Bryan W. Boudouris

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Education

Ph. D. in Chemical Engineering, *August 2009*
University of Minnesota, Minneapolis, MN
Advisors: Professors C. Daniel Frisbie and Marc. A. Hillmyer
Thesis: "Polythiophene-Containing Block Copolymers for Organic Photovoltaic Applications"

B. S. in Chemical Engineering, *May 2004*
University of Illinois at Urbana-Champaign, Urbana, IL
Undergraduate Advisors: Professors Richard C. Alkire and Paul J. A. Kenis

Professional Positions

Robert and Sally Weist Associate Professor *October 2016 – Present*
Davidson School of Chemical Engineering, Purdue University

Associate Professor of Chemistry, by Courtesy *August 2016 – Present*
Department of Chemistry, Purdue University

Director of the Professional M.S. Program *July 2016 – Present*
Davidson School of Chemical Engineering, Purdue University

Co-Founder and Scientific Advisor *February 2014 – Present*
Anfiro, Incorporated

Associate Professor *August 2016 – October 2016*
Davidson School of Chemical Engineering, Purdue University

Assistant Professor of Chemistry, by Courtesy *October 2013 – August 2016*
Department of Chemistry, Purdue University

Assistant Professor *August 2011 – August 2016*
Davidson School of Chemical Engineering, Purdue University

Postdoctoral Fellow, Mentor: Professor Rachel A. Segalman
Department of Chemical & Biomolecular Engineering, University of California, Berkeley and
Materials Science Division, Lawrence Berkeley National Laboratory *September 2009 – July 2011*

Selected Honors and Awards

- Featured in the "Young Talents in Polymer Science" Issue of *Macromol. Chem. Phys.* 2016
- Purdue College of Engineering Exceptional Early Career Teaching Award 2016
- NSF Faculty Early Career Development Program (CAREER) Award 2016
- Purdue Innovators Hall of Fame 2015
- NAE Frontiers of Engineering Education Invited Participant 2015

- APS Division of Polymer Physics-UK Polymer Physics Group Lectureship 2015
- IMPACT Faculty Fellow at Purdue University 2015
- Purdue University Teaching for Tomorrow Award 2014
- NAE Frontiers of Engineering Invited Participant 2013
- Ralph W. and Grace M. Showalter Research Trust Award 2012
- DARPA Young Faculty Award 2012
- AFOSR Young Investigator Research Program Award 2012
- Chemical Engineering and Materials Science (UMN) Outstanding T.A. Award 2009
- Outstanding Instructor (Top 10% of all instructors) at the UIUC Campus 2003, 2004

Service and Professional Associations

- Member of the American Institute of Chemical Engineers (AIChE), the American Chemical Society (ACS), the American Physical Society (APS), the Electrochemical Society (ECS), the Materials Research Society (MRS), the American Association for the Advancement of Science (AAAS), and the American Society for Engineering Education (ASEE)
- Focus Topic Co-organizer for the "Organic Electronics and Photonics" session of the 2014 APS March Meeting and the "Flexible and Stretchable Organic Electronics" session of the 2017 APS March Meeting
- Division 8A (Polymers) Vice-Chair (2016) and Chair (2017) for the Annual AIChE National Meetings
- Founding Program Director of the Purdue Section's ACS Project SEED program, which encourages high school students from economically-disadvantaged families to conduct summer research in University laboratories under the guidance of Purdue faculty
- Associate (2012-2015) and Full Member (2016-Present) of the National American Chemical Society Project SEED Executive Committee
- Alternate Councilor for the Purdue Section of the American Chemical Society
- Editorial Advisory Board Member for the *Journal of Applied Polymer Science*
- Guest Editor for the "Structure, Transport, and Device Application of Thermoelectric Polymers" Special Issue of the *Journal of Applied Polymer Science*
- Manuscript reviewer for *Nature Communications*, *Journal of the American Chemical Society*, *Angewandte Chemie*, *ACS Macro Letters*, *Macromolecules*, *ACS Nano, ACS Applied Materials and Interfaces*, *Chemistry of Materials*, *ACS Omega*, *Molecular Systems Designs and Engineering*, *Macromolecular Rapid Communications*, *Polymer Chemistry*, *Journal of Physical Chemistry*, *Biomacromolecules*, *Advanced Materials*, *Advanced Energy Materials*, *Advanced Materials Interfaces*, *Applied Physics Letters*, *Journal of Polymer Science*, *European Polymer Journal*, *Journal of Membrane Science*, *Journal of Materials Chemistry*, *Journal of Organic Chemistry*, *Polymer Chemistry*, *Polymer, Journal of Vacuum Science and Technology*, *Applied Physics A*, *Nanoscale*, *Industrial and Engineering Chemistry Research*, *Materials Science in Semiconductor Processing*, *Journal of Applied Polymer Science*, *Journal of Electronic Materials*, *Thin Solid Films*, *ChemSusChem*, *Chemical Engineering Education*, *Bulletin of the Chemical Society of Japan*, and the *Korean Journal of Chemical Engineering*
- Proposal reviewer for the National Science Foundation (NSF), the Department of Energy (DOE), the Air Force Office of Scientific Research (AFOSR), the Royal Society, the Israel Ministry of Science, Technology, and Space, and the German Research Foundation (DFG)
- Reviewer for the Stanford Synchrotron Radiation Lightsource (SSRL) and the Molecular Foundry at Lawrence Berkeley National Laboratory (LBNL) User Proposals
- Faculty Advisor for the Purdue University Student Chapter of the American Institute of Chemical Engineers (AIChE) and the Purdue Chapter of the Zeta Beta Tau (ZBT) fraternity
- Faculty Mentor for Undergraduate (Student Soybean and Corn Innovation Competition) and Graduate (Burton D. Morgan and DOE National University Clean Energy) Business Competitions

- Session Chair and Co-Chair at the 2011, 2012 and 2014-2017 APS and 2011 – 2017 AIChE National Meetings

Submitted and Refereed Publications

55. * "A Non-conjugated, Amorphous Radical Polymer Glass with an Electrical Conductivity Greater than 20 S m^{-1}," Joo, Y.; Agarkar, V.; Sung, S. H.; Boudouris, B. W. **2017**, *submitted for review*.
54. * "Radical Polymers as Interfacial Layers in Inverted Hybrid Perovskite Solar Cells," Zheng, L.; Mukherjee, S.; Wang, K.; Hay, M. E.; Boudouris, B. W.; Gong, X. **2017**, *submitted for review*.
53. * "Fit-for-Purpose Block Polymer Membranes Molecularly-Engineered for Water Treatment," Zhang, Y.; Arbelo, N. A.; Weidman, J. L.; Corti, D. S.; Boudouris, B. W.; Phillip, W. A. **2017**, *submitted for review*.
52. * "Stable Radical Materials for Energy Applications," Wilcox, D. A.; Agarkar, V.; Mukherjee, S.; Boudouris, B. W. **2017**, *submitted for review*.
51. * "Energetic Microparticle Adhesion to Functionalized Surfaces," Hoss, D. J.; Mukherjee, S.; Boudouris, B. W.; Beaudoin, S. P. **2017**, *submitted for review*.
50. * "Surface Tension Behavior of Aqueous Solutions of a Propoxylated Surfactant and Interfacial Tension Behavior against a Crude Oil," Chung, J.; Boudouris, B. W.; Franses, E. I. **2017**, *submitted for review.*
49. * "Fabrication of Silver Nanostructures using Femtosecond Laser-Induced Photoreduction," Barton, P.; Mukherjee, S.; Boudouris, B. W.; Pan, L.; Xu, X. **2017**, *submitted for review*.
48. * "Enhancing Polymer Thermoelectric Performance using Radical Dopants," Tomlinson, E. P.; Mukherjee, S.; Boudouris, B. W. **2017**, *submitted for review*.
47. * "Describing Adhesion in Microstructured Systems through a Robust Computational Approach," Hoss, D. J.; Boudouris, B. W.; Beaudoin, S. P. *Surf. Interface Anal.* **2017**, *available online*.
46. * "Solution Self-assembly Behavior of A-B-C Triblock Polymers and the Implications for Nanoporous Membrane Fabrication," Sargent, J. L.; Hoss, D. H.; Phillip, W. A.; Boudouris, B. W. *J. Appl. Polym. Sci.* **2017**, *available online*.
45. * "Controlling Open-Shell Loading in Norbornene-Based Radical Polymers Modulates the Solid-State Charge Transport Exponentially," Hay, M. E.; Wong, S. H.; Mukherjee, S.; Boudouris, B. W. *J. Polym. Sci. Part B: Polym. Phys.* **2017**, *available online*.
44. * "Block Polymer Membranes Functionalized with Nanoconfined Polyelectrolyte Brushes Achieve sub-Nanometer Selectivity," Zhang, Y.; Mulvenna, R. A.; Qu, S.; Boudouris, B. W.; Phillip, W. A. *ACS Macro Lett.* **2017**, *6*, 726-732.
43. * "Nanoporous Block Polymer Thin Films Functionalized with Bio-Inspired Ligands for the Efficient Capture of Heavy Metal Ions from Water," Weidman, J. L.; Mulvenna, R. A.; Boudouris, B. W.; Phillip, W. A. *ACS Appl. Mater. Interfaces* **2017**, *9*, 19152-19160.
42. * "Design of a Three-State Switchable Chromogenic Radical-based Moiety and Its Translation to Molecular Logic Systems," Mukherjee, S.; Boudouris, B. W. *Mol. Syst. Des. Eng.* **2017**, *2*, 159-164.
41. * "Nanomanufacturing of High-Performance Hollow Fiber Nanofiltration Membranes by Coating Uniform Films from Block Polymer Solutions" Zhang, Y.; Mulvenna, R. A.; Boudouris, B. W.; Phillip, W. A. *J. Mater. Chem. A* **2017**, *5*, 3358-3370.
40. * "Organic Radical Polymers: New Avenues in Organic Electronics," Mukherjee, S.; Boudouris. B. W. **2017**, Springer Publishing, New York, NY.

39. * "Controlled Metallization of Biotemplates for Nanocircuit Applications," Adigun, O.; Freer, A. S.; Mueller, L.; Gilpin, C.; Boudouris, B. W.; Harris, M. T. **2017**, *Chapter within Frontiers of Nanotechnology*, John Wiley & Sons, Inc., Hoboken, NJ.

38. * "Impact of the Addition of Redox-Active Salts on the Charge Transport Ability of Radical Polymer Thin Films," Baradwaj, A. G.; Wong, S. H.; Laster, J. S.; Wingate, A. J.; Hay, M. E.; Boudouris, B. W. *Macromolecules* **2016**, *49*, 4784–4791.

37. * "Radical Polymers Improve the Metal-Semiconductor Interface in Organic Field-Effect Transistors," Sung, S. H.; Bajaj, N.; Rhoads, J. F.; Chiu, G. T.; Boudouris, B. W. *Org. Electron.* **2016**, *37*, 148–154.

36. * "Design of Free-Standing Microstructured Conducting Polymer Films for Enhanced Particle Removal from Non-Uniform Surfaces," Laster, J. L.; Deom, N. A.; Beaudoin, S. P.; Boudouris, B. W. *J. Polym. Sci. Part B: Polym. Phys.* **2016**, *54*, 1968-1974.

35. * "Unusually Stable Hysteresis in the pH-Response of Poly(Acrylic Acid) Brushes Confined within Nanoporous Block Polymer Thin Films," Weidman, J. L.; Mulvenna, R. A.; Boudouris, B. W.; Phillip, W. A. *J. Am. Chem. Soc.* **2016**, *138*, 7030–7039.

34. * "Integrating Exposure to Nanotechnology through Projectwork in a Large First-Year Engineering Course," Rogers, K. J.; Harris, M. T.; Boudouris, B. W.; Diefes-Dux, H. A. *Proceedings of the ASEE Annual Conference and Exposition* **2016 (June)**, *New Orleans, LA*.

33. * "Nanoscale Mapping of Dielectric Properties of Nanomaterials over Wide Frequency Bandwidths using Small Cantilevers," Cadena, M. J.; Sung, S. H.; Boudouris, B. W.; Reifenberger, R.; Raman, A. *ACS Nano* **2016**, *10*, 4062–4071.

32. * "An Evaluation of Complementary Approaches to Elucidate Fundamental Interfacial Phenomena Driving Adhesion of Energetic Materials," Hoss, D. J.; Knepper, R.; Hotchkiss, P. J.; Tappan, A. S.; Boudouris, B. W.; Beaudoin, S. P. *J. Colloid. Interface Sci.* **2016**, *473*, 28–33.

31. * "Recent Advances in the Syntheses of Radical-Containing Macromolecules," Wingate, A. J.; Boudouris, B. W. *J. Polym. Sci. Part A: Polym. Chem.* **2016**, *54*, 1875–1894.

30. * "Solution-Based Synthesis and Characterization of Earth Abundant $Cu_3(As,Sb)Se_4$ Nanocrystal Alloys: Towards Scalable Room-Temperature Thermoelectric Devices," Balow, R. B.; Tomlinson, E. P.; Abu-Omar, M. M.; Boudouris, B. W.; Agrawal, R. *J. Mater. Chem. A* **2016**, *4*, 2198–2204.

29. * "On the Environmental and Electrical Bias Stability of Radical Polymer Conductors in the Solid State," Baradwaj, A. G.; Rostro, L.; Boudouris, B. W. *Macromol. Chem. Phys.* **2016**, *217*, 477–484.

28. * "Design of Super-Paramagnetic Core-Shell Nanoparticles for Enhanced Performance of Inverted Polymer Solar Cells," Jaramillo, J.; Barrero, C.; Boudouris, B. W.; Jaramillo, F. *ACS Appl. Mater. Interfaces* **2015**, *7*, 25061–25068.

27. * "Nanostructured Membranes from Triblock Polymer Precursors as High Capacity Copper Adsorbents," Weidman, J. L.; Mulvenna, R. A.; Boudouris, B. W.; Phillip, W. A. *Langmuir* **2015**, *31*, 11113–11123. (Google Scholar Citation Count = 13).

26. * "Tuning the Thermoelectric Properties of a Conducting Polymer through Blending with Open-shell Molecular Dopants," Tomlinson, E. P.; Willmore, M. J.; Zhu, X.; Hilsmier, S. W. A.; Boudouris, B. W. *ACS Appl. Mater. Interfaces* **2015**, *7*, 18195–18200.

25. * "Polymerization Rate Considerations for High Molecular Weight Polyisoprene-*b*-Polystyrene-*b*-Poly(*N*,*N*-dimethyl acrylamide) Triblock Polymers Synthesized Via Sequential Reversible Addition-Fragmentation Chain Transfer (RAFT) Reactions," Mulvenna, R. A.; Prato, R. A.; Phillip, W. A.; Boudouris, B. W. *Macromol. Chem. Phys.* **2015**, *216*, 1831–1840.

24. * “Collection-limited Theory Interprets the Extra-ordinary Response of Single Semiconductor Organic Solar Cells,” Ray, B.; Baradwaj, A. G.; Khan, M. R.; Boudouris, B. W.; Alam, M. A. *Proc. Natl. Acad. Sci.* **2015**, *112*, 11193–11198.

23. * “Synthesis and Thin Film Self-Assembly of Radical-Containing Diblock Copolymers,” Rostro, L.; Baradwaj, A. G.; Muller, A. R.; Laster, J. S.; Boudouris, B. W. *MRS Commun.* **2015**, *5*, 257–263.

22. * “Systematic Control of the Nanostructure of Semiconducting-Ferroelectric Polymer Composites in Thin Film Memory Devices,” Sung, S. H.; Boudouris, B. W. *ACS Macro Lett.* **2015**, *4*, 293–297. (Google Scholar Citation Count = 14).

21. * “Effect of Intrachain Sulfonic Acid Dopants on the Solid-State Charge Mobility of a Model Radical Polymer,” Chan, H.; Wang, Y.; Boudouris, B. W. *Thin Solid Films* **2015**, *577*, 56–61.

20. * “Suppressing the Environmental Dependence of the Open-Circuit Voltage in Inverted Polymer Solar Cells through a Radical Polymer Anodic Modifier,” Rostro, L.; Galicia, L.; Boudouris, B. W. *J. Polym. Sci. Part B: Polym. Phys.* **2015**, *53*, 311–316.

19. * “Nanoporous Membranes Generated from Self-Assembled Block Polymer Precursors: *Quo Vadis*?,” Zhang, Y.; Sargent, J. L.; Boudouris, B. W.; Phillip, W. A. *J. Appl. Poly. Sci.* **2015**, *132*, 41683. (Google Scholar Citation Count = 56).

18. * “Radical Polymers and Their Applications to Organic Electronic Devices,” Tomlinson, E. P.; Hay, M. E.; Boudouris, B. W. *Macromolecules* **2014**, *47*, 6145–6158. (Google Scholar Citation Count = 41).

17. * “Defect Characterization in Organic Semiconductors: Forward Bias Capacitance Analysis,” Ray, B.; Baradwaj, A. G.; Boudouris, B. W.; Alam, M. A. *J. Phys. Chem. C* **2014**, *118*, 17461–17466. (Google Scholar Citation Count = 10).

16. * “Tunable Nanoporous Membranes with Chemically-Tailored Pore Walls from Triblock Polymer Templates,” Mulvenna, R. A.; Weidman, J. L.; Jing, B.; Pople, J. A.; Zhu, Y.; Boudouris, B. W.; Phillip. W. A. *J. Membr. Sci.* **2014**, *470*, 246–256. (Google Scholar Citation Count = 35).

15. * “Solid State Electrical Conductivity of Radical Polymers as a Function of Pendant Group Oxidation State,” Rostro, L.; Wong, S. H.; Boudouris, B. W. *Macromolecules* **2014**, *47*, 3713-3719. (Google Scholar Citation Count = 25).

14. * “Quantification of Solid-State Charge Mobility in a Model Radical Polymer,” Baradwaj, A. G.; Rostro, L.; Alam, M. A.; Boudouris, B. W. *Appl. Phys. Lett.* **2014**, *104*, 213306. (Google Scholar Citation Count = 16).

13. * “Controlled Radical Polymerization and Quantification of Solid State Electrical Conductivities of Macromolecules Bearing Pendant Stable Radical Groups,” Rostro, L.; Baradwaj, A. G.; Boudouris, B. W. *ACS Appl. Mater. Interfaces* **2013**, *5*, 9896–9901. (Google Scholar Citation Count = 37).

12. * “Intramolecular Exciton Diffusion in Poly(3-hexylthiophene),” Healy, A.; Boudouris, B. W.; Frisbie, C. D.; Hillmyer, M. A.; Blank, D. A. *J. Phys. Chem. Lett.* **2013**, *4*, 3445–3449. (Google Scholar Citation Count = 18).

11. * “Engineering Optoelectronically-active Macromolecules for Polymer-based Photovoltaic and Thermoelectric Devices,” Boudouris, B. W. *Curr. Opin. Chem. Eng.* **2013**, *2*, 294–301. (Google Scholar Citation Count = 20).

10. “Infrared Conductivity of Hole Accumulation and Depletion Layers in (Ga,Mn)As- and (Ga,Be)As-based Field-effect Devices,” Chapler, B. C.; Mack, S.; Ju, L.; Elson, T. W.; Boudouris, B. W.; Namdas, E.; Yuen, J. D.; Heeger, A. J.; Samarth, N.; Di Ventra, M.; Segalman, R. A.; Awschalom, D. D.; Wang, F.; Basov, D. N. *Phys. Rev. B* **2012**, *86*, 165302. (Google Scholar Citation Count = 13).

9. "PN Junction Rectification in Electrolyte Gated Mg Doped InN," Alarcon-Llado, E.; Mayer, M. A.; Boudouris, B. W.; Segalman, R. A.; Miller, N.; Yamaguchi, T.; Wang, K.; Nanishi, Y.; Haller, E. E.; Ager, J. W. *Appl. Phys. Lett.* **2011**, *99*, 102106. (Google Scholar Citation Count = 22).
8. "Real-Time Observation of Polythiophene Crystallization and the Correlation with Transient Optoelectronic Properties," Boudouris, B. W.; Ho, V.; Jimison, L. H.; Toney, M. F.; Salleo, A.; Segalman, R. A. *Macromolecules* **2011**, *44*, 6653–6658. (Google Scholar Citation Count = 74).
7. "Poly(3-alkylthiophene) Diblock Copolymers with Ordered Microstructures and Continuous Semiconducting Pathways," Ho, V.; Boudouris, B. W.; McCulloch, B. L.; Shuttle, C. G.; Burkhardt, M.; Chabinyc, M. L.; Segalman, R. A. *J. Am. Chem. Soc*. **2011**, *133*, 9270–9273. (Google Scholar Citation Count = 87).
6. "Controlling Inelastic Light Scattering Quantum Pathways in Graphene," Chen, C.-F.; Park, C.-H.; Boudouris, B. W.; Horng, J.; Geng, B.; Girit, C.; Zettl, A.; Crommie, M. F.; Segalman, R. A.; Louie, S. G.; Wang, F. *Nature* **2011**, *471*, 617–620. (Google Scholar Citation Count = 287).
5. "Tuning Polythiophene Crystallization through Systematic Side Chain Functionalization," Ho, V.; Boudouris, B. W.; Segalman, R. A. *Macromolecules* **2010**, *43*, 7895-7899. (Google Scholar Citation Count = 106).
4. "Polylactide-Polythiophene-Polylactide Triblock Copolymers," Boudouris, B. W.; Frisbie, C. D.; Hillmyer, M. A. *Macromolecules* **2010**, *43*, 3566–3569. (Google Scholar Citation Count = 38).
3. "Synthesis, Optical Properties, and Microstructure of a Fullerene-terminated Poly(3-hexylthiophene)," Boudouris, B. W.; Molins, F.; Blank, D. A.; Frisbie, C. D.; Hillmyer, M. A. *Macromolecules* **2009**, *42*, 4118–4126. (Google Scholar Citation Count = 50).
2. "Nanoporous Poly(3-alkylthiophene) Thin Films Generated from Block Copolymer Templates," Boudouris, B. W.; Frisbie, C. D.; Hillmyer, M. A. *Macromolecules* **2008**, *41*, 67–75. (Google Scholar Citation Count = 175).
1. "Intramolecular Exciton Relaxation and Migration Dynamics in Poly(3-hexylthiophene)," Wells, N. P.; Boudouris, B. W.; Hillmyer, M. A.; Blank, D. A. *J. Phys. Chem. C* **2007**, *111*, 15404–15414. (Google Scholar Citation Count = 75).

* Indicates Purdue-affiliated Publications
Total Google Scholar Citation Count = 1,295

Pending Patents and Patent Disclosures

5. Filed Patent. "Continuous and Scalable 3D Nanoprinting," Xu, X.; Boudouris, B. W.; Pan, L., Filed: July 17, 2017, Under Review with Identifying Number: 15/652,105.
4. Filed Patent. "Solution Based Synthesis of Copper-Arsenic-Chalcogen Derived Nanoparticles," Agrawal, R., Boudouris, B. W., Balow, R. B., Filed: August 31, 2016, Under Review with Identifying Number: 15/253,119
3. Filed Patent. "Time-dependent Erasable Ink and Delivery Apparatus," Boudouris, B. W.; Sargent, J. L.; Alcorace, E.; Dodd, R., Filed: February 29, 2016, Under Review with Identifying Number: PCT/US2016/04576
2. Filed Patent. "Engineered Polymer Swab for Explosives Residue Detection: A Nanobrush," Boudouris. B W.; Beaudoin, S. P., Filed: September 18, 2014, Under Review with Identifying Number: 62/052,375
1. Filed Patent. "Multiblock Copolymers and Methods of Use", Phillip, W. A.; Boudouris, B. W., Filed: March 11, 2014, Under Review with Identifying Number: PCT/US2014/023497

Invited Presentations

30. "Elucidating Charge Transport in Radical-Containing Polymers and the Application to Energy Conversion Devices." Soft Materials Summer School hosted by the University of Freiburg (Germany). July 6, 2017.
29. "Elucidating Solid-State Charge Transfer in Radical Polymers." American Chemical Society (ACS) PanPoly Conference. March 23, 2017.
28. "Designing Functional Macromolecules for Water Purification and Electronic Applications." Tufts University, Department of Chemical and Biological Engineering. February 23, 2017.
27. "Designer Polymers for Next-Generation Flexible Electronic and Water Purification Applications." University of Wisconsin – Madison, Department of Chemical and Biological Engineering. December 13, 2016.
26. "Solid State Transport in Radical Polymer Glasses and Their Application to Organic Electronic Devices." 2016 AIChE Annual Meeting (Area 8A (Polymers) Plenary Lecture Session). November 14, 2016.
25. "Designing Functional Macromolecules for Water Purification and Electronic Applications." University of Akron, Department of Polymer Science. October 14, 2016.
24. "Designer Macromolecules for Next-Generation Flexible Electronic and Membrane Adsorber Applications." BASF Committee for Scientific Innovation and Interaction Seminar Series. October 11, 2016.
23. "Manipulating the Solid-state Charge Transport of Radical Polymer Glasses." Note Dame-Purdue Symposium on Soft Matter and Polymers. October 8, 2016.
22. "Controlling the Self-Assembly and Nanoscale Structure of Block Polymers for the Design and Fabrication of Nanofiltration Membranes and Membrane Adsorbers." Center for Nanoscale Materials Science at Oak Ridge National Laboratory User Meeting. August 11, 2016.
21. "Correlating Structure with Charge Transport in Radical Polymers." Polymer Physics Gordon Research Conference (GRC). July 27, 2016.
20. "Design of Triblock Polymers and Their Implementation as High-Performance Nanostructured Membranes and High Capacity Metal Ion Adsorbent Systems." American Chemical Society (ACS) Central Region Meeting (CERM). May 19, 2016.
19. "Making Glasses Conduct: Electrochemical Doping of Redox-Active Polymer Thin Films." American Physical Society (APS) March Meeting. March 17, 2016.
18. "Self-assembly of Open Shell-Containing Block Polymer Thin Films." American Physical Society (APS) March Meeting. March 15, 2016.
17. "Designing Macromolecules for Advanced Energy Conversion and Separations Membrane Applications." 3M Corporation. December 10, 2015.
16. "Design of Functional Polymers for Advanced Energy Conversion and Water Purification Applications." University of Illinois at Urbana Champaign, Department of Chemical and Biomolecular Engineering. November 19, 2015.
15. "Tuning the Thin Film Self-Assembly of Radical-Containing Diblock Copolymers." 2015 AIChE Annual Meeting. November 11, 2015.
14. "Designing Macromolecules for Advanced Energy Conversion and Separations Applications." Massachusetts Institute of Technology, Program in Polymers and Soft Matter. October 21, 2015.
13. "Solid-State Charge Transport in Redox-Active Radical Polymers." 228th Electrochemical Society (ECS) Meeting. October 14, 2015.

12. "Charge Transport Physics of Non-conjugated Glassy Radical Polymer Conductors." Physical Aspects of Polymer Science Meeting of the Institute of Physics (IOP). September 10, 2015.
11. "Radical Polymers in Solid-State Organic Electronic Devices." 250th National Meeting of the American Chemical Society (ACS). August 17, 2015.
10. "Designing Macromolecules for Advanced Energy Conversion and Nanofiltration Applications." University of Wisconsin – Madison, Department of Chemistry. May 4, 2015.
9. "Designing Macromolecules for Advanced Energy Conversion and Nanofiltration Applications." University of Minnesota, Department of Chemical Engineering and Materials Science. April 28, 2015.
8. "Designing Macromolecules with Specific Optoelectronic and Chemical Functionalities for Advanced Membrane and Energy Conversion Applications." Purdue University, School of Chemical Engineering. September 9, 2014.
7. "Non-conjugated Radical Polymers as an Emerging Class of Transparent Conductors for Organic Photovoltaic and Thermoelectric Applications." 30th International Conference of the Polymer Processing Society (PPS-30). June 11, 2014.
6. "The Utilization of Radical Polymers in Next-Generation Thermoelectric Devices." United States Air Force Academy. October 21, 2013.
5. "The Utilization of Radical Polymers in Next-Generation Thermoelectric Devices." Air Force Office of Scientific Research, Flexible Thermoelectrics Workshop. July 10, 2013.
4. "Designing Macromolecules with Specific Optoelectronic and Chemical Functionalities for Advanced Energy and Biomedical Applications." Purdue University, Department of Chemistry (Organic Chemistry Division). April 2, 2013.
3. "Design of Optoelectronically-active Polymers for Organic Photovoltaic Applications." Purdue Solar Research Series, Birck Nanotechnology Center. January 24, 2013.
2. "Radical Polymers for Nanostructured, Next Generation Thermoelectric Devices." DARPA Young Faculty Award Kick-Off Meeting. July 31, 2012.
1. "Designing Semiconducting Polymers for Advanced Energy Applications." Purdue University, Birck Nanotechnology Center. September 28, 2011.

Postdoctoral Scholars Mentored (4 Total, 3 Current)

- Dr. Sanjoy Mukherjee (January 2016 – present), Ph.D. in Chemistry from the Indian Institute of Science
- Dr. Yongho Joo (April 2017 – present), Ph.D. in Materials Science from the University of Wisconsin – Madison
- Dr. Betty Yang (January 2017 – present), Ph.D. in Chemical Engineering from Purdue University

Former Postdoctoral Scholars

- Dr. Steven Gaik (October 2013 – February 2014), Ph. D. in Chemical Engineering from Purdue University
    - Employed at BASF.

Visiting Scholars Mentored (5 Total, 0 Current)

Former Visiting Scholars

- Dr. Teona Cotan, M.D. (January 2013 – August 2013), Medical Doctor from Lafayette, Indiana
- Rafael Prato (August 2013 – August 2014), B.S. in Chemical Engineering from the University of California, Santa Barbara
- Si Hui Wong (August 2015 – January 2017), B.S. in Chemical Engineering from Purdue University
- Dr. Junfeng Zhu (November 2015 – December 2016), Ph.D. in Applied Chemistry from Shaanxi University of Science and Technology
- Dr. Zhenping Cheng (January 2017 – April 2017), Ph.D. in Organic Chemistry from Soochow University

Graduate Students Mentored (20 Total, 8 Current)

- Martha Hay (October 2013 – present), Chemical Engineering, Purdue University – Ph.D.
- Jennifer Laster (October 2013 – present), Chemical Engineering, Purdue University – Ph.D.
- Stephen Gilbert (October 2015 – present), Chemistry, Purdue University – M.S.
- Noelia Almodovar (November 2015 – present), Chemical Engineering, Purdue University – Ph.D.
- Jaeyub Chung (November 2015 – present), Chemical Engineering, Purdue University – Ph.D.
- Daniel Wilcox (November 2015 – present), Chemical Engineering, Purdue University – Ph.D.
- Varad Agarkar (October 2016 – present), Chemistry, Purdue University – Ph.D.
- Teng Chi (August 2017 – present), Chemistry, Purdue University – Ph.D.

Former Graduate Students, Degree, and Current Affiliation

- Lizbeth Rostro (October 2011 – July 2015, Graduated with a Ph.D. Degree in Chemical Engineering)
    - Employed at The Dow Chemical Company
- Ryan Mulvenna (October 2011 – December 2015, Graduated with a Ph.D. Degree in Chemical Engineering)
    - Employed at The Dow Chemical Company
- Aditya Baradwaj (October 2011 – August 2016, Graduated with a Ph.D. Degree in Chemical Engineering)
    - Employed at Elantas PDG
- Edward Tomlinson (October 2012 – May 2017, Graduated with a Ph.D. Degree in Chemical Engineering)
    - Employed at Bostik, Incorporated
- Seung Hyun Sung (October 2012 – May 2017, Graduated with a Ph.D. Degree in Chemical Engineering)
    - Employed as a Postdoctoral Researcher at the University of Delaware (Epps III Group)
- Darby Hoss (October 2013 – August 2017, Graduated with a Ph.D. Degree in Chemical Engineering)
    - Employed at the Intel Corporation
- Holly Chan (October 2012 – August 2014) , Graduated with a M.S. Degree in Chemical Engineering)
    - Employed at Acorda Therapeutics, Inc.
- Michael Bauman (October 2012 – August 2013, Graduated with a M.S. Degree in Chemical Engineering)
    - Returned to The Whirlpool Corporation
- Nicole Perrelli (August 2013 – August 2014, Graduated with a M.S. Degree in Chemical Engineering)
    - Returned to The Whirlpool Corporation
- Nicholas Vaive (October 2015 – May 2016, Graduated with a M.S. Degree in Chemical Engineering)
    - Returned to The Whirlpool Corporation
- Jessica Sergeant (October 2013 – May 2017, Graduated with a M.S. Degree in Chemical Engineering)
    - Doctoral Student in Materials Engineering at Purdue University
- Adam Wingate (October 2014 – May 2017, Graduated with a M.S. Degree in Chemical Engineering)

Undergraduate Students Mentored (27 Total, 4 Current)

- Michael Steinerd (January 2015 – present), Chemical Engineering, Purdue University
- Daniel Ebert (January 2016 – present), Chemical Engineering, Purdue University
- Allison Strong (August 2016 – present), Chemical Engineering, Purdue University
- Haley Vapnik (August 2016 – present), Chemical Engineering, Purdue University

Former Undergraduate Students

- Elliot Sepos (August 2011 – December 2012), Chemical Engineering, Purdue University
- Sean Hadley (August 2011 – May 2013), Chemical Engineering, Purdue University
- Adewale Adeyemo (January 2012 – January 2014), Chemical Engineering, Purdue University
- Michael Lehn (February 2012 – May 2013), Chemical Engineering, Purdue University
- Sara Berger (September 2012 – May 2013), Chemical Engineering, Purdue University
- Monica Del Real (May 2013 – January 2014), Chemical Engineering, Purdue University
- Dominic Hurley (August 2013 – May 2014), Chemistry, Purdue University
- Anna Knowles (August 2013 – May 2014), Chemical Engineering, Purdue University
- Lucio Galicia (May 2013 – August 2014), Chemical Engineering, Purdue University
- Yucheng Wang (September 2012 – December 2014), Chemical Engineering, Purdue University
- Matthew Willmore (August 2014 – December 2014), Chemical Engineering, Purdue University
- Si Hui Wong (September 2012 – May 2015), Chemical Engineering, Purdue University
- Krystopher Jochem (January 2013 – May 2015), Chemical Engineering, Purdue University
- Ryan Pitzer (January 2015 – May 2015), Chemical Engineering Purdue University
- Alexander Muller (September 2012 – August 2015), Chemical Engineering, Purdue University
- Xiaoqin Zhu (August 2013 – August 2015), Chemical Engineering, Purdue University
- Nicholas Deom (October 2014 – May 2016), Chemical Engineering, Purdue University
- Stuart Hillsmier (September 2013 – May 2016), Chemical Engineering, Purdue University
- Alec Bokhart (January 2015 – August 2016), Chemical Engineering, Purdue University
- Christian White (August 2015 – August 2016), Chemical Engineering, Purdue University
- Emily Alcorace (August 2013 – May 2017), Chemical Engineering, Purdue University
- Toni Adetayo (January 2015 – May 2017), Chemical Engineering, Purdue University
- Elizabeth Jergens (January 2015 – May 2017), Chemical Engineering, Purdue University

High School Students Mentored (9 Total, 1 Current)

- David Gonzalez (August 2017 – Present) from West Lafayette, Indiana

Former High School Students

- Ian Trinh (June 2017 – August 2017) from West Lafayette, Indiana
- Alexia Umberger (February 2015 – August 2015) from West Lafayette, Indiana
- Veronica Bawling (June 2015 – August 2015) from Lafayette, Indiana
- Yanqiao Fang (October 2014 – May 2015) from Lafayette, Indiana
- Jamila Abu-omar (October 2013 – May 2015) from West Lafayette, Indiana
- Devon Wolfe (June 2014 – August 2014) from Lafayette, Indiana
- Estivan Carreon (August 2013 – May 2014) from Lafayette, Indiana
- Yasmeen Hafeez (June 2012 – August 2012) from West Lafayette, Indiana