

# Curriculum Vitae

**Lisa M. Hall**

Professor

William G. Lowrie Department of Chemical and Biomolecular Engineering  
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## Research Focus

Simulation and theory of soft materials, including copolymer electrolytes, nanocomposites, and ionomers, typically with coarse-grained models

## Education

- Ph.D. Chemical Engineering**, *University of Illinois at Urbana-Champaign* 2007-2009  
“Statistical Mechanical Theory of Structure and Miscibility of Polymer Nanocomposites: Effects of Density, Filler Shape, and Chemical Heterogeneity”
- M.S. Chemical Engineering**, *University of Illinois at Urbana-Champaign* 2004-2007  
“Statistical Mechanical Theory of Polymer Nanocomposites: Structure and Miscibility Studies with Various Types of Fillers”
- B.S. Chemical Engineering**, *Rose-Hulman Institute of Technology*
- B.S. Chemistry**, *Rose-Hulman Institute of Technology* 2000-2004  
minor in Spanish; summa cum laude

## Professional Experience

- Professor**, *The Ohio State University* 2022-present
- Associate Professor**, *The Ohio State University* 2018-2022
- Assistant Professor**, *The Ohio State University* 2012-2018  
H.C. “Slip” Slider Professorship
- Postdoctoral Associate**, *Sandia National Laboratories* 2009-2012  
Advisers Amalie Frischknecht (primary) and Mark Stevens
- Graduate Assistant**, *University of Illinois* 2004-2009  
Adviser Kenneth Schweizer
- Undergraduate Research Assistant**, *Cornell University* 2003 (summer)  
Adviser Ulrich Wiesner
- Undergraduate Research Assistant**, *Dartmouth College* 2002 (summer)  
Adviser Jane Lipson
- Undergraduate Research Assistant**, *Rose-Hulman* 2002-2004  
Advisers David Erwin, Michael Mueller

## Honors & Awards

- Harrison Faculty Award for Excellence in Engineering Education, OSU College of Engineering, 2023
- Owens Corning Early Career Award from the Materials Engineering and Sciences Division (MESD) of the American Institute of Chemical Engineers (AIChE), 2021
- Air Force Research Laboratory Summer Faculty Fellowship, 2017, 2018, 2020, 2021
- Lumley Research Award, OSU College of Engineering, 2018
- NSF Faculty Early Career Development (CAREER) award, 2015
- OSU Women in Engineering Faculty Award, for dedication and service as Supermileage Team advisor, 2014
- H.C. "Slip" Slider Professorship, The Ohio State University, 2012-2018
- Employee Recognition Award, awarded to Postdoc Professional Development Program team, Sandia National Laboratories, 2012
- Sandia Albuquerque Poster Presentation Contest Winner, Post-Doctoral Technical Showcase, Sandia National Laboratories, 2010
- NRC (National Research Council) Postdoctoral Associate fellowship (declined), to work at Air Force Research Laboratory, Wright-Patterson AFB, 2009
- SURGE (Support for Underrepresented Groups in Engineering) Fellowship, University of Illinois, 2004-2009
- NSF Graduate Research Fellowship Honorable Mention, 2005
- Dunlap Scholarship, partial tuition scholarship for outstanding chemistry major, Rose-Hulman Institute of Technology, 2003
- Bogart Prize: top sophomore class GPA, Rose-Hulman Institute of Technology, 2002

## Peer-Reviewed Publications

1. Diego Becerra, Pranav R. Jois, and Lisa M. Hall, "Conformational variability of intrinsically isotropic polymers with varying stiffness immersed in nematogenic solvents", *Polymer* 295, 126774, **2024**.
2. Diego Becerra, Yang Xu, Xiaoguang Wang, and Lisa M. Hall, "Impact of Molecular-level Structural Disruption on Relaxation Dynamics of Polymers with End-on and Side-on Liquid Crystal Moieties", *ACS Nano* 17, 24790–24801, **2023**.
3. Felipe F. Pacci Evaristo, Patrick J. Murtha, Lisa M. Hall, and Janani Sampath, "Ionomer Interfacial Behavior from Molecular Dynamics Simulations: Impact of Ion Content on Interfacial Structure and Mixing", *Macromolecules* 56, 9888-9895, **2023**. (This was a collaboration with the final author, a former Hall group student who took the lead on this project after leaving, and who helped to mentor the first author, a Hall group student, to finish the analysis work.)

4. Diego Becerra, Pranav R. Jois, and Lisa M. Hall, "Coarse-Grained Modeling of Polymers with End-on and Side-on Liquid Crystal Moieties: Effect of Architecture", *J. Chem. Phys.*, 158, 224901, **2023**.
5. Mengdi Fan, Kuan-Hsuan Shen, and Lisa M. Hall, "Effect of Tethering Anions in Block Copolymer Electrolytes via Molecular Dynamics Simulations", *Macromolecules*, 55, 7945-7955, **2022**.
6. Priyanka M. Ketkar, Kuan-Hsuan Shen, Mengdi Fan, Lisa M. Hall, and Thomas H. Epps, III, "Quantifying the Effects of Monomer Segment Distributions on Ion Transport in Tapered Block Polymer Electrolytes", *Macromolecules*, 54, 7590-7602, **2021**.
7. Nicholas T. Liesen, Meng Wang, Mehrnoosh Taghavimehr, Jae Sang Lee, Reza Montazami, Lisa M. Hall, and Matthew D. Green, "The Influence of Spacer Composition on Thermomechanical Properties, Crystallinity, and Morphology in Ionene Segmented Copolymers", *Soft Matter*, 17, 5508-5523, **2021**. (This was a collaborative effort with synthesis, characterization, and modeling split across three groups; Nicholas Liesen is in the Hall group; the first three authors are co-first authors and the last three authors are corresponding authors.)
8. Kuan-Hsuan Shen, Mengdi Fan, and Lisa M. Hall, "Molecular Dynamics Simulations of Ion-Containing Polymers Using Generic Coarse-Grained Models", *Macromolecules*, 54, 2031-2052, **2021**. (Invited perspective, featured on the front cover of the issue, ACS Editor's Choice article for February 13, 2021)
9. Kuan-Hsuan Shen and Lisa M. Hall, "Effects of Ion Size and Dielectric Constant on Ion Transport and Transference Number in Polymer Electrolytes", *Macromolecules*, 53, 10086-10096, **2020**.
10. Kuan-Hsuan Shen and Lisa M. Hall, "Ion Conductivity and Correlations in Model Salt-Doped Polymers: Effects of Interaction Strength and Concentration", *Macromolecules*, 53, 3655-3668, **2020**.
11. Alex J. Trazkovich, Tarik H. Akyuz, and Lisa M. Hall, "Effects of Copolymer Sequence on Adsorption and Dynamics Near Nanoparticle Surfaces in Simulated Polymer Nanocomposites", *Tire Science and Technology*, 48, 62-75, **2020**.
12. Youngmi Seo, Kuan-Hsuan Shen, Jonathan R. Brown, and Lisa M. Hall, "Role of Solvation on Diffusion of Ions in Diblock Copolymers: Understanding the Molecular Weight Effect through Modeling", *J. Am. Chem. Soc.*, 141, 18455-18466, **2019**.
13. Jeffrey G. Ethier, Lawrence F. Drummy, Richard A. Vaia, and Lisa M. Hall, "Uniaxial Deformation and Crazing in Glassy Polymer-Grafted Nanoparticle Ultrathin Films", *ACS Nano*, 13, 12816-12829, **2019**.
14. Priyanka M. Ketkar, Kuan-Hsuan Shen, Lisa M. Hall, and Thomas H. Epps, III, "Charging Toward Improved Lithium-Ion Polymer Electrolytes: Exploiting Synergistic Experimental and Computational Approaches to Facilitate Materials Design", *Molecular Systems Design and Engineering*, 4, 223-238, **2019**.
15. Alex J. Trazkovich, Mitchell F. Wendt, and Lisa M. Hall, "Effect of Copolymer Sequence on Local Viscoelastic Properties Near a Nanoparticle", *Macromolecules*, 52, 513-527, **2019**.

16. Jeffrey G. Ethier and Lisa M. Hall, "Structure and Entanglement Network of Model Polymer-Grafted Nanoparticle Monolayers", *Macromolecules*, 51, 9878–9889, **2018**.
17. Kuan-Hsuan Shen, Jonathan R. Brown, and Lisa M. Hall, "Diffusion in Lamellae, Cylinders, and Double Gyroid Block Copolymer Nanostructures", *ACS Macro Lett.*, 7, 1092–1098, **2018**.
18. Janani Sampath and Lisa M. Hall, "Impact of Ion Content and Electric Field on Mechanical Properties of Coarse-Grained Ionomers", *J. Chem. Phys.*, 149, 163313 **2018**.
19. Alex J. Trazkovich, Mitchell F. Wendt, and Lisa M. Hall, "Effect of Copolymer Sequence on Structure and Relaxation Times Near a Nanoparticle Surface", *Soft Matter*, 14, 5913–5921, **2018**.
20. Janani Sampath and Lisa M. Hall, "Influence of a Nanoparticle on the Structure and Dynamics of Model Ionomer Melts", *Soft Matter*, 14, 4621–4632, **2018**.
21. Jonathan R. Brown, Youngmi Seo, and Lisa M. Hall, "Ion Correlation Effects in Salt-doped Block Copolymers", *Phys. Rev. Lett.*, 120, 127801, **2018**.
22. Janani Sampath and Lisa M. Hall, "Effect of Neutralization on the Structure and Dynamics of Model Ionomer Melts", *Macromolecules*, 51, 626–637, **2018**.
23. Jeffrey G. Ethier and Lisa M. Hall, "Modeling Individual and Pairs of Adsorbed Polymer-Grafted Nanoparticles: Structure and Entanglements", *Soft Matter*, 14, 643 – 652, **2018**.
24. Janani Sampath and Lisa M. Hall, "Impact of Ionic Aggregate Structure on Ionomer Mechanical Properties from Coarse-Grained Molecular Dynamics Simulations", *J. Chem. Phys.*, 147, 134901, **2017**. (Featured on the cover of the issue)
25. Thomas E. Gartner III, Tomohiro Kubo, Youngmi Seo, Maxym Tansky, Lisa M. Hall, Brent S. Sumerlin, and Thomas H. Epps, III, "Domain Spacing and Composition Profile Behavior in Salt-Doped Cyclic vs Linear Block Polymer Thin Films: A Joint Experimental and Simulation Study", *Macromolecules*, 50, 7169–7176, **2017**.
26. Jonathan R. Brown, Youngmi Seo, Scott W. Sides, and Lisa M. Hall, "Unique Phase Behavior of Inverse Tapered Block Copolymers: Self-Consistent Field Theory and Molecular Dynamics Simulations", *Macromolecules*, 50, 5619–5626, **2017**.
27. Ishan Prasad, Youngmi Seo, Lisa M. Hall, and Gregory M. Grason, "Intradomain Textures in Block Copolymers: Multizone Alignment and Biaxiality", *Phys. Rev. Lett.*, 118, 247801, **2017**.
28. Youngmi Seo, Jonathan R. Brown, and Lisa M. Hall, "Diffusion of Selective Penetrants in Interfacially Modified Block Copolymers from Molecular Dynamics Simulations", *ACS Macro Lett.*, 6, 375–380, **2017**.
29. W. Garrison Levine, Youngmi Seo, Jonathan R. Brown, and Lisa M. Hall, "Effect of Sequence Dispersity on Morphology of Tapered Diblock Copolymers from Molecular Dynamics Simulations", *J. Chem. Phys.*, 145, 234907, **2016**.

30. Kyaw Hpone Myint, Jonathan R. Brown, Anne R. Shim, Barbara E. Wyslouzil, and Lisa M. Hall, "Encapsulation of Nanoparticles During Polymer Micelle Formation: A Dissipative Particle Dynamics Study", *J. Phys. Chem. B*, 120, 11582–11594, **2016**.
31. Ming Luo, Jonathan R. Brown, Roddel A. Remy, Douglas M. Scott, Michael E. Mackay, Lisa M. Hall, and Thomas H. Epps, III, "Determination of Interfacial Mixing in Tapered Block Polymer Thin Films: Experimental and Theoretical Investigations", *Macromolecules*, 49, 5213-5222, **2016**.
32. Jonathan R. Brown, Youngmi Seo, Tiara Ann D. Maula, and Lisa M. Hall, "Fluids Density Functional Theory and Initializing Molecular Dynamics Simulations of Block Copolymers", *J. Chem. Phys.*, 144, 124904, **2016**.
33. Prasant Vijayaraghavan, Jonathan R. Brown, and Lisa M. Hall, "Modeling the Effect of Polymer Composition on Ionic Aggregation in Poly(propylene glycol)-Based Ionenets", *Macromol. Chem. Phys.*, 217, 930-939, **2016**.
34. Youngmi Seo, Jonathan R. Brown, and Lisa M. Hall, "Effect of Tapering on Morphology and Interfacial Behavior of Diblock Copolymers from Molecular Dynamics Simulations", *Macromolecules*, 48, 4974–4982, **2015**.
35. Jonathan R. Brown, Scott W. Sides, and Lisa M. Hall, "Phase Behavior of Tapered Diblock Copolymers from Self-Consistent Field Theory", *ACS Macro Lett.*, 2, 1105–1109, **2013**.
36. Lisa M. Hall, Mark J. Stevens, and Amalie L. Frischknecht. "Dynamics of Model Ionomer Melts of Various Architectures", *Macromolecules*, 45, 8097-8108, **2012**. (publication during current OSU appointment, based on prior work)
37. Lisa M. Hall, Michelle E. Seitz, Karen I. Winey, Kathleen L. Opper, Kenneth B. Wagener, Mark J. Stevens, and Amalie L. Frischknecht. "Ionic Aggregate Structure in Ionomer Melts: Effect of Molecular Architecture on Aggregates and the Ionomer Peak", *J. Am. Chem. Soc.*, 134, 574-587, **2012**.
38. Lisa M. Hall and Kenneth S. Schweizer. "Impact of Monomer Sequence, Composition and Chemical Heterogeneity on Copolymer-Mediated Effective Interactions between Nanoparticles in Melts", *Macromolecules*, 44, 3149-3160, **2011**.
39. Lisa M. Hall, Mark J. Stevens, and Amalie L. Frischknecht. "Effect of Polymer Architecture and Ionic Aggregation on the Scattering Peak in Model Ionomers", *Phys. Rev. Lett.*, 106, 127801, **2011**.
40. So Youn Kim, Lisa M. Hall, Kenneth S. Schweizer, and Charles F. Zukoski. "Long Wavelength Concentration Fluctuations and Cage Scale Ordering of Nanoparticles in Concentrated Polymer Solutions", *Macromolecules*, 43, 10123-10131, **2010**.
41. Lisa M. Hall and Kenneth S. Schweizer. "Structure, Scattering Patterns and Phase Behavior of Polymer Nanocomposites with Nonspherical Fillers", *Soft Matter*, 5, 1015-1025, **2010**.
42. Lisa M. Hall, Arthi Jayaraman, and Kenneth S. Schweizer. "Molecular Theories of Polymer Nanocomposites", *Curr. Opin. Solid State Mater. Sci.*, 14, 38-48, **2010**.

43. Lisa M. Hall, Benjamin J. Anderson, Charles F. Zukoski, and Kenneth S. Schweizer. "Concentration Fluctuations, Local Order, and the Collective Structure of Polymer Nanocomposites", *Macromolecules*, 42, 8435–8442, **2009**.
44. Lisa M. Hall and Kenneth S. Schweizer. "Many Body Effects on the Phase Separation and Structure of Dense Polymer-Particle Melts", *J. Chem. Phys.*, 128, 234901, **2008**.
45. Sudeepto Sen, Yuping Xie, Sanat K. Kumar, Hoichang Yang, Amitabh Bansal, Derek L. Ho, Lisa Hall, Justin B. Hooper, and Kenneth S. Schweizer, "Chain Conformations and Bound-Layer Correlations in Polymer Nanocomposites", *Phys. Rev. Lett.*, 98, 128302, **2007**.
46. Anurag Jain, Gilman E. S. Toombes, Lisa M. Hall, Surbhi Mahajan, Carlos B. W. Garcia, Wolfgang Probst, Sol M. Gruner, and Ulrich Wiesner, "Direct Access to Bicontinuous Skeletal Inorganic Plumber's Nightmare Networks from Block Copolymers", *Angew. Chem. Int. Ed.*, 44, 1226-29, **2005**.
47. Anurag Jain, Lisa M. Hall, Carlos B. W. Garcia, Sol M. Gruner, and Ulrich Wiesner, "Flow-Induced Alignment of Block Copolymer-Sol Nanoparticle Coassemblies toward Oriented Bulk Polymer-Silica Hybrids", *Macromolecules*, 38, 10095-10100, **2005**.

### Edited Book

48. Valeriy V. Ginzburg and Lisa M. Hall, Editors, *Theory and Modeling of Polymer Nanocomposites*, Springer Series in Materials Science 310, Springer Nature Switzerland, **2021**.

### Invited Talks

1. (scheduled) Lisa M. Hall, "Coarse-Grained Molecular Dynamics Simulations of Polymer-Grafted Nanoparticle Systems", MRS Spring Meeting, Orlando, FL, April 25, 2024.
2. (scheduled) "Coarse-Grained Molecular Dynamics Simulations of Polymer-Grafted Nanoparticles", ACS National Meeting, New Orleans, LA, March 17, 2024.
3. (scheduled) "Interpreting Nanoscale Structure-Property Relationships in Polymeric Materials from Coarse-Grained Simulations", Chemical Engineering Department Seminar, Florida A&M University-Florida State University, Tallahassee, FL, February 23, 2024.
4. Lisa M. Hall, "Coarse-Grained Modeling of Ion Transport in Solid Polymer Electrolytes", Chemical Engineering Department Seminar, University of Rochester, Rochester, NY, November 29, 2023.
5. Diego Becerra and Lisa M. Hall, "Coarse-Grained Simulations of Side Chain Liquid Crystal Polymers with Different Types of Attachments", AIChE Annual Meeting, Orlando, FL, November 2023.
6. Lisa M. Hall, "Coarse-Grained Simulations of Polymer-Grafted Nanoparticle Monolayers" Materials Science & Technology Meeting, Columbus, OH, October 2023.

7. Lisa M. Hall, "Coarse-Grained Modeling of Ion Transport in Solid Polymer Electrolytes", Chemical and Biomolecular Engineering Department Seminar, University of California, Berkeley, CA, September 20, 2023.
8. Lisa M. Hall, "Coarse-Grained Modeling of Ion Transport in Solid Polymer Electrolytes", Departmental Seminar, School of Polymer Science and Engineering, University of Southern Mississippi, Hattiesburg, MS, August 30, 2023
9. Lisa M. Hall, "Coarse-Grained Modeling of Ion Transport in Solid Polymer Electrolytes", Workshop on Understanding Structure and Dynamics of Charged Polymers, Oak Ridge National Laboratory, Oak Ridge, TN, August 10, 2023.
10. Lisa M. Hall, "Coarse-Grained Modeling of Ion Transport in Solid Polymer Electrolytes" Seventh International Symposium Frontiers in Polymer Science, Gothenburg, Sweden, May 30, 2023
11. Lisa M. Hall, "Coarse-Grained Simulations of Polymers with Complex Architectures", Special seminar, Cal State Long Beach, CA, May 19, 2023.
12. Lisa M. Hall, "Coarse-Grained Simulations of Polymer-Grafted Nanoparticle Monolayers", KITP Conference on Nanoparticle Assemblies, Santa Barbara, CA, May 15, 2023.
13. Lisa M. Hall, "Structure and Dynamics of Ion-Containing Copolymers via Generic Coarse-Grained Molecular Dynamics Simulations", ACS Spring Meeting, Indianapolis, IN, March 28, 2023.
14. Lisa M. Hall, "Coarse-Grained Modeling of Ion Transport in Salt-Doped and Single-Ion Block Copolymers", AIChE Annual Meeting, Phoenix, AZ, November 16, 2022.
15. Lisa M. Hall, "Coarse-Grained Modeling of Ion Transport in Solid Polymer Electrolytes", Virginia Tech Macromolecules Innovation Institute Solvay Seminar Series, Blacksburg, VA, October 12, 2022.
16. Lisa M. Hall, "Coarse-Grained Modeling of Ion Mobility and Conductivity in Block Copolymers", APS March Meeting, Chicago, IL, March 15, 2022.
17. Lisa M. Hall, "Coarse-Grained Modeling of Ion Transport through Block Copolymers", Pennsylvania State University Materials Science and Engineering seminar series, virtual, January 20, 2022.
18. Lisa M. Hall, "Coarse-Grained Modeling of Ion Transport through Block Copolymers", Caltech Chemical Physics seminar series, November 30, 2021.
19. Lisa M. Hall, "Coarse-Grained Modeling of Ion Transport through Block Copolymers", University of Illinois at Urbana-Champaign Chemical and Biomolecular Engineering seminar series, November 16, 2021.
20. Lisa M. Hall, "Generic Coarse-Grained Modeling of Ion-Containing Polymers", American Institute of Chemical Engineers Annual Meeting, Boston, MA, November 7-11, 2021.
21. Lisa M. Hall, "Coarse-Grained Modeling of Ion Transport through Block Copolymers", University of Kentucky Chemical and Materials Engineering

seminar series, September 1, 2021.

22. Lisa M. Hall, "Structure and Properties of Polymer-Grafted Nanoparticle Monolayers from Coarse-Grained Simulations", American Chemical Society Fall Meeting, Atlanta, GA and online, August 25, 2021.
23. Lisa M. Hall, "Molecular Dynamics Simulations of Polymer-Grafted Nanoparticle Monolayers", American Physical Society March Meeting, online, March 16, 2021.
24. Lisa M. Hall, "Coarse-Grained Modeling of Solid Polymer Electrolytes and Ion Conduction", Virtual Materials Research Society Spring/Fall Meeting, online, December 2, 2020.
25. Lisa M. Hall, "Analyzing Ion Conductivity of Polymer Electrolytes from Coarse-Grained Molecular Dynamics Simulations", Women Excelling in Computational Molecular Engineering (WELCOME) monthly seminar series, online, November 11, 2020.
26. *Invitation* to speak at International Chemical Congress of Pacific Basin Societies (Pacifichem) 2020, Honolulu, HI, declined due to COVID-19.
27. *Invitation* to speak at ACS Central Regional Meeting, Columbus, OH, March 2020, cancelled due to COVID-19.
28. Lisa M. Hall, "Entanglements and Toughness in Model Polymer-Grafted Nanoparticle Monolayers", American Chemical Society National Meeting, Philadelphia, PA, March 2020, cancelled due to COVID-19, abstract available online.
29. Lisa M. Hall, "Relating Entanglements and Toughness in Model Polymer-Grafted Nanoparticles", American Physical Society March Meeting, Denver, CO, scheduled March 2020, cancelled due to COVID-19, abstract and slides available online.
30. Lisa M. Hall, "Analyzing Ion Conductivity of Polymer Electrolytes from Coarse-Grained Molecular Dynamics Simulations", Center for Integrated Nanotechnologies User Meeting, Santa Fe, NM, September 22, 2019.
31. Lisa M. Hall, "Modeling Ion Conduction through Block Copolymers: Morphology, Ion Solvation, and Correlated Ion Motion", American Chemical Society National Meeting, San Diego, CA, August 26, 2019.
32. Lisa M. Hall, "Modeling Ion Conduction through Block Copolymers: Impact of Morphology and Ion Solvation", 50th American Chemical Society Central Regional Meeting, Midland, MI, June 5, 2019.
33. Lisa M. Hall, "Modeling Ion Conduction through Block Copolymers: Impact of Morphology and Ion Solvation", Materials Science Graduate Seminar, University of Cincinnati, November 16, 2018.
34. Lisa M. Hall, "Modeling Ion Conduction through Block Copolymers: Impact of Morphology and Ion Solvation", Chemical and Biomedical Engineering Department Seminar, Cleveland State University, October 11, 2018.
35. Lisa M. Hall, "Effects of Block Copolymer Morphology on Diffusion", Frontiers of Molecular Engineering Meeting, Chicago, IL, September 27, 2018.



36. Lisa M. Hall, "Effects of Morphology on Diffusion through Block Copolymers from Coarse-Grained Modeling", American Chemical Society National Meeting, Boston, MA, August 21, 2018.
37. Lisa M. Hall, "Diffusion through Block Copolymers: Effects of Morphology and Polymer Interactions", Midwest Thermodynamics and Statistical Mechanics Meeting, Pittsburgh, PA, June 12, 2018.
38. Lisa M. Hall, "Effect of Ion-Polymer Solvation Strength on Ion Diffusion in Model Diblock Copolymers", American Physical Society March Meeting, Los Angeles, CA, March 8, 2018.
39. Lisa M. Hall, "Phase Behavior and Dynamics of Model Tapered Diblock Polymers", Chemical and Biomolecular Engineering Department Seminar, University of Notre Dame, October 10, 2017.
40. Lisa M. Hall, "Coarse-Grained Modeling of Nanostructured Polymeric Systems", Soft Matter Materials Branch Seminar, Materials and Manufacturing Directorate of the Air Force Research Laboratory, Dayton, OH, July 7, 2017.
41. Lisa M. Hall, "Fluids Density Functional Theory and Simulations of Block Copolymers", Polymer Physics workshop at Telluride Science Research Center, CO, June 29, 2017.
42. Lisa M. Hall, "Fluids Density Functional Theory and Simulations of Block Copolymers", Midwest Theoretical Chemistry Conference, Michigan State University, June 3, 2017.
43. Lisa M. Hall, "Coarse-Grained Modeling of Copolymers: Impacts of Molecular Architecture on Nanostructure", Polymer Science and Engineering Seminar, University of Massachusetts Amherst, March 31, 2017.
44. Lisa M. Hall, "Phase Behavior and Dynamics of Model Tapered Diblock Copolymers", Physical Chemistry Seminar, University of Florida, February 28, 2017.
45. Lisa M. Hall, "Phase Behavior and Dynamics of Model Tapered Diblock Copolymers", PAM Lecture, College of Polymer Science and Polymer Engineering, University of Akron, February 3, 2017.
46. Lisa M. Hall, "Structure and Dynamics of Model Tapered Diblock Polymers", American Institute of Chemical Engineers Annual Meeting, San Francisco, CA, November 14, 2016.
47. Lisa M. Hall, "Phase Behavior and Dynamics of Model Tapered Diblock Polymers", Chemical Engineering Department Seminar, Clarkson University, October 25, 2016.
48. Lisa M. Hall, "Phase Behavior and Dynamics of Model Tapered Diblock Polymers", Materials Science and Engineering Department Seminar, Texas A&M University, October 3, 2016.
49. Lisa M. Hall, "Theoretically-Informed Simulations of Microphase Separated Copolymers", Gordon Conference on Polymer Physics, South Hadley, MA, July 27, 2016.

50. Lisa M. Hall, "Using Tapering to Control Block Polymer Microstructure and Dynamics: Joint Theory and Experimental Effort", Department of Energy Materials Chemistry PI Meeting, Washington, D.C., July 12, 2016.
51. Lisa M. Hall, "Coarse-Grained Modeling of Block Copolymers: Impacts of Molecular Architecture on Nanostructure", Chemical Engineering Seminar, Arizona State University, April 11, 2016.
52. Lisa M. Hall, "Phase Behavior and Dynamics of Model Tapered Diblock Polymers", Chemical and Biomolecular Engineering Department Seminar, Case Western Reserve University, April 7, 2016.
53. Lisa M. Hall, "Theory and Simulations of Tapered Diblock Polymers", American Physical Society Meeting, March 16, 2016. (for the Dillon Medal Symposium honoring Thomas Epps, III)
54. Lisa M. Hall, "Connecting Molecular Dynamics Simulations and Fluids Density Functional Theory of Block Copolymers", American Physical Society Meeting, Baltimore, MD, March 14, 2016.
55. Lisa M. Hall, "Theoretically-Informed Simulations of Block Copolymers", American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 12, 2015.
56. Lisa M. Hall and Jonathan R. Brown, "Efficient Modeling of Structure and Dynamics of Nanostructured Polymeric Systems", Technical Interchange Meeting: Multiscale Characterization of Advanced Materials, hosted by the Materials and Manufacturing Directorate of the Air Force Research Laboratory, Dayton, OH, June 29, 2015.
57. Lisa M. Hall, "Theoretically-informed Simulations of Tapered Diblock Copolymers", Chemical Engineering Seminar, California Institute of Technology, May 14, 2015.
58. Lisa M. Hall, "Phase Behavior of Model Tapered Diblock Copolymers", American Institute of Chemical Engineers Annual Meeting, Atlanta, GA, November 16, 2014.
59. Lisa M. Hall, "Theory and Simulations of Tapered Diblock Copolymers", Special Seminar, Polymer Science and Engineering, University of Massachusetts Amherst, October 27, 2014.
60. Lisa M. Hall, "Theory-guided Simulations of Block Copolymers and Polymer Nanocomposites", Multiscale Characterization of Advanced Materials Workshop, hosted by the Materials and Manufacturing Directorate of the Air Force Research Laboratory, Dayton, OH, July 24, 2014.
61. Lisa M. Hall, "Molecular Modeling of Tapered Diblock Copolymers", US-Poland Workshop on the Thermodynamics of Complex Fluids and Interfaces, Warsaw, Poland, June 11, 2014.
62. Lisa M. Hall, "Molecular Modeling of Tapered Diblock Copolymers", OSU Materials Week conference, Columbus, OH, May 7, 2014.
63. Lisa M. Hall, "Structure and Dynamics of Model Tapered Diblock Copolymers", Special Polymer Physics Seminar, Penn State University, State College, PA, March 11, 2014.

64. Lisa M. Hall, "Interfaces and Phase Behavior of Tapered Diblock Copolymers from Theory and Simulations", American Institute of Chemical Engineers Annual Meeting, San Francisco, CA, November 7, 2013. \*Not in program; invited after a cancellation
65. Lisa M. Hall, "Coarse-Grained Modeling of Ionomers and Salt-Doped Block Copolymers", Statewide Users Group of the Ohio Supercomputer Center meeting, Columbus, OH, August 8, 2013.
66. Lisa M. Hall, Mark J. Stevens, and Amalie L. Frischknecht, "Simulation of Ionic Aggregation and Ion Dynamics in Ionomers", invitation passed from adviser Amalie Frischknecht, Complex Fluids Design Consortium Annual Meeting, Santa Barbara, CA, January 30, 2012.
67. Lisa M. Hall, Mark J. Stevens, and Amalie L. Frischknecht, "Effect of Polymer Architecture on Ionic Aggregation in Ionic Polymers", Center for Integrated Nanotechnologies Users Conference, Albuquerque, NM, September 16, 2011.
68. Lisa M. Hall, Mark J. Stevens, and Amalie L. Frischknecht, "Ionic Aggregates and Counterion Diffusion in Model Ionomers", American Chemical Society National Meeting, Denver, CO, August 28, 2011.
69. Lisa M. Hall, "Statistical Mechanical Theory of Particles in an Adsorbing Polymer Melt", Engineering Department Graduate Seminar, Rose-Hulman Institute of Technology, October 9, 2009.

## Teaching Experience

Instructor, CHBE 8801, Analysis, *The Ohio State University*  
Fall 2023

Instructor, CHBE 3508, Thermodynamics, *The Ohio State University*  
Spring 2022, Spring 2023

Instructor, CHBE 8808, Advanced Thermodynamics, *The Ohio State University*  
Spring 2019, Fall 2020, Fall 2022, Spring 2024

Instructor, CHBE 5194, Molecular Dynamics, *The Ohio State University*  
Fall 2016, Spring 2018, Fall 2021

Note: Offered as "Special Topics" for first 2 offerings, to be taught with title and course number in Fall 2021. Developed this elective as described in NSF CAREER award proposal. The course is primarily upperclass undergraduates, and also includes graduate students. The focus is on practical skills of performing simulations, and a semester long project involving using LAMMPS and the supercomputers at the Ohio Supercomputer Center is required.

Instructor, CHBE 4624, Process Control, *The Ohio State University*  
Fall 2012, Spring 2014, Spring 2015, Fall 2015, Spring 2017, Fall 2017, Fall 2018, Spring 2021

Instructor, CHBE 2523, Separation Processes, *The Ohio State University*  
Fall 2014, Spring 2016

Note: Collaborated with John Clay and Nick Brunelli, who also teach CHBE 2523 in other semesters, to update and share course materials such as homework

assignments and worksheets, providing more comprehensive and standard learning experience in Separations across the student cohort.

## **Student and Postdoctoral Scholar Advisees**

5 current PhD program graduate students: Mengdi (Mandy) Fan (started Fall 2018); Felipe Pacci Evaristo (Materials Science and Engineering, transferred from Wolfgang Windl group in Spring 2020); Yuanhao Zhang (started Fall 2020), Jacob Breese (started Fall 2022), Spand Mehta (started Fall 2022)

0 current Master's program graduate students

3 former postdoctoral associates: Jonathan Brown (2012-2015; Dr. Brown was then a research scientist and lecturer at OSU from 2015-2018; next position as a research scientist at Nationwide Children's Hospital); Youngmi Seo (Dr. Seo graduated from the Hall group in April 2017 and was a postdoctoral associate until December 2017; next position at LG Chemical, South Korea); Diego Becerra (January 2022-December 2023; next position at University of Concepcion, Chile)

17 former undergraduate researchers: Joshua Fouasnon (advised by postdoc Jonathan Brown for summer 2013); Anne Shim, (undergraduate honors thesis student, advised by postdoc Jonathan Brown, summer 2014 to graduation in spring 2015); T. Ann Maula (advised by postdoc Jonathan Brown for summer 2015); Kevin Bowman (advised by graduate student Alex Trzakovich, summer and fall 2015); Connor Barber (advised by graduate student Janani Sampath, summer 2015 to spring 2016); Kyaw Hpone Myint, from Berea college, (co-advised by Barbara Wyslouzil and Hall with additional mentoring from Jonathan Brown, summer 2015 and 2016); Jack Mileski (advised by graduate student Jeffrey Ethier for spring, fall 2016); Shreyas Sudhaman (co-advised with Jon Brown fall 2017-spring 2018); Bhavya Shah (advised by graduate student Kevin Shen summer 2017-fall 2018); Steve Merriman (advised by graduate student Jeff Ethier starting fall 2017-spring 2018); Patrick Murtha (advised by graduate student Janani Sampath starting summer 2017-spring 2018); Mitchell Wendt (undergraduate thesis student, advised by graduate student Kevin Shen for summer-fall 2016 then advised by graduate student Alex Trzakovich fall 2017-spring 2019); Kaila Oberhaus (advised by graduate student Mandy Fan for summer 2019); Hannah Rettig (advised by graduate student Kevin Shen spring 2019-spring 2020); Sahiti Tamiriskandala, (undergraduate honors thesis student, advised by graduate student Mandy Fan fall 2019-spring 2022); Fesume Hailu (advised by postdoc Diego Becerra fall 2022); Pranav Jois (advised by postdoc Diego Becerra starting summer 2022-fall 2023)

6 former high school research students: W. Garrison Levine (2014, advised by graduate student Youngmi Seo); Mona Lynch (2015, advised by graduate student Youngmi Seo); Akhila Boda (summer 2017, advised by graduate student Jeffrey Ethier); Zampa Provenzale (co-advised with Jon Brown fall 2017-spring 2018); Anna Schuler (coadvised by graduate student Nicholas Liesen summer 2021); Alasdair DeLong (advised by postdoc Diego Becerra summer 2023)

2 former in-service middle/high school teacher summer researchers (via TEK8 program): Carol Oaks (summer 2016, worked with Mitchell Wendt), Marjorie Langston (summer 2017, worked with Patrick Murtha)

2 Master's degree graduates: Prasant Vijayaraghavan (started Fall 2012, graduated August 2014), Aakash Singh (started Fall 2018, graduated November 2020)  
1 former student transferred from Hall group: Sayantan Banerjee (Hall group Fall 2012-Spring 2014; Master's degree from Bhavik Bakshi group, 2014)  
6 PhD graduates: Youngmi Seo (started Fall 2012, defended thesis 4/2017, next position: LG Chemical); Janani Sampath (started January 2014, defended thesis 4/2018, next positions: postdoctoral scholar at University of Washington, Assistant Professor, University of Florida); Alex Trzakovich (started Fall 2014, defended thesis 12/2018; was a part time student employed by Cooper Tire and Rubber Company until June 2018, next position at SEA, Ltd., Columbus); Jeffrey Ethier (started at OSU in Fall 2014, transferred from Umit Ozkan group to Hall group Fall 2015, defended thesis 4/2019, next positions: postdoctoral scholar at Illinois Institute of Technology, research scientist, Air Force Research Laboratory); Kuan-Hsuan (Kevin) Shen (started Fall 2015, defended thesis 7/2020, next position: postdoctoral scholar at Georgia Tech); Nicholas Liesen (coadvised with Isamu Kusaka starting in Spring 2019, defended thesis 4/2022, next position: postdoctoral scholar at Lawrence Livermore National Laboratory)

### **Selected Service Activities**

APS DPOLY (American Physical Society Division of Polymer Physics) Program Chair for 2025 March Meeting, DPOLY Program Vice-Chair for 2024 March Meeting.

AIChE MESD (American Institute of Chemical Engineers Materials Engineering and Sciences Division) Chair for Owens Corning Award Committee, August 2023-present.

Organized session "Polymer Dynamics Across Multiple Length and Time Scales" for ACS Spring Meeting 2023. With co-organizer Joshua Sangoro.

Cohort leader (scheduled group meetings and facilitated peer discussion about how to advance racial justice in our teaching and student services activities) and participant in Racial Justice Pathways program run by STEAM Factory in academic year 2021-2022.

STEAM Factory Faculty Director, September 2019-July 2021. Formerly member of leadership board, April 2017-September 2019. This is a group of ~200 OSU faculty, facilitating interdisciplinary research collaboration.

Ohio Supercomputer Center's Supercomputer Users Group Vice-Chair, October 2017-2023.

Editorial Advisory Board for *Macromolecules*, January 2019-present.

Editorial Advisory Board for *ACS Macro Letters*, January 2021-present.

Member of Eminence Fellows Program Faculty Network (Engineering cohort), May 2019-present.

Member of Rose-Hulman Institute of Technology Department of Chemical Engineering external advisory board, 2012-present.

Advise undergraduates Joshua Fouasnon (2013), Kevin Bowman (2015), Mitchell

Wendt (2016), and Patrick Murtha (2017) along with in-service teachers Carol Oaks (2016) and Marjorie Langston (2017) for research component of “Translating Engineering Research to K-12 Education” program, 10 weeks of summer. Program continues through fall semester, during which they attend and OSU course and facilitate a middle school after school program, coordinated by the Director of K-12 Education and Outreach for the College of Engineering.

Presented interactive polymer simulation demonstration/learning module:

Public outreach events: 14 presentations at events such as “Franklinton Fridays” through STEAM Factory, 2013-2021.

K-12 school groups: 14 presentations 2015-2023: high school students from the Ohio Supercomputer Center Summer Institute, 2015; female high school students from the ASPIRE (Achieving in Science through Physics Instrumentation, Research and Exploration) Workshop, 2015, 2016, 2017, 2018, 2019; 4<sup>th</sup>-5<sup>th</sup> graders at COSI camps, 2016, 2017; middle schoolers in “Grow Your Mind” program at Wellington School, 2018; middle schoolers from Columbus City Schools for “Breakfast of Science Champions” visit to OSU, November 2017, 2018, 2019, May 2023; COSI Passport to the Color of Science program for middle school girls, March 2020; “I Heart Science Night” at Barrington Elementary, February 2024.