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

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

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

- 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
- AIChE, D. F. Othmer Academic Excellence Award 2003
- Walter G. May Scholarship for Excellence in Chemical Engineering 2002
- James Scholar at the University of Illinois at Urbana-Champaign 2000 – 2003
- Chancellor's Scholar at the University of Illinois at Urbana-Champaign 2000 – 2004

Service and Professional Associations

- Member of the American Institute of Chemical Engineers (AIChE), American Chemical Society (ACS), and American Physical Society (APS)
- Manuscript reviewer for *Macromolecules*, *ACS Macro Letters*, *ACS Nano*, *ACS Applied Materials and Interfaces*, *Thin Solid Films*, and the *Central European Journal of Engineering*
- Proposal reviewer for the National Science Foundation (NSF), the Department of Energy (DOE), and Air Force Office of Scientific Research (AFOSR)
- Reviewer for Stanford Synchrotron Radiation Lightsource (SSRL) and Molecular Foundry Lawrence Berkeley National Laboratory (LBNL) User Proposals
- 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

- 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 2011 and 2012 APS and AIChE National Meetings

Refereed Publications

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.
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.
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.
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.
5. "Tuning Polythiophene Crystallization through Systematic Side Chain Functionalization," Ho, V.; Boudouris, B. W.; Segalman, R. A. *Macromolecules* **2010**, *43*, 7895-7899.
4. "Polylactide-Polythiophene-Polylactide Triblock Copolymers," Boudouris, B. W.; Frisbie, C. D.; Hillmyer, M. A. *Macromolecules* **2010**, *43*, 3566–3569.
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.
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.
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.

* Authors contributed equally

Invited Presentations

1. "Designing Semiconducting Polymers for Advanced Energy Applications." Purdue University, Birck Nanotechnology Center. September 28, 2011.

Contributed Presentations

15. Poster Presentation. "Radical Polymers for Nanostructured, Next Generation Thermoelectric Devices." 2012 DARPA Young Faculty Award Kick-off Meeting, Arlington, VA. July 2012.
14. Oral presentation. "Well-Ordered Poly(3-alkylthiophene) Diblock Copolymers for Organic Photovoltaic Applications." 2011 AIChE Annual Meeting, Minneapolis, MN. October 2011.
13. Oral presentation. "Tuning Rod-Rod Interactions in Poly(3-alkylthiophene) Derivatives." APS March Meeting, Dallas, TX. March 2011.
12. Oral presentation. "Effect of Rod-Rod Interactions on the Microstructure of Poly(3-alkylthiophenes)." 2010 AIChE Annual Meeting, Salt Lake City, UT. November 2010.

11. Oral presentation. “Semiconducting Triblock Terpolymers for Microstructured Organic Photovoltaics.” 2010 AIChE Annual Meeting, Salt Lake City, UT. November 2010.
10. Oral presentation. “Understanding Thin Film Polymer Microstructures for Advanced Energy Applications.” Advanced Light Source (ALS) User’s Meeting, Berkeley, CA. October 2010.
9. Poster presentation. “Controlling Rod-Rod Interactions in Poly(3-alkylthiophene) Block Copolymers.” Organic Microelectronics and Optoelectronics Workshop VI, San Francisco, CA. July 2010.
8. Poster presentation. “Effect of Molecular Design on the Microstructure of Rigid Polymers.” Polymer Physics Gordon Research Conference, South Hadley, MA. June 2010.
7. Oral presentation. “Synthesis and Microstructure of a Fullerene-Terminated Poly(3-hexylthiophene).” APS March Meeting, Portland, OR. March 2010.
6. Oral presentation. “Self-assembly of Polythiophene Block Copolymers.” AIChE 100th Anniversary Annual Meeting, Philadelphia, PA. November 2008.
5. Poster presentation. “Self-assembly of Poly(3-hexylthiophene) Block Copolymers.” Organic Microelectronics and Optoelectronics Workshop IV, San Francisco, CA. July 2008.
4. Poster presentation. “Renewable Energy from Sunlight Using Organic Photovoltaics.” IREE E3 2007: Midwest’s Premier Energy, Economic, and Environmental Conference, Minneapolis, MN. November 2007.
3. Poster presentation. “Ordered Bulk Heterojunction Photovoltaics Generated from Block Copolymer Templates.” Honeywell Nobel Initiative, Minneapolis, MN. October 2007.
2. Oral presentation. “Synthesis and Application of Conducting Block Copolymers in Organic Photovoltaics.” APS March Meeting, Denver, CO. March 2007.
1. Oral presentation. “Polythiophene-based Diblock Copolymers for Controlled Morphologies in Organic Photovoltaics.” 232nd ACS Annual Meeting, San Francisco, CA. September 2006.

Graduate Students Mentored

- Aditya Baradwaj (October 2011 – present), Chemical Engineering, Purdue University
- Ryan Mulvenna (October 2011 – present), Chemical Engineering, Purdue University
- Lizbeth Rostro (October 2011 – present), Chemical Engineering, Purdue University

Undergraduate Students Mentored

- Sean Hadley (August 2011 – present), Chemical Engineering, Purdue University
- Elliot Sepos (August 2011 – present), Chemical Engineering, Purdue University
- Adewale Adeyemo (January 2012 – present), Chemical Engineering, Purdue University
- Michael Lehn (February 2012 – present), Chemical Engineering, Purdue University

High School Students Mentored

- Yasmeen Hafeez (June 2012 – present), from West Lafayette, Indiana