 2020)
- 15th Mediterranean Workshop and Topical Meeting “Novel Optical Materials and Applications” NOMA 2022, Cetraro, Italy, May 24-28, 2022 – Invited talk
- 2022 SPIE Photonics Europe Conference, Strasbourg, France, 3-7 April 2022 – **KEYNOTE** talk
- 2022 American Association for the Advancement of Science (AAAS) Annual meeting, February 2022 – Invited talk and **panelist**
- The 2022 American Physical Society March Meeting, March 14-18, 2022, Chicago, Illinois, USA – Invited talk
- Photonics West, San Francisco, CA, USA, 22 - 27 January 2022 – Invited talk (withdrawn due to illness)
- The 51<sup>th</sup> Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 9-13, 2022 – **PLENARY** talk, session organizer (postponed from 2021) (withdrawn due to illness)
- 2021 MRS Fall meeting, Boston, MA, USA, November 29 – December 2, 2021 – 2 Invited talks, **Tutorial**
- The 67th Annual AVS International Symposium and Exhibition (AVS 67), Denver, CO, October 24-29, 2021 – Invited talk (online, postponed from 2020)
- OSA Frontiers in Optics & Laser Science, Washington DC, 26-30 September 2021 – Invited talk (online)
- METANANO 2021, the international conference series on Metamaterials, Photonic Crystals and Plasmonics, 13-17 September 2021, Tbilisi, Republic of Georgia – **KEYNOTE** talk (online conference)
- The VIII International School and Conference on Photonics (Photonica2021), Belgrade, Serbia, August 24-27, 2021 – Invited lectures (online)
- 2021 SPIE Optics & Photonics symposium, San Diego, USA, August 2-5, 2021 – 2 Invited talks
- 2021 Metamaterials Congress, New York, USA, August 2-7, 2021 – **PLENARY** Talk (online)
- OSA Advanced Photonics Congress, Montreal, Quebec, Canada, July 26-29, 2021 – Invited talk (online)
- The 6th International Conference on Quantum Technologies (ICQT-2021), Moscow, Russia, July 2021 – Invited talk (online)
- Photonics North Conference, May 31st - June 2nd, 2021 – Invited talk (online)
- MRS Spring meeting 2021 – Invited talk (online)
- SPIE Photonics West, San Francisco, CA, March 6-11, 2021 – Invited talk (online)
- NSF Future of Semiconductors and Beyond Workshop, March 1-2, 2021 – Invited **panelist**
- Russian American Science Association (RASA-America) and RASA Global conference, December 5-6, 2020 – Invited talk (online)
- MRS Fall meeting 2020 – Invited talk (online)
- Asia Communications and Photonics Communications (ACP 2020), October 24-27, 2020, Beijing, China – Invited talk (online)
- The 14th International Congress on Artificial Materials for Novel Wave Phenomena, New York, USA, September 28 - October 1, 2020 – Invited Talk (online)
- International Summer School on Nonlinear Optics, August 25-27, 2020, Novosibirsk State University, Novosibirsk – Invited lecture (online)
- IEEE RAPID Conference, Miramar Beach, FL, USA, 10-12 August 2020 – **PLENARY** talk (online)
- Photonics North 2020, May 26-28, 2020, Niagara Falls – **KEYNOTE** talk (online)
- MRS Spring meeting, Phoenix, AZ, USA, April 13-17, 2020 – Invited talk (online, Fall 2020)
- Optical Society of America (OSA) Incubator on Flat Optics: Recent Advances and Future Opportunities, February 26-28, 2020 – Invited talk
- The 50<sup>th</sup> Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 6-11, 2020 – Invited talk
- The International Symposium on Plasmonics and Nanophotonics iSPN, Japan, November 11-14, 2019 – **KEYNOTE** talk
- USA-Middle East Science symposium, New York City, USA, November 4-6, 2019 – Invited talk
- Northrop Grumman University Research Symposium, Anaheim, CA, USA, October 23-24, 2019 – Invited talk
- Corning Optics Summit, Corning, NY, USA, October 21, 2019 – Invited talk
- The 13th International Congress on Artificial Materials for Novel Wave Phenomena, Rome, Italy, September 16-21, 2019 – Invited Talk
- IEEE RAPID Conference, Miramar Beach, FL, USA, 19-21 August 2019 – Invited talk, Opening Address
- SPIE Optics & Photonics symposium, San Diego, USA, August 11-15, 2019 – Invited Talk
- SPIE Optics & Photonics symposium, San Diego, USA, August 11-15, 2019 – **KEYNOTE** Talk

- "Novel Optical Materials and Applications" (NOMA) Conference, OSA Advanced Photonics Congress, San Francisco, CA, from 29 July – 1 August, 2019 – **TUTORIAL**
- "Novel Optical Materials and Applications" (NOMA) Conference, OSA Advanced Photonics Congress, San Francisco, CA, from 29 July – 1 August, 2019 – Invited Talk
- The 10th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META 2019), Lissboa, Portugal, July 23-26, 2019 – **PLENARY** talk
- The 5th International Conference on Quantum Technologies (ICQT-2019), Moscow, Russia, July 15-19, 2019 – Invited talk
- "Topological Photonics and Beyond," Tianjin, China, June 30 - July 3, 2019 – Invited talk
- Second International Workshop "Tailor-Made Multiscale Material Systems," Hamburg, Germany, June 19-21, 2019 – Invited talk
- Artificial Intelligence in Nanophotonics workshop, International Work-Conference on Artificial Neural Networks (IWANN2019), Gran Canaria, Canary Islands, Spain, June 12-14, 2019 – Invited talk
- 14<sup>th</sup> Meditterrenian Workshop and Topical Meeting "Novel Optical Materials and Applications" NOMA 2019, Cetraro, Italy, June 2-9, 2019 – Invited Talk
- The 9th International Conference on Surface Plasmon Photonics (SPP9), Copenhagen, Denmark, May 26-31, 2019 – Invited talk
- Electronic Materials Symposium, Stanford University, May 10, 2019 – Invited talk
- Faraday Discussion meeting, the Royal Society of Chemistry, Burlington House, Piccadilly, London, UK, February 18-20, 2019 – Invited talk
- SPIE Photonics West, San Francisco, CA, USA, February 2-7, 2019 – two Invited Talks
- The 49<sup>th</sup> Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 6-11, 2019 – **PLENARY** talk
- 2018 MRS Fall Meeting, Boston, MA, USA, November 25-30, 2018 – Invited talk
- Micro and Nano engineering conference MNE 2018, Copenhagen, Denmark, September 25-27, 2018 - **PLENARY** talk
- OSA Frontiers in Optics & Laser Science, Washington DC, 16 - 20 September 2018 – Invited talk
- Photon 2018, Birmingham, United Kingdom, September 1-5, 2018 - **PLENARY** talk
- 12th International Congress on Engineered Material Platforms for Novel Wave Phenomena (Metamaterials 2018), Espoo, Finland, August 27-30, 2018 – invited talk
- IEEE RAPID Conference, Miramar Beach, FL, USA, 22-24 August 2018 – Opening Address
- 2018 SPIE Optics and Photonics, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVI, San Diego, CA, USA, August 19-23, 2018 – **KEYNOTE** talk
- 2018 SPIE Optics and Photonics, Active Photonic Platforms X conference, San Diego, CA, USA, August 19-23, 2018 – **KEYNOTE** talk
- Gordon Research Conference on Plasmonics & Nanophotonics, Sunday River, Newry, Maine, USA, July 8-13, 2018 – Invited talk
- META 2018, the 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Costa Diadema, June 24 - July 1, 2018 – Invited talk, **KEYNOTE** talk
- Nanoplasm, Cetraro, Italy, June 10-16, 2018 – **PLENARY** talk
- "Waves in Complex Photonics Media: Fundamentals and Device Applications," Anacapri, Island of Capri, Italy, June 4-7, 2018 – Invited talk
- Photonics West 2018, San Francisco, CA, USA, January 27 – February 1, 2018 – Invited talk
- Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 7-12, 2018 – Invited talk
- 2017 MRS Fall meeting, Boston, MA, USA, November 26-December 1, 2017 – Invited talk
- American Vacuum Society (AVS) meeting, Tampa, FL, USA, October 2017 – Invited talk
- 11th International Congress on Engineered Material Platforms for Novel Wave Phenomena (METAMATERIALS'2017), Marseille, France, August 28–31, 2017 – Invited talk
- 2017 International Optical MEMS and Nanophotonics (OMN), Santa Fe, New Mexico, August 13-17, 2017 – Invited talk
- SPIE Optics and Photonics, San Diego, August 6-10, 2017 – 2 Invited talks
- Laser Physics Workshop (LPHYS'17), Kazan, Russia, July 17- 21, 2017 – Invited talk
- 4th International Conference on Quantum Technologies (ICQT-2017), Moscow, Russia, July 12-16, 2017 – Invited talk
- Photonics North 2017, Ottawa, Canada, June 6-8, 2017 – Invited talk

- 13<sup>th</sup> Mediterranean Workshop and Topical Meeting “Novel Optical Materials and Applications” NOMA 2017, Cetraro, Italy, June 4-10, 2017 – Invited talk
- The 8th International Conference on Surface Plasmon Photonics (SPP8), Taipei, Taiwan, May 22-26, 2017 – Invited talk
- 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017 – Invited talk
- American Chemical Society (ACS) Spring meeting, San Francisco, CA, USA, April 2-6, 2017 – Invited talk
- SPIE Photonics West, San Francisco, CA, USA, January 28 – February 2, 2017 – Invited talk
- 6th International Topical Meeting on Nanophotonics and Metamaterial Conference (NANOMETA 2017), Seefeld (Tirol), Austria, January 4-7, 2017 – Invited talk
- Materials Research Society MRS Fall meeting, Boston, MA, USA, November 28-December 2, 2016 – Invited talk
- SPIE Optics and Photonics, San Diego, August 28-September 1, 2016 – **PLENARY** talk, 2 Invited talks
- META 2016, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Malaga, Spain, July 25-28, 2016 – Invited talk
- OSA Integrated Photonics Research conference, July 18-20, 2016, Vancouver (Canada) – Invited talk
- 13th International Conference on Nanosciences & Nanotechnologies – NN16, Thessaloniki, Greece, 5-8 July 2016 – **KEYNOTE** talk
- The International Symposium on Nano-Optics and Plasmonics, Hengyang, China, June 27-29, 2016 – Invited talk
- Nanoplasm conference, Cetraro, Italy, June 13-17, 2016 – Invited talk
- SPIE Photonics Europe, in Brussels, April 4-7, 2016 – 2 Invited talks
- 2016 MRS Spring meeting Phoenix, AZ, USA, March 28 – April 1, 2016 – Invited talk
- Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 3-8, 2016 – Invited talk
- 2015 MRS Fall Meeting, November 29 - December 4, 2015, Boston, Massachusetts, USA – Invited talk
- Frontiers in Optics, San Jose, CA, USA, October 18-22, 2015 – Invited talk
- CECAM workshop on Computational plasmonics: an ab initio and multiscale perspective workshop, Lausanne, Switzerland, November 2-4, 2015 – Invited talk
- 2015 OSA Frontiers in Optics/Laser Science Conference, San Jose, CA, October 18-22, 2015 – Invited talk
- National Academy of Engineering (NAE) U.S. Frontiers of Engineering (FOE) Symposium, September 9-11, 2015, National Academies’ Beckman Center in Irvine, California, USA – Invited speaker
- 9th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2015, Oxford, UK, September 7-12, 2015 – Invited talk
- SPIE Optics and Photonics Congress, Active Photonic Materials VII conference, San Diego, CA, USA, 9-13 August 2015 – Invited talk
- SPIE Optics and Photonics Congress, Plasmonics: Metallic Nanostructures and Their Optical Properties conference, San Diego, CA, USA, 9-13 August 2015 – Invited talk
- SPIE Optics and Photonics Congress, Metamaterials, Metadevices, and Metasystems conference, San Diego, CA, USA, 9-13 August 2015 – Invited talk
- META 2015, the 6th International Conference on Metamaterials, Photonic Crystals and Plasmonics, City College of New York, New York City, NY, USA, August 4-7, 2015 – **KEYNOTE** talk
- 2015 IEEE Photonics Society Summer Topicals, "On-chip Optical Interconnects", July 13-15, 2015, British Colonial Hilton, Nassau, Bahamas – Invited talk
- Course on Complex Photonics, International School of Physics "Enrico Fermi", Como lake, Italy, July 12-18, 2015 – Invited lecturer
- Progress in Electromagnetics Research Symposium PIERS 2015, Special Session "SC3: Optical Properties of Resonant Dielectric and Plasmonic Nanostructures", Prague, Czech Republic, July 06-09, 2015 – Invited talk
- Progress in Electromagnetics Research Symposium PIERS 2015, Session " "Planar Optics based on Metasurfaces," Prague, Czech Republic, July 06-09, 2015 – Invited talk
- ETOPI 10, June 21 - 26, 2015, Neveh Ilan, Israel - Invited talk
- SPP7, Jerusalem, Israel, May 31 - June 5, 2015 – Invited talk
- E-MRS 2015 Spring Meeting, Lille, France, May 11-15, 2015 – Invited talk - cancelled
- 5th International Topical Meeting on Nanophotonics and Metamaterial Conference (NANOMETA 2015), Seefeld (Tirol), Austria, 5-8 January, 2015 – Invited talk, breakthrough session chair
- 8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2014, Copenhagen, Denmark, August 25-28, 2014 – invited talk, sessions chair

- SPIE Optics and Photonics, Active Photonic Materials VI conference, San Diego, California, USA, August 17-21, 2014 – 3 Invited talks on different topics, session chair
- 2014 IEEE Summer Topical Meeting, “Functional Meta- and Two-Dimensional materials (FMTM)” symposium, Delta Montréal, Montreal, Canada, July 14-16, 2014 – Invited talk, *panel discussion* on Metamaterials
- 2014 Gordon Research Conference on Plasmonics, Sunday River Resort, Newry, Maine, USA, July 6-11, 2014 – Invited talk
- Nanoplasma 2014: “New frontiers in Plasmonics and Nano-optics,” Cetraro, Italy, June 16-20, 2014 – Invited talk
- MRS Spring Meeting, San Francisco, California, USA, April 21-25, 2014 – Invited talk
- SPIE Photonics Europe, Brussels, Belgium, April 14-17, 2014 – Invited talk
- Workshop on Optical Plasmonic Materials, OSA Research in Optical Sciences Congress, Berlin, Germany, March 19, 2014 – Invited talk
- SPIE Photonics West, San Francisco, California, United States, February 1-6, 2014 – Invited talk
- The 44th Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 5-9, 2014 – Invited talk
- 7th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2013, Bordeaux, France, September 16-21, 2013 – Invited talk, session chair
- Summer School on Plasmonics, University of Toronto, Toronto, Canada, August 26-30, 2013 – Invited lecturer
- Fundamental optical processes in semiconductors (FOPS)-2013, Kodiak Island, Alaska, USA, August 12-16, 2013 - Invited talk
- Frontiers of Nonlinear Physics (FNP'13), Nizhny Novgorod, Russia, July 28-August 2, 2013 – Invited talk
- International Conference on Materials for Advanced Technologies, ICMAT 2013, Singapore, June 30 - July 5, 2013 - Invited talk, co-chair of the symposium on "Plasmonics and Metamaterials"
- Materials Research Society (MRS) Spring meeting, San Francisco, CA, USA, April 1-5, 2013 - MRS Outstanding Young Investigator Award talk
- Meta 2013, the 4th International Conference on Metamaterials, Photonic Crystals, and Plasmonics, Sharjah, UAE, March 18-22, 2013 – **KEYNOTE** talk
- SPIE Photonics West, San Francisco, CA, USA, February 2-7, 2013 – Invited talk
- 6<sup>th</sup> International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2012, St. Petersburg, Russia, September 17-22, 2012 - **PLENARY** Talk
- SPIE Optics & Photonics, San Diego, California, USA, August 12-16, 2012 - Invited talk
- International School of Quantum Electronics, 52nd Course on Advances in Nanophotonics, Erice, Sicily, Italy, July 17-29, 2012 - Invited lecturer
- OSA meeting, Integrated Photonics Research (IPR), Colorado Springs, Colorado, USA, June 17-22, 2012 - Invited talk
- Gordon Conference on Plasmonics, Colby College, Waterville, Maine, USA, June 10-15, 2012 - Invited talk
- META 2012, the international conference series on Metamaterials, Photonic Crystals and Plasmonics, Paris, France, April 19-22, 2012 - Invited talk, Session chair
- International Workshop on Electromagnetic Metamaterials (IWEM-V), Albuquerque, New Mexico, USA, March 26-27, 2012 - Invited talk
- APS Meeting, Boston, MA, USA February 27- March 2, 2012 - Invited talk
- Physics of Quantum Electronics, Snowbird, Utah, USA, January 2-7, 2012
- 5th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2011, Barcelona, Spain, October 10-15, 2011 - Invited talk
- SPIE Optics and Photonics, San Diego, California, USA, August 21-25, 2011 - Invited talk
- Nanometa conference, Seefeld, Austria, January 3-7, 2011 - Invited talk
- 4th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2010, Karlsruhe, Germany, September 13-18, 2010 - Invited talk
- International Conference on Coherent and Nonlinear Optics (ICONO-2010), Kazan, Russia, August 23-27, 2010 - Member of program subcommittee, Invited talk
- SPIE Optics and Photonics: Plasmonics, San Diego, California, USA, August 1-5, 2010 - 2 invited talks
- 4th International Conference “Frontiers of Nonlinear Physics,” Nizhny Novgorod, Russia, July 13-20, 2010 - Invited talk
- 19th International Laser Physics Workshop (LPHYS'10), Foz do Iguaçu, Brazil, July 5 - 9, 2010 - Invited talk
- CIMTEC 2010, 12th International Conference on Modern Materials and Technologies, Symposium FM on Electromagnetic Metamaterials, Montecatini Terme, Tuscany, Italy, June 6-18, 2010 - Invited talk

- META'10, International Conference on Metamaterials, Photonic crystals and Plasmonics, "THz and Optical Plasmonic Waveguides and Antennas" session, Cairo, Egypt, February 22-25, 2010 - Invited talk
- Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 3-7, 2010 - Invited talk
- 2009 Fall MRS Symposium, Boston, MA, USA, November 30 - December 4, 2009 - Invited talk
- 3rd International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2009, London, UK, August 30-September 4, 2009 - Invited talk
- SPIE Optics and Photonics, San Diego, California, USA, August 2-6, 2009 - Invited talk, Session chair
- International Laser Physics Workshop (LPHYS'09), Barcelona, Spain, July 13 - 17, 2009 - Invited talk
- International Conference on Materials for Advanced Technologies, ICMAT 2009, Singapore, June 28 - July 3, 2009 - Invited talk, Session chair, Member of the program committee
- Annual Meeting of Nordic Network for Women in Physics (Denmark, Sweden), Lyngby, Denmark, June 15, 2009 - Invited talk
- Metamorphose PhD school on "Fabrication and optical properties of nanostructured metamaterials," Rethymnon, Crete, Greece, June 12-13, 2009 - Invited lecturer
- ETOPI 8, Crete, Greece, June 7-12, 2009 - Invited talk
- 2009 MRS Spring Meeting, San Francisco, California, USA, April 13-17, 2009 - Invited talk
- 2009 IEEE/LEOS Winter Topical Meetings, Innsbruck, Austria, January 12 - 14, 2009 - Invited talk
- 2nd European Topical Meeting on Nanophotonics and Metamaterials (NANOMETA 2009), Seefeld, Austria, January 5-8, 2009 - Invited talk, Session chair
- 2nd Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2008, Pamplona, Spain, September 21-26, 2008 - Invited talk
- Photon08, Heriot-Watt University Campus, Edinburgh, UK, August 25-28, 2008 - Invited talk
- SPIE Optics and Photonics: Plasmonics, San Diego, California, USA, August 10-14, 2008 - Invited talk
- XIII International Conference "Laser Optics'2008," St. Petersburg, Russia, June 23 - 28, 2008 - Invited talk
- META'08 - the NATO Advanced Research Workshop: Metamaterials for Secure Information and Communication Technologies, Marrakesh, Morocco, May 7-10, 2008 - Invited talk
- Women in Photonics (WiP) School on Photonic Metamaterials, Paris, France, April 13-17, 2008 - Invited lecturer
- SPIE Photonics Europe, Strasbourg, France, April 7-11, 2008 - Invited talk
- SPIE Optics and Photonics, San Diego, California, USA, August 26-30, 2007 - Invited talk
- 16th International Laser Physics Workshop, León, Mexico, August 20-24, 2007 - Invited talk
- International Conference on Coherent and Nonlinear Optics (ICONO 2007), Minsk, Belarus, May 28-June 1, 2007 - Invited talk
- CLEO/QELS and PhAST 2007, Baltimore, Maryland, USA, May 6-11, 2007 - Invited talk, Session chair
- 2006 SPIE Optics and Photonics, Plasmonics: Nanoimaging, Nanofabrication, and Their Applications II, San Diego, California, USA, August 13-17, 2006 - Invited talk, Session chair

### **Issued and Pending Patents and Patent Applications:**

- G. Naik, B. Saha, T. D. Sands, A. Boltasseva, V. M. Shalaev, TIN/(AL,SC)N metal/dielectric superlattices for metamaterial applications in the visible range, provisional number 61/711,548, PCT/US2013/064057
- V. M. Shalaev, A. V. Kildishev, A. Boltasseva, N. Kinsey, M. Brongersma, Systems and Methods for the Advanced Control of Waveguiding Properties using Metasurfaces, provisional number 61/863,010
- V. M. Shalaev, A. V. Kildishev, A. Boltasseva, N. Kinsey, Methods to Enhance the Efficiency of Semiconductor Based Light Sources Using Metasurfaces, provisional number 61/862,999
- V. M. Shalaev, A. V. Kildishev, A. Boltasseva, N. Kinsey, Methods for Enhancing the Efficiency of Solar Cells using Metasurfaces, provisional number 61/862,995
- V. M. Shalaev, A. V. Kildishev, A. Boltasseva, G. V. Naik, U. Guler, W. Li, Ceramic Absorber, provisional number 61/876,241&61/934,786, PCT/US2014/04123
- V. M. Shalaev, A. Boltasseva, M. Brongersma, A. V. Kildishev, N. Kinsey, Solar-cell efficiency enhancement using metasurfaces, US Patent Application 20150040978 (Filed: August 7, 2014; Publication date: February 12, 2015)
- V. M. Shalaev, A. V. Kildishev, A. Boltasseva, G. V. Naik, U. Guler, D. Stocks, Near Field Transducer for Heat Assisted Magnetic Recording, **US Patent** 9343088 (Filed: May 19, 2014; Date of Patent: May 17, 2016)
- U. Guler, A. Kildishev, V. M. Shalaev, A. Boltasseva, G. Naik, Refractory Plasmonic Metamaterials Absorber and Emitter for Energy Harvesting, US Patent Application 20150288318, number 14/402343 (Filed: June 6, 2014; Publication date: October 8, 2015)

- S. T. Wereley, A. A. Nnanna, A. Boltasseva, J. C. Ndukaife, A. Mishra, Hybrid Device for On-Chip Concentration, Manipulation, Sorting and Sensing of Particles on A Plasmonic Substrate, **US Patent** 9443632 (Filed: June 6, 2015; Date of Patent: September 13, 2016)
- J. C. Ndukaife, A. Boltasseva, A. A. Nnanna, S. T. Wereley, A. Kildishev, V. M. Shalaev, System and method for manipulation of particles, **US Patent** 9778400 (Filed: June 15, 2016; Date of Patent: October 3, 2017)
- G. V. Naik, B. Saha, T. D. Sands, V. Shalaev, A. Boltasseva, Titanium nitride based metamaterial, **US patent** 9784888 (Filed: October 9, 2013; Date of Patent: October 10, 2017)
- U. Guler, A. Naldoni, A. Kildishev, A. Boltasseva, V. M. Shalaev, Plasmonic metal nitride and transparent conductive oxide nanostructures for plasmon assisted catalysis, US Patent Application 15/639,923, 2018/20180003865 (Filed: June 30, 2017; Publication date: January 4, 2018), US Patent 11,808,955 (Publication date 2023/11/7)
- A. Shaltout, S. Choudhury, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, System for producing ultra-thin color phase hologram with metasurfaces, **US Patent** 9952557 (Filed: May 11, 2016; Date of Patent: April 24, 2018)
- J. C. Ndukaife, A. V. Kildishev, A. Nnanna, A. Boltasseva, Multi-site particle sensing system 15/174,990, **US Patent** 10436780 (Filed: June 6, 2016; Date of Patent: October 8, 2019)
- J. C. Ndukaife, A. Boltasseva, A. G. Agwu Nnanna "System and method for sensing and trapping nanoparticles with plasmonic nanopores" **US Patent** 10508981 (Filed: January 15, 2019; Date of Patent: December 17, 2019)
- A. V. Kildishev, D. Wang, Z. A. Kudyshev, M. Song, A. Boltasseva, V. M. Shalaev, Tunable plasmonic color device and method of making the same, US Patent 20190353830A1, publication date: Nov 21, 2019
- Urcan Guler, Alexander Kildishev, Gururaj Naik, Alexandra Boltasseva, Vladimir M. Shalaev, TITANIUM NITRIDE PLASMONIC NANOPARTICLES FOR CLINICAL THERAPEUTIC APPLICATIONS, Publication number: 20200054752; Type: Application; Filed: October 28, 2019; Publication date: February 20, 2020
- U. Guler, A. V. Kildishev, K. Chaudhury, S. Azzam, E. E. Marinero-Caceres, H. Reddy, A. Boltasseva, V.M Shalaev, Metamaterial device and method of making the same, Patent number: 10670772; Type: Granted; Filed: May 14, 2018; Date of Patent: June 2, 2020
- Aveek Dutta, Vladimir M. Shalaev, Alexandra Boltasseva, Esteban E. Marinero-Caceres, Surface-plasmon opto-magnetic field enhancement for all-optical magnetization switching, Patent number: 10739261; Type: Granted; Filed: April 30, 2019; Date of Patent: August 11, 2020
- Amr Shaltout, Sajid Choudhury, Alexander V. Kildishev, Alexandra Boltasseva, Vladimir M. Shalaev, Ultra-thin color phase hologram with metasurfaces, Patent number: 10754295, Type: Granted; Filed: April 19, 2018; Date of Patent: August 25, 2020
- P. Nyga, A. V. Kildishev, S. N. Chowdhury, A. Boltasseva, Z. Kudyshev, V. M. Shalaev, Optical device, method of using the same, and method of making the same, Publication number: 20200285043; Filed: February 19, 2020; Publication date: September 10, 2020
- A. Naldoni, Z. A. Kudyshev, L. Mascaretti, S. P. Sarmah, S. Rej, J. P. Froning, O. Tomanec, j. Eun Yoo, D. Wang, S. Kment, T. Montini, P. Fornasiero, V. M. Shalaev, P. Schmuki, A. Boltasseva, R. Zbořil, Solar Thermoplasmonic Nanofurnaces and Method for Making and Using Same, Publication number: 20200347508; Filed: May 3, 2020; Publication date: November 5, 2020, US Patent 11,807,950 (issued 2023/11/7)
- A. Dutta, V. M. Shalaev, A. Boltasseva, E. E. Marinero-Caceres, All-optical write/read scheme for magnetic nanostructures; Publication number: 20200371026, Patent Number: 11,119,042, Filed: August 11, 2020; Published: November 26, 2020
- A. V. Kildishev, D. Wang, Z. A. Kudyshev, M. Song, A. Boltasseva, V. M. Shalaev, Tunable plasmonic color device and method of making the same, US Patent 11656386, publication date: May 23, 2023
- P. Nyga, A. V. Kildishev, S. N. Chowdhury, A. Boltasseva, Z. Kudyshev, V. M. Shalaev, Optical device, method of using the same, and method of making the same, Patent Number 11733507, Published: August 22, 2023
- Z. A. Kudyshev, D. Sychev, Z. O. Martin, S. I. Bogdanov, X. Xu, A. Kildishev, A. Boltasseva, V. Shalaev, Machine learning assisted super resolution microscopy, Patent number: 12159369, Filed: July 6, 2022, Date of Patent: December 3, 2024
- V. M. Shalaev, A. Boltasseva, C. B. Fruhling, M. G. Ozlu, All-Optical Epsilon-Near-Zero Enabled Streak Camera, Type: Application, Filed: April 30, 2024, Publication date: November 7, 2024
- D. V. Sychev, V. M. Shalaev, A. Boltasseva, P. Chen, M. M. Yang, C. B. Fruhling, A. Lagoutchev, A. V. Kildishev, All-optical single-photon detector, Type: Application, Filed: April 24, 2024, Publication date: October 24, 2024
- A. V. Kildishev, B. A. Wilson, Y. Chen, D. K. Singh, R. Ojha, M. Bezick, A. Boltasseva, V. M. Shalaev, Authentication systems and methods for electronics packaging, Type: Application, number 19233515, Publication date: December 11, 2025

V. M. Shalaev, A. Boltasseva, A. Lagutchev, A. Senichev, Z. O. Martin, D. Sychev, S. Peana, X. Xu, O. Yesilyurt, V. Mkhitarian, Systems and methods for single-photon emission, Patent number 12332405, Application number 17713850, Publication date: June 17, 2025

## Publication Summary:

Summary: **Citations** (here and below according to *Google Scholar*): over **40,000** total citations, six papers with over 1000 citations, h-index **94**. According to Web of Science (WoS), 14 papers are **“Highly Cited in the Field”**, of which 10 are in the field of *physics* and 4 are in *materials science*. **NOTE:** Papers marked as *Highly Cited in the Field by (WoS)* “are the top one percent in each of the 22 subject areas per year. Highly Cited Papers are considered to be indicators of scientific excellence and top performance and can be used to benchmark research performance against field baselines worldwide” (from <http://ipscience-help.thomsonreuters.com/inCites2Live/indicatorsGroup/aboutHandbook/usingCitationIndicatorsWisely/highlyCitedPapers.html>) To be selected as highly cited, the paper should receive enough citations to place it in the **top 1%** of the related broader academic field (ex. *Physics/Material Science*)

## Book Chapters:

[8] K. Chaudhuri, Z. Wang, M. Alhabeb, K. Maleski, Y. Gogotsi, V. Shalaev, A. Boltasseva, “Optical Properties of MXenes, Chapter 17 in Eds: B. Anasori, Y. Gogotsi, “2D Metal Carbides and Nitrides (MXenes),” Springer Nature Switzerland AG 2019, 327-346, [https://doi.org/10.1007/978-3-030-19026-2\\_17](https://doi.org/10.1007/978-3-030-19026-2_17)

[7] M. Y. Shalaginov, R. Chandrasekar, S. Bogdanov, Z. Wang, X. Meng, O. A. Makarova, A. Lagutchev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, “Hyperbolic Metamaterials for Single-Photon Sources and Nanolasers”, chapter in the book “Quantum Plasmonics”; Eds: S. I. Bozhevolnyi, L. Martin-Moreno, F. J. Garcia-Vidal, Springer International Publishing, pp. 97-120 (2017)

[6] M. Y. Shalaginov, S. Bogdanov, V. V. Vorobyov, A. Lagutchev, A. V. Kildishev, A. V. Akimov, A. Boltasseva, V. M. Shalaev, “Enhancement of Single-Photon Sources with Metamaterials,” chapter 6, *From Atomic to Mesoscale: The Role of Quantum Coherence in Systems of Various Complexities*, eds. S. A. Malinovskaya and I. Novikova, World Scientific Publishing Co. PTE. LTD, ISBN-13: 978-9814678698, ISBN-10: 9814678694 pp. 123-148 (June 29 2015)

[5] J. Kim, G. V. Naik, N. Kinsey, A. Boltasseva, Alternative Plasmonic Materials, “Modern Plasmonics,” eds. A. A. Maradudin, J. R. Sambles, W. L. Barnes, Elsevier, Volume 4, Pages 189–221, doi:10.1016/B978-0-444-59526-3.00006-9, ISBN: 9780444595263 (2014)

[4] K. Leosson, M. C. Gather, P. G. Hermannsson, A. Boltasseva, Long-range surface plasmon polariton waveguides and devices, chapter in “Plasmonics and Plasmonic Metamaterials: Analysis and Applications,” Eds: G. Shvets and I. Tsukerman, World Scientific Publishing, Singapore, Hackensack, NJ, pp. 197-230 (2012)

[3] A. Boltasseva, Fabrication of optical metamaterials, chapter in “Tutorials in metamaterials,” Eds: M. A. Noginov and V. A. Podolskiy, Taylor & Francis Group, ISBN: (978)1420092189, pp. 29-58 (2011)

[2] A. Boltasseva, R. B. Nielsen, C. Jeppesen, A. Kristensen, R. Bakker, Z. Liu, H.-K. Yuan, A. V. Kildishev, and V. M. Shalaev, Fabricating plasmonic components for nano- and meta-photonics, chapter in “Metamaterials and Plasmonics: Fundamentals, Modelling, Applications,” NATO Science for Peace and Security Series – B: Physics and Biophysics; Eds: S. Zouhdi, A. Sihvola, A. P. Vinogradov, Springer, ISBN 978-1-4020-9406-4, pp. 209-222 (2009)

[1] A. Boltasseva and M. van der Poel, Brydninger, chapter in “Optiske Horisonter: en rejse på kommunikationsteknologiens vinger,” Eds: A. Bjarklev, J. Scheel, C. V. Smith, Technical University of Denmark, one2one A/S, ISBN 87-92062-01-6, pp. 11-25 (2007)

## Serial Journal Articles:

[ ] O. Matthiessen, B. Triplett, O. Yesilyurt, D. Cassara, K. Pagadala, M. M. Yang, A. E. L. Allcca, H. Ather, C. Fruhling, A. B. Solanki, Y. P. Chen, H. Alaeian, A. V. Kildishev, V. M. Shalaev, F. Capasso, A. Boltasseva, V. Mkhitarian, “Topology-Optimized Dielectric Cavities for Enhanced Excitonic Light Emission from WSe2” submitted to *Light* (2025)

[ ] J. I. Choi, V. Mkhitarian, C. Fruhling, J. B. Khurgin, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, “Pathway to Optical-Cycle Dynamic Photonics: Extreme Electron Temperatures in Transparent Conducting Oxides,” submitted to *Nature Communications* (2026)

## Published

- [260] E. Daggett, C. M. Lange, B. Windt, A. Danageozian, A. Senichev, J. A. Montaña-López, K. Barua, X. Gao, Z. Zheng, V. K. Veetil, S. Biswas, J. M. Peterson, N. Liu, C. Hong, T. Odom, M. Pelton, T. Li, J. Vučković, V. Shalae, A. Boltasseva, S. E. Economou, J. D. Hood, V. Walther, R. Trivedi, L. Huang, “Many-Body Entanglement in Solid-State Emitters,” *Nature Review Materials* (published online January 2026)
- [259] J. H. Kim, J. Simon, W. Shao, Z. Nian, H. Yang, P. Chen, B. Triplett, Z. Li, P. Wu, Y. Chen, H. Farheen, K. Pagadala, K. R. Choi, C. B. Fruhling, J. Förstner, A. Boltasseva, B. M. Savoie, V. M. Shalae, L. Dou, “Hydrogen-Bonded Organic Framework Enables Phase-Pure Layered Tin Perovskite Nanowires for Room-Temperature Lasing,” *Journal of the American Chemical Society* (January 2026)
- [258] E. Barnes, M.B. Bennett, A. Boltasseva, V. Borish, B. Brown, L. D. Carr, R. R. Ceballos, F. Dukes, E. W. Easton, S. E. Economou, E. E. Edwards, N. D. Finkelstein, C. Fracchiolla, D. Franklin, J. K. Freericks, V. Goss, M. Hannum, N. Holincheck, A. M. Kelly, O. Lanes, H. J. Lewandowski, K. J. Matsler, E. Mercurio, I. Montaña, M. Murdock, K. Peltz, J. K. Perron, C. J.K. Richardson, J. L. Rosenberg, R. S. Ross, M. Ryu, R. E. Samuel, N. Schrode, S. Schwamberger, T. A. Searles, C. Singh, A. Tingle, B. M. Zwickl, “Outcomes from a Workshop on a National Center for Quantum Education,” *EPJ Quantum Technology* 12 (1), 40 (December 2025)
- [257] D.V. Sychev, P. Chen, Y. Chen, M. Yang, C. Fruhling, A. Lagutchev, A.V. Kildishev, A. Boltasseva, V.M. Shalae, “All-optical modulation with single photons using an electron avalanche,” *Nature Nanotechnology* 1-7 (November 2025)
- [256] G. Di Guglielmo, B. Du, J. Campos, A. Boltasseva, A. Dixit, F. Fahim, Z. Kudyshev, S. Lopez, R. Ma, G. N. Perdue, N. Tran, O. Yesilyurt, D. Bowering, “End-to-end workflow for machine learning-based qubit readout with QICK and hls4ml,” *IEEE Transactions on Quantum Engineering* (September 2025)
- [255] K. Ssennyimba, S. Liao, Y. Zhu, T. Legvold, D. Lowder, K. Pagadala, A. Boltasseva, V. Shalae, D. Natelson, “Plasmonic heating, thermoelectric response, and thermal emission in titanium nitride nanowires,” *APL Materials* 13 (8) (August 2025)
- [254] Y. Chen, A. M. McNeil, T. Park, B. A. Wilson, V. Iyer, M. Bezick, J.-I. Choi, R. Ojha, P. Mahendran, D. Kumar Singh, G. Chitturi, P. Chen, T. Do, A. V. Kildishev, V. M. Shalae, M. Moebius, W. Cai, Y. Liu, A. Boltasseva, “Machine-learning-assisted photonic device development: a multiscale approach from theory to characterization,” *Nanophotonics* (July 2025)
- [253] C. Son, S. Peana, O. Matthiessen, A. Kryvobok, A. Senichev, A. Boltasseva, V. M. Shalae, M. Chekhova, “Generation of photon pairs through spontaneous four-wave mixing in subwavelength nonlinear films,” *Optics Letters* 50 (13), 4434-4437 (June 2025)
- [252] F. Monticone, N. Asger Mortensen, A. I. Fernández-Domínguez, Y. Luo, C. Tserkezis, J. B. Khurgin, T. V. Shahbazyan, A. J. Chaves, N. M. R. Peres, G. Wegner, K. Busch, H. Hu, F. Della Sala, P. Zhang, C. Ciraci, J. Aizpurua, A. Babaze, A. G. Borisov, X.-W. Chen, T. Christensen, W. Yan, Y. Yang, U. Hohenester, L. Huber, M. Wubs, S. De Liberato, P. A. D. Gonçalves, F. Javier García De Abajo, O. Hess, I. Tarasenko, J. D. Cox, L. Jelver, E. J. C. Dias, M. Sánchez Sánchez, D. Margetis, G. Gómez-Santos, T. Stauber, S. Tretyakov, C. Simovski, S. Pakniyat, J. S. Gómez-Díaz, I. V. Bondarev, S. Biehs, A. Boltasseva, V. M. Shalae, A. V. Krasavin, A. V. Zayats, A. Alù, J.-H. Song, M. L. Brongersma, U. Levy, O. Y. Long, C. Guo, S. Fan, S. I. Bozhevolnyi, A. Overvig, F. R. Prudêncio, M. G. Silveirinha, S. A. Hassani Gangaraj, C. Argyropoulos, P. A. Huidobro, E. Galiffi, F. Yang, J. B. Pendry, D. A. B. Miller, “Roadmap on Nonlocality in Photonic Materials and Metamaterials,” *Optical Materials Express* 15 (7), 1544-1709 (June 2025)
- [251] Z. O. Martin, A. Senichev, P. Maan, M. G. Ozlu, M. Marinova, Z. Shang, A. Lagutchev, A. Boltasseva, V. M. Shalae, “Single-Photon Emitters in PECVD-Grown Silicon Nitride Films: From Material Growth to Photophysical Properties,” *Nanophotonics* 14 (11) 1783-1793 (June 2025)
- [250] M. G. Ozlu, V. Mkhitarian, C. B. Fruhling, A. Boltasseva, V. M. Shalae, “Floquet engineering of polaritonic amplification in dispersive photonic time crystals,” *Physical Review Research* 7 (2), 023214 (June 2025)
- [249] C. Fruhling, M.G. Ozlu, O. Segal, W. Jaffray, S. Stengel, M. Ferrera, A. Boltasseva, M. Segev, V.M. Shalae, “Time-refraction near the critical angle and angular streaking with attosecond resolution,” *Optical Materials Express* 15 (5), 1065-1075 (April 2025)
- [248] J. Simon, K. R. Choi, S. Ippolito, L. Prokopeva, C. Fruhling, V. M. Shalae, A. V. Kildishev, Y. Gogotsi, A. Boltasseva, “Tailoring optical response of MXene thin film,” *Nanophotonics* (April 2025)

- [247] K. Barua, S. Peana, A. Deepak Keni, V. Mkhitarian, V. M. Shalae, Y. P. Chen, A. Boltasseva, H. Alaeian, "Bottom-Up Fabrication of 2D Rydberg Excitons in Cuprous Oxide," *Communications Materials* 6 (1), 21 (2025)
- [246] W. Jaffray, S. Stengel, F. Biancalana, C. B. Fruhling, M. Ozlu, M. Scalora, A. Boltasseva, V. M. Shalae, M. Ferrera, "Spatio-spectral optical fission in time-varying subwavelength layers," *Nature Photonics* 1-9 (March 7, 2025)
- [245] A. Thakur, W. J. Highlan, B. C. Wyatt, J. Xu, N. Chandran B.S, B. Zhang, Z. D. Hood, S. P. Adhikari, E. Oveisi, B. Pacakova, F. Vega, J. Simon, C. Fruhling, B. Reigle, A. Krayev, M. Asadi, V. Shalae, A. Boltasseva, T. E. Beechem, C. Liu, B. Anasori, "Synthesis of a 2D tungsten MXene for electrocatalysis," *Nature Synthesis* 1-13 (March 2025) ChemRxiv.; doi:10.26434/chemrxiv-2024-dprbn-v2 (2025)
- [244] P. Das, S. Rudra, D. Rao, S. Banerjee, A. I. K. Pillai, M. Garbrecht, A. Boltasseva, I. V. Bondarev, V. M. Shalae, B. Saha, "Electron Confinement-Induced Plasmonic Breakdown in Metals," *Science Advances* 10 (47), eadr2596 (November 20, 2024)
- [243] M. A. Sakib, B. Triplett, W. Harris, N. Hussain, A. Senichev, M. Momenzadeh, J. Bocanegra, R. Wu, A. Boltasseva, V. M. Shalae, M. R. Shcherbakov, "Site-Controlled Purcell-Induced Bright Single Photon Emitters in Hexagonal Boron Nitride," *Nano Letters* 24 (40), 12390-12397 (September 23, 2024)
- [242] K. Wang, Z.-Y. Lin, A. De, C. A. Kocoj, W. Shao, H. Yang, Z. He, A. H. Coffey, C. B. Fruhling, Y. Tang, D. Varadharajan, C. Zhu, Y. S. Zhao, A. Boltasseva, V. M. Shalae, P. Guo, B. M. Savoie, L. Dou, "Two-dimensional-lattice-confined single-molecule-like aggregates," *Nature* 633 (8030), 567-574 (September 19, 2024)
- [241] E. M. Baeva, A. I. Kolbatova, N. A. Titova, S. Saha, A. Boltasseva, S. Bogdanov, V. Shalae, A. V. Semenov, G. N. Goltsman, V. S. Khrapai, "Natural width of the superconducting transition in epitaxial TiN films," *Superconductor Science and Technology* 37 (10) 105017 (September 12, 2024)
- [240] A. Senichev, Z. O. Martin, Y. Wang, O. M. Matthiessen, A. Lagutchev, H. Htoon, A. Boltasseva, V. M. Shalae, "Quantum emitters in aluminum nitride induced by heavy ion irradiation," *APL Quantum* 1 (3), 036103 (September 2024)
- [239] B. Wilson, Y. Chen, D. Kumar Singh, R. Ojha, J. Pottle, M. Bezick, A. Boltasseva, V. M. Shalae, A. V. Kildishev, "Authentication through residual attention-based processing of tampered optical responses", *Advanced Photonics* 6 (5), 056002 (September 1, 2024)
- [238] E. M. Baeva, A. I. Kolbatova, N. A. Titova, S. Saha, A. Boltasseva, S. Bogdanov, V. Shalae, A. V. Semenov, A. Levchenko, G. N. Goltsman, V. S. Khrapai, "Slow electron-phonon relaxation controls the dynamics of the superconducting resistive transition," *Physical Review B* 110 (10) 104519 (September 2024)
- [237] W. Jaffray, F. Belli, S. Stengel, M. A. Vincenti, M. Scalora, M. Clerici, V. M. Shalae, A. Boltasseva, M. Ferrera, "High-order nonlinear frequency conversion in transparent conducting oxide thin films," *Advanced Optical Materials* 12 (28) 2401249 (October 2024)
- [236] M. Yang, D. Sychev, S. Peana, X. Xu, Z. Martin, D. Mandurus, H. Suriya, A. Lagoutchev, V. M. Shalae, A. Boltasseva, "Plasmonic Enhancement of Second Harmonic Generation in Weyl Semimetal TaAs," *Advanced Optical Materials* 12 (9) 2301783 (March 2024)
- [235] A. Boltasseva, V. M. Shalae, M. Segev, "Photonic time crystals: from fundamental insights to novel applications: opinion," *Optical Materials Express* 14 (3) 592-597 (March 2024)
- [234] W. Shao, J. H. Kim, J. Simon, Z. Nian, S.-D. Baek, Y. Lu, C. B. Fruhling, H. Yang, K. Wang, J. Y. Park, L. Huang, Y. Yu, A. Boltasseva, B. M. Savoie, V. M. Shalae, L. Dou, "Molecular templating of layered halide perovskite nanowires," *Science* 384 (6699), 1000-1006 (May 31, 2024)
- [233] Arseniy I Kuznetsov, Mark L Brongersma, Jin Yao, Mu Ku Chen, Uriel Levy, Din Ping Tsai, Nikolay I Zheludev, Andrei Faraon, Amir Arbabi, Nanfang Yu, Debashis Chanda, Kenneth B Crozier, Alexander V Kildishev, Hao Wang, Joel KW Yang, Jason G Valentine, Patrice Genevet, Jonathan A Fan, Owen D Miller, Arka Majumdar, Johannes E Fröch, David Brady, Felix Heide, Ashok Veeraraghavan, Nader Engheta, Andrea Alù, Albert Polman, Harry A Atwater, Prachi Thureja, Ramon Paniagua-Dominguez, Son Tung Ha, Angela I Barreda, Jon A Schuller, Isabelle Staude, Gustavo Grinblat, Yuri Kivshar, Samuel Peana, Susanne F Yelin, Alexander Senichev, Vladimir M Shalae, Soham Saha, Alexandra Boltasseva, Junsuk Rho, Dong Kyo Oh, Joohoon Kim, Junghyun Park, Robert Devlin, Ragip A Pala, "Roadmap for optical metasurfaces," *ACS photonics* 11 (3) 816-865 (February 2024)
- [232] S. N. Chowdhury, C. Fruhling, B. T. Diroll, K. Wang, L. J. Prokopeva, M. M. Marinova, L. Dou, R. D. Schaller, A. V. Kildishev, A. Boltasseva, V. M. Shalae1, "Photo-physics and Carrier Dynamics of Lasing in Quasi-2D Lead Halide Perovskites, *ACS Photonics* (2024)

- [231] A. K. Boddeti, Y. Wang, X. G. Juarez, A. Boltasseva, T. W. Odom, V. Shalaev, H. Alaeian, Z. Jacob, “Reducing system dimensionality with long-range collective dipole-dipole interactions,” *Physical Review Letters*, 132 (17) 173803 (April 26, 2024)
- [230] S. N. Chowdhury, J. Simon, M. P. Nowak, K. Pagadala, P. Nyga, C. Fruhling, E. Garcia Bravo, S. Maćkowski, V. M. Shalaev, A. V. Kildishev, A. Boltasseva, “Wide-range Angle-sensitive Plasmonic Color Printing on Lossy-Resonator Substrates,” *Advanced Optical Materials*, 12 (4) 2301678 (February 2024)
- [229] W. Jaffray, M. Clerici, B. Heijnen, A. Boltasseva, V. M. Shalaev, M. Ferrera, “Nonlinear Loss Engineering in Near-Zero-Index Bulk Materials,” *Advanced Optical Materials* 12 (1) 2301232 (January 2024)
- [228] L. Mascaretti, Y. Chen, O. Henrotte, O. Yesilyurt, V. Shalaev, A. Naldoni, A. Boltasseva, “Designing metasurfaces for efficient solar energy conversion,” *ACS Photonics* 10 (12) 4079-4103 (December 2023)
- [227] Z. O. Martin, A. Senichev, S. Peana, B. J. Lawrie, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev “Photophysics of Intrinsic Single-Photon Emitters in Silicon Nitride at Low Temperatures,” *Advanced Quantum Technologies* 6 (11) 2370113 (November 2023) (*back cover*)
- [226] S. Saha, B. Diroll, M. G. Ozlu, S. N. Chowdhury, S. Peana, Z. Kudyshev, R. Schaller, Z. Jacob, V. M. Shalaev, A. V. Kildishev, A. Boltasseva, “Engineering the Temporal Dynamics of All-Optical Switching with ‘Fast’ and ‘Slow’ Materials,” *Nature Communications* 14 (1) 5877 (September 21, 2023)
- [225] Z. Kudyshev, D. Sychev, Z. Martin, O. Yesilyurt, S. Bogdanov, X. Xu, A. Kildishev, V. Shalaev, A. Boltasseva, “Machine learning assisted quantum super-resolution microscopy,” *Nature Communications* 14 (1) 4828 (August 10, 2023)
- [224] S. Saha, M. Goksu Ozlu, S. N. Chowdhury, B. T. Diroll, R. D. Schaller, A. Kildishev, A. Boltasseva, V. M. Shalaev, “Tailoring the Thickness-Dependent Optical Properties of Conducting Nitrides and Oxides for Epsilon-Near-Zero-Enhanced Photonic Applications,” *Advanced Materials* 35 (34) 2109546 (August 2023)
- [223] E. Lustig, O. Segal, S. Saha, E. Bordo, S. N. Chowdhury, Y. Sharabi, A. Fleischer, C. Fruhling, A. Boltasseva, O. Cohen, V. Shalaev, M. Segev, “Time-refraction optics with single cycle modulation,” *Nanophotonics* (2023)
- [222] E. Lustig, O. Segal, S. Saha, C. Fruhling, A. Boltasseva, V. Shalaev, M. Segev, “Photonic time crystals – fundamental concepts,” *Optics Express* 31 (6), 9165-9170 (March 13, 2023)
- [221] S. Saha, O. Segal, C. Fruhling, E. Lustig, M. Segev, A. Boltasseva, V. Shalaev, “Photonic time crystals: A materials perspective,” *Optics Express* 31 (5), 8267-8273 (February 27, 2023)
- [220] C. Fruhling, K. Wang, S. Chowdhury, X. Xu, A. Kildishev, L. Dou, X. Meng, A. Boltasseva, V. M. Shalaev, “Coherent Random Lasing in Optically-thin Quasi-2D Perovskites,” *Laser & Photonics Reviews* 2200314 (February 2023)
- [219] X. Xu, Z. O. Martin, M. Titze, Y. Wang, D. Sychev, J. Henshaw, A. S. Lagutchev, H. Htoon, E. S. Bielejec, S. I. Bogdanov, V. M. Shalaev, A. Boltasseva, “Fabrication of Single Color Centers in Sub-50 nm Nanodiamonds Using Ion Implantation,” *Nanophotonics* 12 (3), 485-494 (2023)
- [218] O. Yesilyurt, S. Peana, K. Pagadala, V. Mkhitarian, V. M. Shalaev, A. V. Kildishev, A. Boltasseva, “Fabrication-conscious Neural Network Based Inverse Design of Single-Material Variable-Index Multilayer Films: Supplementary Materials,” *Nanophotonics* 12 (5) 993-1006 (February 2023)
- [217] K. Wang, Z.-Y. Lin, Z. Zhang, K. Ma, A. H. Coffey, L. Jin, H.R. Atapattu, Y. Gao, J. Y. Park, Z. Wei, B. P. Finkenauer, C. Zhu, X. Meng, S. N. Chowdhury, Z. Chen, T. Terlier, Y. Yao, K. R. Graham, A. Boltasseva, T.-F. Guo, L. Huang, H. Gao, B. M. Savoie, L. Dou, “Suppressing Phase Disproportionation in Quasi-2D Perovskite Light-Emitting Diodes,” *Nature Communication, Nature communications* 14 (1), 397 (January 2023)
- [216] X. Xu, A. Solanki, D. Sychev, X. Gao, S. Peana, A. S. Baburin, K. Pagadala, Z. O. Martin, S. N. Chowdhury, Y. P. Chen, I. A. Rodionov, A. V. Kildishev, T. Li, P. Upadhyaya, A. Boltasseva, V. M. Shalaev, “Greatly Enhanced Emission from Spin Defects in Hexagonal Boron Nitride Enabled by a Low-Loss Plasmonic Nano-Cavity,” *Nano Letters* 23 (1) 25-33 (November 2022)
- [215] A. Senichev, S. Peana, Z. O. Martin, O. Yesilyurt, D. Sychev, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, “Silicon Nitride Waveguides with Intrinsic Single-Photon Emitters for Integrated Quantum Photonics,” *ACS Photonics* 2022 9 (10), 3357–3365 (September 13, 2022)
- [213] W. Jaffray, S. Saha, V.M. Shalaev, A. Boltasseva, M. Ferrera, “Transparent conducting oxides: from all-dielectric plasmonics to a new paradigm in integrated photonics,” *Advances in Optics and Photonics* 14 (2), 148-208 (June 30, 2022)

- [212] W. Jaffray, E. Carnemolla, C Dobas, F. Belli, M. Mackenzie, J. Travers, A. K. Kar, M. Clerici, C. DeVault, V. Shalaev, A. Boltasseva, M. Ferrera, "Near-zero-index ultra-fast pulse characterization," *Nature Communications* 13 (1), 3536 (June 20, 2022)
- [211] Y. Wu, S. N. Chowdhury, L. Kang, S. S. Saha, A. Boltasseva, A. Kildishev, D. H. Werner, "Zinc oxide (ZnO) hybrid metasurfaces exhibiting broadly tunable topological properties," *Nanophotonics* 11 (17) 3933-3942 (June 2022)
- [210] D. Shah, M. Yang, X. Xu, Z. A. Kudyshev, V. M. Shalaev, I. V. Bondarev, A. Boltasseva, "Thickness-Dependent Drude Plasma Frequency in Transdimensional Plasmonic TiN," *Nano Letters* 22 (12), 4622-4629 (May 31, 2022)
- [209] L. Mascaretti, A. Schirato, P. Fornasiero, A. Boltasseva, V. M. Shalaev, A. Alabastri, A. Naldoni, "Challenges and prospects of plasmonic metasurfaces for photothermal catalysis," *Nanophotonics* 11 (13), 3035-3056 (May 23, 2022)
- [208] R. Yalavarthi, O. Yesilyurt, O. Henrotte, S. Kment, V. M. Shalaev, A. Boltasseva, A. Naldoni, "Multimetallic Metasurfaces for Enhanced Electrocatalytic Oxidations in Direct Alcohol Fuel Cells," *Laser & Photonics Reviews* 16 (7) 2200137 (April 28, 2022)
- [207] D. Zhang, D. Shah, A. Boltasseva, Y. Gogotsi, "MXenes for Photonics," *ACS Photonics* 9 (4), 1108-1116 (March 10, 2022)
- [206] C. Fruhling M. G. Ozlu, S. Saha, A. Boltasseva, V. M. Shalaev, "Understanding All-Optical Switching at Epsilon-Near-Zero: A Tutorial Review," *Applied Physics B* 128 (2), 1-12 (February 2022)
- [205] B. A. Wilson, Z. A. Kudyshev, A. V. Kildishev, S. Kais, V. M. Shalaev, and Alexandra Boltasseva, "Machine Learning Framework for Quantum Sampling of Highly-Constrained, Continuous Optimization Problems," *Applied Physics Reviews* 8 (4), 041418 (December 2021)
- [204] Z. Kudyshev, A. Kildishev, V. Shalaev, A. Boltasseva, "Optimizing Starshot lightsail design: a generative network-based approach," *ACS Photonics* 9 (1), 190-196 (December 2021)
- [203] A. Senichev, Z. O. Martin, S. Peana, D. Sychev, X. Xu, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Room-temperature single-photon emitters in silicon nitride," *Science Advances* 7 (50) eabj0627 (December 2021)
- [202] E. G. Carnemolla, W. Jaffray, M. Clerici, L. Caspani, D. Faccio, F. Biancalana, C. DeVault, V. M. Shalaev, A. Boltasseva, and M. Ferrera, "Visible photon generation via four-wave mixing in near-infrared near-zero-index thin films," *Optics Letters* 46 (21), 5433-5436 (November 2021)
- [201] R. Yalavarthi, L. Mascaretti, Z. Kudyshev, A. Dutta, S. Kalytchuk, R. Zbořil, P. Schmuki, V. Shalaev, S. Kment, A. Boltasseva, A. Naldoni, "Enhancing Photoelectrochemical Energy Storage by Large-Area CdS-Coated Nickel Nanoantenna Arrays," *ACS Applied Energy Materials* 4 (10), 11367-11376 (October 2021)
- [200] X. Xu, Z. Martin, D. Sychev, A. Lagutchev, Y. Chen, T. Taniguchi, K. Watanabe, V. M. Shalaev, A. Boltasseva, "Creating Quantum Emitters in Hexagonal Boron Nitride Deterministically on Chip-Compatible Substrates," *Nano Letters* 21 (19), 8182-8189 (October 2021)
- [199] O. Yesilyurt, Z. Kudyshev, A. Boltasseva, V. Shalaev, A. Kildishev, "Efficient Topology Optimized Couplers for On-Chip Single-photon Sources" *ACS Photonics* 8, 10, 3061-3068 (October 2021)
- [198] Y. Wang, Q. Chen, W. Yang, Z. Ji, L. Jin, X. Ma, M. Song, A. Boltasseva, J. Han, V. Shalaev, S. Xiao, "High-efficiency broadband achromatic metalens for near-IR biological imaging window," *Nature Communications*, 12 (1) 1-7 (September 2021)
- [197] A. Korobenko, S. Saha, A. TK Godfrey, M. Gertsvolf, A. Y. Naumov, D. M. Villeneuve, A. Boltasseva, V. M. Shalaev, P. B. Corkum, "High-harmonic generation in metallic titanium nitride," *Nature communications* 12 (1), 1-6 (August 17, 2021)
- [196] B. T. Diroll, S. Saha, V. M. Shalaev, A. Boltasseva, R. D. Schaller, "Broadband Ultrafast Dynamics of Refractory Metals: TiN and ZrN," *Advanced Optical Materials* 8 (19), 2000652 (October 2020) (acknowledgement correction 9 (15), 2101250 (August 2021))
- [195] S. I. Azzam, K. Chaudhuri, A. Lagutchev, Z. Jacob, Y. L. Kim, V. M. Shalaev, A. Boltasseva, A. V. Kildishev, "Single and Multi-Mode Directional Lasing from Arrays of Dielectric Nanoresonators," *Laser Photonics Reviews* 15 (3), 2000411 (March 2021)

- [194] M. Song, D. Wang, Z. A. Kudyshev, Y. Xuan, Z. Wang, A. Boltasseva, V. M. Shalaev, A. V. Kildishev, "Enabling optical steganography, data storage, and encryption with plasmonic colors," *Laser Photonics Reviews* 15 (3), 2000343 (March 2021)
- [193] A. H. Chu, B. Beauchamp, D. Shah, A. Boltasseva, V. M. Shalaev, E. E. Marinero, "Hybrid magneto photonic material structure for plasmon assisted magnetic switching," *Optical Materials Express* 10 (12), 3107-3118 (December 2020)
- [192] S. Saha, A. Dutta, C. DeVault, B. T. Diroll, R. D. Schaller, Z. Kudyshev, X. Xu, A. Kildishev, V. M. Shalaev, A. Boltasseva, "Extraordinarily Large Permittivity Modulation in Zinc Oxide for Dynamic Nanophotonics," *Materials Today* 43, 27-36 (March 1, 2021)
- [191] Z. A. Kudyshev, A. V. Kildishev, V. M. Shalaev, and A. Boltasseva, "Machine learning-assisted global optimization of photonic devices," *Nanophotonics* 10 (1), 371-383 (January 2021) (published online October 28, 2020)
- [190] Z. A. Kudyshev, V. M. Shalaev, A. Boltasseva, "Machine learning for integrated quantum photonics," *ASC Photonics* 8 (1) 34-46 (December 2020)
- [189] S. N. Chowdhury, P. Nyga, Z. A. Kudyshev, E. G. Bravo, A. S. Lagutchev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Lithography-free plasmonic color printing with femtosecond laser on semicontinuous silver films," *ACS Photonics* 8 (2), 521-530 (December 2020)
- [188] W. Ma, Z. Liu, Z. A. Kudyshev, A. Boltasseva, W. Cai, Y. Liu, "Deep learning for the design of photonic structures," *Nature Photonics* 15 (2), 77-90 (February 2021) (October 5, 2020)
- [187] C.-C. Chiang, S. I. Bogdanov, O. A. Makarova, X. Xu, S. Saha, D. Shah, D. Wang, A. S. Lagutchev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Single-Photon Sources: Chip-Compatible Quantum Plasmonic Launcher," *Advanced Optical Materials* 8 (20) 2000889 (October 2020)
- [186] K. C. Maurya, V. M. Shalaev, A. Boltasseva, B. Saha, "Reduced Optical Losses in Refractory Plasmonic Titanium Nitride Thin Films Deposited with Molecular Beam Epitaxy," *Optical Materials Express* 10 (10), 2679-2692 (October 1, 2020)
- [185] Z. A. Kudyshev, S. I. Bogdanov, T. Isacson, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Rapid Classification of Quantum Sources Enabled by Machine Learning," *Advanced Quantum Technologies* 3 (10) 2000067 (October 2020)
- [184] Z. Wang, S. I. Azzam, X. Meng, M. Alhabeb, K. Chaudhuri, K. Maleski, Y. L. Kim, A. V. Kildishev, V. M. Shalaev, Y. Gogotsi, A. Boltasseva, "Dynamically controlled random lasing with colloidal titanium carbide MXene," *Optical Materials Express* 10 (9) 2304-2321 (September 1, 2020)
- [183] M. Y. Shalaginov, S. I. Bogdanov, A. S. Lagutchev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "On-Chip Single-Layer Integration of Diamond Spins with Microwave and Plasmonic Channels," *ACS Photonics* 7 (8) 2018-2026 (July 20, 2020)
- [182] H. Reddy, K. Wang, Z. Kudyshev, L. Zhu, S. Yan, A. Vezzoli, S. J. Higgins, V. Gavini, A. Boltasseva, P. Reddy, V. M. Shalaev, E. Meyhofer, "Determining plasmonic hot-carrier energy distributions via single-molecule transport measurements," *Science* 369 (6502) 423-426 (July 2020)
- [181] D. Wang, A. E. Llacsahuanga Allica, T.-F. Chung, A. V. Kildishev, Y. P. Chen, A. Boltasseva, V. M. Shalaev, "Enhancing graphene photocurrent using surface plasmons and p-n junction," *Light: Science and Applications* 9(1) 1-10 (July 2020)
- [180] M. Gioti, I. Arvanitidis, D. Christofilos, K. Chaudhuri, T. Zorba, G. Abadias, D. Gall, V. Shalaev, A. Boltasseva, P. Patsalas, "Plasmonic and Phononic Properties of Epitaxial Conductive Transition Metal Nitrides," *Journal of Optics* 22 (8) 084001 (July 2020)
- [179] Z. A. Kudyshev, A. V. Kildishev, V. M. Shalaev, and A. Boltasseva, "Machine-Learning-Assisted Metasurface Design for High-Efficiency Thermal Emitter Optimization," *Applied Physics Reviews* 7 (2) 021407 (June 2020) (\*APR Featured Article\*)
- [178] S.I. Bogdanov, O.A. Makarova, X. Xu, A.S. Lagutchev, D. Shah, A.S. Baburin, I.A. Ryzhikov, I.A. Rodionov, S.I. Bozhevolnyi, A.V. Kildishev, A. Boltasseva, V.M. Shalaev and J. B. Khurgin, "Ultrafast quantum photonics enabled by coupling plasmonic nanocavities to strongly radiative antennas," *Optica* 7(5) 463-469 (May 20, 2020)
- [177] X. Xu, A. Dutta, J. Khurgin, A. Wei, V. M. Shalaev, A. Boltasseva, "Plasmonic Photosensitizers: TiN@TiO<sub>2</sub> Core-Shell Nanoparticles as Plasmon-Enhanced Photosensitizers: The Role of Hot Electron Injection," *Laser & Photonics Reviews* 14(5) 1900376 (May 2020)

- [176] Al. Naldoni, Z. A. Kudyshev, L. Mascaretti, S. P. Sarmah, S. Rej, J. P. Froning, O. Tomanec, J. E. Yoo, D. Wang, S. Kment, T. Montini, P. Fornasiero, V. M. Shalaev, P. Schmuki, A. Boltasseva, R. Zbořil, "Solar thermoplasmonic nanofurnace for high temperature heterogeneous catalysis," *Nano Letters* 20(5) 3663-3672 (April 22, 2020)
- [175] D. Shah, Z. A. Kudyshev, S. Saha, V. M. Shalaev, A. Boltasseva, "Transdimensional material platforms for tunable metasurface design," *MRS Bulletin* 45(3) 188-195 (March 2020)
- [174] J. B. Khurgin, M. Clerici, V. Bruno, L. Caspani, C. DeVault, J. Kim, A. Shaltout, A. Boltasseva, V. M. Shalaev, M. Ferrera, D. Faccio, N. Kinsey, "Adiabatic frequency shifting in epsilon-near-zero materials: the role of group velocity," *Optica* 7 (2), 2334-2536 (2020)
- [173] S. Saha, B. T. Diroll, J. Shank, Z. Kudyshev, A. Dutta, S. N. Chowdhury, T. S. Luk, S. Campione, R. D. Schaller, V. M. Shalaev, A. Boltasseva, M. G. Wood, "Broadband, High-Speed, and Large-Amplitude Dynamic Optical Switching with Yttrium-Doped Cadmium Oxide," *Advanced Functional Materials* 30 (7) 1908377 (February 2020)
- [172] V. Bruno, C. DeVault, S. Vezzoli, D. Shah, S. Maier, A. Jacassi, S. Minguzzi, T. Huq, Z. Kudyshev, S. Saha, A. Boltasseva, M. Ferrera, M. Clerici, D. Faccio, R. Sapienza, V. Shalaev, "Negative refraction in time-varying, strongly coupled plasmonic antenna-ENZ systems," *Physical Review Letters*, 124 (4), 043902 (January 30, 2020); (\*PRL Editors' Suggestion\*)
- [171] V. Bruno, S. Vezzoli, C. DeVault, E. Carnemolla, M. Ferrera, A. Boltasseva, V. M. Shalaev, D. Faccio, M. Clerici, "Broad frequency shift of parametric processes in Epsilon-Near-Zero time-varying media," *MDPI Applied Science* 10 (1318) (January 2020)
- [170] V. Bruno, S. Vezzoli, C. DeVault, T. Roger, L. Caspani, M. Ferrera, A. Boltasseva, V. M. Shalaev, D. Faccio, "Dynamical control of broadband coherent absorption in ENZ films," *MDPI Micromachines* 2020 11 (1) 110 (January 2020)
- [169] K. Chaudhuri, U. Guler, S. Azzam, H. Reddy, S. Saha, E. Marinero, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Remote Sensing of High Temperatures with Refractory, Direct-Contact Optical Metacavity," *ACS Photonics* 7 (2) 472-479 (January 2020)
- [168] M. Song, D. Wang, S. Peana, S. Choudhury, P. Nyga, Z. A. Kudyshev, H. Yu, A. Boltasseva, V. M. Shalaev, Alexander V. Kildishev, "Colors with Plasmonic Nanostructures: A Full-Spectrum Review," *Applied Physics Reviews* 6 (4) 041308 (December 2019)
- [167] N.A. Saveskul, N.A. Titova, E.M. Baeva, A.V. Semenov, A.V. Lubenchenko, S. Saha, H. Reddy, S.I. Bogdanov, E.E. Marinero, V.M. Shalaev, A. Boltasseva, V.S. Khrapai, A.I. Kardakova, G.N. Goltsman, "Superconductivity Behavior in Epitaxial TiN Films Points to Surface Magnetic Disorder," *Physical Review Applied* 12 (5) 054001 (November 2019)
- [166] A. Dutta, D. Wan, B. Yan, V. M. Shalaev, T. Venkatesan, A. Boltasseva, "Strontium Niobate for Near-Infrared Plasmonics," *Advanced Optical Materials* 7 (19) 1900401 (October 2019)
- [165] H. George, J. Reed, M. Ferdinandus, C. DeVault, A. Lagutchev, A. Urbas, T. B. Norris, V. M. Shalaev, A. Boltasseva, N. Kinsey, "Nonlinearities and carrier dynamics in refractory plasmonic TiN thin films," *Optical Materials Express* 9 (10) 3911-3924 (October 1, 2019)
- [164] N. Kinsey, C. DeVault, A. Boltasseva, V. Shalaev, "Near-Zero-Index: A Unique Regime of Materials and Photonics," *Nature Reviews Materials* 4, 742-760 (September 2019)
- [163] Z. Kudyshev, A. Kildishev, A. Boltasseva, V. Shalaev, "Tuning Topology of Photonic Systems with Transparent Conducting Oxides," *ACS Photonics* 6 (8) 1922-1930 (July 29, 2019)
- [162] Oscar Quevedo-Teruel, Hongsheng Chen, Ana Díaz-Rubio, Gurkan Gok, Anthony Grbic, Gabriele Minatti, Enrica Martini, Stefano Maci, George V Eleftheriades, Michael Chen, Nikolay I Zheludev, Nikitas Papasimakis, Sajid Choudhury, Zhaxylyk A Kudyshev, Soham Saha, Harsha Reddy, Alexandra Boltasseva, Vladimir M Shalaev, Alexander V Kildishev, Daniel Sievenpiper, Christophe Caloz, Andrea Alù, Qiong He, Lei Zhou, Guido Valerio, Eva Rajo-Iglesias, Zvonimir Sipus, Francisco Mesa, Raul Rodriguez-Berral, Francisco Medina, Victor Asadchy, Sergei Tretyakov, Christophe Craeye, "Roadmap on metasurfaces," *Journal of Optics* 21(7) 073002 (July 1, 2019)
- [161] A. Dutta, A. Naldoni, F. Malara, V. M. Shalaev, A. Boltasseva, "Gap-plasmon enhanced water splitting with ultrathin hematite films: The role of plasmonic-based light trapping and hot electrons," *Faraday Discussions* 214, 283 - 295 (May 29, 2019)

- [160] D. Wang, Y. R. Koh, Z. A. Kudyshev, K. Maize, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, A. Shakouri, "Spatial and Temporal Nanoscale Plasmonic Heating Quantified by Thermoreflectance," *Nano Letters* 19 (6) 3796-3803 (May 8, 2019)
- [159] S. Bogdanov, A. Boltasseva, V. M. Shalaev, "Overcoming quantum decoherence with plasmonics," *Science Perspective* 364 (6440) 532-533 (May 10, 2019)
- [158] Z. Kudyshev, A. Kildishev, A. Boltasseva, V. Shalaev, "Photonic topological phase transition on demand," *Nanophotonics* 8 (8) 1349-1356 (April 2019)
- [157] P. Nyga, S. N. Chowdhury, Z. Kudyshev, M. D. Thoreson, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Laser-induced color printing on semicontinuous silver films: red, green and blue," *Optical Materials Express* 9 (3) 1528-1538 (March 1, 2019)
- [156] L. Mascaretti, A. Dutta, S. Kment, V. M. Shalaev, A. Boltasseva, R. Zboril, A. Naldoni, "Plasmon-enhanced photoelectrochemical water splitting for efficient renewable energy storage," *Advanced Optical Materials* 31, 1805513 (February 18, 2019) (*\*Invited Review\**)
- [155] M. Song, Z. A. Kudyshev, H. Yu, A. Boltasseva, V. M. Shalaev, A. V. Kildishev, "Achieving full-color generation with polarization-tunable perfect light absorption," *Optical Materials Express* 9 (2), 779-787 (February 1, 2019)
- [154] A. Boltasseva and V. M. Shalaev, "Transdimensional Photonics," *ACS Photonics* 6, 1-3 (January 16, 2019)
- [153] H. Wang, X. Wang, J. Jian, S. Amaya, C. Kumah, P. Lu, J. Huang, D. Lim, V. Pol, J. Youngblood, A. Boltasseva, L. Stanciu, D. O'Carroll, X. Zhang, "Hybrid Plasmonic Au-TiN Vertically Aligned Nanocomposites: A Nanoscale Platform towards Tunable Optical Sensing," *Nanoscale Advances* 1 (3), 1045-1054 (January 2019)
- [152] C.T. DeVault, V.A. Zenin, A. Pors, K. Chaudhuri, J. Kim, A. Boltasseva, V.M. Shalaev, S.I. Bozhevolnyi, "Suppression of Near-Field Coupling in Plasmonic Antennas on Epsilon-Near-Zero Substrates," *Optica* 5 (12), 1557-1563 (December, 20 2018)
- [151] S. I. Azzam, V. M. Shalaev, A. Boltasseva, A. V. Kildishev, "Formation of Bound States in the Continuum in Hybrid Plasmonic-Photonic Systems," *Physical Review Letters*, 121 (25) 253901 (December, 20 2018)
- [150] K. Chaudhuri, A. Shaltout, D. Shah, U. Guler, A. Dutta, V.M. Shalaev, A. Boltasseva, "Photonic Spin Hall Effect in Robust Phase Gradient Metasurfaces Utilizing Transition Metal Nitrides," *ACS Photonics* 6 (1) 99-106 (November 13, 2018)
- [149] E. G. Carnemolla, L. Caspani, C. DeVault, M. Clerici, S. Vezzoli, V. Bruno, V. M. Shalaev, D. Faccio, A. Boltasseva, M. Ferrera, "Degenerate optical nonlinear enhancement in epsilon-near-zero transparent conductive oxides," *Optical Materials Express* 8 (11) 3392-3400 (November 1, 2018)
- [148] M. Henstridge, C. Pfeiffer, D. Wang, A. Boltasseva, V. Shalaev, A. Grbic, R. Merlin, "Synchrotron Radiation from an Accelerating Light Pulse," *Science* 362 (6413), 439-442 (October 16, 2018)
- [147] S. Saha, A. Dutta, N. Kinsey, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "On-Chip Hybrid Photonic-Plasmonic Waveguides with Ultrathin Titanium Nitride Films," *ACS Photonics* 5 (11), 4423-4431 (October 19, 2018)
- [146] A. Shaltout, J. Kim, A. Boltasseva, V. Shalaev, A. Kildishev, "Ultrathin and Multicolor Optical Cavities with Embedded Metasurfaces," *Nature Communication* 9 (1) 2673 (July 10, 2018)
- [145] S. Bogdanov, M. Y. Shalaginov, A. Lagutchev, C.-C. Chiang, D. Shah, A. Baburin, I. Ryzhikov, I. Rodionov, A. V Kildishev, A. Boltasseva, V. M. Shalaev, "Ultrabright room-temperature sub-nanosecond emission from single nitrogen-vacancy centers coupled to nano-patch antennas," *Nano Letters* 18 (8) 4837-4844 (July 3, 2018)
- [144] S. M. Choudhury, D. Wang, K. Chaudhuri, C. DeVault, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Material platforms for optical metasurfaces," *Nanophotonics* 7 (6) 959-987 (June 27, 2018)
- [143] M. Henstridge, C. Pfeiffer, D. Wang, A. Boltasseva, V. Shalaev, A. Grbic, R. Merlin, "Accelerating light with metasurfaces," *Optica* 5 (6) 678-681 (June 20, 2018)
- [142] J. C. Ndukaife, Y. Xuan, A. G. Agwu Nnanna, A. V. Kildishev, V. M. Shalaev, S. T. Wereley, A. Boltasseva, "High-Resolution Large-Ensemble Nanoparticles Trapping with Multifunctional Thermoplasmonic Nanohole Metasurface," *ACS Nano* 12 (6), 5376-5384 (May 30, 2018)
- [141] M. Li, U. Guler, Y. Li, A. Rea, E. K. Tanyi, Y. Kim, M. A. Noginov, Y. Song, A. Boltasseva, V. Shalaev, N. A. Kotov, "Plasmonic Biomimetic Nanocomposite with Spontaneous Subwavelength Structuring as Broadband Absorbers," *ACS Energy Letters* 3, 1578-1583 (May 14, 2018) (*\*Cover article\**)

- [140] D. Shah, A. Catellani, H. Reddy, N. Kinsey, V. M. Shalae, A. Boltasseva, A. Calzolari, "Controlling the plasmonic properties of ultrathin TiN films at the atomic level," *ACS Photonics* 5 (6) 2816-2824 (May 11, 2018)
- [139] C. Haffner, D. Chelladurai, Y. Fedoryshyn, A. Josten, B. Baeuerle, W. Heni, T. Watanabe, T. Cui, B. Cheng, S. Saha, D. L. Elder, L. R. Dalton, A. Boltasseva, V. M. Shalae, N. Kinsey, J. Leuthold, "Low-loss plasmon-assisted electro-optic modulator," *Nature* 556 (7702), 483-486 (April 26, 2018) *Web of Science Highly Cited in the Field paper: in the top 1% of the academic field of Physics*
- [138] S. Saha, A. Dutta, J. C. Ndukaife, N. Kinsey, H. Reddy, U. Guler, V. M. Shalae, A. Boltasseva, "Practical applications of plasmonics enabled by new materials," chapter in "Roadmap on plasmonics" by M. I. Stockman, K. Kneipp, S. I. Bozhevolnyi, S. Saha, A. Dutta, J. Ndukaife, N. Kinsey, H. Reddy, U. Guler, V. M. Shalae, A. Boltasseva, B. Gholipour, H. NS Krishnamoorthy, K. F. MacDonald, C. Soci, N. I Zheludev, V. Savinov, R. Singh, P. Groß, C. Lienau, M. Vadai, M. L. Solomon, D. R. Barton III, M. Lawrence, J. A. Dionne, S. V. Boriskina, R. Esteban, J. Aizpurua, X. Zhang, S. Yang, D. Wang, W. Wang, T. W. Odom, N. Accanto, P. M. de Roque, I. M. Hancu, L. Piatkowski, N. F. van Hulst, M. F. Kling, *Journal of Optics* 20 (4) 043001 (March 9, 2018) *Web of Science Highly Cited in the Field paper: in the top 1% of the academic field of Physics*
- [137] S. Vezzoli, V. Bruno, C. DeVault, T. Roger, V. M. Shalae, A. Boltasseva, M. Ferrera, M. Clerici, A. Dubietis, D. Faccio, "Optical time reversal from time-dependent Epsilon-Near-Zero media," *Physical Review Letters* 120 (4) 043902 (January 26, 2018)
- [136] J. Kim, E. Carnemolla, C. DeVault, A. Shalout, D. Faccio, V. Shalae, A. Kildishev, M. Ferrera, A. Boltasseva, "Dynamic Control of Nano-Cavities with Tunable Metal Oxides," *Nano Letters* 18 (2) 740-746 (January 23, 2018)
- [135] K. Chaudhuri, M. Alhabeb, Z. Wang, V. M. Shalae, Y. Gogotsi, A. Boltasseva, "Highly Broadband Absorber Using Plasmonic Titanium Carbide (MXene)," *ACS Photonics* 5 (3) 1115-1122 (January 10, 2018) *Web of Science Highly Cited in the Field paper: in the top 1% of the academic field of Physics*
- [134] S. K. H. Andersen, S. Bogdanov, O. Makarova, Y. Xuan, M. Y. Shalaginov, A. Boltasseva, S. I. Bozhevolnyi, V. M. Shalae "Hybrid Plasmonic Bullseye Antennas for Efficient Photon Collection," *ACS Photonics* 5 (3) 692-698 (January 7, 2018)
- [133] A. Dutta, A. Kildishev, V. M. Shalae, A. Boltasseva, E. E. Marinero, "Surface-plasmon opto-magnetic field enhancement for all-optical magnetization switching," *Optical Materials Express* 7 (12), 4316-4327 (December 1, 2017)
- [132] Z. Wang, X. Meng, A. V. Kildishev, A. Boltasseva, V. M. Shalae "Nanolasers Enabled by Metallic Nanoparticles: From Spasers to Random Lasers," *Laser & Photonics Reviews* 11 (6) 1700212 (November 15, 2017) (*\*Invited Review\**)
- [131] M. Chirumamilla, A. Chirumamilla, Y. Yang, A.S. Roberts, P.K. Kristensen, K. Chaudhuri, A. Boltasseva, D.S. Sutherland, S.I. Bozhevolnyi, K. Pedersen, "Large-area ultra-broadband absorber for solar thermophotovoltaics based on 3D titanium nitride nanopillars," *Advanced Optical Materials* 5 (22) 1700552-1-8 (November 1, 2017) (*\*Back cover\**)
- [130] O. Makarova, S. Bogdanov, M. Shalaginov, A. Kildishev, A. Boltasseva, V. Shalae, "Patterned multilayer metamaterial for fast and efficient photon collection from dipolar emitters," *Optics Letters* 42, 3968-3971 (October 1, 2017)
- [129] A. Naldoni, U. Guler, Z. Wang, M. Marelli, F. Malara, X. Meng, L. V. Besteiro, A. O. Govorov, A. V. Kildishev, A. Boltasseva, V. M. Shalae, "Broadband Hot Electron Collection for Solar Water Splitting with Plasmonic Titanium Nitride," *Advanced Optical Materials* 5 (15) 1601031 (August 2017) (*\*Among Advanced Optical Materials TOP 5 most downloaded articles, April 2017\**)
- [128] S. Bogdanov, M.Y. Shalaginov, A. Akimov, A.S. Lagutchev, P. Kapitanova, Jing Liu, D. Woods, M. Ferrera, P. Belov, J. Irudayaraj, A. Boltasseva, V.M. Shalae, "Electron spin contrast of Purcell-enhanced nitrogen-vacancy ensembles in nanodiamonds," *Physical Review B* 96 (3), 035146 (July 25, 2017)
- [127] D. Shah, H. Reddy, N. Kinsey, V. Shalae, A. Boltasseva, "Optical Properties of Plasmonic Ultrathin TiN Films," *Advanced Optical Materials* 5 (13) 1700065 (July 2017)
- [126] M. Clerici\*, N. Kinsey\*, C. DeVault, J. Kim, E. Carnemolla, L. Caspani, A. Shaltout, D. Faccio, V. Shalae, A. Boltasseva, M. Ferrera, "Controlling hybrid nonlinearities in transparent conducting oxides via two-colour excitation," *Nature Communications* 8 15829 (June 9, 2017)
- [125] V. A. Zenin, S. Choudhury, S. Saha, V. M. Shalae, A. Boltasseva, S. I. Bozhevolnyi, "Hybrid plasmonic waveguides formed by metal coating of dielectric ridges," *Optics Express* 25 (11), 12295-12302 (May 29, 2017)

- [124] H. Reddy, U. Guler, Z. Kudyshev, A. Kildishev, V. Shalaev, A. Boltasseva, "Temperature-dependent optical properties of plasmonic titanium nitride thin films," *ASC Photonics* 4 (6) 1413-1420 (May 9, 2017)
- [123] S. Choudhury, U. Guler, A. Shaltout, V. M. Shalaev, A. V. Kildishev, A. Boltasseva "Pancharatnam-Berry Phase Manipulating Metasurface for Visible Color Hologram based on Low Loss Silver Thin-Film," *Advanced Optical Materials* 5 (10) 1700196 (May 1, 2017)
- [122] C. Zhang, N. Kinsey, L. Chen, C. Ji, M. Xu, X. Pan, V. M. Shalaev, A. Boltasseva, L. J. Guo, "High-performance Doped Silver Films: Overcoming Fundamental Material Limits for Nanophotonic Applications," *Advanced Materials* (29 (19) 1605177 (May 1, 2017)
- [121] H. Reddy, U. Guler, K. Chaudhuri, A. Dutta, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Temperature-dependent optical properties of single crystalline and poly crystalline silver thin films", *ACS Photonics* 4 (5) 1083-1091 (April 24, 2017)
- [120] U. Guler, D. Zemlyanov, J. Kim, Z. Wang, R. Chandrasekar, X. Meng, E. Stach, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Plasmonic Titanium Nitride Nanostructures via Nitridation of Nanopatterned Titanium Dioxide," *Advanced Optical Materials* 5 (7) 1605177-1-10 (April 1, 2017) (*\*Highlighted on the back cover of issue 7; featured in Advance Science News, April 16, 2017\**)
- [119] Z. Zhang, F. Zuo, C. Wan, A. Dutta, J. Kim, J. Rensberg, R. Nawrodt, H. H. Park, T. Larrabee, X. Guan, Y. Zhou, S. M. Prokes, C. Ronning, V. M. Shalaev, A. Boltasseva, M. A. Kats, S. Ramanathan "Evolution of Metallicity in Vanadium Dioxide by Creation of Oxygen Vacancies," *Physical Review Applied* 7 (3), 034008 (March 10, 2017)
- [118] R. Chandrasekar, Z. Wang, X. Meng, S. Azzam, M. Shalaginov, A. Lagutchev, Y. Kim, A. Wei, A. Kildishev, A. Boltasseva, V. Shalaev, "Lasing Action with Gold Nanorod Hyperbolic Metamaterials," *ACS Photonics* 4 (3), 674-680 (February 28, 2017)
- [117] M. Ferrera, N. Kinsey, C. DeVault, A. Shaltout, and V. M. Shalaev, "Dynamic Nanophotonics," *Journal of the Optical Society of America B - Centennial Anniversary* 34 (1), 95-103 (January 1, 2017) (*\*Invited\**)
- [116] S. Bogdanov, M. Y. Shalaginov, A. Boltasseva, and V. M. Shalaev, Material platforms for integrated quantum photonics, *Optical Materials Express* 7, 111-132 (January 1, 2017)
- [115] J. Fang, D. Wang, C. T. DeVault, T.-F. Chung, Y. P. Chen, A. Boltasseva, V. M. Shalaev, A. V. Kildishev, "Enhanced Graphene Photodetector with Fractal Metasurface," *Nano Letters* 17 (1) 57-62 (December 14, 2016)
- [114] A. M. Shaltout, N. Kinsey, J. Kim, R. Chandrasekar, J. C. Ndukaife, A. Boltasseva, V. M. Shalaev, "Development of Optical Metasurfaces: Emerging Concepts and New Materials," *Proceedings of the IEEE* 104(12) 2270-2287 (December 2016)
- [113] J. Kim, S. Choudhury, C. DeVault, Y. Zhao, A. Kildishev, V. Shalaev, A. Alu, A. Boltasseva, "Controlling the polarization state of light with plasmonic metal oxide metasurface," *ACS Nano* 10 (10), 9326-9333 (October 5, 2016)
- [112] H. Reddy, U. Guler, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Temperature-dependent optical properties of gold thin films," *Optical Materials Express* 6 (9), 2776-2802 (September 1, 2016)
- [111] L. Caspani, R. P. M. Kaipurath, M. Clerici, M. Ferrera, T. Roger, A. Di Falco, J. Kim, N. Kinsey, V.M. Shalaev, A. Boltasseva. D. Faccio, "Enhanced Nonlinear Refractive Index in Epsilon-Near-Zero Materials," *Physical Review Letters* 116 (23), 233901 (June 8, 2016) *Web of Science Highly Cited in the Field paper: in the top 1% of the academic field of **Physics***
- [110] A. A. Herzing, U. Guler, X. Zhou, A. Boltasseva, V. Shalaev, T. B. Norris, "Electron Energy Loss Spectroscopy of Plasmon Resonances in Titanium Nitride Thin Films," *Applied Physics Letters* 108 (17), 171107 (April 25, 2016)
- [109] Z. Wang, X. Meng, S. Ho Choi, S. Knitter, Y. L. Kim, H. Cao, V. M. Shalaev, A. Boltasseva, "Controlling random lasing with 3-D plasmonic nanorod metamaterials," *Nano Letters* 16 (4), 2471-2477 (April 4, 2016)
- [108] J. Kim, A. Dutta, G. V. Naik, A. J. Giles, F. J. Bezares, C. T. Ellis, J. G. Tischler, A. M. Mahmoud, H. Caglayan, O. J. Glembocki, A. V. Kildishev, J. D. Caldwell, A. Boltasseva, N. Engheta, "The role of epsilon-near-zero substrates in the optical response of plasmonic antennas," *Optica* 3 (3), 339-346 (March 20, 2016)
- [107] Z. Wang, P. R. West, X. Meng, N. Kinsey, V. M. Shalaev, A. Boltasseva, "Angled Physical Vapor Deposition Techniques for Non-Conformal Thin Films and Three-Dimensional Structures," *MRS Communications* 6 (01), 17-22 (March 1, 2016)
- [106] J. C. Ndukaife, V. M. Shalaev, A. Boltasseva, "Plasmonics: Turning Loss to Gain," *Science* 351 (6271), 334-335 (January 22, 2016)

- [105] M. Ferrera, N. Kinsey, C. DeVault, J. Kim, V. Shalaev, A. Boltasseva, "Functionally Doped Metal Oxides for Future Ultra-Fast Active Metamaterials," chapter in "Roadmap on optical metamaterials" by A. M. Urbas, Z. Jacob, L. Dal Negro, N. Engheta, A.D. Boardman, P. Egan, A.B. Khanikaev, V. Menon, M. Ferrera, N. Kinsey, C. DeVault, J. Kim, V. Shalaev, A. Boltasseva, J. Valentine, C. Pfeiffer, A. Grbic, E. Narimanov, L. Zhu, S. Fan, A. Alù, E. Poutrina, N. M. Litchinitser, M.A. Noginov, K.F. MacDonald, E. Plum, X. L. B. Murray, D. A. Pawlak, I. I. Smolyaninov, V. N. Smolyaninova, D. Chanda, *Journal of Optics* 18, 1-69 (March 11, 2016)
- [104] A. Naldoni, F. Riboni, U. Guler, A. Boltasseva, V. M. Shalaev, A. V. Kildishev, "Solar-powered plasmon-enhanced heterogeneous catalysis," *Nanophotonics* 5 (1) 112–133 (June 2016)
- [103] J. Liu, U. Guler, A. Lagutchev, A. Kildishev, O. Malis, A. Boltasseva, V. M. Shalaev, "Quasi-coherent thermal emitter based on refractory plasmonic materials," *Optical Materials Express* 5 (12), 2721-2728 (December 1, 2015)
- [102] V. E. Babicheva, M. Y. Shalaginov, S. Ishii, A. Boltasseva, and A. V. Kildishev, "Long-range plasmonic waveguides with hyperbolic cladding", *Optics Express* 23 (24), 31109-31119 (November 30, 2015)
- [101] J. C. Ndukaife, A. V. Kildishev, A. G. Agwu Nnanna, V. M. Shalaev, S. T. Wereley, A. Boltasseva, "Long-range and rapid transport of individual nano-objects by a hybrid electrothermoplasmonic nanotweezer," *Nature Nanotechnology* 11, 53–59 (2016)
- [100] N. K. Emani, D. Wang, T.-F. Chung, L. Prokopeva, A. Kildishev, V. Shalaev, Y. P. Chen, A. Boltasseva, "Plasmon resonance in multilayer graphene nanoribbons," *Laser & Photonics Reviews* 9 (6), 650-655 (*\*Inside front cover\**) (November 1, 2015)
- [99] N. Kinsey, A. A. Syed, D. Courtwright, C. DeVault, C. E. Bonner, V. I. Gavrilenko, V. M. Shalaev, D. J. Hagan, E. W. Van Stryland, A. Boltasseva, "Effective third-order nonlinearities in metallic refractory titanium nitride thin films," *Optical Materials Express* 5 (11), 2395-2403 (November 1, 2015)
- [98] U. Guler, S. Suslov, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Colloidal Plasmonic Titanium Nitride Nanoparticles: Properties and Applications," *Nanophotonics* 4 (1), 2192-8614 (October 2015) (*\*Invited Review\**)
- [97] J. Kim, A. Dutta, B. Memarzadeh, A. V. Kildishev, H. Mosallaei, A. Boltasseva, "Zinc Oxide Based Plasmonic Multilayer Resonator: Localized and Gap Surface Plasmon in the infrared," *ACS Photonics* 2 (8), 1224-1230 (August 7, 2015)
- [96] N. K. Emani, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Graphene: A Dynamic Platform for Electrical Control of Plasmonic Resonance," *Nanophotonics* 4 (1), 2192-8614 (2015), DOI: 10.1515/nanoph-2015-0014 (July 2015) (*\*Invited Review\**) (*\*Among 10 most downloaded papers in Nanophotonics (ISI Impact Factor of 5.7) in 2015\**)
- [95] N. Kinsey, M. Ferrera, C. DeVault, V. Shalaev, A. Boltasseva, "Epsilon-Near-Zero Al-Doped ZnO for Ultrafast Switching at Telecom Wavelengths," *Optica* 2 (7), 616-622 (July 20, 2015) *Web of Science **Highly Cited** in the Field paper: in the top 1% of the academic field of **Physics***
- [94] V. E. Babicheva, A. Boltasseva, A. V. Lavrinenko, "Transparent conducting oxides for electro-optical plasmonic modulators," *Nanophotonics* 4 (1), 165-185 (June 2015) (*\*Invited Review\**) (*\*Among 10 most downloaded papers in Nanophotonics (ISI Impact Factor of 5.7) in 2015\**)
- [93] V. E. Babicheva, M. Y. Shalaginov, S. Ishii, A. Boltasseva, A.V. Kildishev, "Finite-width plasmonic waveguides with hyperbolic multilayer cladding," *Optics Express* 23 (8), 9681-9689 (April 20, 2015)
- [92] S. Prayakrao, S. Robbins, N. Kinsey, A. Boltasseva, V. M. Shalaev, U. B. Wiesner, C. E. Bonner, R. Hussain, N. Noginova, M. A. Noginov, "Gyroidal titanium nitride as nonmetallic metamaterial," *Optical Materials Express* 5 (6), 1316-1322 (June 1, 2015)
- [91] A. Boltasseva, V. Shalaev, "All that glitters need not be gold," *Science* 347, 6228, 1308-1310 (March 20, 2015)
- [90] T. Wang, M. Zalkovskij, K. Iwaszczuk, A. V. Lavrinenko, G. V. Naik, J. Kim, A. Boltasseva, P. Uhd Jepsen "Ultrabroadband terahertz conductivity of highly doped ZnO and ITO," *Optical Materials Express* 5 (3), 566-575, DOI:10.1364/OME.5.000566 (March 1, 2015)
- [89] U. Guler, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Plasmonics on the slope of enlightenment: the role of transition metal nitrides," *Faraday Discussions* 178, 71-86 (2015) (*\*Highlighted in Nature Nanotechnology 11, 1 (2016); among TOP 25 most-read Faraday Discussions articles in 2016\**)
- [88] M. Y. Shalaginov, V. V. Vorobyov, J. Liu, M. Ferrera, A. V. Akimov, A. Lagutchev, A. N. Smolyaninov, V. V. Klimov, J. Irudayaraj, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Enhancement of single-photon emission from nitrogen-vacancy centers with TiN/(Al,Sc)N hyperbolic metamaterial," *Laser & Photonics Reviews* 9(1) 120-127 (January 15, 2015)

- [87] N. Kinsey, M. Ferrera, V.M. Shalaev, A. Boltasseva, "Examining nanophotonics for integrated hybrid systems: a review of plasmonic interconnects and modulators using traditional and alternative materials," JOSA B 32 (1), 121-142 (January 1, 2015) (*\*Invited Review\**)
- [86] P. R. West, N. Kinsey, M. Ferrera, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Adiabatically Tapered Hyperbolic Metamaterials for Dispersion Control of High-k Waves," Nano Letters 15 (1), 498-505 (December 8, 2014)
- [85] W. Li, U. Guler, N. Kinsey, G. V. Naik, A. Boltasseva, J. Guan, V. M. Shalaev, A. V. Kildishev, "Refractory Plasmonics with Titanium Nitride: Broadband Metamaterial Absorber," Advanced Materials 26 (47), 7921-7921 (December 1, 2014) *Web of Science* **Highly Cited** in the Field paper: in the top 1% of the academic field of **Materials Science**
- [84] U. Guler, V. M. Shalaev, A. Boltasseva, "Nanoparticle plasmonics: going practical with transition metal nitrides," Materials Today 18 (4), 227-237 (May 31, 2015) (*\*Invited\**)
- [83] B. Saha, S. Saber, G. V. Naik, A. Boltasseva, E. Stach, E. P. Kvam, T. D. Sands, "Development of epitaxial  $\text{Al}_x\text{Sc}_{1-x}\text{N}$  for artificially structured metal/semiconductor superlattice metamaterials," Physica Status Solidi B: Basic Solid State Physics 252 (2), 251-259 (September 18, 2014) (*\*Cover article\**)
- [82] B. Saha, G. V. Naik, S. Saber, C. Akatay, E. Stach, V. Shalaev, A. Boltasseva, T. D. Sands, "TiN/(Al,Sc)N Metal/Dielectric Superlattices and Multilayers as Hyperbolic Metamaterial in the Visible Spectral Range," Physical Review B 90 (12), 125420 (September 12, 2014)
- [81] J. C. Ndukaife, A. Mishra, U. Guler, A. G. Agwu Nnanna, S. Wereley, A. Boltasseva, "Photothermal Heating Enabled by Plasmonic Nanostructures for Electrokinetic Manipulation and Sorting of Particles," ASC Nano 8 (9), 9035-9043 (September 2 2014)
- [80] S. Ishii, M. Y. Shalaginov, V. E. Babicheva, A. Boltasseva, A. V. Kildishev, "Plasmonic waveguides cladded by hyperbolic metamaterials," Optics Letters 39 (16), 4663- 4666 (August 15 2014)
- [79] G. V. Naik, B. Saha, J. Liu, S. M. Saber, E. Stach, J. MK Irudayaraj, T. D. Sands, V. M. Shalaev, A. Boltasseva, "Epitaxial superlattices with titanium nitride as a plasmonic component for optical hyperbolic metamaterials," Proceedings of the National Academy of Sciences, 111 (21), 7546-7551 (May 2014)
- [78] N. Kinsey, M. Ferrera, G. V. Naik, V. E. Babicheva, V. M. Shalaev, A. Boltasseva, "Experimental demonstration of titanium nitride plasmonic interconnects," Optics Express 22 (10), 12238-12247 (May 19 2014)
- [77] J. Liu, G. V. Naik, S. Ishii, C. DeVault, A. Boltasseva, V. M. Shalaev, E. Narimanov, "Optical absorption of hyperbolic metamaterial with stochastic surfaces," Optics Express 22 (80), 8893-8901 (April 21 2014)
- [76] U. Guler, A. Boltasseva, V. M. Shalaev, "Refractory Plasmonics," Science 344 (6181), 263-264 (April 18 2014)
- [75] C. Pfeiffer, N. K. Emani, A. M. Shaltout, A. Boltasseva, V. M. Shalaev, A. Grbic, "Efficient Light Bending with Isotropic Huygens' Surfaces," Nano Letters 14, 2491-2497 (April 1 2014)
- [74] J. Kim, G. V. Naik, Al. V. Gavrilenko, K. Dondapati, V. I. Gavrilenko, S. M. Prokes, O. J. Glembocki, V. M. Shalaev, A. Boltasseva, "Optical Properties of Gallium-Doped Zinc Oxide - a Low-Loss Plasmonic Material: First Principles Theory and Experiment," Physical Review X 3, 041037-1-9 (December 31 2013)
- [73] N. K. Emani, T.-F. Chung, A. V. Kildishev, V. M. Shalaev, Y. P. Chen, A. Boltasseva, "Electrical Modulation of Fano Resonance in Plasmonic Nanostructures Using Graphene," Nano Letters 14 (1), 78-82 (December 3 2013)
- [72] U. Guler, J. C. Ndukaife, G. V. Naik, A. G. A. Nnanna, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Local Heating with Lithographically Fabricated Plasmonic Titanium Nitride Nanoparticles," Nano Letters 13 (12), 6078-6083 (November 26, 2013)
- [71] V. E. Babicheva, N. Kinsey, G. V. Naik, M. Ferrera, A. V. Lavrinenko, V. M. Shalaev, A. Boltasseva, "Towards CMOS-compatible nanophotonics: Ultra-compact modulators using alternative plasmonic materials," Optics Express 21 (22), 27326-27336 (4 November 2013)
- [70] B. Saha, G. Naik, V. P. Drachev, A. Boltasseva, E. E. Marinero, T. D. Sands, "Electronic and optical properties of  $\text{ScN}$  and  $(\text{Sc,Mn})\text{N}$  thin films deposited by reactive DC-magnetron sputtering", Journal of Applied Physics 114 (6), 063519 (August 14 2013)
- [69] J. Kim, G. V. Naik, N. K. Emani, U. Guler, A. Boltasseva, "Plasmonic Resonances in Nanostructured Transparent Conducting Oxide Films," IEEE Journal of Selected Topics in Quantum Electronics 19 (3), 4601907 (2013) (*\*Invited\**) (*\*Cover article\**)

- [68] G. V. Naik, V. M. Shalaev, A. Boltasseva, "Alternative Plasmonic Materials: Beyond Gold and Silver," *Advanced Materials* 25 (24), 3264-3294 (June 25 2013) (*\*Cover article\**) (*\*Invited Review\**) **WoS Highly Cited in the Field paper: top 1% of the academic field of Materials Science**
- [67] T. R. Gordon, T. Paik, D. R. Klein, G. V. Naik, H. Caglayan, A. Boltasseva, C. B. Murray, "Shape-Dependent Plasmonic Response and Directed Self-Assembly in a New Semiconductor Building Block, Indium-Doped Cadmium Oxide (ICO)," *Nano Letters* 13 (6), 2857-2863 (June 2013)
- [66] A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Planar Photonics with Metasurfaces," *Science* 339 (6125), 1232009-1-6 (March 15 2013) **WoS Highly Cited in the Field paper: in the top 1% of the academic field of Physics**
- [65] N. K. Emani, T.-F. Chung, X. Ni, A. V. Kildishev, Y. P. Chen, A. Boltasseva, "Electrically tunable damping of plasmonic resonances with graphene," *Nano Letters* 12 (10), 5202-5206 (October 2012) *Web of Science Highly Cited in the Field paper: in the top 1% of the academic field of Physics*
- [64] M. A. Bodea, G. Sbarcea, G. V. Naik, A. Boltasseva, T. A. Klar, J. D. Pedarnig, "Negative permittivity of ZnO thin films prepared from aluminium and gallium doped ceramics via pulsed-laser deposition," *Applied Physics A* 110 (4), 929-934 (September 2012)
- [63] J. B. Khurgin and A. Boltasseva, "Reflecting upon the losses in plasmonics and metamaterials," *MRS Bulletin* 37 (8), 768-779 (August 2012) (*\*Invited\**)
- [62] G. V. Naik, J. Liu, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Demonstration of Al:ZnO as a plasmonic component of near-infrared metamaterials," *Proceedings of the National Academy of Sciences* 109 (23), 8834-8838 (June 5 2012) *Web of Science Highly Cited in the Field paper: in the top 1% of the academic field of Physics*
- [61] U. Guler, G. V. Naik, A. Boltasseva, V. M. Shalaev, A. V. Kildishev, "Performance analysis of nitride alternative plasmonic materials for localized surface plasmon applications," *Applied Physics B* 107 (2), 285-291 (May 2012)
- [60] G. V. Naik, J. L. Schroeder, X. Ni, A. V. Kildishev, T. D. Sands, A. Boltasseva, "Titanium nitride as a plasmonic material for visible and near-infrared wavelengths," *Optical Materials Express* 2 (4), 478-489 (April 1 2012) (*\*Highlighted in OSA press release and key industry media outlets Science Daily, NSF Science 360, Red Orbit, Photonics.com\**) **The second most cited paper in OMEx since the beginning of the journal (out of total 2,800 papers). Web of Science Highly Cited in the Field paper: in the top 1% of the academic field of Materials Science**
- [59] J. Kim, V. P. Drachev, Z. Jacob, G. V. Naik, A. Boltasseva, E.E. Narimanov, V. M. Shalaev, "Improving the radiative decay rate for dye molecules with hyperbolic metamaterials," *Optics Express* 20 (7), 8100-8116 (March 26 2012)
- [58] X. Ni, N. K. Emani, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Broadband light bending with plasmonic nanoantennas," *Science* 335, 427-427 (January 27 2012) **WoS Highly Cited in the Field paper: in the top 1% of the academic field of Physics**
- [57] M. Y. Shalaginov, G. V. Naik, S. Ishii, M. N. Slipchenko, A. Boltasseva, J. X. Cheng, A. N. Smolyaninov, E. Kochman, V. M. Shalaev, "Characterization of nanodiamonds for metamaterial applications," *Appl. Phys. B* 105 (2), 191-195 (November 2011)
- [56] G. V. Naik, J. Kim, A. Boltasseva, "Oxides and nitrides as alternative plasmonic materials in the optical range," *Optical Materials Express* 1 (6), 1090-1099 (October 1 2011) (*\*Invited\**) (*\*Highlighted in OSA News Release\**) **The most cited paper in OMEx since the beginning of the journal (out of total 2,800 papers), top download for several years; WoS Highly Cited in the Field paper: top 1% of the academic field of Materials Science**
- [55] X. Ni, G. V. Naik, A. V. Kildishev, Y. Barnakov, A. Boltasseva, V. M. Shalaev, "Effect of metallic and hyperbolic metamaterial surface on electric and magnetic dipole emission transitions," *Applied Physics B* 103 (3), 553-558 (June 2011)
- [54] A. Boltasseva and H. Atwater, "Low-loss plasmonic metamaterials," *Science* 331 (6015), 290-291 (January 21 2011) (*\*Featured in Nature Photonics 5, 139-140, 2011\**)
- [53] G. V. Naik and A. Boltasseva, "A comparative study of semiconductor-based plasmonic metamaterials," *Metamaterials* 5, 1-7 (2011) (*\*Invited\**)
- [52] G. V. Naik and A. Boltasseva, "Semiconductors for plasmonics and metamaterials," *Phys. Status Solidi RRL* 4, 295-297 (2010) (*\*In the top 10 most accessed paper in 2011\**)
- [51] Z. Jacob, J. Y. Kim, G. V. Naik, A. Boltasseva, E. Narimanov, V. M. Shalaev, "Engineering photonic density of states using metamaterials," *Applied Physics B* 100, 215-218 (2010) (*In the top 99.5% of published work cited and or downloaded from Applied Physics B from 1980 to 2021*) *Web of Science Highly Cited in the Field paper: in the top 1% of the academic field of Physics*

- [50] R. B. Nielsen, M. D. Thoreson, W. Chen, A. Kristensen, J. M. Hvam, V. M. Shalaev, A. Boltasseva, "Toward superlensing with metal-dielectric composites and multilayers," *Applied Physics B* 2010 100, 93-100 (2010)
- [49] T. Rosenzweig, P. G. Hermannsson, A. Boltasseva, K. Leosson, "Optimizing performance of plasmonic devices for photonic circuits," *Applied Physics A* 100, 341-346 (2010)
- [48] X. Ni, Z. Liu, A. Boltasseva, A. V. Kildishev, "The validation of the parallel three-dimensional solver for analysis of optical plasmonic bi-periodic multilayer nanostructures," *Applied Physics A* 100, 365-374 (2010)
- [47] M. G. Nielsen, A. Pors, R. B. Nielsen, A. Boltasseva, O. Albrechtsen, S. I. Bozhevolnyi, "Demonstration of scattering suppression in retardation-based plasmonic nanoantennas," *Optics Express* 18, 14802-14811 (2010)
- [46] P. West, S. Ishii, G. Naik, N. Emani, V. M. Shalaev, A. Boltasseva, "Searching for better plasmonic materials," *Laser & Photonics Reviews* 4, 795-808 (2010) *(\*Featured on MaterialsViews.com\* and LPR Cover\*)* **The most cited paper of LPR journal since its inception. WoS *Highly Cited* in the Field paper: in the top 1% of the academic field of Physics**
- [45] I. Fernandez-Cuesta, R. B. Nielsen, A. Boltasseva, X. Borriese, F. Pérez-Murano, A. Kristensen, "Excitation of fluorescent nanoparticles by channel plasmon polaritons propagating in V-grooves," *Applied Physics Letters* 95, 203102-1-3 (2009)
- [44] C. Jeppesen, R. B. Nielsen, A. Boltasseva, S. Xiao, N. A. Mortensen, A. Kristensen, "Thin film Ag superlens towards lab-on-a-chip integration", *Optics Express* 17, 22543-22552 (2009) *(\*Highlighted in Virtual Journal for Biomedical Optics (VJBO), January 4, 2010\*)*
- [43] S. Novikov, J. Beermann, T. Søndergaard, A. Boltasseva, S. I. Bozhevolnyi, "Two-photon imaging of field enhancement by groups of gold nanostrip antennas", *JOSA B* 26, 2199-2203 (2009) *(\*Highlighted in Virtual Journal for Biomedical Optics (VJBO), December 2, 2009\*)*
- [42] A. Boltasseva, "Plasmonic components fabrication via nanoimprint", *Journal of Optics A: Pure Appl. Opt.* 11, 114001 (2009) *(\*Invited\*)*
- [41] A. Huck, S. Smolka, P. Lodahl, A. S. Sørensen, A. Boltasseva, J. Janousek, U. L. Andersen, "Demonstration of quadrature-squeezed surface plasmons in a gold waveguide", *Physical Review Letters* 102, 246802 (2009) *(\*Highlighted in Virtual Journal of Nanoscale Science and Technology, July 6, 2009\*)*
- [40] I. P. Radko, S. I. Bozhevolnyi, G. Brucoli, L. Martin-Moreno, F. J. Garcia-Vidal, A. Boltasseva, "Efficient unidirectional ridge excitation of surface plasmons", *Optics Express* 17, 7228-7232 (2009)
- [39] I. P. Radko, V. S. Volkov, J. Beermann, A. B. Evlyukhin, A. Boltasseva, S. I. Bozhevolnyi, "Plasmonic metasurfaces for waveguiding and field enhancement", *Laser & Photonics Reviews* 3, 575-590, 2009
- [38] J. Jung, T. Søndergaard, J. Beermann, A. Boltasseva, S. I. Bozhevolnyi, "Theoretical analysis and experimental demonstration of resonant light scattering from metal nanostrips on quartz," *Journal of the Optical Society of America B* 26, 121-124 (2008)
- [37] R. M. Bakker, V. P. Drachev, Z. Liu, H.-K. Yuan, R. H. Pedersen, A. Boltasseva, J. Chen, J. Irudayaraj, A. V. Kildishev, V. M. Shalaev, "Nanoantenna array-induced fluorescence enhancement and reduced lifetimes," *New Journal of Physics* 10, 125022-1-16 (2008)
- [36] J. Beermann, S. M. Novikov, T. Søndergaard, A. Boltasseva, S. I. Bozhevolnyi, "Two-photon mapping of localized field enhancements in thin nanostrip antennas," *Optics Express* 16, 17302-17309 (2008)
- [35] I. P. Radko, S. I. Bozhevolnyi, G. Brucoli, L. Martin-Moreno, F. J. Garcia-Vidal, A. Boltasseva, "Efficiency of local surface plasmon polariton excitation on ridges," *Physical Review B* 78, 115115 1-7 (2008) *(\*Highlighted in Virtual Journal of Nanoscale Science and Technology, October 6, 2008\*)*
- [34] K. Leosson, T. Rosenzweig, P. Hermannsson, A. Boltasseva, "Compact plasmonic variable optical attenuator," *Optics Express* 16, 15546- 15552 (2008)
- [33] J. Beermann, A. Evlyukhin, A. Boltasseva, S. I. Bozhevolnyi, "Nonlinear microscopy of localized field enhancements in fractal shaped periodic metal nanostructures," *Journal of the Optical Society of America B* 25, 1585-1592 (2008)
- [32] R. B. Nielsen, I. Fernandez-Cuesta, A. Boltasseva, V. S. Volkov, S. I. Bozhevolnyi, A. Klukowska, A. Kristensen, "Channel plasmon polariton propagation in nanoimprinted V-groove waveguides," *Optics Letters* 33, 2800-2802 (2008)

- [31] A. Boltasseva, V. S. Volkov, R. B. Nielsen, E. Moreno, S. G. Rodrigo, S. I. Bozhevolnyi, "Triangular metal wedges for subwavelength plasmon-polariton guiding at telecom wavelengths," *Optics Express* 16, 5252-5260 (2008)
- [30] A. Boltasseva, V. M. Shalaev, "Fabrication of optical negative-index metamaterials: recent advances and outlook," *Metamaterials* 2, 1-17 (2008) (*\*Invited\**) (**Most cited article published in Metamaterials since 2007**)
- [29] I. P. Radko, A. B. Evlyukhin, A. Boltasseva, S. I. Bozhevolnyi, "Refracting surface plasmon polaritons with nanoparticle arrays," *Optics Express* 16, 3924-3930 (2008)
- [28] Z. Liu, A. Boltasseva, R. H. Pedersen, R. Bakker, A. V. Kildishev, V. Drachev, V. M. Shalaev, "Plasmonic nanoantenna arrays for the visible," *Metamaterials* 2, 45-51 (2008) (*\*In Top 10 Cited articles published in the last five years in Metamaterials\**)
- [27] T. Søndergaard, J. Beermann, A. Boltasseva, S. I. Bozhevolnyi, "Slow-plasmon resonant nano-strip antennas: Analysis and demonstration," *Physical Review B* 77, 115420, 1-5 (2008)
- [26] R. M. Bakker, H.-K. Yuan, R. H. Pedersen, Z. Liu, A. Boltasseva, S. Gresillon, V. P. Drachev, A. V. Kildishev, and V. M. Shalaev, "Enhanced localized fluorescence in plasmonic nanoantennae," *Applied Physics Letters* 92, 043101-1-3 (2008)
- [25] J. Beermann, I. P. Radko, S. I. Bozhevolnyi, A. Boltasseva, "Localized field enhancements in fractal shaped periodic metal nanostructures," *Optics Express* 15, 15234-15241 (2007)
- [24] I. Fernandez-Cuesta, R. B. Nielsen, A. Boltasseva, X. Borrísé, F. Pérez-Murano, A. Kristensen, "V-groove plasmonic waveguides fabricated by nanoimprint lithography," *Journal of Vacuum Science and Technology* 25, 2649-2653 (2007)
- [23] R. M. Bakker, A. Boltasseva, Z. Liu, R. Pedersen, S. Gresillon, A. V. Kildishev, V. P. Drachev, V. M. Shalaev, "Near-field excitation of nanoantenna resonance," *Optics Express* 15, 13682-13688 (2007) (*\*Highlighted in the Virtual Journal of Nanoscale Science and Technology\**)
- [22] I. P. Radko, S. I. Bozhevolnyi, A. B. Evlyukhin, A. Boltasseva, "Surface plasmon polariton beam focusing with parabolic nanoparticle chains," *Optics Express* 15, 6576-6582 (2007) (*\*Highlighted in Nature Photonics, vol. 1, July 2007\**)
- [21] R. H. Pedersen, A. Boltasseva, D. M. Johansen, T. Nielsen, K. B. Jørgensen, K. Leosson, J. E. Østergaard and A. Kristensen, "Nanoimprinted reflecting gratings for long-range surface plasmon polaritons," *Microelectronic Engineering* 84, 895-898 (2007)
- [20] H.-K. Yuan, U. K. Chettiar, W. Cai, A. V. Kildishev, A. Boltasseva, V. P. Drachev, and V. M. Shalaev, "A negative permeability material at red light," *Optics Express* 15, 1076-1083 (2007) (*\*Highlighted in Nature Photonics, vol. 1, April 2007\**)
- [19] A. Boltasseva and S. I. Bozhevolnyi, "Directional couplers using long-range surface plasmon polariton waveguides," *Journal of Selected Topics in Quantum Electronics* 12, 1233 - 1241 (2006) (*\*Invited\**)
- [18] A. Boltasseva, S. I. Bozhevolnyi, T. Nikolajsen and K. Leosson, "Compact Bragg gratings for long-range surface plasmon polaritons," *Journal of Lightwave Technology* 24, 912-918 (2006)
- [17] T. Søndergaard, S. I. Bozhevolnyi, and A. Boltasseva, "Theoretical analysis of ridge gratings for long-range surface plasmon polaritons," *Physical Review B* 73, 045320-1-8 (2006)
- [16] K. Leosson, T. Nikolajsen, A. Boltasseva, and S.I. Bozhevolnyi, "Long-range surface plasmon polariton nanowire waveguides for device applications," *Optics Express* 14, 314-319 (2006)
- [15] A. Boltasseva, T. Søndergaard, T. Nikolajsen, K. Leosson, S. I. Bozhevolnyi, and J. M. Hvam, "Propagation of long-range surface plasmon polaritons in photonic crystals," *Journal of the Optical Society of America B* 22, 2027 (2005)
- [14] A. Boltasseva, S. I. Bozhevolnyi, T. Søndergaard, T. Nikolajsen and K. Leosson, "Compact Z-add-drop wavelength filters for long-range surface plasmon polaritons," *Optics Express* 13, 4237 - 4243 (2005)
- [13] S. I. Bozhevolnyi, A. Boltasseva, T. Søndergaard, T. Nikolajsen, and K. Leosson, "Photonic bandgap structures for long-range surface plasmon polaritons," *Optics Communications* 250, 328-333 (2005)
- [12] A. Boltasseva, T. Nikolajsen, K. Leosson, K. Kjaer, M. S. Larsen, and S. I. Bozhevolnyi, "Integrated optical components utilizing long-range surface plasmon polaritons," *Journal of Lightwave Technology* 23, 413-422 (2005) *Selected for "A Third of a Century of Lightwave Technology: January 1983 - April 2016" special collection*

containing **“the most impactful papers”** from JLT’s third of a century long history” (\*represents about **1%** of the papers published in JLT’s history\*)

- [11] P. S. Carney, R. A. Frazin, S. I. Bozhevolnyi, V. S. Volkov, A. Boltasseva, and J. C. Schotland, “Computational lens for the near-field,” *Physical Review Letters* 92, 163903-1/4 (2004)
- [10] S. I. Bozhevolnyi, V. S. Volkov, A. Boltasseva and K. Leosson, “Local excitation of surface plasmon polaritons in random surface nanostructures,” *Optics Communications* 223, 25-29 (2003)
- [9] V. S. Volkov, S. I. Bozhevolnyi, K. Leosson and A. Boltasseva, “Experimental studies of surface plasmon polariton band gap effect,” *Journal of Microscopy* 210, 324-329 (2003)
- [8] S. I. Bozhevolnyi, V. S. Volkov, K. Leosson and A. Boltasseva, “Surface plasmon polariton waveguiding in random surface nanostructures,” *Journal of Microscopy* 209, 209-213 (2003)
- [7] S.I. Bozhevolnyi, V.S. Volkov, T. Søndergaard, A. Boltasseva, P.I. Borel and M. Kristensen, “Near-field imaging of light propagation in photonic crystal waveguides: Explicit role of Bloch harmonics,” *Physical Review B* 66, 235204-1/9 (2002)
- [6] S. I. Bozhevolnyi, V. Volkov, J. Arentoft, A. Boltasseva, T. Søndergaard and M. Kristensen, “Direct mapping of light propagation in photonic crystal waveguides,” *Optics Communications* 212, 51-55 (2002)
- [5] J. Arentoft, T. Søndergaard, M. Kristensen, A. Boltasseva, M. Thorhauge and L. Frandsen, “Low-loss silicon-on-insulator photonic crystal waveguides,” *Electronics Letters* 38, 274-275 (2002)
- [4] S. I. Bozhevolnyi, V. Volkov, K. Leosson and A. Boltasseva, “Bend loss in surface plasmon polariton band gap structures,” *Applied Physics Letters* 79, 1076-1078 (2001)
- [3] A. P. Bogatov, A. E. Boltasyova, A. E. Drakin, V. P. Konyaev, “Optical loss in strained quantum-well semiconductor ridge lasers,” *Journal of Quantum Electronics* 30(10), 878-880 (2000)
- [2] A. P. Bogatov, A. E. Boltaseva, A. E. Drakin, M. A. Belkin, V. P. Konyaev, “Anomalous dispersion, differential gain and dispersion of the alpha-factor in InGaAs/AlGaAs/GaAs strained quantum-well semiconductor lasers,” *Semiconductors* 34 (10), 1207-1213 (2000)
- [1] A. P. Bogatov, A. E. Boltaseva, A. E. Drakin, M. A. Belkin, V. P. Konyaev, “Experimental investigation of the alpha-factor in InGaAs/AlGaAs/GaAs strained quantum-well semiconductor lasers,” *Journal of Quantum Electronics* 30 (4), 315-320 (2000)

## **Editorials, Conference Proceedings/Summaries, Non-Refereed Journal Publications:**

- [421] J. I. Choi, V. Mkhitarian, C. Fruhling, J. B. Khurgin, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, “Pathway to Optical-Cycle Dynamic Photonics: Extreme Electron Temperatures in Transparent Conducting Oxides,” arXiv preprint arXiv:2512.24641 (December 31, 2025)
- [420] E. Daggett, C. M. Lange, B. Windt, A. Danageozian, A. Senichev, J. A. Montaña-López, K. Barua, X. Gao, Z. Zheng, V. K. Veetil, S. Biswas, J. M. Peterson, N. Liu, C. Hong, T. Odom, M. Pelton, T. Li, J. Vučković, V. Shalaev, A. Boltasseva, S. E. Economou, J. D. Hood, V. Walther, R. Trivedi, L. Huang, “Many-Body Entanglement in Solid-State Emitters,” arXiv preprint arXiv:2511.20797 (November 25, 2025)
- [419] A. Boltasseva, N. Engheta, G. Strangi, D. Couwenberg, “In honor of Federico Capasso, a visionary in nanophotonics, on the occasion of his 75th birthday,” *Nanophotonics* 14 (23), 3691-3707 (November 15, 2025) (Editorial)
- [418] W. Jaffray, S. Stengel, F. Ali, M. G. Ozlu, C. B. Fruhling, M. A. Vincenti, D. De Ceglia, M. Scalora, A. Boltasseva, V. M. Shalaev, A. Di Falco, M. Ferrera, “Spatio-Temporal Photonic Metalattice,” arXiv preprint arXiv:2510.09273 (October 10, 2025)
- [417] W. Jaffray, S. Stengel, A. Boltasseva, V. M. Shalaev, M. A. Vincenti, D. De Ceglia, M. Scalora, C. Rizza, M. Ferrera, “All-optical polarization control in time-varying low-index films via plasma symmetry breaking,” arXiv:2510.06985 (October 8, 2025)
- [416] O. Matthiessen, B. Triplett, O. Yesilyurt, D. Cassara, K. Pagadala, M. M. Yang, A. E. L. Allcca, H. Ather, C. Fruhling, A. B. Solanki, Y. P. Chen, H. Alaeian, A. V. Kildishev, V. M. Shalaev, F. Capasso, A. Boltasseva, V. Mkhitarian, “Topology-Optimized Dielectric Cavities for Enhanced Excitonic Light Emission from WSe<sub>2</sub>,” arXiv preprint arXiv:2509.26503 (September 2025)

- [415] A. Kildishev, P. Maan, Y. Chen, S. Borneman, B. Lawrie, A. Poretzky, H. Alaeian, A. Boltasseva, V. M. Shalaev, "Anticipating Decoherence: a Predictive Framework for Enhancing Coherence in Quantum Emitters," Research Square, doi.org/10.21203/rs.3.rs-7313254/v1 (September 2025)
- [414] V. Iyer, M. Bezick, B. A. Wilson, Y. Chen, V. M. Shalaev, S. Kais, A. V. Kildishev, A. Boltasseva, B. Lackey, "Machine-learning assisted surrogate annealing for photonic device inverse design," SPIE Optics and Photonics, Photonic Computing: From Materials and Devices to Systems and Applications II; pages PC135810F, San Diego, California, USA, August 3-7, 2025 (September 18, 2025)
- [413] H. Farheen, Y. Chen, P. Chen, A. Kryvobok, S. Peana, A. Senichev, V. M. Shalaev, A. Boltasseva, J. Förstner, A. V. Kildishev, "Topology-optimized silicon nitride coupler for integrated single-photon emitters," SPIE Optics and Photonics, Photonic Computing: From Materials and Devices to Systems and Applications II; pages PC135810N, San Diego, California, USA, August 3-7, 2025 (September 18, 2025)
- [412] Y. Chen, M. Bezick, B. A. Wilson, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Physics-informed latent diffusion model for high-efficiency metasurface optimization," SPIE Optics and Photonics, Photonic Computing: From Materials and Devices to Systems and Applications II; pages PC135810S, San Diego, California, USA, August 3-7, 2025 (September 18, 2025)
- [411] A. Kryvobok, P. Chen, Y. Chen, J.-Ik Choi, V. Mkhitarian, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Enhancing quantum emission in silicon nitride via plasmonic and dielectric cavities," SPIE Optics and Photonics, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XXIII; pages PC135790D, San Diego, California, USA, August 3-7, 2025 (September 18, 2025)
- [410] K. R. Choi, J. Simon, S. Ippolito, L. Prokopeva, C. B. Fruhling, V. M. Shalaev, A. V. Kildishev, Y. Gogotsi, A. Boltasseva, "Tailoring the optical response of mixed 2D transition metal carbide and nitride (MXenes) thin films," SPIE Optics and Photonics, Active Photonic Platforms (APP) 2025; pages PC135780X, San Diego, California, USA, August 3-7, 2025 (September 18, 2025)
- [409] A. Boltasseva, "Tailoring Optical Response of Mixed 2D Transition Metal Carbides and Nitrides (MXenes) Thin Films," SPIE Optics and Photonics, Active Photonic Platforms (APP) 2025; pages PC135780B, San Diego, California, USA, August 3-7, 2025 (September 18, 2025)
- [408] A. Boltasseva, I. V. Bondarev, "Crystallization of the transdimensional electron liquid," SPIE Optics and Photonics, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XXIII; pages PC1357901, San Diego, California, USA, August 3-7, 2025 (September 18, 2025)
- [407] O. M. Matthiessen, V. Mkhitarian, D. Cassara, F. Capasso, V. M. Shalaev, A. Boltasseva, "Exploring Strong Coupling Regime in Hybrid 2D Material - Optical Cavity System," 2025 SPIE Optics & Photonics, Metamaterials, Metadevices, and Metasystems 2025, pages PC135770O, San Diego, USA, August 3-7, 2025 (September 18, 2025)
- [406] S. Stengel, A.B. Solanki, H. Ather, P.G. Chen, J.I. Choi, B.M. Triplett, M. Ozlu, K.R. Choi, A. Senichev, W. Jaffray, A.S. Lagutchev, L. Caspani, M. Clerici, L. Razzari, R. Morandotti, M. Ferrera, A. Boltasseva, V.M. Shalaev, "Quantum dots emission enhancement via coupling with an epsilon-near-zero sublayer," arXiv preprint arXiv:2509.09477 (September 11, 2025)
- [405] P. Maan, Y. Chen, S. Borneman, B. Lawrie, A. Poretzky, H. Alaeian, A. Boltasseva, V. M. Shalaev, A. Kildishev, "Anticipating Decoherence: a Predictive Framework for Enhancing Coherence in Quantum Emitters," Research Square, arXiv preprint arXiv:2508.02638 (August 4, 2025)
- [404] Y. Chen, V. Iyer, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Learning deeply to vanish light: intelligent metasurface design for next-generation antireflection," Advanced Photonics 7 (4), 040502 (July 2025) (Commentary)
- [403] S. Stengel, A.B. Solanki, H. Ather, P.G. Chen, J.I. Choi, B.M. Triplett, M. Ozlu, K.R. Choi, A. Senichev, W. Jaffray, A.S. Lagutchev, L. Caspani, M. Clerici, L. Razzari, R. Morandotti, M. Ferrera, A. Boltasseva, V.M. Shalaev, "Quantum Emitter Enhancement in Epsilon-Near-Zero Environment," the European Conference on Lasers and Electro-Optics, pages ck\_15\_4, Munich Germany, June 23-27, 2025
- [402] A. Kryvobok, Y. Chen, J.-I. Choi, J. Simon, B. Lawrie, V. Mkhitarian, D. Sychev, A. Senichev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Enhanced Room-T Single-Photon Emission in SiN with Bullseye Resonant Cavity," Quantum 2.0, Pages QM4C. 5, San Francisco, CA, United States, June 1-5, 2025
- [401] A. Senichev, Z. O. Martin, P. Maan, M. G. Ozlu, J. Davidsson, M. K. Svendsen, K. S. Thygesen, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Advancing Single-Photon Emitters in Silicon Nitride," Quantum 2.0, Pages QM4C. 2, San Francisco, CA, United States, June 1-5, 2025
- [400] K. R. Choi, J. Simon, C. Fruhling, J. I. Choi, L. Prokopeva, S. Ippolito, V. M. Shalaev, A. V. Kildishev, Y. Gogotsi, A. Boltasseva, "Tunable Optical Properties of Mixed 2D Transition Metal Carbides and Nitrides (MXenes) Thin Films," CLEO: Science and Innovations, pages SS139\_3, Long Beach, California, USA, May

4–9, 2025 (May 4, 2025)

- [399] N. Konforty, O. Segal, S. Saha, C. Fruhling, M. Ozlu, A. Boltasseva, V. M. Shalaev, M. Segev, “Third Harmonic Generation in Few-Femtoseconds Time-Varying Slab,” 2025 Conference on Lasers and Electro-Optics (CLEO), pages 1-2, Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [398] J. Simon, J.H. Kim, B. Triplett, K.R. Choi, P. Chen, W. Shao, C. Fruhling, A. Boltasseva, L. Dou, V. M. Shalaev, “Room Temperature Nanolasing in Layered Tin Iodide Perovskite Nanowire,” 2025 Conference on Lasers and Electro-Optics (CLEO), pages 1-2, Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [397] P. Maan, Y. Chen, S. Borneman, B. Lawrie, A. Puretzky, A. Boltasseva, V. M. Shalaev, A. V. Kildishev, “Real-Time Prediction of Solid-State Quantum Multi-Emitter Systems with Deep Learning,” CLEO: Applications and Technology, pages JPS200\_111, Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [396] D.V. Sychev, P. Chen, Y. Chen, A. Lagutchev, A. Boltasseva, V.M. Shalaev, “Time characteristics of avalanche-enabled all-optical modulation with single-photon intensities,” 2025 Conference on Lasers and Electro-Optics (CLEO), pages 1-2, Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [395] M.G. Ozlu, C. Fruhling, K.R. Choi, O. Segal, N. Konforty, A. Boltasseva, M. Segev, V. M. Shalaev, “Generation of Femtosecond Pulse Trains for Periodically Driven Time-Varying Media,” CLEO: Applications and Technology, pages JPS200\_157, , Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [394] O. Segal, N. Konforty, S. Saha, C. Fruhling, M. Ozlu, O. Cohen, Y. Plotnik, A. Boltasseva, V. M. Shalaev, M. Segev “Complex Temporal Dynamics of Refractive Index Changes Induced by Modulation of Indium Tin Oxide,” 2025 Conference on Lasers and Electro-Optics (CLEO), pages 1-2, Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [393] J.I. Choi, V. Mkhitarian, Y. Chen, C. Fruhling, A.V. Kildishev, V.M. Shalaev, A. Boltasseva, “Inverse-Designed Transparent Conducting Oxide Multilayer Cavities for Fast and Strong Optical Modulation,” CLEO: Science and Innovations, pages SS102\_6, Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [392] S. Saha, S. Gurung, B.T. Diroll, S. Chakraborty, O. Segal, A.V. Kildishev, A. Boltasseva, M. Segev, V. M. Shalaev, R. D. Schaller, “Photoexcitation Points to a New Mechanism of Third Harmonic Generation in Zinc Oxide,” CLEO: Fundamental Science, pages FF143\_3, Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [391] M. Bezick, B.A. Wilson, V. Iyer, Y. Chen, V.M. Shalaev, S. Kais, A.V. Kildishev, A. Boltasseva, B. Lackey, “Photonic Inverse Design Through Machine Learning and Correlated Surrogate Annealing,” 2025 Conference on Lasers and Electro-Optics (CLEO), pages 1-2, Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [390] M. Marinova, C. Fruhling, S. Saha, M. Ozlu, K.R. Choi, V. Mkhitarian, R.D. Schaller, V.M. Shalaev, A. Boltasseva, “Thickness tailorability of ENZ-enhanced third-harmonic generation in aluminum-doped zinc oxide,” CLEO: Fundamental Science, pages FF143\_1, Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [389] C. Fruhling, M. Ozlu, K.R. Choi, O. Segal, N. Konforty, A. Boltasseva, M. Segev, V.M. Shalaev, “Spectral Holography of Time-Refraction Experiments,” 2025 Conference on Lasers and Electro-Optics (CLEO), pages 1-2, Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [388] J.I. Choi, V. Mkhitarian, C. Fruhling, A.V. Kildishev, V.M. Shalaev, A. Boltasseva, “Plasmonic Cavity Engineered Femtosecond Dynamics in Ultrathin Transparent Conducting Oxides,” CLEO: Science and Innovations, pages SS108\_2, Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [387] Y. Chen, M. Bezick, B. Wilson, A.V. Kildishev, V.M. Shalaev, A. Boltasseva, “Physics-Conditioned Diffusion Model for the Inverse-Design of High-efficiency Thermophotovoltaic Metasurface,” CLEO: Science and Innovations, pages JPS200\_72, Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [386] P. Chen, Y. Chen, D. Sychev, M.M. Yang, K. Pagadala, A.S. Lagoutchev, A.V. Kildishev, A. Boltasseva, V.M. Shalaev, “Purcell Enhancement Engineering in Stable Encapsulated Nitrogen Vacancy Emitters Coupled to Nanopatch Antennas,” CLEO: Fundamental Science, pages FF127\_4, Long Beach, California, USA, May 4–9, 2025 (May 4, 2025)
- [385] F. de Abajo, D. Basov, F. Koppens, L. Orsini, M. Ceccanti, S. Castilla, L. Cavicchi, M. Polini, P. Gonçalves, A. Costa, N. Peres, N. Mortensen, S. Bharadwaj, Z. Jacob, P. Schuck, A. Pasupathy, M. Delor, M. Liu, A. Mugarza, P. Merino, M. Cuxart, E. Chávez-Angel, M. Svec, L. Tizei, F. Dirnberger, H. Deng, C. Schneider, V. Menon, T. Deilmann, A. Chernikov, K. Thygesen, Y. Abate, M. Terrones, V. Sangwan, M. Hersam, L. Yu, X. Chen, T. Heinz, P. Murthy, M. Kroner, T. Smolenski, D. Thureja, T. Chervy, A. Genco, C. Trovatiello, G. Cerullo, S. Dal Conte, D. Timmer, A. De Sio, C. Lienau, N. Shang, H. Hong, K. Liu, Z. Sun, L. Rozema, P. Walther, A. Alù, M. Cotrufo, R. Queiroz, X.-Y. Zhu, J. Cox, E. Dias, Á. Rodríguez Echarri, F. Iyikanat, A. Marini, P. Herrmann, N. Tornow, S. Klimmer, J. Wilhelm, G. Soavi, Z. Sun, S. Wu, Y. Xiong, O. Matsyshyn, R. Kumar, J. Song, T. Bucher, A. Gorlach, S. Tsesses, I. Kaminer, J. Schwab, F. Mangold, H. Giessen, M. Sánchez Sánchez, D. Efetov, T. Low, G. Gómez-Santos, T. Stauber, G. Álvarez-Pérez, J. Duan, L. Martín-Moreno, A. Paarmann, J.

- Caldwell, A. Nikitin, P. Alonso-González, N. Mueller, V. Volkov, D. Jariwala, T. Shegai, J. van de Groep, A. Boltasseva, I. Bondarev, V. Shalaev, J. Simon, C. Fruhling, G. Shen, D. Novko, S. Tan, B. Wang, H. Petek, V. Mkhitarian, R. Yu, A. Manjavacas, J. Ortega, X. Cheng, R. Tian, D. Mao, D. Van Thourhout, X. Gan, Q. Dai, A. Sternbach, Y. Zhou, M. Hafezi, D. Litvinov, M. Grzeszczyk, K. Novoselov, M. Koperski, S. Papadopoulos, L. Novotny, L. Viti, M. Vitiello, N. Cottam, B. Dewes, O. Makarovskiy, A. Patanè, Y. Song, M. Cai, J. Chen, D. Naveh, H. Jang, S. Park, F. Xia, P. Jenke, J. Bajo, B. Braun, K. Burch, L. Zhao, X. Xu, "Roadmap for photonics with 2D materials," arXiv preprint arXiv:2504.04558 (April 6, 2025)
- [384] A. Boltasseva, "Advancing Quantum Imaging and Device Testing with Machine Learning," SPIE Photonics West, Quantum Sensing and Nano Electronics and Photonics XXI Proceedings, pages PC133760J, San Francisco, CA, USA, January 25-30, 2025 (March 21, 2025)
- [383] A. Boltasseva, "Transdimensional Materials: From Tailorable Plasmonics to New Physics," SPIE Photonics West, Photonic and Phononic Properties of Engineered Nanostructures XV Proceedings, pages PC133770I, San Francisco, CA, USA, January 25-30, 2025 (March 21, 2025)
- [382] A. Boltasseva, "Metasurfaces for Sustainable Technologies: From Materials to Machine-Learning Assisted Design," SPIE Photonics West, Physics, Simulation, and Photonic Engineering of Photovoltaic Devices XIV Proceedings, pages PC133610I, San Francisco, CA, USA, January 25-30, 2025 (March 21, 2025)
- [381] S. Gholam-Mirzaei, A. Korobenko, N. Haram, D. N. Purschke, S. Saha, A. Yu. Naumov, G. Vampa, D. M. Villeneuve, R. E. F. Silva, A. Staudte, A. Boltasseva, V. M. Shalaev, A. Jiménez-Galán, P. B. Corkum, "High Harmonic Generation from a Noble Metal," arXiv preprint arXiv:2503.05073 (March 7, 2025)
- [380] I.V. Bondarev, A. Boltasseva, J.B. Khurgin, V.M. Shalaev, "Crystallization of the transdimensional electron liquid," arXiv preprint arXiv:2503.05165 (March 7, 2025)
- [379] F. Monticone, N. Asger Mortensen, A. I. Fernández-Domínguez, Y. Luo, C. Tserkezis, J. B. Khurgin, T. V. Shahbazy, A. J. Chaves, N. M. R. Peres, G. Wegner, K. Busch, H. Hu, F. Della Sala, P. Zhang, C. Ciraci, J. Aizpurua, A. Babaei, A. G. Borisov, X.-W. Chen, T. Christensen, W. Yan, Y. Yang, U. Hohenester, L. Huber, M. Wubs, S. De Liberato, P. A. D. Gonçalves, F. Javier García De Abajo, O. Hess, I. Tarasenko, J. D. Cox, L. Jelver, E. J. C. Dias, M. Sánchez Sánchez, D. Margetis, G. Gómez-Santos, T. Stauber, S. Tretyakov, C. Simovski, S. Pakniyat, J. S. Gómez-Díaz, I. V. Bondarev, S. Biehs, A. Boltasseva, V. M. Shalaev, A. V. Krasavin, A. V. Zayats, A. Alù, J.-H. Song, M. L. Brongersma, U. Levy, O. Y. Long, C. Guo, S. Fan, S. I. Bozhevolnyi, A. Overvig, F. R. Prudêncio, M. G. Silveirinha, S. A. Hassani Gangaraj, C. Argyropoulos, P. A. Huidobro, E. Galiffi, F. Yang, J. B. Pendry, D. A. B. Miller, "Roadmap on Nonlocality in Photonic Materials and Metamaterials," arXiv :2503.00519 (March 1, 2025)
- [378] A. Thakur, W. J. Highlan, B. C. Wyatt, J. Xu, N. Chandran B.S, B. Zhang, Z. D. Hood, S. P. Adhikari, E. Oveis, B. Pacakova, F. Vega, J. Simon, C. Fruhling, B. Reigle, A. Krayev, M. Asadi, V. Shalaev, A. Boltasseva, T. E. Beechem, C. Liu, B. Anasori, "Synthesis of a 2D tungsten MXene for electrocatalysis," ChemRxiv.; doi:10.26434/chemrxiv-2024-dprbn-v2 (February 2025)
- [377] Changjin Son, Samuel Peana, Owen Matthiessen, Artem Kryvobok, Alexander Senichev, Alexandra Boltasseva, Vladimir M Shalaev, Maria Chekhova, "Generation of photon pairs through spontaneous four-wave mixing in thin nonlinear layers," arXiv preprint arXiv:2502.01305 (February 2025)
- [376] G. Di Guglielmo, B. Du, J. Campos, A. Boltasseva, A. V. Dixit, F. Fahim, Z. Kudyshev, S. Lopez, R. Ma, G. N. Perdue, N. Tran, O. Yesilyurt, D. Bowring, "End-to-end workflow for machine learning-based qubit readout with QICK and hls4ml," arXiv:2501.14663 (January 24, 2025)
- [375] M. Bezick, B. A. Wilson, V. Iyer, Y. Chen, V. M. Shalaev, S. Kais, A. V. Kildishev, A. Boltasseva, B. Lackey, "PearSAN: A Machine Learning Method for Inverse Design using Pearson Correlated Surrogate Annealing," arXiv:2412.19284 (December 26, 2024)
- [374] A. S. Lagoutchev, S. I. Bogdanov, A. Boltasseva, V. M. Shalaev, "Tabletop Automated TCSPS Measurement System for Characterizing Single-Photon Emitters," Latin America Optics and Photonics Conference (LAOP), Optica Publishing Group, pages M3B. 5, Puerto Vallarta, Mexico (November 10-14, 2024)
- [373] Edwin Barnes, Michael B. Bennett, Alexandra Boltasseva, Victoria Borish, Bennett Brown, Lincoln D. Carr, Russell R. Ceballos, Faith Dukes, Emily W. Easton, Sophia E. Economou, E. E. Edwards, Noah D. Finkelstein, C. Fracchiolla, Diana Franklin, J. K. Freericks, Valerie Goss, Mark Hannum, Nancy Holincheck, Angela M. Kelly, Olivia Lanes, H. J. Lewandowski, Karen Jo Matsler, Emily Mercurio, Inès Montaña, Maajida Murdock, Kiera Peltz, Justin K. Perron, Christopher J.K. Richardson, Jessica L. Rosenberg, Richard S. Ross, Minjung Ryu, Raymond E. Samuel, Nicole Schrode, Susan Schwamberger, Thomas A. Searles, Chandralekha Singh, Alexandra Tingle, Benjamin M. Zwickl, "Outcomes from a Workshop on a National Center for Quantum Education," arXiv:2410.23460 [physics.ed-ph] (October 2024)
- [372] A. Senichev, Z. Martin, S. Peana, A. Lagutchev, A. Boltasseva, V. Shalaev, "Single-Photon Source in Silicon Nitride Photonics for Quantum Key Distribution," Frontiers in Optics + Laser Science meeting, pages

LW6F. 4, Denver, Colorado, USA (September 23-26, 2024)

[371] Y. Chen, M. Bezick, B. Wilson, O. Yesilyurt, A. Kildishev, A. Boltasseva, V. Shalaev, "Advancing photonic design with topological latent diffusion generative model," Frontiers in Optics + Laser Science meeting, pages JW5A. 58, Denver, Colorado, USA (September 23-26, 2024)

[370] D. Sychev, P. Chen, M. Yang, C. Fruhling, A. Lagutchev, A. Kildishev, A. Boltasseva, V. Shalaev, "Avalanche-enabled optical modulation with single-photon intensities," Frontiers in Optics + Laser Science meeting, pages FW7E. 2, Denver, Colorado, USA (September 23-26, 2024)

[369] M. Yang, D. Sychev, S. Peana, X. Xu, Z. Martin, D. Mandurus, H. Suriya, A. Lagoutchev, V. M. Shalaev, A. Boltasseva, "Enhancing Second Harmonic Generation in Weyl Semimetal TaAs with Plasmonics," SPIE Optics and Photonics, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XXI; pages PC1264801, San Diego, California, USA (August 22-24, 2024)

[368] B. Wilson, Y. Chen, D. K. Singh, R. Ojha, M. Bezick, J. Pott, V. M. Shalaev, A. Boltasseva, A. V. Kildishev, "Machine-learning-assisted optical authentication of chip tampering," SPIE Optics and Photonics, Photonic Computing: From Materials and Devices to Systems and Applications; pages PC131130E, San Diego, California, USA (August 22-24, 2024)

[367] A. Boltasseva, "Tailorable photonic materials for dynamic photonics: from metasurfaces to new physics," 2024 SPIE Optics & Photonics, Active Photonic Platforms (APP) 2024 conference, pages PC131100B, San Diego, USA (August 18-22, 2024)

[366] J. Simon, C. Fruhling, M. M. Yang, D. Sychev, M. Ozlu, S. Peana, V. Mkhitarian, S. Ippolito, D. Zhang, D. Mandurus, H. S. Arachchige, Y. Gogotsi, V. Shalaev, A. Boltasseva, "Emerging materials for photonics: MXenes and Weyl semimetals," 2024 SPIE Optics & Photonics, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XXII, Pages PC1311105, San Diego, USA (August 18-22, 2024)

[365] C. Fruhling, S. N. Chowdhury, K. Wang, W. Shao, L. Prokopeva, B. T. Diroll, R. D. Schaller, L. Dou, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Lasing dynamics in dimensionality controlled quasi-2d perovskites," 2024 SPIE Optics & Photonics, Metamaterials, Metadevices, and Metasystems conference, pages PC1310902 San Diego, USA (August 18-22, 2024)

[364] V. Mkhitarian\*, O. M. Matthiessen\*, D. Cassara, F. Capasso, V. M. Shalaev, A. Boltasseva, "Strong Coupling of Patterned 2D Materials and Optical Cavities," 2024 SPIE Optics & Photonics, Metamaterials, Metadevices, and Metasystems conference, Pages PC131090L, San Diego, USA (August 18-22, 2024)

[363] V. M. Shalaev, A. Senichev, Z. O. Martin, S. Peana, O. Yesilyurt, D. Sychev, A. S. Lagutchev, A. Boltasseva, "Scalable quantum photonics with single-photon emitters in silicon nitride," 2024 SPIE Optics & Photonics, Molecular and Nanophotonic Machines, Devices, and Applications VII conference, Pages PC131260A, San Diego, USA (August 18-22, 2024)

[362] A. Senichev, Z. O. Martin, Y. Wang, O. M. Matthiessen, A. Lagutchev, H. Htoon, A. Boltasseva, V. M. Shalaev, "Quantum emitters in aluminum nitride induced by heavy ion irradiation," arXiv:2401.14631 (2024)

[361] K. Barua, S. Peana, A. D. Keni, V. Mkhitarian, V. Shalaev, Y. P. Chen, A. Boltasseva, H. Alaeian, "Bottom-up Fabrication of 2D Rydberg Exciton Arrays in Cuprous Oxide," arXiv:2408.03880 (August 7, 2024)

[360] M. G. Ozlu, V. Mkhitarian, C. B. Fruhling, A. Boltasseva, V. M. Shalaev, "Floquet Engineering of Polaritonic Amplification in Dispersive Photonic Time Crystals," arXiv: 2408.00552 (August 1, 2024)

[359] B. A. Wilson, J. Wurtz, V. Mkhitarian, M. Bezick, S.-T. Wang, S. Kais, V. M. Shalaev, A. Boltasseva, "Non-native Quantum Generative Optimization with Adversarial Autoencoders," arXiv:2407.13830 (July 2024)

[358] W. Jaffray, S. Stengel, F. Biancalana, A. Boltasseva, V. M. Shalaev, M. Ferrera, "Spatio-spectral optical fission in time-varying subwavelength layers," arXiv:2406.04917 (June 7, 2024)

[357] P. Das, S. Rudra, D. Rao, S. Banerjee, A. I. K. Pillai, M. Garbrecht, A. Boltasseva, I.V. Bondarev, V. Shalaev, B. Saha, "Electron Confinement-Induced Plasmonic Breakdown in Metals," arXiv:2406.03226 (June 5, 2024)

[356] D. V. Sychev, P. Chen, M. Yang, C. Fruhling, A. Lagutchev, A.V. Kildishev, A. Boltasseva, V. M. Shalaev, "Single-photon optical modulation at room temperature enabled by an electron avalanche in a photodiode," 2024 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, FTh3D. 6 (May 4-9, 2024)

[355] S. Peana, O. Yesilyurt, A. Senichev, Z. O. Martin, A. S. Lagoutchev, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Site-Controlled SiN/SiO<sub>2</sub> Single Photon Sources Coupled to Silicon Nitride Integrated Photonics," 2024 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, FM2F. 3 (May 4-9, 2024)

[354] M.A. Sakib, B. Triplett, W. Harris, N. Hussain, A. Senichev, M. Momenzadeh, J. Bocanegra, R. Wu, A. Boltasseva, V. M. Shalaev, M. R. Shcherbakov, "Site-Controlled Purcell-Induced Bright Single Photon Emitters in Hexagonal Boron Nitride," 2024 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, FM2F. 5 (May 4-9, 2024)

- [353] O. Segal, M. Lyubarov, C. Fruhling, A. Boltasseva, V. M. Shalaev, M. Segev, "Mapping the temporal evolution of the refractive index in few-femtosecond time-varying media," 2024 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, FTu4R. 5 (May 4-9, 2024)
- [352] A. Senichev, Z. O. Martin, S. Peana, A. Kryvobok, A. S. Lagoutchev, A. Boltasseva, V. M. Shalaev, "Room-Temperature Silicon Nitride Quantum Emitters for Advancing Quantum Key Distribution," 2024 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, FTu3O. 8 (May 4-9, 2024)
- [351] C. Fruhling, M. G. Ozlu, A. Boltasseva, V. M. Shalaev, "Angular Deflection and Frequency Translation Near the Critical Angle in Finite Time-Varying Media," 2024 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, JW2A. 35 (May 4-9, 2024)
- [350] J. Simon, B. Reigle, C. Fruhling, D. Zhang, S. Ippolito, H. Kim, V. Shalaev, Y. Gogotsi, A. Boltasseva, "Anisotropic and Nonlinear Optical Properties of 2D Transition Metal Carbides and Nitrides (MXenes)," 2024 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, SF2R. 7 (May 4-9, 2024)
- [349] S. Saha, S. Gurung, B. T. Diroll, S. Chakraborty, O. Segal, M. Segev, V. M. Shalaev, A. V. Kildishev, A. Boltasseva, R. D. Schaller, "Third Harmonic Enhancement Harnessing Photoexcitation Unveils New Nonlinearities in Zinc Oxide," arXiv:2405.04891 (May 8, 2024)
- [348] M.A. Sakib, B. Triplett, W. Harris, N. Hussain, A. Senichev, M. Momenzadeh, J. Bocanegra, R. Wu, A. Boltasseva, V. M. Shalaev, M. R. Shcherbakov, "Site-Controlled Purcell-Induced Bright Single Photon Emitters in Hexagonal Boron Nitride," arXiv:2405.02516 (May 3, 2024)
- [347] A. Thakur, W. Highland, B. Wyatt, J. Xu, N. Chandran, B. Zhang, Z. Hood, S. Adhikari, E. Oveisi, B. Pacakova, F. Vega, J. Simon, C. Fruhling, B. Reigle, M. Asadi, V. Shalaev, A. Boltasseva, T. Beechem, C. Liu, B. Anasori, "Theory-guided synthesis of a 2D tungsten titanium MXene from a covalently bonded layered carbide for electrocatalysis," 10.26434/chemrxiv-2024-dprbn (April 18, 2024)
- [346] A. Boltasseva, "Tailorable platforms for nanophotonics, sustainable technologies: from materials to machine-learning assisted designs, Photonic and Phononic Properties of Engineered Nanostructures XIV, SPIE Photonics West Proceedings, PC128960K (March 13, 2024)
- [345] K. Ssennyimba, S. Liao, Y. Zhu, D. Lowder, T. Legvold, K. Pagadala, A. Boltasseva, M. D. Henry, D. Natelson, "Refractory nanoscale plasmonic junctions of Titanium Nitride and Niobium," Bulletin of the American Physical Society, Abstract: Y05.00011, APS March Meeting 2024, Minneapolis & Virtual (March 4-8, 2024)
- [344] A. Senichev, Z. Martin, S. Peana, A. Kryvobok, A. Lagutchev, A. Boltasseva, V. Shalaev, "Silicon Nitride Quantum Emitters for Room-Temperature Quantum Key Distribution," Bulletin of the American Physical Society, Abstract: K13.00011, APS March Meeting 2024, Minneapolis & Virtual (March 4-8, 2024)
- [343] D. V. Sychev, P. Chen, M. Yang, C. Fruhling, A. Lagutchev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "All-optical modulation with single-photons using electron avalanche," arXiv:2312.11686 (December 18, 2023)
- [342] A. V. Kildishev, S. N. Chowdhury, L. J. Prokopeva, J. Simon, K. Pagadala, M. P. Nowak, P. Nyga, C. Fruhling, V. M. Shalaev, A. Boltasseva, "Semicontinuous silver films: plasmonic color printing and advanced disordered media modeling," SPIE Optics and Photonics, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XXI, pages PC1264809, San Diego, California, USA (August 22-24, 2023)
- [341] M. Yang, D. Sychev, S. Peana, X. Xu, Z. Martin, D. Mandurus, H. Suriya, A. Lagoutchev, V. M. Shalaev, A. Boltasseva, "Enhancing Second Harmonic Generation in Weyl Semimetal TaAs with Plasmonics," SPIE Optics and Photonics, Proceedings Volume PC12648, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XXI, PC1264801, San Diego, California, USA (August 22-24, 2023)
- [340] A. Boltasseva, "Dynamic nanophotonics with conducting oxides and metal nitrides: from all-optical switching to new phenomena," SPIE Optics and Photonics, Proceedings Volume PC12647, Active Photonic Platforms (APP) 2023, PC126470Q, San Diego, California, USA (August 22-24, 2023)
- [339] D. V. Sychev, P. Chen, M. Yang, C. Fruhling, A. Lagutchev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "All-optical switching with few photons using an electron avalanche multiplication," SPIE Optics and Photonics, Proceedings Volume 12673, Optics and Photonics for Information Processing XVII, 126730M, San Diego, California, USA (August 22-24, 2023)
- [338] M. M. Yang, M. Ozlu, S. Peana, V. Mkhitarian, D. Sychev, X. Xu, Z. M. Martin, H. S. Arachchige, A. Lagoutchev, D. Mandurus, V. Shalaev, A. Boltasseva, "Plasmonic Enhancement of Second Harmonic Generation in Weyl Semimetal TaAs," arXiv:2307.11184 (July 20, 2023)
- [337] S. N. Chowdhury, J. Simon, M. P. Nowak, L. J. Prokopeva, K. Pagadala, C. Fruhling, P. Nyga, E. Garcia Bravo, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Wide-range Angle-sensitive Plasmonic Color Printing with a Lossy Resonator," arXiv preprint arXiv:2306.15496 (June 27, 2023)

- [336] A. Senichev, Z. O. Martin, S. Peana, O. Yesilyurt, O. M. Matthiessen, D. Sychev, B. Lawrie, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Silicon Nitride Integrated Photonics with Intrinsic Quantum Emitters," Optica Conference Quantum 2.0, Pages QM4A. 3, Optica Publishing Group (June 18, 2023)
- [335] O. Yesilyurt, J. Campos, G. Di Guglielmo, A. Boltasseva, D. Bowring, G. Cencelo, B. Du, F. Fahim, C. Herwig, R. Ma, G. Perdue, V. M. Shalaev, L. Stefanazzi, N. Tran, S. Uemura, "Implementing machine learning methods on QICK hardware for qubit readout & control," FERMILAB-POSTER-23-062-CSAID, Fermi National Accelerator Lab (FNAL), Batavia, IL, USA (May 23, 2023)
- [334] A. K. Boddeti, Y. Wang, X. G. Juarez, A. Boltasseva, T. W. Odom, V. Shalaev, H. Alaeian, Z. Jacob, "Reducing system dimensionality with long-range collective dipole-dipole interactions," arXiv:2305.04777 (May 8, 2023)
- [333] O. Segal, E. Lustig, S. Saha, E. Bordo, S. N. Chowdhury, M.-I. Cohen, A. Fleischer, M. Ozlu, A. Boltasseva, O. Cohen, V. Shalaev, M. Segev, "Time-Refraction with Moving Time-Interfaces," 2023 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, p. FTu3D. 2 (May 7-12, 2023)
- [332] X. Xu, Z. O. Martin, M. Titze, Y. Wang, D. Sychev, J. Henshaw, A. S. Lagutchev, H. Htoon, E. S. Bielejec, S. I. Bogdanov, V. M. Shalaev, A. Boltasseva, "Creating Single Color Centers in Nanodiamonds with Ion Implantation," 2023 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, p. FTu3C. 1 (May 7-12, 2023)
- [331] X. Xu, A. Solanki, D. Sychev, X. Gao, S. Peana, A. S. Baburin, K. Pagadala, Z. O. Martin, S. N. Chowdhury, Y. P. Chen, I. A. Rodionov, A. V. Kildishev, T. Li, P. Upadhyaya, A. Boltasseva, V. M. Shalaev, "Enhancing Quantum Emission from Spin Defects in Hexagonal Boron Nitride with a Plasmonic Nanocavity," 2023 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, p. FTh3A. 1 (May 7-12, 2023)
- [330] W. Jaffray, A. Boltasseva, V. M. Shalaev, M. Ferrera, "Near-Zero-Index Conducting Oxides for Nonlinear Photonics," 2023 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, p. JTh3L. 3 (May 7-12, 2023)
- [329] S. N. Chowdhury, J. Simon, M. P. Nowak, L. J. Prokopeva, K. Pagadala, C. Fruhling, P. Nyga, E. Garcia Bravo, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Wide-range Angle-sensitive Plasmonic Color Printing with a Lossy Resonator," 2023 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, p. ATu3R. 4 (May 7-12, 2023)
- [328] A. K. Boddeti, Y. Wang, X. G. Juarez, A. Boltasseva, T. W. Odom, V. Shalaev, H. Alaeian, Z. Jacob, "Engineering dimensionality of collective dipole-dipole interactions using a nanophotonic environment," 2023 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, p. FF2C. 3 (May 7-12, 2023)
- [327] A. Senichev, Z. O. Martin, Y. Wang, H. Htoon, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Single-Photon Emitters in Aluminum Nitride by Zr ion Implantation," 2023 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, p. FTu3C. 2 (May 7-12, 2023)
- [326] A. Senichev, X. Xu, Z. O. Martin, S. Peana, O. Yesilyurt, D. Sychev, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Quantum meta-photonics," SPIE Photonics West, SPIE OPTO, Photonic and Phononic Properties of Engineered Nanostructures XIII, vol. 12431, p. 22-26, San Francisco, California, United States, February 2023
- [325] X. Xu, A. Solanki, D. Sychev, X. Gao, S. Peana, A. S. Baburin, K. Pagadala, Z. O. Martin, S. N. Chowdhury, Y. P. Chen, I. A. Rodionov, A. V. Kildishev, T. Li, P. Upadhyaya, A. Boltasseva, V. M. Shalaev, "Greatly Enhanced Emission from Spin Defects in Hexagonal Boron Nitride Enabled by a Low-Loss Plasmonic Nano-Cavity," abstract: T72. 00009, Bulletin of the American Physical Society, APS March Meeting 2023, Las Vegas, Nevada, USA (March 5-10, 2023)
- [324] Z. Martin, A. Senichev, S. Peana, B. Lawrie, A. Lagutchev, A. Boltasseva, V. Shalaev, "Low- to Room-Temperature Studies of Silicon Nitride Single Photon Emitters," abstract: N39.00003, Bulletin of the American Physical Society, APS March Meeting 2023, Las Vegas, Nevada, USA (March 5-10, 2023)
- [323] S. Peana, O. Yesilyurt, Z. Martin, A. Senichev, V. Mkhitarian, A. Lagutchev, A. Kildishev, A. Boltasseva, V. Shalaev, "Large-Scale Integration of Silicon Nitride Single Photon Emitters with Nanophotonic Elements," abstract: N39. 00004, Bulletin of the American Physical Society, APS March Meeting 2023, Las Vegas, Nevada, USA (March 5-10, 2023)
- [322] Z. Martin, A. Senichev, S. Peana, B. Lawrie, A. Lagutchev, A. Boltasseva, V. Shalaev, "Photophysics of Intrinsic Single-Photon Emitters in Silicon Nitride at Low Temperatures," arXiv preprint arXiv:2301.10809 (January 25, 2023)
- [321] G. Tartakovskiy, A. V. Sokolov, M. Ivanov, V. G. Arkipkin, S. A. Myslivets, B. Luk'yanchuk, A. Boltasseva, V. M. Shalaev, "A tribute to the memory of Professor Alexander K. Popov," Nanophotonics 11 (21) 4603-4614 (November 14, 2022)

- [320] S. Peana, O. Yesilyurt, A. Senichev, Z. O. Martin, V. Mkhitarian, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Large Scale Site-Controlled Fabrication of Single Photon Emitters in Silicon Nitride Nanopillars," *Frontiers in Optics*, p. FTh3E. 1, Optica Publishing Group (October 17, 2022)
- [319] S. Saha, M. Özlü, V. M. Shalaev, A. Boltasseva, "Temporal modulation of dielectric permittivity in transparent conducting oxides: from tunable photonics to new phenomena," *SPIE Optics and Photonics, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XX 2022; Proceedings v. PC12197*, p. PC121970F, San Diego, California, USA (August 25-28, 2022)
- [318] A. Boltasseva, V. M. Shalaev, B. Wilson, "Machine learning for photonics," *SPIE Optics and Photonics, Active Photonic Platforms 2022, Proceedings v. PC12196*, p. PC121960T, *Proceedings Volume PC12197*, p. PC121970F, San Diego, California, USA, (August 25-28, 2022)
- [317] C. Fruhling, K. Wang, S. N. Chowdhury, A. V. Kildishev, X. Meng, L. Dou, V. M. Shalaev, A. Boltasseva, "Random lasing in quasi-2D lead-halide perovskite," *SPIE Optics and Photonics, Metamaterials, Metadevices, and Metasystems 2022, Proceedings v. PC12195*, p. PC121950O, San Diego, California, USA (August 25-28, 2022)
- [316] A. Boltasseva, "Plasmonically enhanced second harmonic generation in TaAs Weyl semimetal," *SPIE Optics and Photonics, Metamaterials, Metadevices, and Metasystems 2022, Proceedings v. PC12195*, p. PC121950R, San Diego, California, USA (August 25-28, 2022)
- [315] A. Senichev, Z. O. Martin, S. Peana, O. Yesilyurt, D. Sychev, X. Xu, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Hybrid quantum photonics: plasmonic speedup and single-photon emitters in SiN," *SPIE Optics and Photonics, Active Photonic Platforms 2022, Proceedings v. PC12196*, p. PC121960Z, San Diego, California, USA (August 25-28, 2022)
- [314] S. Saha, B. Diroll, R. Shaller, A. Boltasseva, V. Shalaev, "Engineering the Temporal Dynamics with Fast and Slow Materials for All-Optical Switching," *arXiv preprint arXiv:2208.12927* (August 22, 2022)
- [313] X. Xu, A. Solanki, D. Sychev, X. Gao, S. Peana, A. S. Baburin, K. Pagadala, Z. O. Martin, S. N. Chowdhury, Y. P. Chen, I. A. Rodionov, A. V. Kildishev, T. Li, P. Upadhyaya, A. Boltasseva, V. M. Shalaev, "Greatly Enhanced Emission from Spin Defects in Hexagonal Boron Nitride Enabled by a Low-Loss Plasmonic Nano-Cavity," *arXiv preprint arXiv:2207.08357* (July 18, 2022)
- [312] A. Senichev, S. Peana, Z. O. Martin, O. Yesilyurt, D. Sychev, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Single-Photon Emitters in SiN Integrated Quantum Photonics," *Optica publishing group, Quantum 2.0 2022 conference*, p. QW4B. 5, Boston, MA, USA (June 13-16, 2022)
- [311] B. Wilson, Y. Chen, S. Kais, A. Kildishev, V. Shalaev, A. Boltasseva, "Empowering Quantum 2.0 Devices and Approaches with Machine Learning," *Optica publishing group, Quantum 2.0 2022 conference*, p. QTu2A. 13, Boston, MA, USA (June 13-16, 2022)
- [310] A. Senichev, S. Peana, Z. O. Martin, O. Yesilyurt, D. Sychev, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Single-Photon Emitters in SiN Integrated Quantum Photonics," *arXiv preprint arXiv:2205.08481* (May 17, 2022)
- [309] X. Xu, A. Solanki, D. Sychev, X. Gao, S. Peana, A. S. Baburin, K. Pagadala, Z. O. Martin, S. N. Chowdhury, Y. P. Chen, I. A. Rodionov, A. V. Kildishev, T. Li, P. Upadhyaya, A. Boltasseva, V. M. Shalaev, "Plasmon-enhanced Quantum Emission from Spin Defects in Two-dimensional Hexagonal Boron Nitride," *2022 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group*, p. FF3C.3 (May 15-20, 2022)
- [308] C. Fruhling, K. Wang, S. N. Chowdhury, A. V. Kildishev, X. Meng, L. Dou, V. M. Shalaev, A. Boltasseva, "Demonstration of Coherent Random Lasing in Optically Thin Quasi-2D Lead-halide Perovskite," *2022 Conference on Lasers and Electro-Optics (CLEO), QELS\_Fundamental Science, Optica Publishing Group*, p. FTh5D. 1 (May 15-20, 2022)
- [307] D. Shah, M. Yang, X. Xu, Z. A. Kudyshev, V. M. Shalaev, I. V. Bondarev, A. Boltasseva, "Thickness-Dependent Drude Plasma Frequency in Transdimensional Plasmonic TiN," *2022 Conference on Lasers and Electro-Optics (CLEO), QELS\_Fundamental Science, Optica Publishing Group*, p. FF4C. 2 (May 15-20, 2022)
- [306] A. Senichev, S. Peana, Z. O. Martin, O. Yesilyurt, D. Sychev, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Monolithic Integration of Quantum Emitters with Silicon Nitride Photonic Platform," *2022 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group*, p. FW5F.6 (May 15-20, 2022)
- [305] S. Peana, O. Yesilyurt, V. Mkhitarian, A. Senichev, Z. O. Martin, S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Large Scale Deterministic Creation of Single Photon Emitters in Silicon Nitride Nanopillars," *2022 Conference on Lasers and Electro-Optics (CLEO), QELS\_Fundamental Science, Optica Publishing Group*, p. FS4B.5 (May 15-20, 2022)

- [304] M. Yang, D. Sychev, X. Xu, Z. Martin, D. Mandurus, H. Suriya, A. Lagoutchev, V. M. Shalaev, A. Boltasseva, "Plasmonically Enhanced Second Harmonic Generation of Weyl Semimetal TaAs through field confinement," 2022 Conference on Lasers and Electro-Optics (CLEO), CLEO: Science and Innovations, Optica Publishing Group, p. SF4K. 1 (May 15-20, 2022)
- [303] S. Saha, B. T. Diroll, M. G. Ozlu, Z. Kudyshev, R. D. Schaller, A. Kildishev, V. M. Shalaev, A. Boltasseva, "Optically Tunable Third Harmonic Generation in a Conducting Oxide Film," 2022 Conference on Lasers and Electro-Optics (CLEO), QELS\_Fundamental Science, Optica Publishing Group, p. JTu3A. 37 (May 15-20, 2022)
- [302] A. Boltasseva, "Advancing photonic design with machine learning," SPIE Photonics Europe 2022, Metamaterials XIII, Strasbourg, France, Proceedings v. PC12130, p. PC121300R (April 2022)
- [301] S. Saha, M. Goksu Ozlu, S. N. Chowdhury, B. T. Diroll, R. D. Schaller, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Tailoring the Thickness-Dependent Optical Properties of Conducting Nitrides and Oxides for Epsilon-Near-Zero-Enhanced Photonic Applications," arXiv preprint arXiv:2203.14170 (March 26, 2022)
- [300] C. Fruhling, M. Ozlu, S. Saha, A. Boltasseva, V. Shalaev, "A guide to all-optical switching with epsilon-near-zero materials," abstract: Y33.00002, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA (March 14–18, 2022)
- [299] A. Boltasseva, "Advancing Nano-and Quantum Photonics with Machine Learning," abstract: Y15.00001, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA (March 14–18, 2022)
- [298] D. Shah, M. Yang, Z. Kudyshev, V. Shalaev, I. Bondarev, A. Boltasseva, "Effect of electron confinement on the optical properties in transdimensional plasmonic TiN," abstract: S66.00012, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA (March 14–18, 2022)
- [297] M. Ozlu, S. Saha, S.N. Chowdhury, A. Kildishev, A. Boltasseva, R. Schaller, V. Shalaev, "Tailorable Near-Perfect Absorption in Ferrel Berreman Metasurfaces Utilizing The Thickness Dependent ENZ Characteristics Of Aluminum Doped Zinc Oxide and Titanium Nitride," abstract: S66.00003, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA (March 14–18, 2022)
- [296] S. Saha, B. Diroll, R. Shaller, A. Boltasseva, V. Shalaev, "Controlling the Speed of an All Optical Switch by Combining Fast and Slow Materials," abstract: T00. 00365, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA (March 14–18, 2022)
- [295] S.N. Chowdhury, L. Prokopeva, S. Peana, P. Nyga, E. Bravo, A. Kildishev, V. Shalaev, A. Boltasseva, "Plasmonic Color Printing with Semicontinuous Silver Films and Modeling of Inhomogeneous Broadening," abstract: W12. 00007, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA (March 14–18, 2022)
- [294] A. Senichev, Z. Martin, S. Peana, D. Sychev, X. Xu, O. Yesilyurt, A. Lagutchev, A. Boltasseva, V. Shalaev, "Single-Photon Emitters in Silicon Nitride for Scalable Quantum Photonics," abstract: K67.00001, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA (March 14–18, 2022)
- [293] X. Xu, Z. Martin, D. Sychev, A. Lagutchev, Y. Chen, T. Taniguchi, K. Watanabe, A. Boltasseva, V. Shalaev, "Deterministically Creating Single-Photon Emitters in Hexagonal Boron Nitrides on Chip-Compatible Substrates," abstract: B55.00010, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA (March 14–18, 2022)
- [292] S. Bogdanov, S. Sahoo, H. Azzouz, Z. Kudyshev, A. Boltasseva, A. V. Kildishev, V. M. Shalaev, "Optical metrology and preselection of nanoparticles for quantum photonic device assembly," SPIE OPTO 2022, Optical and Quantum Sensing and Precision Metrology II, San Francisco, California, USA, Proceedings v. PC12016, p. PC120162V (February 22-27, 2022)
- [291] S. Bogdanov, O. Makarova, I. A. Rodionov, A. Boltasseva, V. M. Shalaev, "Nanoassembled quantum photonic devices with nanodiamond-based color centers," SPIE OPTO 2022, Quantum Sensing and Nano Electronics and Photonics XVIII, San Francisco, California, USA, Proceedings v. PC12009, p. PC1200904 (February 22-27, 2022)
- [290] E.M. Baeva, A.I. Kolbatova, N.A. Titova, S. Saha, A. Boltasseva, S. Bogdanov, V. Shalaev, A.V. Semenov, A. Levchenko, G.N. Goltsman, V.S. Khrapai, "T-fluctuations and dynamics of the resistive transition in thin superconducting films," arXiv:2202.06309 (February 13, 2022)
- [289] E.M. Baeva, A.I. Kolbatova, N.A. Titova, S. Saha, A. Boltasseva, S. Bogdanov, V. Shalaev, A.V. Semenov, A. Levchenko, G.N. Goltsman, V.S. Khrapai, "Resistance fluctuation spectroscopy of the superconducting transition in epitaxial TiN films," arXiv:2202.06310 (February 13, 2022)
- [288] A. Boltasseva, "The true love of materials expressed," Editorial, Optical Materials Express 11 (12), 4093-4094 (December 1, 2021)

- [287] A. Boltasseva, "We value your opinion," Editorial, *Optical Materials Express* 11 (11), 3779-3779 (November 1, 2021)
- [286] X. Xu, Z. Martin, D. Sychev, A. S. Lagutchev, Y. Chen, V. M. Shalaev, A. Boltasseva, "Deterministic Creation of Quantum Emitters in Hexagonal Boron Nitride on Non-patterned Substrates," 2021 IEEE Photonics Conference (IPC) proceedings, pages 1-2 (October 2021)
- [285] V. M. Shalaev, J. Dionne, A. Boltasseva, "A tribute to Mark Stockman," Editorial, *Nanophotonics* 10 (14), 3569-3585 (October 2021)
- [284] Z. A. Kudyshev, S. Bogdanov, Z. Olson, X. Xu, D. Sychev, A. Kildishev, V. Shalaev, A. Boltasseva, "Advancing photonic design and measurements with artificial intelligence," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 conference, *Metamaterials, Metadevices, and Metasystems 2021*, Pages 1179506 (August 2, 2021)
- [283] S. Saha, Z. A. Kudyshev, V. M. Shalaev, A. Boltasseva, "Dynamic nanophotonics and nonlinear optics with oxides and nitrides," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 conference, *Metamaterials, Metadevices, and Metasystems 2021*, Pages 117970S (August 2, 2021)
- [282] O. Yesilyurt, Z. A. Kudyshev, A. Boltasseva, V. M. Shalaev, A. V. Kildishev, "Topology optimization of high-efficiency on-chip single photon sources," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 conference, *Metamaterials, Metadevices, and Metasystems 2021*, Pages 117950I (August 2, 2021)
- [281] Z. A. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Optimizing Startshot lightsail design: a generative network-based approach," arXiv:2108.12999 (August 2021)
- [280] S. Saha, D. Shah, V. M. Shalaev, A. Boltasseva, "Tunable Metasurfaces: Controlling Light in Space and Time," *Optics and Photonics News* 32 (7), 34-41 (July 2021)
- [279] O. Yesilyurt, Z. A. Kudyshev, A. Boltasseva, V. M. Shalaev, A. V. Kildishev, "Efficient Topology Optimized Couplers for On-Chip Single-photon Sources," arXiv:2107.07019 (July 14, 2021)
- [278] X. Xu, Z. Martin, D. Sychev, A. Lagutchev, Y. Chen, T. Taniguchi, K. Watanabe, V. M. Shalaev, A. Boltasseva, "Creating Quantum Emitters in Hexagonal Boron Nitride Deterministically on Chip-Compatible Substrates," arXiv arXiv:2106.14983 (June 28, 2021)
- [277] A. Senichev, Z. Martin, S. Peana, D. Sychev, X. Xu, A. Lagutchev, A. Boltasseva, V. M. Shalaev, "Room temperature single-photon emitters in silicon nitride," arXiv:2104.08128 (April 16, 2021)
- [276] B. Wilson, Z. Kudyshev, A. Kildishev, S. Kais, V. Shalaev, A. Boltasseva, "Metasurface design optimization via D-Wave based sampling," Optical Society of America, CLEO: Applications and Technology proceedings, pages FTh2M.2, online conference (May 5-10, 2021)
- [275] S. Saha, B. Diroll, S. Chowdhury, A. Kildishev, R. Schaller, V. Shalaev, Z. Jacob, A. Boltasseva, "Controlling All-optical Switching Speeds in an Epsilon-Near-Zero Enhanced Metasurface," Optical Society of America, CLEO: Applications and Technology proceedings, pages FW2N. 5, online conference (May 5-10, 2021)
- [274] E. Lustig, S. Saha, E. Bordo, C. DeVault, S. Chowdhury, Y. Sharabi, A. Boltasseva, O. Cohen, V. Shalaev, M. Segev, "Towards photonic time-crystals: observation of a femtosecond time-boundary in the refractive index," Optical Society of America, CLEO: QELS\_Fundamental Science, pages FF2H. 1, online conference (May 5-10, 2021)
- [273] Z. Kudyshev, D. Sychev, Z. Martin, S. Bogdanov, X. Xu, A. Kildishev, A. Boltasseva, V. Shalaev, "Machine learning assisted quantum super-resolution microscopy," Optical Society of America, CLEO: Applications and Technology proceedings, pages JTh4C. 5, online conference (May 5-10, 2021)
- [272] A. Senichev, Z. Martin, S. Peana, D. Sychev, X. Xu, A. Lagutchev, A. Boltasseva, V. M. Shalaev, "Room temperature single-photon emitters in silicon nitride," Optical Society of America, CLEO: Applications and Technology proceedings, pages 1-2, online conference (May 5-10, 2021)
- [271] B. A. Wilson, Z. A. Kudyshev, A. V. Kildishev, S. Kais, V. M. Shalaev, A. Boltasseva, "Machine Learning Framework for Quantum Sampling of Highly-Constrained, Continuous Optimization Problems," arXiv:2105.02396 (May 5-10, 2021)
- [270] A. Boltasseva, D. Hagan, "Celebrating ten years," Editorial, *Optical Materials Express* 11 (5), 1566-1567 (May 2021)
- [269] A. Boltasseva, V. M. Shalaev, N. I. Zheludev, "Mark Stockman, the knight of plasmonics," *Nature Photonics* 15 (5), 321-322 (May 2021)
- [268] S. Bogdanov, M. Y. Shalaginov, A. Solanki, O. Makarova, X. Xu, Z. O. Martin, P. Upadhyaya, A. Boltasseva, V. M. Shalaev, "Optical readout of electron spin states in diamond NV centers for quantum and nanoscale

- photonics,” International Society for Optics and Photonics, Optical and Quantum Sensing and Precision Metrology conference, Pages 117003B, SPIE OPTO (May 3, 2021)
- [267] S. Saha, M. G. Wood, B. T. Diroll, A. Dutta, C. T. DeVault, J. Shank, S. Campione, T. S. S. Luk, R. D. Schaller, Z. A. Kudyshev, S. N. Chowdhury, X. Xu, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, “Tuning and tailoring of the optical properties of transparent conducting oxides for dynamic nanophotonic applications,” International Society for Optics and Photonics, Ultrafast Phenomena and Nanophotonics XXV, Pages 116840U, SPIE OPTO (May 3, 2021)
- [266] S. Bogdanov, O. A. Makarova, I. A. Rodionov, A. Boltasseva, V. M. Shalaev, “Plasmon-enhanced single-photon sources for ultrafast quantum photonics,” International Society for Optics and Photonics, Photonic and Phononic Properties of Engineered Nanostructures XI, Pages 116941O, SPIE OPTO (May 3, 2021)
- [265] D. Shah, V. M. Shalaev, A. Boltasseva, “Evolution of the optical properties in atomically thin plasmonic titanium nitride,” International Society for Optics and Photonics, Optical Components and Materials XVIII, Pages 1168212, SPIE OPTO (May 3, 2021)
- [264] A. Boltasseva, “Advancing photonics with machine learning,” International Society for Optics and Photonics, Photonic and Phononic Properties of Engineered Nanostructures XI, Pages 116940L, SPIE OPTO (May 3, 2021)
- [263] S. Saha, A. Dutta, C. T. DeVault, B. T. Diroll, R. D. Schaller, Z. A. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, “Extraordinary permittivity modulation in zinc oxide for dynamic nanophotonics,” International Society for Optics and Photonics, P Oxide-based Materials and Devices XII, Pages 1168719 SPIE OPTO (May 3, 2021)
- [262] A. Korobenko, S. Saha, A. TK Godfrey, M. Gertsvolf, A. Y. Naumov, D. M. Villeneuve, A. Boltasseva, V. M. Shalaev, P. B. Corkum, “High-harmonic generation in metallic titanium nitride,” arXiv preprint arXiv:2011.10729 (November 21, 2020)
- [261] V. M. Shalaev, H. Reddy, K. Wang, Z. Kudyshev, L. Zhu, S. Yan, A. Vezzoli, S. J. Higgins, V. Gavini, A. Boltasseva, P. Reddy, E. Meyhofer, “Plasmonic hot-careers: Energy spectrum revealed via single molecule transport,” The 14th International Congress on Artificial Materials for Novel Wave Phenomena proceedings, New York, USA (September 28 - October 1, 2020)
- [260] Z. A. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, “Machine-Learning-Assisted Photonics,” The 14th International Congress on Artificial Materials for Novel Wave Phenomena proceedings, New York, USA (September 28 - October 1, 2020)
- [259] S. Saha, A. Dutta, C. DeVault, B. T. Diroll, R. D. Schaller, Z. Kudyshev, X. Xu, A. Kildishev, V. Shalaev, A. Boltasseva, “Extraordinary Permittivity Modulation in Zinc Oxide for Ultrafast Dynamic Nanophotonics,” Optical Society of America, Frontiers in Optics / Laser Science conference proceedings, paper JTU7D. 2, online conference (September 14, 2020)
- [258] Z. Kudyshev, S. Bogdanov, T. Isacson, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, “Machine Learning Assisted Quantum Photonics,” Optical Society of America, Quantum 2.0 conference, pages QM6B. 3, online conference (September 14, 2020)
- [257] S.I. Bogdanov, O.A. Makarova, X. Xu, A.S. Lagutchev, D. Shah, A.S. Baburin, I.A. Ryzhikov, I.A. Rodionov, S.I. Bozhevolnyi, A.V. Kildishev, A. Boltasseva, V.M. Shalaev and J. B. Khurgin, “Optical modification of cavity-antenna plasmonic nanostructures for brighter and faster single-photon emission,” Optical Society of America, Quantum 2.0 conference, pages QM4B. 5, online conference (September 14, 2020)
- [256] S. N. Chowdhury, P. Nyga, Z. A. Kudyshev, E. G. Bravo, A. S. Lagutchev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, “Lithography-free plasmonic color printing with femtosecond laser on semicontinuous silver films,” arXiv preprint arXiv:2009.04022 (September 8, 2020)
- [255] P. D. Terekhov, M. Povolotskyi, Z. Kudyshev, S. Peana, S. Azzam, A. Shalin, A. Karabchevsky, A. Kildishev, V. Shalaev, A. Boltasseva, “Thermally controlled bound states in the continuum in Si<sub>3</sub>N<sub>4</sub> photonic crystals,” International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Metamaterials, Metadevices, and Metasystems 2020, Pages 1146015 (August 20, 2020)
- [254] S.I. Bogdanov, O. Makarova, M. Shalaginov, C.-C. Chiang, X. Xu, I.A. Rodionov, A. Boltasseva, V.M. Shalaev, “Assembly and integration of plasmon-enhanced single-photon sources,” International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Active Photonic Platforms XII, Pages 114611P (August 20, 2020)
- [253] S. Saha, B. Diroll, A. Dutta, C. deVault, A. Kildishev, M. Wood, V. M. Shalaev, R. Schaller, A. Boltasseva, “Lithography-free all-optical switching from the telecom to the mid-infrared regime with transparent conducting oxides,” International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Active Photonic Platforms XII, Pages 114611T (August 20, 2020)

- [252] Z. A. Kudyshev, S. Bogdanov, A. V. Kildishev, A. Boltasseva, V. Shalaev, "Machine learning assisted plasmonics and quantum optics," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Metamaterials, Metadevices, and Metasystems 2020, Pages 1146018 (August 20, 2020)
- [251] S. Bogdanov, X. Xu, O. Makarova, Z. Martin, A. Gabidullin, I. Rodionov, A. V. Kildishev, A. Boltasseva, S. Bozhevolnyi, J. B. Khurgin, V. M. Shalaev, "Plasmonic nanostructures from crystalline silver for ultrafast quantum photonics," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVIII, Pages 1146201 (August 20, 2020)
- [250] S. Bogdanov, A. Solanki, Z. Martin, M. Shalaginov, X. Xu, P. Upadhyaya, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Optical electron spin relaxometry in diamond nitrogen-vacancy centers for applications in quantum and nanoscale photonics," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Spintronics XIII, Pages 1147021 (August 20, 2020)
- [249] Z. A. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Deep learning assisted photonics," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Active Photonic Platforms XII, Pages 114610C (August 20, 2020)
- [248] Z. A. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Adversarial Autoencoders for Metasurface Design Optimization," IEEE, 2020 International Applied Computational Electromagnetics Society Symposium (ACES) conference, 10.23919/ACES49320.2020.9196045 (27-31 July 2020)
- [247] M. Song, D. Wang, Z. A. Kudyshev, Y. Xuan, Z. Wang, A. Boltasseva, V. M. Shalaev, A. V. Kildishev, "Enabling optical steganography, data storage, and encryption with plasmonic colors," arXiv preprint arXiv:2009.03521 (September 8, 2020)
- [246] Z.A. Kudyshev, A.V. Kildishev, V.M. Shalaev, A. Boltasseva, "Machine learning assisted global optimization of photonic devices," arXiv preprint arXiv:2007.02205 (July 4, 2020)
- [245] S.I. Azzam, K. Chaudhuri, A. Lagutchev, Z. Jacob, Y.L. Kim, V.M. Shalaev, A. Boltasseva, A.V. Kildishev, "Single and multi-mode directional lasing from arrays of dielectric nanoresonators," arXiv preprint arXiv:2006.16473 (June 30, 2020)
- [244] A.H. Chu, B. Beauchamp, D. Shah, A. Dutta, A. Boltasseva, V.M. Shalaev, E.E. Marinero, "Hybrid Magneto Photonic Material Structure for Plasmon Assisted Magnetic Switching," arXiv preprint arXiv:2006.09524 (June 16, 2020)
- [243] S. Saha, A. Dutta, B. T. Diroll, C. DeVault, Z. Kudyshev, R. D. Schaller, A. Kildishev, V. M. Shalaev, A. Boltasseva, "Metal-dielectric resonators for multimode, ultrafast all-optical switching in the NIR," Optical Society of America, CLEO: Applications and Technology proceedings, pages JTu2D. 29, online conference (May 5-10, 2020)
- [242] S. Bogdanov, X. Xu, O. Makarova, Z. Martin, A. Gabidullin, I. Rodionov, A. V. Kildishev, A. Boltasseva, S. Bozhevolnyi, J. B. Khurgin, V. M. Shalaev, "Enhancing the performance of coupled cavity-antenna plasmonic nanostructures for ultrafast quantum photonics," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, pages FM4C. 3, online conference (May 5-10, 2020)
- [241] Z. Kudyshev, S. Bogdanov, T. Isacsson, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Merging Machine Learning with Quantum Photonics: Rapid classification of quantum sources," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, pages FM4C. 4, online conference (May 5-10, 2020)
- [240] S.I. Azzam, K. Chaudhuri, A. Lagutchev, Y.L. Kim, V.M. Shalaev, A. Boltasseva, A.V. Kildishev, "Room-Temperature Lasing Action from All-dielectric Metasurfaces Near Bound States in the Continuum," Optical Society of America, 2020 Conference on Lasers and Electro-Optics (CLEO), pages FTh1C.4, online conference (May 5-10, 2020)
- [239] X. Xu, A. Dutta, B. P. Sivasubramaniam, K. Kholikov, V. M. Shalaev, A. Wei, A. Boltasseva, "Synthesis of TiN Nanoparticles by Pulsed Laser Ablation for Photothermal and Photodynamic Therapy," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, pages JTu2D. 17, online conference (May 5-10, 2020)
- [238] C.-C. Chiang, S. I. Bogdanov, O. A. Makarova, X. Xu, S. Saha, D. Shah, D. Wang, A. S. Lagutchev, A.V. Kildishev, A. Boltasseva, V. M. Shalaev, "A quantum plasmonic launcher for integrated ultrafast single-photon sources," Optical Society of America, 2020 Conference on Lasers and Electro-Optics (CLEO), pages FTh4D.4, online conference (May 5-10, 2020)
- [237] D. Wang, A. E. Llacsahuanga Allica, T.-F. Chung, A. V. Kildishev, Y. P. Chen, A. Boltasseva, V. M. Shalaev, "Plasmon-enhanced graphene photothermoelectric detector," Optical Society of America, CLEO: Science and Innovation proceedings, pages SM3R. 8, online conference (May 5-10, 2020)

- [236] X. Xu, A. Dutta, J. Khurgin, V. M. Shalaev, A. Wei, A. Boltasseva, "TiN@ TiO<sub>2</sub> Core-Shell Nanoparticles as Plasmon-Enhanced Photosensitizers for Photocatalysis," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, pages FM1D. 2, online conference (May 5-10, 2020)
- [235] S. N. Chowdhury, P. Nyga, Z. Kudyshev, E. Garcia, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Non-fading Plasmonic Color Printing on Semicontinuous Metal Films with Protective Atomic Layer Deposition," Optical Society of America, CLEO: Science and Innovation proceedings, pages SF2R.2, online conference (May 5-10, 2020)
- [234] S. Saha, B. T. Diroll, J. Shank, Z. Kudyshev, A. Dutta, S. N. Chowdhury, T. S. Luk, S. Campione, R. D. Schaller, V. M. Shalaev, A. Boltasseva, M. G. Wood, "Broadband, high-speed, and extraordinarily large all-optical switching with yttrium-doped cadmium oxide," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, pages JT2D. 1, online conference (May 5-10, 2020)
- [233] B. T. Diroll, S. Saha, V. M. Shalaev, A. Boltasseva, R. D. Schaller, "Broadband Ultrafast Dynamics of Refractory Metals: TiN and ZrN," arXiv preprint arXiv:2004.10822 (April 22, 2020)
- [232] S. Saha, B. T. Diroll, J. Shank, Z. A. Kudyshev, A. Dutta, S. N. Chowdhury, T. S. Luk, S. Campione, R. D. Schaller, V. M. Shalaev, M. G. Wood, A. Boltasseva, "Broadband high-speed and large-amplitude all-optical switching with cadmium oxide," SPIE Photonics West, SPIE OPTO, conference on Integrated Optics: Devices, Materials, and Technologies XI, San Francisco, California, United States, February 1-6 2020; Proceedings Volume 11281, pages 1128123 (March 2020)
- [231] Z. A. Kudyshev, S. Bogdanov, T. Isacsson, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Machine learning-assisted classification of quantum emitters," SPIE Photonics West, conference on Advanced Optical Techniques for Quantum Information, Sensing, and Metrology, San Francisco, California, United States, February 1-6 2020; Proceedings Volume 11295, pages 112950N (March 2020)
- [230] V. M. Shalaev, S. Bogdanov, A. Boltasseva, "Plasmonic Metamaterials Meet Quantum," Bulletin of the American Physical Society, Abstract: M67.00005, Annual meeting of APS, Denver, CO, USA (March 2-6, 2020)
- [229] X. Wang, J. Jian, S. Amaya, C. Kumah, P. Lu, J. Huang, L. Stanciu, D. O'Carroll, A. Boltasseva, X. Zhang, H. Wang, "Tunable Hybrid Metal-Nitride Metamaterial Framework towards Plasmonic Sensing," 2020 Bulletin of the American Physical Society, Abstract: A62.00008, Annual meeting of APS, Denver, CO, USA (March 2-6, 2020)
- [228] V. Bruno, S. Vezzoli, C. DeVault, E. Carnemolla, M. Ferrera, A. Boltasseva, V. M. Shalaev, D. Faccio, M. Clerici, "Broad frequency shift of parametric processes in Epsilon-Near-Zero time-varying media," arXiv:1912.00052 (November 29, 2019)
- [227] Z. A. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Machine-Learning-Assisted Metasurface Design for High-Efficiency Thermal Emitter Optimization," arXiv preprint arXiv:1910.12741 (October 28, 2019)
- [226] C.-C. Chiang, S. I. Bogdanov, O. A. Makarova, X. Xu, S. Saha, D. Shah, D. Wang, A. S. Lagutchev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Chip-compatible quantum plasmonic launcher," arXiv:1910.03005 (October 7, 2019)
- [225] Z. A. Kudyshev, S. Bogdanov, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Machine-learning-assisted topology optimization for highly efficient thermal emitter," The 13th International Congress on Artificial Materials for Novel Wave Phenomena, Metamaterials, Rome, Italy (September 16-21, 2019)
- [224] S. Bogdanov, M. Y. Shalaginov, Z. Kudyshev, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "A hybrid plasmonic-dielectric platform for high-speed, room-temperature quantum nanophotonics," Conference Presentation, SPIE Nanoscience + Engineering, August 11-15, 2019, San Diego, California, United States, Proceedings Volume 11081, Active Photonic Platforms XI; 1108117 (September 9, 2019)
- [223] D. Wang, A. E. Llacsahuanga Allica, T.-F. Chung, A. V. Kildishev, Y. P. Chen, A. Boltasseva, V. M. Shalaev, "Graphene pn junction photo-responsivity enhanced with gap-plasmons," Conference Presentation, SPIE Nanoscience + Engineering, August 11-15, 2019, San Diego, California, United States, Proceedings Volume 11080, Metamaterials, Metadevices, and Metasystems 2019; 1108011 (September 9, 2019)
- [222] A. Boltasseva, "Plasmonic metal nitrides and carbides for sustainable energy and photocatalysis," Conference Presentation, SPIE Nanoscience + Engineering, August 11-15, 2019, San Diego, California, USA, Proceedings Volume 11080, Metamaterials, Metadevices, and Metasystems 2019; 110801E (September 9, 2019)
- [221] H. Reddy, U. Guler, Z. Kudyshev, S. Azzam, K. Chaudhuri, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Temperature-dependent plasmonic properties as a key to high-temperature nanophotonic designs," Conference Presentation, SPIE Nanoscience + Engineering, August 11-15, 2019, San Diego, California, United States, Proceedings Volume 11082, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVII; 110820R (September 9, 2019)
- [220] A. Boltasseva and V. Shalaev, "Transdimensional Plasmonic Materials for Tailorable Nanophotonics," Conference Presentation, SPIE Nanoscience + Engineering, August 11-15, 2019, San Diego, California, United States, Proceedings Volume 11081, Active Photonic Platforms XI; 110810Z (September 9, 2019)

- [219] Z. A. Kudyshev, S. Bogdanov, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Artificial-intelligence-assisted photonics," Conference Presentation, SPIE Nanoscience + Engineering, August 11-15, 2019, San Diego, California, United States, Proceedings Volume 11080, Metamaterials, Metadevices, and Metasystems 2019; 110802K (September 9, 2019)
- [218] Z. A. Kudyshev, S. Bogdanov, T. Isacsson, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Rapid classification of quantum sources enabled by machine learning," arXiv:1908.08577v1 (August 22, 2019)
- [217] V. Bruno, C. DeVault, S. Vezzoli, Z. Kudyshev, T. Huq, S. Mignuzzi, A. Jacassi, S. Saha, Y. D. Shah, S. A. Maier, D. R. S. Cumming, A. Boltasseva, M. Ferrera, M. Clerici, D. Faccio, R. Sapienza, V. M. Shalaev, "Negative refraction in time-varying, strongly-coupled plasmonic antenna-ENZ system," arXiv: 1908.03908 (August 11, 2019)
- [216] Z. A. Kudyshev, S. Bogdanov, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Machine-Learning-Assisted Topology Optimization for Refractory Photonics," Novel Optical Materials and Applications (NOMA) Conference, OSA Advanced Photonics Congress, San Francisco, CA, July 29 – August 1, 2019, OSA Technical Digest, paper IW2A.2 (Optical Society of America, 2019)
- [215] V. Bruno, S. Vezzoli, C. DeVault, V. M. Shalaev, A. Boltasseva, M. Clerici, M. Ferrera, D. Faccio, "Highly efficient frequency shifting from temporally modulated Epsilon-Near-Zero surfaces," 2019 Conference on Lasers and Electro-Optics Europe and European Quantum Electronics Conference, OSA Technical Digest (Optical Society of America, 2019), paper ef\_10\_1.
- [214] M. Y. Shalaginov, S. I. Bogdanov, A. S. Lagutchev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "On-chip microwave-spin-plasmon interface (MSPI)," arXiv:1905.07057 (May 16, 2019)
- [213] S. Azzam, K. Chaudhuri, V. Shalaev, A. Boltasseva, A. Kildishev, "High Q-Factor All-Dielectric Metasurface Based on Bound States in the Continuum," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper JTh2A. 119, San Jose, California, USA (May 5-10, 2019)
- [212] S. Saha, A. Dutta, S. Chowdhury, A. Kildishev, V. Shalaev, A. Boltasseva, "Hybrid Photonic-Plasmonic Waveguides with Ultrathin TiN," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper JTh2A. 40, San Jose, California, USA (May 5-10, 2019)
- [211] O. Makarova, S. Bogdanov, X. Xu, D. Shah, A. Baburin, I. Ryzhikov, S. Saha, I. Rodionov, A. Kildishev, A. Boltasseva, V. Shalaev, "Controlled Assembly of an Ultrafast Single-Photon Source," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper FM1M. 5, San Jose, California, USA (May 5-10 2019)
- [210] S. Bogdanov, O. Makarova, A. Lagutchev, D. Shah, C.-C. Chiang, A. Baburin, I. Ryzhikov, S. Saha, I. Rodionov, A. Kildishev, A. Boltasseva, V. Shalaev, "Spin Coherence in Single NV Centers Coupled to Controllably Assembled Nanopatch Antennas," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper FM1M. 6, San Jose, California, USA (May 5-10, 2019)
- [209] S. Azzam, K. Chaudhuri, V. Shalaev, A. Boltasseva, A. Kildishev, "Strong Coupling and Bound States in the Continuum in Hybrid Photonic-Plasmonic Structure," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper FF2A. 6, San Jose, California, USA (May 5-10 2019)
- [208] Z. Kudyshev, A. Kildishev, V. Shalaev, A. Boltasseva, "Machine-learning-assisted topology optimization for highly efficient thermal emitter design," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper FTh3C. 2, San Jose, California, USA (May 5-10, 2019)
- [207] A. Dutta, D. Wan, B. Yan, V. Shalaev, T. Venkatesan, A. Boltasseva, "Strontium Niobate for Near Infrared Plasmonics," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper FTh1C. 2, San Jose, California, USA (May 5-10, 2019)
- [206] M. Song, D. Wang, Z. Kudyshev, A. Boltasseva, H. Yu, V. Shalaev, A. Kildishev, "Using Dynamic Plasmonic Colors for Optical Cryptography," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper JW2A. 58, San Jose, California, USA (May 5-10, 2019)
- [205] A. Dutta, A. Naldoni, A. Govorov, V. Shalaev, A. Boltasseva, "Hot Carrier Induced Plasmon Enhanced Photocatalysis in Hematite Thin Films," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, San Jose, California, USA (May 5-10, 2019)
- [204] S. Chowdhury, P. Nyga, Z. Kudyshev, A. Kildishev, V. Shalaev, A. Boltasseva, "Laser Color Printing on Semicontinuous Silver Films," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper JW2A. 55, San Jose, California, USA (May 5-10, 2019)
- [203] G. Li, A. Boltasseva, S. Zouhdi, "Feature issue introduction: Metamaterials, Photonic Crystals and Plasmonics," Optical Materials Express 9 (5) 2400-2405 (May 1, 2019) **Editorial**
- [202] J. K. W. Yang, M. Mrongovius, M. C. Fischer, A. Boltasseva, "Design, Manufacture, and Analysis of Photonic Materials for Historical and Modern Visual Art: feature issue introduction," Opt. Mater. Express 9(5), 2128-2130 (May 1, 2019) **Editorial**

- [201] Z. A. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "High-Efficiency Emitter for Thermophotovoltaics: Topology Optimization," Conference presentation, 2019 International Applied Computational Electromagnetics Society Symposium (ACES), published by IEEE (April 14, 2019)
- [200] M. Song, D. Wang, Z. Kudyshev, Y. Xuan, H. Yu, A. Boltasseva, V. M. Shalaev, A. V. Kildishev, "Plasmonic Colors and Memory with Al Metafilms," Conference presentation, 2019 International Applied Computational Electromagnetics Society Symposium (ACES), published by IEEE (April 14, 2019)
- [199] Z. A. Kudyshev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Photonic topological phase transition on demand," arXiv preprint arXiv:1903.10066 (March 24, 2019)
- [198] N.A. Tovpeko, N.A. Titova, E.M. Baeva, A.V. Semenov, S. Saha, H. Reddy, S. Bogdanov, E.E. Marinero, V.M. Shalaev, A. Boltasseva, V.S. Khrapai, A.I. Kardakova, G.N. Goltsman, "Signature of a surface magnetic disorder in epitaxial TiN films," ArXiv:1903.05009 (March 12, 2019)
- [197] B. Beauchamp, A. Dutta, A. Boltasseva, V. Shalaev, E. Marinero, "All-Optical Deterministic Switching of Synthetic CoCrPt Ferrimagnets," APS March Meeting 2019, abstract id.B41.006 (March 2019)
- [196] A. Boltasseva, C. DeVault, V. Bruno, S. Saha, Z. Kudyshev, A. Dutta, S. Vezzoli, M. Ferrera, D. Faccio, V. M. Shalaev, "Through the (conducting) looking-glass: transparent conducting oxides for nanophotonic applications," SPIE Photonics West Conference Presentation, paper number 10919-58, San Francisco, California, United States, Proceedings Volume 10919, Oxide-based Materials and Devices X; 109191T (February 2-7, 2019)
- [195] Z. Kudyshev, A. Boltasseva, A. V. Kildishev, V. M. Shalaev, "Topology optimization for refractory plasmonic applications," SPIE Photonics West Conference Presentation, San Francisco, California, USA, Proceedings Volume 10927, Photonic and Phononic Properties of Engineered Nanostructures IX; 109271L (February 2-7, 2019)
- [194] A. Boltasseva, Z. Kudyshev, A. V. Kildishev, V. M. Shalaev, "Tunable topology of photonic systems based on transparent conducting oxides," SPIE Photonics West Conference Presentation, San Francisco, California, United States, Proceedings Volume 10935, Complex Light and Optical Forces XIII; 109350E (February 2-7, 2019)
- [193] S. Bogdanov, O. Makarova, M. Shalaginov, C.-C. Chiang, A. S. Lagutchev, A. Boltasseva, A. V. Kildishev, V. M. Shalaev, "Assembling nanoscale quantum photonic devices," SPIE Photonics West Conference Presentation, San Francisco, California, United States, Proceedings Volume 10926, Quantum Sensing and Nano Electronics and Photonics XVI; 109261L (February 2-7, 2019)
- [192] D. Shah, K. Chaudhuri, Z. Wang, A. Catellani, M. Alhabeb, H. Reddy, X. Meng, S. Azzam, N. Kinsey, A. Kildishev, Y. Kim, V. Shalaev, A. Calzolari, Y. Gogotsi, A. Boltasseva, "New materials and approaches for tailorable nanophotonics," SPIE Photonics West Conference Presentation, San Francisco, California, USA, Proceedings Volume 10922, Smart Photonic and Optoelectronic Integrated Circuits XXI; 109220V (February 2-7, 2019)
- [191] S. I. Bogdanov, O. A. Makarova, A. S. Lagutchev, D. Shah, C.-C. Chiang, S. Saha, A. S. Baburin, I. A. Ryzhikov, I. A. Rodionov, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Deterministic integration of single nitrogen-vacancy centers into nanopatch antennas," arXiv:1902.05996 (February 15, 2019)
- [190] Z. Wang, D. Shah, K. Chaudhuri, A. Catellani, M. Alhabeb, H. Reddy, X. Meng, S. I. Azzam, N. Kinsey, A. Kildishev, Y. L. Kim, V. M. Shalaev, A. Calzolari, Y. Gogotsi, A. Boltasseva, "Emerging materials for tailorable nanophotonic devices," 12th International Congress on Engineered Material Platforms for Novel Wave Phenomena (Metamaterials 2018), Espoo, Finland, August 27-30, 2018; IEEE Explore DOI: 10.1109/MetaMaterials.2018.8534052 (November 15, 2018)
- [189] C. DeVault, V. Bruno, S. Vezzoli, T. Roger, S. Saha, M. Ferrera, M. Clerici, A. Dubietis, A. Boltasseva, D. Faccio, V.M. Shalaev, "Low-Index Materials for Enhanced Optical Nonlinearities," 2018 12th International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials), Espoo, Finland, August 27-30, 2018; IEEE Explore DOI: 10.1109/MetaMaterials.2018.8534086 (November 15, 2018)
- [188] U. Guler, K. Chaudhuri, S. I. Azzam, H. Reddy, V. Shalaev, A. Boltasseva, A. Kildishev, "High Temperature Sensing with Refractory Plasmonic Metasurfaces," 2018 12th International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials), Espoo, Finland, August 27-30, 2018; IEEE Explore DOI: 10.1109/MetaMaterials.2018.8534048 (November 15, 2018)
- [187] M. Y. Shalaginov, S. Bogdanov, A. S. Lagutchev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Ultra-compact metallic interface for NV spin readout," Proceedings Volume 10734, Quantum Nanophotonics 2018, paper number 10734-20, doi.org/10.1117/12.2322020, SPIE Nanoscience + Engineering, 2018, San Diego, CA, USA (September 18, 2018)
- [186] S. Bogdanov, M. Y. Shalaginov, O. Makarova, C.-C. Chiang, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Room-temperature high-speed control of quantum emitters with plasmonic nanostructures," Proceedings Volume 10734, Quantum Nanophotonics 2018, paper number 10734-11, doi.org/10.1117/12.2322063, SPIE Nanoscience + Engineering, 2018, San Diego, CA, USA (September 18, 2018)

- [185] K. Chaudhuri, Z. Wang, M. Alhabeb, X. Meng, S. I. Azzam, A. V. Kildishev, Y. L. Kim, V. M. Shalaev, Y. Gogotsi, A. Boltasseva, "MXenes for nanophotonic and metamaterial devices," Proceedings Volume 10721, Active Photonic Platforms X, paper number 10721-24, doi.org/10.1117/12.2320696, SPIE Nanoscience + Engineering, 2018, San Diego, CA, USA (September 18, 2018)
- [184] D. Shah, A. Catellani, H. Reddy, N. Kinsey, V. M. Shalaev, A. Calzolari, A. Boltasseva, "Ultra-thin transition metal nitrides for tailorable plasmonic devices," Proceedings Volume 10722, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVI, paper number 10722-1, doi.org/10.1117/12.2320664, SPIE Nanoscience + Engineering, 2018, San Diego, CA, USA (September 18, 2018)
- [183] S. Bogdanov, M. Y. Shalaginov, O. Makarova, C.-C. Chiang, A. Lagutchev, A. Boltasseva, V. M. Shalaev, "Spin readout of nitrogen-vacancy centers with plasmonic nanostructures," Proceedings Volume 10719, Metamaterials, Metadevices, and Metasystems 2018, paper number 10719-76, doi.org/10.1117/12.2319629, SPIE Nanoscience + Engineering, 2018, San Diego, CA, USA (September 18, 2018)
- [182] D. Wang, K. Maize, Y. R. Koh, M. Song, A. Boltasseva, V. M. Shalaev, A. Shakouri, A. V. Kildishev, "Mapping temperature distribution of optically pumped gap plasmon structure using thermorefectance imaging," Proceedings Volume 10721, Active Photonic Platforms X, paper number 10721-12, doi.org/10.1117/12.2321104 SPIE Nanoscience + Engineering, 2018, San Diego, CA, USA (September 18, 2018)
- [181] H. Reddy, U. Guler, K. Chaudhuri, Z. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Temperature evolution of optical properties in plasmonic metals," Proceedings Volume 10719, Metamaterials, Metadevices, and Metasystems 2018, paper number 10719-70, doi.org/10.1117/12.2320142, SPIE Nanoscience + Engineering, 2018, San Diego, CA, USA (September 18, 2018)
- [180] S. Saha, A. Dutta, C. DeVault, V. M. Shalaev, A. Boltasseva, "Ultrafast all-optical switching in a continuous layer gap plasmon metasurface," Proceedings Volume 10721, Active Photonic Platforms X, paper number 10721-51, doi.org/10.1117/12.2320585, SPIE Nanoscience + Engineering, 2018, San Diego, CA, USA (September 18, 2018)
- [179] S.I. Azzam, V.M. Shalaev, A. Boltasseva, A.V. Kildishev, "Formation of Bound States in the Continuum in Hybrid Plasmonic-Photonic Systems," arXiv preprint arXiv:1808.08244 (August 24, 2018)
- [178] S. Bogdanov, M. Shalaginov, O. Makarova, C.-C. Chiang, A. Lagutchev, A. Boltasseva, V. Shalaev, "Room-temperature high-speed control of quantum emitters using metamaterials and plasmonics," 2018 IEEE Photonics Society Summer Topical Meeting Series (SUM) proceedings, Waikoloa, HI, USA (July 09-11, 2018)
- [177] M. Song, A. Kildishev, D. Wang, Z. Wang, Y. Xuan, A. Boltasseva, H. Yu, V. Shalaev, "Wavelength-dependent Optical-rotation Manipulation for Active Color Display and Highly Secure Encryption," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTh4M. 2 (San Jose, California, USA (May 13-18 2018)
- [176] S. Saha, A. Dutta, C. DeVault, V. Shalaev, A. Boltasseva, "Ultrafast Tunable Metasurface with Transparent Conducting Oxide Antenna Array," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTh4M. 4 (San Jose, California, USA, May 13-18 2018)
- [175] Z. Wang, K. Chaudhuri, M. Alhabeb, X. Meng, S. Azzam, A. Kildishev, Y. Kim, V. Shalaev, Y. Gogotsi, A. Boltasseva, "MXenes for Plasmonic and Metamaterial Devices," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FM2G. 7 (San Jose, California, USA, May 13-18 2018)
- [174] M. Song, A. Kildishev, D. Wang, Z. Wang, Y. Xuan, A. Boltasseva, H. Yu, V. Shalaev, "Wavelength-dependent Optical-rotation Manipulation for Active Color Display and Highly Secure Encryption," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTh4M. 2 (San Jose, California, USA, May 13-18 2018)
- [173] V. Bruno, S. Vezzoli, D. Faccio, M. Ferrara, V. Shalaev, C. DeVault, M. Clerici, A. Boltasseva, T. Roger, A. Dubietis, "Optical time reversal from time-dependent Epsilon-Near-Zero media," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FM3E. 5 (San Jose, California, USA, May 13-18 2018)
- [172] D. Wang, K. Maize, M. Song, A. Boltasseva, V. Shalaev, A. Shakouri, A. Kildishev, "Thermorefectance Imaging of Optically Pumped Gap Plasmon Structures," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTh1K. 8 (San Jose, California, USA, May 13-18 2018)
- [171] Z. A. Kudyshev, A.V. Kildishev, A. Boltasseva, V.M. Shalaev, "Tunable topology of photonic systems based on transparent conducting oxides" Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTh4J. 1 (San Jose, California, USA, May 13-18 2018)
- [170] E. G. Carnemolla, V. Bruno, L. Caspani, M. Clerici, S. Vezzoli, T. Roger, C. DeVault, J. Kim, A. Shaltout, V. Shalaev, A. Boltasseva, D. Faccio, M. Ferrera, "Giant nonlinear frequency shift in epsilon-near-zero aluminum zinc oxide thin films," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, SM4D. 7 (San Jose, California, USA, May 13-18 2018)
- [169] C. Haffner, D. Chelladurai, Y. Fedoryshyn, A. Josten, B. Baeuerle, W. Heni, T. Watanabe, T. Cui, B. Cheng, S. Saha, D. L. Elder, L. R. Dalton, A. Boltasseva, V. Shalaev, N. Kinsey, J. Leuthold, "Bypassing Loss in Plasmonic

- Modulators,” Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTh4H. 1 (San Jose, California, USA, May 13-18 2018)
- [168] S. Bogdanov, M. Shalaginov, A. Lagutchev, C.-C. Chiang, D. Shah, A. Baburin, I. Ryzhikov, I. Rodionov, A. Boltasseva, V. Shalaev, “Ultrabright Room-Temperature Emission from Single Plasmon-Enhanced Nitrogen-Vacancy Centers in Diamond,” Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTu4E. 6 (San Jose, California, USA, May 13-18 2018)
- [167] A. Dutta, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, E. E. Marinero, “Surface-plasmon opto-magnetic field enhancement for all-optical magnetization switching,” SPIE Photonics West, SPIE OPTO, conference on Integrated Optics: Devices, Materials, and Technologies XXII, San Francisco, California, United States, January 27 – February 1, 2018; Proceedings Volume 10535, Integrated Optics: Devices, Materials, and Technologies XXII; 105351I <https://doi.org/10.1117/12.2288895> (March 14, 2018)
- [166] M. Henstridge, C. Pfeiffer, Di Wang, A. Boltasseva, V. M. Shalaev, A. Grbic, R. Merlin, “Accelerating Light with Metasurfaces,” arXiv:1803.01769v1 [physics.optics] (March 5, 2018)
- [165] M. I. Stockman, K. Kneipp, S. I. Bozhevolnyi, S. Saha, A. Dutta, J. Ndukaife, N. Kinsey, H. Reddy, U. Guler, V. M. Shalaev, A. Boltasseva, B. Gholipour, H. NS Krishnamoorthy, K. F. MacDonald, C. Soci, N. I Zheludev, V. Savinov, R. Singh, P. Groß, C. Lienau, M. Vadai, M. L. Solomon, D. R. Barton III, M. Lawrence, J. A. Dionne, S. V. Boriskina, R. Esteban, J. Aizpurua, X. Zhang, S. Yang, D. Wang, W. Wang, T. W. Odom, N. Accanto, P. M. de Roque, I. M. Hancu, L. Piatkowski, N. F. van Hulst, M. F. Kling, “Roadmap on Plasmonics,” Journal of Optics 20 (4) 043001 (March 9, 2018) **Editorial**
- [164] A. Boltasseva, “The OMEx team,” Optical Materials Express 8 (1) 136-143 (January 1, 2018) **Editorial**
- [163] S. Bogdanov, M. Y. Shalaginov, A. Lagutchev, C.-C. Chiang, D. Shah, A. S. Baburin, I. A. Ryzhikov, I. A. Rodionov, A. Boltasseva, V. M. Shalaev, “Ultrabright room-temperature single-photon emission from nanodiamond nitrogen-vacancy centers with sub-nanosecond excited-state lifetime,” arXiv preprint arXiv:1711.09481 (November 26, 2017)
- [162] D. Shaa, A. Catellani, H. Reddy, V. Shalaev, A. Boltasseva, A. Calzolari, “Controlling the plasmonic properties of ultrathin TiN films at the atomic level,” ArXiv preprint arXiv:1712.06142 (December 19, 2017)
- [161] A. M. Shaltout, J. Kim, A. Boltasseva, V. M. Shalaev, A. V. Kildishev, “Ultrathin and Multicolor Optical Cavities with Embedded Metasurfaces,” arXiv:1711.05798 (November 15, 2017)
- [160] S. Vezzoli, V. Bruno, C. DeVault, T. Roger, V. M. Shalaev, A. Boltasseva, M. Ferrera, M. Clerici, A. Dubietis, D. Faccio, “Optical time reversal from time-dependent Epsilon-Near-Zero media,” arXiv:1709.06972 (September 20, 2017)
- [159] S. Choudhury, V. Zenin, S. Saha, V. Shalaev, S. I. Bozhevolnyi, A. Boltasseva, “Novel Hard Mask Fabrication Method for Hybrid Plasmonic Waveguide and Metasurfaces,” Frontiers in Optics conference Proceedings, Optical Society of America, Pages JTu2A. 12 (September 18, 2017)
- [158] H. Reddy, D. Shah, N. Kinsey, V. M. Shalaev, A. Boltasseva, “Ultra-thin transition plasmonic metal nitrides: tailoring optical response to photonic applications,” 11th International Congress on Engineered Material Platforms for Novel Wave Phenomena (METAMATERIALS’2017) Proceedings, 3 pages, Marseille, France (August 28–31, 2017)
- [157] H. Reddy, D. Shah, N. Kinsey, V. M. Shalaev, A. Boltasseva, “Ultra-thin plasmonic metal nitrides: tailoring optical properties to photonic applications,” 2017 International Optical MEMS and Nanophotonics (OMN) Proceedings, pp 7-8, Santa Fe, New Mexico (August 13-17, 2017)
- [156] A. Naldoni, U. Guler, A. Kildishev, A. Boltasseva, V. M. Shalaev, “Plasmonic Titanium Nitride for Solar Energy Conversion,” META 2017 the 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics Proceedings, 2 pages, Seoul, South Korea (July 25-28, 2017)
- [155] M. Clerici, N. Kinsey, C. DeVault, J. Kim, E. Carnemolla, L. Caspani, A. Shaltout, R. Kaipurath, D. Faccio, V. Shalaev, A. Boltasseva, M. Ferrera, “Harnessing interband and intraband nonlinearities in transparent conducting oxides via two-colour excitation,” META 2017 the 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics Proceedings, 2 pages, Seoul, South Korea (July 25-28, 2017)
- [154] K. Chaudhuri, Z. Wang, X. Meng, M. Alhabeab, V. Shalaev, Y. Gogotsi, A. Boltasseva, “MXenes for Plasmonic and Metamaterial Devices,” The 8th International Conference on Surface Plasmon Photonics (SPP8) Proceedings, 1 page, paper IN-18, Taipei, Taiwan (May 22-26, 2017)
- [153] V. Zenin, C. DeVault, A. Pors, J. Kim, K. Chaudhuri, S. Bozhevolnyi, V. M. Shalaev, A. Boltasseva, “Using epsilon-near-zero substrate for pinning of plasmonic antenna resonance and suppression of near-field coupling,” The 8th International Conference on Surface Plasmon Photonics (SPP8) Proceedings, 1 page, paper P-05-14, Taipei, Taiwan (May 22-26, 2017)

- [152] H. Ferguson, U. Guler, N. Kinsey, V. M. Shalaev, T. Norris, A. Boltasseva, "Interband Effects on Hot Carrier Relaxation in Titanium Nitride Films," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, JTh2A. 22 (May 14, 2017)
- [151] S. Azzam, Z. Wang, S. Murai, S. Ishii, A. Boltasseva, A. V. Kildishev, "Time Domain Modeling of Lasing Dynamics in Hyperbolic Metamaterials," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, JTu5A. 40 (May 14, 2017)
- [150] M. Ferrera, M. Clerici, N. Kinsey, C. DeVault, J. Kim, E. Carnemolla, L. Caspani, A. Shaltout, D. Faccio, V. Shalaev, and A. Boltasseva, "Engineered Nonlinearities in Transparent Conducting Oxides," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FM2F.1 (May 14, 2017)
- [149] A. Dutta, D. Shah, B. Beauchamp, K. Roy, V. Shalaev, E. Marinero, and A. Boltasseva, "Surface-Plasmon Opto-Magnetic Field Enhancement for Magnetization Reversal of On-Chip Nanomagnets," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, SM3N.8 (May 14, 2017)
- [148] D. Shah, H. Reddy, N. Kinsey, V. Shalaev, and A. Boltasseva, "Optical Properties of Ultrathin Plasmonic TiN Films," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, SM4K.3 (May 14, 2017)
- [147] J. Ndukaife, B. Isaacoff, M. Shalaginov, S. Bogdanov, A. Nnanna, J. Biteen, M. Segev, V. Shalaev, and A. Boltasseva, "Massive Parallel Positioning of Nanodiamonds on Nanophotonic Structures," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTu3H.1 (May 14, 2017)
- [146] K. Chaudhuri, M. Alhabeab, Z. Wang, V. Shalaev, Y. Gogotsi, and A. Boltasseva, "Plasmonic Resonances in Nanostructured MXene: Highly Broadband Absorber," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTu4H.1 (May 14, 2017)
- [145] A. Dutta, C. DeVault, K. Chaudhuri, S. Shah, D. Shah, H. Eragamreddy, U. Guler, A. Naldoni, V. Shalaev, and A. Boltasseva, "Oxides and Nitrides for Nanophotonics and Energy Applications," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTu4G.3 (May 14, 2017)
- [144] C. DeVault, V. Zenin, A. Pors, J. Kim, K. Chaudhuri, S. Bozhevolnyi, V. Shalaev, and A. Boltasseva, "Plasmonic Antenna Resonance Pinning and Suppression of Near-Field Coupling from Epsilon-Near-Zero Substrate," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings FTu4H.5 (May 14, 2017)
- [143] A. Naldoni, U. Guler, Z. Wang, M. Marelli, F. Malara, X. Meng, L. Besteiro, A. Govorov, A. Kildishev, A. Boltasseva, and V. Shalaev, "Broadband hot electron generation for solar energy conversion with plasmonic titanium nitride," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings FTu4H.6 (May 14, 2017)
- [142] H. Reddy, U. Guler, K. Chaudhuri, A. Dutta, A. Kildishev, V. Shalaev, and A. Boltasseva, "Temperature induced deviations to the optical responses of plasmonic materials," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings FTu4H.7 (May 14, 2017)
- [141] Z. Wang, X. Meng, K. Chaudhuri, M. Alhabeab, S. Azzam, A. Kildishev, Y. Kim, V. Shalaev, Y. Gogotsi, and A. Boltasseva, "Active Metamaterials Based on Monolayer Titanium Carbide MXene for Random Lasing," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTu4G.7 (May 14, 2017)
- [140] S. Bogdanov, M. Shalaginov, A. Akimov, A. Lagutchev, J. Liu, D. Woods, M. Ferrera, P. Kapitanova, P. Belov, J. Irudayaraj, A. Boltasseva, and V. Shalaev, "Spin Contrast of Purcell-Enhanced Nitrogen-Vacancy Centers in Diamond," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings FW4H.3 (May 14, 2017)
- [139] A. Dutta, A. Kildishev, V. M. Shalaev, A. Boltasseva, E. E. Marinero, "Surface-plasmon opto-magnetic field enhancement for all-optical magnetization switching," arXiv:1705.01311; <https://arxiv.org/abs/1705.01311> (May 3, 2017)
- [138] A. Dutta, S. Saha, N. Kinsey, U. Guler, V. M. Shalaev, A. Boltasseva, "Titanium nitride based hybrid plasmonic-photonic waveguides for on-chip plasmonic interconnects," SPIE Proceedings of the Integrated Optics: Devices, Materials, and Technologies XXI conference; [dx.doi.org/10.1117/12.2251931](https://doi.org/10.1117/12.2251931) (March 2017)
- [137] S. Bogdanov, M. Y. Shalaginov, A. Akimov, A. S. Lagutchev, P. Kapitanova, J. Liu, D. Woods, M. Ferrera, P. Belov, J. Irudayaraj, A. Boltasseva, V. M. Shalaev, "Electron spin contrast of Purcell-enhanced nitrogen-vacancy ensembles in nanodiamonds," arXiv preprint arXiv:1703.06991 (March 20, 2017)
- [136] H. Reddy, U. Guler, Z. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Temperature-dependent optical properties of plasmonic titanium nitride thin films," arXiv:1702.03053 (February 9, 2017)
- [135] O. A. Makarova, M. Y. Shalaginov, S. Bogdanov, U. Guler, A. Boltasseva, A. V. Kildishev, V. M. Shalaev, "Patterning metamaterials for fast and efficient single-photon-sources," SPIE Photonics West, SPIE OPTO, Proc. of SPIE, contribution # 1011208-1, San Francisco, CA, USA (February 2, 2017)

[134] C.-L. Hung, A. M. Fox, A. Boltasseva, R. W. Boyd, "Material platforms and experimental approaches for quantum nanophotonics," feature issue introduction, *Optical Materials Express* 7 (2), 651-653 (February 1, 2017)

# **Editorial**

[133] A. Dutta, K. Chaudhuri, C. Devault, J. Kim, S. Saha, U. Guler, V. Shalaev, A. Boltasseva, "Tailorable materials for nanophotonic applications," *NANOMETA 2017: 6th International Topical Meeting on Nanophotonics and Metamaterial Conference proceedings*, paper THU2o.2, 1 page, Seefeld (Tirol), Austria (January 4-7, 2017)

[132] U. Guler, A. Naldoni, H. Reddy, Z. Kudyshev, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Plasmonic Metal Nitrides for Local Heating and Energy Applications," *NANOMETA 2017: 6th International Topical Meeting on Nanophotonics and Metamaterial Conference proceedings*, paper THU2o.1, 1 page, Seefeld (Tirol), Austria (January 4-7, 2017)

[131] S. Bogdanov, M. Shalaginov, A. Boltasseva, V. M. Shalaev, "Material platforms for integrated quantum photonics," arXiv preprint arXiv:1610.00729 (October 2016)

[130] U. Guler, K. Chaudhuri, A. Dutta, H. Reddy, A. Shaltout, S. Saha, N. Kinsey, V.M. Shalaev, A. Boltasseva, "Zirconium Nitride as Emerging Material for Durable Photonic Devices and On-chip Plasmonics", 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, *Metamaterials 2016 Proceedings*, Publisher IEEE, page 826-828, Crete, Greece (September 17-22, 2016)

[129] V.M. Shalaev, M.Y. Shalaginov, S. Bogdanov, R. Chandrasekar, Z. Wang, V.V. Vorobyov, J. Liu, X. Meng, A.S. Lagutchev, A.V. Kildishev, J. Irudayaraj, A. Boltasseva, A.V. Akimov, "New Material Platforms and Metasurface Designs for Quantum Nanophotonics", 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, *Metamaterials 2016 Proceedings*, Publisher IEEE, page 856-858, Crete, Greece (September 17-22, 2016)

[128] A. Naldoni, U. Guler, Z. Wang, M. Marelli, F. Malara, X. Meng, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Enhancing Hot Carrier Collection for Solar Water Splitting with Plasmonic Titanium Nitride," arXiv:1607.06595 [cond-mat.mtrl-sci] (July 22, 2016)

[127] U. Guler, H. Reddy, K. Chaudhury, A. Dutta, M. Shalaginov, S. Bogdanov, V. Shalaev, A. Boltasseva, "New materials for plasmonics: Designs and applications from flat optics to quantum nanophotonics," *Optical Society of America, Integrated Photonics Research conference proceedings*, IM4A. 1, Vancouver, Canada (July 18, 2016)

[126] S. Ishii, V. E. Babicheva, M. Y. Shalaginov, A. Boltasseva, A. V. Kildishev, E. Narimanov, "Subwavelength optics with hyperbolic metamaterials: Waveguides, scattering, and optical topological transitions," 18th International Conference on Transparent Optical Networks (ICTON) proceedings, 4 pages, doi: 10.1109/ICTON.2016.7550461, Trento, Italy (July 14, 2016)

[125] N. Kinsey, C. DeVault, M. Clerici, J. Kim, E. Carnemolla, A. Shaltout, R. Kaipurath, D. Faccio, V. Shalaev, M. Ferrera, A. Boltasseva, "Linear addition algebra of optical nonlinearities in transparent conductive oxides," arXiv preprint arXiv:1606.05824 (June 19, 2016)

[124] N. Kinsey, J. Kim, C. DeVault, A. Dutta, M. Ferrera, S. Choudhury, U. Guler, V. M. Shalaev, A. Boltasseva, "Transition metal nitrides and transparent conducting oxides for near-infrared photonics," *NanoPlasm conference proceedings*, p. 16-17, Cetraro, Italy (June 17, 2016)

[123] N. Kinsey, A. A. Syed, D. Courtwright, C. DeVault, C. E. Bonner, V. I Gavrilenko, V. M. Shalaev, D. J. Hagan, E. W. Van Stryland, A. Boltasseva, "Effective third-order nonlinearities in refractory plasmonic TiN thin films," *Optical Society of America, CLEO: QELS\_Fundamental Science proceedings*, FW4A. 4 (June 5, 2016)

[122] J. M. Reed, M. R. Ferdinandus, N. Kinsey, C. DeVault, U. Guler, V. M. Shalaev, A. Boltasseva, A. Urbas, "Transient nonlinear refraction measurements of titanium nitride thin films," *Optical Society of America, CLEO: QELS\_Fundamental Science proceedings*, FTu1A. 6 (June 5, 2016)

[121] C. DeVault, N. Kinsey, J. Kim, A. Dutta, M. Ferrera, V.M. Shalaev, A. Boltasseva, "Ultrafast optical tuning of epsilon-near-zero thin films," *Optical Society of America, CLEO: QELS\_Fundamental Science proceedings*, FW4A. 5 (June 5, 2016)

[120] H. Ferguson, U. Guler, N. Kinsey, T. Norris, A. Boltasseva, "Hot electron relaxation in thin titanium nitride films," *Optical Society of America, CLEO: QELS\_Fundamental Science proceedings*, FF2D. 1 (June 5, 2016)

[119] A. Shaltout, J. Kim, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Implementation of metasurface based nanocavities," *Optical Society of America, CLEO: QELS\_Fundamental Science proceedings*, FTh1D. 5 (June 5, 2016)

[118] J. Fang, D. Wang, C. DeVault, T.-F. Chung, Y. Chen, A. Boltasseva, V. M. Shalaev, A. Kildishev, "Enhanced graphene photodetector with fractal metasurfaces," *Optical Society of America, CLEO: QELS\_Fundamental Science proceedings*, FF1B. 4 (June 5, 2016)

[117] S. Choudhury, A. Shaltout, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Experimental realization of color hologram using Pancharatnam-Berry phase manipulating metasurfaces," *Optical Society of America, CLEO: QELS\_Fundamental Science proceedings*, FF1D. 8 (June 5, 2016)

- [116] K. Chaudhuri, A. Shaltout, U. Guler, V. M. Shalaev, A. Boltasseva, "High efficiency phase gradient metasurface using refractory plasmonic zirconium nitride," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FF1D FM3N. 2 (June 5, 2016)
- [115] R. Chandrasekar, Z. Wang, X. Meng, A. Lagutchev, Y. L. Kim, A. Wei, A. Boltasseva, V. M. Shalaev, "Lasing action in gold nanorod hyperbolic metamaterial," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, JTh4A. 4 (June 5, 2016)
- [114] J. C. Ndukaife, A. George, A. Nnanna, A. V. Kildishev, V. M. Shalaev, S. T. Wereley, A. Boltasseva, "Controlled rapid delivery and on-chip trapping of nanoparticles by a hybrid electrothermoplasmonic nanotweezer," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, STh3H. 3 (June 5, 2016)
- [113] A. Dutta, N. Kinsey, S. Saha, U. Guler, V. M. Shalaev, A. Boltasseva, "Plasmonic interconnects using zirconium nitride," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, JW2A. 86 (June 5, 2016)
- [112] A. Shaltout, M. Clerici, N. Kinsey, R. Kaipurath, J. Kim, E. G. Carnemolla, D. Faccio, A. Boltasseva, V. M. Shalaev, M. Ferrera, "Doppler-shift emulation using highly time-refracting TCO layer," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FF2D. 6 (June 5, 2016)
- [111] H. Reddy Eragamreddy, U. Guler, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Optical properties of gold thin films at elevated temperatures," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, JW2A. 85 (June 5, 2016)
- [110] H. Reddy, U. Guler, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Temperature dependent optical properties of gold thin films," arXiv:1604.00064 [cond-mat.mtrl-sci] (March 31, 2016)
- [109] L. Caspani, R. P. M. Kaipurath, M. Clerici, M. Ferrera, T. Roger, A. Di Falco, J. Kim, N. Kinsey, V. M. Shalaev, A. Boltasseva, D. Faccio, "Enhanced nonlinear refractive index in epsilon-near-zero materials," arXiv:1603.03581v1 [physics.optics] (March 11, 2016)
- [108] A. Boltasseva, "Quiet revolutions in optical materials enable breakthrough technologies: editorial," Optical Materials Express 6 (1), 288-289 (January 1 2016) **Editorial**
- [107] A. Boltasseva, J. Dionne, "Feature issue introduction: plasmonics," Optical Materials Express 5 (11), 2698-2701 (December 1, 2015) **Editorial**
- [106] N. Kinsey, M. Ferrera, C. DeVault, J. Kim, A. Dutta, K. Chaudhuri, S. Choudhuri, V.M. Shalaev, A. Boltasseva, "Practical Platform for Nanophotonics with Refractory Plasmonic Metal Nitrides and Transparent Conducting Oxides," Frontiers in Optics Proceedings, Optical Society of America, 1 page, FM1B. 3 (October 18, 2015)
- [105] M. Shalaginov, S. Bogdanov, J. Liu, A. Lagutchev, A. V. Kildishev, D. Peroulis, J. M. Irudayaraj, A. Boltasseva, V. M. Shalaev, "Effect of photonic density of states on spin-flip induced fluorescence contrast in diamond nitrogen-vacancy center ensembles (Presentation Recording)," Conference SPIE Nanoscience+ Engineering, Pages 954400-954400-1 (October 5, 2015)
- [104] V. M. Shalaev, M. Y. Shalaginov, V. V. Vorobyov, S. Bogdanov, A. V. Akimov, A. Lagutchev, A. V. Kildishev, A. Boltasseva, "Nitrogen-vacancy single-photon emission enhanced with nanophotonic structures (Presentation Recording)," Conference SPIE Nanoscience+ Engineering, Pages 95440L-95440L-1 (October 5, 2015)
- [103] J. Kim, N. Kinsey, A. Dutta, M. Ferrera, C. Devault, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Transparent conducting oxides as plasmonic component in near infrared (Presentation Recording)," Conference SPIE Nanoscience+ Engineering, Pages 954411-954411-1 (October 5, 2015)
- [102] J. Kim, N. Kinsey, C. DeVault, A. Dutta, M. Ferrera, V. Shalaev, A. Boltasseva, "Transparent conducting oxides as dynamic materials at telecom wavelengths," 9th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2015 Proceedings, pages 31-33, Oxford, UK, Publisher IEEE (September 7, 2015)
- [101] M. Y. Shalaginov, S. Bogdanov, P. V. Kapitanova, A. S. Lagutchev, A. V. Kildishev, P. A. Belov, A. Boltasseva, V. M. Shalaev, "Merging metamaterials with quantum photonics," 9th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2015 Proceedings, pages 283-285, Oxford, UK, Publisher IEEE (September 7, 2015)
- [100] J. Ndukaife, A. V. Kildishev, A. A. Nnanna, S. T. Wereley, V. M. Shalaev, A. Boltasseva, "Electrothermoplasmonic flow for plasmon-assisted optical trapping (Presentation Recording)," Conference SPIE Nanoscience+ Engineering, Pages 95471Q-95471Q-1 (September 2, 2015)
- [99] N. Kinsey, C. T. DeVault, J. Kim, M. Ferrera, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Ultrafast dynamics of Al-doped zinc oxide under optical excitation (Presentation Recording)," Conference SPIE Nanoscience+ Engineering, Pages 95460N-95460N-1 (September 1, 2015)

- [98] N. Kinsey, M. Ferrera, C. DeVault, J. Kim, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Alternative materials lead to practical nanophotonic components (Presentation Recording)," Conference SPIE Nanoscience+ Engineering, Pages 95460L-95460L-1 (September 1, 2015)
- [97] J. Liu, U. Guler, A. Lagutchev, A. Kildishev, O. Malis, A. Boltasseva, V. M. Shalaev, "Quasi-coherent thermal emitter based on refractory plasmonic materials," arXiv:1508.07335 [physics.optics] (August 28, 2015)
- [96] T. Wang, M. Zalkovskij, K. Iwaszczuk, A. V. Lavrinenko, G. V. Naik, J. Kim, A. Boltasseva, P. Uhd Jepsen, "Ultrabroadband terahertz characterization of highly doped ZnO and ITO," 2015 40th International Conference on Infrared, Millimeter, and Terahertz waves (IRMMW-THz), Pages 1-1, Publisher IEEE (August 23, 2015)
- [95] N. K. Emani, D. Wang, T.-F. Chung, L. J. Prokopeva, A. V. Kildishev, V. M. Shalaev, Y. P. Chen, A. Boltasseva, "Plasmon Resonance in Multilayer Graphene Nanoribbons," arXiv:1508.02789 [physics.optics] (August 12, 2015)
- [94] J. Kim, N. Kinsey, A. Dutta, M. Ferrera, C. DeVault, I. Kitamura, A.V. Kildishev, V.M. Shalaev, A. Boltasseva, "Transparent conducting oxides and hard plasmonic ceramics for next-generation nanophotonics," META'15, the 6th International Conference on Metamaterials, Photonic Crystals and Plasmonics proceedings, 2 pages, City College of New York, New York City, NY, USA (August 4-7, 2015)
- [93] N. Kinsey, A. A. Sayed, D. Courtwright, C. DeVault, C. E. Bonner, V. I. Gavrilenko, V. M. Shalaev, D. J. Hagan, E. W. Van Stryland, A. Boltasseva, "Effective Third-Order Nonlinearities in Metallic Refractory Titanium Nitride Thin Films," arXiv:1507.06674 [physics.optics] (July 23, 2015)
- [92] N. Kinsey, M. Ferrera, C. DeVault, J. Kim, V.M. Shalaev, A. Boltasseva, "A practical platform for integrated optics with nitrides and oxides," 2015 IEEE Photonics Society Summer Topicals Meetings Series (SUM), pages 17-18, July 13-15, 2015, British Colonial Hilton, Nassau, Bahamas (July 13, 2015)
- [91] A. Shaltout, J. Liu, S. Choudhury, V. M. Shalaev, A. Boltasseva, "Metasurfaces' Solutions for Polarization Spectroscopy, Optical Activity, Colored Phase Holograms and Compact Nano-cavities," Progress in Electromagnetics Research Symposium PIERS 2015 Proceedings, 1 page, Prague, Czech Republic (July 06-09, 2015)
- [90] U. Guler, J. Liu, H. Eragamreddy, A.V. Kildishev, A. Boltasseva, V. M. Shalaev, "Refractory Plasmonics for Harsh Environment," Progress in Electromagnetics Research Symposium PIERS 2015 Proceedings, 1 page, Prague, Czech Republic (July 06-09, 2015)
- [89] V. M. Shalaev, M. Y. Shalaginov, N. Kinsey, P. R. West, M. Ferrera, A.V. Kildishev, A. Boltasseva, "Metamaterials and Transformation Optics for Single-photon Emitters," Progress in Electromagnetics Research Symposium PIERS 2015 Proceedings, 1 page, Prague, Czech Republic (July 06-09, 2015)
- [88] N. Kinsey, M. Ferrera, C. DeVault, J. Kim, A.V. Kildishev, V.M. Shalaev, A. Boltasseva, "Integrated Nanophotonic Components Enabled by Alternative Materials," Progress in Electromagnetics Research Symposium PIERS 2015 Proceedings, 1 page, Special Session "SC3: Optical Properties of Resonant Dielectric and Plasmonic Nanostructures", Prague, Czech Republic (July 06-09, 2015)
- [87] J. Kim, N. Kinsey, A. Dutta, M. Ferrera, C. DeVault, I. Kitamura, A.V. Kildishev, V.M. Shalaev, A. Boltasseva, "Transparent Conducting Oxides as Plasmonic Component in Near Infrared," Progress in Electromagnetics Research Symposium PIERS 2015 Proceedings, 1 page, Session "Planar Optics based on Metasurfaces," Prague, Czech Republic (July 06-09, 2015)
- [86] N. Kinsey, M. Ferrera, C. DeVault, J. Kim, V.M. Shalaev, A. Boltasseva, "Nanophotonics with Titanium Nitride and Transparent Conducting Oxides," contribution IW1A. 4, 2 pages, Integrated Photonics Research, Silicon and Nanophotonics, Optical Society of America, Boston, MA, USA (June 27, 2015)
- [85] N. Kinsey, C. DeVault, J. Kim, M. Ferrera, A. V. Kildishev, V. Shalaev, A. Boltasseva, "Transient Response of Optically Excited Al-Doped Zinc Oxide," Conference Proceedings, Lasers and Electro-Optics/Europe and the European Quantum Electronics Conference CLEO Europe, paper number CE-P.30, 1 page, Munich, Germany (June 21-25, 2015)
- [84] N. Kinsey, P. R. West, M. Ferrera, A. V. Kildishev, V. Shalaev, A. Boltasseva, "Adiabatically Tapered Metamaterial Waveguides for Extraction of High-k Waves," Conference Proceedings, Lasers and Electro-Optics/Europe and the European Quantum Electronics Conference CLEO Europe, paper number CE-3.2, 1 page, Munich, Germany (June 21-25, 2015)
- [83] J. Ndukaife, A. Kildishev, A. G. Agwu Nnanna, S. Wereley, V. Shalaev, A. Boltasseva, "Plasmon-Assisted Optoelectrofluidics," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution # AW3K.5, 2 pages, San Jose, CA, USA (May 10, 2015)
- [82] N. Kinsey, P. West, M. Ferrera, A. Kildishev, V. Shalaev, A. Boltasseva, "Dispersion Control of High-k Waves in Tapered Hyperbolic Waveguides," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution # FM3C.6, 2 pages, San Jose, CA, USA (May 10, 2015)

- [81] S. Choudhury, A. Shaltout, V. Shalaev, A. Boltasseva, A. Kildishev, "Color Hologram Generation Using a Pancharatnam-Berry Phase Manipulating Metasurface," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution # JTU5A.89, 2 pages, San Jose, CA, USA (May 10, 2015)
- [80] D. Wang, N. K. Emani, A. Boltasseva, A. V. Kildishev, "Plasmon Resonance in Single- and Double-layer CVD Graphene Nanoribbons", Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution # FTU1E.3, 2 pages, San Jose, CA, USA (May 10, 2015)
- [79] V. E. Babicheva, M. Shalaginov, S. Ishii, A. Boltasseva, A. Kildishev, "Multilayer Cladding with Hyperbolic Dispersion for Plasmonic Waveguides," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution # FM2C.7, 2 pages, San Jose, CA, USA (May 10, 2015)
- [78] Z. Wang, X. Meng, S. H. Choi, Y. L. Kim, V. M. Shalaev, A. Boltasseva, "Plasmonic Random Lasing in Strongly Scattering Regime with Slanted Silver Nanorod Array," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution # FW3E.7, 2 pages, San Jose, CA, USA (May 10, 2015)
- [77] N. Kinsey, C. DeVault, J. Kim, M. Ferrera, V. Shalaev, A. Boltasseva, "Epsilon-Near-Zero Al-Doped ZnO for Ultrafast Switching at Telecom Wavelengths: Outpacing the Traditional Amplitude-Bandwidth Trade-Off," arXiv:1503.07832 (March 26, 2015)
- [76] N. Kinsey, D. Courtwright, C. DeVault, V. Gavrilenko, C. Bonner, A. Kildishev, A. Boltasseva, V. Shalaev, "Inherent Third-Order Nonlinearities in Refractory Metallic TiN Thin Films", NANOMETA 2015: 5th International Topical Meeting on Nanophotonics and Metamaterial Conference, paper TUE2o-I-02, Seefeld (Tirol), Austria (January 5-8, 2015)
- [75] N. Kinsey, C. DeVault, J. Kim, I. Kitamura, M. Ferrera, U. Guler, L. Prokopenko, A. Kildishev, V. Shalaev, A. Boltasseva, "Dynamic Properties of Highly Doped Zinc Oxide", NANOMETA 2015: 5th International Topical Meeting on Nanophotonics and Metamaterial Conference, paper MON3o-I-03, Seefeld (Tirol), Austria (January 5-8, 2015)
- [74] V. E. Babicheva, M. Y. Shalaginov, S. Ishii, A. Boltasseva, A. V. Kildishev, "Plasmonic waveguides with hyperbolic multilayer cladding," arXiv preprint arXiv:1411.3986 (November 14, 2014)
- [73] U. Guler, S. Suslov, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Colloidal Plasmonic Titanium Nitride Nanoparticles: Properties and Applications," <http://arxiv.org/licenses/nonexclusive-distrib/1.0/>, arXiv 1410.3920 (October 15, 2014)
- [72] N. Kinsey, J. Kim, L. Prokopenko, M. Ferrera, V. Babicheva, A. Dutta, S. Choudhury, A. Kildishev, V. Shalaev, and A. Boltasseva, "Practical Nanophotonics with Plasmonic Ceramics" 8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (METAMATERIALS) 2014 proceedings, Publisher IEEE, 3 pages, Copenhagen (August 25-30, 2014)
- [71] V. E. Babicheva, N. Kinsey, G. V. Naik, M. Ferrera, A. V. Lavrinenko, V. M. Shalaev, A. Boltasseva, "Plasmonic modulator using CMOS-compatible material platform," 8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (METAMATERIALS) 2014 proceedings, pages 28-30, Publisher IEEE (August 25, 2014)
- [70] C. Pfeiffer, N. K. Emani, A. M. Shaltout, A. Boltasseva, V. M. Shalaev, A. Grbic, "Experimental Huygens' Surface for NIR Wavelengths," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings contribution FF1C.4, 2 pages, San Jose, CA, USA (June 8-13, 2014)
- [69] J. Kim, Y. Zhao, A. Dutta, S. M. Choudhury, A. Kildishev, A. Alu, A. Boltasseva, "Nanostructured Transparent Conducting Oxide Films for Polarization Control with Plasmonic Metasurfaces," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution FF2C.2, 2 pages, San Jose, CA, USA (June 8-13, 2014)
- [68] J. C. Ndukaife, A. Mishra, U. Guler, A. A. Nnana, S. Wereley, A. Boltasseva, "Photothermal heating enabled by plasmonic nanoantennas for electrokinetic manipulation and sorting of submicron particles," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution FTh1K.2, 2 pages, San Jose, CA, USA (June 8-13, 2014)
- [67] J. Kim, B. Memarzadeh, A. Dutta, S. M. Choudhury, A. Kildishev, H. Mosallaei, A. Boltasseva, "GZO/ZnO Multilayered nanodisk metasurface to engineer the plasma frequency," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution FW1K.4, 2 pages, San Jose, CA, USA (June 8-13, 2014)
- [66] M. Y. Shalaginov, V. Vorobyov, J. Liu, M. Ferrera, A. Akimov, A. Lagutchev, A. N. Smolyaninov, V. V. Klimov, J. Irudayaraj, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Single-photon source based on NV center in nanodiamond coupled to TiN-based hyperbolic metamaterial," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution JTU4A.38, 2 pages, San Jose, CA, USA (June 8-13, 2014)
- [65] V. Babicheva, N. Kinsey, G. Naik, M. Ferrera, A. Lavrinenko, V. M. Shalaev, A. Boltasseva, "CMOS Compatible Ultra-Compact Modulator," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution FTU3K.3, 2 pages, San Jose, CA, USA (June 8-13, 2014)

- [64] N. Kinsey, M. Ferrera, G. Naik, A. Kildishev, V. M. Shalaev, A. Boltasseva, "Low-Loss Plasmonic Titanium Nitride Strip Waveguides," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution STu1M.1, 2 pages, San Jose, CA, USA (June 8-13, 2014)
- [63] L. J. Prokopeva, N. K. Emani, A. Boltasseva, A. Kildishev, "Tunable Pulse-Shaping with Gated Graphene Nanoribbons," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution FM4C.2, 2 pages, San Jose, CA, USA (June 8-13, 2014)
- [62] J. Liu, U. Guler, W. Li, A. Kildishev, A. Boltasseva, V. M. Shalaev, "High-temperature plasmonic thermal emitter for thermo-photovoltaics," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution FM4C.5, 2 pages, San Jose, CA, USA (June 8-13, 2014)
- [61] U. Guler, W. Li, A. Boltasseva, A. Kildishev, V. M. Shalaev, "Titanium Nitride as a Refractory Plasmonic Material for High Temperature Applications," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution FM4C.8, 2 pages, San Jose, CA, USA (June 8-13, 2014)
- [60] U. Guler, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Titanium nitride nanoparticles for therapeutic applications," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution FM1K.4, 2 pages, San Jose, CA, USA (June 8-13, 2014)
- [59] A. Boltasseva, "Empowering plasmonics and metamaterials technology with new material platforms," MRS Bulletin, volume 39 (5), 461-468, DOI: 10.1557/mrs.2014.91 (May 1, 2014)
- [58] C. DeVault, U. Guler, V. Shalaev, A. Boltasseva, A. Kildishev, "Plasmonic Metal Nitrides for Thin-Film Silicon Solar Cells," ID: 1780306, Proceedings of Optical Nanostructures and Advanced Materials for Photovoltaics (PV), Renewable Energy and the Environment, Tucson, Arizona, USA (November 3-6, 2013)
- [57] U. Guler, W. Li, N. Kinsey, G. Naik, A. Boltasseva, J. Guan, A. Kildishev, V. Shalaev, "Plasmonic Titanium Nitride Nanostructures for Perfect Absorbers," Proceedings of Optical Nanostructures and Advanced Materials for Photovoltaics (PV), paper ID: 1780265, 2 pages, Renewable Energy and the Environment, Tucson, Arizona, USA (November 3-6, 2013)
- [56] G. V. Naik, B. Saha, T. D. Sands, S. M. Saber, E. Stach, V. M. Shalaev, A. Boltasseva, "A Titanium Nitride-based Hyperbolic Metamaterial in the Visible and Infrared," 7th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2013 proceedings, 3 pages, Bordeaux, France (September 16-21, 2013)
- [55] G. V. Naik, J. Kim, U. Guler, N. K. Emani, P. R. West, N. Kinsey, J. C. Ndukaife, A. Boltasseva, "Empowering Plasmonics and Metamaterials Technology with New Material Platforms," Frontiers of Nonlinear Physics (FNP'13) Proceedings, p. 257, 1 page, Nizhny Novgorod-Tchaikovsky, Russia (July 28-August 2, 2013)
- [54] J. Kim, Y. Zhao, G. Naik, N. Emani, U. Guler, A. Kildishev, A. Alu, A. Boltasseva, "Nanostructured Transparent Conductive Oxide Films for Plasmonic Applications," contribution QTh3B.8, CLEO/QELS 2013, San Jose, CA, USA (June 9-14, 2013)
- [53] N. Emani, T.-F. Chung, L. Prokopeva, A. Kildishev, Y. Chen, A. Boltasseva, "Tuning Fano Resonances with Graphene," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution CW3O.4, San Jose, CA, USA (June 9-14, 2013)
- [52] G. V. Naik, B. Saha, J. Liu, S. Saber, E. Stach, T. D. Sands, V. Shalaev, A. Boltasseva, "A Titanium Nitride based Metamaterial for Applications in the Visible," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution QTu3A.7, San Jose, CA, USA (June 9-14, 2013)
- [51] U. Guler, J. Ndukaife, G. V. Naik, A. G. Agwu Nnanna, A. Kildishev, V. Shalaev, A. Boltasseva, "Local heating with titanium nitride nanoparticles," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution QTu1A.2, San Jose, CA, USA (June 9-14, 2013)
- [50] G. V. Naik, B. Saha, T. D. Sands, A. Boltasseva, "A titanium nitride based metamaterial for applications in the visible wavelength range," 4th International Topical Meeting on Nanophotonics and Metamaterials (NANOMETA 2013), Seefeld, Austria, contribution # 169, 1 page (January 2-6, 2013)
- [49] J. Kim, G. V. Naik, N. Emani, A. Boltasseva, "Plasmonic resonances in nanostructured transparent conducting oxide films," arXiv:1211.5988v1, 7 pages (2012)
- [48] I. D. Rukhlenko, P. A. Belov, N. M. Litchinitser, A. Boltasseva, "Modern trends in metamaterial applications," Advances in OptoElectronics, vol. 2012, article ID 514270, 2 pages (2012) **Editorial**
- [47] G. V. Naik, J. Kim, N. K. Emani, P. R. West, A. Boltasseva, "Plasmonic metamaterials: Looking beyond gold and silver," 6th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2012, St. Petersburg, Russia, Metamaterials 2012 proceedings, 3 pages (September 17-22, 2012)

- [46] U. Guler, G. Naik, A. Boltasseva, V. Shalaev, A. Kildishev, "Nitrides as alternative materials for localized surface plasmon applications," FTh4A.2, 2 pages, 2012 Frontiers in Optics, Rochester, New York (October 14-18, 2012)
- [45] A. V. Gavrilenko, K. Dondapati, V. I. Gavrilenko, J. Kim, G. V. Naik, A. Boltasseva, "Optical Functions of Nanocrystalline ZnO Containing Voids and doped with Ga," SPIE Optics and Photonics, contribution # 84552B, DOI: 10.1117/12.929866, San Diego, California, USA (August 12-16, 2012)
- [44] A. Boltasseva, "The road ahead for metamaterials: improved material building blocks," OSA meeting, Integrated Photonics Research (IPR), ITu4C.1, 1 page, Colorado Springs, Colorado, USA, June 17-22, 2012
- [43] G. Naik, J. Liu, A. Kildishev, V. Shalaev, A. Boltasseva, "All-semiconductor metamaterial with negative refraction in the near-infrared," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution QTh1A.1, 2 pages (May 2012)
- [42] G. Naik, J. Schroeder, U. Guler, X. Ni, A. Kildishev, T. Sands, A. Boltasseva, "Metal nitrides for plasmonic applications," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution QW3H.4, 2 pages (May 2012)
- [41] X. Ni, N. Emani, A. Kildishev, A. Boltasseva, V. Shalaev, "Symmetry-breaking plasmonic metasurfaces for broadband light bending," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution QM3F.1, 2 pages (May 2012)
- [40] N. Emani, T.-F. Chung, X. Ni, A. Kildishev, Y. Chen, A. Boltasseva, "Electrically tunable plasmonic resonances with graphene," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution JTu1M.2, 2 pages (May 2012)
- [39] M. D. Thoreson, R. B. Nielsen, P. R. West, A. Kriesch, Z. Liu, J. Fang, A. V. Kildishev, U. Peschel, V. M. Shalaev, A. Boltasseva, "Studies of plasmonic hot-spot translation by a metal-dielectric layered superlens," Proc. SPIE 2011, Vol. 8093, Issue 1, pp. 80931J-20 (2011)
- [38] G. V. Naik, J. L. Schroeder, T. D. Sands, A. Boltasseva, "Titanium nitride as plasmonic material for visible wavelengths," 5th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2011 proc., Barcelona, Spain (October 10-15, 2011)
- [37] G. V. Naik, A. Boltasseva, "Ceramic plasmonic components for optical metamaterials," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution QThP6, 5951597 (May 2011)
- [36] X. Ni, G. V. Naik, A. V. Kildishev, Y. Barnakov, A. Boltasseva, V. M. Shalaev, "Effect of metallic and hyperbolic metamaterial surface on electric and magnetic dipole emission," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, QThP6, 5951521 (May 2011)
- [35] G. V. Naik, J. L. Schroeder, T. D. Sands, A. Boltasseva, "Titanium nitride as a plasmonic material for visible wavelengths," arXiv:1011.4896v1 (November 22, 2010)
- [34] G. V. Naik, P. R. West, S. Ishii, N. Emani, V. M. Shalaev, A. Boltasseva, "Semiconductors as low-loss plasmonic materials at near-infrared wavelengths," Metamaterials'2010 Proceedings, 4th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics Proc., p. 306-308, Karlsruhe, Germany (September 13-18, 2010)
- [33] M. G. Nielsen, A. Pors, R. B. Nielsen, A. Boltasseva, O. Albrektsen, M. Willatzen, S. I. Bozhevolnyi, "Investigations of scattering and field enhancement effects in retardation-based plasmonic nanoantennas," Proc. SPIE, Vol. 7757, p. 77573O; doi:10.1117/12.868363 (2010)
- [32] G. V. Naik, V. M. Shalaev, A. Boltasseva, "Semiconductor plasmonic metamaterials for near-infrared and telecommunication wavelength," Proc. SPIE, Vol. 7754, p. 77540M; doi: 10.1117/12.863631 (2010)
- [31] X. Ni, Z. Liu, A. Boltasseva, A. Kildishev, "Scalable spatial harmonic analysis solver for modeling plasmonic bi-periodic multilayer nanostructures," 14th Biennial IEEE CEFC Digest, p. 5481662; doi:10.1109/CEFC.2010.5481662 (2010)
- [30] X. Ni, Z. Liu, A. Boltasseva, A. V. Kildishev, "Validation of the parallel three-dimensional solver for analysis of optical plasmonic bi-periodic multilayer nanostructures," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution JThE7 (May 2010)
- [29] Z. Jacob, J.-Y. Kim, G. Naik, E. Narimanov, A. Boltasseva, V. M. Shalaev, "Radiative decay engineering with hyperbolic metamaterials," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, contribution QTuD2 (May 2010)
- [28] R. B. Nielsen, A. Kristensen, A. Boltasseva, "Metal-dielectric composite with tunable optical properties," Proc. SPIE, Vol. 7711, p. 77111Q; doi:10.1117/12.855826 (2010)
- [27] C. Jeppesen, R. B. Nielsen, S. Xiao, N. A. Mortensen, A. Boltasseva, A. Kristensen, "Experimental investigation of Fang's Ag superlens suitable for integration," Proc. SPIE, Vol. 7395, p. 73951I; doi:10.1117/12.825940 (2009)

- [26] A. Huck, S. Smolka, L. Krivitsky, P. Lodahl, A. S. Sørensen, A. Boltasseva, U. L. Andersen, "Demonstration of quadrature squeezed surface-plasmons in a gold waveguide," 2009 CLEO/EQEC Proceedings, doi:10.1109/CLEOE-EQEC.2009.5191638 (2009)
- [25] A. Boltasseva, R. B. Nielsen, C. Jeppesen, A. Kristensen, R. Bakker, Z. Liu, H.-K. Yuan, A. V. Kildishev, V. M. Shalaev, "Fabricating plasmonic components for nanophotonics," Proceedings of 2nd IEEE LEOS Winter Topicals, WTM 2009, p. 46-47, TuA2.2, doi:10.1109/LEOSWT.2009.4771647 (2009)
- [24] A. Boltasseva, R. B. Nielsen, C. Jeppesen, A. Kristensen, R. Bakker, Z. Liu, H.-K. Yuan, A. V. Kildishev, V. M. Shalaev, "Fabricating metal-dielectric structures for plasmonic components and metamaterials", Proceedings of 2nd International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials 2008, 035809, Pamplona, Spain (September 21-26, 2008)
- [23] T. Søndergaard, S. I. Bozhevolnyi, J. Jung, J. Beermann, G. Della Valle, A. Boltasseva, "Slow-light plasmonic metal nano-strip resonators," Proc. SPIE, Vol. 7099, 70991G; doi:10.1117/12.804820 (2008)
- [22] I. P. Radko, A. Boltasseva, S. I. Bozhevolnyi, "Refracting surface plasmons with nanoparticle arrays", QELS 2008 Proc., p. 4553030 (2008)
- [21] P. G. Hermannsson, T. Rosenzweig, K. Leosson, A. Boltasseva, "Simulations of a compact integrated plasmonic attenuator operating at telecom wavelengths", QELS 2008 Proc., p. 4553204, doi: 10.1109/QELS.2008.4553204 (2008)
- [20] R. B. Nielsen, A. Boltasseva, A. Kristensen, S. I. Bozhevolnyi, V. Volkov, I. Fernandez-Cuesta, A. Klukowska, "Fabrication of channel and wedge plasmon polariton devices by combined UV and nanoimprint lithography", QELS 2008 Proc., doi:10.1109/QELS.2008.4553241 (2008)
- [19] I. P. Radko, S. I. Bozhevolnyi, A. Boltasseva, G. Brucoli, L. Martin-Moreno, F. J. Garcia-Vidal, "Efficiency of local surface plasmon polariton excitation on ridges", Proc. SPIE, Vol. 6988, p. 69880Q; doi:10.1117/12.780509 (2008)
- [18] R. B. Nielsen, A. Kristensen, A. Boltasseva, S. I. Bozhevolnyi, V. S. Volkov, "Fabrication of plasmonic waveguides by nanoimprint and UV-lithography," Proc. SPIE, Vol. 6883, 688304 (2008); doi:10.1117/12.762999
- [17] W. Cai, U. K. Chettiar, H.-K. Yuan, A. V. Kildishev, V. P. Drachev, V. M. Shalaev, A. Boltasseva, "Experimental observation of negative magnetic response in the visible spectral range," Metamaterials'2007 Proceedings, Rome, Italy (October 22-26, 2007)
- [16] A. Boltasseva, K. Leosson, T. Rosenzweig, J. Jung, T. Søndergaard, S. I. Bozhevolnyi, R. B. Nielsen, K. B. Jørgensen, R. H. Pedersen, A. Kristensen, I. Fernandez-Cuesta, "Fabrication of plasmonic waveguides for device applications," Proc. SPIE, Vol. 6638, p. 663804; doi:10.1117/12.732836 (2007)
- [15] T. A. Klar, U. K. Chettiar, H.-K. Yuan, W. Cai, A. Boltasseva, V. P. Drachev, A. V. Kildishev, V. M. Shalaev, "Single negative, double negative, low loss negative," CLEO/Europe IQEC Proceedings 2007, doi:10.1109/CLEOE-IQEC.2007.4387028 (2007)
- [14] A. Boltasseva, K. Leosson, S. I. Bozhevolnyi, T. Søndergaard, K. B. Jørgensen, R. H. Pedersen, A. Kristensen, "Metal strips and wires as plasmonic waveguides for integrated-optics components," QELS 2007 Proc., p. 4431682, doi:10.1109/QELS.2007.4431682 (2007)
- [13] H.-K. Yuan, U. K. Chettiar, W. Cai, A. V. Kildishev, A. Boltasseva, V. P. Drachev, V. M. Shalaev, "Negative meta-magnetism in the visible range," QELS 2007 Proc., p. 4431698, doi:10.1109/QELS.2007.4431698 (2007)
- [12] K. Leosson, A. Boltasseva, T. Nikolajsen, and S. I. Bozhevolnyi, "Long-range surface plasmon polariton waveguides with TE and TM guiding," Proc. SPIE, Vol. 6324, p. 632404; doi:10.1117/12.678481 (2006)
- [11] D. M. Johansen, A. Boltasseva, T. Nielsen, M. Vogler, G. Grützner, F. Reuther, K. Leosson, A. Kristensen, "Nanoimprinted long-range surface plasmon polariton waveguide components," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, doi:10.1109/CLEO.2006.4628961 (May 2006)
- [10] A. Boltasseva, T. Nikolajsen, K. Leosson, T. Søndergaard, S. I. Bozhevolnyi, and J. M. Hvam, "Guiding of long-range surface plasmon polaritons along channels in periodic arrays of scatterers," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings 97, 1007-1008 (May 2004)
- [9] K. Leosson, T. Nikolajsen, A. Boltasseva, T. Søndergaard and S. I. Bozhevolnyi, "Photonic bandgap structures for guiding of long-range surface plasmon polaritons," ECOC-IOOC 2003 Proc., 5, 70-71, Rimini, Italy (September 2003)
- [8] P.I. Borel, L.H. Frandsen, M. Thorhauge, A. Boltasseva, J. Cheng, M. Kampanis, M. Kristensen, A. Lavrinenko, K. Rechendorff, R. Shim, Y. Zhuang and H.M.H. Chong, "Very low losses for TM polarized light in photonic crystal waveguides," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, pp. 930-932, CLEO Postconference Digest, vol. 88, pp. 960-961 (2003)

- [7] K. Leosson, S. Bozhevolnyi, V. Volkov, and A. Boltasseva, "Photonic bandgap effect in disordered arrays of scatterers: implications to broadband, low-loss waveguiding," 28th European Conference on Optical Communication ECOC 2002 Proc., vol. 3, p. 1-2 (2002)
- [6] M. Thorhauge, M. Kristensen, J. Arentoft, L.H. Frandsen, T. Søndergaard, A. Boltasseva and P.I. Borel, "Reduced coupling loss between fiber and planar photonic crystal waveguides," Proceedings of 7th International Conference on Nanometer-Scale Science and Technology and 21st European Conference on Surface Science (NANO-7/ECOSS-21), p. 2, Malmö, Sweden (June 2002)
- [5] T. Søndergaard, A. Bjarklev, A. Lavrinenko, B. Tromborg, J. Arentoft, M. Kristensen, and A. Boltasseva, "Theoretical analysis of finite-height planar photonic crystal waveguides," International Workshop on Nonlinear Photonic Crystals Proc., p. 28, Kgs. Lyngby, Denmark (October 2001)
- [4] J. Arentoft, M. Kristensen, T. Søndergaard, and A. Boltasseva, "Realization of robust photonic crystal waveguides designed to reduce out-of-plane scattering," 27th European Conference on Optical Communication ECOC 2001 Proc., vol. 4, p. 592-593, doi:10.1109/ECOC.2001.989122 (2001)
- [3] J. Arentoft, M. Kristensen, A. Boltasseva, and T. Søndergaard, "Silica/silicon/silica crystal waveguides with 90 degrees bend," in Electromagnetic Crystal Structures, ed. T. F. Krauss, Workshop on Photonic and Electromagnetic Crystal Structures Proc., St. Andrews, Scotland (June 2001)
- [2] T. Søndergaard, J. Arentoft, A. Boltasseva, A. Lavrinenko, M. Kristensen and B. Tromborg, "Planar photonic crystal waveguide," Journal of Danish Optical Society DOPS-NYT, 16, 35-39 (2001)
- [1] P. Bogatov, A. E. Boltaseva, A. E. Drakin, V. P. Konyaev, "Gain Spectrum and Amplitude-Phase Coefficient in InGaAs/AlGaAs/GaAs Strained Quantum-Well Semiconductor Lasers in 0.94-0.98  $\mu\text{m}$  Wavelength Range," 3rd Belarussian-Russian Workshop "Semiconductor Lasers and Systems" Proc., p. 22, Minsk, Belarussia (June 1999) (in Russian)

## Other:

- [2] A. Boltasseva, "Integrated-Optics Components Utilizing Long-Range Surface Plasmon Polaritons," Ph.D. Thesis, Research Center COM, Technical University of Denmark, DK-2800 Lyngby, Denmark (2004)
- [1] A. Boltasseva, "Experimental Study of Differential Gain, alpha-Factor and Optical Loss in InGaAs/AlGaAs/GaAs Strained Quantum-Well Semiconductor Lasers" (in Russian), M. Sc. Thesis, Department of General and Applied Physics, Moscow Institute of Physics and Technology, Moscow, Russia (2000)

## Conference Presentations, Abstracts and Other Contributions:

(\*) Invited **(P)** Plenary **(K)** Keynote **(T)** Tutorial

### Upcoming:

- [] (\*) A. Boltasseva, TBA, The Twentieth International Congress on Artificial Materials for Novel Wave Phenomena, Metamaterials'2026 Congress, New York City, USA, August 31-September 3, 2026
- [] **(K)** A. Boltasseva, TBA, 2026 SPIE Optics & Photonics conference, San Diego, USA, August 23-27, 2026
- [] (\*) A. Boltasseva, TBA, 2026 SPIE Optics & Photonics conference, San Diego, USA, August 23-27, 2026
- [] (\*) A. Boltasseva, TBA, 2026 Workshop on the Frontier in Light-Matter Interactions, Cetraro, Italy, July 27-31, 2026
- [] **(P)** A. Boltasseva, TBA, META 2026, the 16th international conference series on Metamaterials, Photonic Crystals and Plasmonics, Dublin, Ireland, July 14-17, 2026
- [] (\*) A. Boltasseva, TBA, META 2026, the 16th international conference series on Metamaterials, Photonic Crystals and Plasmonics, Dublin, Ireland, July 14-17, 2026
- [] (\*) A. Boltasseva, TBA, The Nobel Symposium 'Metamaterials science and technology: structuring light and sound in space and time', Umeå, Sweden, June 29-July 1, 2026
- [] (\*) A. Boltasseva, TBA, NanoPlasm conference, Cetraro, Italy, June 14-19, 2026
- [] **(K)** A. Boltasseva, TBA, AES, the International Conference on Antennas and Electromagnetic Systems, Sicily, Italy, June 3-6, 2026
- [] (\*) A. Boltasseva, TBA, The Royal Society meeting "Light-driven Chemistry for Sustainable Future," London, UK, June 1-2, 2026
- [] **(K)** A. Boltasseva, TBA, QUANTUMatter2026, Barcelona, Spain, April 17-May 1, 2026

[ ] (\*) A. Boltasseva, TBA, 2026 Global Physics Summit, Physical Review Applied special session “The Cutting Edge of Applied Science,” Denver, CO, USA, March 15-21, 2026

[ ] I. Bondarev, A. Boltasseva, J. Khurgin, V. M. Shalaev, “Crystallization of the transdimensional electronic liquid,” APS Global Physics Summit, Denver, CO, USA, March 15-20, 2026

[592] (\*) A. Boltasseva, “Photonics with Emerging Tailorable Materials,” SPIE Photonics West, OE303 High Contrast Metastructures XV conference, paper 13910-15, San Francisco, California, 17-22 January 2026

[591] (\*) A. Boltasseva, “Quasi-2D Materials: From Tailorable Photonics to New Physics,” SPIE Photonics West, OE109 2D Photonic Materials and Devices IX conference, paper 13898-5, San Francisco, California, 17-22 January 2026

[590] (\*) A. Boltasseva, “Machine Learning for Quantum On-Chip Devices and Measurements,” SPIE Photonics West, QW101 Quantum Computing, Communication, and Simulation VI conference, paper 13919-26, San Francisco, California, 17-22 January 2026

[589] **(P)** A. Boltasseva, “Epsilon Near Zero Effects and Applications,” 55th Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 5-10, 2026

[588] (\*) A. Boltasseva, “Tailorable Materials for Dynamic Photonics,” 2025 MRS Fall Meeting, “Emerging Dynamic Materials in Integrated Optics and Photonics” symposium, Boston, Massachusetts, USA, November 30 - December 5, 2025

[587] (\*) A. Boltasseva, “Quasi-2D Transition Metal Nitrides and MXenes for Tailorable Photonics,” 2025 MRS Fall Meeting, “Emerging Material Platforms and Approaches for Plasmonics, Nanophotonics and Metasurfaces” symposium, Boston, Massachusetts, USA, November 30 - December 5, 2025

[586] (\*) A. Boltasseva, “Advancing Nano- and Quantum Photonics with Machine Learning,” Purdue Quantum AI workshop, West Lafayette, IN, USA, October 23-24, 2025

[585] (\*) A. Boltasseva, “Quantum Light Sources for Emerging Quantum Technologies: from Lab to Space,” Workshop on Quantum Applications for Space, West Lafayette, IN, USA, October 22, 2025

[584] (\*) A. Boltasseva, “Wonders of Epsilon Near Zero,” Workshop on Metamaterials: Origins, Present, and Frontiers, Philadelphia, PA, USA, October 9-10, 2025

[583] (\*) A. Boltasseva, “Tailorable materials for dynamic photonics' and beyond,” Quantum Metaphotonics workshop, Balleroy, France, August 28-31, 2025

[582] **(K)** A. Boltasseva, “Tailoring Optical Response of Mixed 2D Transition Metal Carbides and Nitrides (MXenes) Thin Films,” 2025 SPIE Optics & Photonics, Active Photonic Platforms (APP) 2025 conference, San Diego, USA, August 3-7, 2025

[581] (\*) A. Boltasseva, “Quasi-2D Materials: from Tailorable Photonics to New Phenomena,” 2025 SPIE Optics & Photonics, San Diego, USA, August 3-7, 2025

[580] (\*) O. M. Matthiessen, V. Mkhitaryan, D. Cassara, F. Capasso, V. M. Shalaev, A. Boltasseva, “Exploring Strong Coupling Regime in Hybrid 2D Material - Optical Cavity System,” 2025 SPIE Optics & Photonics, Metamaterials, Metadevices, and Metasystems 2025, San Diego, USA, August 3-7, 2025

[579] **(K)** A. Boltasseva, “Quasi-2D Materials: From Tailorable Photonics to New Physics,” META 2025, Malaga, Spain, July 22-25, 2025

[578] S. Stengel, A. Solanki, H. Ather, P.G. Chen, J.I. Choi, B.M. Triplett, M. Ozlu, K.R. Choi, A. Senichev, W. Jaffray, A.S. Lagoutchev, M. Ferrera, A. Boltasseva, V.M. Shalaev, “Enhanced quantum emission via epsilon-near-zero materials,” 15th International Conference on Metamaterials, Photonic Crystals and Plasmonics META 2025, Malaga, Spain, July 22-25, 2025

[577] W. Jaffray, S. Stengel, F. Biancalana, C. B. Fruhling, M. Ozlu, M. Scalora, A. Boltasseva, V. M. Shalaev, M. Ferrera, “Spatio-spectral fission through time-varying layers,” 15th International Conference on Metamaterials, Photonic Crystals and Plasmonics META 2025, Malaga, Spain, July 22-25, 2025

[576] (\*) A. Boltasseva, “Dynamic Properties of Transparent Conducting Oxides for All-Optical Switching and New Time-Varying Phenomena,” Workshop on Time-Varying Media, Cetraro, Italy, July 15-22, 2025

[575] **(K)** A. Boltasseva, “Tailorable photonic materials: From tunable devices to new physics,” International Workshop: Emerging Trends in Optics, Odense, Denmark, 18 – 19 June 2025

[574] (\*) A. Boltasseva, “Quasi-2D Materials: From Tailorable Photonics to New Physics,” the 17th Mediterranean Workshop and Topical Meeting “Novel Optical Materials and Applications” NOMA 2025, Cetraro, Italy, June 7-15, 2025

- [573] **(P)** A. Boltasseva, “Quasi-2D Materials: From Tailorable Photonics to New Physics,” the 17th Mediterranean Workshop and Topical Meeting “Novel Optical Materials and Applications” Photonics North, Ottawa, Canada, May 19-22, 2026
- [572] **(T)** A. Boltasseva, “Machine-Learning-Assisted Photonics: From Inverse Design to Quantum Emitter Characterization and Imaging,” 2025 Conference on Lasers and Electro-Optics (CLEO), May 4-9, 2025, Long Beach, California, USA
- [571] **(P)** A. Boltasseva, “Tailorable Materials for Dynamic Photonics and Beyond,” 2025 Conference on Lasers and Electro-Optics (CLEO), May 4-9, 2025, Long Beach, California, USA
- [570] **(\*)** A. Boltasseva, “Ultra-Thin Materials: from Tailorable Photonics to New Physics,” 2025 MRS Spring Meeting “Emerging Material Platforms and Fundamental Approaches for Plasmonics, Nanophotonics, and Metasurfaces” Symposium EL12, Seattle, Washington, USA, April 7-11, 2025
- [569] C. B. Fruhling, M. G. Ozlu, A. Boltasseva, V. M. Shalaev, “Direct Refractive Index Retrieval with Spectral Interferometry in Time-Refraction Experiment,” 2025 American Physical Society March Meeting (APS), paper MAR-L32:3, March 15-21, 2025
- [568] M. Bezick, B. A. Wilson, V. Iyer, Y. Chen, V. M. Shalaev, S. Kais, A. V. Kildishev, A. Boltasseva, B. Lackey, “PearSAN: an inverse design framework for the latent optimization of photonic devices using Pearson Correlated Surrogate Annealing,” 2025 American Physical Society March Meeting (APS), SMT 2025, Data Science and Machine Learning for Physics, March 15-21, 2025
- [567] K. Ssenyimba, S. Liao, Y. Zhu, D. Lowder, T. Legvold, K. Pagadala, A. Boltasseva, M. D. Henry, D. Natelson, “Refractory nanoscale plasmonic junctions of Titanium Nitride and Niobium,” 2025 American Physical Society March Meeting (APS), SMT 2025, Nanophotonics and Plasmonics, March 15-21, 2025
- [566] Neutral-atom quantum simulation of Shastry-Sutherland Ising materials  
V. Mkhitarian, M. Kornjaca, A. Bylinskii, S.H. Cantu, T. Macri, N. Gemelke, A. Ali, P. C. Lotshaw, M. Lin, P. Lougovski, P. Komar, A. Keesling, P. Lopes, S.-T. Wang, M. D. Lukin, A. Banerjee, T. S. Humble, A. Boltasseva, V. M. Shalaev, F. Liu, “Neutral-atom quantum simulation of Shastry-Sutherland Ising materials,” 2025 American Physical Society March Meeting (APS), SMT 2025, AMO Analogs of Physical Phenomena, March 15-21, 2025
- [565] C. Fruhling, M.G. Ozlu, K.R. Choi, A. Boltasseva, V.M. Shalaev, “Direct Refractive Index Retrieval with Spectral Interferometry in Time-Refraction Experiment,” 2025 American Physical Society March Meeting (APS), SMT 2025, Advances in Laser Science and Applications, March 15-21, 2025
- [564] P. Chen, Y. Chen, D. Sychev, M. Yang, K. Pagadala, A.S. Lagoutchev, A.V. Kildishev, A. Boltasseva, V.M. Shalaev, “Encapsulated NV-NPA SPE: a stable quantum light source nanodevice with dielectric engineering of PL lifetime,” 2025 American Physical Society March Meeting (APS), SMT 2025, New Concepts and Techniques for Quantum Materials Synthesis II, March 15-21, 2025
- [563] Y. Chen, M. Bezick, B.A. Wilson, A.V. Kildishev, A. Boltasseva, V.M. Shalaev, “Physics-conditioned deep generative model for high-efficiency metasurface thermal emitter design,” 2025 American Physical Society March Meeting (APS), SMT 2025, Optically Active Artificially Structured Materials, March 15-21, 2025
- [562] **(\*)** A. Boltasseva, “Advancing Quantum Imaging and Device Testing with Machine Learning,” SPIE Photonics West, San Francisco, CA, USA, January 25-30, 2025
- [561] **(\*)** A. Boltasseva, “Transdimensional Materials: From Tailorable Plasmonics to New Physics,” SPIE Photonics West, San Francisco, CA, USA, January 25-30, 2025
- [560] **(\*)** A. Boltasseva, “Metasurfaces for Sustainable Technologies: From Materials to Machine-Learning Assisted Design,” SPIE Photonics West, San Francisco, CA, USA, January 25-30, 2025
- [559] **(P)** A. Boltasseva, “Tailorable Photonic Materials: From Tunable Optics to New Physics,” 54rd Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 5-10, 2025
- [558] **(\*)** A. Boltasseva, “Advancing Nanophotonics with Tailorable Materials: From Tunability to Novel Phenomena,” symposium “Emerging Material Platforms and Fundamental Approaches for Plasmonics, Nanophotonics, and Metasurfaces,” 2024 MRS Fall Meeting, Boston, MA, USA, December 1-6, 2024
- [557] A. Lagoutchev, S. Bogdanov, A. Boltasseva, V. Shalaev, “Tabletop Automated TCSPS Measurement System for Characterizing Single-Photon Emitters,” Latin America Optics and Photonics Conference (LAOP) 2024, Optics in Quantum Science and Technology, p. 4157644, Puerto Vallarta, Mexico, November 10-14, 2024
- [556] **(\*)** A. Boltasseva, “Advancing photonic design and quantum measurements with machine learning,” Simons Collaboration Annual Meeting, New York, USA, October 23-25, 2024
- [555] A. Senichev, Z. Martin, S. Peana, A. Lagutchev, A. Boltasseva, V. Shalaev, “Single-Photon Source in Silicon Nitride Photonics for Quantum Key Distribution,” Frontiers in Optics + Laser Science meeting, p. 4121481, Denver, Colorado, USA, September 23-26, 2024

- [554] Y. Chen, M. Bezick, B. Wilson, O. Yesilyurt, A. Kildishev, A. Boltasseva, V. Shalaev, "Advancing photonic design with topological latent diffusion generative model," Frontiers in Optics + Laser Science meeting, p. 4124951, Denver, Colorado, USA, September 23-26, 2024
- [553] D. Sychev, P. Chen, M. Yang, C. Fruhling, A. Lagutchev, A. Kildishev, A. Boltasseva, V. Shalaev, "Avalanche-enabled optical modulation with single-photon intensities," Frontiers in Optics + Laser Science meeting, p. 4088347, Denver, Colorado, USA, September 23-26, 2024
- [552] V. Mkhitarian\*, O. M. Matthiessen\*, D. Cassara, F. Capasso, V. M. Shalaev, A. Boltasseva, "Strong Coupling of Patterned 2D Materials and Optical Cavities," 2024 SPIE Optics & Photonics, Metamaterials, Metadevices, and Metasystems conference, Pages PC131090L, San Diego, USA, August 18-22, 2024
- [551] A. Senichev, Z. Martin, S. Peana, A. Lagutchev, A. Boltasseva, V. Shalaev, "Single-Photon Source in Silicon Nitride Photonics for Quantum Key Distribution," Frontiers in Optics + Laser Science meeting, pages LW6F. 4, Denver, Colorado, USA, September 23-26, 2024
- [550] Y. Chen, M. Bezick, B. Wilson, O. Yesilyurt, A. Kildishev, A. Boltasseva, V. Shalaev, "Advancing photonic design with topological latent diffusion generative model," Frontiers in Optics + Laser Science meeting, pages JW5A. 58, Denver, Colorado, USA, September 23-26, 2024
- [549] D. Sychev, P. Chen, M. Yang, C. Fruhling, A. Lagutchev, A. Kildishev, A. Boltasseva, V. Shalaev, "Avalanche-enabled optical modulation with single-photon intensities," Frontiers in Optics + Laser Science meeting, pages FW7E. 2, Denver, Colorado, USA, September 23-26, 2024
- [548] M. Yang, D. Sychev, S. Peana, X. Xu, Z. Martin, D. Mandurus, H. Suriya, A. Lagutchev, V. M. Shalaev, A. Boltasseva, "Enhancing Second Harmonic Generation in Weyl Semimetal TaAs with Plasmonics," SPIE Optics and Photonics, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XXI; pages PC1264801, San Diego, California, USA, August 22-24, 2024
- [547] B. Wilson, Y. Chen, D. K. Singh, R. Ojha, M. Bezick, J. Pott, V. M. Shalaev, A. Boltasseva, A. V. Kildishev, "Machine-learning-assisted optical authentication of chip tampering," SPIE Optics and Photonics, Photonic Computing: From Materials and Devices to Systems and Applications; pages PC131130E, San Diego, California, USA, August 22-24, 2024
- [546] A. Boltasseva, "Tailorable photonic materials for dynamic photonics: from metasurfaces to new physics," 2024 SPIE Optics & Photonics, Active Photonic Platforms (APP) 2024 conference, pages PC131100B, San Diego, USA, August 18-22, 2024
- [545] J. Simon, C. Fruhling, M. M. Yang, D. Sychev, M. Ozlu, S. Peana, V. Mkhitarian, S. Ippolito, D. Zhang, D. Mandurus, H. S. Arachchige, Y. Gogotsi, V. Shalaev, A. Boltasseva, "Emerging materials for photonics: MXenes and Weyl semimetals," 2024 SPIE Optics & Photonics, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XXII, Pages PC1311105, San Diego, USA, August 18-22, 2024
- [544] C. Fruhling, S. N. Chowdhury, K. Wang, W. Shao, L. Prokopenko, B. T. Diroll, R. D. Schaller, L. Dou, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Lasing dynamics in dimensionality controlled quasi-2d perovskites," 2024 SPIE Optics & Photonics, Metamaterials, Metadevices, and Metasystems conference, pages PC1310902 San Diego, USA, August 18-22, 2024
- [543] (\*) V. Mkhitarian, O. M. Matthiessen, B. Saha, D. Cassara, F. Capasso, I. V. Bondarev, V. M. Shalaev, A. Boltasseva, "Transdimensional and 2D Materials: From Tailorable Photonics to Strong Coupling and Signatures of Wigner Crystallization," The 1st International Conference on Physics of Excitons and Polaritons in Semiconductors (PEPS), Reykjavik, Iceland, August 6-10, 2024
- [542] (\*) A. Boltasseva, "Tailorable Materials for Dynamic Photonics: From Metasurfaces to New Physics," Optical MEMS (OMN), San Sebastian, Spain, July 28-31, 2024
- [541] (\*) A. Boltasseva, "Advancing Nanophotonics: From Tailorable Materials to Novel Phenomena," Forefront of Ultrafast Nanophotonics (Meta FUN), Palermo, Italy, July 23-26, 2024
- [540] (\*) A. Boltasseva, "Advancing Nano- and Quantum Photonics with Machine Learning," META 2024, Toyama, Japan, July 16-19, 2024
- [539] W. Jaffray, S. Stengel, A. Boltasseva, V. M. Shalaev, A. Di Falco, M. Ferrera, "Nonlinear optics in low-index bulk media: past, present, and future," META 2024, Toyama, Japan, July 16-19, 2024
- [538] (\*) A. Boltasseva, "Transdimensional Materials: From Tailorable Photonics to Signatures of Wigner Crystallization," 2024 Plasmonics and Nanophotonics Gordon Research Conference, Newry, Maine, July 7-12, 2024
- [537] (\*) A. Boltasseva, "Tailorable Materials for Nanophotonics: From Design to Novel Phenomena," Gordon Research Seminar on Plasmonics and Nanophotonics, Maine, USA, July 5-6, 2024
- [536] (\*) A. Boltasseva, B. Saha, I. V. Bondarev, V. M. Shalaev, "Transdimensional Materials: From Tailorable Photonics to New Physics," NanoPlasm, Cetraro, Italy, June 15-22, 2024
- [535] (\*) A. Boltasseva, "Advancing Nano- and Quantum Photonics with Machine Learning," Joint Algorithms Workshop, Albuquerque, NM, USA, May 21-22, 2024

- [534] D. V. Sychev, P. Chen, M. Yang, C. Fruhling, A. Lagutchev, A.V. Kildishev, A. Boltasseva, V. M. Shalaev, "Single-photon optical modulation at room temperature enabled by an electron avalanche in a photodiode," 2024 Conference on Lasers and Electro-Optics (CLEO), FTh3D. 6, May 4-9, 2024
- [533] S. Peana, O. Yesilyurt, A. Senichev, Z. O. Martin, A. S. Lagoutchev, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Site-Controlled SiN/SiO<sub>2</sub> Single Photon Sources Coupled to Silicon Nitride Integrated Photonics," 2024 Conference on Lasers and Electro-Optics (CLEO), FM2F. 3, May 4-9, 2024
- [532] M.A. Sakib, B. Triplett, W. Harris, N. Hussain, A. Senichev, M. Momenzadeh, J. Bocanegra, R. Wu, A. Boltasseva, V. M. Shalaev, M. R. Shcherbakov, "Site-Controlled Purcell-Induced Bright Single Photon Emitters in Hexagonal Boron Nitride," 2024 Conference on Lasers and Electro-Optics (CLEO), FM2F. 5, May 4-9, 2024
- [531] O. Segal, M. Lyubarov, C. Fruhling, A. Boltasseva, V. M. Shalaev, M. Segev, "Mapping the temporal evolution of the refractive index in few-femtosecond time-varying media," 2024 Conference on Lasers and Electro-Optics (CLEO), FTu4R. 5, May 4-9, 2024
- [530] A. Senichev, Z. O. Martin, S. Peana, A. Kryvobok, A. S. Lagoutchev, A. Boltasseva, V. M. Shalaev, "Room-Temperature Silicon Nitride Quantum Emitters for Advancing Quantum Key Distribution," 2024 Conference on Lasers and Electro-Optics (CLEO), FTu3O. 8, May 4-9, 2024
- [529] C. Fruhling, M. G. Ozlu, A. Boltasseva, V. M. Shalaev, "Angular Deflection and Frequency Translation Near the Critical Angle in Finite Time-Varying Media," 2024 Conference on Lasers and Electro-Optics (CLEO), JW2A. 35, May 4-9, 2024
- [528] J. Simon, B. Reigle, C. Fruhling, D. Zhang, S. Ippolito, H. Kim, V. Shalaev, Y. Gogotsi, A. Boltasseva, "Anisotropic and Nonlinear Optical Properties of 2D Transition Metal Carbides and Nitrides (MXenes)," 2024 Conference on Lasers and Electro-Optics (CLEO), SF2R. 7, May 4-9, 2024
- [527] K. Ssennyimba, S. Liao, Y. Zhu, D. Lowder, T. Legvold, K. Pagadala, A. Boltasseva, M. D. Henry, D. Natelson, "Refractory nanoscale plasmonic junctions of Titanium Nitride and Niobium," Y05.00011, APS March Meeting 2024, Minneapolis & Virtual, March 4-8, 2024
- [526] A. Senichev, Z. Martin, S. Peana, A. Kryvobok, A. Lagutchev, A. Boltasseva, V. Shalaev, "Silicon Nitride Quantum Emitters for Room-Temperature Quantum Key Distribution," K13.00011, APS March Meeting 2024, Minneapolis & Virtual, March 4-8, 2024
- [525] (\*) A. Boltasseva, "Tailorable Platforms for Nanophotonics, Sustainable Technologies: From Materials to Machine-Learning Assisted Designs," SPIE Photonics West, San Francisco, CA, USA, January 27 – February 1, 2024
- [524] (P) A. Boltasseva, "Transdimensional Materials: From Tailorable Photonics to Wigner Crystallization," the 53rd Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 7-12, 2024
- [523] (\*) A. Boltasseva, "Advancing Nano- and Quantum Photonics with Machine Learning," Australian Research Council Centre of Excellence for Transformative Meta-Optical Systems (TMOS) META Together conference, Tangalooma, Australia, December 11-16, 2023
- [522] (\*) A. Boltasseva, "MXenes for Photonics.," EL17: Synthesis, Properties and Applications of 2D MXenes, 2023 MRS Fall Meeting, Boston, MA, USA, November 27-December 1, 2023
- [521] (\*) A. Boltasseva, "Tunable and dynamic photonics with tailorable conducting oxides and metal nitrides," Emerging Material Platforms and Fundamental Approaches for Plasmonics, Nanophotonics, and Metasurfaces, 2023 MRS Fall Meeting, Boston, MA, USA, November 27-December 1, 2023
- [520] (\*) A. Boltasseva, "Advancing Photonics with Machine Learning," Photonics Media (200,000+ subscribers) webinar/tutorial (targeted audience of engineers, researchers, VPs, CTOs, business owners, educators, students) November 1, 2023
- [519] (\*) A. Boltasseva, "Dynamic nanophotonics with conducting oxides and metal nitrides: from all-optical switching to photonic time crystals," the 17th International Congress on Artificial Materials for Novel Wave Phenomena, 2023 Metamaterials Congress, Crete, Greece, September 11-16, 2023
- [518] (\*) A. Boltasseva, "Crossroads of Nano, Quantum and Machine Learning," US-Ukraine Quantum Forum 2023, online workshop, August 28-31, 2023 – Invited talk
- [517] (K) A. Boltasseva, "Temporal dynamics of all-optically switched materials," Active Photonic Platforms (APP) 2023 conference, 2023 SPIE Optics & Photonics conference, San Diego, USA, August 20-24, 2023
- [516] (\*) M.M. Yang, D. Sychev, M. Ozlu, S. Peana, V. Mkhitarian, D. Mandurus, H. S. Arachchige, A. Lagoutchev, V. Shalaev, A. Boltasseva, "Enhancing Second Harmonic Generation in Weyl Semimetal TaAs with Plasmonics," "Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XXI" conference, 2023 SPIE Optics & Photonics, San Diego, USA, August 20-24, 2023

- [515] A. Kildishev, et. al., "Semicontinuous Silver Films: Plasmonic Color Printing and Advanced Disordered Media Modeling," "Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XXI" conference, 2023 SPIE Optics & Photonics, OP23N-OP103-81, San Diego, USA, August 20-24, 2023
- [514] D. Sychev, et al, "All-optical switching with few photons using an electron avalanche multiplication," Optics and Photonics for Information Processing XVII conference, 2023 SPIE Optics & Photonics, OP23O-OP331-22, San Diego, USA, August 20-24, 2023
- [513] **(K)** A. Boltasseva, "Crossroads of Nanophotonics and Machine Learning," The 13th International Conference on Metamaterials, Photonic Crystals and Plasmonics META 2023, Paris, France, July 18-21, 2023
- [512] S. Peana, O. Yesilyurt, Z. Martin, A. Senichev, V. Mkhitarian, A. Lagutchev, A. Boltasseva, A. Kildishev, V. Shalaev, "Site Controlled Integration of SiN/SiO<sub>2</sub> Single Photon Emitters with a Topologically-Optimized Coupler," Metamaterials, Photonic Crystals and Plasmonics Conference, META 2023, Paris, France, July 18-21, 2023
- [511] S. Peana, O. Yesilyurt, Z. Martin, Al. Senichev, V. Mkhitarian, A. Lagutchev, A. Boltasseva, V. Shalaev, A. Kildishev, "Single Photon Source with a Topologically-Optimized Coupler (Invited)" Metamaterials, Photonic Crystals and Plasmonics Conference, META 2023 Paris, France, July 18-21, 2023
- [510] O. Yesilyurt, S. Peana, V. Mkhitarian, K. Pagadala, V. Shalaev, A. Boltasseva, A. Kildishev, "Fabrication-Conscious Inverse Design of Single-Material Variable-Index Multilayer Films," Metamaterials, Photonic Crystals and Plasmonics Conference, META 2023 Paris, France, July 18-21, 2023
- [509] "Plasmonic Colors – Valuable Members of the Structured Colors Family," Metamaterials, Photonic Crystals and Plasmonics Conference, META 2023 Paris, France, July 18-21, 2023
- [508] A. Kildishev et al, "Statistical Characterization of Coherent Random Lasing from Subwavelength Quasi-2D Perovskite Films," The 44th PIERS (Photonics and Electromagnetics Research Symposium) Prague, Czech Republic, July 3 - 6, 2023
- [507] **(\*)** A. Boltasseva, "Dynamic photonics with oxides and nitrides," Optics of Excitons in Confined Systems conference, Lecce, Italy, June 12-16, 2023
- [506] **(\*)** A. Boltasseva, "Photonics for Green Energy and Extreme Optics: From Materials to Designs," 16th Mediterranean Workshop and Topical Meeting "Novel Optical Materials and Applications" NOMA 2023, June 4-10, 2023
- [505] O. Yesilyurt, J. Campos, G. Di Guglielmo, A. Boltasseva, D. Bowring, G. Cancelo, B. Du, F. Fahim, C. Herwig, R. Ma, G. Perdue, V. Shalaev, L. Stefanazzi, N. Tran, S. Uemura, "Implementing machine learning methods on QICK hardware for qubit readout & control," FERMILAB-POSTER-23-062-CSAID, Fermi National Accelerator Lab. (FNAL), Batavia, IL, USA, May 23, 2023
- [504] **(\*)** A. Boltasseva, "Tailoring Nitrides and Oxides for Epsilon-Near-Zero and Dynamic Nanophotonics," The 10th International Conference on Surface Plasmon Photonics (SPP10), Houston, Texas, May 21-26, 2023
- [503] O. Segal, E. Lustig, S. Saha, E. Bordo, S. N. Chowdhury, M.-I. Cohen, A. Fleischer, M. Ozlu, A. Boltasseva, O. Cohen, V. Shalaev, M. Segev, "Time-Refraction with Moving Time-Interfaces," 2023 Conference on Lasers and Electro-Optics (CLEO), p. FTu3D. 2 (May 7-12, 2023)
- [502] X. Xu, Z. O. Martin, M. Titze, Y. Wang, D. Sychev, J. Henshaw, A. S. Lagutchev, H. Htoon, E. S. Bielejec, S. I. Bogdanov, V. M. Shalaev, A. Boltasseva, "Creating Single Color Centers in Nanodiamonds with Ion Implantation," 2023 Conference on Lasers and Electro-Optics (CLEO), p. FTu3C. 1 (May 7-12, 2023)
- [501] X. Xu, A. Solanki, D. Sychev, X. Gao, S. Peana, A. S. Baburin, K. Pagadala, Z. O. Martin, S. N. Chowdhury, Y. P. Chen, I. A. Rodionov, A. V. Kildishev, T. Li, P. Upadhyaya, A. Boltasseva, V. M. Shalaev, "Enhancing Quantum Emission from Spin Defects in Hexagonal Boron Nitride with a Plasmonic Nanocavity," 2023 Conference on Lasers and Electro-Optics (CLEO), p. FTh3A. 1 (May 7-12, 2023)
- [500] W. Jaffray, A. Boltasseva, V. M. Shalaev, M. Ferrera, "Near-Zero-Index Conducting Oxides for Nonlinear Photonics," 2023 Conference on Lasers and Electro-Optics (CLEO), p. JTh3L. 3 (May 7-12, 2023)
- [499] S. N. Chowdhury, J. Simon, M. P. Nowak, L. J. Prokopeva, K. Pagadala, C. Fruhling, P. Nyga, E. Garcia Bravo, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Wide-range Angle-sensitive Plasmonic Color Printing with a Lossy Resonator," 2023 Conference on Lasers and Electro-Optics (CLEO), p. ATu3R. 4 (May 7-12, 2023)
- [498] A. K. Boddeti, Y. Wang, X. G. Juarez, A. Boltasseva, T. W. Odom, V. Shalaev, H. Alaeian, Z. Jacob, "Engineering dimensionality of collective dipole-dipole interactions using a nanophotonic environment," 2023 Conference on Lasers and Electro-Optics (CLEO), p. FF2C. 3 (May 7-12, 2023)
- [497] **(\*)** A. Boltasseva, "Dynamic photonic with oxides and nitrides," "Waves in Time-Varying Media" workshop, New York, NY, USA, May 2-5, 2023
- [496] C. Fruhling, M. G. Ozlu, V. Mkhitarian, A. Boltasseva, V. M. Shalaev, "Spatio-Temporal Refraction at Near-Total Internal Reflection," "Waves in Time-Varying Media" workshop, New York, NY, USA, May 2-5, 2023

- [495] M. G. Ozlu, V. Mkhitarian, C. Fruhling, A. Boltasseva, V. M. Shalaev, "Floquet Analysis of Photonic Time Crystals with Drude Lorentz Dispersion Model," "Waves in Time-Varying Media" workshop, New York, NY, USA, May 2-5, 2023
- [494] A. Senichev, Z. O. Martin, Y. Wang, H. Htoon, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Single-Photon Emitters in Aluminum Nitride by Zr ion Implantation," 2023 Conference on Lasers and Electro-Optics (CLEO), Optica Publishing Group, p. FTu3C. 2 (May 7-12, 2023)
- [493] A. Senichev, X. Xu, Z. O. Martin, S. Peana, O. Yesilyurt, D. Sychev, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Quantum meta-photonics," SPIE Photonics West, SPIE OPTO, Photonic and Phononic Properties of Engineered Nanostructures XIII, vol. 12431, p. 22-26, San Francisco, California, United States, February 2023
- [492] A. K Boddeti, Y. Wang, X. Jaurez, A. Boltasseva, H. Alaie, T. W. Odom, Z. Jacob, "Engineering dimensionality of collective dipole-dipole interactions in resonant nanophotonic environment," T65.00010, APS March Meeting 2023, Las Vegas, Nevada, March 5-10, 2023
- [491] Z. O. Martin, A. Senichev, S. Peana, B. Lawrie, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Low- to Room-Temperature Studies of Silicon Nitride Single Photon Emitters," N39.00003, APS March Meeting 2023, Las Vegas, Nevada, March 5-10, 2023
- [490] F. Liu, M. Kornjaca, V. Mkhitarian, S. Cantu, T. Macri, P. Lopes, S. Wang, N. Gemelke, A. Boltasseva, A. Banerjee, A. Keesling, V. M. Shalaev, "Quantum phases of Rydberg atoms on a Shastry-Sutherland lattice," G00.00382, APS March Meeting 2023, Las Vegas, Nevada, March 5-10, 2023
- [489] S. Peana, O. Yesilyurt, Z. O. Martin, A. Senichev, V. Mkhitarian, A. S. Lagutchev, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Large-Scale Integration of Silicon Nitride Single Photon Emitters with Nanophotonic Elements," N39.00004, APS March Meeting 2023, Las Vegas, Nevada, March 5-10, 2023
- [488] X. Xu, A. Solanki, D. Sychev, X. Gao, S. Peana, A. S. Baburin, K. Pagadala, Z. O. Martin, S. N. Chowdhury, Y. P. Chen, I. A. Rodionov, A. V. Kildishev, T. Li, P. Upadhyaya, A. Boltasseva, V. M. Shalaev, "Greatly Enhanced Emission from Spin Defects in Hexagonal Boron Nitride Enabled by a Low-Loss Plasmonic Nano-Cavity," T72.00009, APS March Meeting 2023, Las Vegas, Nevada, March 5-10, 2023
- [487] **(P)** A. Boltasseva, "Advancing Photonic Design and Quantum Circuitry with Machine Learning," the 52nd Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 8-13, 2023
- [486] **(\*)** A. Boltasseva, "Tailorable Materials for Refractory Plasmonics, Extreme Optics, and Dynamic Photonics," 2023 MRS Fall meeting, Boston, MA, USA, November 27-December 1, 2022
- [485] **(\*)** A. Boltasseva, "Advancing Photonics with Machine Learning," 2023 MRS Fall meeting, Boston, MA, USA, November 27-December 1, 2022
- [484] **(\*)** A. Boltasseva, "Modulating optical response of oxides and nitrides in time and space for dynamic photonics," the 14th International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials), Siena, Italy, September 12-17, 2022
- [483] **(\*)** A. Boltasseva, "Machine-Learning Assisted Photonics," Lake Como School on Advanced Studies on Machine Learning Photonics, Como, Italy, August 28 to September 2, 2022
- [482] **(\*)** S. Saha, M. Özlü, V. M. Shalaev, A. Boltasseva, "Temporal modulation of dielectric permittivity in transparent conducting oxides: from tunable photonics to new phenomena," SPIE Optics and Photonics, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XX 2022, San Diego, California, USA, August 21-25, 2022
- [481] **(K)** A. Boltasseva, V. M. Shalaev, B. Wilson, "Machine learning for photonics," SPIE Optics and Photonics, Active Photonic Platforms 2022, San Diego, California, USA, August 21-25, 2022
- [480] **(\*)** A. Boltasseva, "Plasmonically enhanced second harmonic generation in TaAs Weyl semimetal," SPIE Optics and Photonics, Metamaterials, Metadevices, and Metasystems 2022, San Diego, California, USA, August 21-25, 2022
- [479] **(\*)** A. Boltasseva, "Photonics for Energy and Extreme Optics: From Materials to Design," Metamaterials 3.1 workshop, Cetraro, Calabria, Italy, August 1-5, 2022
- [478] **(\*)** A. Boltasseva, "Advancing Photonic Design and Quantum Circuitry with Machine Learning," 2022 OPTICA Advanced Photonics Congress, Maastricht, the Netherlands, 25-28 July 2022
- [477] A. Boltasseva, S. Saha, M. Ozlu, M. Segev, V. Shalaev, "Controlling Dielectric Permittivity in Space and Time for Dynamic Nanophotonics, Time Crystals, and Beyond," META 2022, the 12th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Torremolinos, Spain, July 19 - 22, 2022
- [476] **(P)** A. Boltasseva, "Advancing Photonic Design and Quantum Circuitry with Machine Learning," META 2022, the 12th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Torremolinos, Spain, July 19 - 22, 2022

- [475] S. Gholam-Mirzaei, A. Korobenko, S. Saha, G. Vampa, A. Y. Naumov, A. Staudte, A. Boltasseva, V. M. Shalaev, P. B. Corkum, "High Harmonic Generation from Metals," ATTO VIII Conference, July 12-15, 2022, UCF, Florida, USA
- [474] (\*) A. Boltasseva, "Machine-Learning-Assisted Photonics," International Workshop on Structured materials and Structured Light, Erice, Sicily, Italy, July 3-9, 2022
- [473] (\*) A. Boltasseva, V. Shalaev, "Advancing Photonics with Machine Learning," 295th IUVSTA Workshop on Plasmonic Thin Films: Theory, Synthesis and Applications, City of Guimarães, Portugal, June 20-23, 2022
- [472] **(P)** A. Boltasseva, "Advancing Photonic Design and Quantum Measurement with Machine Learning," NanoPlasm conference, Cetraro, Italy, June 13-17, 2022 (postponed from 2020)
- [471] (\*) A. Boltasseva, "Refractory Plasmonics for Energy and Extreme Optics," 15th Mediterranean Workshop and Topical Meeting "Novel Optical Materials and Applications" NOMA 2022, May 24-28, 2022
- [470] X. Xu, A. Solanki, D. Sychev, X. Gao, S. Peana, A. S. Baburin, K. Pagadala, Z. O. Martin, S. N. Chowdhury, Y. P. Chen, I. A. Rodionov, A. V. Kildishev, T. Li, P. Upadhyaya, A. Boltasseva, V. M. Shalaev, "Plasmon-enhanced Quantum Emission from Spin Defects in Two-dimensional Hexagonal Boron Nitride," 2022 Conference on Lasers and Electro-Optics (CLEO), San Jose, California, USA, May 15-20, 2022
- [469] C. Fruhling, K. Wang, S. N. Chowdhury, A. V. Kildishev, X. Meng, L. Dou, V. M. Shalaev, A. Boltasseva, "Demonstration of Coherent Random Lasing in Optically Thin Quasi-2D Lead-halide Perovskite," 2022 Conference on Lasers and Electro-Optics (CLEO), San Jose, California, USA, May 15-20, 2022
- [468] D. Shah, M. Yang, X. Xu, Z. A. Kudyshev, V. M. Shalaev, I. V. Bondarev, A. Boltasseva, "Thickness-Dependent Drude Plasma Frequency in Transdimensional Plasmonic TiN," 2022 Conference on Lasers and Electro-Optics (CLEO), San Jose, California, USA, May 15-20, 2022
- [467] A. Senichev, S. Peana, Z. O. Martin, O. Yesilyurt, D. Sychev, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Monolithic Integration of Quantum Emitters with Silicon Nitride Photonic Platform," 2022 Conference on Lasers and Electro-Optics (CLEO), San Jose, California, USA, May 15-20, 2022
- [466] S. Peana, O. Yesilyurt, V. Mkhitarian, A. Senichev, Z. O. Martin, S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Large Scale Deterministic Creation of Single Photon Emitters in Silicon Nitride Nanopillars," 2022 Conference on Lasers and Electro-Optics (CLEO), San Jose, California, USA, May 15-20, 2022
- [465] M. Yang, D. Sychev, X. Xu, Z. Martin, D. Mandurus, H. Suriya, A. Lagoutchev, V. M. Shalaev, A. Boltasseva, "Plasmonically Enhanced Second Harmonic Generation of Weyl Semimetal TaAs through field confinement," 2022 Conference on Lasers and Electro-Optics (CLEO), San Jose, California, USA, May 15-20, 2022
- [464] S. Saha, B. T. Diroll, M. G. Ozlu, Z. Kudyshev, R. D. Schaller, A. Kildishev, V. M. Shalaev, A. Boltasseva, "Optically Tunable Third Harmonic Generation in a Conducting Oxide Film," 2022 Conference on Lasers and Electro-Optics (CLEO), San Jose, California, USA, May 15-20, 2022
- [463] (\*) A. Boltasseva, "Advancing Photonics with Machine Learning: From Design to Tailorable Materials," 2022 Conference on Lasers and Electro-Optics (CLEO), San Jose, California, USA, 15 – 20 May 2022
- [462] **(K)** A. Boltasseva, "Advancing Photonics with Machine Learning," 2022 SPIE Photonics Europe Conference, Strasbourg, France, 3-7 April 2022
- [461] C. Fruhling, M. Ozlu, S. Saha, A. Boltasseva, V. Shalaev, "A guide to all-optical switching with epsilon-near-zero materials," abstract: Y33.00002, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA, March 14–18, 2022
- [460] D. Shah, M. Yang, Z. Kudyshev, V. Shalaev, I. Bondarev, A. Boltasseva, "Effect of electron confinement on the optical properties in transdimensional plasmonic TiN," abstract: S66.00012, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA, March 14–18, 2022
- [459] M. Ozlu, S. Saha, S.N. Chowdhury, A. Kildishev, A. Boltasseva, R. Schaller, V. Shalaev, "Tailorable Near-Perfect Absorption in Ferrel Berreman Metasurfaces Utilizing the Thickness Dependent ENZ Characteristics Of Aluminum Doped Zinc Oxide and Titanium Nitride," abstract: S66.00003, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA, March 14–18, 2022
- [458] S. Saha, B. Diroll, R. Shaller, A. Boltasseva, V. Shalaev, "Controlling the Speed of an All-Optical Switch by Combining Fast and Slow Materials," abstract: T00. 00365, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA, March 14–18, 2022
- [457] S.N. Chowdhury, L. Prokopeva, S. Peana, P. Nyga, E. Bravo, A. Kildishev, V. Shalaev, A. Boltasseva, "Plasmonic Color Printing with Semicontinuous Silver Films and Modeling of Inhomogeneous Broadening," abstract: W12. 00007, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA, March 14–18, 2022

- [456] A. Senichev, Z. Martin, S. Peana, D. Sychev, X. Xu, O. Yesilyurt, A. Lagutchev, A. Boltasseva, V. Shalaev, "Single-Photon Emitters in Silicon Nitride for Scalable Quantum Photonics," abstract: K67.00001, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA, March 14–18, 2022
- [455] X. Xu, Z. Martin, D. Sychev, A. Lagutchev, Y. Chen, T. Taniguchi, K. Watanabe, A. Boltasseva, V. Shalaev, "Deterministically Creating Single-Photon Emitters in Hexagonal Boron Nitrides on Chip-Compatible Substrates," abstract: B55.00010, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA, March 14–18, 2022
- [454] (\*) A. Boltasseva, "Advancing Nano-and Quantum Photonics with Machine Learning," abstract: Y15.00001, Bulletin of the American Physical Society, APS March Meeting 2022, Chicago, IL, USA, March 14–18, 2022
- [453] (\*) A. Boltasseva, "From Basic Research to a Quantum-Smart Society: Merging AI and Quantum Science," Quantum for the People: Connecting Quantum Information Science and Society session, American Association for the Advancement of Science (AAAS) Annual meeting, February 2022
- [452] (\*) A. Boltasseva, "Advancing Photonic Design with Machine Learning," 2021 MRS Fall meeting, Boston, MA, USA, November 29 – December 2, 2021
- [451] (\*) A. Boltasseva, "Controlling the Optical Properties of Conducting Oxides for Time-Varying Metasurface Applications," 2021 MRS Fall meeting, Boston, MA, USA, November 29 – December 2, 2021
- [450] (\*) A. Boltasseva, "Advancing photonic design and quantum measurements with machine learning," OSA Frontiers in Optics & Laser Science, Washington DC, 26-30 September 2021 (online)
- [449] (\*) A. Boltasseva, "Machine-Learning-Assisted Photonics," The 67th Annual AVS International Symposium and Exhibition (AVS 67), Denver, CO, October 25-30, 2020 – moved to 2021 (online)
- [448] **(K)** A. Boltasseva, "Advancing photonic thermophotovoltaic metasurface design with machine learning," METANANO 2021, 13-17 September 2021, Tbilisi, Republic of Georgia (online)
- [447] X. Xu, Z. Martin, D. Sychev, A. S. Lagutchev, Y. Chen, V. M. Shalaev, A. Boltasseva, "Deterministic Creation of Quantum Emitters in Hexagonal Boron Nitride on Non-patterned Substrates," 2021 IEEE Photonics Conference (IPC) (October 2021)
- [446] (\*) Z. A. Kudyshev, S. Bogdanov, Z. Olson, X. Xu, D. Sychev, A. Kildishev, V. Shalaev, A. Boltasseva, "Advancing photonic design and measurements with artificial intelligence," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 conference, Metamaterials, Metadevices, and Metasystems 2021, Pages 1179506 (August 2, 2021)
- [445] (\*) S. Saha, Z. A. Kudyshev, V. M. Shalaev, A. Boltasseva, "Dynamic nanophotonics and nonlinear optics with oxides and nitrides," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 conference, Metamaterials, Metadevices, and Metasystems 2021, Pages 117970S (August 2, 2021)
- [444] **(P)** A. Boltasseva, "Advancing Metasurface Design and Quantum Photonics with Machine Learning," Metamaterials congress, August 2021
- [443] (\*) A. Boltasseva, "Advancing photonic design and quantum measurements with machine learning," OSA Advanced Photonics Congress, Montreal, Quebec, Canada, July 26-29, 2021 (online)
- [442] (\*) A. Boltasseva, "Machine Learning Assisted Photonics: From Photonic Design to Quantum Measurements," The 6th International Conference on Quantum Technologies (ICQT-2021), Moscow, Russia, July 2021 (online)
- [441] (\*) A. Boltasseva, "Machine Learning Assisted Photonics: From Metasurface Design and Materials to Quantum Photonics," Photonics North Conference, May 31st - June 2nd, 2021
- [440] B. Wilson, Z. Kudyshev, A. Kildishev, S. Kais, V. Shalaev, A. Boltasseva, "Metasurface design optimization via D-Wave based sampling," Optical Society of America, CLEO: Applications and Technology, pages FTh2M.2, online conference (May 5-10, 2021)
- [439] S. Saha, B. Diroll, S. Chowdhury, A. Kildishev, R. Schaller, V. Shalaev, Z. Jacob, A. Boltasseva, "Controlling All-optical Switching Speeds in an Epsilon-Near-Zero Enhanced Metasurface," Optical Society of America, CLEO: Applications and Technology, pages FW2N. 5, online conference (May 5-10, 2021)
- [438] E. Lustig, S. Saha, E. Bordo, C. DeVault, S. Chowdhury, Y. Sharabi, A. Boltasseva, O. Cohen, V. Shalaev, M. Segev, "Towards photonic time-crystals: observation of a femtosecond time-boundary in the refractive index," Optical Society of America, CLEO: QELS\_Fundamental Science, pages FF2H. 1, online conference (May 5-10, 2021)
- [437] Z. Kudyshev, D. Sychev, Z. Martin, S. Bogdanov, X. Xu, A. Kildishev, A. Boltasseva, V. Shalaev, "Machine learning assisted quantum super-resolution microscopy," Optical Society of America, CLEO: Applications and Technology, pages JTh4C. 5, online conference (May 5-10, 2021)

- [436] A. Senichev, Z. Martin, S. Peana, D. Sychev, X. Xu, A. Lagutchev, A. Boltasseva, V. M. Shalaev, "Room temperature single-photon emitters in silicon nitride," Optical Society of America, CLEO: Applications and Technology, online conference (May 5-10, 2021)
- [435] (\*) A. Boltasseva, "Plasmonics for hot-electrons and energy applications," 2021 MRS Spring meeting (online)
- [434] S. Bogdanov, M. Y. Shalaginov, A. Solanki, O. Makarova, X. Xu, Z. O. Martin, P. Upadhyaya, A. Boltasseva, V. M. Shalaev, "Optical readout of electron spin states in diamond NV centers for quantum and nanoscale photonics," International Society for Optics and Photonics, Optical and Quantum Sensing and Precision Metrology conference, Pages 117003B, SPIE OPTO (May 3, 2021) (online)
- [433] S. Saha, M. G. Wood, B. T. Diroll, A. Dutta, C. T. DeVault, J. Shank, S. Campione, T. S. S. Luk, R. D. Schaller, Z. A. Kudyshev, S. N. Chowdhury, X. Xu, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Tuning and tailoring of the optical properties of transparent conducting oxides for dynamic nanophotonic applications," International Society for Optics and Photonics, Ultrafast Phenomena and Nanophotonics XXV, Pages 116840U, SPIE OPTO (May 3, 2021) (online)
- [432] S. Bogdanov, O. A. Makarova, I. A. Rodionov, A. Boltasseva, V. M. Shalaev, "Plasmon-enhanced single-photon sources for ultrafast quantum photonics," International Society for Optics and Photonics, Photonic and Phononic Properties of Engineered Nanostructures XI, Pages 116941O, SPIE OPTO (May 3, 2021) (online)
- [431] D. Shah, V. M. Shalaev, A. Boltasseva, "Evolution of the optical properties in atomically thin plasmonic titanium nitride," International Society for Optics and Photonics, Optical Components and Materials XVIII, Pages 1168212, SPIE OPTO (May 3, 2021) (online)
- [430] A. Boltasseva, "Machine learning for photonic design and quantum measurements," International Society for Optics and Photonics, Photonic and Phononic Properties of Engineered Nanostructures XI, Pages 116940L, SPIE OPTO (May 3, 2021) (online)
- [429] S. Saha, A. Dutta, C. T. DeVault, B. T. Diroll, R. D. Schaller, Z. A. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Extraordinary permittivity modulation in zinc oxide for dynamic nanophotonics," International Society for Optics and Photonics, P Oxide-based Materials and Devices XII, Pages 1168719 SPIE OPTO (May 3, 2021) (online)
- [428] (\*) A. Boltasseva, "Advancing photonics with machine learning," XI RASA-America Conference, RASA Global, December 5-6, 2020 (online)
- [427] (\*) Z. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Machine Learning Assisted Photonics," MRS Fall meeting 2020 (online)
- [426] S. Saha, A. Dutta, C. DeVault, B. T. Diroll, R. D. Schaller, Z. Kudyshev, X. Xu, A. Kildishev, V. M. Shalaev, A. Boltasseva, "Unity-Order Permittivity Modulation in Undoped Zinc Oxide for Ultrafast Dynamic Nanophotonics," MRS Fall meeting 2020 (online)
- [425] (\*) S. Saha, D. Shah, V. Shalaev, A. Boltasseva, "Plasmonic Material Platforms for Tunable Nanophotonic Devices," MRS Spring meeting, Phoenix, AZ, USA, April 13-17, 2020 - moved to MRS Fall meeting 2020 (online)
- [424] (\*) A. Boltasseva, "Machine-Learning-Assisted Photonics," Asia Communications and Photonics Communications (ACP 2020), October 24-27, 2020, Beijing, China (online)
- [423] (\*) A. Boltasseva, "Machine-Learning-Assisted Photonics," The 14th International Congress on Artificial Materials for Novel Wave Phenomena, New York, USA, September 28 - October 1, 2020 (online)
- [422] S. Saha, A. Dutta, C. DeVault, B. T. Diroll, R. D. Schaller, Z. Kudyshev, X. Xu, A. Kildishev, V. Shalaev, A. Boltasseva, "Extraordinary Permittivity Modulation in Zinc Oxide for Ultrafast Dynamic Nanophotonics," Optical Society of America, Frontiers in Optics / Laser Science conference proceedings, paper JTU7D. 2, online conference (September 14, 2020)
- [421] Z. Kudyshev, S. Bogdanov, T. Isacson, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Machine Learning Assisted Quantum Photonics," Optical Society of America, Quantum 2.0 conference, pages QM6B. 3, online conference (September 14, 2020)
- [420] S.I. Bogdanov, O.A. Makarova, X. Xu, A.S. Lagutchev, D. Shah, A.S. Baburin, I.A. Ryzhikov, I.A. Rodionov, S.I. Bozhevolnyi, A.V. Kildishev, A. Boltasseva, V.M. Shalaev and J. B. Khurgin, "Optical modification of cavity-antenna plasmonic nanostructures for brighter and faster single-photon emission," Optical Society of America, Quantum 2.0 conference, pages QM4B. 5, online conference (September 14, 2020)
- [419] (P) "Machine-Learning-Assisted Photonics," IEEE RAPID Conference, Miramar Beach, FL, USA, 10-12 August 2020 (online conference)
- [418] P. D. Terekhov, M. Povolotskiy, Z. Kudyshev, S. Peana, S. Azzam, A. Shalin, A. Karabchevsky, A. Kildishev, V. Shalaev, A. Boltasseva, "Thermally controlled bound states in the continuum in Si<sub>3</sub>N<sub>4</sub> photonic crystals,"

- International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Metamaterials, Metadevices, and Metasystems 2020, Pages 1146015 (August 20, 2020)
- [417] S.I. Bogdanov, O. Makarova, M. Shalaginov, C.-C. Chiang, X. Xu, I.A. Rodionov, A. Boltasseva, V.M. Shalaev, "Assembly and integration of plasmon-enhanced single-photon sources," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Active Photonic Platforms XII, Pages 114611P (August 20, 2020)
- [416] S. Saha, B. Diroll, A. Dutta, C. deVault, A. Kildishev, M. Wood, V. M. Shalaev, R. Schaller, A. Boltasseva, "Lithography-free all-optical switching from the telecom to the mid-infrared regime with transparent conducting oxides," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Active Photonic Platforms XII, Pages 114611T (August 20, 2020)
- [415] Z. A. Kudyshev, S. Bogdanov, A. V. Kildishev, A. Boltasseva, V. Shalaev, "Machine learning assisted plasmonics and quantum optics," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Metamaterials, Metadevices, and Metasystems 2020, Pages 1146018 (August 20, 2020)
- [414] S. Bogdanov, X. Xu, O. Makarova, Z. Martin, A. Gabidullin, I. Rodionov, A. V. Kildishev, A. Boltasseva, S. Bozhevolnyi, J. B. Khurgin, V. M. Shalaev, "Plasmonic nanostructures from crystalline silver for ultrafast quantum photonics," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVIII, Pages 114620I (August 20, 2020)
- [413] S. Bogdanov, A. Solanki, Z. Martin, M. Shalaginov, X. Xu, P. Upadhyaya, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Optical electron spin relaxometry in diamond nitrogen-vacancy centers for applications in quantum and nanoscale photonics," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Spintronics XIII, Pages 1147021 (August 20, 2020)
- [412] Z. A. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Deep learning assisted photonics," International Society for Optics and Photonics, SPIE Nanoscience + Engineering 2020 Online conference, Active Photonic Platforms XII, Pages 114610C (August 20, 2020)
- [411] Z. A. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Adversarial Autoencoders for Metasurface Design Optimization," IEEE, 2020 International Applied Computational Electromagnetics Society Symposium (ACES) conference (27-31 July 2020)
- [410] (\*) A. Boltasseva, "Machine-Learning-Assisted Photonics," Photonics North, May 22-28, 2020 (online)
- [409] S. Saha, A. Dutta, B. T. Diroll, C. DeVault, Z. Kudyshev, R. D. Schaller, A. Kildishev, V. M. Shalaev, A. Boltasseva, "Metal-dielectric resonators for multimode, ultrafast all-optical switching in the NIR," Optical Society of America, CLEO: Applications and Technology proceedings, pages JTu2D. 29, online conference (May 5-10, 2020)
- [408] S. Bogdanov, X. Xu, O. Makarova, Z. Martin, A. Gabidullin, I. Rodionov, A. V. Kildishev, A. Boltasseva, S. Bozhevolnyi, J. B. Khurgin, V. M. Shalaev, "Enhancing the performance of coupled cavity-antenna plasmonic nanostructures for ultrafast quantum photonics," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, pages FM4C. 3, online conference (May 5-10, 2020)
- [407] Z. Kudyshev, S. Bogdanov, T. Isacsson, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Merging Machine Learning with Quantum Photonics: Rapid classification of quantum sources," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, pages FM4C. 4, online conference (May 5-10, 2020)
- [406] S.I. Azzam, K. Chaudhuri, A. Lagutchev, Y.L. Kim, V.M. Shalaev, A. Boltasseva, A.V. Kildishev, "Room-Temperature Lasing Action from All-dielectric Metasurfaces Near Bound States in the Continuum," Optical Society of America, 2020 Conference on Lasers and Electro-Optics (CLEO), pages FTh1C.4, online conference (May 5-10, 2020)
- [405] X. Xu, A. Dutta, B. P. Sivasubramaniam, K. Kholikov, V. M. Shalaev, A. Wei, A. Boltasseva, "Synthesis of TiN Nanoparticles by Pulsed Laser Ablation for Photothermal and Photodynamic Therapy," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, pages JTu2D. 17, online conference (May 5-10, 2020)
- [404] C.-C. Chiang, S. I. Bogdanov, O. A. Makarova, X. Xu, S. Saha, D. Shah, D. Wang, A. S. Lagutchev, A.V. Kildishev, A. Boltasseva, V. M. Shalaev, "A quantum plasmonic launcher for integrated ultrafast single-photon sources," Optical Society of America, 2020 Conference on Lasers and Electro-Optics (CLEO), pages FTh4D.4, online conference (May 5-10, 2020)
- [403] D. Wang, A. E. Llacsahuanga Allica, T.-F. Chung, A. V. Kildishev, Y. P. Chen, A. Boltasseva, V. M. Shalaev, "Plasmon-enhanced graphene photothermoelectric detector," Optical Society of America, CLEO: Science and Innovation proceedings, pages SM3R. 8, online conference (May 5-10, 2020)

- [402] X. Xu, A. Dutta, J. Khurgin, V. M. Shalaev, A. Wei, A. Boltasseva, "TiN@ TiO<sub>2</sub> Core-Shell Nanoparticles as Plasmon-Enhanced Photosensitizers for Photocatalysis," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, pages FM1D. 2, online conference (May 5-10, 2020)
- [401] S. N. Chowdhury, P. Nyga, Z. Kudyshev, E. Garcia, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Non-fading Plasmonic Color Printing on Semicontinuous Metal Films with Protective Atomic Layer Deposition," Optical Society of America, CLEO: Science and Innovation proceedings, pages SF2R.2, online conference (May 5-10, 2020)
- [400] S. Saha, B. T. Diroll, J. Shank, Z. Kudyshev, A. Dutta, S. N. Chowdhury, T. S. Luk, S. Campione, R. D. Schaller, V. M. Shalaev, A. Boltasseva, M. G. Wood, "Broadband, high-speed, and extraordinarily large all-optical switching with yttrium-doped cadmium oxide," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, pages JT2D. 1, online conference (May 5-10, 2020)
- [399] V. Shalaev, S. Bogdanov, A. Boltasseva, "Plasmonic Metamaterials Meet Quantum," Annual Meeting of Americal Physical Society (APS), Abstract: M67.00005, Denver, CO, USA, March 2-6, 2020 (cancelled)
- [398] X. Wang, J. Jian, S. Amaya, C. Kumah, P. Lu, J. Huang, L. Stanciu, D. O'Carroll, A. Boltasseva, X. Zhang, H. Wang, "Tunable Hybrid Metal-Nitride Metamaterial Framework towards Plasmonic Sensing," Annual Meeting of Americal Physical Society (APS), Abstract: A62.00008, Denver, CO, USA, March 2-6, 2020 (cancelled)
- [397] (\*) A. Boltasseva, "Machine-Learning-Assisted Photonics," Optical Society of America (OSA) Incubator on Flat Optics: Recent Advances and Future Opportunities, February 26-28, 2020
- [396] Z. A. Kudyshev, S. Bogdanov, T. Isacson, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Machine learning-assisted classification of quantum emitters," SPIE Photonics West, San Francisco, CA, USA, February 1-6, 2020
- [395] S. Saha, B. T. Diroll, J. Shank, Z. A. Kudyshev, A. Dutta, S. N. Chowdhury, T. S. Luk, S. Campione, R. D. Shaller, V. M. Shalaev, M. G. Wood, A. Boltasseva, "Broadband high-speed and large-amplitude all-optical switching with cadmium oxide," SPIE Photonics West, San Francisco, California, USA, February 1-6, 2020
- [394] (\*) A. Boltasseva, "Advancing Photonic Device Design with Machine Learning," The 50<sup>th</sup> Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 5-10, 2020
- [393] **(K)** A. Boltasseva, "Nanophotonics for Sustainability: Emerging Materials and Machine-Learning-Assisted Design," iSPN, Japan, November 11-14, 2019
- [392] (\*) A. Boltasseva, "Artificial Intelligence Assisted Photonic Design and Measurements," USA-Middle East Science symposium, New York City, USA, November 4-6, 2019
- [391] (\*) A. Boltasseva, V. M. Shalaev, "Advancing Photonic Device Design with Machine Learning," Northrop Grumman University Research Symposium, Anaheim, CA, USA, October 23-24, 2019
- [390] (\*) A. Boltasseva, "Machine-Learning-Assisted Photonic Design and Applications," Corning Optics Summit, Corning, NY, USA, October 21, 2019
- [389] (\*) Z. A. Kudyshev, S. Bogdanov, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Machine-learning-assisted topology optimization for highly efficient thermal emitter," the 13th International Congress on Artificial Materials for Novel Wave Phenomena, Metamaterials, Rome, Italy, September 16-21, 2019
- [388] (\*) A. Boltasseva and V. Shalaev, "Machine-Learning-Assisted Photonic Design and Applications," IEEE RAPID Conference, Miramar Beach, FL, USA, 19-21 August 2019
- [387] (\*) A. Boltasseva, "Plasmonic Metal Nitrides and Carbides for Sustainable Energy and Photocatalysis," "Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVII," SPIE Optics & Photonics symposium, paper 11080-47, San Diego, USA, August 11-15, 2019
- [386] (\*) H. Reddy, U. Guler, Z. Kudyshev, S. Azzam, K. Chaudhuri, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Temperature-dependent plasmonic properties as a key to high-temperature nanophotonic designs," SPIE Optics & Photonics symposium, paper 11082-26, San Diego, USA, August 11-15, 2019
- [385] **(K)** A. Boltasseva and V. Shalaev, "Transdimensional Plasmonic Materials for Tailorable Nanophotonics," "Plasmonics : Design, Materials, Fabrication, Characterization, and Applications XVII," SPIE Optics & Photonics symposium, paper 11081-35, San Diego, USA, August 11-15, 2019
- [384] S. Bogdanov, M. Y. Shalaginov, Z. Kudyshev, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "A hybrid plasmonic-dielectric platform for high-speed, room-temperature quantum nanophotonics," Active Photonic Platforms XI, SPIE Optics & Photonics symposium, paper 1108117, San Diego, USA, August 11-15, 2019
- [383] D. Wang, A. E. Llacsahuanga Allcca, T.-F. Chung, A. V. Kildishev, Y. P. Chen, A. Boltasseva, V. M. Shalaev, "Graphene pn junction photo-responsivity enhanced with gap-plasmons," Metamaterials, Metadevices, and Metasystems, SPIE Optics & Photonics symposium, paper 1108011, San Diego, USA, August 11-15, 2019
- [382] Z. A. Kudyshev, S. Bogdanov, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Artificial-intelligence-assisted photonics," Metamaterials, Metadevices, and Metasystems, SPIE Optics & Photonics symposium, paper 110802K, San Diego, USA, August 11-15, 2019

- [381] (\*) Z. A. Kudyshev, S. Bogdanov, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Machine-Learning-Assisted Topology Optimization for Refractory Photonics," Novel Optical Materials and Applications (NOMA) Conference, OSA Advanced Photonics Congress, San Francisco, CA, July 29 – August 1, 2019
- [380] **(T)** A. Boltasseva, "Emerging material platforms, design and optimization approaches for nanophotonic devices" OSA Advanced Photonics Congress, San Francisco, CA, July 29 – August 1, 2019
- [379] (\*) A. Boltasseva, "Photonics for Historical and Modern Visual Arts," Symposium on Education in Entertainment and Engineering, Purdue university, West Lafayette, IN, USA, July 26-28, 2019
- [378] **(P)** A. Boltasseva, "Transdimensional Materials for Nanophotonics: From 2D to 3D," the 10th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META 2019), Lissboa, Portugal, July 23-26, 2019
- [377] (\*) Z. A. Kudyshev, V. M. Shalaev, A. Boltasseva, V. Kildishev, "Topological Phase Transitions in Guiding Photonic Systems," the 10th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META 2019), PaperID 8691, Lissboa, Portugal, July 23-26, 2019
- [376] (\*) "Bound States in the Continuum in Hybrid Photonic-Plasmonic Structures," the 10th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META 2019), PaperID 8544, Lissboa, Portugal, July 23-26, 2019
- [375] A. Naldoni, Z. A. Kudyshev, L. Mascaretti, Š. Kment, A. Boltasseva, V. M. Shalaev, P. Schmuki, R. Zbořil, "Refractory plasmonic nanocavities for chemistry at high temperatures," the 10th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META 2019), Lissboa, Portugal, July 23-26, 2019
- [374] A. V. Kildishev, M. Song, D. Wang, Z. A. Kudyshev, H. Yu, A. Boltasseva, V. M. Shalaev, "High-Density Data Storage with Plasmonic Color Metapixels," the 10th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META 2019), Lissboa, Portugal, July 23-26, 2019
- [373] (\*) Z. A. Kudyshev, V. M. Shalaev, A. Boltasseva, "Artificial-Intelligence-Assisted Photonics," The 5th International Conference on Quantum Technologies (ICQT-2019), Moscow, Russia, July 15-19, 2019
- [372] (\*) A. Boltasseva, "Emerging Tailorable Materials for Nanophotonics," Topological Photonics and Beyond, Tianjin, China, June 30 - July 3, 2019
- [371] (\*) A. Boltasseva, "Emerging Material Platforms, Design and Optimization Approaches for Nanophotonic Devices," "Tailor-Made Multiscale Material Systems," Second International Workshop, Hamburg, Germany, June 19-21, 2019
- [370] (\*) A. Boltasseva, "Merging AI-Assisted Topology Optimization with Tailorable Materials for Advanced Nanophotonic Designs," Artificial Intelligence in Nanophotonics workshop, International Work-Conference on Artificial Neural Networks (IWANN2019), Gran Canaria, Canary Islands, Spain, June 12-14, 2019
- [369] (\*) A. Boltasseva, "Emerging Plasmonic Materials for Nanophotonics, Sustainable Energy and Photocatalysis," 14th Mediterrenian Workshop and Topical Meeting "Novel Optical Materials and Applications" NOMA2019, Cetraro, Italy, June 2-9, 2019
- [368] (\*) A. Boltasseva, "Tailorable Nanophotonics with 2D and Transdimensional Materials," the 9th International Conference on Surface Plasmon Photonics (SPP9), Copenhagen, Denmark, May 26-31, 2019
- [367] S. N. Chowdhury, P. Nyga, Z. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Laser Induced Bright Colors on Semicontinuous Metal Films," the 9th International Conference on Surface Plasmon Photonics (SPP9), Copenhagen, Denmark, May 26-31, 2019
- [366] (\*) A. Boltasseva, "Emerging material platforms, design and optimization approaches for nanophotonic devices," the 47<sup>th</sup> Annual Electronic Materials Symposium, Stanford, CA, USA, May 10, 2019
- [365] S. Azzam, K. Chaudhuri, V. Shalaev, A. Boltasseva, A. Kildishev, "High Q-Factor All-Dielectric Metasurface Based on Bound States in the Continuum," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper JTh2A. 119, San Jose, California, USA, May 5-10 2019
- [364] S. Saha, A. Dutta, S. Chowdhury, A. Kildishev, V. Shalaev, A. Boltasseva, "Hybrid Photonic-Plasmonic Waveguides with Ultrathin TiN," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper JTh2A. 40, San Jose, California, USA, May 5-10 2019
- [363] O. Makarova, S. Bogdanov, X. Xu, D. Shah, A. Baburin, I. Ryzhikov, S. Saha, I. Rodionov, A. Kildishev, A. Boltasseva, V. Shalaev, "Controlled Assembly of an Ultrafast Single-Photon Source," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper FM1M. 5, San Jose, California, USA, May 5-10 2019
- [362] S. Bogdanov, O. Makarova, A. Lagutchev, D. Shah, C.-C. Chiang, A. Baburin, I. Ryzhikov, S. Saha, I. Rodionov, A. Kildishev, A. Boltasseva, V. Shalaev, "Spin Coherence in Single NV Centers Coupled to Controllably Assembled Nanopatch Antennas," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper FM1M. 6, San Jose, California, USA, May 5-10 2019

- [361] S. Azzam, K. Chaudhuri, V. Shalaev, A. Boltasseva, A. Kildishev, "Strong Coupling and Bound States in the Continuum in Hybrid Photonic-Plasmonic Structure," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper FF2A. 6, San Jose, California, USA, May 5-10 2019
- [360] Z. Kudyshev, A. Kildishev, V. Shalaev, A. Boltasseva, "Machine-learning-assisted topology optimization for highly efficient thermal emitter design," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper FTh3C. 2, San Jose, California, USA, May 5-10 2019
- [359] A. Dutta, D. Wan, B. Yan, V. Shalaev, T. Venkatesan, A. Boltasseva, "Strontium Niobate for Near Infrared Plasmonics," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper FTh1C. 2, San Jose, California, USA, May 5-10 2019
- [358] M. Song, D. Wang, Z. Kudyshev, A. Boltasseva, H. Yu, V. Shalaev, A. Kildishev, "Using Dynamic Plasmonic Colors for Optical Cryptography," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper JW2A. 58, San Jose, California, USA, May 5-10 2019
- [357] A. Dutta, A. Naldoni, A. Govorov, V. Shalaev, A. Boltasseva, "Hot Carrier Induced Plasmon Enhanced Photocatalysis in Hematite Thin Films," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, San Jose, California, USA, May 5-10 2019
- [356] S. Chowdhury, P. Nyga, Z. Kudyshev, A. Kildishev, V. Shalaev, A. Boltasseva, "Laser Color Printing on Semicontinuous Silver Films," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, paper JW2A. 55, San Jose, California, USA, May 5-10 2019
- [355] Z. A. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "High-Efficiency Emitter for Thermophotovoltaics: Topology Optimization," 2019 International Applied Computational Electromagnetics Society Symposium (ACES), April 14, 2019
- [354] M. Song, D. Wang, Z. Kudyshev, Y. Xuan, H. Yu, A. Boltasseva, V. M. Shalaev, A. V. Kildishev, "Plasmonic Colors and Memory with Al Metafilms," 2019 International Applied Computational Electromagnetics Society Symposium (ACES), April 14, 2019
- [353] B. Beauchamp, A. Dutta, A. Boltasseva, V. Shalaev, E. Marinero, "All-Optical Deterministic Switching of Synthetic CoCrPt Ferrimagnets," American Physical Society Annual meeting, abstract id.B41.006 Boston, MA, USA, March 4-8, 2019
- [352] (\*) Faraday Discussion meeting, the Royal Society of Chemistry, Burlington House, Piccadilly, London, UK, February 18-20, 2019
- [351] Z. Kudyshev, A. Boltasseva, A. Kildishev, V. Shalaev "Topology optimization for refractory plasmonic applications," SPIE OPTO "Photonic and Phononic Properties of Engineered Nanostructures IX" conference, paper number 10927-54, San Francisco, California, United States, February 2-7, 2019
- [350] S. Bogdanov, O. Makarova, M. Shalaginov, C.-C. Chiang, A. S. Lagutchev, A. Boltasseva, A. V. Kildishev, V. M. Shalaev, "Assembling nanoscale quantum photonic devices," SPIE OPTO "Photonic and Phononic Properties of Engineered Nanostructures IX" conference, paper number 10926-54, San Francisco, California, United States, February 2-7, 2019
- [349] (\*) D. Shah, K. Chaudhuri, Z. Wang, A. Catellani, M. Alhabeb, H. Reddy, X. Meng, S. Azzam, N. Kinsey, A. Kildishev, Y. Kim, V. Shalaev, A. Calzolari, Y. Gogotsi, A. Boltasseva, "New materials and approaches for tailorable nanophotonics," SPIE OPTO "Smart Photonic and Optoelectronic Integrated Circuits XXI" conference, paper number 10922-34, San Francisco, California, United States, February 2-7, 2019
- [348] (\*) A. Boltasseva, Z. Kudyshev, A. Kildishev, V. Shalaev, "Tunable topology of photonic systems based on transparent conducting oxides," SPIE OPTO "Complex Light and Optical Forces XIII" conference, paper number 10935-13, San Francisco, California, United States, February 2-7, 2019
- [347] (\*) A. Boltasseva, C. DeVault, V. Bruno, S. Saha, Z. Kudyshev, A. Dutta, S. Vezzoli, M. Ferrera, D. Faccio, V. M. Shalaev, "Through the (conducting) looking-glass: transparent conducting oxides for nanophotonic applications," SPIE OPTO "Photonic and Phononic Properties of Engineered Nanostructures IX" conference, paper number 10919-58, San Francisco, California, United States, February 2-7, 2019
- [346] (P) A. Boltasseva, "2D and Quasi-2D Materials for Photonic Devices," Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 6-11, 2019
- [345] (\*) Z. Wang, D. Shah, K. Chaudhuri, A. Catellani, M. Alhabeb, H. Reddy, X. Meng, S. I. Azzam, A. V. Kildishev, Y. L. Kim, V. M. Shalaev, A. Calzolari, Y. Gogotsi, A. Boltasseva, "Emerging Plasmonic Materials for Tailorable Metamaterials," 2018 MRS Fall Meeting, Boston, MA, USA, November 25-30, 2018
- [344] (P) A. Boltasseva, "Emerging Materials for Nanophotonics and Plasmonics: Roads Ahead," Micro and Nano engineering conference MNE 2018, Copenhagen, Denmark, September 25-27, 2018

- [343] (\*) A. Boltasseva, "Nanophotonics with metal nitrides and carbides: from bulk to 2D," Optical Society of America (OSA) Frontiers in Optics/Laser Science Conference (FIO/LS), Washington DC, USA, September 16-20, 2018
- [342] **(P)** A. Boltasseva, "Merging Nanophotonics and Materials Science for Future Optical Technologies," Photon 2018, Birmingham, United Kingdom, September 1-5, 2018 - PLENARY talk
- [341] (\*) Z. Wang, D. Shah, K. Chaudhuri, A. Catellani, M. Alhabeb, H. Reddy, X. Meng, S. I. Azzam, N. Kinsey, A. Kildishev, Y. L. Kim, V. M. Shalaev, A. Calzolari, Y. Gogotsi, A. Boltasseva, "Emerging materials for tailorable nanophotonic devices," 12th International Congress on Engineered Material Platforms for Novel Wave Phenomena (Metamaterials 2018), Espoo, Finland, August 27-30, 2018
- [340] C. DeVault, V. Bruno, S. Vezzoli, T. Roger, S. Saha, M. Ferrera, M. Clerici, A. Dubietis, A. Boltasseva, D. Faccio, V.M. Shalaev, "Low-Index Materials for Enhanced Optical Nonlinearities," 2018 12th International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials), Espoo, Finland, August 27-30, 2018
- [339] U. Guler, K. Chaudhuri, S. I. Azzam, H. Reddy, V. Shalaev, A. Boltasseva, A. Kildishev, "Temperature Sensing with Refractory Plasmonic Metasurfaces," 12th International Congress on Engineered Material Platforms for Novel Wave Phenomena (Metamaterials 2018), Espoo, Finland, August 27-30, 2018
- [338] **(K)** K. Chaudhuri, Z. Wang, M. Alhabeb, X. Meng, S. I. Azzam, A. V. Kildishev, Y. L. Kim, V. M. Shalaev, Y. Gogotsi, A. Boltasseva, "MXenes for nanophotonic and metamaterial devices," "Active Photonic Platforms X" conference, 2018 SPIE Optics and Photonics, Active Photonic Platforms X, paper number 10721-24, San Diego, CA, USA, August 19-23, 2018
- [337] **(K)** D. Shah, A. Catellani, H. Reddy, N. Kinsey, V. M. Shalaev, A. Calzolari, A. Boltasseva, "Ultra-thin transition metal nitrides for tailorable plasmonic devices," "Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVI" conference, 2018 SPIE Optics and Photonics, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVI, paper number 10722-1, San Diego, CA, USA, August 19-23, 2018
- [336] S. Bogdanov, M. Y. Shalaginov, O. Makarova, C.-C. Chiang, A. Lagutchev, A. Boltasseva, V. M. Shalaev, "Spin readout of nitrogen-vacancy centers with plasmonic nanostructures," 2018 SPIE Optics and Photonics, Metamaterials, Metadevices, and Metasystems, paper number 10719-76, San Diego, CA, USA, August 19-23, 2018
- [335] D. Wang, K. Maize, Y. R. Koh, M. Song, A. Boltasseva, V. M. Shalaev, A. Shakouri, A. V. Kildishev, "Mapping temperature distribution of optically pumped gap plasmon structure using thermorefectance imaging," 2018 SPIE Optics and Photonics, Metamaterials, Metadevices, and Metasystems, paper number 10721-12, San Diego, CA, USA, August 19-23, 2018
- [334] H. Reddy, U. Guler, K. Chaudhuri, Z. Kudyshev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Temperature evolution of optical properties in plasmonic metals," "Metamaterials, Metadevices, and Metasystems 2018" conference, 2018 SPIE Optics and Photonics, paper number 10719-70, San Diego, CA, USA, August 19-23, 2018
- [333] M. Y. Shalaginov, S. Bogdanov, A. S. Lagutchev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Ultra-compact metallic interface for NV spin readout," 2018 SPIE Optics and Photonics, Quantum Nanophotonics, paper number 10734-20, San Diego, CA, USA, August 19-23, 2018
- [332] S. Saha, A. Dutta, C. DeVault, V. M. Shalaev, A. Boltasseva, "Ultrafast all-optical switching in a continuous layer gap plasmon metasurface," 2018 SPIE Optics and Photonics, Active Photonic Platforms X, paper number 10721-51, San Diego, CA, USA, August 19-23, 2018
- [331] A. Dutta, A. Naldoni, V. M. Shalaev, A. Boltasseva "Plasmon-enhanced photocatalysis in ultrathin hematite films," 2018 SPIE Optics and Photonics, paper number 10722-90, San Diego, CA, USA, August 19-23, 2018
- [330] S. Bogdanov, M. Y. Shalaginov, O. Makarova, C.-C. Chiang, A. S. Lagutchev, A. Boltasseva, V. M. Shalaev, "Room-temperature high-speed control of quantum emitters with plasmonic nanostructures," 2018 SPIE Optics and Photonics, Quantum Nanophotonics, paper number 10734-11, San Diego, CA, USA, August 19-23, 2018
- [329] S. Bogdanov, M. Shalaginov, O. Makarova, C.-C. Chiang, A. Lagutchev, A. Boltasseva, V. Shalaev, "Room-temperature high-speed control of quantum emitters using metamaterials and plasmonics," 2018 IEEE Photonics Society Summer Topical Meeting Series (SUM), Waikoloa, HI, USA, July 09-11, 2018
- [328] (\*) A. Boltasseva, "Nanophotonics with Oxides, Nitrides and Carbides: From Bulk to Ultra-Thin and 2D," Gordon Research Conference on Plasmonics & Nanophotonics, Sunday River, Newry, Maine, USA, July 8-13 2018
- [327] (\*) D. Shah, A. Catellani, H. Reddy, N. Kinsey, V. M. Shalaev, A. Calzolari, A. Boltasseva, "Tailorable nanophotonic devices with ultra-thin transition metal nitrides," META 2018, the 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Costa Diadema, June 24 - July 1, 2018

- [326] (\*) K. Chaudhuri, Z. Wang, M. Alhabeb, X. Meng, S. I. Azzam, A. Kildishev, Y. L. Kim, V. M. Shalaev, Y. Gogotsi, A. Boltasseva, "Optical Metamaterials with Emerging MXenes," META 2018, the 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Costa Diadema, June 24 - July 1, 2018
- [325] (P) A. Boltasseva, "Emerging Materials for Nanophotonics and Plasmonics," Nanoplasm, Cetraro, Italy, June 10-16, 2018
- [324] V. Bruno, C. DeVault, S. Vezzoli, S. Saha, V. M. Shalaev, A. Boltasseva, M. Ferrera, D. Faccio, "Epsilon-near-zero material as a platform for strong light-matter interaction," Nanoplasm, Cetraro, Italy, June 10-16, 2018
- [323] (\*) A. Boltasseva, "Emerging materials and approaches for tailorable nanophotonic devices," "Waves in Complex Photonics Media: Fundamentals and Device Applications," Anacapri, Island of Capri, Italy, June 4-7, 2018
- [322] S. Saha, A. Dutta, C. DeVault, V. Shalaev, A. Boltasseva, "Ultrafast Tunable Metasurface with Transparent Conducting Oxide Antenna Array," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTh4M. 4 (San Jose, California, USA, May 13-18 2018)
- [321] Z. Wang, K. Chaudhuri, M. Alhabeb, X. Meng, S. Azzam, A. Kildishev, Y. Kim, V. Shalaev, Y. Gogotsi, A. Boltasseva, "MXenes for Plasmonic and Metamaterial Devices," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FM2G. 7 (San Jose, California, USA, May 13-18 2018)
- [320] M. Song, A. Kildishev, D. Wang, Z. Wang, Y. Xuan, A. Boltasseva, H. Yu, V. Shalaev, "Wavelength-dependent Optical-rotation Manipulation for Active Color Display and Highly Secure Encryption," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTh4M. 2 (San Jose, California, USA, May 13-18 2018)
- [319] V. Bruno, S. Vezzoli, D. Faccio, M. Ferrera, V. Shalaev, C. DeVault, M. Clerici, A. Boltasseva, T. Roger, A. Dubietis, "Optical time reversal from time-dependent Epsilon-Near-Zero media," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FM3E. 5 (San Jose, California, USA, May 13-18 2018)
- [318] D. Wang, K. Maize, M. Song, A. Boltasseva, V. Shalaev, A. Shakouri, A. Kildishev, "Thermoreflectance Imaging of Optically Pumped Gap Plasmon Structures," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTh1K. 8 (San Jose, California, USA, May 13-18 2018)
- [317] Z. A. Kudyshev, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Tunable topology of photonic systems based on transparent conducting oxides" Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTh4J. 1 (San Jose, California, USA, May 13-18 2018)
- [316] E. G. Carnemolla, V. Bruno, L. Caspani, M. Clerici, S. Vezzoli, T. Roger, C. DeVault, J. Kim, A. Shaltout, V. Shalaev, A. Boltasseva, D. Faccio, M. Ferrera, "Giant nonlinear frequency shift in epsilon-near-zero aluminum zinc oxide thin films," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, SM4D. 7 (San Jose, California, USA, May 13-18 2018)
- [315] C. Haffner, D. Chelladurai, Y. Fedoryshyn, A. Josten, B. Baeuerle, W. Heni, T. Watanabe, T. Cui, B. Cheng, S. Saha, D. L. Elder, L. R. Dalton, A. Boltasseva, V. Shalaev, N. Kinsey, J. Leuthold, "Bypassing Loss in Plasmonic Modulators," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTh4H. 1 (San Jose, California, USA, May 13-18 2018)
- [314] S. Bogdanov, M. Shalaginov, A. Lagutchev, C.-C. Chiang, D. Shah, A. Baburin, I. Ryzhikov, I. Rodionov, A. Boltasseva, V. Shalaev, "Ultrabright Room-Temperature Emission from Single Plasmon-Enhanced Nitrogen-Vacancy Centers in Diamond," Optical Society of America, CLEO: QELS\_Fundamental Science proceedings, FTu4E. 6 (San Jose, California, USA, May 13-18 2018)
- [313] A. Dutta, D. Shah, B.K. Beauchamp, V. Shalaev, A. Boltasseva, A. Kildishev, E. Marinero, "Surface-plasmon Opto-magnetic Field Enhancement for All-optical Magnetization Switching," APS March Meeting, Los Angeles, CA, March 5-9, 2018
- [312] (\*) J. Kim, E. Giuseppe, C. T. DeVault, D. Faccio, V. M. Shalaev, A. V. Kildishev, M. Ferrera, A. Boltasseva, "Ultrafast tuning of a Fabry-Perot nanocavity using active metal-oxides," SPIE Photonics West, SPIE OPTO, conference on Integrated Optics: Devices, Materials, and Technologies XXII, San Francisco, California, United States, January 27 – February 1, 2018
- [311] A. Dutta, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, E. E. Marinero, "Surface-plasmon opto-magnetic field enhancement for all-optical magnetization switching," SPIE Photonics West, SPIE OPTO, conference on Integrated Optics: Devices, Materials, and Technologies XXII, San Francisco, California, United States, January 27 – February 1, 2018
- [310] K. Chaudhuri, Z. Wang, H. Reddy, D. Shah, M. Alhabeb, X. Meng, V. M. Shalaev, Y. Gogotsi, A. Boltasseva, "Tailorable Ultra-Thin Films and MXenes for Nanophotonic Applications," Physica of Quantum Electronics (PQE) conference, Snowbird, Utah, USA, January 7-12, 2018

- [309] (\*) K. Chaudhuri, Z. Wang, M. Alhabeab, X. Meng, S. Azzam, A. V. Kildishev, V. Shalaev, Y. Gogotsi, A. Boltasseva, "MXenes for Applications in Nanophotonics," 2017 MRS Fall meeting, Boston, MA, USA, November 26 – December 1, 2017
- [308] U. Guler, H. Reddy, K. Chaudhuri, A. Kildishev, A. Boltasseva, V. Shalaev, "High temperature plasmonic materials and applications," 2017 MRS Fall meeting, Boston, MA, USA, November 26 – December 1, 2017
- [307] (\*) A. Boltasseva, "Ultra-thin plasmonic metal nitrides: Optical properties and applications," American Vacuum Society (AVS) meeting, Tampa, Florida, USA, October 2017
- [306] S. Choudhury, V. Zenin, S. Saha, V. Shalaev, S. I. Bozhevolnyi, A. Boltasseva, "Novel Hard Mask Fabrication Method for Hybrid Plasmonic Waveguide and Metasurfaces," Frontiers in Optics conference, Optical Society of America, JTU2A. 12, Washington, District of Columbia, USA, September 17-21, 2017
- [305] (\*) H. Reddy, D. Shah, N. Kinsey, V. M. Shalaev, A. Boltasseva, "Ultra-thin transition plasmonic metal nitrides: tailoring optical response to photonic applications," 11th International Congress on Engineered Material Platforms for Novel Wave Phenomena (METAMATERIALS'2017), Marseille, France, August 28–31, 2017
- [304] (\*) H. Reddy, D. Shah, N. Kinsey, V. M. Shalaev, A. Boltasseva, "Ultra-thin plasmonic metal nitrides: tailoring optical properties to photonic applications," 2017 International Optical MEMS and Nanophotonics (OMN), Santa Fe, New Mexico, August 13-17, 2017
- [303] (\*) S. Saha, K. Chaudhuri, A. Dutta, C. Devault, N. Kinsey, V. M. Shalaev, A. Boltasseva, "On-chip and Planar Optics with Alternative Plasmonic Materials," SPIE Optics and Photonics, paper number 10345-2, San Diego, August 6-10, 2017
- [302] (\*) H. Reddy, D. Shah, N. Kinsey, V. M. Shalaev, A. Boltasseva, "Ultra-thin transition metal nitrides for plasmonic applications," SPIE Optics and Photonics, paper number 10346-17, San Diego, August 6-10, 2017
- [301] (\*) S. Saha, K. Chaudhuri, A. Dutta, C. Devault, N. Kinsey, V. M. Shalaev, A. Boltasseva, "On-chip and Planar Optics with Alternative Plasmonic Materials," SPIE Optics and Photonics, paper number 10345-2, San Diego, August 6-10, 2017
- [300] (\*) H. Reddy, D. Shah, N. Kinsey, V. M. Shalaev, A. Boltasseva, "Ultra-thin transition metal nitrides for plasmonic applications," SPIE Optics and Photonics, paper number 10346-17, San Diego, August 6-10, 2017
- [299] K. Chaudhuri, M. Alhabeab, Z. Wang, V. M. Shalaev, Y. Gogotsi, A. Boltasseva, "MXene: Plasmonic Resonances and Broadband Absorber," SPIE Optics and Photonics, paper number 10343-81, San Diego, August 6-10, 2017
- [298] V. M. Shalaev, S. Bogdanov, M. Y. Shalaginov, J. Ndukaife, O. Makarova, A. V. Akimov, A. S. Lagutchev, A. V. Kildishev, A. Boltasseva, "Towards integrated plasmonic quantum devices," SPIE Optics and Photonics, paper number 10359-20, San Diego, August 6-10, 2017
- [297] C. DeVault, N. Kinsey, L. Caspani, M. Clerici, R. Kaipurath, M. Ferrera, T. Roger, E. Carnemolla, J. Kim, A. Shaltout, M. Pietrzyk, A. Di Falco, D. Faccio, A. Boltasseva, V. M. Shalaev, "Enhanced Nonlinearities in Transparent Conducting Oxides for Ultrafast Photonics," SPIE Optics and Photonics, paper number 10345-33, San Diego, August 6-10, 2017
- [296] N. Kinsey, H. Ferguson, J. M. Reed, M. R. Ferdinandus, C. DeVault, U. Guler, A. Lagutchev, T. Norris, V. M. Shalaev, A. Urbas, A. Boltasseva, "Engineering Optical Nonlinearities in Plasmonic Titanium Nitride Thin Films," SPIE Optics and Photonics, paper number 10343-43, San Diego, August 6-10, 2017
- [295] D. Wang, J. Fang, C.T. DeVault, T. Chung, Y.P. Chen, A. Boltasseva, V.M. Shalaev, A.V. Kildishev "Fractal metasurface enhanced graphene photodetector on glass substrate," SPIE Optics and Photonics, paper number 10343-79, San Diego, August 6-10, 2017
- [294] T. Praful, U. Guler, A. Boltasseva, V. M. Shalaev, N.A. Kotov, G.T. Ramesh, "Biocompatibility and toxicity of colloidal plasmonic titanium nitride nanoparticles in epithelial cells," SPIE Optics and Photonics, paper number 10352-37, San Diego, August 6-10, 2017
- [293] (\*) A. Boltasseva, "Oxides, Nitrides and Carbides as New Materials for Nanophotonic and Plasmonic Devices," Laser Physics Workshop (LPHYS'17), Kazan, Russia, July 17- 21, 2017
- [292] (\*) A. Boltasseva, "Emerging Materials for Nanophotonics and Plasmonics: Roads Ahead," 4th International Conference on Quantum Technologies (ICQT-2017), Moscow, Russia, July 12-16, 2017
- [291] A. Naldoni, U. Guler, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Plasmonic Titanium Nitride for Solar Energy Conversion," META 2017 the 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Seoul, South Korea, July 25-28, 2017
- [290] M. Clerici, N. Kinsey, C. DeVault, J. Kim, E. Carnemolla, L. Caspani, A. Shaltout, R. Kaipurath, D. Faccio, V. Shalaev, A. Boltasseva, M. Ferrera, "Harnessing interband and intraband nonlinearities in transparent

conducting oxides via two-colour excitation," META 2017 the 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Seoul, South Korea, July 25-28, 2017

[289] V. Bruno, S. Vezzoli, T. Roger, M. Ferrera, C. DeVault, V. Shalaev, A. Boltasseva, D. Faccio, "Deeply sub-wavelength coherent absorption in optically thick ENZ films," CLEO Europe, Munich, Germany, June 25-29, 2017

[288] (\*) M. Ferrera, D. Faccio, E. Carnemolla, L. Caspani, M. Clerici C. DeVault, J. Kim, A. Shaltout, V. Shalaev, A. Boltasseva, N. Kinsey, "Dynamic plasmonics with transparent conducting oxides," Photonics North 2017, Ottawa, Canada, June 6-8, 2017

[287] (\*) A. Boltasseva, "Emerging Materials for Nanophotonics and Plasmonics: Roads Ahead," 13<sup>th</sup> Meditterrenian Workshop and Topical Meeting "Novel Optical Materials and Applications" NOMA2017, June 4-10, 2017

[286] (\*) K. Chaudhuri, Z. Wang, X. Meng, M. Alhabebe, V. Shalaev, Y. Gogotsi, A. Boltasseva, "MXenes for Plasmonic and Metamaterial Devices," The 8th International Conference on Surface Plasmon Photonics (SPP8), Paper IN-18, Taipei, Taiwan, May 22-26, 2017

[285] V. Zenin, C. DeVault, A. Pors, J. Kim, K. Chaudhuri, S. Bozhevolnyi, V. M. Shalaev, A. Boltasseva, "Using epsilon-near-zero substrate for pinning of plasmonic antenna resonance and suppression of near-field coupling," The 8th International Conference on Surface Plasmon Photonics (SPP8), Paper P-05-14, Taipei, Taiwan, May 22-26, 2017

[284] H. Ferguson, U. Guler, N. Kinsey, V. M. Shalaev, T. Norris, A. Boltasseva, "Interband Effects on Hot Carrier Relaxation in Titanium Nitride Films," 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017, JTh2A. 22

[283] S. Azzam, Z. Wang, S. Murai, S. Ishii, A. Boltasseva, A. V. Kildishev, "Time Domain Modeling of Lasing Dynamics in Hyperbolic Metamaterials," 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017, JTu5A. 40

[282] M. Ferrera, M. Clerici, N. Kinsey, C. DeVault, J. Kim, E. Carnemolla, L. Caspani, A. Shaltout, D. Faccio, V. Shalaev, and A. Boltasseva, "Engineered Nonlinearities in Transparent Conducting Oxides," 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017, FM2F.1

[281] A. Dutta, D. Shah, B. Beauchamp, K. Roy, V. Shalaev, E. Marinero, and A. Boltasseva, "Surface-Plasmon Opto-Magnetic Field Enhancement for Magnetization Reversal of On-Chip Nanomagnets," 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017, SM3N.8

[280] D. Shah, H. Reddy, N. Kinsey, V. Shalaev, and A. Boltasseva, "Optical Properties of Ultrathin Plasmonic TiN Films," 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017, SM4K.3

[279] J. Ndukaife, B. Isaacoff, M. Shalaginov, S. Bogdanov, A. Nnanna, J. Biteen, M. Segev, V. Shalaev, and A. Boltasseva, "Massive Parallel Positioning of Nanodiamonds on Nanophotonic Structures," 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017, FTu3H.1

[278] K. Chaudhuri, M. Alhabebe, Z. Wang, V. Shalaev, Y. Gogotsi, and A. Boltasseva, "Plasmonic Resonances in Nanostructured MXene: Highly Broadband Absorber," 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017, FTu4H.1

[277] (\*) A. Dutta, C. DeVault, K. Chaudhuri, S. Shah, D. Shah, H. Eragamreddy, U. Guler, A. Naldoni, V. Shalaev, and A. Boltasseva, "Oxides and Nitrides for Nanophotonics and Energy Applications," 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017, FTu4G.3

[276] C. DeVault, V. Zenin, A. Pors, J. Kim, K. Chaudhuri, S. Bozhevolnyi, V. Shalaev, and A. Boltasseva, "Plasmonic Antenna Resonance Pinning and Suppression of Near-Field Coupling from Epsilon-Near-Zero Substrate," 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017, FTu4H.5

[275] A. Naldoni, U. Guler, Z. Wang, M. Marelli, F. Malara, X. Meng, L. Besteiro, A. Govorov, A. Kildishev, A. Boltasseva, and V. Shalaev, "Broadband hot electron generation for solar energy conversion with plasmonic titanium nitride," 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017, FTu4H.6

[273] H. Eragamreddy, U. Guler, K. Chaudhuri, A. Dutta, A. Kildishev, V. Shalaev, and A. Boltasseva, "Temperature induced deviations to the optical responses of plasmonic materials," 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017, FTu4H.7

[273] Z. Wang, X. Meng, K. Chaudhuri, M. Alhabebe, S. Azzam, A. Kildishev, Y. Kim, V. Shalaev, Y. Gogotsi, and A. Boltasseva, "Active Metamaterials Based on Monolayer Titanium Carbide MXene for Random Lasing," 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017, FTu4G.7

- [272] S. Bogdanov, M. Shalaginov, A. Akimov, A. Lagutchev, J. Liu, D. Woods, M. Ferrera, P. Kapitanova, P. Belov, J. Irudayaraj, A. Boltasseva, and V. Shalaev, "Spin Contrast of Purcell-Enhanced Nitrogen-Vacancy Centers in Diamond," 2017 Conference on Lasers and Electro-Optics (CLEO:2017), San Jose, CA, USA, May 14-19, 2017, FW4H.3
- [271] C. Zhang, N. Kinsey, L. Chen, C. Ji, M. Xu, M. Ferrera, X. Pan, V. M. Shalaev, A. Boltasseva, L. J. Guo, "High-performance Doped Silver Films: Overcoming Fundamental Material Limits for Nanophotonic Applications," ED10: Material Platforms for Plasmonics and Metamaterials—Novel Approaches towards Practical Applications, 2017 MRS Spring meeting, Phoenix, Arizona, April 17-21, 2017
- [270] U. Guler, et. Al., "Plasmonic Transition Metal Nitrides for Harsh-Environment Applications," ED10: Material Platforms for Plasmonics and Metamaterials—Novel Approaches towards Practical Applications, 2017 MRS Spring Meeting, Phoenix, Arizona, April 17-21, 2017
- [269] (\*) U. Guler, H. Reddy, K. Chaudhury, A. Naldoni, A. Kildishev, V. Shalaev, A. Boltasseva, "Plasmonic transition metal nitrides for harsh-environment photonic applications," ACS Spring Meeting, San Francisco, CA, USA, April 2-6, 2017
- [268] U. Guler, H. Reddy, K. Chaudhury, A. Naldoni, A. Kildishev, A. Boltasseva, V. Shalaev, "Refractory plasmonic nanostructures and devices for harsh environment applications," SPIE Photonics West, SPIE OPTO, San Francisco, CA, USA, 28 January - 2 February 2017
- [267] O. A. Makarova, M. Y. Shalaginov, S. Bogdanov, U. Guler, A. Boltasseva, A. V. Kildishev, V. M. Shalaev, "Patterning metamaterials for fast and efficient single-photon-sources," SPIE Photonics West, SPIE OPTO, Proc. of SPIE, contribution #1011208-1, San Francisco, CA, USA, 28 January - 2 February 2017
- [266] (\*) A. Boltasseva, "Oxides and nitrides for applications in plasmonics," SPIE Photonics West, SPIE OPTO, contribution #10105-34, San Francisco, CA, USA, 28 January - 2 February 2017
- [265] A. Dutta, S. Saha, N. Kinsey, U. Guler, V. M. Shalaev, A. Boltasseva, "Titanium nitride based hybrid plasmonic-photonic waveguides for on-chip plasmonic interconnects," SPIE Photonics West, SPIE OPTO, contribution #10106-39, San Francisco, CA, USA, 28 January - 2 February 2017
- [264] (\*) A. Dutta, K. Chaudhuri, C. Devault, J. Kim, S. Saha, U. Guler, V. Shalaev, A. Boltasseva, "Tailorable materials for nanophotonic applications," NANOMETA 2017: 6th International Topical Meeting on Nanophotonics and Metamaterial Conference, paper THU2o.2, Seefeld (Tirol), Austria, January 4-7, 2017
- [263] U. Guler, A. Naldoni, H. Reddy, Z. Kudyshev, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Plasmonic Metal Nitrides for Local Heating and Energy Applications," NANOMETA 2017: 6th International Topical Meeting on Nanophotonics and Metamaterial Conference, paper THU2o.1, Seefeld (Tirol), Austria, January 4-7, 2017
- [262] (\*) A. Boltasseva, K. Chaudhuri, U. Guler, N. Kinsey, J. Kim, C. DeVault, S. Choudhuri, A. Dutta, V. Shalaev, "Enhancing Plasmonics and Flat Optics with Novel Material Platforms," 2016 MRS Fall Meeting, contribution # EM7.2.04, Boston, MA, USA, November 28-December 2, 2016
- [261] U. Guler, D. Zemlyanov, J. Kim, A. Naldoni, Z. Wang, R. Chandrasekar, X. Meng, A.V. Kildishev, E. Stach, A. Boltasseva, V. M. Shalaev, "Nanostructured Plasmonic Metal Nitrides for Use in Nanophotonic Systems," 2016 MRS Fall Meeting, contribution # NM6.14.03, Boston, MA, USA, November 28-December 2, 2016
- [260] U. Guler, K. Chaudhuri, A. Dutta, H. Reddy, A. Shaltout, S. Saha, N. Kinsey, V.M. Shalaev, A. Boltasseva, "Zirconium Nitride as Emerging Material for Durable Photonic Devices and On-chip Plasmonics", 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials 2016, Crete, Greece, September 17-22, 2016
- [259] V.M. Shalaev, M.Y. Shalaginov, S. Bogdanov, R. Chandrasekar, Z. Wang, V.V. Vorobyov, J. Liu, X. Meng, A.S. Lagutchev, A.V. Kildishev, J. Irudayaraj, A. Boltasseva, A.V. Akimov, "New Material Platforms and Metasurface Designs for Quantum Nanophotonics", 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Metamaterials 2016, Crete, Greece, September 17-22, 2016
- [258] A.M. Shaltout, M. Clerici, N. Kinsey, L. Caspani, R. Kaipurath, J. Kim, E. G. Carnemolla, D. Faccio, A. Boltasseva, V.M. Shalaev, M. Ferrera, "Active nanophotonics with aluminium doped zinc oxide," Photon16, Leeds, UK, September 5-8, 2016
- [257] D. Faccio, T. Roger, A. Lyons, M. Clerici, L. Caspani, R. Kaipurath, J. Kim, N. Kinsey, A. Boltasseva, V.M. Shalaev, M. Ferrera, S. Restuccia, J. Romero, D. Giovannini, J. Jeffers, M. Padgett, "Enhanced light-matter interaction in thin films," Photon16, Leeds, UK, September 5-8, 2016
- [256] (\*) A. Boltasseva, N. Kinsey, M. Clerici, M. Ferrera, J. Kim, C. DeVault, A. Shaltout, D. Faccio, and V. M. Shalaev, "Oxides in plasmonics and nanophotonics: materials and dynamic devices," Proc. SPIE 9920, Active Photonic Materials VIII, 99200J (November 9, 2016); doi:10.1117/12.2235414; SPIE Optics and Photonics, San Diego, CA, August 28-September 1, 2016

- [255] D. Wang, J. Fang, C. DeVault, T.-F. Chung, Y. P. Chen, A. Boltasseva, V. M. Shalaev, and A. V. Kildishev, "Broadband enhanced graphene photodetector with fractal metasurfaces," *Proc. SPIE 9918, Metamaterials, Metadevices, and Metasystems 2016*, 99181S (November 9, 2016); doi:10.1117/12.2237050 SPIE Optics and Photonics, San Diego, CA, August 28-September 1, 2016
- [254] J. C. Ndukaife, A. George, A. Nnanna, A. V. Kildishev, V. M. Shalaev, S. T. Wereley, and A. Boltasseva, "On-demand rapid transport and stable trapping of nanoparticles by a hybrid electrothermoplasmonic nanotweezer," *Proc. SPIE 9922, Optical Trapping and Optical Micromanipulation XIII*, 992224 (November 10, 2016); doi:10.1117/12.2238894; SPIE Optics and Photonics, San Diego, CA, August 28-September 1, 2016
- [253] V. M. Shalaev, N. Kinsey, A. M. Shaltout, U. Guler, J. Kim, S. Bogdanov, M. Y. Shalaginov, A. Boltasseva, "New material platforms and metasurfaces designs for nanophotonics," *Proc. SPIE 9920, Active Photonic Materials VIII*, 99200S (November 9, 2016); doi:10.1117/12.2235482; SPIE Optics and Photonics, San Diego, CA, August 28-September 1, 2016
- [252] V. M. Shalaev, M. Y. Shalaginov, S. Bogdanov, V. V. Vorobyov, J. Liu, A. V. Akimov, A. S. Lagutchev, J. K. Irudayaraj, A. V. Kildishev, A. Boltasseva, "Towards sensors and quantum registers using color center in diamond and nanophotonic structures," *Proc. SPIE 9918, Metamaterials, Metadevices, and Metasystems 2016*, 991826 (November 9, 2016); doi:10.1117/12.2240294; SPIE Optics and Photonics, San Diego, CA, August 28-September 1, 2016
- [251] (\*) K. Chaudhuri, J. Kim, A. M. Shaltout, N. Kinsey, S. Choudhuri, V. M. Shalaev, A. Boltasseva, "Robust Metasurface Devices with Alternative Plasmonic Materials," SPIE Optics and Photonics, number OP16-OP101-93, San Diego, CA, USA, August 28-September 1, 2016
- [250] **(P)** A. Boltasseva, "Emerging Frontiers of Materials Research for Nanophotonics and Plasmonics" SPIE Optics and Photonics, San Diego, CA, August 28-September 1, 2016
- [249] U. Guler, E. Marinero, A. Boltasseva, V.M. Shalaev, "Refractory plasmonic materials for high temperature plasmonic devices," *META'16, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics*, Malaga, Spain, July 25-28, 2016
- [248] A. M. Shaltout, M. Clerici, N. Kinsey, R. Kaipurath, J. Kim, E. G. Carnemolla, D. Faccio, A. Boltasseva, V. M. Shalaev, and A. Boltasseva, "Experimental Time-Varying Light Reflection in an Epsilon-Near-Zero Medium," *META'16, Malaga, July 25-28, 2016*
- [247] (\*) K. Chaudhuri, J. Kim, A. M. Shaltout, N. Kinsey, S. Choudhuri, V. M. Shalaev, A. Boltasseva, "Durable plasmonic metal nitrides and transparent conducting oxides for flat photonics," in *Active and passive optical metasurfaces*, *META'16, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics*, City, Malaga, Spain, July 25-28, 2016
- [246] M. Henstridge, C. Pfeiffer, D. Wang, A. Boltasseva, V. Shalaev, A. Grbic, R. Merlin, "Metasurface Generation of Accelerating Light," *META'16, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics*, City, Malaga, Spain, July 25-28, 2016
- [245] C. DeVault, N. Kinsey, M. Clerici, J. Kim, E.G. Carnemolla, A. M. Shaltout, D. Faccio, V.M. Shalaev, M. Ferrera, A. Boltasseva, "Simultaneous Contribution of Ultrafast Interband and Intraband Dynamics in Al:ZnO," *META'16, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics*, City, Malaga, Spain, July 25-28, 2016
- [244] L. Caspani, R. P. M. Kaipurath, M. Clerici, M. Ferrera, T. Roger, A. Di Falco, J. Kim, N. Kinsey, V. Shalaev, A. Boltasseva, D. Faccio, "Linear enhancement of the Kerr nonlinear index in the epsilon-near-zero regime," *META'16, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics*, City, Malaga, Spain, July 25-28, 2016
- [243] (\*) N. Kinsey, C. DeVault, M. Ferrera, U. Guler, J. Kim, A. Shaltout, A. Dutta, S. Saha, A. Boltasseva, V. M. Shalaev, "Nanophotonics with Plasmonic Ceramics," *META'16, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics*, City, Malaga, Spain, July 25-28, 2016
- [242] M. Ferrera, M. Clerici, N. Kinsey, A. Shaltout, C. DeVault, L. Caspani, J. Kim, R. Kaipurath, T. Roger, E. G. Carnemolla, D. Faccio, V. M. Shalaev, and A. Boltasseva, "Dynamic Plasmonics with Aluminum-Doped Zinc Oxide," *META'16, Malaga, July 27 2016*
- [241] M. Y. Shalaginov, S. Bogdanov, V. V. Vorobyov, J. Liu, A. Lagutchev, A. Kildishev, J. Irudayaraj, A. Boltasseva, A. Akimov, V. M. Shalaev "Controlling photonics with metamaterials," *META'16, Malaga, Spain, July 26 2016*
- [240] (\*) A. Boltasseva, U. Guler, A. V. Kildishev, E. E. Marinero, V. M. Shalaev, "Refractory Plasmonic Materials for Heat Assisted Magnetic Recording," *META'16, Malaga, Spain, July 25-28, 2016*

- [239] (\*) U. Guler, H. Reddy, K. Chaudhury, A. Dutta, M. Shalaginov, S. Bogdanov, V. Shalae, A. Boltasseva, "New materials for plasmonics: designs and applications from flat optics to quantum nanophotonics," OSA Integrated Photonics Research conference, paper # 2491331, Vancouver, Canada, July 18-20, 2016
- [238] **(K)** A. Boltasseva, "Practical Platform for Nanophotonics with Plasmonic Metal Nitrides and Transparent Conducting Oxides," 13th International Conference on Nanosciences & Nanotechnologies – NN16, Thessaloniki, Greece, 5-8 July 2016
- [237] (\*) A. Boltasseva, "Transition Metal Nitrides and Transparent Conducting Oxides for On-Chip Nanophotonic Devices," The International Midwest Symposium on Nano-Optics and Plasmonics (2016) (IMSNP16' Hengyang), Hengyang, Hunan, China, June 25-28, 2016
- [236] (\*) N. Kinsey, J. Kim, C. DeVault, A. Dutta, M. Ferrera, S. Choudhury, U. Guler, V. M. Shalae, A. Boltasseva, "Transition metal nitrides and transparent conducting oxides for near-infrared photonics," NanoPlasm, pp. 16-17, Cetraro, Italy, June 13-17, 2016
- [235] V. M. Shalae, N. Kinsey, U. Guler, J. Kim, and A. Boltasseva, "New material platforms for nanophotonics," NanoPlasm, Cetraro, Italy, June 13-17, 2016
- [234] S. Ishii, V. E. Babicheva, M. Y. Shalaginov, A. Boltasseva, A. V. Kildishev, E. Narimanov, "Sub-wavelength optics with hyperbolic metamaterials: waveguide, scattering and optical topological transition," 18th ICTON 2016, July 10-14, 2016, Trento, Italy
- [233] N. Kinsey, A. A. Syed, D. Courtwright, C. DeVault, C. E. Bonner, V. I. Gavrilenko, V. M. Shalae, D. J. Hagan, E. W. Van Stryland, A. Boltasseva, "Effective third-order nonlinearities in refractory plasmonic TiN thin films," CLEO: QELS\_Fundamental Science, FW4A. 4, San Jose, CA, USA, June 5-10, 2016
- [232] J. M. Reed, M. R. Ferdinandus, N. Kinsey, C. DeVault, U. Guler, V. M. Shalae, A. Boltasseva, A. Urbas, "Transient nonlinear refraction measurements of titanium nitride thin films," CLEO: QELS\_Fundamental Science, FTu1A. 6, San Jose, CA, USA, June 5-10, 2016
- [231] C. DeVault, N. Kinsey, J. Kim, A. Dutta, M. Ferrera, V. M. Shalae, A. Boltasseva, "Ultrafast optical tuning of epsilon-near-zero thin films," CLEO: QELS\_Fundamental Science, FW4A. 5, San Jose, CA, USA, June 5-10, 2016
- [230] H. Ferguson, U. Guler, N. Kinsey, T. Norris, A. Boltasseva, "Hot electron relaxation in thin titanium nitride films," CLEO: QELS\_Fundamental Science proceedings, FF2D. 1, San Jose, CA, USA, June 5-10, 2016
- [229] A. Shaltout, J. Kim, A. Kildishev, A. Boltasseva, V. M. Shalae, "Implementation of metasurface based nanocavities," CLEO: QELS\_Fundamental Science, FTh1D. 5, San Jose, CA, USA, June 5-10, 2016
- [228] J. Fang, D. Wang, C. DeVault, T.-F. Chung, Y. Chen, A. Boltasseva, V. M. Shalae, A. Kildishev, "Enhanced graphene photodetector with fractal metasurfaces," CLEO: QELS\_Fundamental Science, FF1B. 4, San Jose, CA, USA, June 5-10, 2016
- [227] S. Choudhury, A. Shaltout, A. V. Kildishev, V. M. Shalae, A. Boltasseva, "Experimental realization of color hologram using Pancharatnam-Berry phase manipulating metasurfaces," CLEO: QELS\_Fundamental Science, FF1D. 8, San Jose, CA, USA, June 5-10, 2016
- [226] K. Chaudhuri, A. Shaltout, U. Guler, V. M. Shalae, A. Boltasseva, "High efficiency phase gradient metasurface using refractory plasmonic zirconium nitride," CLEO: QELS\_Fundamental Science, FF1D FM3N. 2, San Jose, CA, USA, June 5-10, 2016
- [225] R. Chandrasekar, Z. Wang, X. Meng, A. Lagutchev, Y. L. Kim, A. Wei, A. Boltasseva, V. M. Shalae, "Lasing action in gold nanorod hyperbolic metamaterial," CLEO: QELS\_Fundamental Science, JTh4A. 4, San Jose, CA, USA, June 5-10, 2016
- [224] J. C. Ndukaife, A. George, A. Nnanna, A. V. Kildishev, V. M. Shalae, S. T. Wereley, A. Boltasseva, "Controlled rapid delivery and on-chip trapping of nanoparticles by a hybrid electrothermoplasmonic nanotweezer," CLEO: QELS\_Fundamental Science, STh3H. 3, San Jose, CA, USA, June 5-10, 2016
- [223] A. Dutta, N. Kinsey, S. Saha, U. Guler, V. M. Shalae, A. Boltasseva, "Plasmonic interconnects using zirconium nitride," CLEO: QELS\_Fundamental Science, JW2A. 86, San Jose, CA, USA, June 5-10, 2016
- [222] A. Shaltout, M. Clerici, N. Kinsey, R. Kaipurath, J. Kim, E. G. Carnemolla, D. Faccio, A. Boltasseva, V. M. Shalae, M. Ferrera, "Doppler-shift emulation using highly time-refracting TCO layer," CLEO: QELS\_Fundamental Science, FF2D. 6, San Jose, CA, USA, June 5-10, 2016
- [221] H. Reddy Eragamreddy, U. Guler, A. Kildishev, A. Boltasseva, V. M. Shalae, "Optical properties of gold thin films at elevated temperatures," CLEO: QELS\_Fundamental Science, JW2A. 85, San Jose, CA, USA, June 5-10, 2016
- [220] V. M. Shalae, U. Guler, A. V. Kildishev, A. Boltasseva, "Refractory Plasmonics," SPIE Photonics Europe, Paper 988303-988303-1, Brussels, Belgium, April 3-7, 2016

- [219] (\*) J. Kim, N. Kinsey, C. DeVault, A. Dutta, M. Ferrera, V. Shalaev, A. Boltasseva, "Near-infrared plasmonics with transparent conducting oxides," SPIE Photonics Europe, Paper 98830X-98830X-1, Brussels, Belgium, April 3-7, 2016
- [218] (\*) N. Kinsey, C. DeVault, J. Kim, M. Ferrera, V. M. Shalaev, A. Boltasseva, "Transition metal nitrides and transparent conducting oxides for practical on-chip photonic devices," SPIE Photonics Europe, Paper 98840E-98840E-1, Brussels, Belgium, April 3-7, 2016
- [217] (\*) N. Kinsey, J. Kim, C. DeVault, A. Dutta, K. Chaudhuri, S. Choudhuri, V.M. Shalaev, A. Boltasseva, "On-Chip Nanophotonics with Nitrides and Oxides," MRS Spring meeting, Phoenix, AZ, USA, March 28-April 1, 2016
- [216] J. Ndukajfe, et.al. "The hybrid electrothermoplasmonic nanotweezer: A new paradigm in nanomanipulation," MRS Spring meeting, Phoenix, AZ, USA, March 28-April 1, 2016
- [215] S. Bogdanov, M. Shalaginov, J. Liu, V. Vorobyev, P. Kapitanova, A. Laguchev, M. Ferrera, A. Akimov, P. Belov, A. Kildishev, J. Irudayaraj, A. Boltasseva, V. M. Shalaev, "Quantum photonics with color centers in diamond and nanophotonic structures," Quantum Sensing and Nano Electronics and Photonics XIII, SPIE OPTO, paper #: PW16O-OE114-110, SPIE Photonics West, San Francisco, CA, USA, February 13-18, 2016
- [214] U. Guler, A. Boltasseva, V. M. Shalaev, "Refractory plasmonics: new material platforms for nanophotonics, Photonic and Phononic Properties of Engineered Nanostructures VI conference, SPIE OPTO, paper #: 9756-46, SPIE Photonics West, San Francisco, CA, USA, February 13-18, 2016
- [213] (\*) N. Kinsey, M. Ferrera, C. DeVault, J. Kim, A. Dutta, K. Chaudhuri, S. Choudhuri, V.M. Shalaev, A. Boltasseva, "Transparent conducting oxides and durable plasmonic ceramics for practical nanophotonic devices," Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 3-8, 2016
- [212] V. M. Shalaev, U. Guler, A. V. Kildishev, A. Boltasseva, "Refractory Plasmonics," 2015 MRS Fall Meeting, contribution # GG11.04, November 29 - December 4, 2015, Boston, Massachusetts, USA
- [211] (\*) N. Kinsey, M. Ferrera, C. DeVault, J. Kim, A. Dutta, K. Chaudhuri, S. Choudhuri, V.M. Shalaev, A. Boltasseva, "Practical Platform for Nanophotonics with Refractory Plasmonic Metal Nitrides and Transparent Conducting Oxides," 2015 MRS Fall Meeting, contribution # GG18.02, November 29 - December 4, 2015, Boston, Massachusetts, USA
- [210] J. Ndukajfe, et. al., "Plasmo-fluidic Device for On-chip Concentration, Manipulation and Sensing of Particles using TiN Plasmonic Nanoantenna Array," 2015 MRS Fall Meeting, November 29 - December 4, 2015, Boston, Massachusetts, USA
- [209] J. Ndukajfe, et. al., "Hybrid Electrothermoplasmonic Nanotweezer," NSF student poster competition, ASME 2015 International Mechanical Engineering Congress, Houston, Texas, USA, November 17-19, 2015
- [208] (\*) A. Boltasseva, "Practical Nanophotonics with Plasmonic Ceramics," Computational Plasmonics workshop, Lausanne, Switzerland, November 2-4, 2015
- [207] (\*) N. Kinsey, M. Ferrera, C. DeVault, J. Kim, A. Dutta, K. Chaudhuri, S. Choudhuri, V.M. Shalaev, A. Boltasseva, "Practical platform for nanophotonics with refractory plasmonic metal nitrides and transparent conducting oxides," OSA Frontiers in Optics meeting Fio/LS, San Jose, CA, USA, October 18-22, 2015
- [206] (\*) N. Kinsey, C. DeVault, J. Kim, M. Ferrera, V. Shalaev, A. Boltasseva, "Epsilon-Near-Zero Ultrafast Dynamics in Al-Doped Zinc Oxide at Telecommunication Wavelength," 9th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2015, September 7-12, 2015, Oxford, UK
- [205] (\*) N. Kinsey, M. Ferrera, C. DeVault, J. Kim, A. Dutta, K. Chaudhuri, S. Choudhuri, V.M. Shalaev, A. Boltasseva, "Practical Platform for Nanophotonics with Refractory Plasmonic Metal Nitrides and Transparent Conducting Oxides," Frontiers in Optics, San Jose, CA, USA, October 18-22, 2015
- [204] C. Zhang, N. Kinsey, L. Chen, V. M. Shalaev, A. Boltasseva, L. J. Guo, "Ultra-thin, smooth and low loss Al-doped Ag film and its application in plasmonic interconnects," Electron, Ion, and Photon Beam Technology and Nanofabrication Conference, San Diego, 2015
- [203] J. C. Ndukaife, A. A. George Nnanna, A. Boltasseva, S. T. Wereley, "Micro-PIV-based thermometry for high resolution measurement of temperature induced by photo-excited plasmonic nanostructure array," 11<sup>th</sup> International Symposium on Particle Image Velocimetry – PIV15, Santa Barbara, California, September 14-16, 2015
- [203] (\*) A. Boltasseva, "Refractory Plasmonic Materials for Practical Nanophotonics, Data Storage and Energy Conversion," National Academy of Engineering (NAE) U.S. Frontiers of Engineering (FOE) Symposium, National Academies' Beckman Center in Irvine, California, USA, September 9-11, 2015
- [202] T. Wang, M. Zalkovskij, K. Iwaszczuk, A. V. Lavrinenko, G. V. Naik, J. Kim, A. Boltasseva, P. Uhd Jepsen, "Ultrabroadband terahertz characterization of highly doped ZnO and ITO," 2015 40th International Conference

on Infrared, Millimeter, and Terahertz waves (IRMMW-THz), Metal oxide spectroscopy, Infrared, Millimeter and THz Waves, Hong Kong, August 23-28, 2015

[201] (\*) N. Kinsey, M. Ferrera, C. DeVault, J. Kim, A.V. Kildishev, V.M. Shalaev, A. Boltasseva, "Alternative Materials Lead to Practical Nanophotonic Components," SPIE Optics and Photonics Congress, Active Photonic Materials VII conference, San Diego, CA, USA, 9-13 August 2015

[200] (\*) J.C. Ndukaife, A.V. Kildishev, A.A.G. Nnanna, S.T. Wereley, V.M. Shalaev, A. Boltasseva, "Electrothermoplasmonic Flow for Plasmon-Assisted Optical Trapping," SPIE Optics and Photonics Congress, Plasmonics: Metallic Nanostructures and Their Optical Properties XIII conference, San Diego, CA, USA, 9-13 August 2015

[199] (\*) J. Kim, N. Kinsey, A. Dutta, M. Ferrera, C. DeVault, I. Kitamura, A.V. Kildishev, V.M. Shalaev, A. Boltasseva, "Transparent Conducting Oxides as Plasmonic Component in Near Infrared," SPIE Optics and Photonics Congress, Metamaterials, Metadevices, and Metasystems conference, San Diego, CA, USA, 9-13 August 2015

[198] V. Shalaev et. al., "Refractory plasmonic metal nitrides for infrared spectral region," SPIE Optics and Photonics Congress, Infrared Remote Sensing and Instrumentation XXIII conference, San Diego, CA, USA, 9-13 August 2015

[197] (K) J. Kim, N. Kinsey, A. Dutta, M. Ferrera, C. DeVault, I. Kitamura, A.V. Kildishev, V.M. Shalaev, A. Boltasseva, "Transparent conducting oxides and hard plasmonic ceramics for next-generation nanophotonics," META'15, the 6th International Conference on Metamaterials, Photonic Crystals and Plasmonics, City College of New York, New York City, NY, USA, August 4-7, 2015.

[196] (\*) N. Kinsey, M. Ferrera, C. DeVault, J. Kim, V.M. Shalaev, A. Boltasseva, "A Practical Platform for Integrated Optics with Nitrides and Oxides," 2015 IEEE Photonics Society Summer Topicals, "On-chip Optical Interconnects", 3 pages, July 13-15, 2015, British Colonial Hilton, Nassau, Bahamas

[195] (\*) N. Kinsey, M. Ferrera, C. DeVault, J. Kim, A.V. Kildishev, V.M. Shalaev, A. Boltasseva, "Integrated Nanophotonic Components Enabled by Alternative Materials," Progress in Electromagnetics Research Symposium PIERS 2015, Special Session "SC3: Optical Properties of Resonant Dielectric and Plasmonic Nanostructures", Prague, Czech Republic, July 06-09, 2015

[194] (\*) J. Kim, N. Kinsey, A. Dutta, M. Ferrera, C. DeVault, I. Kitamura, A.V. Kildishev, V.M. Shalaev, A. Boltasseva, "Transparent Conducting Oxides as Plasmonic Component in Near Infrared," Progress in Electromagnetics Research Symposium PIERS 2015, Session " "Planar Optics based on Metasurfaces," Prague, Czech Republic, July 06-09, 2015

[193] (\*) N. Kinsey, M. Ferrera, C. DeVault, J. Kim, V.M. Shalaev, A. Boltasseva, "Nanophotonics with Titanium Nitride and Transparent Conducting Oxides," OSA conference Advanced Photonics, Boston, MA, USA, June 27 – July 01, 2015

[192] (\*) A. Boltasseva, "Plasmonic Ceramics for Practical Nanophotonic Devices," ETOPI, Israel, June 21-26, 2015

[191] N. Kinsey, C. DeVault, J. Kim, M. Ferrera, A. V. Kildishev, V. Shalaev, A. Boltasseva, "Transient Response of Optically Excited Al-Doped Zinc Oxide," Conference on Lasers and Electro-Optics/Europe and the European Quantum Electronics Conference CLEO Europe, Munich, Germany, June 21-25, 2015

[190] N. Kinsey, P. R. West, M. Ferrera, A. V. Kildishev, V. Shalaev, A. Boltasseva, "Adiabatically Tapered Metamaterial Waveguides for Extraction of High-k Waves," Conference on Lasers and Electro-Optics/Europe and the European Quantum Electronics Conference CLEO Europe, Munich, Germany, June 21-25, 2015

[189] (\*) A. Boltasseva, "Practical Nanophotonics with Plasmonic Ceramics," SPP7, Jerusalem, Israel, May 31 - June 5, 2015

[188] J. Ndukaife, A. Kildishev, A. G. Agwu Nnanna, S. Wereley, V. Shalaev, A. Boltasseva, "Plasmon-Assisted Optoelectrofluidics," CLEO 2015, San Jose, CA, USA, May 10-15, 2015

[187] N. Kinsey, P. West, M. Ferrera, A. Kildishev, V. Shalaev, A. Boltasseva, "Dispersion Control of High-k Waves in Tapered Hyperbolic Waveguides," CLEO 2015, San Jose, CA, USA, May 10-15, 2015

[186] S. Choudhury, A. Shaltout, V. Shalaev, A. Boltasseva, A. Kildishev, "Color Hologram Generation Using a Pancharatnam-Berry Phase Manipulating Metasurface," CLEO 2015, San Jose, CA, USA, May 10-15, 2015

[185] D. Wang, N. K. Emani, A. Boltasseva, A. V. kildishev, "Plasmon Resonance in Single- and Double-layer CVD Graphene Nanoribbons", CLEO 2015, San Jose, CA, USA, May 10-15, 2015

[184] V. E. Babicheva, M. Shalaginov, S. Ishii, A. Boltasseva, A. Kildishev, "Multilayer Cladding with Hyperbolic Dispersion for Plasmonic Waveguides," CLEO 2015, San Jose, CA, USA, May 10-15, 2015

[183] Z. Wang, X. Meng, S. H. Choi, Y. L. Kim, V. M. Shalaev, A. Boltasseva, "Plasmonic Random Lasing in Strongly Scattering Regime with Slanted Silver Nanorod Array," CLEO 2015, San Jose, CA, USA, May 10-15, 2015

- [182] C. Zhang, N. Kinsey, L. Chen, A. Boltasseva, V. Shalaev, L. J. Guo, "Ultra-thin, Smooth and Low loss Al-doped Ag Film and its Application in Plasmonic Interconnects," The 59th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN), San Diego, May 26-29, 2015
- [181] L. Prokopeva, N. Emani, A. Boltasseva, A. V. Kildishev, "Experimentally Fitted Time Domain Modeling of Graphene-based devices," MRS Spring meeting, San Francisco, CA, USA, April 6-10, 2015
- [180] J. Kim, A. Dutta, G. V. Naik, A. V. Kildishev, A. Boltasseva, J. Giles, F. J. Bezares, O. J. Glembocki, J. D. Caldwell, A. M. Mahmoud, H. Caglayan, N. Engheta, "Gold Antenna on Epsilon-Near-Zero Substrates: Effect on Radiation Pattern and Resonance Frequency," MRS Spring meeting, San Francisco, CA, USA, April 6-10, 2015
- [179] U. Guler, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "High temperature applications enabled by refractory plasmonic materials", Photonics West 2015, Photonic and phononic properties of engineered nanostructures - V conference, paper # 9371-25, San Francisco, CA, USA, February 7-12, 2015
- [178] V. E. Babicheva, M. Y. Shalaginov, S. Ishii, A. Boltasseva, A. V. Kildishev, "Towards practical realization of plasmonic waveguides cladded by hyperbolic metamaterials," Photonics West 2015, Photonic and phononic properties of engineered nanostructures - V conference, paper # 9371-75, San Francisco, CA USA, February 7-12, 2015
- [177] (\*) N. Kinsey, C. DeVault, J. Kim, I. Kitamura, M. Ferrera, U. Guler, L. Prokopeva, A. Kildishev, V. Shalaev, A. Boltasseva, "Dynamic Properties of Highly Doped Zinc Oxide", NANOMETA 2015: 5th International Topical Meeting on Nanophotonics and Metamaterial Conference, MON3o-I-03, Seefeld (Tirol), Austria, 5-8 January, 2015
- [176] V. E. Babicheva, N. Kinsey, G. V. Naik, M. Ferrera, A. V. Lavrinenko, V. M. Shalaev, A. Boltasseva, "Plasmonic modulator using CMOS-compatible material platform," 8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (METAMATERIALS) 2014, Copenhagen, August 25-30, 2014
- [175] (\*) N. Kinsey, J. Kim, L. Prokopeva, M. Ferrera, V. Babicheva, A. Dutta, S. Choudhury, A. Kildishev, V. Shalaev, and A. Boltasseva, "Practical Nanophotonics with Plasmonic Ceramics" 8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (METAMATERIALS) 2014, Copenhagen, August 25-30, 2014
- [174] S. Prayakrao, \*S. Robbins, \*N. Kinsey, A. Boltasseva, V. M. Shalaev, U. B. Wiesner, C. E. Bonner, R. Hussain, N. Noginova, M. A. Noginov, "Titanium nitride as nonmetallic metamaterial component: gyroidal self-assembly and nonlinear optical response," contribution OP14N-OP101-122, SPIE Optics and Photonics, Metamaterials, Metadevices, and Metasystems 2014 conference, San Diego, California, USA, August 17-21, 2014
- [173] (\*) N. Kinsey, U. Guler, J. Kim, G. V. Naik, V. M. Shalaev, A. Boltasseva, "Developing ceramic materials for practical plasmonics," SPIE Optics and Photonics, Metamaterials, Metadevices, and Metasystems 2014 conference, paper # 9160-52, San Diego, California, USA, August 17-21, 2014
- [172] (\*) N. Kinsey, M. Ferrera, V. Babicheva, G. V. Naik, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "CMOS Integrated Plasmonics: Interconnects and Modulators," SPIE Optics and Photonics, Active Photonic Materials VI conference, paper # 9162-18, San Diego, California, USA, August 17-21, 2014
- [171] (\*) N. K. Emani, T.-F. Chung, A. V. Kildishev, Y. P. Chen, A. Boltasseva, "Graphene as a Platform for Dynamically Controlled Plasmonics," SPIE Optics and Photonics, Plasmonics: Metallic Nanostructures and Their Optical Properties XII, paper # 9163-11, San Diego, California, USA, August 17-21, 2014
- [170] (\*) A. Boltasseva, "Transition Metal Nitrides: Practical Material Platform for Plasmonics, Metamaterials and Nanophotonics," 2014 IEEE Summer Topical Meeting, "Functional Meta- and Two-Dimensional materials (FMTM)" symposium, Delta Montréal, Montreal, Canada, July 14-16 2014
- [169] N. Kinsey, M. Ferrera, G.V. Naik, V.M. Shalaev, A. Boltasseva, "Practical Plasmonic Devices with TiN and TCOs," 2014 Gordon Research Conference on Plasmonics, Sunday River Resort, Newry, Maine, USA, July 6-11, 2014
- [168] U. Guler, J. Liu, A. V. Kildishev, A. Boltasseva, V. M. Shalaev, "Titanium nitride for high temperature plasmonics," 2014 Gordon Research Conference on Plasmonics, Sunday River Resort, Newry, Maine, USA, July 6-11, 2014
- [167] (\*) A. Boltasseva, "New Materials for Plasmonics and Metamaterials," 2014 Gordon Research Conference on Plasmonics, Sunday River Resort, Newry, Maine, USA, July 6-11, 2014
- [166] (\*) A. Boltasseva, "Practical nanophotonics with plasmonic ceramics," Nanoplasm 2014: "New frontiers in Plasmonics and Nano-optics," Cetraro, Italy, June 16-20, 2014
- [165] C. Pfeiffer, N. K. Emani, A. M. Shaltout, A. Boltasseva, V. M. Shalaev, A. Grbic, "Experimental Huygens' Surface for NIR Wavelengths," contribution FF1C.4, CLEO 2014, San Jose, CA, USA, June 8-13, 2014

- [164] J. Kim, Y. Zhao, A. Dutta, S. M. Choudhury, A. Kildishev, A. Alu, A. Boltasseva, "Nanostructured Transparent Conducting Oxide Films for Polarization Control with Plasmonic Metasurfaces," contribution FF2C.2, CLEO 2014, San Jose, CA, USA, June 8-13, 2014
- [163] J. C. Ndukaife, A. Mishra, U. Guler, A. A. Nnana, S. Wereley, A. Boltasseva, "Photothermal heating enabled by plasmonic nanoantennas for electrokinetic manipulation and sorting of submicron particles," contribution FTh1K.2, CLEO 2014, San Jose, CA, USA, June 8-13, 2014
- [162] J. Kim, B. Memarzadeh, A. Dutta, S. M. Choudhury, A. Kildishev, H. Mosallaei, A. Boltasseva, "GZO/ZnO Multilayered nanodisk metasurface to engineer the plasma frequency," contribution FW1K.4, CLEO 2014, San Jose, CA, USA, June 8-13, 2014
- [161] M. Y. Shalaginov, V. Vorobyov, J. Liu, M. Ferrera, A. Akimov, A. Lagutchev, A. N. Smolyaninov, V. V. Klimov, J. Irudayaraj, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Single-photon source based on NV center in nanodiamond coupled to TiN-based hyperbolic metamaterial," contribution JT4A.38, CLEO 2014, San Jose, CA, USA, June 8-13, 2014
- [160] V. Babicheva, N. Kinsey, G. Naik, M. Ferrera, A. Lavrinenko, V. M. Shalaev, A. Boltasseva, "CMOS Compatible Ultra-Compact Modulator," contribution FTu3K.3, CLEO 2014, San Jose, CA, USA, June 8-13, 2014
- [159] N. Kinsey, M. Ferrera, G. Naik, A. Kildishev, V. M. Shalaev, A. Boltasseva, "Low-Loss Plasmonic Titanium Nitride Strip Waveguides," contribution STu1M.1, CLEO 2014, San Jose, CA, USA, June 8-13, 2014
- [158] L. J. Prokopeva, N. K. Emani, A. Boltasseva, A. Kildishev, "Tunable Pulse-Shaping with Gated Graphene Nanoribbons," contribution FM4C.2, CLEO 2014, San Jose, CA, USA, June 8-13, 2014
- [157] J. Liu, U. Guler, W. Li, A. Kildishev, A. Boltasseva, V. M. Shalaev, "High-temperature plasmonic thermal emitter for thermo-photovoltaics," contribution FM4C.5, CLEO 2014, San Jose, CA, USA, June 8-13, 2014
- [156] U. Guler, Wei Li, A. Boltasseva, A. Kildishev, V. M. Shalaev, "Titanium Nitride as a Refractory Plasmonic Material for High Temperature Applications," contribution FM4C.8, CLEO 2014, San Jose, CA, USA, June 8-13, 2014
- [155] U. Guler, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Titanium nitride nanoparticles for therapeutic applications," contribution FM1K.4, CLEO 2014, San Jose, CA, USA, June 8-13, 2014
- [154] N. Kinsey, M. Ferrera, G. V. Naik, A. Kildishev, V. M. Shalaev, A. Boltasseva, "TiN-based plasmonic interconnects," Photonics North, Montreal, Canada, May 28-30, 2014
- [153] M. Shalaginov, N. Kinsey, M. Ferrera, G. V. Naik, A. Kildishev, A. Boltasseva, V. M. Shalaev, "Enabling Nanophotonics with Plasmonics and Metamaterials," Paper ID 2323, META'14, the 5th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Singapore, May 20-23, 2014
- [152] (\*) N. Kinsey, M. Ferrera, G. V. Naik, A. Kildishev, V. M. Shalaev, A. Boltasseva, "Low-Loss Titanium-Nitride-Based Strip Waveguides," paper ID 1897, META'14, the 5th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Singapore, May 20-23, 2014 (upgraded to invited)
- [151] V. E. Babicheva, N. Kinsey, G. V. Naik, M. Ferrera, A. V. Lavrinenko, V. M. Shalaev, A. Boltasseva, "Ultra-compact CMOS Compatible Plasmonic Modulator," Paper ID 1898, META'14, the 5th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Singapore, May 20-23, 2014
- [150] N. Kinsey, M. Ferrera, G. V. Naik, A. Kildishev, A. Boltasseva, V. M. Shalaev, "New TiN-based metamaterials," META'14, the 5th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Singapore, May 20-23, 2014
- [149] (\*) A. Boltasseva, "Plasmonics and Optical Metamaterials: Going Practical with Transition Metal Nitrides," MRS Spring Meeting, paper number \*KK2.06, San Francisco, California, USA, April 21-25, 2014
- [148] (\*) A. Boltasseva, "Plasmonics: Going Practical with Transition Metal Nitrides," paper #9125-14, SPIE Photonics Europe 2014, Brussels, Belgium, April 14-17, 2014
- [147] V. E. Babicheva, N. Kinsey, G. V. Naik, M. Ferrera, A. V. Lavrinenko, V. M. Shalaev, A. Boltasseva, "Ultra-compact modulators using novel CMOS-compatible plasmonic materials," paper #9133-29, SPIE Photonics Europe 2014, Brussels, Belgium, April 14-17, 2014
- [146] (\*) A. Boltasseva, 3rd International Conference on Frontiers of Plasmonics, Xiamen, China, March 26-April 1, 2014 (*cancelled*)
- [145] (\*) A. Boltasseva, "Ceramics as material platform for plasmonics and optical metamaterials," Workshop on Optical Plasmonic Materials, OSA Research in Optical Sciences Congress, Berlin, Germany, March 19, 2014
- [144] (\*) A. Boltasseva, "Using Semiconductors and Ceramics as New Materials for Plasmonic and Metamaterials Devices," "Physics and Simulation of Opto-Electronic Devices" conference, SPIE Photonics West 2014, symposium on "Semiconductor-Based Plasmonics," San Francisco, California, USA, February 1-6, 2014

- [143] (\*) A. Boltasseva, "Plasmonics and Optical Metamaterials: Going Practical with Transition Metal Nitrides," 44th Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, USA, January 5-9, 2014 (*cancelled*)
- [142] C. DeVault, U. Guler, V. Shalaev, A. Boltasseva, A. Kildishev, "Plasmonic Metal Nitrides for Thin-Film Silicon Solar Cells," ID: 1780306, Proceedings of Optical Nanostructures and Advanced Materials for Photovoltaics (PV), Renewable Energy and the Environment, Tucson, Arizona, USA, November 3-6, 2013
- [141] U. Guler, W. Li N. Kinsey, G. Naik, A. Boltasseva, J. Guan, A. Kildishev, V. Shalaev, "Plasmonic Titanium Nitride Nanostructures for Perfect Absorbers," ID: 1780265, Proceedings of Optical Nanostructures and Advanced Materials for Photovoltaics (PV), Renewable Energy and the Environment, Tucson, Arizona, USA, November 3-6, 2013
- [140] (\*) G. V. Naik, B. Saha, T. D. Sands, S. M. Saber, E. Stach, V. M. Shalaev, A. Boltasseva, "A Titanium Nitride-based Hyperbolic Metamaterial in the Visible and Infrared," 7th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials 2013, Bordeaux, France, September 16-21, 2013
- [139] M. Dosmailov, J. Patek, G. Sbarcea, M. Girtan, A. Vlad, M.A. Bodea, G.V. Naik, A. Boltasseva, T.A. Klar, J.D. Pedarnig, "Optical properties of metal doped ZnO thin films on glass and polymer substrates," 2013 joint conference of the Austrian Physical Society and the Swiss Physical Society, Linz, Austria, September 3-6, 2013
- [138] N. Emani, L. Prokopeva, A. Boltasseva, A. Kildishev, "Time domain modeling of metasurfaces with graphene," SPIE Optics and Photonics, San Diego, California, USA, August 24-28, 2013
- [137] (\*) A. Boltasseva, "Semiconductors and Ceramics: Developing New Material Platforms for Plasmonic and Metamaterial Devices," Fundamental optical processes in semiconductors (FOPS)-2013, Kodiak Island, Alaska, USA, August 12-16, 2013
- [136] (\*) A. Boltasseva, "Empowering Plasmonics and Metamaterials Technology with New Material Platforms," Frontiers of Nonlinear Physics (FNP'13), Nizhny Novgorod-Tchaikovsky, Russia, July 28-August 2, 2013
- [135] (\*) A. Boltasseva, "Empowering Plasmonics and Metamaterials Technology with New Materials," International Conference on Materials for Advanced Technologies, ICMAT 2013, Singapore, June 30 - July 5, 2013 (*cancelled*)
- [134] B. Saha, G. V. Naik, S. Saber, J. Liu, J. Irudayaraj, E. Stach, V. M. Shalaev, A. Boltasseva, T. D. Sands, "TiN/(Al,Sc)N Metal/Dielectric Superlattices for Metamaterial Applications in the Visible Range," 55th Electronic Materials Conference (EMC), contribution J6, University of Notre Dame, South Bend, Indiana, USA, June 26-28, 2013
- [133] J. Kim, Y. Zhao, G. Naik, N. Emani, U. Guler, A. Kildishev, A. Alu, A. Boltasseva, "Nanostructured Transparent Conductive Oxide Films for Plasmonic Applications," contribution QTh3B.8, CLEO/QELS 2013, San Jose, CA, USA, June 9-14, 2013
- [132] N. Emani, T.-F. Chung, L. Prokopeva, A. Kildishev, Y. Chen, A. Boltasseva, " Tuning Fano Resonances with Graphene," contribution CW3O.4, CLEO/QELS 2013, San Jose, CA, USA, June 9-14, 2013
- [131] G. V. Naik, B. Saha, J. Liu, S. Saber, E. Stach, T. D. Sands, V. Shalaev, A. Boltasseva, "A Titanium Nitride based Metamaterial for Applications in the Visible," contribution QTu3A.7, CLEO/QELS 2013, San Jose, CA, USA, June 9-14, 2013
- [130] U. Guler, J. Ndukaife, G. V. Naik, A. G. Agwu Nnanna, A. Kildishev, V. Shalaev, A. Boltasseva, "Local heating with titanium nitride nanoparticles," contribution QTu1A.2, CLEO/QELS 2013, San Jose, CA, USA, June 9-14, 2013
- [129] A. Boltasseva, "Empowering Plasmonics and Metamaterials Technology with New Material Platforms," Materials Research Society (MRS) Spring meeting, *MRS Outstanding Young Investigator Award* talk, San Francisco, CA, USA, April 1-5, 2013
- [128] (K) A. Boltasseva, "Plasmonic and optical metamaterial devices: Beyond gold and silver", Meta'13, the 4th International Conference on Metamaterials, Photonic Crystals, and Plasmonics, Sharjah, UAE, March 18-22, 2013
- [127] (\*) M. D. Thoreson, P. R. West, G. V. Naik, N. K. Emani, and A. Boltasseva, "New materials and processes for plasmonic and metamaterial devices," Paper#8619-23, SPIE Photonics West, San Francisco, CA, USA, February 2-7, 2013
- [126] G. V. Naik, B. Saha, T. D. Sands, A. Boltasseva, "A titanium nitride based metamaterial for applications in the visible wavelength range," 4th International Topical Meeting on Nanophotonics and Metamaterials (NANOMETA 2013), Seefeld, Austria, January 2-6, 2013

- [125] J. Kim, G.V. Naik, A. Boltasseva, A. V. Gavrilenko, K. Dondapati, V. I. Gavrilenko, "Electron Energy Structure and Dielectric Function Spectra of ZnO:Ga: First Principles Theory and Experiment," MRS Fall Meeting, paper # Z14.08, Boston, MA, USA, November 25 - 30, 2012
- [124] U. Guler, G. Naik, A. Boltasseva, V. Shalaev, A. Kildishev, "Nitrides as alternative materials for localized surface plasmon applications," FTh4A.2, 2012 Frontiers in Optics (FiO/LS) meeting, Rochester, New York, October 14-18, 2012
- [123] (P) A. Boltasseva, "Plasmonic metamaterials: Looking beyond gold and silver", 6<sup>th</sup> International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2012, St. Petersburg, Russia, September 17-22, 2012
- [122] A. V. Gavrilenko, K. Dondapati, V. I. Gavrilenko, J. Kim, G. V. Naik, A. Boltasseva, "Optical Functions of Nanocrystalline ZnO Containing Voids and doped with Ga," SPIE Optics and Photonics, contribution # 84552B, San Diego, California, USA, August 12-16, 2012
- [121] (\*) A. Boltasseva, "Plasmonic metamaterials: Beyond noble metals", SPIE Optics and Photonics, contribution # 8455-80, San Diego, California, USA, August 12-16, 2012
- [120] A. Alù, Y. Zhao, P. Y. Chen, B. Memarzadeh, G. V. Naik, A.V. Kildishev, H. Mosallaei, A. Boltasseva, V. Shalaev, N. Engheta, "Low-Loss Optical Metamaterials and Metasurfaces," USNC/URSI National Radio Science Meeting, Chicago, IL, USA, July 8-14, 2012
- [119] (\*) A. Boltasseva, "The road ahead for metamaterials: improved material building blocks," OSA meeting, Integrated Photonics Research (IPR), ITu4C.1, Colorado Springs, Colorado, USA, June 17-22, 2012
- [118] (\*) A. Boltasseva, "Oxides and nitrides as alternative plasmonic materials in the optical range," Gordon conference on Plasmonics, Colby College, Waterville, Maine, June 10-15, 2012
- [117] G. Naik, J. Liu, A. Kildishev, V. Shalaev, A. Boltasseva, "All-semiconductor metamaterial with negative refraction in the near-infrared," CLEO/QELS 2012, San Jose, CA, USA, May 6-11, 2012
- [116] G. Naik, J. Schroeder, U. Guler, X. Ni, A. Kildishev, T. Sands, A. Boltasseva, "Metal nitrides for plasmonic applications," CLEO/QELS 2012, San Jose, CA, USA, May 6-11, 2012
- [115] X. Ni, N. Emani, A. Kildishev, A. Boltasseva, V. Shalaev, "Symmetry-breaking plasmonic metasurfaces for broadband light bending," CLEO/QELS 2012, San Jose, CA, USA, May 6-11, 2012
- [114] N. Emani, T.-F. Chung, X. Ni, A. Kildishev, Y. Chen, A. Boltasseva, "Electrically tunable plasmonic resonances with graphene," CLEO/QELS 2012, San Jose, CA, USA, May 6-11, 2012
- [113] (\*) A. Boltasseva, "Oxides and nitrides as plasmonic materials," META'12, Paris, France, April 19-22, 2012
- [112] A. V. Kildishev, X. Ni, N. K. Emani, A. Boltasseva, V. M. Shalaev, "Probing the generalized laws of reflection and refraction with plasmonic metasurfaces," META'12, Paris, France, April 19-22, 2012
- [111] A. V. Kildishev, S. Ishii, X. Ni, N. K. Emani, V. P. Drachev, A. Boltasseva, V. M. Shalaev, "Plasmonic lenses and metasurfaces," META'12, Paris, France, April 19-22, 2012
- [110] (\*) A. Boltasseva, "Improved material building blocks for metamaterials," International Workshop on Electromagnetic Metamaterials (IWEM-V), Albuquerque, New Mexico, USA, March 26-27, 2012
- [109] (\*) A. Boltasseva, "Metamaterials and plasmonics: improved material building blocks," APS meeting, Boston, MA, USA February 27- March 2, 2012
- [108] G. V. Naik, J. Kim, P. R. West, N. K. Emani, A. Boltasseva, "The road ahead for metamaterials and plasmonics: Improved material building blocks," Physics of Quantum Electronics, Snowbird, Utah, USA, January 2-7, 2012
- [107] M. A. Bodea, G. Sbarcea, G.V. Naik, A. Boltasseva, J.D. Pedarnig, T.A. Klar, "Pulsed-laser deposition of infrared reflective oxide thin films from aluminum and gallium doped ZnO ceramics," COLA Conference, Playa del Carmen, Mexico, November 13-19, 2011
- [106] (\*) G. V. Naik, J. L. Schroeder, T. D. Sands, A. Boltasseva, "Titanium nitride as plasmonic material for visible wavelengths," 5th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2011, Barcelona, Spain, 10-15 October 2011
- [105] (\*) A. Boltasseva, "Metamaterials and plasmonics: improved material building blocks," SPIE Optics and Photonics, San Diego, California, USA, August 21-25, 2011
- [104] M. D. Thoreson, R. B. Nielsen, P. R. West, A. Kriesch, Z. Liu, J. Fang, A. V. Kildishev, U. Peschel, V. M. Shalaev, A. Boltasseva, "Studies of plasmonic hot-spot translation by a metal-dielectric layered superlens," SPIE Optics and Photonics, San Diego, California, USA, August 21-25, 2011

- [103] X. Ni, G. V. Naik, A. V. Kildishev, Y. Barnakov, A. Boltasseva, V. M. Shalaev, "Effect of metallic and hyperbolic metamaterial surface on electric and magnetic dipole emission," CLEO/QELS 2011, Baltimore, Maryland, USA, May 1-6, 2011
- [102] G. V. Naik, A. Boltasseva, "Ceramic plasmonic components for optical metamaterials," CLEO/QELS 2011, Baltimore, Maryland, USA, May 1-6, 2011
- [101] (\*) A. Boltasseva, "Doped semiconductors and intermetallics for plasmonic metamaterials," Villa Conferences on Energy, Materials and Nanotechnology, Las Vegas, Nevada, USA, April 21-25, 2011 - *cancelled*
- [100] (\*) G. Naik, A. Boltasseva, "Semiconductors for plasmonic metamaterials in the near-infrared," Nanometa conference, Seefeld, Austria, January 3-7, 2011
- [99] J.-Y. Kim, Z. Jacob, G. V. Naik, E. E. Narimanov, A. Boltasseva, V. M. Shalaev, "Experiments of spontaneous emission change with hyperbolic metamaterials," Frontiers in Optics 2010, Rochester, NY, USA, October 24-28, 2010
- [98] (\*) A. Boltasseva, "Semiconductors as low-loss plasmonic materials at near-infrared wavelengths," 4th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2010, Karlsruhe, Germany, September 13-18, 2010
- [97] (\*) A. Boltasseva, "Searching for better plasmonic materials," International Conference on Coherent and Nonlinear Optics (ICONO-2010), Kazan, Russia, August 23-27, 2010
- [96] M. G. Nielsen, A. Pors, R. B. Nielsen, A. Boltasseva, O. Albrektsen, S. I. Bozhevolnyi, "Demonstration of scattering suppression in retardation based plasmonic nanoantennas," SPIE Optics and Photonics: Plasmonics: Metallic Nanostructures and Their Optical Properties VIII, 7757-138, San Diego, California, USA, 1 - 5 August 2010
- [95] G. Naik, V. Shalaev, A. Boltasseva, "Semiconductor plasmonic metamaterials for near-infrared and telecommunication wavelength," SPIE Optics and Photonics: Metamaterials: Fundamentals and Applications III, 7754-20, San Diego, California, USA, 1 - 5 August 2010 (post-deadline)
- [94] (\*) A. Boltasseva, G. Naik, P. West, S. Ishii, N. Emani, V. Shalaev, "Searching for better plasmonic materials," SPIE Optics and Photonics: Plasmonics: Metallic Nanostructures and Their Optical Properties VIII, 7757-9, San Diego, California, USA, 1 - 5 August 2010
- [93] (\*) A. Boltasseva, G. Naik, P. West, N. Emani, Z. Jacob, R. B. Nielsen, M. D. Thoreson, V. Shalaev, "Towards meta-devices," SPIE Optics and Photonics: Metamaterials: Fundamentals and Applications III, 7754-53, San Diego, California, USA, 1 - 5 August 2010
- [92] (\*) A. Boltasseva, "Searching for alternative plasmonic materials," 4th International Conference "Frontiers of Nonlinear Physics," Nizhny Novgorod, Russia, July 13-20, 2010
- [91] (\*) A. Boltasseva, "Doped semiconductors as plasmonic materials at near-infrared wavelengths," 19th International Laser Physics Workshop (LPHYS'10), Foz do Iguaçu, Brazil, July 5 - 9, 2010
- [90] Z. Jacob, J.-Y. Kim, G. Naik, E. Narimanov, A. Boltasseva, V. M. Shalaev, "Hyperbolic metamaterial route to engineer the photonic density of states," Photonic Metamaterials and Plasmonics (META), Tucson, Arizona, USA, June 7-10, 2010
- [89] (\*) A. Boltasseva, R. B. Nielsen, G. Naik, P. West, N. Emani, V. Shalaev, "On the way to improved plasmonic structures," CIMTEC 2010, 12th International Conference on Modern Materials and Technologies, Symposium FM on Electromagnetic Metamaterials, Montecatini Terme, Tuscany, Italy, June 6-18, 2010
- [88] X. Ni, Z. Liu, A. Boltasseva, A. V. Kildishev, "Validation of the parallel three-dimensional solver for analysis of optical plasmonic bi-periodic multilayer nanostructures," CLEO/QELS 2010 Proceedings, JThE7, San Jose, California, USA, May 16-21, 2010
- [87] Z. Jacob, J.-Y. Kim, G. Naik, E. Narimanov, A. Boltasseva, V. M. Shalaev, "Radiative decay engineering with hyperbolic metamaterials," CLEO/QELS 2010, QTuD2, San Jose, California, USA, May 16-21, 2010
- [86] X. Ni, Z. Liu, A. Boltasseva, A. Kildishev, "Scalable spatial harmonic analysis solver for modeling plasmonic bi-periodic multilayer nanostructures," 14th Biennial IEEE Conference on Electromagnetic Field Computation (IEEE CEFC2010), Chicago, Illinois, USA, May 9th - 12th, 2010
- [85] M. D. Thoreson, E. Tatartschuk, E. F. Shamonina, A. Boltasseva, "Composite and multilayer near-field superlenses," SPIE Photonics Europe, paper 7711-15, Brussels, Belgium, April 12 - 16, 2010
- [84] R. B. Nielsen, A. Kristensen, A. Boltasseva, "Fabrication of a metal-dielectric composite with tuneable optical properties," SPIE Photonics Europe, paper 7711-61, Brussels, Belgium, April 12 - 16, 2010
- [83] M. D. Thoreson, J. Fang, Z. Liu, V. P. Drachev, A. V. Kildishev, V. M. Shalaev, A. Boltasseva, "Progress in metal-dielectric composite superlenses," META'10, Cairo, Egypt, February 22-25, 2010

- [82] (\*) A. Boltasseva, R. B. Nielsen, G. Naik, P. West, N. K. Emani, S. Ishii, V. M. Shalaev, "Towards plasmonic structures with improved performance," META'10, International Conference on Metamaterials, Photonic crystals and Plasmonics, Cairo, Egypt, February 22-25, 2010
- [81] (\*) A. Boltasseva, G. Naik, P. R. West, S. Ishii, N. Emani, V. M. Shalaev, "Searching for better plasmonic materials," "Winter Colloquium on the Physics of Quantum Electronics" (PQE), Snowbird, Utah, USA, January 3-7, 2010
- [80] (\*) A. Boltasseva, P. West, G. Naik, R. B. Nielsen, C. Jeppesen, "Profiled and nanostructured metal surfaces as plasmonic components", 2009 Fall MRS Symposium: "Excitons and Plasmon Resonances in Nanostructures-II," Boston, MA, USA, November 30 - December 4, 2009
- [79] (\*) A. Boltasseva, "Making plasmonic structures and metamaterials via lithography and nanoimprint", 3rd International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, London, UK, August 30-September 4, 2009
- [78] (\*) A. Boltasseva, R. B. Nielsen, P. West, "Fabricating plasmonic structures via lithographic and imprint techniques", "Progress in Electromagnetics Research Symposium" (PIERS 2009), Moscow, Russia, August 18-21, 2009 - cancelled
- [77] C. Jeppesen, R. B. Nielsen, S. Xiao, N. A. Mortensen, A. Boltasseva, A. Kristensen, "Experimental investigation of Fang's Ag superlens suitable for integration," SPIE proceedings vol. 6638, 663804, SPIE Optics and Photonics: Plasmonics, San Diego, California, USA, August 2-6, 2009
- [76] (\*) A. Boltasseva, P. West, R. B. Nielsen, C. Jeppesen, A. Kristensen, "Making plasmonic structures for nano- and meta-photonics: fabrication methods and challenges", SPIE Optics and Photonics: Plasmonics, San Diego, California, USA, August 2-6, 2009
- [75] (\*) A. Boltasseva, "Nanosculpturing metamaterials for nanophotonics", International Laser Physics Workshop (LPHYS'09), Barcelona, Spain, July 13 - 17, 2009
- [74] K. Leosson, T. Rosenzweig, P. Hermannsson, M. Gather, A. Boltasseva, "Compact plasmonic devices with low polarization-dependent loss", ICMAT 2009, Singapore, June 28 - July 3, 2009
- [73] (\*) A. Boltasseva, R. B. Nielsen, C. Jeppesen, P. West, "Making plasmonic structures via lithography and imprint", International Conference on Materials for Advanced Technologies, ICMAT 2009, Singapore, June 28 - July 3, 2009
- [72] (\*) A. Boltasseva, R. B. Nielsen, C. Jeppesen, P. West, "Metal-dielectric structures for nanoplasmonics and metamaterials", ETOPIIM 8, Crete, Greece, June 7-12, 2009
- [71] (\*) A. Boltasseva, R. B. Nielsen, C. Jeppesen, A. Kristensen, Z. Liu, H.-K. Yuan, A. V. Kildishev, V. M. Shalaev, "Fabricating plasmonic components for nano- and meta-photonics," 2009 MRS Spring Meeting, San Francisco, California, USA, April 13-17, 2009
- [70] (\*) A. Boltasseva, R. B. Nielsen, C. Jeppesen, A. Kristensen, R. Bakker, Z. Liu, H.-K. Yuan, A. V. Kildishev, V. M. Shalaev, "Fabricating plasmonic components for nanophotonics," 2009 IEEE/LEOS Winter Topical Meetings, TuA2.2, Innsbruck, Austria, January 12-14, 2009
- [69] J. Beermann, S. M. Novikov, T. Søndergaard, A. Boltasseva, S. I. Bozhevolnyi, "Two-photon mapping of localized field enhancements in thin nanostrip antennas," 2nd European Topical Meeting on Nanophotonics and Metamaterials (NANOMETA 2009), Tue4f.72, Seefeld, Austria, January 5-8, 2009
- [68] S. M. Novikov, J. Beermann, T. Søndergaard, A. Boltasseva, S. I. Bozhevolnyi, "Field enhancement by groups of gold nano-strip antennas investigated using two-photon photoluminescence scanning optical microscopy," 2nd European Topical Meeting on Nanophotonics and Metamaterials (NANOMETA 2009), Tue4f.75, Seefeld, Austria, January 5-8, 2009
- [67] I. P. Radko, A. Boltasseva, S. I. Bozhevolnyi, "High-efficiency local light-plasmon conversion," 2nd European Topical Meeting on Nanophotonics and Metamaterials (NANOMETA 2009), Wed4f.27, Seefeld, Austria, January 5-8, 2009
- [66] A. Huck, U. L. Andersen, S. Smolka, A. Boltasseva, P. Lodahl, "Excitation and characterization of non-classical surface plasmon polaritons," 2nd European Topical Meeting on Nanophotonics and Metamaterials (NANOMETA 2009), Wed4f.28, Seefeld, Austria, January 5-8, 2009
- [65] T. Rosenzweig, P. G. Hermannsson, A. Boltasseva, K. Leosson, "Effects of cladding thickness on propagation and coupling loss of LRSPP waveguides with square cross-sections," 2nd European Topical Meeting on Nanophotonics and Metamaterials (NANOMETA 2009), Wed4f.69, Seefeld, Austria, January 5-8, 2009
- [64] (\*) A. Boltasseva, R. B. Nielsen, C. Jeppesen, A. Kristensen, "Fabricating plasmonic components for nanophotonics and lab-on-a-chip applications," 2nd European Topical Meeting on Nanophotonics and Metamaterials (NANOMETA 2009), Wed3o.2, Seefeld, Austria, January 5-8, 2009

- [63] A. Huck, S. Smolka, P. Lodahl, A. Boltasseva, U. L. Andersen, "Generation of non-classical surface-plasmon polaritons," Plasmonics and Metamaterials (META), OSA Topical Meeting, Rochester, NY, USA, October 20-23, 2008
- [62] (\*) A. Boltasseva, R. B. Nielsen, C. Jeppesen, A. Kristensen, R. Bakker, Z. Liu, H.-K. Yuan, A. V. Kildishev, V. M. Shalaev, "Fabricating metal-dielectric structures for plasmonic components and metamaterials", 2nd Congress on Advanced Electromagnetic Materials in Microwaves and Optics: Metamaterials 2008, Pamplona, Spain, September 21-26, 2008
- [61] I. Fernandez-Cuesta, R. B. Nielsen, A. Boltasseva, X. Borrise, F. Pérez-Murano, A. Kristensen, "Excitation of fluorescent nanoparticles by plasmons confined and propagating in V-grooves", 34rd International Conference on Micro- and Nano-Engineering MNE08, Athens, Greece, September 15-18, 2008
- [60] (\*) A. Boltasseva, "Nanoplasmonics and metaphotonics: fabrication challenges", Photon08, Heriot-Watt University Campus, Edinburgh, UK, August 25-28, 2008
- [59] T. Søndergaard, S. I. Bozhevolnyi, J. Jung, J. Beermann, G. Della Valle, A. Boltasseva, "Slow-light plasmonic metal nano-strip resonators," SPIE Photonics North 2008, 7099, p. 70991G-1-9, San Francisco, CA, USA, 2008
- [58] (\*) A. Boltasseva, R. B. Nielsen, A. Kristensen, "Fabricating plasmonic components for nanophotonics," SPIE Optics and Photonics, Plasmonics, San Diego, California, USA, August 10-14, 2008
- [57] V. M. Shalaev, Z. Liu, R. Bakker, V. P. Drachev, A. V. Kildishev, A. Boltasseva, R. H. Pedersen, "Plasmonic nanoantenna arrays for the visible range", PIERS 2008 Progress in Electromagnetics Research Symposium, Cambridge, USA, July 2-6, 2008
- [56] (\*) A. Boltasseva, "Nanoplasmonics and metamaterials: fabrication challenges", International Conference "Laser Optics 2008," St. Petersburg, Russia, June 23-28, 2008
- [55] (\*) A. Boltasseva, "Plasmonic components for nano- and meta-photonics", META'08 - the NATO Advanced Research Workshop: Metamaterials for Secure Information and Communication Technologies, Marrakesh, Morocco, May 7-10, 2008
- [54] I. P. Radko, A. Boltasseva, S. I. Bozhevolnyi, "Refracting surface plasmons with nanoparticle arrays", CLEO/QELS 2008, QTuG6, San Jose, California, USA, May 4-9, 2008
- [53] P. G. Hermannsson, T. Rosenzweig, K. Leosson, A. Boltasseva, "Simulations of a compact integrated plasmonic attenuator operating at telecom wavelengths", CLEO/QELS 2008, QTuG6, San Jose, California, USA, May 4-9, 2008
- [52] R. B. Nielsen, A. Boltasseva, A. Kristensen, S. I. Bozhevolnyi, V. Volkov, I. Fernandez-Cuesta, A. Klukowska, "Fabrication of channel and wedge plasmon polariton devices by combined UV and nanoimprint lithography", CLEO/QELS 2008, QWA6, San Jose, California, USA, May 4-9, 2008
- [51] (\*) A. Boltasseva, "Fabricating plasmonic components for nanophotonics", SPIE Photonics Europe, 6988-5, Strasbourg, France, April 7-11, 2008
- [50] J. Beermann, A. B. Evlyukhin, A. Boltasseva, S. I. Bozhevolnyi, "Nonlinear microscopy of localized field enhancements in fractal metal nanostructures", SPIE Photonics Europe, 6987-76, Strasbourg, France, April 7-11, 2008
- [49] I. P. Radko, S. I. Bozhevolnyi, A. Boltasseva, G. Brucoli, L. Martin-Moreno, F. J. Garcia-Vidal, "Efficiency of local surface plasmon polariton excitation on ridges", SPIE Photonics Europe, 69880Q-1-8, Strasbourg, France, April 7-11, 2008
- [48] R. B. Nielsen, A. Kristensen, A. Boltasseva, S. I. Bozhevolnyi, V. S. Volkov, "Fabrication of plasmonic waveguides by nanoimprint and UV-lithography," SPIE Photonics West, MOEMS-MEMS 2008, 6883, p. 688304-1-8, San Jose, California, USA, January 19-24, 2008
- [47] W. Cai, U. K. Chettiar, H.-K. Yuan, A. V. Kildishev, V. P. Drachev, V. M. Shalaev, A. Boltasseva, "Experimental observation of negative magnetic response in the visible spectral range," Metamaterials'2007, First International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Rome, Italy, October 22-26, 2007
- [46] A. Boltasseva, K. B. Jørgensen, R. H. Pedersen, K. Leosson, R. B. Nielsen, I. Fernandez-Cuesta, I. P. Radko, S. I. Bozhevolnyi, A. Kristensen, "Plasmonic components fabrication by lithographic patterning and nanoimprint," 33rd International Conference on Micro- and Nano-Engineering MNE07 proceedings, p. 53-54, Copenhagen, Denmark, September 23-26, 2007
- [45] I. Fernandez-Cuesta, R. B. Nielsen, D. Heinis, A. Boltasseva, X. Borrisé, N. van Hulst, F. Pérez-Murano, A. Kristensen, "Plasmon confinement in V-groove waveguides fabricated by nanoimprint lithography," 33rd International Conference on Micro- and Nano-Engineering MNE07 proceedings, 487-488, Copenhagen, Denmark, September 23-26, 2007

- [44] H.-K. Yuan, W. Cai, U. K. Chettiar, V. De Silva, A. V. Kildishev, A. Boltasseva, V. P. Drachev, V. M. Shalaev, "Fabrication of metamagnetics for visible wavelengths," *Frontiers in Optics 2007*, FWD4, San Jose, California, USA, September 16-20, 2007
- [43] R. M. Bakker, A. Boltasseva, Z. Liu, S. Gresillon, R. H. Pedersen, A. V. Kildishev, V. P. Drachev, V. M. Shalaev, "Optical 2D nanoantennae arrays," *Frontiers in Optics 2007*, FWU6, San Jose, California, USA, September 16-20, 2007
- [42] Z. Liu, A. Boltasseva, R. M. Bakker, S. Gresillon, H.-K. Yuan, A. V. Kildishev, V. P. Drachev, V. M. Shalaev, "Far-field characterization of gold nanoantenna arrays," *Frontiers in Optics 2007*, FThF2, San Jose, California, USA, September 16-20, 2007
- [41] (\*) A. Boltasseva, K. Leosson, T. Rosenzweig, J. Jung, T. Søndergaard, S. I. Bozhevolnyi, R. B. Nielsen, K. B. Jørgensen, R. H. Pedersen, A. Kristensen, I. Fernandez-Cuesta, "Plasmonic waveguides: building nanophotonics with metals," 16th International Laser Physics Workshop book of abstracts, p. 31, León, Mexico, August 20-24, 2007
- [40] (\*) A. Boltasseva, K. Leosson, T. Rosenzweig, J. Jung, T. Søndergaard, S. I. Bozhevolnyi, R. B. Nielsen, K. B. Jørgensen, R. H. Pedersen, A. Kristensen, I. Fernandez-Cuesta, "Strips, wires and grooves as plasmonic waveguides for device applications," *SPIE Optics and Photonics*, 6638-32, San Diego, California, USA, August 26-30, 2007
- [39] T.A. Klar, U.K. Chettiar, H.-K. Yuan, W. Cai, A. Boltasseva, V.P. Drachev, A.V. Kildishev, V.M. Shalaev, "Single Negative, Double Negative, Low Loss Negative," *CLEO/Europe IQEC Conference*, Munich, June 17-22, 2007
- [37] R. B. Nielsen, A. Kristensen, A. Boltasseva, I. Fernandez-Cuesta, "Fabrication of plasmonic waveguides by nanoimprint lithography," *Surface Plasmon Photonics 3 abstracts* p. 304, Dijon, France, June 17-22, 2007
- [36] J. Beermann, S. I. Bozhevolnyi, A. Boltasseva, "Nonlinear microscopy of localized enhancement in fractal nanostructures," *Surface Plasmon Photonics 3 abstracts* p. 258, Dijon, France, June 17-22, 2007
- [35] I. P. Radko, S. I. Bozhevolnyi, A. Boltasseva, "Surface plasmon beam focusing and splitting by parabolic structures," *Surface Plasmon Photonics 3 abstracts* p. 144, Dijon, France, June 17-22, 2007
- [34] K. Leosson, T. Rosenzweig, A. Boltasseva, "Nanowire waveguides for integrated plasmonic devices," *Surface Plasmon Photonics 3 abstracts* p. 149, Dijon, France, June 17-22, 2007
- [33] I. Fernandez-Cuesta, R. B. Nielsen, A. Boltasseva, X. Borrisé, F. Pérez-Murano, A. Kristensen, "V-groove plasmonic waveguides fabricated by nanoimprint lithography," *The 51st International conference on electron, ion, and photon beam technology & nanofabrication*, 2007EIPBN, Denver, Colorado, May 29 – June 1, 2007 (ordinary submission upgraded to \*invited\*)
- [32] (\*) A. Boltasseva, R. B. Nielsen, K. B. Jørgensen, R. H. Pedersen, A. Kristensen, I. Fernandez-Cuesta, "Imprinted plasmonic waveguides," *International Conference on Coherent and Nonlinear Optics (ICONO 2007)*, Minsk, Belarus, May 28-June 1, 2007
- [31] (\*) A. Boltasseva, K. Leosson, S. I. Bozhevolnyi, T. Søndergaard, K. B. Jørgensen, R. H. Pedersen, A. Kristensen, "Metal strips and wires as plasmonic waveguides for integrated-optics components," *CLEO/QELS and PhAST 2007*, QThG1, Baltimore, Maryland, USA, May 6-11, 2007
- [30] H.-K. Yuan, U. K. Chettiar, W. Cai, A. V. Kildishev, A. Boltasseva, V. P. Drachev, V. M. Shalaev, "Negative meta-magnetism in the visible range," *CLEO/QELS and PhAST 2007*, QThI5, Baltimore, Maryland, USA, May 6-11, 2007
- [29] T. Rosenzweig, K. Leosson, A. Boltasseva, "Metal nanowires: a new class of plasmonic waveguides", *European Conference on Integrated Optics (ECIO)*, Copenhagen, Denmark, April 25-27, 2007
- [28] H.-K. Yuan, W. Cai, U. K. Chettiar, A. V. Kildishev, V. P. Drachev, V. M. Shalaev, and A. Boltasseva, "Experimental observation of negative permeability in the visible spectral range," *The 1st European Topical Meeting on Nanophotonics and Metamaterials*, Nanometa, Seefeld, Austria, January 8-11, 2007
- [27] A. Boltasseva, K. Leosson, S. I. Bozhevolnyi, "Symmetric gold nanowires as plasmonic waveguides with TE and TM guiding," *The 1st European Topical Meeting on Nanophotonics and Metamaterials*, Nanometa, Seefeld, Austria, January 8-11, 2007
- [26] R. H. Pedersen, A. Boltasseva, D. M. Johansen, T. Nielsen, K. B. Jørgensen, K. Leosson, J. E. Østergaard, A. Kristensen, "Nanoimprint fabrication of long-range SPP devices," *Nanoimprint and Nanoprint Technology NNT2006*, San Francisco, CA, USA, November 15-17, 2006
- [25] R. H. Pedersen, A. Boltasseva, D. M. Johansen, T. Nielsen, K. B. Jørgensen, K. Leosson, J. E. Østergaard, A. Kristensen, "Nanoimprinted reflecting gratings for long-range surface plasmon polaritons," *International conference on Micro- and Nano-engineering MNE06*, Barcelona, Spain, September 17-20, 2006

- [24] A. Boltasseva, T. Søndergaard, and S. I. Bozhevolnyi, "Long-range surface plasmon polariton propagation in photonic crystals: The role of out-of-plane scattering," Quantum Electronics and Photonics QEP-17, Photon06 abstract book, p.110, Manchester, UK, September 4-7, 2006
- [23] (\*) A. Boltasseva and S. I. Bozhevolnyi, "Wavelength selective components based on long-range surface plasmon polariton waveguides," SPIE Optics and Photonics 2006, Plasmonics: Nanoimaging, Nanofabrication, and Their Applications II, 6324-02, San Diego, California, USA, August 13-17, 2006
- [22] K. Leosson, A. Boltasseva, T. Nikolajsen, and S. I. Bozhevolnyi, "LR-SPP waveguides with TE and TM guiding," SPIE Optics and Photonics 2006, Plasmonics: Nanoimaging, Nanofabrication, and Their Applications II, 6324-04, San Diego, California, USA, August 13-17, 2006
- [21] R. H. Pedersen, A. Boltasseva, K. B. Jørgensen, D.M. Johansen, T. Nielsen, K. Leosson, J.E. Østergaard, A. Kristensen, "Long-range SPP devices fabricated by nanoimprint lithography," Litho 2006, Marseille, France, June 26 – 30, 2006
- [20] A. Boltasseva, S. I. Bozhevolnyi, T. Søndergaard, and K. Leosson, "LR-SPP-based waveguides for device applications", Gordon Research Conference on Plasmonics (poster contribution), Keene, NH, USA, July 23-28, 2006
- [19] D. M. Johansen, A. Boltasseva, T. Nielsen, M. Vogler, G. Grützner, F. Reuther, K. Leosson, and A. Kristensen, "Nanoimprinted long-range surface plasmon polariton waveguide components," CLEO/QELS 2006, QMI - Nanoplasmonics III, Long Beach, California, USA, May 21-26, 2006
- [18] A. Boltasseva and S. I. Bozhevolnyi, "Compact Bragg gratings for integrated optics utilizing long-range surface plasmon polaritons," Materials Research Society Fall Meeting Abstracts, p. 848, Nanoscale Optics and Photonics Based on Metals, Boston, MA, USA, November 27-30, 2005
- [17] A. Boltasseva, S. I. Bozhevolnyi, K. Leosson, "Photonic crystals for long-range surface plasmon polaritons," Workshop on Metamaterials for Microwave and Optical Technologies Abstracts, p. 57, San Sebastian, Spain, July 17-21, 2005
- [16] A. Boltasseva, S. I. Bozhevolnyi, T. Nikolajsen, K. Leosson, "Optical components utilizing long-range surface plasmon polaritons," Danish Physical Society Annual Meeting 2005 Abstracts, KF06P, Nyborg, Denmark, June 1, 2005
- [15] A. Boltasseva, T. Nikolajsen, K. Leosson, T. Søndergaard, S. I. Bozhevolnyi, and J. M. Hvam, "Guiding of long-range surface plasmon polaritons along channels in periodic arrays of scatterers," CLEO/QELS 2004, IFC6, San Francisco, California, USA, May 2004
- [14] P. S. Carney, R. Frazin, J. M. Rutherford, S. I. Bozhevolnyi, V. S. Volkov, A. Boltasseva, J. C. Schotland, "Computed imaging for the near-field," Frontiers in Optics/Laser Science Abstracts, WO2, Tucson, Arizona, USA, October 2003
- [13] K. Leosson, T. Nikolajsen, A. Boltasseva, T. Søndergaard and S. I. Bozhevolnyi, "Photonic bandgap structures for guiding of long-range surface plasmon polaritons," ECOC-IOOC 2003, 5, 70-71, Rimini, Italy, September 2003
- [12] P.I. Borel, L.H. Frandsen, M. Thorhauge, A. Boltasseva, J. Cheng, M. Kampanis, M. Kristensen, A. Lavrinenko, K. Rechendorff, R. Shim, Y. Zhuang and H.M.H. Chong, "Very low losses for TM polarized light in photonic crystal waveguides," CLEO/QELS 2003, JWC3, Baltimore, Maryland, USA, June 2003
- [11] K. Leosson, S. Bozhevolnyi, V. Volkov, and A. Boltasseva, "Photonic bandgap effect in disordered arrays of scatterers: implications to broadband, low-loss waveguiding," ECOC 2002, P2.5, Copenhagen, Denmark, September 2002
- [10] (\*) M. Kristensen, A. Boltasseva, P.I. Borel, L.H. Frandsen, M. Thorhauge and B. Tromborg, "Integrated photonic crystal waveguide technology in Europe," ACOFT, Sydney, Australia, July 2002
- [9] M. Thorhauge, M. Kristensen, J. Arentoft, L.H. Frandsen, T. Søndergaard, A. Boltasseva and P.I. Borel, "Reduced coupling loss between fiber and planar photonic crystal waveguides," 7th International Conference on Nanometer-Scale Science and Technology and 21st European Conference on Surface Science (NANO-7/ECOSS-21), Th-P-029, Malmö, Sweden, June 2002
- [8] A. Boltasseva, J. Arentoft, M. Thorhauge, M. Kristensen, T. Søndergaard, "Characterization of low-loss SOI photonic crystal waveguides," Annual Meeting of the Danish Optical Society Proceedings, Aarhus, Denmark, November 2001
- [7] T. Søndergaard, A. Bjarklev, A. Lavrinenko, B. Tromborg, J. Arentoft, M. Kristensen, and A. Boltasseva, "Theoretical analysis of finite-height planar photonic crystal waveguides," International Workshop on Nonlinear Photonic Crystals Proceedings, p. 28, Kgs. Lyngby, Denmark, October 2001

- [6] J. Arentoft, M. Kristensen, T. Søndergaard, A. Boltasseva, "Realization of robust photonic crystal waveguides designed to reduce out-of-plane scattering," ECOC 2001, Th.A.2.6, 592-593, Amsterdam, Netherlands, October 2001
- [5] (\*) J. Erland, S.I. Bozhevolnyi, V.S. Volkov, K. Leosson, J.J. Larsen, J.R. Jensen, J. Broeng, H. Simonsen, A. Bjarklev, P.M.W. Skovgaard, A. Boltasseva, J.M. Hvam, "Photonic Bandgap Components in Optical Communication," CLEO focus meeting on "Non Linear Devices and Applications to Photonics," Munich, Germany, June 2001
- [4] J. Arentoft, M. Kristensen, A. Boltasseva, T. Søndergaard, "Silica/silicon/silica crystal waveguides with 90 degrees bend," Workshop on Photonic and Electromagnetic Crystal Structures, St. Andrews, Scotland, June 2001
- [3] A.E. Boltasseva, A.E. Drakin, A.P. Bogatov, "Experimental Study of the alpha-Factor in Strained Quantum-Well Semiconductor Lasers," XLII scientific conference of Moscow Institute of Physics and Technology Proceedings, 4, 41, Dolgoprudny, Russia, November 1999 (in Russian)
- [2] P. Bogatov, A. E. Boltasseva, A. E. Drakin, V. P. Konyaev, "Gain Spectrum and Amplitude-Phase Coefficient in InGaAs/AlGaAs/GaAs Strained Quantum-Well Semiconductor Lasers in 0.94-0.98  $\mu\text{m}$  Wavelength Range," 3rd Belarussian-Russian Workshop "Semiconductor Lasers and Systems" Proceedings, p. 22, Minsk, Belarussia, June 1999 (in Russian)
- [1] A.E. Drakin, A.P. Bogatov, A.E. Boltasseva, M.A. Belkin "Optical Gain and alpha-Factor in InGaAs/GaAs Semiconductor Laser," XLI scientific conference of Moscow Institute of Physics and Technology Proceedings, Dolgoprudny, Russia, November 1998 (in Russian)

## Teaching and Supervising Experience:

### Bachelor, Master's and PhD Students:

|                            |     |                                                   |            |
|----------------------------|-----|---------------------------------------------------|------------|
| [1] Rasmus B. Nielsen      | MS  | Technical University of Denmark (2007)            | co-advisor |
| [2] Kasper B. Joergensen   | BS  | University of Southern Denmark (2008)             | co-advisor |
| [3] Maksim Zalkovskij      | MS  | DTU (2009)                                        | co-advisor |
| [4] Claus Jeppesen         | PhD | DTU (2011, now at DTU)                            | co-advisor |
| [5] Rasmus B. Nielsen      | PhD | DTU (2010, now at ASML, Netherlands)              | advisor    |
| [6] Tiberiu Rosenzweig     | PhD | University of Iceland (2010)                      | co-advisor |
| [7] Paul R. West           | PhD | Purdue (2008-2014, now at Intel)                  | supervisor |
| [8] Gururaj V. Naik        | PhD | Purdue (2009-2013, now Assist Prof at Rice)       | advisor    |
| [9] Naresh K. Emani        | PhD | Purdue (2009-2014, now at DSI, Singapore)         | advisor    |
| [10] Jongbum Kim           | PhD | Purdue (2009-2016, now at UMaryland)              | advisor    |
| [11] Nathaniel Kinsey      | PhD | Purdue (2010-2016, now Assist Prof at VCU)        | advisor    |
| [12] Justus C. Ndukaife    | PhD | Purdue (2011-2017, now Assist Prof at Vanderbilt) | advisor    |
| [13] Zuoxian Wang          | PhD | Purdue (2011-2018, now at ASML)                   | advisor    |
| [14] Aveek Dutta           | PhD | Purdue (2015-2020, IBM)                           | advisor    |
| [15] Sajid M. Choudhury    | PhD | Purdue (2014-2019, Assist Prof in BUET)           | co-advisor |
| [16] Krishnakali Choudhury | PhD | Purdue (2014-2019, Intel)                         | advisor    |
| [17] Soham Saha            | PhD | Purdue (2018-2022, Argonne)                       | co-advisor |
| [18] Sarah Chowdhury       | PhD | Purdue (2019-2022, IBM)                           | advisor    |
| [19] Xiaohui Xu            | PhD | Purdue (2019-2023, Princeton)                     | advisor    |
| [20] Zach Martin           | PhD | Purdue (2020-2024, TSMC)                          | advisor    |
| [21] Blake Wilson          | PhD | Purdue (2020-2024, Quantinuum)                    | advisor    |
| [22] Yuheng Chen           | PhD | Purdue (in progress)                              | advisor    |
| [23] Morris Yang           | PhD | Purdue (in progress)                              | advisor    |
| [24] Miroslava Marinova    | PhD | Purdue (in progress)                              | advisor    |
| [25] Owen Matthiassen      | PhD | Purdue (in progress)                              | advisor    |
| [26] Jake Choi             | PhD | Purdue (in progress)                              | advisor    |

### Undergraduate research projects at Purdue:

- Ogaga Odele (Fall 2012, Spring 2013)
- Ikuko Kitamura (Spring 2013, Spring 2014)
- Renju Liu (Fall 2013)
- Yugang Jing (Spring 2014, SURF program, summer 2014)
- Elizabeth Grubbs (Summer, Fall 2014)

- Carolina Aguilar (Summer 2017)
- Erin Shelton (Fall/Spring 2017)
- Fidel Galano (Fall 2017)
- Jihan Salsabila (Fall 2017)
- Scott Criswell (Fall/Spring 2017)
- Oksana Makarova (Fall 2015 – Spring 2019, DURi research grant)
- Jack Havey (Spring 2019)
- Advay Welling - F23 - S24
- Sarthak Tandon - F23 - S24
- Trang Do - F23 - S24
- Geetika Chitturi - F23 - S24
- Lee Dongeun - Su23 - F23
- Rohan Malavathu - S23 - S24
- Rohan Ojha - S23 - S24
- Jaxon Pottle - S23 - S24
- Daksh Kumar Singh - F22 - S24
- Michael Bezick - F22 - S24
- Vaishnavi Iyer - F21 - S24
- Seoyoung Cho - Su23

#### **Teaching at Purdue:**

Person in charge:

|           |                                               |                           |
|-----------|-----------------------------------------------|---------------------------|
| ECE 30414 | Elements of Electro- and Fiber Optics, Purdue | (2009-present)            |
| ECE 30416 | Introduction to Engineering Optics, Purdue    | (2010-2019)               |
| ECE 395   | Introduction to Nanotechnology                | (Spring 2019, 2020, 2021) |
| ECE 30653 | Introduction to Nano- and Quantum Technology  | (Spring 2022-present)     |

#### **Teaching outside Purdue:**

- Three-week undergraduate research courses on Plasmonics and Nanofabrication, Technical University of Denmark (2003, 2004)
- Course on Nanophotonics for graduate students, Technical University of Denmark (¼ course, Spring 2007, 2008)
- Women in Photonics (WiP) School on Photonic Metamaterials, Paris, France, April 13-17, 2008 - Invited lecturer, 2-hours tutorial
- Metamorphose PhD school on “Fabrication and optical properties of nanostructured metamaterials,” Rethymnon, Crete, Greece, June 12-13, 2009 - Invited lecturer, 1.5-hour lecture
- Development and teaching of 1-week course on “Nanophotonics,” ECTS 2.5, Erlangen Master Program in advanced optical technologies (MAOT), Friedrich-Alexander-Universität Erlangen-Nürnberg (Fall 2009)
- 1-week course on “Nanophotonics,” ECTS 2.5, Erlangen Master Program in advanced optical technologies (MAOT), Friedrich-Alexander-Universität Erlangen-Nürnberg (Fall 2010)
- International School of Quantum Electronics, 52nd Course on Advances in Nanophotonics, Erice, Sicily, Italy, July 17-29, 2012 - Invited lecturer, 2-hours tutorial
- Summer School on Plasmonics, University of Toronto, Toronto, Canada, August 26-30, 2013 – Invited lecturer, 1.5-hour lecture
- Short course on nanophotonics in Kazan Federal University, Russia, June 2014 – invited lecturer, 6-hours of lectures
- School on Complex Photonics, International School of Physics "Enrico Fermi", Como lake, Italy, July 12-18, 2015 – invited lecturer, 3 hours of lectures
- International Summer School on Nonlinear Optics, August 25-27, 2020, Novosibirsk State University, Novosibirsk – 1-hour lecture (online)
- The VIII International School and Conference on Photonics (Photonica2021), Belgrade, Serbia, 24-27 August 2021 – Invited lecture (online)
- 2021 MRS Fall meeting, Boston, MA, USA, November 29 – December 2, 2021 – Tutorial
- Lake Como School on Advanced Studies on Machine Learning Photonics, Como, Italy, August 28 to September 2, 2022 – Invited lecturer

#### **Other:**

Effective College Teaching Workshop, Purdue University, October 2012

Graduate Faculty Mentoring Workshop, Purdue University, February 2009  
 Education in University Teaching (UDtU), Technical University of Denmark, diploma, 2007  
 "Mentoring of Experts" courses for young faculty on supervising graduate students, Technical University of Denmark, 2006

## **Outreach:**

- Member of KIF, Network for Women in Physics in Denmark, NorWiP, Nordic Network for Women in Physics (2005-2009)
- Participant in outreach programs associated with The European FP6 Network of Excellence ePIXnet (2005-2006)
- Member of the organizing committee: 3rd Workshop of Nordic Network for Women in Physics (NorWiP), Lyngby, Denmark, August 16-17, 2007
- Participation in Nanophotonics Days, Open House arrangements and "Meet a Researcher" initiatives, Technical University of Denmark, 2006–2010
- Co-authored a book chapter for high-school teachers on Nanophotonics: A. Boltasseva and M. van der Poel, "Brydninger," chapter in Optiske Horisonter: en rejse på kommunikationsteknologiens vinger, eds. A. Bjarklev, J. Scheel, and C.V. Smith, Technical University of Denmark, one2one A/S, pp. 11–25, ISBN 87–92062–01–6, 2007
- NanoDays arrangements with demos on optics ("optics" table with demos on polarization, liquid crystals, diffraction patterns), Birck Nanotechnology Center, Purdue University, 2009-2022
- YouTube videos for lay audience explaining some of Prof. Boltasseva's research topics (metamaterials, super-resolution microscopes, invisibility cloaks, optical black holes) (<http://www.youtube.com/watch?v=Fr7PdJN5A8g>)
- Organization of "Nano for Energy" day with lectures and demos, Inaugural Purdue Energy Camp (PEC), Purdue, June 2012
- Participating in the organization of the Gifted Education Resource Institute (GERI) Summer Residential Camp: 1-day on nanophotonics with lessons and demos, Purdue, July 2012
- Purdue Women in Engineering undergraduate mentoring program (Mentees & Mentors, M&M) panelist, Purdue, November 2012
- Organization of "Nanotechnology for Energy" lecture and demos, Purdue Energy Academi, Purdue, June 2013
- Research Goes to School, Discovery Learning Research Center program, lecturer, Purdue, June 2014
- WISE - Women's Innovations in Science and Engineering panelist, Department of State's International Visitor Leadership Program, Purdue, March 31, 2014
- "Catching and controlling light rays," Fireside chat, Discovery Park Open House and Convergence Conference, September 2016
- Purdue-in-the-know TED talk, Purdue Homecoming, September 2017
- "Ask Me Anything" New York Academy of Science NYAS, October 2018
- Purdue Galleries Advisory council member, strengthening Engineering-Science-Art connections (2019-present)
- A. Boltasseva, "From Basic Research to a Quantum-Smart Society: Merging AI and Quantum Science," Quantum for the People: Connecting Quantum Information Science and Society session, 2022 American Association for the Advancement of Science (AAAS) Annual meeting, February 2022, panelist
- A. Boltasseva, "Quantum Photonics," Purdue Alumni "Back to Class" lecture, October 2025

## **Other Activities**

- Volunteer, computer lab, reading club, Cumberland elementary school, West Lafayette IN, USA(2016 – 2018)
- Member of the board of the Russian Society in Denmark (2005-2007)
- Member of the Russian Literature Seminar in Copenhagen 'Novyj Bereg' (literature magazine) (2005-2006)
- Member of the Russian National Physics Olympiad jury (1997)
- Member of the organizing committee, the All-Russian National Physics Olympics (1997-2000)
- Member of the undergraduate admissions committee, Department of General and Applied Physics, Moscow Institute of Physics and Technology (1997-2000)
- Member of the student theatre (Department of General and Applied Physics) STEM FOFP, actress (1996-2000)