Laura (Mueller) Jakubowski

laura.jakubowski@hccs.edu

Education

Ph.D., *Carnegie Mellon University,* (Pittsburgh, PA), Chemistry, May 2010
Thesis: "Expanding the Scope of Atom Transfer Radical Polymerization with Low Catalyst Concentrations"
Advisor: Professor Krzysztof Matyjaszewski

B.S., *Texas Lutheran University,* (Seguin, TX), Chemistry, May 2005
Summa Cum Laude (Chemistry GPA: 4.0/4.0); Minor in Biology and Mathematics

Experience

Aug. 2020 – present: *Instructor*, Houston Community College

- Teach Introductory, General, and Organic Chemistry lecture and corresponding laboratory to groups of 20-25 students

Jan. 2014 – Aug. 2020: *Adjunct Faculty*, Houston Community College

- Teach Introductory Chemistry and General Chemistry lecture and corresponding laboratory to groups of 20-25 students
- Certified to teach online courses using Canvas

Aug. 2010 – Oct. 2013: *Senior Scientist*, ATRP Solutions, Inc. in Pittsburgh

- Trained and led a team of scientists on a $150,000 National Science Foundation (NSF) Small Business Innovation Research (SBIR) grant to develop novel thickening agents
- Led several contract research projects in collaboration with various corporations for the design and development of highly specialized macromolecules

Aug. 2005 – May 2010: *Graduate Research Associate*, Carnegie Mellon University

- Trained two undergraduate students and one graduate student over three years; recitation leader for Organic Chemistry, and lab instructor for General Chemistry
- Expert in atom transfer radical polymerization (ATRP), author of ten peer-reviewed publications and three patent applications
- Co-manager of Professor Matyjaszewski's 20-member lab facility: responsible for maintaining equipment, ordering chemicals, and lab safety

Aug. 2002 – May. 2005: *Teaching and Research*, Texas Lutheran University

- Recitation leader for Organic Chemistry, laboratory assistant for Organic Chemistry and General Chemistry, tutor for three years in chemistry and mathematics
- Successfully completed three summer research experiences for undergraduates, (at: Texas Lutheran University, University of California at Santa Cruz, and Université Pierre et Marie Curie in Paris, France)
- Elected President to Pi Rho, TLU's chemistry club and Secretary to TLU's chapter of the Texas Academy of Science

Awards

- EPA's 2009 Presidential Green Chemistry Challenge Award Certificate Recipient
- National Science Foundation Graduate Research Fellowship, 2006 – 2009
- Alpha Chi National College Honor Society, 2004 – 2005

Publications, Patents and Patent Applications

1. N. Kendall, K. Kar, M. McAdon, K. Matyjaszewski, **L. Mueller**, C. Dukes. “Compositions and Method of Inhibiting Polymerization of Vinyl-Aryl Monomers” **2015,** Patent 8969498.
2. W. Jakubowski, P. McCarthy, **L. Mueller**. “Star Macromolecules as Carriers of Fragrance, Pharmaceutical, Personal Care, Home Care and Cosmetic Agents” PCT Int. Appl. **2011**, WO 2011163635 A1 20111229.
3. **L. Mueller**, W. Jakubowski, K. Matyjaszewski, J. Pietrasik, P. Kwiatkowski, P. Chaladaj, W. Jurczak. “Synthesis of High Molecular Weight Polystyrene using AGET ATRP” *European Polymer Journal,* **2011,** *47,* 730-734.
4. J. Burdynska, H. Cho, **L. Mueller**, K. Matyjaszewski. “Synthesis of Star Polymers using ARGET ATRP” *Macromolecules,* **2010,** *43,* 9227-9229.
5. **L. Mueller**, K. Matyjaszewski. “Reducing Copper Concentration in Polymers Prepared via Atom Transfer Radical Polymerization” *Macromolecular Reaction Engineering*, **2010,** *4,* 180-185.
6. J. Nicolas, **L. Mueller**, C. Dire, K. Matyjaszewski, B. Charleux. “Comprehensive Modeling Study of Nitroxide-Mediated Controlled/Living Radical Copolymerization of Methyl Methacrylate with a Small Amount of Styrene” *Macromolecules,* **2009,** *42,* 4470-4478.
7. J. Listak, W. Jakubowski, **L. Mueller**, A. Plichta, K. Matyjaszewski, M. Bockstaller. “Effect of Symmetry of Molecular Weight Distribution in Block Copolymers on Formation of "Metastable" Morphologies” *Macromolecules*, **2009,** *41,* 5919-5927.
8. P. Kwiatkowski, J. Jurczak, J. Pietrasik, W. Jakubowski, **L. Mueller**, K. Matyjaszewski. “High Molecular Weight Polymethacrylates by AGET ATRP under High Pressure” *Macromolecules,* **2008,** *41,* 1067-1069.
9. P. Golas, **L. Mueller**, K. Matyjaszewski. “Fundamentals of Atom Transfer Radical Polymerization” *Encyclopedia of Polymer Science and Technology, 3rd Ed*., **2007**.
10. W. Jakubowski, J. Spanswick, **L. Mueller**, K. Matyjaszewski. “Preparation of block copolymers” PCT Int. Appl. **2007**, 65pp.
11. K. Min, S. Yu, H-i. Lee, **L. Mueller**, S. Sheiko, K. Matyjaszewski. “High Yield Synthesis of Molecular Brushes via ATRP in Miniemulsion” *Macromolecules*, **2007**, *40*, 6557-6563.
12. **L. Mueller**, W. Jakubowski, W. Tang, K. Matyjaszewski. “Successful Chain Extension of Polyacrylate and Polystyrene Macroinitiators with Methacrylates in an ARGET and ICAR ATRP” *Macromolecules*, **2007**, *40*, 6464-6472.
13. H-i. Lee, W. Wu, J. K. Oh, **L. Mueller**, G. Sherwood, L. Peteanu, T. Kowalewski, K. Matyjaszewski. “Light-induced reversible formation of polymeric micelles” *Angewandte Chemie, International Edition*, **2007**, *46*, 2453-2457.
14. J. Nicolas, C. Dire, **L. Mueller**, J. Belleney, B. Charleux, S. R. A. Marque, D. Bertin, S. Magnet, L. Couvreur. “Living Character of Polymer Chains Prepared via Nitroxide-Mediated Controlled Free-Radical Polymerization of Methyl Methacrylate in the Presence of a Small Amount of Styrene at Low Temperature” *Macromolecules*, **2006**, *39*, 8274-8282.
15. R. Braslau, G. O'Bryan, A. Nilsen, J. Henise, T. Thongpaisanwong, E. Murphy, **L. Mueller**, J. Ruehl “The Synthesis and Evaluation of New α-Hydrogen Nitroxides for "Living" Free Radical Polymerization” *Synthesis*, **2005**, *9*, 1496-1506.

Selected Presentations and Preprints

- April 2010 CRP Consortium Meeting Presentation at Carnegie Mellon University. “Advances in ARGET and ICAR ATRP”
- March 2010, 239th ACS National Meeting, San Francisco, CA. Presentation – PMSE 540. **L. Mueller**, K. Matyjaszewski. “Removing copper from polymers prepared via atom transfer radical polymerization”
- April 2009, invited seminar at Texas Lutheran University. “Introduction to Atom Transfer Radical Polymerization: From Mechanism to Materials”
- October 2008 CRP Consortium Meeting Presentation at Carnegie Mellon University. “Reducing Copper Concentration in Products Prepared via ATRP”
- September 2008, NATO ASI Presentation, Antalya, Turkey. **L. Mueller**, W. Jakubowski, J. Listak, M. Bockstaller, K. Matyjaszewski. “The Effect of Polydispersity on Block Copolymer Morphology”
- August 2008, 236th ACS National Meeting, Philadelphia, PA. Poster – POLY 367. **L. Mueller**, W. Jakubowski, J. Pietrasik, P. Kwiatkowski, J. Jurczak, K. Matyjaszewski. “Use of high pressure to synthesize high molecular weight polystyrene and polymethacrylates via AGET ATRP” Polymer Preprints (American Chemical Society, Division of Polymer Chemistry), **2008**, *49*, 384- 385.
- October 2007 CRP Consortium Meeting Presentation at Carnegie Mellon University. “ARGET ATRP for the Synthesis of Block Copolymers”
- August 2007, 234th ACS National Meeting, Boston, MA. Poster – POLY 120. W. Jakubowski, **L. Mueller**, K. Matyjaszewski. “Block copolymers by a one pot, "green" process using ARGET ATRP in the presence of air” Polymer Preprints (American Chemical Society, Division of Polymer Chemistry), **2007**, *48*, 256-257.
- October 2006 CRP Consortium Meeting Presentation at Carnegie Mellon University. “Cross-propagation in ARGET and ICAR ATRP”
- March 2006, 231st ACS National Meeting, Atlanta, GA. Poster – CHED 598. J. Nicolas, **L. Mueller**, J. Belleney, B. Charleux. “Strong improvement of nitroxide-mediated polymerizations of methyl methacrylate by a copolymerization approach: Polymer synthesis and characterizations”