

## SHARON C. GLOTZER, PhD, NAS, NAE

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US Citizen

### EDUCATION

Ph.D., 1993, Boston University, in Physics. Advisor: H. Eugene Stanley (NAS).

B.S. cum laude, 1987, University of California, Los Angeles, in Physics.

### PROFESSIONAL EXPERIENCE

- Anthony C. Lembke Department Chair of Chemical Engineering, U Michigan, July 2017 – present.
- John W. Cahn Distinguished University Professor of Engineering, U Michigan, 2015 – present.
- Stuart W. Churchill Collegiate Professor of Chemical Engineering, U Michigan, Ann Arbor, MI, October 1, 2009 – present.
- Professor, Department of Materials Science and Engineering, 2005 – present. (25% appointment)
- Professor, Department of Physics, 2005 - present. (0% appointment); Macromolecular Science and Engineering, 2005 - present. (0% appointment); Applied Physics Program, 2006 - present. (0% appointment)
- Director of Research Computing, College of Engineering, September 1, 2009 – August 30, 2012 (25% appointment)
- Additional affiliations:
  - Core Faculty, UM Biointerfaces Institute
  - Associate Faculty, UM Center for the Study of Complex Systems
  - Faculty, UM Institute for Complex Adaptive Matter
  - Affiliate Faculty, Michigan Institute for Computational Discovery & Engineering
  - Affiliate Faculty, Michigan Institute for Data Science
  - Affiliate Faculty, Center for Computational Medicine and Biology
- Sabbatical affiliations for September 2008 – May 2009:
  - Faculty Fellow, National Center for Supercomputing Applications, Champaign, IL and Director, Virtual School of Computational Science & Engineering, Great Lakes Consortium for Petascale Computation and Blue Waters
  - Visiting Professor, Université du Luxembourg, Faculté des Sciences de la Technologie et de la Communication, Campus Kirchberg, Luxembourg
- Co-founding Director, Virtual School of Computational Science and Engineering, Great Lakes Consortium for Petascale Computation (A consortium of NCSA and the Big 10+), 2008 – 2015.

- Professor (with tenure), Department of Chemical Engineering, U Michigan, Ann Arbor, MI, Sept 2005 – Oct 2009. Also Professor of Materials Science and Engineering (25%), and Physics (0%), with add'l affiliations in Macromolecular Science and Engineering, and Applied Physics.
- Associate Professor (with tenure), Department of Chemical Engineering, U Michigan, Ann Arbor, MI, January 2001 – August 2005. Associate Professor, Department of Materials Science and Engineering, January 2001 – August 2005; Macromolecular Science and Engineering, 2001 – August 2005; Department of Physics, 2002 – August 2005.
- Director, Center for Theoretical and Computational Materials Science (CTCMS), Materials Science and Engineering Laboratory (MSEL), National Institute of Standards and Technology (NIST), February 1997–December 2000. Deputy Director, January 1995–February 1997. Acting Deputy Director, August 1994–January 1995. Co-founded CTCMS, August 1994.
- Physicist, Polymers Division, MSEL, NIST, Gaithersburg, MD, January 1995 – December 2000.
- Adjunct Professor, Institute for Physical Science and Technology (IPST), University of Maryland College Park, MD, 1999 – 2000. PhD Advisor, Chemical Physics Program, 1995 – 2004.
- National Research Council Postdoctoral Research Associate, Polymers Division, Materials Science and Engineering Laboratory, National Institute of Standards and Technology, Gaithersburg, MD, January 1993 - January 1995. Supervisor: E.A. DiMarzio.
- Member of Technical Staff, TRW Space and Technology Group, Redondo Beach, CA, 1986-1987.

## **HONORS & AWARDS**

- National Academy of Engineering elected Member 2019.
- 2019 Alexander M. Cruickshank Lecturer, Gordon Research Conference on Physics and Chemistry of Liquids.
- 2019 Aneesur Rahman Prize for Computational Physics, American Physical Society. Citation: *“For innovative molecular dynamics simulations of the self-assembly of variously shaped particles which opened up new directions in soft matter and materials science research.”*
- 2018 Nanoscale Science and Engineering Forum Award, American Institute of Chemical Engineers.
- Materials Communications Lecture Award, Materials Research Society, 2017.
- Materials Research Society elected Fellow 2017.
- 2016 Alpha Chi Sigma Award for Chemical Engineering Research, American Institute of Chemical Engineers. Citation: *“For elucidating thermodynamic principles of assembly in nanoscale and colloidal matter, and discovering the unexpected role of shape, entropy, and interaction patchiness for materials design.”*
- American Institute of Chemical Engineers elected Fellow 2016.
- Royal Society of Chemistry, named Fellow 2016.
- John W. Cahn Distinguished University Professorship, University of Michigan, 2015 –.
- 2014 MRS Medal, Co-recipient with Nicholas Kotov. Citation: *“For foundational work elucidating processes of nanoparticle self-assembly.”*
- National Academy of Sciences elected Member 2014.
- American Association for the Advancement of Science, elected Fellow, 2014.
- World Technology Awards Finalist 2014.

- Simons Investigator, named July 2012 to inaugural class. Funded 2012 – 2022.
- American Academy of Arts and Sciences elected Member 2011.
- Stuart W. Churchill Collegiate Professorship, College of Engineering, U Michigan, 2009 – present.
- Vannevar Bush Faculty Fellow (formerly called National Security Science and Engineering Faculty Fellow), Department of Defense, 2009-2014.
- Charles M.A. Stine Award, American Institute of Chemical Engineers, Materials Engineering & Sciences Division, 2008. Citation: *“For her pioneering simulations of glass-forming liquids and self-assembled nanomaterials, and for her leadership and service to the materials community.”*
- American Physical Society elected Fellow 2006. Citation: *“For her pioneering simulations of glass-forming liquids, self-assembled nanomaterials and complex fluids, and for her leadership and service to the computational science community.”*
- Monroe-Brown Foundation Research Excellence Award, U Michigan College of Engineering, 2006.
- Horace H. Rackham School of Graduate Studies 2006-2007 Faculty Recognition Award, U Michigan.
- W.F. James Chair of Pure and Applied Sciences, St. Francis Xavier Univ., Nova Scotia, 2004-06.
- Departmental Award for Outstanding Accomplishment, Dept. of Chemical Engin., U Michigan, 2004.
- American Physical Society Maria Goeppert-Mayer Award, 2000. Citation: *“For her ingenious use of computational physics to probe a wide range of novel materials under different conditions, and for demonstrating the existence and nature of spatially-correlated dynamic heterogeneities in glass-forming liquids.”*
- Presidential Early Career Award for Scientists and Engineers (PECASE), 1998. Citation: *“For broad contributions to the theory of complex materials, and for co-founding the NIST Center for Theoretical and Computational Materials Science.”*
- Department of Commerce Bronze Medal Award for Superior Federal Service, December 1997. Citation: *“For major contributions to the creation of the MSEL Center for Theoretical and Computational Materials Science.”*
- Senior Visiting Fellowship Award, Centre for Chemical Physics, U Western Ontario, 1996, for *“research related to pattern formation in complex fluids, and frustration in glass-forming systems.”*
- National Research Council Postdoctoral Fellowship, 1993-1995.
- TRW Space and Technology Group Graduate School Fellowship Award, 1987-1992.
- Article voted *“One of AJP's Most Memorable Papers,”* American Journal of Physics, March, 1991.
- Boston University Graduate School Award for Excellence in Teaching, 1988.
- TRW Scholarship Award, 1986.

#### **NAMED OR OTHERWISE DISTINGUISHED LECTURES**

1. Alexander M. Cruickshank Lecture, Physics and Chemistry of Liquids Gordon Research Conference, August 2019.
2. John C. and Florence W. Holtz Lecture, Department of Chemical and Biomolecular Engineering, Johns Hopkins University, April 2019.
3. Reilly Lectures, Department of Chemical Engineering, Notre Dame University, April 2019.
4. Aneesur Rahman Prize Talk, American Physical Society March Meeting, Boston, MA, 2019.

5. Kavli Symposium Lecture, American Physical Society March Meeting, Boston, MA, 2019.
6. Dale Pearson Lecturer, Department of Chemical Engineering, UC Santa Barbara, February 2019.
7. Jennifer Mills Lecture, Kalamazoo, MI, October, 2018.
8. Distinguished Lecture in Theoretical and Computational Chemistry, Department of Chemistry and Biochemistry, UC San Diego, May 8, 2018.
9. 2018 Ashton Cary Lecturer, School of Chemical & Biomolecular Engineering, Georgia Institute of Technology, April 2018.
10. The Keith E. Gubbins Lectures, Department of Chemical and Biomolecular Engineering, North Carolina State University, February 2018.
11. Student Selected Annual Seminar Speaker, Department of Chemical and Biological Engineering, Princeton University, December 2017.
12. Distinguished Seminar Speaker, Department of Chemical Engineering, University of Illinois at Chicago, September 2017.
13. Sackler Lecture, Tel Aviv University, May 2017.
14. MRS Communications Award Lecture, Materials Research Society Spring Meeting 2017.
15. Racheff Lecture, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, April 2017.
16. Student Selected Seminar Speaker, Departments of Chemistry and Biochemistry, Indiana University, April 2017.
17. Barnett F. Dodge Distinguished Lecture in Chemical Engineering, Yale, February 2017.
18. Closs Lecture, Chemistry Department, University of Chicago, January 2017.
19. Carolyn and Charles Knobler Lecture, Physical Chemistry Division, University of California - Los Angeles, Los Angeles CA, May 2016.
20. Eleventh Annual Richard S.H. Mah Lectures on Modeling and Computation in Chemical and Biological Engineering, Northwestern University, Evanston, IL, January 2016.
21. R.B. Woodward Lectures in the Chemical Sciences, Physical Chemistry Seminar, Harvard University, March 2015.
22. MRS Medal Lecture, with Nicholas Kotov, Materials Research Society Fall Meeting, 2014.
23. Texas Distinguished Faculty Lectureship, McKetta Department of Chemical Engineering, UT Austin, November 2014.
24. BP Lecturer, Cambridge University, November 2014.
25. HERMES 2014 Masterclass, UK, July 26, 2014.
26. Thomas Young Center Highlight Lecture, London, UK July 24, 2014.
27. Whitby Memorial Lecture, University of Akron, March 10-11, 2014.
28. Northwestern International Institute for Nanotechnology Lecturer, Feb. 13, 2014.
29. Keynote Lecture, Texas Academy of Medicine, Science and Technology, January 17, 2014.
30. Fields Institute Lecturer, University of Toronto, October 2013.
31. Danckwerts Lecture, 2013. Presented at European Federation of Chemical Engineers (EFCE/AICChE) (awarded by Chemical Engineering Progress)

32. Douglas G. Hill Memorial Lecture, Duke University, Department of Chemistry, April 12, 2013.
33. Maddin Lecturer, University of Pennsylvania, April 23, 2012.
34. TEDxUofM Talk, University of Michigan, March 29, 2012.
35. Opening Plenary Lecture, Liquid Matter Conference, Vienna, Austria, Sept. 6-10, 2011.
36. IBM Distinguished Lecturer, Rensselaer Polytechnic Institute Department of Materials Science and Engineering, April 20, 2011.
37. Henry Eyring Lecture, University of Utah Department of Chemistry, November 12, 2010.
38. ISTECDistinguished Lecturer, Colorado State University, May 3, 2010.
39. Charles M.A. Stine Award Plenary Lecture, AIChE Annual Fall Meeting, Philadelphia, PA 2008.
40. Jerome B. Cohen Memorial Lecturer, Northwestern University Department of Materials Science & Engineering, November 2007.
41. Bernard T. Bertman Memorial Lecturer, Wesleyan University Dept. of Physics, May 3, 2007.
42. Invited lecturer and session chair, NAS Frontiers of Science Symposium, Irvine, CA, 2004.
43. Allan P. Colburn Memorial Lecturer, Dept. of Chemical Engineering, U Delaware, 2004.
44. James Chair Honorary Lecturer, St. Francis Xavier University, Department of Physics, 2006.
45. Sigma Xi Distinguished Lecturer, 2001-2003.
46. Invited lecturer, NAE Frontiers of Engineering Symposium, Irvine, CA, 1998.

#### **ELECTED AND OTHER POSITIONS OF DISTINCTION**

- Member, National Academy of Sciences Board on Chemical Sciences and Technology, 2015 – 2021.
- Member, DOE Office of Science, Advanced Scientific Computing Research Adv. Council, 2011 - 2016
- Elected Vice-Chair, 2014 AAAS Section on Industry and Technology.
- Elected Co-Chair, 2013 Gordon Conference on Supramolecular Assembly.
- Elected Vice Chair, American Physical Society Division of Condensed Matter Physics (DCMP) 2012, (serve as Vice-Chair from 3/13-3/14, Chair-Elect from 3/14-3/15, Chair from 3/15-3/16, and Past Chair from 3/16-3/17)
- Elected Member, Electorate Nominating Committee, AAAS Section B (Physics), 2013 – 2016.
- Elected Member, Electorate Nominating Committee, AAAS Section P (Industrial Science and Technology), 2011 – 2014.
- Elected member, Nominating Committee, American Physical Society, 2012 –
- Jury Chair, Heinz Award for Technology, Economy and Employment, 2012. Jurist, 2002 – 06, 2016.
- Elected Director, Materials Engineering and Sciences Division, AIChE, 2007-2009.
- Elected Vice-Chair, Forum on Industrial and Applied Physics, American Physical Society (APS), 2003 (Served as vice-chair, 2004-2005, chair-elect 2005-2006, and chair, 2006-2007).
- Elected first vice chair, Nanoscale Science and Engineering Forum (NSEF), American Institute of Chemical Engineers (AIChE), 2003 (Served as vice-chair 2003-2004, chair 2004-2005, past-chair 2005-2006).

- Elected Member of Area 1a Executive Committee, American Institute of Chemical Engineers (AIChE), 2000 – 2003. Re-elected for 2003-2006.

### **GLOTZER GROUP HONORS AND AWARDS AT PROFESSIONAL SOCIETY MEETINGS**

- Chrisy (Xiyu) Du, G. van Anders, R. S. Newman, S.C. Glotzer, “Entropy Driven Solid—Solid Transitions in Colloids,” GSNP Student Speaker Award, American Physical Society March Meeting, New Orleans, March 2017. (General Statistical and Nonlinear Physics)
- Matthew Spellings, S.C. Glotzer, “*Machine Learning with Structural Fingerprints of Local Particle Environments*,” Best Presentation Award, Session: Data Mining and Machine Learning in Molecular Sciences I, AIChE Annual Meeting, San Francisco, November 2016.
- Pablo Damasceno Souza, Honorable Mention, ProQuest Distinguished Dissertation Awards 2015, Rackham Graduate School, University of Michigan.
- Joshua A. Anderson, 2015 CoMSEF Young Investigator Award “*For contributions to the development and dissemination of open source, GPU-enabled molecular simulation software, HOOMD-blue, which enables scientific computations with unprecedented speed.*” Computational Molecular Science and Engineering Forum of the American Institute for Chemical Engineers.
- Matthew Spellings, Sharon Glotzer, Best Poster Award “*Collective Behavior in Rotationally-driven Active Matter*,” IROS 2014 Workshop on Modular and Swarm Systems – From Nature to Robotics, Chicago IL, September 2014.
- Ryan Marson, Carolyn Phillips, Joshua Anderson, Sharon Glotzer, Best Oral Presentation Award “*Complex Crystal Structures in Tethered Nanoparticle Telechelics*,” Symposium A: Modeling and Theory-Driven Design of Soft Materials, MRS Meeting November 2013.
- Pablo Damasceno, M. Engel, S.C. Glotzer, “*Assembling Complex Structures from Simple Building Blocks*” Third place, Berkeley Mini Stat Mech Meeting, San Francisco CA, January 2013.
- Pablo Damasceno, M. Engel, S.C. Glotzer, “*Predictive Self-Assembly of Polyhedra into Complex Structures*,” International School of Physics ‘Enrico Fermi’, Varenna, Italy (2012). 2nd Place.
- Ryan Marson, C.L. Phillips and S.C. Glotzer, Best Student Oral Presentation Award, MRS Meeting Symposium CC, April 2012.
- A.S. Keys, L.O. Hedges, J.P. Garrahan, S.C. Glotzer, and D. Chandler, “Structure of Localized Excitations and Relaxation in Supercooled Glass-Forming Liquids,” Mini Stat. Mech. Meeting, Berkeley CA (2011) (1st place prize)
- Third place, Berkeley Mini Stat Mech Meeting January 2010, M. Engel et al., *Disordered, Quasicrystalline, and Crystalline Phases of Hard Tetrahedra*.
- First place, Materials Research Society Fall Meeting Poster Session, December 4, 2003, Boston, MA. X. Zhang, E.R. Chan, J. Zhou, F. Qi, L. Ho, M.H. Lamm, M. Durandu, M. Neurock, J. Kieffer and S.C. Glotzer, *Self Assembly of Tethered Silsesquioxane “Nanocubes” into Nanostructured Materials: A Molecular Simulation Study*, Poster L11.37.
- Second place, Materials Science and Engineering Division Poster Session, AIChE Fall 2003, San Francisco, CA. Z.L. Zhang, M.A. Horsch, M.H. Lamm, S. Shah, and S.C. Glotzer, *Self-Assembly of Tethered Nano Building Blocks*, Poster 369ac.
- Third place, Materials Science and Engineering Division Poster Session, AIChE Fall 2002, Indianapolis, IN. M. Horsch, T. Chen, M.H. Lamm and S.C. Glotzer, *Simulations of DNA-Directed Nanoparticle Assembly*, Poster 188q.
- Finalist, MRS Science as Art Competition, C.R. Iacovella and S.C. Glotzer, 2005.

## **EDITORIAL AND EDITORIAL ADVISORY BOARDS**

- ACS Nano Associate Editor, 2015 – present.
- Current Opinions in Solid State and Materials Science, 2011 – 2014. Member of Editorial Board.
- Journal of Chemical Physics, 2011 – 2016. Member of Editorial Advisory Board.
- Multiscale Modeling and Simulation (A SIAM Journal), 2010 – 2016.
- ACS Nano, 2009 – 2014. Member of Editorial Advisory Board.
- Nanoscale (an RSC Journal), 2009 – 2015. Inaugural member of Editorial Board.
- AIChE Journal, Associate Editor for Soft Matter, 2012 – 2015; Consulting editor 2005 – 2012.
- Computers in Science and Engineering, 2002 – present. Member of Editorial Advisory Board.
- Topics in Chemical Engineering, Oxford University Press, 2002 – 2010. Member of Editorial Board.
- Nanotechnology, 2005 – 2006. Member of Editorial Board.
- PhysChemComm, 1998 – 2003.

## **EXTERNAL ADVISORY BOARDS AND COUNCILS**

- Chair, NSF Institute for Molecular Simulation Sciences External Advisory Board, 2017.
- Member, Northwestern University Materials Science & Engineering Advisory Board, 2014 – 2016.
- Member, External Advisory Board, MIT MRSEC, 2013 – 2015; 2019.
- Member, PNNL Materials Synthesis and Simulation Across Scales Review Committee, 2013 – 2016.
- Member, LBNL, Molecular Foundry Scientific Advisory Board, 2012 – 2016.
- Member, NSF, Advisory Committee for Cyberinfrastructure (ACCI), 2012 – 14.
- Member, Oak Ridge National Laboratory (ORNL) Neutron Advisory Board, 2011 – 2015.
- Member, DOE Advanced Scientific Computing Advisory Committee (ASCAC), 2011 – 2016.
- Member, Argonne National Laboratory Materials and Molecular Design and Discovery (M2D2) Scientific Advisory Panel, Fall 2010 – 2015.
- Member, Marie Curie Initial Training of Researchers Network (ITN) on Physics of Complex Colloids: Equilibrium and Driven (COMPLOIDS), 2009 – .
- Member, National Science Foundation Mathematical and Physical Sciences Directorate Advisory Council (MPSAC), 2009 – 2012.
- Member, External Advisory Board, NCSU Institute for Computational Science & Engineering, Fall 2010.
- NSF Network for Computational Nanotechnology, External Advisory Board, 2007 – 2009.
- University of Pennsylvania MRSEC External Advisory Committee, 2007 – 2008.
- NSF Science and Technology Center for Advanced Liquid Crystal Optical Materials (ALCOM) External Advisory Board, 1995 – 2002.

## **SELECTED NATIONAL AND INTERNATIONAL SERVICE ACTIVITIES**

### **• SERVICE TO NATIONAL ACADEMIES AND NATIONAL RESEARCH COUNCIL**

#### ➤ Boards

- Board on Chemical Sciences and Technology, 2015 – 2021.
- Standing Committees: Technology Insight: Gauge, Evaluate, and Review (TIGER) Standing Committee for Defense Intelligence, Air Force Studies Board, 2005-2011. Member of executive committee.
- Solid State Sciences Committee, Board on Physics and Astronomy, 2004 – 2007.

#### ➤ Study and other Committees

- Convergence NRC Study Committee, 2013 – 2015. The committee's 2014 report *Convergence: Facilitating Transdisciplinary Integration of Life Sciences, Physical Sciences, Engineering and Beyond* circulated to national delegations across 40+ countries. The Organization for Economic Co-operation and Development (OECD) Secretariat and national delegations included Convergence as key thematic priority for the work of the new OECD Working Party during its "Program of Work and Budget" for 2015 and 2016.
- Chair, Adaptive Structural Matter and Technology Surprise Workshop/Report, 2012.
- High Performance Computing and Technology Surprise Workshop and Report, 2011; co-chair with Jack Dongarra.
- Modeling, Simulation and Games NRC Study Committee, 2008 – 10, report co-author.
- Biomolecular Materials and Processes Study Committee, 2006 – 07, report co-author.
- Defense Intelligence Agency (DIA) Threat Analysis NRC Study Committee, 2004 – 05 and report co-author.

#### ➤ Reviewer

- National Academies Report on Integrated Computational Materials Engineering, National Materials Advisory Board, 2008.
- National Academies Report on Nanophotonics Accessibility and Applicability, sponsored by Defense Intelligence Agency, TIGER standing committee, 2007.
- National Academies Report on Information and Communications: Challenges for the Chemical Sciences in the 21<sup>st</sup> Century, Chemical Sciences and Tech. Board, 2003.

### **• SERVICE TO FEDERAL AGENCIES**

- Speaker, National Socio-Environmental Synthesis Center (SESYNC) and the National Science Foundation Meeting, "Accelerating Innovation, Leadership, and Outcomes for the Next Generation of Engineering Research Centers (ERCs)," October 2018.
- Speaker, White House OSTP, "Meeting MGI Strategic Goals and Strengthening Connections," 5<sup>th</sup> Anniversary of Materials Genome Initiative, Washington DC, August 2016.
- Plenary Speaker, "Theory, Simulation & Deep Data as Drivers for New Experimental Tools," DOE BES Workshop on Basic Research Needs for Innovation and Discovery of Transformative Experimental Tools: Solving Grand Challenges in the Energy Sciences, June 2016.



- Panelist, 2016 National Nanotechnology Initiative Strategic Planning Stakeholder Workshop, May 19, 2016.
- Panelist, Department of Energy's National Lab Day on Capitol Hill on April 20, 2016.
- Member, DOE Basic Energy Sciences Grand Challenges Committee, 2014 – 2016.
- Member, NSF Search Committee for Director, Office of Cyberinfrastructure, 2013.
- Member, NSF Advisory Committee for Cyberinfrastructure (ACCI), 2012 – 14.
- Member, National Science Foundation Search Committee for Assistant Director for Mathematical and Physical Sciences, 2012.
- Member, DOE Office of Science, Advanced Scientific Computing Research Advisory Council (ASCAC), 2011 – 2016.
- Member, Oak Ridge National Laboratory (ORNL) Neutron Advisory Board (NAB), 2011 – .
- Member, Scientific Advisory Panel, Argonne National Laboratory Materials and Molecular Design and Discovery (M2D2) Scientific Advisory Panel, Fall 2010 – 2015.
- Co-Chair, with G. Crabtree, W. McCurdy and J. Roberto, *DOE Office of Science Workshop on Computational Materials and Chemistry*, Bethesda, MD July 26-28, 2010 and coauthor of subsequent report. This report formed the foundation of the Office of Science part of the Materials Genome Initiative, and FY12 White House Initiative.
- Member, National Science Foundation Mathematical and Physical Sciences Directorate Advisory Council (MPSAC), 2009 – 2012.
- Member, NSF Office of Cyberinfrastructure Cyber Task Force, 2010 – 2011.
- Co-Chair, with P.T. Cummings, Research Directions Workshop on Simulation-Based Engineering and Science, 2009. Sponsored by NSF, DOE, NASA, DoD, NIH, NIST.
- Chair, WTEC International Assessment of Simulation-Based Engineering and Science, 2007-2008. Sponsored by NSF, DOE, NASA, DoD, NIH, NIST.
- Member of Visiting Committee, Office of Advanced Scientific Computing Research, Office of Science, US Department of Energy, 2004.
- Member, Scientific Review Committee, Center for Nanoscale Materials Science, Oak Ridge National Lab, 2003 – 2006.
- Invited participant and/or speaker in federal agency roadmapping and strategic planning workshops and projects, and contributor to follow-up reports:
  - Panelist, A Computation-based Engineering Summit: Transforming Engineering Through Computational Simulation, National Academies, September 16-17, 2008. Sponsored by Sandia National Labs, National Academy of Engineering, and NSF.
  - Member, Steering Committee, NSF Workshop on Complexity, Sept. 23-24, 2008 and co-author of final report. Identifying strategic directions in complexity research.
  - NSF Workshop on New Directions in Polymer Science, August 2007. Participated in theory, modeling and simulation breakout session and contributed to final report.
  - Member, Workshop Planning Committee, DOE Workshop on Basic Research Needs for Energy Storage, April 2007, Bethesda, MD. Planning for new agency initiative.
  - NSF Workshop on Cyberinfrastructure for Materials Research, August 4-6, 2006. Planning for new funding program in cyberinfrastructure research for materials science.

- DOE Workshop on Basic Research Needs for Solar Energy Utilization, April 19-21, 2005, Bethesda, MD. Panelist: Crosscutting themes. Planning for new agency initiative.
- Member, Steering Committee, NSF Chemistry Division Cyber-Enabled Chemistry Workshop, Oct. 4-5, 2004. Planning for new funding program in cyberinfrastructure.
- National Science Foundation/European Commission Workshop: *Methods in Computational Materials Science*, April 2004. Planning for joint NSF/EC initiative in collaborative research in computational materials science.
- *National Nanotechnology Initiative Interagency Grand Challenge Workshop on Instrumentation and Metrology*, NIST, Gaithersburg, MD, January 27-29, 2004.
- Department of Energy *SCALeS (Scientific Case for Large Scale Computing) Initiative Planning Workshop*, Arlington, VA, June 2003.
- Department of Energy *Initiative Planning Workshop on Computational Nanoscience*, San Francisco, CA May 10-11, 2002.
- National Materials Advisory Board Meeting, National Academy of Sciences, Washington, DC, March 27, 2002.
- Sponsor panel member, NSF/WTEC *International Comparative Study of Applications of Molecular and Materials Modeling*, 1999 – 2000.
- Organizer, *Vision 20/20 Materials Technology Roadmap Workshop on Materials Modeling and Prediction*, sponsored by DOE/OIT, Colorado, September 1999.
- First joint meeting on NSF/EC Collaborations in *Frontiers of Materials Research*, Stuttgart, Germany, 1998.

- **SERVICE TO PROFESSIONAL SOCIETIES**

- Member, AIChE Awards Committee, 2017 – present.
- Elected Vice Chair, AAAS Section P (Industrial Science and Technology), 2014.
- Founding Past-Chair, Topical Group on Soft Matter, American Physical Society, 2014 – 2015.
- Chair, Soft Matter Organizing Committee, American Physical Society, 2013 – 2014.
- Elected Vice Chair, American Physical Society Division of Condensed Matter Physics (DCMP) 2012, (serve as Vice-Chair from 3/13-3/14, Chair-Elect from 3/14-3/15, Chair from 3/15-3/16, and Past Chair from 3/16-3/17)
- Elected Member, Electorate Nominating Comm. AAAS Section B (Physics), 2013 – 2016.
- Elected Member, Electorate Nominating Committee, AAAS Section P (Industrial Science and Technology), 2011 – 2014.
- Elected member, Nominating Committee, American Physical Society, 2012 – 2014.
- Member, Fellowship Committee, APS Division of Computational Physics, 2009 – 2012.
- Member, Stine Award Comm., Materials Engineering & Science Div., AIChE, 2009 – 2011.
- Chair, George Pake Prize Committee, APS, 2008. Member, Pake Prize Committee, 2007.
- Elected Director, Materials Engineering and Sciences Division, AIChE, 2007 – 2009.
- Member, Rahman Prize Committee, APS Division of Computational Physics, 2005 – 2007.

- Chair, Nanoscale Science and Engineering Forum Awards Committee, AIChE, 2007.
  - Member, AIChE Centennial Committee, 2005 – 2008.
  - Elected Vice-Chair, Forum on Industrial and Applied Physics, American Physical Society (APS), 2003 (Served as vice-chair, 2004-2005, chair-elect 2005-2006, and chair, 2006 – 2007).
  - Elected first vice chair, Nanoscale Science and Engineering Forum (NSEF), AIChE, 2003 (Served as vice-chair 2003 – 2004, chair 2004 – 2005, past-chair 2005 – 2006).
  - Elected Member of Area 1a Executive Committee, AIChE 2000-2003; re-elected 2003-2006.
  - Member of judges panel, Maria Goeppert-Mayer Award, American Physical Society, 2002.
  - Member of Publicity Committee, APS Division of Polymer Physics, 2001 – 2002.
  - Member of organizing committee to establish new AIChE Forum on Computational Molecular Science and Engineering (CoMSEF), 2000 – 2001.
  - Member of Education Committee and judge, Padden Award, APS Division of Polymer Physics, 2000 – 2001.
  - Member of judges panel, vice chair, and chair, American Physical Society Division of Computational Physics Nicholas Metropolis Award, 1998 – 2001.
  - Member of Nominating Committee, American Physical Society Division of Computational Physics, 1999 – 2000.
- Professional societies: American Institute of Chemical Engineers (AIChE), Materials Research Society (MRS), American Physical Society (APS; Divisions of Polymer Physics; Computational Physics; Condensed Matter Physics; Materials Physics; Forum on Industrial and Applied Physics, and Statistical and Nonlinear Physics Topical Group), American Chemical Society (ACS), Royal Society of Chemistry, and American Association for the Advancement of Science (AAAS).

### **U MICHIGAN SERVICE AND LEADERSHIP**

- Department Chair, Chemical Engineering, S17 – S22.
- Member, Advanced Research Computing Steering Committee, W16 –W17.
- Member, EAC, Michigan Center for Interdisciplinary & Applied Mathematics, F16.
- Member, EAC, Michigan Institute for Computational Discovery & Engineering, W15 – W18.
- Member, Advanced Research Computing Advisory Team (ARCAT), W14 – 15.
- Member, Search Committee, Director of Office of Research Cyberinfrastructure, W12 – 13.
- Member, Provost’s Committee on Foundations and Development, W12 – 13.
- Chair, Department of Chemical Engineering Honors and Awards Committee, F11 – SS14.
- Member, University Library Council, F10 – S13 (a SACUA-appointed council).
- Member, College of Engineering Nominations Committee, F10 – W11.
- Member, Department of Chemical Engineering Honors and Awards Committee, F09 – W11.
- Member, College of Engineering Reappointment Casebook Committee (V. Gavini, ME dept.), W10.
- Member, College of Engineering Promotion Casebook Committee (J. Millunchick, MSE dept.), F09.

- Member, Research Cyberinfrastructure Executive Steering Committee, Office of Research Cyberinfrastructure, UM Office of the Vice President for Research, F09 – present.
- Member, U-M Search Advisory Committee for Director, Michigan Energy Institute, F07 – F09.
- Chair, Research Computing Executive Committee, College of Engineering, F06 – F09.
- Co-chair, U-M Cyberinfrastructure Committee, Office of the Vice President for Research and Office of the Vice Provost, F06 – W08.
- Elected member, Executive Board, Rackham Graduate School, F06 – S09.
- Member, College of Engineering Promotion Casebook Committee (N. Kotov, ChE dept.), F07.
- Member, College of Engineering Reappointment Casebook Committee (P. Woolf, ChE dept.), W07.
- Member, Energy Symposium Planning Committee, W06 – W07 and session chair.
- Member, Nanotechnology Search Comm., Department of Mat. Sci. and Eng. and OVPR, W06 – W07.
- Member, Exec. Board, Michigan Nano Institute for Medicine and Biological Science, F0 – present.
- Member, Executive Committee, Applied Physics Program, W06 – present.
- Member, Steering Committee, U-M Branch of Institute for Complex Adaptive Matter (ICAM), F05-.
- Member, Planning Committee, Provost's Seminar on Teaching, F05 – W06.
- Member, Search Committee, Department of Chemical Engineering, F05 – W06.
- Chair, College of Engineering Tenure Casebook Committee (M.L. Falk, MSE Dept.), S05 – F05.
- Member, Search Advisory Committee, U-M Vice President for Research, F04 – S05.
- Member, Steering Committee, Nanoscale Science and Engineering Initiative, Office of the Vice President of Research, F04 – F06.
- Leader, CoE Initiative in Nanoscience and Nanotechnology, 2004 – 05.
- Member, Advisory Committee, Nanoscale Science and Engineering Initiative, Office of the Vice President of Research, F03 – W04.
- Member, Materials Science and Engineering Department Faculty Search Committee, F03 – W04.
- Member, Exec. Advisory Board, U-M College of Eng. Center for Advanced Computing, W02 – W04.
- Member, College of Engineering Strategic Plan steering committee, F02 – W03.
- Member, ChemE Department Casebook Committee (M.J. Solomon), F02.
- Chair, Macromolecular Science and Engineering Symposium Organizing Committee, W02 – F02.
- Member, ChemE Departmental Review Committee, W02.
- Elected Member, Dept. of Chemical Eng. Executive Advisory Committee (ChEAC), F01 – W05.
- Chapter Advisor, U-Michigan Chapter of AIChE, F01 – W04.
- Member, Graduate Admissions Committee, Department of Chemical Engineering, F01 – W05.
- Member, Graduate Committee, Dept. of Materials Science and Engineering, F01 – W04.
- Member, Faculty Search Committee, Department of Chemical Engineering, F01 – W03.
- Member, CoE Information Technology Working Group, F01 – W02.

- Member, prelim, doctoral and/or checkpoint committees for (non-Glotzer Group students): J. Lu (ChemE), A. Roy (ChemE), G. Lilly (ChemE), A. Agrawal (ChemE), J. Henrikson (ChemE), T. Solomon (ChemE), S. Holleran (ChemE), M. Kogan (ChemE), W. Li (ChemE), F. Qi (MSE), J. Zhou (MSE), Y. Shi (MSE), A. Mecke (Applied Physics), C-C Hsieh (ChemE), R. Rogers (ChemE), N. Licata (Physics), G. Strycker (Physics), C. Dibble (ChemE), K. Roh (ChemE), A. Shah (ChemE), L. Hsiao (ChemE), X. Tang (ChemE), T. Shu (MSE), L. Jiang (ChemE), M. Radin (Physics), L. Colon-Melendez.

### TEACHING EXPERIENCE

Courses taught include Undergraduate Fluid Mechanics ChE 341, Graduate Statistical and Irreversible Thermodynamics ChE 538, Computational Nanoscience of Soft Matter ChE/MSE 557, Assembly Engineering ChE 696/MSE696, Advanced Topics in Soft Matter ChE 696/MSE 696

### **PH.D. STUDENTS SUPERVISED (58 TOTAL; 23 CURRENT)**

1. Naida Lacevic, PhD, Department of Physics, Johns Hopkins University, June 1999 – August 2003. *Theory and simulation of spatially heterogeneous dynamics in liquids and glasses. Thesis defended April 3, 2003.* PhD research conducted at NIST and U Michigan. Postdoctoral researcher @ UC Berkeley with A. Majumdar & A. Chakraborty. Postdoctoral research @ LLNL. Permanent position: Materials Design, Inc.
2. Yeshitila Gebremichael, PhD, Chemical Physics Program, University of Maryland, College Park, April 1999 – present. *Spatially heterogeneous dynamics and string-like correlated motion in supercooled liquids and polymers. Thesis defended March 11, 2004.* PhD research conducted at NIST and U Michigan. Postdoctoral research associate with G. Voth, Department of Chemistry, University of Utah, 6/04-12/06. Permanent position: University of Georgia.
3. Elaine R. Chan, PhD, Department of Chemical Engineering, U-Michigan, Spring 2001 – Winter 2006. *Multiscale simulation of self-assembly of polyhedral oligomeric silsesquioxane systems. Thesis defended January 23, 2006.* Postdoctoral position: National Research Council Postdoctoral Fellowship, National Institute of Standards and Technology, EEEL, Semiconductor Electronics Division. Staff position: Lawrence Berkeley National Lab.
4. Ting Chen, PhD, Department of Chemical Engineering, U-Michigan, Fall 2001– Summer 2006. *Computational studies of self-assembly of precise structures and directed assembly: from colloids to viruses. Thesis defended August 15, 2006.* Postdoctoral positions: Princeton University (A.Z. Panagiotopoulos) 2006-2008; University of California Berkeley (A. Bell and B. Smit), 2008 – 2009. Postdoctoral position: IBM, 2009 – 2010. Permanent position: ExxonMobil.
5. Mark A. Horsch, PhD, Department of Chemical Engineering, U-Michigan, Spring 2001 – Summer 2006. *Molecular simulation of self-assembly of tethered nanorods. Thesis defended August 16, 2006.* Postdoctoral position: Sandia National Lab (Center for Integrated Nanotechnologies). Permanent position: Intel Corporation.
6. Xi (Charles) Zhang, PhD, Department of Materials Science and Engineering, U-Michigan, Fall 2001 – Summer 2006. *Molecular simulation of self-assembled polymer/silsesquioxane systems. Thesis defended September 11, 2006.* Permanent position: Microsoft Corporation.
7. Magnus Bergroth, PhD, Department of Chemical Engineering, U-Michigan, Fall 2001-2006. *Structural precursors of spatially heterogeneous dynamics in supercooled liquids. Thesis defended September 12, 2006.* Permanent position: Intel Corporation.
8. Christopher R. Iacovella, PhD, Department of Chemical Engineering, U-Michigan, Fall 2003-2009. *Self-assembly of tethered nanoparticles.* Passed departmental candidacy, September 2005. **Thesis defended March 3, 2009.** Postdoctoral position: Vanderbilt University (P.T. Cummings), 2009 – 11. Current position: Research Professor, Vanderbilt University.

9. Chetana Singh, PhD, Department of Chemical Engineering, U-Michigan, Fall 2004-2009. *Surfactant self-assembly on nanostructured surfaces*. Passed departmental candidacy exam, September 2006. **Thesis defended December 7, 2009**. Permanent position: Intel Corporation.
10. Stephanie Teich-McGoldrick, PhD, Department of Chemical Engineering, U-Michigan, Fall 2003 – 2010. *Computational design of nanoparticle and ionic colloidal crystals*. Passed departmental candidacy exam, September 2006. **Thesis defended July 12, 2010**. Postdoctoral position: Sandia National Labs (Jeffrey Greathouse) August 2010 - 2013. Permanent Position, Sandia.
11. Aaron S. Keys, PhD, Department of Chemical Engineering, U-Michigan, Summer 2004 – 2010. *Dynamics and thermodynamics of supercooled liquids*. **Thesis defended: October 21, 2010**. Postdoctoral position: LBNL and UC Berkeley, with David Chandler. Now: Airbnb.
12. Trung Dac Nguyen, PhD, Department of Chemical Engineering, U-Michigan, Fall 2005 – 2011. *Computer-aided design of nanostructures from self- and directed-assembly of soft matter building blocks*. Passed departmental candidacy exam, September 2007. **Thesis defended: May 5, 2011**. Postdoctoral position: Oak Ridge National Lab, and Northwestern University .
13. Amir Haji Akbari Balou, PhD, Department of Chemical Engineering, U-Michigan, Fall 2005-2011. *Phase transitions in systems of hard anisotropic particles*. Passed departmental candidacy exam, September 2007. **Thesis defended: November 6, 2011**. Postdoctoral position: Princeton University, with Pablo Debenedetti, February 2012 -2016. Current position: Asst. Professor, Yale University.
14. Carolyn Phillips, PhD, Department of Applied Physics, U-Michigan, Fall 2007 – 2011. *Role of heterogeneity in self-assembled tethered and anisotropic nanoparticles*. Passed departmental candidacy exam, Fall 2008. **Thesis defended: December 6, 2011**. Postdoctoral position: Aneesur Rahman Postdoctoral Fellowship, Argonne National Lab, February 1, 2012 – 2016. Current position: Data Scientist, Capitol One.
15. Eric Jankowski, PhD, Department of Chemical Engineering, U-Michigan, Fall 2005-present. *Algorithms for assessing complexity for colloidal and nanoscale self-assembly*. Passed departmental candidacy exam, September 2007. **Thesis defended: February 13, 2012**. Postdoctoral position: UC Boulder, Department of Chemical Engineering, June 1, 2012 - 2015. Current position: Asst. Professor, Boise State Univ.
16. Ines Pons-Siepermann, PhD, Department of Chemical Engineering, U-Michigan, Fall 2008 – May 2013. *Simulation-based design of patchy particles for catalysis and molecular recognition*. **Thesis defended: February 13, 2013**. Permanent position: Praxair, June 1, 2013 -
17. Antonio Osorio, PhD, Department of Materials Science & Engineering, U-Michigan, Fall 2008 – 2013. *Simulation-based design of self-assembled nanodevices*. **Thesis defended: August 2013**. Permanent position: Schrodinger, Inc. September 1, 2013 – .
18. Nguyen Huu Phuoc Nguyen PhD, Department of Mechanical Engineering, Fall 2009 – 2014. *Self-Assembly of Active Particles*. **Thesis defended: January 2014**. Permanent position: Viettel Aerospace Institute, Vietnam.
19. Daniel Ortiz, PhD, Department of Materials Science and Engineering, Fall 2007 – 2014. *Hierarchical self-assembly of anisotropic nanocolloids*. **Thesis defended: January 2014**. Permanent position: Chief Technology Officer, Tech startup in NY, NY.
20. Jaime Andres Millan, PhD, Dept. of Materials Science and Engineering, F 2009 – 2015. *Self-assembly of complex structures through competing entropic and enthalpic patchiness*. **Thesis defended: December 2014**. Current position: Postdoctoral researcher, Northwestern Univ.
21. Benjamin Schultz, PhD, Department of Physics, Fall 2009 – 2015. *The role of shape in the self-assembly of anisotropic colloids*. **Thesis defended: January 12, 2015**. Permanent position: Olark, Inc., Ann Arbor, MI.

22. Pablo F. Damasceno Souza, PhD, Applied Physics Program, Fall 2009 – 2015. *Using directional entropic forces for target pattern design*. **Thesis defended: May 8, 2015**. Current position: Postdoctoral researcher, UCSF.
23. Ryan Marson, PhD, Dept. of Materials Science and Engineering, Fall 2009 – 2015. *Tuning mesoscopic assembly behavior via nano building-block interactions and architecture*. **Thesis defended: April 29, 2015**. Permanent position: Dow Chemical Company.
24. N. Khalid Ahmed, PhD, Department of Chemical Engineering, Fall 2010 – 2015. *Prediction and design of colloidal matter using directional entropic forces*. **Thesis defended: May 11, 2015**. Permanent position: Data scientist, Ford Motor Company, Detroit MI.
25. Michael Eric Irrgang, PhD, Dept. of Materials Science & Engineering, F 2010 – 2016. *Thermodynamic and Structural Phase Behavior of Colloidal and Nanoparticle Systems*. **Thesis defended: January 15, 2016**. Current position: Postdoctoral researcher, Virginia Tech.
26. Samanthule Nola, PhD, Macromolecular Science & Engineering, SS 2011 – Summer 2016. *Clustering and nucleation in metastable fluids of hard polyhedra*. **Thesis defended: May 4, 2016**. Current position: Postdoctoral researcher, Michigan State University.
27. Richmond Sow Newman, PhD, Department of Chemical Engineering, Fall 2009 – Summer 2016. *Crystallization in systems of hard polyhedra*. **Thesis defended: May 9, 2016**. Current position: Seattle Cancer Care Alliance.
28. Wenbo Shen, PhD, Department of Physics, Winter 2012 – Summer 2016. *Plastic Crystals and Chiral Phases of Regular Hard Polygon Systems*. **Thesis defended: Sept. 2016**. Permanent position: Microsoft Research, Seattle WA.
29. Eric Harper, PhD, Materials Science & Engineering, Fall 2011 – Fall 2017. *Entropic Bonding in Nanoparticle and Colloidal Systems*. **Thesis defended: Sept. 2017**. Current position: Post-Doctoral Fellow, Air Force STFP, Wright Patterson Air Force Base.
30. Paul Dodd, PhD, Department of Chemical Engineering, Fall 2012 – Spring 2018. *Inverse Materials Design Employing Self-Folding and Extended Ensembles*. **Thesis defended: April 24 2018**.
31. Erin Teich, PhD, Applied Physics Program, Fall 2012 – Summer 2018. *Local Structure in Hard Particle Self-Assembly and Its Failure*. **Thesis defended: August 24, 2018**. Current position: Postdoctoral researcher, University of Pennsylvania.
32. Andrew Karas, PhD, Department of Chemical Engineering, Fall 2013 – Spring 2018. *Understanding and Controlling Directional Entropic Forces in Hard Particle Self-Assembly*. **Thesis defended: April 20 2018**. Current position: PNC Bank.
33. Xiyu (Chrisy) Du, PhD, Department of Physics, Winter 2014 – Spring 2018. *Solid–Solid Phase Transition in Colloidal Matters*. **Thesis defended: April 26 2018**. Current position: Postdoctoral researcher, Harvard University.
34. Yina Geng, PhD, Department of Physics, Winter 2014 – Fall 2018. *Inverse Material Design in Colloidal Self-Assembly*. **Thesis defended: November 5 2018**. Current position: Morgan Stanley, starting January 2019.
35. Matthew Spellings, PhD, Dept. of Chemical Engineering, Summer 2012 – Fall 2018. *Machine Learning for Automatic Structure Analysis and Experimental Design* **Thesis defended: December 5 2018**.
36. Jim Antonaglia, PhD, Department of Physics, Winter 2014 – Spring 2019. *Mechanical properties and phase transitions in hard polygons and the origin of colloidal crystal photonic band gaps*. **Thesis defended: April 10, 2019**.
37. Rose Cersonsky, PhD Candidate, Macromolecular Science & Engineering, Fall 2014 – present.

38. Carl Simon Adorf, PhD Candidate, Department of Chemical Engineering, Fall 2014 – present.
39. Bryan Vansaders, PhD Candidate, Dept. of Materials Science & Eng, Fall 2015 – present.
40. Andrew Cadotte, PhD Candidate, Department of Applied Physics, Winter 2014-present.
41. James Proctor, PhD Candidate, Dept. of Materials Science and Engineering, Fall 2014 – present.
42. Mayank Agrawal, PhD Candidate, Dept. of Chemical Engineering, Fall 2014 – present.
43. Chengyu Dai, PhD Candidate, Department of Physics, Winter 2015 – present
44. Shannon Moran, PhD Candidate, Dept. of Chemical Engineering, Fall 2015 – present.
45. Vyas Rabasubramanian, PhD Candidate, Dept. of Chemical Engineering, Fall 2015 – present.
46. Luis Rivera-Rivera, PhD Candidate, Dept. of Chemical Engineering, Fall 2015 – present.
47. Sangmin Lee, PhD Candidate, Dept. of Chemical Engineering, Fall 2015 – present.
48. William Zygmunt, PhD Candidate, Dept. of Chemical Engineering, Fall 2015 – present.
49. Pengji Zhou, PhD Candidate, Dept. of Chemical Engineering, Fall 2016 – present.
50. Bradley Dice, PhD Pre-candidate, Dept. of Physics, Fall 2016 – present.
51. Ronald Allen LaCour, PhD Candidate, Dept. of Chemical Engineering, Fall 2016 – present.
52. Yein Lim, PhD Candidate, Dept. of Chemical Engineering, Fall 2016 – present.
53. Alex Adams, PhD Candidate, Dept. of Chemical Engineering, Fall 2016 – present, (Joint with Heather Mayes).
54. Kwanghwi Je, PhD Candidate, Dept. of Chemical Engineering, Fall 2017 – present.
55. Sophie (Youjung) Lee, PhD Pre-candidate, Dept. of Materials Science & Eng, Fall 2017 – present.
56. Fengyi Gao, PhD Candidate, Dept. of Chemical Engineering, Fall 2017 – present.
57. Brandon Butler, Pre-candidate, Dept. of Chemical Engineering, Fall 2018 – present.
58. Yuan (Judy) Zhou, Pre-candidate, Dept. of Chemical Engineering, Fall 2018 – present.

#### **MASTERS DEGREE STUDENTS SUPERVISED (7)**

59. Tao Feng, Department of Chemical Engineering, U-Michigan, Fall 2002-December 2003. Received Masters degree December 2003.
60. Tony Sheh, Department of Chemical Engineering, U-Michigan, Fall 2006-December 2008.
61. Rodney Bryan Smith, Department of Chemical Engineering, U-Michigan, Fall 2008 – December 2009. Pursuing Master's degree, Winter 2010.
62. Ross J. Smith, Masters candidate, Department of Materials Science & Engineering, Fall 2010 – 2011.
63. Thomas Grubb, Masters Degree, Dept. of Materials Science & Engineering, Fall 2011 – 2013.
64. Jared Snyder, Masters candidate, Department of Physics, Summer 2012 – 2013.
65. Benjamin Swerdlow, Masters candidate, Dept. of Materials Science & Eng, Fall 2015 – Fall 2018.

#### **POSTDOCTORAL STUDENTS & RESEARCH STAFF SUPERVISED (26 TOTAL; 3 CURRENT)**

1. Claudio Donati, NIST, 1996 – 1998. *Theoretical and computational research on dynamical heterogeneity of glass-forming liquids and polymers*. Research Scientist, Bio-informatics, Italy.



2. Paolo Allegrini, NIST, February 1998 – November 1998. *Developing and applying diagnostic theoretical and computation tools for investigating dynamics properties of dense liquids*. Present position: Research Scientist, Institute for Computational Linguistics, University of Pisa, Italy.
3. Thomas B. Schroeder, NIST, March 1999 – June 2000. *Theory and simulations of dense liquids, polymers and filled polymers*. Present position: Prof., Dept. of Physics, Roskilde University.
4. Francis W. Starr, NIST Polymers Division, August 1999 – January 2001. *Simulation of filled polymers and relation between local structure and dynamics in glass-forming polymer melts*. Former position: Deputy Director, NIST CTCMS, 2001-2003. Present position: Assoc. Prof., Dept. of Physics, Wesleyan University.
5. Nita Parekh, NIST, June 2000 – May 2001. *Object-oriented finite element simulations of mechanical properties of polymer blends*. Present position: Associate Professor, International Institute of Information Technology, Hyderabad, India.
6. Monica Hitchcock Lamm, U Michigan, April 2001 – July 2003. *Simulations of nanoscale assembly*. Present position: Professor, Dept. of Chemical Engineering, Iowa State University, 2003 – present.
7. Michael Vogel, U Michigan, April 2002 – March 2004. *Simulations of supercooled liquids and glasses*. Present position: Assoc. Prof., Department of Chemistry, University of Muenster, Germany.
8. Joydeep Mukherjee, U Michigan, July 2004 – November 2005. *Multiscale simulations of self-assembly for molecular and nanoelectronics*. Present position: Dow Chemical, Midland, TX.
9. Zhenli Zhang, U Michigan, April 2002 – present. *Development of simulation methods for nanostructured self-assembled materials*. Research Associate, 2005-07. Permanent position: EPIR.
10. Pradip Ghorai, U Michigan, January 2006 – December 2007. *Molecular simulations of self-assembled monolayers for molecular computing*. Permanent position: Assistant Professor of Chemistry, IIT Kolkata, India.
11. Aaron Santos, U Michigan, August 2007 – Summer 2010. *Mesoscale simulations of self-assembly of hierarchical structures*. Permanent position: Assistant professor (tenure track), Simpson College, Iowa.
12. Kevin Kohlstedt, U Michigan, August 1, 2009 – 2011. *Design and assembly of reconfigurable colloids*. Permanent position: Research Assistant Professor, Northwestern University.
13. Hao Jiang, U Michigan, August 2008 – April 2013. *Simulations of patchy particles for catalysis and molecular recognition*. Permanent position: Associate Analyst Programmer, Tessella Inc.
14. Elizabeth R. Chen, U Michigan September 2011 – August 2012. Postdoctoral investigator. *Mathematics of dense packings*. Current position: Postdoctoral Fellow in Applied Mathematics, Harvard University.
15. Daphne Klotsa, U Michigan, Summer 2011 – Aug 2014. Marie-Curie Fellow. *Packing and assembly of hard colloids*. Permanent position: Assistant Professor, Applied Physics, UNC Chapel Hill.
16. Michael Engel, U Michigan, February 2009 – January 2016. Postdoc, then Research Investigator. Then Assistant Research Scientist. *Simulation studies of complex crystals and quasicrystals*. Permanent position: Assistant Professor, Chemical Engineering, Erlangen University, Germany.
17. Greg van Anders, U Michigan, Summer 2010 – August 2016. Postdoc, then Research Investigator. *Entropic forces in colloids*. Current position: Assistant Professor, Physics, Queens University, Ontario, CA.
18. Isaac Bruss, U Michigan, Postdoc. August 2015 – August 2017. *Emergent Behavior in Active Matter*. Current position: Postdoctoral researcher, Harvard University.

19. Josh Anderson, U Michigan, June 1, 2009 – present. Research Engineer. *GPU code development*. Permanent position: Glotzer Group.
20. Avisek Das, U Michigan, Postdoc. January 2017 – December 2017. Current position: Asst Professor, Center for Mathematical, Computational and Data Science; Indian Association for the Cultivation of Science, Kolkata, India.
21. John Morgan, U Michigan, Postdoc. January 2017 – December 2017. Current position: Postdoctoral researcher, Cambridge University
22. Jens Glaser, U Michigan, September 2012 – present. Postdoc to 8/2018, now Assistant Research Scientist. *Protein crystallization and GPU computing*.
23. Julia Dschemuchadse, U Michigan, February 2015 – April 2019. (SNF Postdoctoral Fellow). *Colloidal crystallography*. Current position: Asst Professor, Cornell University.
24. Duanduan Wan, Postdoc. U Michigan, September 2016 – December 2018.
25. Thi Vo, U Michigan, Postdoc. October 2017 – present.
26. Tim Moore, U Michigan, Postdoc. January 2018 – present.

**UNDERGRADUATE STUDENTS SUPERVISED ON RESEARCH IN GLOTZER GROUP (48 TOTAL, 2 CURRENT)**

1. Lucas Booth, U Michigan Dept. of Chemical Engineering, SS 2002 – W 2003. Eli Lilly.
2. Chitra G. Laxmanan, U Michigan Dept. of Chemical Engineering, Marian Sarah Parker Scholar Program, Spring 2002.
3. Scott M. Nunn, U Michigan Dept. of Chemical Engineering, Spring/Summer 2003.
4. Brian D. Reger, U Michigan Dept. of Chemical Engineering, Spring/Summer 2003.
5. Suchita Shah, U Michigan Dept. of Chemical Engineering, Sarah Marion Parker Scholar Program, Spring/Summer 2003.
6. Jonathan K. Snow, U Michigan Dept. of Chemical Engineering, Spring/Summer 2003.
7. Gary Chia, U Michigan Dept. of Chemical Engineering, Spring/Summer 2003. PhD from MIT.
8. Aaron Scott Keyes, U Michigan Dept. of Chemical Engineering, Winter 2003 – Winter 2004. PhD from Michigan. Now at AirBnB.
9. Lin Ho, U Michigan Dept. of Chemical Engineering, 2003 – 2005. PhD from UC Irvine.
10. Eric Jankowski, U Michigan Dept. of Chemical Engineering, 2004 – 2005. PhD at Michigan. Now postdoctoral fellow at UC Boulder.
11. Thomas Babinec, U Michigan Dept. of Physics, 2005 – 2007. PhD from Harvard.
12. Robert Carr, U Michigan Dept. of Chemical Engineering, W/F 2006, W 2007. PhD from Berkeley.
13. Sunny Choi, U Michigan Dept. of Chemical Engineering, F 2006 – W 2007. PhD from UIUC.
14. Michelle Marval, U Michigan Dept. of Materials Science & Engineering, Fall 2010 – Summer 2011.
15. Jeremy Kapala, U Michigan Dept. of Chemical Engineering, Summer 2011.
16. Benjamin Apland, U Michigan Dept. of Chemical Engineering, Summer 2011.
17. Steven Bielecki, U Michigan Dept. of Chemical Engineering, Summer 2011, Fall 2012.
18. Kosi Aroh, SROP, University of Maryland, Dept. of Chemical Engineering, Summer 2011.
19. Megan Szakasits, SROP, NC State University, Department of Chemical Engineering, Summer 2012.
20. Daniel Cunningham, SROP, University of Connecticut, Dept. of Materials Science & Eng. SS 2013

21. Belinda Chung Baek, Visiting undergraduate student, Fall 2013.
22. Erica Siimets, UROP, College of Engineering, Fall 2013 – W2014. U Michigan Dept. of Materials Science & Engineering, SS2014 – SS2015.
23. Nidhi Thite, UROP, College of Engineering, Fall 2013 – W2014.
24. Manuel Sarmiento, UROP, College of Engineering, Fall 2013 – W2014.
25. Chiedozie Okorie, UROP, College of Engineering, Fall 2013 – W2014.
26. Diamant Kurteshi, College of Engineering, W2014.
27. Matthew Dodds, U Michigan Dept. of Chemical Engineering, SS2014 – Fall 2014.
28. Mitchell Burke, U Michigan Dept. of Materials Science & Engineering, SS2014 – SS2015.
29. Rajeev Bhatt, U Michigan Dept of Electrical Engineering & Computer Science, SS2014.
30. Alan Xu, U Michigan Dept. of Chemical Engineering, SS2014.
31. Steven Zatzke, U Michigan, Dept. of Chemical Engineering, SS2011 – SS2014.
32. Grey Garrett, U Michigan Dept. of Materials Science & Engineering, SS2015.
33. Larissa Woryk, U Michigan Dept. of Materials Science & Engineering, SS2015 –.
34. Joseph Berleant, CalTech Physics Department SURF, SS2015.
35. Aziz Fall, UROP, College of Engineering, SS2015 – Winter 2016.
36. Nathan Minsk, UROP, College of Engineering, Fall 2015 – Winter 2016.
37. Brendon Waters, U Michigan, Dept of Computer Science, Fall 2015 – Winter 2016.
38. Kyle Pettibone, SURE, U Michigan Dept. of Chemical Engineering SS2016.
39. Dashiell Lieberman, UM Dept. of Materials Science, SS2016.
40. Alex Dutton, UM Dept. of Physics, SS2016 – Winter 2017.
41. Sean Hsu, UM Dept. of Materials Science, Fall 2016 – Fall 2018.
42. Sophie Barterian, UM Dept. of Physics, SS2017 – Winter 2018.
43. Yannah Melle, UM Dept. of Chemical Engineering, Fall 2017 –.
44. Yezhi Jin, UM Dept. of Chemical Engineering, SS2018 –.
45. Matthew Palathingal, UM Dept. of Chemical Engineering, SS2018.
46. Rachael Skye, MIT Dept of Materials Science & Engineering, SS2018.
47. Carissa Skye, MIT Dept of Physics, SS2018.
48. Jin Soo Ihm, UM Dept of Electrical Engineering & Computer Science, SURE SS2019.

**OTHER STUDENTS AND POSTDOCS SUPERVISED (9 TOTAL)**

1. Claudio Castellano, visiting student from the University of Naples, Italy, August 1994 – December 1995, at NIST. Pinning in phase-separating polymer blends.
2. Sean MacIsaac, high school student at Thomas Jefferson high School for Science and Technology, 1996 – 1998, at NIST. Simulations of granular materials.
3. Thomas Schroeder, visiting student from Roskilde University, Department of Physics, February 1998 – August 1998, at NIST.
4. Lasse Bøhling, visiting student from Roskilde University, Department of Physics, 2012.

5. Joshua Engelman, high school student at Vista Mar HS in Los Angeles, Summer 2012 –
6. Ruggero Gabbrielli, visiting postdoctoral scholar, February – April 2013.
7. Alan Xu, high school student at Ann Arbor Huron High School, Summer 2013.
8. Jeffrey Wan, high school student at Novi High School, C-PHOM High School Research Program, Summer 2015.
9. Patrick Lawton, B.S. Physics, University of Michigan, May 2019 – present.

#### **SELECTED WORKSHOPS, CONFERENCES, SYMPOSIA AND MEETINGS ORGANIZED**

- Chair, American Physical Society March Meeting 2016. Over 9,500 presentations.
- Co-chair/organizer, Unifying Concepts in Glass Physics, January 2015.
- Co-chair, GRC on Self-Assembly and Supramolecular Chemistry, Les Diablerets, Switzerland, May 2013, with S. Stupp.
- Co-organizer, New Trends in Colloidal Matter, NYU, 2013.
- Co-organizer, Symposium on The Origin of Life, U Michigan, April 5, 2013.
- Co-chair/organizer, MRS Fall 2012 Symposium on Colloidal Crystals, Quasicrystals, Assemblies, Jammings and Packings, with F. Stellacci and A. Tkachenko.
- Co-chair/organizer, Fourth Biennial Contractor's Meeting in Biomolecular Materials, Oct. 23-26, 2011, Annapolis, MD, with S. Stupp.
- Co-chair/organizer, Materials Research Society Symposium on Reconfigurable Assembly, Nashville, TN, Sept. 28-30, 2011.
- Co-chair/organizer, Conference on Horizons in Emergent Systems (HES70), March 19-20, 2011, Boston, MA, in honor of Gene Stanley's 70<sup>th</sup> Birthday.
- Co-chair/organizer, with Jack Dongarra, *High Performance Computing and Technology Surprise*, Washington, DC April 14-15, 2011.
- Co-chair/organizer, with J. Davis, P.T. Cummings, P. Westmoreland, B. Calloway, Symposium on Simulation-Based Engineering and Science, AIChE Annual Meeting, November 9, 2010, Salt Lake City, UT.
- Co-chair, with G. Crabtree, W. McCurdy and J. Roberto, *DOE Office of Science Workshop on Computational Materials and Chemistry*, Bethesda, MD July 26-28, 2010 and coauthor of subsequent report.
- Director, Virtual School of Computational Science & Engineering Summer School 2009 Session, August 2009. 300 student and postdoc participants at four sites.
- Co-chair, Multi-agency sponsored workshop on *Research Directions in Simulation-based Engineering and Science*, April 22-24, 2009 at the National Academy of Science Building, Washington, DC. Number of participants: O(100).
- Chair, *Foundations of Molecular Modeling and Simulation* (FOMMS), July 12-16, 2009. Number of participants: 135.
- Co-organizer, *GLCPC Virtual School of Computational Science & Engineering Summer School for Graduate Students on Multicore and GPUs*, NCSA, August 11-15, 2008. Instructors: Wen-mei Hwu (UIUC) and David Kirk (NVIDIA). 49 on-site participants.

- Co-Chair, MRS Fall 2008 Symposium on *Design, Synthesis and Self-Assembly of Patchy Particles*, Boston, MA 2008. With E. Leutjen and F. Sciortino.
- Chair, Multi-agency sponsored Workshop on *International Assessment of Simulation-based Engineering and Science*, National Science Foundation, April 25, 2008. Number of participants: 85
- Chair, Multi-agency sponsored *US Baseline Workshop on Simulation-based Engineering and Science*, National Science Foundation, Nov. 1-2, 2007. Number of participants: 75
- Co-organizer, ACS *Symposium on Colloidal Atoms and Molecules*, with D. Velegol and M.J. Solomon, Winter 2007, Chicago.
- Member of organizing committee, *International Conference on Bioengineering and Nanotechnology*, September 19-21, 2006, Santa Barbara, CA.
- Program chair, Forum on Industrial and Applied Physics, American Physical Society (APS) Annual March Meeting 2005, Los Angeles, CA.
- Member, International Advisory Committee, Symposium on Computer Modeling and Simulation of the Materials Nanoworld, Sicily, Italy, May 2004.
- Program chair, Nanoscale Science and Engineering Topical Conference, American Institute of Chemical Engineers (AIChE) Annual Fall Meeting 2004, Austin, TX. Served as program vice-chair, NSEF Topical Conference, AIChE Fall Annual Meeting, 2003.
- Member of organizing committee, *Foundations of Molecular Modeling and Simulation*, Keystone, CO, July 2003.
- Session chair/organizer for various sessions at AIChE Fall meetings 2001 – 2009, including *Theory, Modeling and Simulation at the Nanoscale*, *Amorphous Materials and Metastable Liquids*, and the Nanoscale Science and Engineering Forum plenary sessions in 2002 and 2003, and Plenary Session on Petascale Computing in 2009.
- Chair, organizing committee, *26<sup>th</sup> Annual Macromolecular Science and Engineering Symposium*, U Michigan, October 23, 2002.
- Member, Nanotechnology Committee, Nanotech 2003, 2004, 2005, 2006 Program Committees.
- Session co-chair/organizer, *Theory and Simulation of Complex Fluids and Soft Materials*, 76<sup>th</sup> ACS Symposium on Colloid and Surface Science, Ann Arbor, MI July 2002.
- Co-organizer, *Horizons in Complex Systems*, Messina, Italy, December 2001.
- Co-organizer, Symposium on *Computer Modeling of Polymers*, American Chemical Society Annual Meeting, Chicago, IL, August 2001, with S. Kumar, B. Farmer and G. Rutledge.
- Organizer, *Vision 20/20 Materials Technology Roadmap Workshop on Materials Modeling and Prediction*, sponsored by DOE/OIT, Colorado, September 1999.
- Co-organizer, Workshop on *Unifying Concepts in Glass Physics*, ICTP, Trieste, Italy, September 1999, with S. Franz and S. Sastry.
- Co-organizer, CTCMS Workshop on *Hybrid Methods for Materials Modeling*, NIST, May 1999, with F. Alexander, B. Boghosian, and A. Garcia.
- Organizer and Discussion Leader, Minisymposium on *Theory and Simulation of Glasses and Glass-forming Liquids*, at Symposium in honor of C.A. Angell, Pisa, Italy, October 1998.
- Co-organizer, CTCMS Workshop on *Simulation Methods for Multiphase Polymers: A Critical Comparison*, NIST, May 1998, with N. Martys.

- Session Organizer and Chair, *Mesoscale Modeling of Materials*, Conference on Complex Phenomena in Physics, Barbados, W.I., January 1998.
- Organizer and Chair, *Phase Transitions in Polymers: A Symposium in Honor of E.A. DiMarzio*, NIST, November 6-7, 1997.
- Co-director, CTCMS Summer School on *Phase Transitions and Pattern Formation in Fluids and Materials for Graduate Students*, July 1, 1996 - August 8, 1996, with S.A. Langer.
- Organizer and Chair, Workshop on *Glasses and the Glass Transition: Challenges in Materials Theory and Simulation*, Kent Island, MD, February 16-19, 1995.

### **SELECTED INVITED TALKS** (TOTAL: 371)

#### **GORDON RESEARCH CONFERENCES** (21 INVITED TALKS @ 14 DIFFERENT GRCS)

1. Soft Matter GRC, Colby-Sawyer, Summer 2019.
2. Liquids GRC, Holderness School, Summer 2019. Cruikshank Lecturer.
3. *Designing Colloidal Machines*, Complex Adaptive Matter GRC, Ventura CA, Feb. 2017.
4. Multifunctional Materials GRC, Ventura, CA, Jan 31 – Feb 5, 2016.
5. Crystal Growth and Assembly GRC, Biddeford, ME, June 27 – Jul 3, 2015.
6. *Entropic Self Assembly*, Self-Assembly GRC, Il Ciocco, May 17-21, 2015.
7. *Colloidal Crystals and Quasicrystals*, GRC on Noble Metals, Summer 2014.
8. *Entropically Patchy Particles*, Gordon Research Conference on Colloids, Macromolecular Solutions and Polyelectrolytes, Ventura, CA, February 16-21, 2014.
9. *Entropically Driven Colloidal Crystallization*, GRC on Thin Films and Crystallization Mechanisms, University of New England, Biddeford, ME, July 2013.
10. "*Liquid crystals of hard particles*," GRC on Liquid Crystals, University of New England, Biddeford, ME, June 16-21, 2013.
11. "*Of Shape and Entropy*", GRC on Soft Condensed Matter, Colby-Sawyer, August 14-18, 2011.
12. "*Some Assembly Required*," GRC on Supramolecular Assembly, Il Ciocco, Italy, June 12, 2011.
13. "*Self-assembly of complex structures from anisotropic building blocks*," Gordon Research Conference on the Chemistry & Physics of Liquids, August 2009.
14. "*Designing Materials Building Blocks for Self-Assembly Propensity*," Gordon Research Conference on the Chemistry of Supramolecules & Assemblies, June 2009.
15. "*Relating Building Block Shape and Complexity for Assembly*," Gordon Research Conference on Physical Virology, Galveston, TX, February 2009.
16. "*Directed Self-Assembly of Nanoscale Building Blocks*," Gordon Research Conference on Colloids, Macromolecular Solutions and Polyelectrolytes, Ventura, CA, February 2004.
17. "*Funky Dynamics in Liquids and Glasses*," Gordon Research Conference on Ceramics, New Hampshire, August 2002.
18. "*Spatially Heterogeneous Dynamics in Supercooled Liquids: Insights from Simulation*," Gordon Research Conference on Theoretical Chemistry, Colby-Sawyer College, New Hampshire, July 2002.
19. "*Spatially Heterogeneous Dynamics in Supercooled Liquids and Glasses*," Gordon Research Conference on Liquids, Holderness School, NH, August 2001.

20. "*Computational Diagnostics for Nanoscale Dynamical Heterogeneity in Glass-forming Liquids and Polymers,*" Gordon Research Conference on Polymer Physics, Connecticut College, July 2000.
21. "*Emergence of Nanoscale Dynamical Heterogeneity in Supercooled Liquids and Polymers,*" Gordon Research Conference on Colloids, Macromolecular Solutions and Polyelectrolytes, Ventura, CA, February 2000.

**DISCUSSION LEADER AT GORDON RESEARCH CONFERENCES:**

- Discussion leader, Thin Films and Crystallization GRC, Biddeford, ME, Summer 2019
- Discussion leader, Thin Films and Crystallization GRC, Biddeford, ME, Summer 2015.
- Discussion leader, Supramolecular Assembly GRC, Le Diablerett, May 5-10, 2013.
- Discussion leader, Supramolecular Assembly GRC, Il Ciocco, Italy, June 19-24, 2011.
- Discussion leader, Liquids Gordon Research Conference, New Hampshire, July 2003.
- Discussion leader, Liquids Gordon Research Conference, New Hampshire, July 1997.

**NATIONAL ACADEMY BRIEFINGS & FRONTIERS SYMPOSIA (7 INVITED TALKS)**

22. "*Soft Matter by Design,*" Briefing to the Defense Science Research Council, Jan. 2014.
23. "*HPC Skills, Applications to SBE&S, and Workforce: Worldwide Trends,*" Briefing to National Academy's workshop on HPC and Technology Surprise, April 14, 2011.
24. "*WTEC International Assessment of Simulation-based Engineering & Science,*" Briefing to the TIGER Committee, October 2009.
25. "*WTEC International Assessment of Simulation-based Engineering & Science,*" Briefing to the Solid State Sciences Committee, April 19, 2007.
26. "*Computational Materials in the 21<sup>st</sup> Century,*" Briefing to the NRC Study Committee on Integrative Computational Materials Engineering, March 13, 2007.
27. Invited lecturer and session chair, "*From Squish to Self-Assembly: The New Science of Colloids,*" National Academy of Science Beckman Frontiers of Science Symposium, Irvine, CA, November 2004.
28. Invited lecturer, "*Trends in Computational Materials Science for Materials Design and Processing,*" National Academy of Engineering Frontiers of Engineering Symposium, Irvine, CA, September 1998.

**NATIONAL PROFESSIONAL SOCIETY MEETINGS (89 INVITED TALKS)**

29. "Crystallization Pathways for Protein Crystals and Colloidal Assemblies," Symposium Honoring Nicholas Peppas, ACS Spring Meeting 2019.
30. "Sustainable Software for Computational Molecular Science," PHYS Division Invited Talk, ACS Spring Meeting 2019.
31. "Design and Self-Assembly of Photonic Colloidal Crystals," ACS Spring Meeting 2019.
32. "Digital Alchemy, Machine Learning and Inverse Design for Self Assembly," Aneesur Rahman Prize Talk, APS March Meeting, Boston, MA, 2019.
33. "Colloidal Crystals, Quasicrystals and the Entropic Bond," Kavli Symposium Lecture, APS March Meeting, Boston, MA, 2019.
34. "Multistep Crystallization Pathways for Protein Crystals and Colloidal Assemblies," APS March Meeting, Boston, MA, 2019.

35. "Nano 2.0: From Discovery to Design," Nanoscale Science & Engineering Forum Award, **AIChE** Fall Meeting 2018.
36. "Assembly Engineering of Complex Colloidal Crystals," WIC 20th Anniversary Symposium, **AIChE** Fall Meeting 2018.
37. "Engineering assembly pathways of colloidal crystals, protein crystals, and foldings," **ACS** Fall Meeting, August 2018, Symposium on Nanoscience, Nanotechnology & Beyond.
38. "Machine learning for colloidal crystal structure and property discovery & inverse design," **ACS** Fall Meeting, August 2018.
39. "The Entropic Bond: Colloidal Crystals & Their Assembly Pathways," Opening plenary, **ACS** Colloid and Surface Science Symposium, June 2018.
40. "Inverse Design in the Alchemical Ensemble," Area 1A Keynote, **AIChE** Fall Meeting 2017.
41. "Digital Alchemy for Assembly Engineering," Invited talk, **AIChE** Fall Meeting 2017.
42. "Recent Developments in the HOOMD Simulation Ecosystem," **AIChE** Fall Meeting 2017.
43. "Rational Design of Nanomaterials from Assembly and Reconfigurability of Polymer-Tethered Nanoparticles" MRS Communications Award Lecture, **MRS** Spring Meeting 2017.
44. "Colloidal Assembly in Alchemical Space," **ACS** Spring Meeting, April 2017.
45. "Self-assembly and GPU Molecular Dynamics," **APS** March Meeting 2017.
46. "Shaping the behavior of colloidal fluids," **AIChE** Keynote, Fall Meeting 2016.
47. "Digital Alchemy for Molecular Design Of Thermodynamically Stable Structures," **AIChE** Fall Meeting 2016.
48. "Data Mining and Machine Learning in Colloidal Science," **ACS** Fall Meeting 2016.
49. "Digital Alchemy for the Design of Complex Colloidal Assemblies," **ACS** Fall Meeting 2016.
50. "A complementary view of the colloidal glass transition," **MRS** Fall Meeting 2015.
51. "Data Mining and Machine Learning in Colloidal Science," **AIChE** Fall Meeting 2015.
52. "Shaping Entropic Forces at the Nanoscale," **AIChE** Fall Meeting 2015.
53. "The Entropic Chemistry of Shape," **ACS** Spring Meeting, Denver, CO, 2015.
54. "Glass-formers vs. Assemblers," **APS** March Meeting, San Antonio, TX, 2015.
55. "Rise of the Colloidal Machines," **APS** March Meeting, San Antonio, TX, 2015.
56. "Integration of Computation and Experiment for Discovery and Design of Nanoparticle Self-Assembly," **MRS** Fall Meeting, 2014. (MRS Medal w/ Nicholas Kotov)
57. "Towards Transparent Aluminum," **AIChE** Fall Meeting, Atlanta, GA 2014.
58. "Entropic and Active Matter," **AIChE** Fall Meeting, Atlanta, GA 2014.
59. "Packing and Assembly of Particles: Nanowires and Beyond", **AIChE** Fall Meeting, Atlanta, GA, 2014.
60. **ACS** Colloid Symposium, June 2014, Philadelphia, PA. Keynote talk, directed assembly session.
61. **ACS** Spring Meeting, PMSE Symposium Peppas Award Symposium, San Diego, CA, 2014.
62. **ACS** Spring Meeting, Symposium on Structure for Function, San Diego, CA, 2014.
63. **MRS** Spring Meeting, San Francisco, CA, 2013.



64. Symposium Honoring Keith Gubbins, **AIChE** Fall Meeting, Pittsburgh, PA, Fall 2012.
65. **ACS** Colloid Symposium, June 11, 2012, Baltimore, MD. Keynote talk, general session.
66. Symposium CC, **MRS** Spring Meeting, San Francisco, CA, 2012.
67. Symposium GG, **MRS** Spring Meeting, San Francisco, CA, 2012.
68. **APS** March Meeting, Boston, MA, 2012.
69. “*Design and self-assembly of patchy particles*,” **MRS** Spring Mtg, San Francisco, CA, 2011.
70. “*Self-Assembly of Tethered Nanoparticles*,” **ACS** Spring Meeting, Anaheim, CA, 2011.
71. “*Simulation-Based Engineering & Science*,” **AIChE** Annual Mtg, Salt Lake City, UT, 2010.
72. “*Assembly Engineering*,” **ACS** Fall Meeting 2010, Boston MA, 2010.
73. “*GPUs for Comp. Science & Engineering*,” **AIChE** Fall Mtg 2009, Nashville, TN, 2009.
74. “*Polymer-tethered nanoparticle shape amphiphiles: A new macromolecule for self-assembly*,” **APS** March Meeting 2009, Pittsburgh, PA, 2009.
75. “*Self assembly of patchy and anisometric particles into complex structures*”, **MRS** Spring Mtg. 2009.
76. “*Design and Assembly of Anisotropic Particles: The Shapes of Things to Come (With a Little Help from Computer Simulation)*,” **Charles M.A. Stine Award Plenary Lecture**, **AIChE** Annual Fall Meeting, Philadelphia, PA, 2008.
77. “*Simulation-based Design of Nanoscale Building Blocks for Self-Assembly: The Shapes of Things to Come*,” **AIChE** Fall Meeting, Salt Lake City, UT, Fall 2007.
78. “*Cybertools for Materials Research, Education, and Collaboration*,” **AIChE** Fall Meeting, Salt Lake City, UT, 2007
79. “*Forward and Inverse Computational Design of Anisotropic Nanocolloids for Self Assembly*”, **MS&T07**, Detroit, MI, Fall 2007.
80. “*Cybertools for Materials Research, Education, and Collaboration*,” **MS&T07**, Detroit, MI, Fall 2007.
81. “*Forward and inverse design of hierarchically-ordered functional assemblies from anisotropic nanocolloids*” **ACS**, Boston, MA, Fall 2007
82. “*Emergence of order in nanoparticle assemblies by exploiting building block anisotropy*”, **ACS**, Boston, MA, Fall 2007.
83. “*New trends in colloid science*”, 81<sup>st</sup> **ACS** Colloids and Surface Science Symposium, Newark, DE, June 2007. **Keynote lecture.**
84. “*Self-assembly of polymer-tethered nanoparticle shape amphiphiles*,” **ACS**, Chicago, IL, Spring 2007.
85. “*Exploiting anisotropy for self-assembly of colloidal and nanoparticle shape amphiphiles*,” **MRS** Spring 2006.
86. “*Designing nanomaterials from nanoparticle building block assembly*,” **MRS** Symposium CC: Photo-physical properties of monolayers on nanomaterials and surfaces, Boston, MA, 2005.
87. “*Tutorial on mesoscale simulations for self-assembly of nanoscale systems*,” **AICHE**, Cincinnati, OH, 2005.
88. “*Exploiting anisotropy for self-assembly of shape amphiphiles*,” **SIAM** Society for Industrial and Applied Mathematics, New Orleans, LA, 2005.

89. “*Self-assembly of patchy particles: insights from in silico*,” **ACS** American Chemical Society Spring Meeting, Symposium on Colloidal Assembly: Fundamentals, Novel Approaches, and Emerging Applications, San Diego, CA, 2005.
90. “*Self-assembly of shape amphiphiles*,” **MRS** Materials Research Society Spring Meeting, Symposium AA: Dynamic, Self-Organizing Systems in Multifunctional Nanomaterials and Nanostructures, San Francisco, CA, 2005.
91. “*Computational Nanoscience for Bio-inspired Nanofabrication*,” **AICHE** Fall Mtg, Austin, TX 2004.
92. “*Mesoscale simulations of self-assembly of low-dimensional nanoparticle structures*,” **MRS** Fall Mtg, Symposium II, Boston, MA, 2004.
93. “*Mesoscale simulations of self-assembly of tethered POSS*,” **MRS** Fall Mtg, Boston, MA, 2004.
94. “*Tethered nanoparticles: A new class of macromolecule for bio-inspired materials assembly*,” **MRS** Materials Research Society Fall Meeting, Symposium H, Boston, MA, 2003.
95. “*Langevin dynamics simulations of tethered nano building blocks*,” **MRS** Fall Mtg, Symposium KK, Boston, MA, 2003.
96. “*Anatomy of a Supercooled Liquid*,” **ACS** Fall Meeting, New York, NY, 2003
97. “*Glass-forming liquids and nanostructured fluids*,” **APS** March Meeting, Austin, TX, 2003.
98. “*Simulation approaches to directed assembly of nanoscale systems*,” **ACS** Spring Meeting, New Orleans, LA, 2003.
99. “*Scale-spanning simulations of polymer-tethered silsesquioxanes*,” **ACS** American Chemical Society Spring Meeting, New Orleans, LA, 2003.
100. “*Nano-assembly of Hybrid Structures: Towards Bridging Time and Length Scales*,” **AICHE** Fall Meeting, Indianapolis, IN, 2002.
101. “*Spatially Heterogeneous Dynamics in Liquids Near the Glass Transition*,” **AcerS** American Ceramics Society, Glasses and Optical Materials Division, Invited Symposium on *New Directions in Glasses*, Pittsburgh, PA, 2002.
102. “*Computer Simulation of the Glass Transition: Tools of the Trade*” **APS** DPOLY Short Course Tutorial Lecture, APS March Meeting, Indianapolis, IN, 2002.
103. “*New Insights on Glass-forming Liquids: Spatially Heterogeneous Dynamics*,” **AICHE** Fall Meeting, Reno, NV, 2001.
104. “*Spatially Heterogeneous Dynamics in Glass-forming Polymers*,” **ACS** Fall Meeting, Chicago, IL, 2001.
105. “*Multiscale Simulation Of Nanostructured Filled Polymers*,” **ACS** Rubber Division Mtg., April 2001.
106. “*Vision 2020 Roadmap for Computational Chemistry: Opportunities in Materials Science*,” **AICHE** Fall Meeting, Los Angeles, CA, 2000.
107. “*Molecular Dynamics Simulations of Filled and Nano-filled Polymers*,” **MRS** Fall Mtg, Boston, MA, 2000.
108. “*Correlated Molecular Motion in Cold, Dense Liquids: Insights from Simulation*,” **ACS** Fall Meeting, Washington DC, 2000.
109. “*Accelerating the Impact of Materials Simulation on US Industry*,” **MRS** Spring Meeting, Symposium O -- Materials Computation: Progress Towards Technological Relevance, San Francisco, CA, 2000.

110. “*Multiple Length and Time Scales in Glass-forming Polymers: New Insights from and Challenges for Simulation,*” **MRS** Spring Meeting, Symposium on Multiscale Modeling of Organic Materials, San Francisco, CA, 2000.
111. “*Computer Simulations of Soft Matter - The Complex Nature of Molecular Motion,*” Maria Goeppert-Mayer Award Lecture, **APS** Annual Meeting, Minneapolis, MN, 2000.
112. “*Spatially Heterogeneous Dynamics in Glass-forming Liquids,*” **ACA** American Crystallographic Association Annual Meeting, Buffalo, NY, 1999.
113. “*Dynamical Heterogeneity and Cooperative Motion in Glass-forming Liquids and Polymers,*” **APS** Annual Meeting, Atlanta, GA, 1999.
114. “*Anisotropic Interface Motion in Simulations of Unstable Nematic Liquid Crystal/Polymer Blends,*” **SIAM '96**, Society for Industrial and Applied Mathematics, Pittsburgh, PA, May 1996, with S.A. Langer.
115. “*Spinodal Decomposition of Chemically-Reactive Materials,*” **ACS** Fall Meeting, PMSE Symposium in Honor of Z. Akcasu, Washington, D.C., 1994.
116. “*Interactive Simulations of Complex Fluids: Research and Teaching with Workstations,*” **AAAS** American Association for the Advancement of Science Annual Meeting, Boston, MA, 1993.
117. “*A New Paradigm for Science Education,*” **AAS** American Astronomical Society Annual Meeting, Los Angeles, CA, 1989.

#### **NATIONAL MEETINGS, WORKSHOPS AND CONFERENCES (71 INVITED TALKS)**

118. “The Entropic Bond & Colloidal Crystallization Pathways,” **Opening plenary lecture**, Foundations of Molecular Modeling and Simulation (FOMMS), July 15, 2018
119. Public Lecture “From Engineered Matter to Personalized Materials,” 2017 International Institute for Nanotechnology Symposium, Chicago, September 2017.
120. Public Lecture “Rise of the Colloidal Machines,” ICAM/NSF workshop on Active and Smart Matter: A New Frontier for Science and Engineering, Syracuse University, June 2016.
121. “Theory, Simulation & Deep Data as Drivers for New Experimental Tools,” DOE Office of Basic Energy Sciences Workshop on Basic Research Needs for Innovation and Discovery of Transformative Experimental Tools: Solving Grand Challenges in the Energy Sciences, May 30 – June 3, 2016.
122. Panelist, 2016 National Nanotechnology Initiative Strategic Planning Stakeholder Workshop, May 19, 2016.
123. Keynote lecture “Entropy and Emergence,” **2016 ICAM Annual Conference**, Institute for Complex Adaptive Matter, Kent, OH, May 17, 2016.
124. Panelist, Department of Energy’s National Lab Day on Capitol Hill on April 20, 2016.
125. “Two-dimensional melting of hard shapes,” Mathematical Models of Defects and Patterns, Courant Institute of Mathematical Sciences / NYU, Jan 5-8, 2016.
126. Microscale Adaptability Army Science Planning and Strategy Meeting, Aberdeen Proving Grounds, MD, January 2016.
127. “Interfaces, Stresses, and Stability: Learning from John W. Cahn,” Bainbridge Island, WA, Sept 2015.
128. DOE Biomolecular Materials Workshop, Aug 2-5, 2015.
129. Panelist, Biocomplexity Panel, DARPA BiT Biocomplexity Wrkshp (BTO) NYC, June 23-24, 2015.

130. Institute for Computational and Experimental Research in Mathematics (ICERM), Brown University, March 16-21, 2015.
131. Speaker and Panelist, Wiesner symposium on Science Policy, University of Michigan, March 2015.
132. NSF Software Institute Workshop, Houston, TX, January 2015.
133. “Digital Colloids,” NSF Molecular Programming Project, San Francisco, CA, Jan 2015.
134. BESAC Workshop on Grand Challenges in Basic Energy Sciences, Jan 2015.
135. IEEE Workshop on Modular and Swarm Systems, Chicago, IL, Sept. 14, 2014.
136. Advances in Liquid Crystals, Kent State University, Kent, OH, Sept. 13, 2014.
137. 3<sup>rd</sup> Multifunctional Materials for Defense Workshop, Plenary Lunch Talk, Aug. 21, 2014.
138. BESAC Workshop on Grand Challenges in Basic Energy Sciences, July 30, 2014.
139. “Materials on Demand,” Lockheed Martin Corporate Production Council Meeting, Dallas TX, July 10, 2014.
140. Rutgers Annual Meeting on Statistical Mechanics, May 11-13, 2014.
141. Frontiers in Particle Science Technology, Chicago, IL, April 29-31, 2014.
142. LANL Mesoscale Science Frontiers Conference, May 13-16, Los Alamos, NM, 2014.
143. “Digital Discovery and Design: Toward the New Age of Materials on Demand” TAMEST, Austin, TX, January 16-17, 2014.
144. NSF Nanoscale Science and Grantees Plenary Talk, December 2013.
145. ARO Workshop on Emergent Design in Biological and Bioinspired Materials: Beyond the Rule of Mixtures, September 2013.
146. EFRC Meeting, Washington, DC, July 18-19, 2013.
147. NYU Programmable Matter Workshop, NYU, June 30 – July 2, 2013.
148. “*Assembly Science & Engineering*,” Nanotechnology Knowledge Infrastructure - NNI Signature Initiative Symposium, Washington, DC, May 13, 2013. Keynote talk.
149. NSF Materials Genome Initiative Meeting, Arlington, VA Dec. 15, 2012.
150. Fluidity|Rigidity|Adaptability: Frontiers in Pure and Applied Jamming, U Chicago, October 26-28, 2012.
151. “*New directions in synthetic molecular systems*,” ARO Synthetic Molecular Systems Workshop, April 25, 2012.
152. TEDxUofM, March 29, 2012.
153. **MRS** Symposium on Reconfigurable Assembly, Nashville, TN, September 28, 2011.
154. “*Some assembly required*,” Aspen Workshop on Materials and the Imagination, January 2011.
155. “*Towards Computational Materials Design*,” Department of Energy Simulation Summit, Washington, DC, October 13, 2010 (organized by Secretary Chu and Undersecretary Koonin).
156. “*Dense packings of hard tetrahedra*.” Chandler StatMech Mini-Conference, January 2010.
157. “*Designing patchy particles for self-assembly propensity*,” UIUC Materials Research Laboratory Workshop on Patchy Particles, May 19, 2009.

158. *“WTEC International Assessment of Simulation-Based Engineering and Science,”* National Academy of Engineering/Sandia/Council on Competitiveness TECS Summit on Computational Engineering, September 16, 2008.
159. *“Statistical Mechanics of Self-Assembly of Nanoscale Building Blocks,”* American Conference on Theoretical Chemistry, July 19-24, 2008.
160. *“Exploiting anisotropy for assembly,”* NIST Workshop on Assembly, March 2008.
161. *“Patchy particles, surfactants on steroids, quasicrystals: A study of assembly, in three parts.”* Chandler StatMech Mini-Conference, January 2008.
162. *“Simulation-based design and assembly of nanoparticle-based materials for EM applications,”* DoD Conference on Nanomaterials for Defense, Symposium on Nanomaterials for Optical Properties, Spring 2007.
163. *“Simulations of self-assembly of patchy particles and tethered nanoparticle shape amphiphiles,”* Recent Developments in Computer Simulation Studies in Condensed Matter Physics, Athens, GA, February 2007.
164. *“Self-assembly of nanomaterials: the shape(s) of things to come,”* GE Global Research Symposium on Computational Physics for Nanoscience, January 18, 2006.
165. *“The shape(s) of things to come,”* Princeton - Rhodia Symposium, Self Assembly - Guided and Otherwise, Princeton University, Princeton, NJ, November 4-5, 2005.
166. *“Ordering processes in liquids and complex materials,”* Chandler Mini-Stat-Mech Meeting, Berkeley, CA, January 8, 2005.
167. Invited participant and poster, 2<sup>nd</sup> Annual National Academies Keck Futures Initiative Conference on Designing Nanostructures at the Interface between Biomedical and Physical Systems, Irvine, CA, November 2004 and pre-conference, Washington DC, September 2004.
168. *“Tethered Nano Building Blocks: A New Route to Self-Assembly,”* Tenth International Conference on Properties and Phase Equilibria for Product and Process Design (PPEPPD), Snowbird Resort, Utah, May 16-24, 2004.
169. *“Molecular and Mesoscale Simulation Methods for Bio-Inspired Nanofabrication,”* National Science Foundation/European Commission Workshop on Computational Materials Science Methods, San Francisco, CA, April 15-16, 2004.
170. *“Molecular simulations of polymer-tethered nanoparticles,”* ACS Workshop on Molecular Modeling, New Orleans, LA, March 2004.
171. *“Self-assembly of sheets, tubes and wires from tethered nanoparticles: insights from simulation,”* Argonne National Lab/University of Chicago Workshop Self-assembly in biology, chemistry and hard materials, Argonne, IL, June 2003.
172. *“Computational Nanoscience and the Need for Large-Scale Computing,”* DOE SCALeS Workshop, Arlington, VA, June 2003.
173. *“Conga Lines and Cages: Spatially Heterogeneous Dynamics of Glass-forming Liquids,”* Chandler Mini-Stat-Mech Meeting, Berkeley, CA, Jan 10-12, 2003.
174. *“Computational Nanoscience of Soft Matter,”* DOE Roadmapping Workshop on Computational Nanoscience, San Francisco, CA, May 10-11, 2002.
175. *“Computational Materials Science in the 21<sup>st</sup> Century: The Road Ahead,”* National Materials Advisory Board, National Academy of Sciences, Washington, DC, March 27, 2002.
176. *“Nanoengineering Polymer/Nanoparticle Systems: Simulations on Multiple Scales,”* Knowledge Foundation Conference on Multiscale Modeling of Materials, Boston, MA, August 12-13, 2001.

177. *“Spatially Heterogeneous Dynamics in Liquids,”* STATPHYS Satellite Meeting on Challenges in Statistical Mechanics for the 21<sup>st</sup> Century, Athens, GA, July 2001.
178. *“The Cooperative Nature of Molecular Motion in Soft Materials: Finding Order in Disorder,”* National Science Foundation Workshop on Materials Theory, Arlington, VA, October 2000.
179. *“Molecular and Mesoscale Simulations of Filled and Nano-filled Polymers,”* First Annual Meeting on Foundations of Molecular Modeling, Keystone, CO, July 2000.
180. *“Simulations of Soft Matter - The Complex Nature of Molecular Motion,”* Fifth Annual Maria Goeppert-Mayer Symposium, San Diego, CA, March 4, 2000.
181. *“Growing Dynamical Correlations in Supercooled Liquids,”* XI International Meeting on Physics of Noncrystalline Materials, Tucson, AZ, October 1999.
182. *“Trends in Computational Materials Science for Polymer Interfaces and Interphases,”* Workshop on Polymer Interfaces and Interphases, NIST, Gaithersburg, MD, December 1998.
183. *“From Atoms to LCDs: Designing Materials with Computers,”* PECASE Award Symposium, National Oceanographic and Atmospheric Association, Silver Spring, MD, December 1998.
184. *“Dynamics of Glass-forming Materials from Computer Simulation,”* Conference on Computer Simulations in Physics, University of Georgia, Feb. 1998.
185. *“Cooperative Motion and Dynamical Heterogeneity in Glass-forming Materials: New Results from Simulation,”* ITP Workshop on Jamming in Frustrated Systems, UC Santa Barbara, October 1997.
186. *“Theory and Simulation of Pattern Formation in Polymer-Dispersed Liquid Crystals,”* Applied Mathematics Workshop for Materials Studies and Industrial Applications, Penn State University, College Park, PA, October 26, 1996.
187. *“Controlling Pattern Formation in Polymer Blends,”* CTCMS Workshop on Pattern Formation in Liquid Crystals, Polymers, and their Mixtures, Gaithersburg, MD, June 26-28, 1995.
188. *“On Growth and Form: Teaching Concepts of Probability by Doing Science,”* PIMMS Physics Workshop, Connecticut, March 1991.

#### **INTERNATIONAL CONFERENCES AND WORKSHOPS (54 INVITED TALKS)**

189. *“Entropic bonds, fluid-fluid transitions, identity crises and topological order in hard particle systems,”* StatPhys 27, Buenos Aires, July 2019. **Plenary Lecture.**
190. *“Entropically driven multi-step nucleation pathways,”* Beilstein Symposium on Nanomedicine, Beilstein Nanotech Symposium, Rudesheim Germany, September 2018.
191. *“Crystallization Pathways of Colloidal and Protein Crystals,”* Beilstein Symposium on Nanomedicine, Beilstein Nanotech Symposium, Rudesheim Germany, September 2018.
192. *“From Engineered Matter to Personalized Materials,”* 7th International Conference on Nanoscience & Technology (ChinaNANO 2017), Beijing, August 2017. **Plenary Lecture.**
193. *“Bio-Inspired Folding of Nanoscale Shapes,”* 7th International Conference on Nanoscience & Technology (ChinaNANO 2017), Beijing, August 2017.
194. *“Assembly pathways in soft matter,”* Frontiers in Polymer Science, Seville, Spain, May 2017. **Plenary Lecture.**
195. Physics@FOM Veldhoven, January 20-21, 2015. **Plenary Lecture.**
196. CECAM Workshop, Vienna, Austria Sept 24-26, 2014.

197. Theo Murphy International Meeting on Frontiers of Computer Simulation in Chemistry and Materials Science, Royal Society of Chemistry, February 6-7, 2014.
198. Frenkelfest, Coventry, England, July 12-14, 2013.
199. Danckwerts Lecture, The Hague, Netherlands, April 23, 2013. **Plenary Lecture.**
200. Solvay-sponsored Workshop on Macromolecules in Constrained Environments, Les Houches, March 24-29, 2013.
201. CECAM Workshop on Self-assembly: from fundamental principles to design rules for experiment, Lausanne, Switzerland, March 1 – 3, 2013. (Given by M. Engel)
202. Symmetry and Order Parameters/The Mathematics of Liquid Crystals, Cambridge, UK January 2013.
203. “*Self-assembly of soft matter quasicrystals,*” Aperiodic 2012, Cairns, Australia, Sept. 2-7, 2012. **Plenary Keynote.**
204. “*Entropic bonding in hard colloids,*” COMPLOIDS Annual Meeting, Edinburgh, UK May 30 – June 2, 2012.
205. “*Hard Particle Fluids and Their Crystals and Glasses,*” Conference on Unifying Concepts in Glass Physics, Paris, France, Dec. 12-16, 2011.
206. “*Hard Particle Fluids and Their Crystals,*” Liquid Matter Conference, Vienna, Austria, Sept. 6-10, 2011. (**Opening Plenary Keynote Lecture**)
207. “*Self-Assembly of Tetrahedra and Other Shapes,*” BFFS Workshop on Self-Assembly at all Scales, Black Forest, May 25-27, 2011.
208. “*Assembly and Packing of Tetrahedra,*” Statphys Conference, Australia, July 19-24, 2010.
209. “*Assembly and Packing of Tetrahedra,*” Liblice Conference, Czech Republic, June 13-18, 2010.
210. “*Assembly and Packing of Tetrahedra,*” US/Poland Workshop on Self-Assembled Nanomaterials, Krakow, Poland, June 7-10, 2010.
211. “*Assembly and Packing of Tetrahedra,*” Particulate Matters: Dimension Matters, Max Planck Institute, Dresden, Germany, May 31 – June 4, 2010.
212. “*Designing the next generation of self-assembled nanomaterials,*” French-American Young Engineering Scientist Symposium, Nov. 16-18, 2009. **Keynote plenary lecture.** (cancelled due to illness).
213. “*Dense packing and self assembly of colloidal tetrahedra and other shapes,*” IDRMACS, Rome, Italy, Aug 30 – Sept. 5, 2009.
214. “*WTEC International Assessment of R&D in Simulation-Based Engineering & Science,*” TEKES Finnish Funding Agency for Technology and Innovation Conference on Modeling and Simulation in Finland and in USA: Future Trends, Assessment and Funding, Helsinki, Finland, January 29, 2009. **Keynote lecture.**
215. “*Self- and directed assembly of nanoparticles: Opportunities and challenges for computer simulation,*” Conference on Computational Physics, Brazil, August 2008. **Keynote lecture.**
216. “*Materials Design for Self-Assembly, and Self-Assembly for Materials Design,*” NSF US-Poland Workshop on Nanoscience and Nanostructured Materials, June 4-6, 2008.
217. “*Excursions in self-assembly,*” AIMMS Workshop on Materials Modeling, St. Francis Xavier U, Nova Scotia, May 25, 2007.

218. *“Exploiting anisotropy for self assembly at the nanoscale,”* NSF US-Poland Workshop on Nanoscience and Nanostructured Materials, June 26-28, 2006.
219. *“Patchy particle self assembly,”* CECAM Workshop, Lyon, France, June 26-28, 2006.
220. *“Mesoscale Simulation for Self-Assembled Nanomaterials Design,”* Accelrys Nanotechnology Consortium Meeting, London, UK, November 15, 2005.
221. *“Spatially Heterogeneous Dynamics in Strong and Fragile Liquids,”* Unifying Concepts in Glass Physics,” Bangalore, India, June 28-30, 2004.
222. *“Tutorial on Spatially Heterogeneous Dynamics,”* Short Course on the Glass Transition, Unifying Concepts in Glass Physics, Bangalore, India, June 25-26, 2004.
223. *“Multiscale Simulations of Soft Materials,”* Keynote Lecture at WATOC '02, Lugano, Switzerland, August 5-8, 2002.
224. *“Statistical Mechanics of Glass-forming Liquids,”* Sixth Liblice Conference on the Statistical Mechanics of Liquids, Czech Republic, June 4-9, 2002.
225. *“Fourth-Order Time-Dependent Density Correlation Functions in Liquids and Glasses,”* Unifying Concepts in Glass Physics II, Rome, Italy, February 2002. Presented by postdoc T.B. Schroeder.
226. *“Dynamical Heterogeneity In Supercooled Liquids And Polymers Via Higher Order Correlation Functions,”* International Workshop on Relaxation in Complex Systems, Crete, June 2001.
227. *“Molecular and Mesoscale Simulations of Filled and Nano-filled Polymers,”* Annual Meeting of the Japanese Rheological Society, September 25, 2000.
228. *“Probing Dynamical Heterogeneity Via Higher Order Correlation Functions,”* Workshop On Future Perspectives For Understanding The Unsolved Problem Of The Glass-Transition by Neutron Scattering And Computer Simulation, San Sebastian, Spain, June 2000.
229. *“Computational Materials Science: Trends and Opportunities,”* Joint NSF/EC Workshop on Collaborative Opportunities in Materials Research, Stuttgart, Germany, June 21-22, 1999.
230. *“Spatially Heterogeneous Dynamics in Glass-Forming Liquids from Simulation,”* Euroconference on Supercooled Liquids and Glasses, Pisa, Italy, September 1998.
231. *“Dynamical Heterogeneity in Glass-forming Materials: New Results from Simulation,”* Complex Phenomena in Physics CPIP '98, Barbados, January 1998.
232. *“Dynamic Heterogeneities in Computer Simulations of Glass-forming Materials,”* International Conference on Relaxation in Complex Systems, Vigo, Spain, July 1997.
233. *“Dynamic Heterogeneities in Computer Simulations of Glass-forming Materials,”* International Conference on Kinetics of Phase-Separating Complex Fluids, Messina, Italy, June 1997.
234. *“Modeling of Phase Separation and Ordering in Anisotropic Materials,”* CAMS '97, International Meeting of the Canadian Applied Math Society, Toronto, Canada, June 1997.
235. *“Microstructure and Frustration in Glass-forming Materials,”* International Symposium on Disordered Liquids, Juten '96, Kyoto, Japan, November 19, 1996.
236. *“Frustration and Heterogeneities in Glass-forming Materials,”* CECAM Workshop on Glassy Dynamics, Lyon, France, October 1996.
237. *“Theory and Simulation of Pattern Formation in Liquid-Crystal/Polymer Blends,”* Workshop on Pattern Formation, London, Ontario, Canada, June 15, 1996, with S.A. Langer.



238. *“Pattern Formation in Polymers and Liquid-Crystal / Polymer Blends: Theory and Computer Simulation,”* International Conference on Pattern Formation in Polymers, Kyoto, Japan, June 13-14, 1996.
239. *“Materials Research in the Information Age,”* Caribbean Academy of Sciences, Tobago, April 1996.
240. *“Controlling Pattern Formation in Polymer Blends: Theory and Computer Simulation,”* Future of Fractals Conference, Nagoya, Japan, July 26, 1995.
241. *“Reaction-Controlled Morphology of Phase-Separating Materials,”* International Conference on Scaling Concepts in Complex Fluids, Catanzaro, Italy, July 5, 1994.
242. *“Spinodal Decomposition in Chemically-Reactive Binary Mixtures and Polymer Blends,”* Antigonish Discussion Meeting on Statistical and Computational Physics, St. Francis Xavier University, Antigonish, Nova Scotia, Oct. 1-4, 1993.

#### **NATIONAL AND INTERNATIONAL DEPARTMENTAL COLLOQUIA/SEMINARS (128)**

243. Chemical Engineering Department Seminar, California Institute of Technology, May 2019.
244. John C. and Florence W. Holtz Lecture, Department of Chemical and Biomolecular Engineering, Johns Hopkins University, April 2019.
245. Reilly Lectures, Department of Chemical Engineering, University of Notre Dame, April 2019.
246. Dale Pearson Lecturer, Department of Chemical Engineering, UC Santa Barbara, February 2019.
247. Micron School of Materials Science and Engineering Seminar, Boise State University, Feb 2019.
248. Jennifer Mills Lecture, Kalamazoo, MI October 2, 2018. Encouraging women and diversity in science.
249. Distinguished Lecture in Theoretical and Computational Chemistry, Department of Chemistry and Biochemistry, UC San Diego, May 8, 2018.
250. Chemical Engineering Department Seminar, MIT, April 13, 2018.
251. Ashton Cary Lecturer, School of Chemical & Biomolecular Engineering, Georgia Institute of Technology, April 2018.
252. The Keith E. Gubbins Lecture Series, Department of Chemical and Biomolecular Engineering, North Carolina State University, February 2018.
253. Berkeley Colloquium, Department of Chemical and Biomolecular Engineering University of California, Jan 2018.
254. Student Selected Annual Seminar Speaker Chemical and Biological Engineering Department, Princeton University, Dec 2017.
255. 2017-18 Distinguished Seminar Speaker, Department of Chemical Engineering, University of Illinois at Chicago, Sept 2017.
256. Sackler Lecture, Sackler Center for Computational Molecular and Materials Science, Tel Aviv University, May 2017.
257. Condensed Matter Seminar, Tel Aviv University, May 2017.
258. Racheff Lecture, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, April 2017.
259. Student Selected Seminar Series, Departments of Chemistry and Biochemistry, Indiana University, April 2017.

260. Winegard Visiting Lecturer in Soft Matter, University of Guelph, TBA.
261. Barnett F. Dodge Distinguished Lecture in Chemical Engineering, Yale University, Feb 2017.
262. Physics Department Colloquium, University of Chicago, January 2017.
263. Closs Lecture, University of Chicago, January 2017.
264. Keynote Lecture, Department of Computational Medicine and Bioinformatics Symposium, University of Michigan, September 2016.
265. Department of Biological Engineering, Massachusetts Institute of Technology, September 2016.
266. Carolyn and Charles Knobler Lecture, Physical Chemistry Division, University of California - Los Angeles, Los Angeles CA, May 2016.
267. Eleventh Annual Richard S.H. Mah Lectures on Modeling and Computation in Chemical and Biological Engineering, Northwestern University, Evanston, IL, January 2016.
268. Department of Chemistry, Stanford University, October 2015.
269. William G. Lowrie Department of Chemical & Biomolecular Engineering, The Ohio State University, September 2015.
270. UIUC Department of Physics, Urbana-Champaign, Spring 2015.
271. Polymer Science & Engineering Department, U Mass Amherst, Spring 2015.
272. R.B. Woodward Lectures in the Chemical Sciences, Physical Chemistry Seminar, Harvard University, March 26, 2015.
273. FOM Masterclass, January 19, 2015.
274. NYU Department of Physics/Center for Soft Matter Physics Colloquium, Winter 2015.
275. Texas Distinguished Faculty Lectureship, McKetta Dept. of Chem. Eng., UT Austin, Nov 5, 2014
276. BP Lecturer, Cambridge University, November 2014.
277. HERMES 2014 Masterclass, UK, July 26, 2014.
278. Lockheed Martin Company Advanced Technology Lab, Cherry Hill, NJ, June 26, 2014.
279. Thomas Young Center Highlight Lecture, London, UK July 24, 2014
280. Whitby Memorial Lectures, University of Akron, March 10-11, 2014.
281. Northwestern International Institute for Nanotechnology Lecturer, Feb. 13, 2014.
282. NCSU, ChemE/MRSEC, Oct. 7, 2013
283. U Wisconsin, Department of Chemical Engineering, Apr. 30, 2013.
284. Columbia University, Department of Chemistry, 2013 (rescheduled)
285. Douglas G. Hill Memorial Lecture, Duke University, Department of Chemistry, April 12, 2013.
286. Columbia University, Department of Chemical Engineering, Nov. 20, 2012.
287. Georgia Tech Department of Physics Colloquium, Sept 24, 2012.
288. University of Chicago, James Frank Institute "First Tuesday" Colloquium, May 1, 2012.
289. Texas Tech University, Soft Matter Seminar, April 16, 2012.
290. University of Pennsylvania, Maddin Lecture, April 23, 2012.
291. UC Berkeley Physical Chemistry Seminar, March 20, 2012.

292. Syracuse University Department of Physics, September 22, 2011.
293. CCNY Levich Institute, May 20, 2011.
294. IBM Distinguished Lecture, RPI, Mat. Science and Engineering Dept., April 20, 2011.
295. University of Wisconsin Department of Chemistry, February 15, 2011.
296. University of Toledo, Department of Physics, November 18, 2010.
297. University of Utah Henry Eyring Lecture, Department of Chemistry, November 12, 2010.
298. University of Minnesota Department of Chemical Engineering, October 26, 2010.
299. Cornell University Department of Physics Colloquium, October 5, 2010.
300. Cornell University Department of Chemical Engineering Colloquium, October 4, 2010.
301. Center for Nano Materials Colloquium, Argonne National Lab, September 29, 2010.
302. U Penn Department of Physics Colloquium, September 22, 2010.
303. Lawrence Berkeley Lab Distinguished Lecturer, May 4, 2010.
304. ISTECDistinguished Lecturer, Colorado State University, May 3, 2010.
305. Physical Chemistry Seminar, Colorado State University, May 3, 2010.
306. Chair Installation Lecture, U Michigan, April 23, 2010.
307. University of Maryland Nano Center Distinguished Colloquia, March 31, 2010.
308. Harvard University, Dept. of Applied Physics, Feb. 5, 2010.
309. University of Rochester, Dept. of Chemical Engineering, December 2, 2009.
310. Tulane University, Dept. of Chemical Engineering, Oct. 30, 2009.
311. MIT, Department of Chemical Engineering, Oct. 16, 2009.
312. MIT, Department of Materials Science & Engineering, Oct. 15, 2009.
313. University of Colorado, Boulder, Dept. of Chemical Eng., October 6, 2009.
314. Iowa State University ADVANCE Lecturer, Dept. of Chemical Engineering, Oct. 1, 2009.
315. University of Illinois, Urbana-Champaign, Dept. of Chemical Engineering, November 4, 2008
316. University of Illinois, Urbana-Champaign, Dept. of Mat. Sci. & Eng., November 3, 2008
317. U Michigan, Dept. of Physics, October 1, 2008.
318. University of North Carolina, Polymer and Materials Sciences, May 5, 2008.
319. Jerome B. Cohen Lectures (3), Northwestern University, November 2007.
320. University of Washington, Seattle, Department of Chemical Engineering, May 15, 2007.
321. Boston University, Dept. of Physics First Annual Graduate Alumni Symposium, May 4, 2007.
322. Wesleyan University, Department of Physics Bertman Lecture, May 3, 2007.
323. University of Pittsburgh, Dept. of Chemical Engineering Colloquium, January 26, 2007.
324. University of Pittsburgh, Nano Institute Lecture, January 25, 2007.
325. Vanderbilt Institute for Nanoscale Science and Engineering, February 2007.
326. Purdue U, Dept. of Materials Science and Engineering and Nanoscience Institute, Nov. 3, 2006
327. James Chair Honorary Lecture, St. Francis Xavier University, Physics Dept., February 2006.

328. Department of Chemical Engineering, Wayne State University, February 10, 2006.
329. Dow Chemical, Midland, MI, February 14, 2006.
330. Nanotechnology Institute Lecture, Northwestern University, February 1, 2006.
331. Department of Physics and Astronomy, Ohio University, May 20, 2005.
332. Department of Chemical Engineering, University of Buffalo, February 16, 2005.
333. Department of Chemistry, U Michigan, September 2004.
334. Allan P. Colburn Memorial Lecture, Dept. of Chemical Engineering, U Delaware, Spring 2004.
335. Department of Chemical Engineering, Colorado School of Mines, Winter 2004.
336. Department of Chemistry, University of Wisconsin, Madison, January 2004.
337. Department of Chemical Engineering, University of Pennsylvania, December 2003.
338. Department of Physics, University of Chicago, October 2003.
339. Oakland University, Sigma Xi Public Lecture & Keynote Banquet Address, April 8, 2003.
340. Case Western Reserve University, April 2002
341. Cal State University Northridge, Sigma Xi Public Lecture, February 26, 2003.
342. Loyola Marymount University, Sigma Xi Public Lecture II, February 25, 2003
343. Loyola Marymount University, Sigma Xi Public Lecture I, February 24, 2003
344. Georgia Tech, Dept. of Chemical Engineering, January 22, 2003 (rescheduled from Fall, 2001).
345. CCP5-sponsored lecture tour of the UK: Warwick Univ., Theor. Phys. Seminar, Nov. 29, 2002.
346. CCP5-sponsored lecture tour of the UK: Cambridge Univ., Theor. Chem. Sem., Nov. 27, 2002.
347. CCP5-sponsored lecture tour of the UK: Oxford University, Chemistry Dept, Nov. 25, 2002
348. City College of New York, Levich Institute, October 8, 2002.
349. Michigan State University, Sigma Xi Lecture, *Science at the Edge* Series, September 20, 2002.
350. Princeton University, Dept. of Chemical Engineering, December 2001
351. Boston University, Dept. of Physics, "Distinguished Alumni Seminar", August 2001.
352. NCSU, Chem. Engin. and Mat. Sci. and Eng. Joint Departmental Colloquium, February 26, 2001.
353. Penn State University, Physics Department Colloquium, October 2000.
354. U Michigan, Mat. Sci. and Eng. and Chem. Eng. Joint Departmental Colloquium, September 2000.
355. University of Tennessee, Chemical Engineering Departmental Colloquium, Spring 2000.
356. UC Santa Barbara, Chemical Engineering Departmental Colloquium, Spring 2000.
357. Northwestern University, Chemical Engineering Departmental Colloquium. Winter 2000.
358. UIUC Chemical Engineering Departmental Colloquium, Winter 1999.
359. UIUC Materials Science and Engineering Departmental Colloquium, Winter 1999.
360. George Mason University, Physics Department Seminar, Spring 1998.
361. University of Pennsylvania, Complex Fluids Seminar, Spring 1998.
362. Catholic University, Physics Departmental Colloquium, Fall 1997.
363. Johns Hopkins University, Physics Department Seminar, Fall 1997.

364. University of Maryland, Institute for Physical Science and Technology Seminar, Fall 1997.
365. Max Planck Institute for Polymerforschung Seminar, Fall 1996.
366. University of Rome "La Sapienza", Physics Department Seminar, Fall 1995.
367. Brandeis University, Physics Department Colloquium, Fall 1994.
368. University of Maryland, Institute for Physical Science and Technology Seminar, Spring 1994.
369. Carnegie Mellon University/Pittsburgh Joint Statistical Physics Seminar, Spring 1994.
370. Sandia National Lab, Albuquerque, NM, Spring 1992.
371. Exxon Corporate Research, Annandale, NJ, Spring 1992.

Numerous other meetings and conferences attended and presentations given. Students and postdocs have given scores of oral and poster presentations at major national and international meetings, including annual AIChE, APS, ACS and MRS meetings and Gordon conferences.

**PUBLICATIONS** (As of 8/1/19: h-index = 79, total citations = 25,206 according to Google Scholar; Publications contributing to h-index are in bold font. According to Web of Science: h-index = 66, total citations (without self-citations) = 16,588 and average cites per paper = 67.2).

**PEER-REVIEWED JOURNAL AND/OR ARCHIVAL PUBLICATIONS (252 in print)**

252. Dice, B., Ramasubramani, V., Harper, E., Spellings, M., Anderson, J. & Glotzer, S., "Analyzing Particle Systems for Machine Learning and Data Visualization with *freud*," in *Proc. 18th PYTHON Sci. CONF. (SCIPY 2019)* 27–33 (2019). DOI: 10.25080/Majora-7ddc1dd1-004
251. Harper, E. S., van Anders, G. & Glotzer, S. C., "The entropic bond in colloidal crystals," *Proc. Natl. Acad. Sci.* 201822092 (2019). DOI: 10.1073/pnas.1822092116
250. Vo, T. & Glotzer, S. C., "Principle of corresponding states for hard polyhedron fluids," *Mol. Phys.* Online July (2019). DOI: 10.1080/00268976.2019.1640906
249. Marson, R. L., Teich, E. G., Dshemuchadse, J., Glotzer, S. C. & Larson, R. G., "Computational self-assembly of colloidal crystals from Platonic polyhedral sphere clusters," *Soft Matter* 27–29 (2019). DOI: 10.1039/C9SM00664H
248. Geng, Y., van Anders, G., Dodd, P. M., Dshemuchadse, J. & Glotzer, S. C., "Engineering entropy for the inverse design of colloidal crystals from hard shapes," *Sci. Adv.* **5**, eaaw0514 (2019). DOI: 10.1126/sciadv.aaw0514
247. Lee, S., Teich, E. G., Engel, M. & Glotzer, S. C., "Entropic colloidal crystallization pathways via fluid–fluid transitions and multidimensional prenucleation motifs," *Proc. Natl. Acad. Sci.* 201905929 (2019). DOI: 10.1073/pnas.1905929116
246. Karas, A. S., Dshemuchadse, J., van Anders, G. & Glotzer, S. C., "Phase behavior and design rules for plastic colloidal crystals of hard polyhedra via consideration of directional entropic forces," *Soft Matter* (2019). DOI: 10.1039/C8SM02643B Cover article
245. Harper, E. S., Waters, B. & Glotzer, S. C., "Hierarchical self-assembly of hard cube derivatives," *Soft Matter* (2019). DOI: 10.1039/C8SM02619J
244. Shen, W., Antonaglia, J., Anderson, J. A., Engel, M., van Anders, G. & Glotzer, S. C., "Symmetries in Hard Polygon Systems Determine Plastic Colloidal Crystal Mesophases in Two Dimensions," *Soft Matter* (2019). DOI: 10.1039/C9SM00016J

243. Adorf, C. S., Ramasubramani, V., Anderson, J. A. & Glotzer, S. C., "How to Professionally Develop Reusable Scientific Software—And When Not To," *Comput. Sci. Eng.* **21**, 66–79 (2019). DOI: 10.1109/MCSE.2018.2882355
242. Simon, A. J., Ramasubramani, V., Glaser, J., Pothukuchy, A., Gerberich, J., Leggere, J., Morrow, B. R., Golihar, J., Jung, C., Glotzer, S. C., Taylor, D. W. & Ellington, A. D., "Supercharging enables organized assembly of synthetic biomolecules," *Nat. Chem.* (2019). DOI: 10.1038/s41557-018-0196-3
241. Teich, E. G., Anders, G. Van & Glotzer, S. C., "Identity crisis in alchemical space drives the entropic colloidal glass transition," *Nat. Commun.* (2019). DOI: 10.1038/s41467-018-07977-2
240. Cersonsky, R. K., Dshemuchadse, J., Antonaglia, J. A., van Anders, G. & Glotzer, S. C., "Pressure-Tunable Photonic Band Gaps in an Entropic Colloidal Crystal," *Phys. Rev. Mater.* **2**, 125201 (2018). DOI: 10.1103/PhysRevMaterials.2.125201
239. Adorf, C. S., Dodd, P. M., Ramasubramani, V. & Glotzer, S. C., "Simple data and workflow management with the signac framework," *Comput. Mater. Sci.* **146**, 220–229 (2018). DOI: 10.1016/j.commatsci.2018.01.035
238. Klotsa, D., Chen, E. R., Engel, M. & Glotzer, S. C., "Intermediate crystalline structures of colloids in shape space," *Soft Matter* (2018). DOI: 10.1039/C8SM01573B
237. Ramasubramani, V., Adorf, C., Dodd, P., Dice, B. & Glotzer, S., "signac: A Python framework for data and workflow management," in *Proc. 17th Python Sci. Conf.* 152–159 (2018). DOI: 10.25080/Majora-4af1f417-016
236. Ramasubramani, V. & Glotzer, S. C., "rowan: A Python package for working with quaternions," *J. Open Source Softw.* (2018). DOI: 10.21105/joss.00757
235. VanSaders, B., Dshemuchadse, J. & Glotzer, S. C., "Strain Fields in Repulsive Colloidal Crystals," *Phys. Rev. Mater.* **063604**, 1–7 (2018). DOI: 10.1103/PhysRevMaterials.2.063604
234. Dodd, P. M., Damasceno, P. F. & Glotzer, S. C., "Universal folding pathways of polyhedron nets," *Proc. Natl. Acad. Sci.* 201722681 (2018). DOI: 10.1073/pnas.1722681115
233. Wan, D. & Glotzer, S. C., "Shapes within shapes: how particles arrange inside a cavity," *Soft Matter* **14**, 3012–3017 (2018). DOI: 10.1039/C8SM00048D Cover Article
232. Bruss, I. R. & Glotzer, S. C., "Phase separation of self-propelled ballistic particles," *Phys. Rev. E* **97**, 42609 (2018). DOI: 10.1103/PhysRevE.97.042609
231. Spellings, M. & Glotzer, S. C., "Machine learning for crystal identification and discovery," *AIChE J.* (2018). DOI: 10.1002/aic.16157
230. Adorf, C. S., Dodd, P. M., Ramasubramani, V. & Glotzer, S. C., "Simple data and workflow management with the signac framework," *Comput. Mater. Sci.* **146**, 220–229 (2018). DOI: 10.1016/j.commatsci.2018.01.035
229. Cersonsky, R. K., van Anders, G., Dodd, P. M. & Glotzer, S. C., "Relevance of packing to colloidal self-assembly," *Proc. Natl. Acad. Sci.* **115**, 1439–1444 (2018). DOI: 10.1073/pnas.1720139115
228. Zhou, Y., Damasceno, P. F., Somashekar, B. S., Engel, M., Tian, F., Zhu, J., Huang, R., Johnson, K., Mcintyre, C., Sun, K., Yang, M., Green, P. F., Ramamoorthy, A., Glotzer, S. C. & Kotov, N. A., "Unusual Multiscale Mechanics of Biomimetic Nanoparticle Hydrogels," *Nat. Commun* **9**, 181 (2018). DOI: 10.1038/s41467-017-02579-w

227. Irrgang, M. E., Engel, M., Schultz, A. J., Kofke, D. A. & Glotzer, S. C., "Virial Coefficients and Equations of State for Hard Polyhedron Fluids," *Langmuir* **33**, 11788–11796 (2017). DOI: 10.1021/acs.langmuir.7b02384
226. Agrawal, M., Bruss, I. R. & Glotzer, S. C., "Tunable emergent structures and traveling waves in mixtures of passive and contact-triggered-active particles," *Soft Matter* **13**, 6332–6339 (2017). DOI: 10.1039/C7SM00888K
225. Glotzer, S. C., Nordlander, P. & Fernandez, L. E., "Theory, Simulation, and Computation in Nanoscience and Nanotechnology," *ACS Nano* **11**, 6505–6506 (2017). DOI: 10.1021/acsnano.7b05028
224. Bruss, I. R. & Glotzer, S. C., "Curvature-induced microswarming," *Soft Matter* **13**, 5117–5121 (2017). DOI: 10.1039/C7SM00811B
223. Damasceno, P. F., Glotzer, S. C. & Engel, M., "Non-close-packed three-dimensional quasicrystals," *J. Phys. Condens. Matter* **29**, 234005 (2017). DOI: 10.1088/1361-648X/aa6cc1
222. Du, C. X., van Anders, G., Newman, R. S. & Glotzer, S. C., "Shape-driven solid–solid transitions in colloids," *Proc. Natl. Acad. Sci.* **114**, E3892–E3899 (2017). DOI: 10.1073/pnas.1621348114
221. Anderson, J. A., Antonaglia, J., Millan, J. A., Engel, M. & Glotzer, S. C., "Shape and Symmetry Determine Two-Dimensional Melting Transitions of Hard Regular Polygons," *Phys. Rev. X* **7**, 21001 (2017). DOI: 10.1103/PhysRevX.7.021001
220. Spellings, M., Marson, R., Anderson, J. A. & Glotzer, S. C., "GPU accelerated Discrete Element Method (DEM) Molecular Dynamics," *J. Comput. Phys.* **344**, 460–467 (2017). DOI: 10.1016/j.jcp.2017.01.014
219. Lin, H., Lee, S., Sun, L., Spellings, M., Engel, M., Glotzer, Sharon, C. & Mirkin, C. A., "Clathrate Colloidal Crystals," *Science* **355**, 931–935 (2017). DOI: 10.1126/science.aal3919
218. Gong, J., Newman, R. S., Engel, M., Zhao, M., Bian, F., Glotzer, S. C. & Tang, Z., "Shape-dependent ordering of gold nanocrystals into large-scale superlattices," *Nat. Commun.* **8**, 14038 (2017). DOI: 10.1038/ncomms14038
217. Ye, X., Chen, J., Irrgang, M. E., Engel, M., Dong, A., Glotzer, S. C. & Murray, C. B., "Quasicrystalline binary nanocrystal superlattice with partial matching rules," *Nat. Mater.* **16**, 214–219 (online 26 September 2016) (2017). DOI: 10.1038/NMAT4759
216. Yue, K., Huang, M., Marson, R. L., He, J., Huang, J., Zhou, Z., Wang, J., Liu, C., Yan, X., Wu, K., Guo, Z., Liu, H., Zhang, W., Ni, P., Wesdemiotis, C., Zhang, W.-B., Glotzer, S. C. & Cheng, S. Z. D., "Geometry induced sequence of nanoscale Frank–Kasper and quasicrystal mesophases in giant surfactants," *Proc. Natl. Acad. Sci.* **113**, 14195–14200 (2016). DOI: 10.1073/pnas.1609422113
215. Froufe-Pérez, L. S., Engel, M., Damasceno, P. F., Muller, N., Haberko, J., Glotzer, S. C. & Scheffold, F., "The Role of Short-Range Order and Hyperuniformity in the Formation of Band Gaps in Disordered Photonic Materials," *Phys. Rev. Lett.* **117**, 53902 (2016). DOI: 10.1103/PhysRevLett.117.053902
214. Cadotte, A. T., Dshemuchadse, J., Damasceno, P. F., Newman, R. S. & Glotzer, S. C., "Self-assembly of a space-tessellating structure in the binary system of hard tetrahedra and octahedra," *Soft Matter* **12**, 7073–7078 (2016). DOI: 10.1039/C6SM01180B Cover article.
213. Karas, A. S., Glaser, J. & Glotzer, S. C., "Using depletion to control colloidal crystal assemblies of hard cuboctahedra," *Soft Matter* **12**, 5199–5204 (2016). DOI: 10.1039/C6SM00620E

212. Zhou, Y., Marson, R. L., Van Anders, G., Zhu, J., Ma, G., Ercius, P., Sun, K., Yeom, B., Glotzer, S. C. & Kotov, N. A., "Biomimetic Hierarchical Assembly of Helical Supraparticles from Chiral Nanoparticles," *ACS Nano* **10**, 3248–3256 (2016). DOI: 10.1021/acsnano.5b05983
211. Howard, M. P., Anderson, J. A., Nikoubashman, A., Glotzer, S. C. & Panagiotopoulos, A. Z., "Efficient neighbor list calculation for molecular simulation of colloidal systems using graphics processing units," *Comput. Phys. Commun.* **203**, 45–52 (2016). DOI: 10.1016/j.cpc.2016.02.003
210. Anderson, J. A., Eric Irrgang, M. & Glotzer, S. C., "Scalable Metropolis Monte Carlo for simulation of hard shapes," *Comput. Phys. Commun.* **204**, 21–30 (2016). DOI: 10.1016/j.cpc.2016.02.024
209. Teich, E. G., van Anders, G., Klotsa, D., Dshemuchadse, J. & Glotzer, S. C., "Clusters of polyhedra in spherical confinement," *Proc. Natl. Acad. Sci.* **113**, E669–E678 (2016). DOI: 10.1073/pnas.1524875113
208. Haji-akbari, A. & Glotzer, S. C., "Strong Orientational Coordinates and Orientational Order Parameters For Symmetric Objects," *J. Phys. A Math. Theor.* **48**, 1–19 (2015). DOI: 10.1088/1751-8113/48/48/485201
207. Glaser, J., Karas, A. S. & Glotzer, S. C., "A parallel algorithm for implicit depletant simulations," *J. Chem. Phys.* **143**, 1–10 (2015). DOI: 10.1063/1.4935175
206. Sabrina, S., Spellings, M., Glotzer, S. C. & Bishop, K. J. M., "Coarsening dynamics of binary liquids with active rotation.," *Soft Matter* **11**, 8409–8416 (2015). DOI: 10.1039/c5sm01753j Cover article.
205. Damasceno, P. F., Karas, A. S., Schultz, B. A., Engel, M. & Glotzer, S. C., "Controlling Chirality of Entropic Crystals," *Phys. Rev. Lett.* **115**, 158303 (2015). DOI: 10.1103/PhysRevLett.115.158303
204. Hsiao, L. C., Schultz, B. A., Glaser, J., Engel, M., Szakasits, M. E., Glotzer, S. C. & Solomon, M. J., "Metastable orientational order of colloidal discoids," *Nat. Commun.* **6**, 8507 (2015). DOI: 10.1038/ncomms9507
203. van Anders, G., Klotsa, D., Karas, A. S., Dodd, P. M. & Glotzer, S. C., "Digital Alchemy for Materials Design: Colloids and Beyond," *ACS Nano* **9**, 9542–9553 (2015). DOI: 10.1021/acsnano.5b04181
202. Spellings, M., Engel, M., Klotsa, D., Sabrina, S., Drews, A. M., Nguyen, N. H. P., Bishop, K. J. M. & Glotzer, S. C., "Shape control and compartmentalization in active colloidal cells," *Proc. Natl. Acad. Sci.* **112**, E4642–E4650 (2015). DOI: 10.1073/pnas.1513361112
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## 18 ADDITIONAL PUBLICATIONS AND 5 PROCEEDINGS EDITED:

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