

Jeremy C. Palmer

Assistant Professor

Department of Chemical and Biomolecular Engineering
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Education

Doctor of Philosophy, *North Carolina State University*, Raleigh, NC 2011
in Chemical and Biomolecular Engineering with Keith E. Gubbins

Bachelor of Science, *with honors, Johns Hopkins University*, Baltimore, MD 2006
in Biomedical Engineering and Chemical and Biomolecular Engineering

Research Experience

Assistant Professor, *University of Houston*, Houston, TX 2014-
in Chemical and Biomolecular Engineering
• Statistical mechanics and the development of microscopic theories to describe phase equilibria, transport and chemical reactions at interfaces, surfaces and in confined systems
• Molecular recognition and adsorption at interfaces
• Glassy materials; metastable phase transition; nucleation and crystallization

Postdoctoral Research Associate, *Princeton University*, Princeton, NJ 2011-2014
in Chemical and Biological Engineering (advisor: Pablo G. Debenedetti)
• Developed a new computational method for simulating physisorption on protein matrices and other compliant materials
• Investigated changes in protein structure and dynamics during hydration/dehydration
• Applied metadynamics and umbrella sampling methods to study liquid polymorphism in models of water

Research Assistant, *North Carolina State University*, Raleigh, NC 2006-11
in Chemical and Biomolecular Engineering (advisor: Keith E. Gubbins)
• Developed computational methods for generating ultra-realistic models for nanoporous carbons
• Investigated the physisorption and transport of fluids in carbon materials using molecular simulation

Undergraduate Researcher, *Johns Hopkins University*, Baltimore, MD 2003-06
in Chemical and Biomolecular Engineering (advisor: Marc D. Donohue)
• Adapted a lattice density functional theory to study the ionic selectivity of L-type Ca^{2+} channels
• Performed Monte Carlo simulations to study the aggregation and micellization of lattice surfactants

Teaching Experience

University of Houston

- Instructor, CHEE 3321 Analytical Methods for Chemical Engineers (Evaluation: 4.22/5) S2014

North Carolina State University

- Instructor, CHE 315 Chemical Process Thermodynamics (Evaluation: 4.3/5) S2011
- Teaching Assistant & Guest Lecturer, CHE 596m Multiscale Modeling & Simulation S2010
- Guest Lecturer, CHE 713 Graduate Thermodynamics I F2009

- Teaching Assistant & Guest Lecturer, CHE713 Graduate Thermodynamics I F2008
 - Teaching Assistant, CHE 713 Graduate Thermodynamics I F2007
 - Teaching Assistant, CHE 313 Chemical Engineering Laboratory S2007
- Johns Hopkins University, The Center for Talented Youth**
- Teaching Assistant & Guest Lecturer, Investigations in Engineering Sum2006

Honors and Awards

- Regional Blavatnik Award for Young Scientists (in Chemistry)** 2014
- Travel Award**, FOA 10 Conference, Awaji, Hyogo, Japan 2010
- Travel Award**, ISSHAC 7 Conference, Kazimierz Dolny, Poland 2009
- NSF East Asia and Pacific Summer Institute in Japan Fellow** 2008
- Academic Dean's List**, Johns Hopkins University 2005-06
- Best Poster**, Chemical Eng. Poster Competition, Johns Hopkins University S2005

Publications

23. S. B. Kim, **J. C. Palmer** and P. G. Debenedetti, "A Computational Study of the Effect of Matrix Structural Order on Water Sorption by Trp-Cage Miniproteins," *Journal of Physical Chemistry B*, 119, 1847-185 (2015). [\[DOI Link\]](#)
22. **J. C. Palmer** and P. G. Debenedetti, "Recent Advances in Molecular Simulation: A Chemical Engineering Perspective," *AICHE Journal*, 61, 370-383 (2015). [\[DOI Link\]](#)
21. **J. C. Palmer**, F. Martelli, Y. Liu, R. Car, A. Z. Panagiotopoulos and P. G. Debenedetti, "Metastable Liquid-Liquid Transition in a Molecular Model of Water," *Nature*, 510, 385-388 (2014). [\[DOI Link\]](#)
20. V. Holten, **J. C. Palmer**, P. H. Poole, P. G. Debenedetti and M. A. Anisimov, "Two-State Thermodynamic Model of the ST2 Model for Supercooled Water," *Journal of Chemical Physics*, 140, 104502 (2014). [\[DOI Link\]](#)
19. **J. C. Palmer**, R. Car and P. G. Debenedetti, "The Liquid-Liquid Transition in Supercooled ST2 Water: A Comparison Between Umbrella Sampling and Well-Tempered Metadynamics," *Faraday Discussion*, 167, 77-94, (2013). [\[DOI Link\]](#)
18. S. O. Diallo, M. Jaźdżewska, **J. C. Palmer**, E. Mamontov, K. E. Gubbins and M. Śliwińska-Bartkowiak, "Dynamics of Nanoconfined Water Under Pressure," *Physical Review E*, 88, 022316 (2013). [\[DOI Link\]](#)
17. Y. Long, **J. C. Palmer**, B. Coasne, M. M Śliwińska-Bartkowiak, G. Jackson, E. A. Müller and K. E. Gubbins, "On the Molecular Origin of High-Pressure Effects in Nanoconfinement: The Role of Surface Chemistry and Roughness," *Journal of Chemical Physics*, 139, 144701 (2013). [\[DOI Link\]](#)
16. Y. Liu, **J. C. Palmer**, A. Z. Panagiotopoulos and P. G. Debenedetti, "Liquid-Liquid Transition in ST2 Water," *Journal of Chemical Physics*, 137, 214505 (2012). [\[DOI Link\]](#)
15. **J. C. Palmer** and P. G. Debenedetti, "Computer Simulation of Water Sorption on Flexible Protein Crystals," *Journal of Physical Chemistry Letters*, 3, 2713-2718 (2012). [\[DOI Link\]](#)
14. Y. Long, M. Śliwińska-Bartkowiak, H. Drozdowski, M. Kempinski, K. A. Phillips, **J. C Palmer** and K. E. Gubbins, "High Pressure Effect In Nanoporous Carbon Materials: Effects of Pore Geometry," *Colloids and Surfaces A*, 437, 33-41 (2012). [\[DOI Link\]](#)
13. K. A. Phillips, **J. C. Palmer** and K. E. Gubbins, "Analysis of the Solvation Structure of Rubidium Bromide under Nanoconfinement," *Molecular Simulation*, 38, 1209-1220 (2012). [\[DOI Link\]](#)
12. M. Śliwińska-Bartkowiak, H. Drozdowski, M. Kempinski, M. Jazdzewska, Y. Long, **J. C. Palmer**, and K. E. Gubbins, "Structural Analysis of Water and Carbon Tetrachloride Adsorbed in Activated Carbon Fibres," *Physical Chemistry Chemical Physics*, 14, 7145-7153 (2012). [\[DOI Link\]](#)
11. Y. Long, **J. C. Palmer**, B. Coasne, M. Śliwińska-Bartkowiak and K. E. Gubbins, "Under Pressure: Quasi-High Pressure Effects in Nanopores," *Microporous and Mesoporous Materials*, 154, 19-23 (2012). [\[DOI Link\]](#)

10. **J. C. Palmer** and K. E. Gubbins, "Atomistic Models for Disordered Nanoporous Carbons Using Reactive Force Fields," *Microporous and Mesoporous Materials*, 154, 24-37 (2012). [\[DOI Link\]](#)
9. Y. Long, **J. C. Palmer**, B. Coasne, M. Sliwinska-Bartkowiak and K. E. Gubbins, "Pressure Enhancement in Nanopores: A Major Confinement Effect," *Physical Chemistry Chemical Physics*, 13, 17163-17170 (2011). [\[DOI Link\]](#)
8. **J. C. Palmer**, J. D. Moore, J. K. Brennan and K. E. Gubbins, "Simulating Local Adsorption Isotherms in Models of Complex Porous Materials: A Direct Assessment of the Slit Pore Model," *Journal of Physical Chemistry Letters*, 2, 165-169 (2011). [\[DOI Link\]](#)
7. **J. C. Palmer**, J. D. Moore, T. J. Roussel, J. K. Brennan and K. E. Gubbins, "Adsorptive Behavior of CO₂, CH₄ and Their Mixtures in Carbon Nanospace: A Molecular Simulation Study," *Physical Chemistry Chemical Physics*, 13, 3985-3996 (2011). [\[DOI Link\]](#)
6. **J. C. Palmer**, J. D. Moore, J. K. Brennan and K. E. Gubbins, "Adsorption and Diffusion of Argon in Disordered Nanoporous Carbons," *Adsorption*, 17, 189-199 (2011). [\[DOI Link\]](#)
5. K. E. Gubbins, Y-C Liu, J. D. Moore and **J. C. Palmer**, "The Role of Molecular Modeling in Confined Systems: Impacts and Prospects," *Physical Chemistry Chemical Physics*, 13, 58-85 (2011). (Invited Article). [\[DOI Link\]](#)
4. J. D. Moore, **J. C. Palmer**, Y-C Liu, T. J. Roussel, J. K. Brennan and K. E. Gubbins, "Adsorption and Diffusion of Argon Confined in Ordered and Disordered Microporous Carbons," *Applied Surface Science*, 256 (2010), pp. 5131-5136. [\[DOI Link\]](#)
3. **J. C. Palmer**, A. Llobet, S-H Yeon, J. E. Fischer, Y. Shi, Y. Gogotsi and K. E. Gubbins, "Modeling the Structural Evolution of Carbide-Derived Carbons Using Quenched Molecular Dynamics," *Carbon*, 48, 1116-1123 (2010). [\[DOI Link\]](#)
2. **J. C. Palmer**, J. K. Brennan, M. M. Hurley, A. Balboa and K. E. Gubbins, "Detailed Structural Models for Activated Carbons from Molecular Simulation," *Carbon*, 47, 2904-2913 (2009). [\[DOI Link\]](#)
1. **J. C. Palmer**, S. K. Jain, K. E. Gubbins, J. E. Fischer, R. Dash and Y. Gogotsi, "Hybrid Reverse Monte Carlo Simulations of Microporous Carbons," In: S. Kaskel, P. Llewellyn, F. Rodriguez-Reinoso and N. Seaton, eds., *Characterization of Porous Solids VIII: Proceedings of the 8th International Symposium on the Characterization of Porous Solids*, Cambridge: RSC, 56-63 (2008).

Presentations

*Poster; #Oral; †Invited Oral; Presenter Bolded

31. **J. C. Palmer** and J. D. Rimer, "Simulating the Sorption of Small-Molecule Growth Modifiers on Zeolites," American Institute of Chemical Engineers Annual Meeting, Atlanta, Georgia, 2014. #
30. **J. C. Palmer** and P. G. Debenedetti, "Liquid-Liquid and Liquid-Solid Transitions in Supercooled Water," American Institute of Chemical Engineers Annual Meeting, Atlanta, Georgia, 2014. #
29. **J. C. Palmer**, F. Martelli, Y. Liu, R. Car, A. Z. Panagiotopoulos and P. G. Debenedetti, "Metastable Liquid-Liquid Transition in a Molecular Model of Water," Gordon Research Conference, Water and Aqueous Solutions, Holderness, New Hampshire, 2014.*
28. **J. C. Palmer** and P. G. Debenedetti, "Computer Simulation of Water Sorption on Flexible Protein Matrices," American Institute of Chemical Engineers Annual Meeting, San Francisco, California, 2013. #
27. **J. C. Palmer**, F. Martelli, R. Car and P. G. Debenedetti, "Free Energy Analysis of the Liquid-Liquid Transition in Supercooled ST2 water," American Institute of Chemical Engineers Annual Meeting, San Francisco, California, 2013. #
26. **J. C. Palmer**, P. G. Debenedetti and R. Car, "Computational Techniques for Investigating Liquid Polyamorphism in Water Models," CPMD Meeting 2013, Leipzig, Germany, 2013. ‡
25. **J. C. Palmer**, P. G. Debenedetti and R. Car, "The Liquid-Liquid Transition in Supercooled ST2 Water: A Comparison Between Umbrella Sampling and Well-Tempered Metadynamics," Faraday Discussion 167: Mesostructure and Dynamics in Liquids and Solutions, Bristol, UK, 2013. ‡

24. **J. C. Palmer**, P. G. Debenedetti and R. Car, "Advanced Computational Techniques for Investigating the Liquid-Liquid transition in Atomistic Models of Water," Gordon Research Conference, Chemistry & Physics of Liquids, Holderness, New Hampshire, 2013.*
23. **J. C. Palmer**, "Computational Investigations of Water and Its Role In Biological Systems," University of Toledo, Toledo, OH, 2013.‡
22. **J. C. Palmer**, "Computational Investigations of Water and Its Role In Biological Systems," University of Houston, Houston, TX, 2013.‡
21. **J. C. Palmer**, P. G. Debenedetti and R. Car, "Exploring the Low-Temperature Phase Behavior of ST2 Water with Well-Tempered Metadynamics," American Institute of Chemical Engineers Annual Meeting, Pittsburgh, Pennsylvania, 2012. #
20. **J. C. Palmer** and P. G. Debenedetti, "Simulating Water Sorption on Protein Matrices," American Institute of Chemical Engineers Annual Meeting, Pittsburgh, Pennsylvania, 2012. #
19. **J. C. Palmer**, "*In Silico* Design of Nanoporous Materials for Energy Storage and Environmental Remediation Applications," American Institute of Chemical Engineers Annual Meeting, Pittsburgh, Pennsylvania, 2012.*
18. **J. C. Palmer**, P. G. Debenedetti and R. Car, "A Well-Tempered Metadynamics Study of the Low-Temperature Phase Behavior of ST2 Water," Gordon Research Conference, Water and Aqueous Solutions, Holderness, New Hampshire, 2012.*
17. **J. C. Palmer** and P. G. Debenedetti, "Molecular Simulation of Water Sorption on Flexible Protein Crystals," Gordon-Kenan Research Seminar, Water and Aqueous Solutions, Holderness, New Hampshire, 2012.*
16. **J. C. Palmer** and K. E. Gubbins, "Understanding Adsorption and Diffusion in Disordered Nanoporous Carbons," American Institute of Chemical Engineers Annual Meeting, Minneapolis, Minnesota, 2011.#
15. **J. C. Palmer** and K. E. Gubbins, "Molecular Modeling of Nanoporous Carbons: Understanding Adsorption and Characterization", Characterization of Porous Solids IX, Dresden, Germany, 2011.#
14. Y. Long, **J. C. Palmer** and K. E. Gubbins, "Under Pressure: Quasi-High Pressure Effects in Nanopores", Characterization of Porous Solids IX, Dresden, Germany, 2011.*
13. **J. C. Palmer**, J. K. Brennan, M. Thommes and K. E. Gubbins, "Application of the BET Method to Microporous Materials," American Institute of Chemical Engineers Annual Meeting, Salt Lake City, Utah, 2010.#
12. **J. C. Palmer**, J. K. Brennan and K. E. Gubbins, "Molecular Modeling of Nanoporous Carbons: Atomistic Models and Simulated Adsorption," American Institute of Chemical Engineers Annual Meeting, Salt Lake City, Utah, 2010.#
11. **J. C. Palmer**, J. D. Moore, J. K. Brennan and K. E. Gubbins, "Modeling Adsorption and Diffusion in Microporous Carbons," Fundamentals of Adsorption 10 Meeting, Awaji, Hyogo, Japan, 2010.#
10. **J. C. Palmer**, J. K. Brennan, M. M. Hurley, A. Balboa and K. E. Gubbins, "Atomistic Models for Microporous Carbons," American Institute of Chemical Engineers Annual Meeting, Nashville, Tennessee, 2009.#
9. **J. C. Palmer**, A. Llobet, J. E. Fischer, Y. Gogotsi and K. E. Gubbins, "Understanding the Structure of Titanium Carbide Derived Carbons through Experiment and Theory," LANSCE User Group Meeting, Santa Fe, New Mexico, 2009.‡
8. **J. C. Palmer**, J. K. Brennan, M. M. Hurley, A. Balboa and K. E. Gubbins, "Molecular Modeling of Activated Carbons," The 7th International Symposium on Effects of Surface Heterogeneity in Adsorption and Catalysis on Solids, Kazimierz Dolny, Poland, 2009.#
7. **J. C. Palmer** and K. E. Gubbins, "Realistic Models for Nanoporous Carbons," Edgewood Chemical and Biological Center, Edgewood, Maryland, 2008.‡

6. **J. C. Palmer**, J. K. Brennan, M. M. Hurley, A. Balboa and K. E. Gubbins, "Hybrid Reverse Monte Carlo Simulations of Activated Carbons used as Adsorbents for Chemical and Biological Warfare Agents," American Institute of Chemical Engineers Annual Meeting, Philadelphia, Pennsylvania, 2008.[#]
5. **J. C. Palmer** and K. E. Gubbins, "Simulation of Disordered Porous Carbons," Department of Chemistry, Shinshu University, Shinshu, Japan, 2008.[‡]
4. **J. C. Palmer** and K. E. Gubbins, "Hybrid Reverse Monte Carlo Simulations of Disordered Porous Carbons," Department of Chemical Engineering, Kyoto University, Kyoto, Japan, 2008.[‡]
3. **J. C. Palmer**, J. D. Moore and K. E. Gubbins, "Molecular Simulation of Diffusive Behavior in Nanoporous Carbons," East Asian and Pacific Summer Institutes Colloquium, The Graduate University for Advanced Studies Sokendai, Kanagawa, Japan, 2008.*
2. **J. C. Palmer**, S. K. Jain, K. E. Gubbins, J. E. Fischer and Y. Gogotsi, "Hybrid Reverse Monte Carlo Simulations of Carbide Derived Carbons," Characterization of Porous Solids VIII, University of Edinburgh, Edinburgh, United Kingdom, 2008.[#]
1. **J. C. Palmer**, D. Matuszak, G. Aranovich and M. Donohue, "On the Selectivity of the L-type Calcium Channel: A Lattice Density Functional Theory Study," Chemical and Biomolecular Engineering Poster Competition, Baltimore, Maryland, 2005.*

Contributed Presentations

*Poster; [#]Oral; [‡]Invited Oral; [†]Keynote Oral; Presenter Bolded

18. **F. Martelli**, J. C. Palmer, P. G. Debenedetti and R. Car, "Liquid-liquid Coexistence and Crystallization in Supercooled ST2 Water", American Physical Society Spring Meeting, Denver, Colorado, 2014. [#]
17. **K. Phillips**, J. C. Palmer and K. E. Gubbins, "Solvation Structure of Ions in Model Disordered Carbon Electrodes," American Institute of Chemical Engineers Annual Meeting, Pittsburgh, Pennsylvania, 2012. [#]
16. **A. P. Santos**, J. D. Moore, J. C. Palmer and K. E. Gubbins, "Transport Properties of Methane Confined in Nanoporous Carbons," American Institute of Chemical Engineers Annual Meeting, Pittsburgh, Pennsylvania, 2012. [#]
15. **K. Phillips**, J. C. Palmer and K. E. Gubbins, "Molecular Dynamics Studies of Diffusion and Solvation of Rubidium Bromide Solutions in Nanoconfinement," American Institute of Chemical Engineers Annual Meeting, Minneapolis, Minnesota, 2011. [#]
14. **L. Huang**, J. C. Palmer and K. E. Gubbins, "A Reactive Molecular Dynamics Simulation of Hydrogen Sulfide Dissociation Over Graphene Oxide," American Institute of Chemical Engineers Annual Meeting, Minneapolis, Minnesota, 2011. [#]
13. **Y. Long**, J. C. Palmer, B. Coasne, Malgorzata Sliwinska-Bartkowiak and K. E. Gubbins, "High Pressure Effects in Nanopores," American Institute of Chemical Engineers Annual Meeting, Minneapolis, Minnesota, 2011. [#]
12. Y. Long, J. C. Palmer, B. Coasne, Malgorzata Sliwinska-Bartkowiak and **K. E. Gubbins**, "Under Pressure: Quasi-High Pressure Effects in Nanopores," American Institute of Chemical Engineers Annual Meeting, Salt Lake City, Utah, 2010.[‡]
11. **Y. Long**, J. C. Palmer, B. Coasne, Malgorzata Sliwinska-Bartkowiak and K.E. Gubbins, "Quasi-High Pressure Effects in Nanopores," American Institute of Chemical Engineers Annual Meeting, Salt Lake City, Utah, 2010.[#]
10. **J. D. Moore**, J. C. Palmer, Y-C Liu, T. J. Roussel, J. K. Brennan and K. E. Gubbins, "Anomalous Diffusion in Ordered and Disordered Microporous Carbons," Fundamentals of Adsorption 10 Meeting, Awaji, Hyogo, Japan, 2010.[#]

9. **J. D. Moore**, Y-C Liu , T. J. Roussel, J. C. Palmer and K. E. Gubbins, "Diffusion Mechanisms of Fluids Confined in Carbon Nanotubes, Carbon Nanotube Bundles and Hierarchical Carbons: Single-File, Fickian and Dual-Mode Diffusion," American Institute of Chemical Engineers Annual Meeting, Nashville, Tennessee, 2009.[#]
8. **J. D. Moore**, J. C. Palmer, Y-C Liu , T. J. Roussel and K. E. Gubbins, "Self-Diffusion of Fluids Confined in Ordered and Disordered Microporous Carbons," 10th Symposium of Computational Chemistry in China, Hangzhou, China, 2009.[‡]
7. Y-C Liu, J. D. Moore, J. C. Palmer and **K. E. Gubbins**, "Transitions between Single-File and Fickian Self-Diffusion for Fluids Confined in Carbon Nanotubes, Bundles and Activated Carbons," 10th Symposium of Computational Chemistry in China, Hangzhou, China, 2009.[†]
6. J. C. Palmer, J. D. Moore, Y-C Liu, J. K. Brennan, Y. Gogotsi, J. E. Fischer and **K. E. Gubbins**, "Molecular Modeling of Disordered Micro-Porous Carbons: Atomistic Models, Adsorption and Diffusion," 8th Torunian Carbon Symposium: Fabrication, Modification and Investigation of Novel Forms of Carbon, Torun, Poland, 2009.[#]
5. **J. D. Moore**, J. C. Palmer, Y-C Liu, T. J. Roussel, J. K. Brennan and K. E. Gubbins, "Slow and Fast (Fickian) Diffusion Modes for Argon Confined in BPL Activated Carbon," Diffusion Fundamentals III, Athens, Greece, 2009.*
4. A. Llobet, J. C. Palmer, S-H Yeon, **J. E. Fischer**, Y. Gogotsi and K. E. Gubbins, "Local Structure of Microporous Carbide-Derived Carbons from Scattering Experiments and Modeling," Carbon 2009, Biarritz, France, 2009.[#]
3. J. C. Palmer, S-H Yeon, A Llobet, **K. E. Gubbins**, J. E. Fischer and Y. Gogotsi, "Molecular Modeling and Simulation of Titanium Carbide Derived Carbons," 5th Pacific Basin Conference on Adsorption Science and Technology, Singapore, 2009.[#]
2. **T. J. Roussel**, J. C. Palmer, C. Bichara, R. Pellenq and K. E. Gubbins, "A Monte Carlo Study of the Molecular Selectivity of Binary Mixtures in Ordered and Disordered Microporous Carbons," American Institute of Chemical Engineers Annual Meeting, Philadelphia, Pennsylvania, 2008.[#]
1. **J. K. Brennan**, M. M. Hurley, A. Balboa, R. Beyer, J. C. Palmer and K. E. Gubbins, "Adsorption in Porous Carbons: Experiment and Modeling," ChemBio Defense Conference, Timonium, Maryland, 2007.*

Leadership and Service

- **Reviewer:** ACS Nano, Adsorption Science and Technology, Carbon, Chemical Engineering Science, Journal of Chemical Theory and Computation, Journal of Physical Chemistry B, Journal of Physical Chemistry Letters, Langmuir, Microporous and Mesoporous Materials, Nanoscale, Physical Review E., Physical Review Letters, Physical Review X, Proceedings of the National Academy of Sciences, and others.
- **Programming Committee Member**, Area 1a (Thermodynamics and Transport Properties), 2014- American Institute of Chemical Engineers
- **Sessions Chaired / Co-Chaired**
 - Chair, *Multiscale and Molecular Modeling for Renewable Energy*, Annual Meeting of American Institute of Chemical Engineers, Atlanta, GA (2014)
 - Co-Chair, *Recent Advances in Molecular Simulation Methods II*, Annual Meeting of American Institute of Chemical Engineers, Atlanta, GA (2014)
 - Chair, *Thermophysical Properties and Phase Behavior II*, Annual Meeting of American Institute of Chemical Engineers, Atlanta, GA (2014)
 - Co-Chair, *Thermodynamics and Transport Under Pressure*, Annual Meeting of American Institute of Chemical Engineers, Atlanta, GA (2014)
- **Undergraduate and Graduate Research Mentor**, Princeton University 2011-2014
- **Undergraduate and Graduate Research Mentor**, North Carolina State University 2006-2011
- **BMES Student Mentor**, Johns Hopkins University 2004-05
- **SciencePros Student Mentor**, Johns Hopkins University 2005-06