Kranthi K. Mandadapu - CV/Resume

University of California at Berkeley
Chemical and Biomolecular Engineering
Pitzer Center for Theoretical Chemistry
College of Chemistry
Graduate Biophysics Program
Chemical Sciences Division, LBL

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Education

- **Ph.D. Mechanical Engineering** May 2007–May 2011
  University of California at Berkeley
  Thesis: Homogeneous Non-Equilibrium Molecular Dynamics Methods for Calculating the Heat Transport Coefficient of Solids and Mixtures
  Mentor: Prof. Panayiotis Papadopoulos
  Minors: Mathematics and Physics
  Thesis Committee: Prof. Alexander Chorin and Prof. David Steigmann
- **M.S. Civil Engineering** August 2005–May 2007
  University of California at Berkeley
  Thesis: Cytoskeleton and Soft Glassy Rheology
  Mentors: Prof. Sanjay Govindjee and Prof. Mohammad R. K. Mofrad
- **B.S. Civil Engineering** August 2001–May 2005
  Indian Institute of Technology at Madras
  Thesis: Multiscale Modeling of Mechanical Behavior of Polycrystalline Shape Memory Alloys
  Mentor: Prof. Srinivasan M. Sivakumar
  Minor: Applied Mechanics and Computational Physics

Professional Appointments

- **Free Radicals Era Assistant Professor** July 2016–Present
  Chemical and Biomolecular Engineering
  University of California at Berkeley
- **Affiliated Faculty – Biophysics Graduate Group** July 2016–Present
  University of California at Berkeley
- **Faculty Scientist – Chemical Sciences Division** July 2016–Present
  Lawrence Berkeley National Laboratory
- **Post-Doctoral Scholar – Chemistry and Biophysics** August 2013–June 2016
  University of California at Berkeley
  Lawrence Berkeley National Laboratory
  Mentors: Prof. David Chandler and Prof. George Oster

Journal Publications

- **arXiv, Published, or Submitted:**

  1. Hasyim, M. R., Batton, C. H., and Mandadapu, K. K., Supervised learning and the finite-temperature string method for computing committor functions and reaction rates, *arXiv:2107.13522*.
  2. Hargus, C., Epstein, J. M., and Mandadapu, K. K., Odd diffusivity of chiral random motion, *arXiv:2103.09958*.

3. Tchoufag, J. T., Sahu, A., and Mandadapu, K. K., Absolute/convective instabilities and front propagation in lipid membrane tubes, *arXiv:2008.13780*
4. Hasyim, M. R., and Mandadapu, K. K., Theory of crystallization versus vitrification, *arXiv:2007.14968*
5. Thomas, N., Mandadapu, K. K., and Agrawal, A., Electromechanics of lipid-modulated gating of Kv channels, *bioRxiv.2020.06.12.051482.*
6. Takatori, S. C., and Mandadapu, K. K., Motility-induced buckling and glassy dynamics regulate three-dimensional growth of bacterial monolayers, *arXiv:2003.05618*
7. Ahmed, M., Blum, M., Crumlin, E. J., Geissler, P. L., Head-Gordon, T., Limmer, D. T., Mandadapu, K. K., Saykally, R. J., Wilson, K. R., Molecular properties and chemical transformations near interfaces, *Journal of Physical Chemistry B*, (2021).
8. Hasyim, M. R., and Mandadapu, K. K., A theory of localized excitations in supercooled liquids, *The Journal of Chemical Physics*, 155, 044504 (2021). ***(Editor's pick)***
9. Cox, S. J., Mandadapu, K. K., and Geissler, P. L., Quadrupole-mediated dielectric response and the charge-asymmetric solvation of ions in water, *The Journal of Chemical Physics*, 154, 244502 (2021).
10. Jamali, V., Hargus, C., Moshea, A., Aghazadehd, A., Haa, H.,, Mandadapu, K. K., and Alivisatos, A. P., Anomalous nanoparticle surface diffusion in liquid cell TEM is revealed by deep learning-assisted analysis, *Proceedings of National Academy of Sciences, USA*, 118, e2017616118 (2021).
11. GrandPre, T., Klymko, K., Mandadapu, K. K., and Limmer D. T., Entropy production fluctuations encode collective motion of active matter, *Physical Review E*, 103, 012613 (2021).
12. Mandadapu, K. K., Abali, E., and Papadopoulos, P., On the polar nature and invariance properties of a thermomechanical theory for continuum-on-continuum homogenization, *Mathematics and Mechanics of Solids*, March 2, 1-18 (2021).
13. Sauer, R. A., Duong, T. X., and Mandadapu, K. K., A chemo-mechano-thermodynamical contact theory for adhesion, friction and (de)bonding reactions, *accepted for publication in Mathematics and Mechanics of Solids*, (2021).
14. Fong, K. D., Bergstrom, H., McCloskey, B. D., and Mandadapu, K. K., Transport phenomena in electrolyte solutions: Non-equilibrium thermodynamics and statistical mechanics, *AIChE Journal*, 66:e1709 (2020).
15. Omar, Y., Sahu, A., Sauer, R. A., and Mandadapu, K. K., Non-axisymmetric shapes of biological membranes under locally induced curvature, *Biophysical Journal*, 119, 1065-1077 (2020).
16. Hargus, C., Klymko, K., Epstein, J. M., and Mandadapu, K. K., Time reversal symmetry breaking and odd viscosity in active fluids: Green-Kubo and NEMD results, *The Journal of Chemical Physics* 152, 201102 (2020). ***Editor's pick & Cover article***
17. Sahu, A., Glisman, A., Tchoufag, J. T., and Mandadapu, K. K., Geometry and dynamics of lipid membranes, *Physical Review E*, 101, 052401 (2020).
18. Epstein, J. M., and Mandadapu, K. K., Time reversal symmetry breaking in two dimensional non-equilibrium fluids, *Physical Review E*, 101, 052614 (2020).
19. Sahu, A., Omar, Y., Sauer, R. A., and Mandadapu, K. K., Arbitrary Lagrangian-Eulerian finite element formulation for curved and deforming surfaces: I. General theory and its application to two-dimensional fluids, *Journal of Computational Physics*, 407, 109253 (2020).
20. Paul, K., Zimmerman, Z., Mandadapu, K. K., Hughes, T. J. R., Landis, C. M., and Sauer, R. A., An adaptive space-time phase field formulation for dynamic fracture of brittle shells based on LR NURBS,*Computational Mechanics*, 65, 1039-1062 (2020).
21. Tchoufag, J., Ghosh, P., Pogue, C. B.,, Nan, B., and Mandadapu, K. K., Mechanisms for bacterial gliding motility on soft substrates, *Proceedings of National Academy of Sciences USA*, 116, 25087-25096 (2019).
22. Katira, S., Garrahan, J. P., and Mandadapu, K. K., Theory for glassy behavior of supercooled liquid mixtures, *Physical Review Letters*, 123, 100602 (2019).

23. Epstein, J., Klymko, K., and Mandadapu, K. K., Statistical mechanics of transport processes in active fluids II: The equations of hydrodynamics for active brownian particles, *The Journal of Chemical Physics*, 150, 164111 (2019).
24. Zimmerman, C., Toshniwal, D., Landis, C. M., Hughes, T. J. R., Mandadapu, K. K., and Sauer, R. A., An isogeometric finite element formulation for phase transformations on deforming surfaces. *Computer Methods in Applied Mechanics and Engineering*, 351, 441–477 (2019).
25. Doubrovinski, K., Tchoufag, J., and Mandadapu, K. K., A simplified mechanism for anisotropic constriction in Drosophila prospective mesoderm, *Development*, 145, 24 (2018).
26. Hudson, A., and Mandadapu, K. K., On the nature of the glass transition in atomistic models of glass formers, *arXiv:1804:03769* (2018)
27. Dasbiswas, K., Mandadapu, K. K., and Vaikuntanathan, S., Topological localization in out-of-equilibrium dissipative systems, *Proceedings of National Academy of Sciences USA*, 115, E9031-E9040 (2018).
28. Katira, S., Garrahan, J. P., and Mandadapu, K. K., Solvation in space-time: Pre-transition effects in trajectory space, *Physical Review Letters*, 120, 260602 (2018).
29. Klymko, K., Mandal, D., and Mandadapu, K. K., Statistical mechanics of transport processes in active matter: The equations of hydrodynamics, *Journal of Chemical Physics* 147, 194109 (2017). ***(Best Poster Award at Berkeley Statistical Mechanics Meeting)***
    - *A shorter version of this article summarizing the main article is available on arXiv.*

      Mandal, D., Klymko, K., and Mandadapu, K. K., Generalized hydrodynamics of active polar fluids. *arXiv:1706:02284*.
30. Sahu, A., Sauer, R., and Mandadapu, K. K., The irreversible thermodynamics of curved lipid membranes, *Physical Review E* 96, 042409 (2017).
31. Mandadapu, K. K., and Hurley, J., Friction at the BAR leads to membrane breakup, *Cell*, 170, 14–16 (2017).
32. Sauer, R. A., Duong, T. X., Mandadapu, K. K., and Steigmann, D. J., A stabilized finite element formulation for liquid shells and its application to lipid bilayers, *Journal of Computational Physics*, 330, 436–466 (2017).
33. Mercer, B., Mandadapu, K. K., and Papadoupoulos, P., Homogenization of high-frequency wave propagation in linearly elastic layered media using a continuum Irving-Kirkwood theory, *International Journal of Solids and Structures*, 96, 162-172 (2016).
34. Kshirsagar, S., Mandadapu, K. K., and Papadopoulos, P., Classical molecular dynamics simulations with a general interatomic potential for crystalline solids, *Computational Materials Science*, 120, 127-134 (2016).
35. *Katira, S., *Mandadapu, K. K., *Vaikuntanathan, S., Smit, B., and Chandler, D., Pre-transition effects mediate forces between transmembrane proteins in lipid bilayers, *eLife*, 5:e13150 (2016). ***(Best Poster Award at Berkeley Statistical Mechanics Meeting)***
36. *Katira, S., *Mandadapu, K. K., *Vaikuntanathan, S., Smit, B., and Chandler, D., The order-disorder transition in model lipid bilayers is a first-order hexatic to liquid phase transition, *arXiv:1506.04310*.
37. *Mandadapu, K. K., *Nirody, J., Berry, R., and Oster, G., Mechanics of torque generation in the bacterial flagellar motor, *Proceedings of National Academy of Sciences, USA*, 112, E4381-E4389 (2015).
38. Mercer, B., Mandadapu, K. K., and Papadopoulos, P., Novel formulations of microscopic boundary-value problems in continuous multiscale finite element methods, *Computer Methods in Applied Mechanics and Engineering* 286, 268-292 (2015).
39. Rangamani P., Mandadapu, K. K., and Oster, G., Protein-induced membrane curvature alters local membrane tension, *Biophysical Journal*, 107, 751-762 (2014).

40. Mandadapu, K. K., Jones, R. E., and Zimmerman, J. A., On the microscopic definitions of dislocation density tensor, *Mathematics and Mechanics of Solids* 19, 744-757 (2014).
41. Mandadapu, K. K., Templeton, J. A., and Lee, J. W., Polarization as a field variable from molecular dynamics simulations, *Journal of Chemical Physics*, 139, 054115-1-10 (2013).
42. Lee, J. W., Templeton, J. A., Mandadapu, K. K., and Zimmerman J. A., Investigation of various molecular dynamics models of electrical double layers in nanochannels, *Journal of Chemical Theory and Computation*, 9, 3051-3061 (2013).
43. Rangamani, P., Agrawal, A., Mandadapu, K. K., Oster, G., and Steigmann, D. J., Interaction between surface shape and intra-surface viscous flow on lipid membranes, *Biomechanics and Modeling in Mechanobiology*, 12, 833-845 (2013).
44. Ulz, M., Mandadapu, K. K., Papadopoulos, P., On the estimation of spatial averaging volume for determining stress using atomistic methods, *Modeling and Simulation in Materials Science and Engineering*, 21, 015010 (2013).
45. Jones, R. E., and Mandadapu, K. K., Adaptive Green-Kubo estimates of transport coefficients from molecular dynamics based on robust error analysis, *Journal of Chemical Physics*, 136, 154102 (2012).
46. Mandadapu, K. K., Sengupta, A., and Papadopoulos, P., A homogenization method for thermomechanical continua using extensive physical quantities, *Proceedings of Royal Society A : Mathematical, Physical and Engineering Sciences*, 468, 1696-1715 (2012).
47. Mandadapu, K. K., Jones, R. E., and Papadopoulos, P., A homogeneous non-equilibrium molecular dynamics method for calculating the heat transport coefficient of mixtures and alloys, *Journal of Chemical Physics*, 133, 034122 (2010). ***(Editor's Choice in Journal of Chemical Physics)***
48. Mandadapu, K. K., Jones, R. E., and Papadopoulos, P., Generalization of the homogeneous non-equilibrium molecular dynamics method for calculating thermal conductivity to multi-body potentials, *Physical Review E*, 80, 047702 (2009).
49. Mandadapu, K. K., Jones, R. E., and Papadopoulos, P., A homogeneous non-equilibrium molecular dynamics method for calculating thermal conductivity with a three-body potential, *Journal of Chemical Physics*, 130, 204106 (2009).
50. Mandadapu, K. K., Govindjee, S., and Mofrad, M. R. K., On the cytoskeleton and soft glassy rheology, *Journal of Biomechanics*, 41, 1467-1478 (2008).
51. Guthikonda, V. S. R., Mandadapu K. K., Sivakumar, S. M., and Srinivasa, A. R., On smeared and micromechanical approaches to modeling martensitic transformations in shape memory alloys, *Nonlinear Analysis: Real World Applications*, 9, 990-1011 (2008).

Presentations:

1. Supercooled liquids: Structure and dynamics, *Universite Paris, Diderot* (2021). **Invited Lecture**
2. Supercooled liquids: A tale of structure and dynamics, *EPFL, Switzerland* (2021). **Invited Lecture**
3. A tale of dynamics in supercooled liquids, *University of Pennsylvania* (2021). **Invited Lecture**
4. Glassy dynamics in bacterial colonies, *AiChE Annual Meeting* (2020).
5. On the role of motility and glassy dynamics in growth of bacterial monolayers into the third dimension, *Biophysics seminar, Princeton University* (2020). **Invited Lecture**
6. Non-equilibrium thermodynamics of biological membranes, *Stanford Univerisity* (2020). **Invited Lecture**
7. Non-equilibrium thermodynamics of biological membranes, *Caltech* (2020). **Invited Lecture**

8. Statistical mechanics of transport processes in active fluids, *Pitzer Center Theory Seminar, UC Berkeley* (2020). **Invited Lecture**

9. Consideration of phase transitions and mechanics in cell membranes, *University of Calgary, Canada* (2020). **Invited Keynote Lecture for Student organized Biosciences Symposium**

10. On problems related to theory of living systems, *Day visit to Chan-Zuckerberg (CZ) Biohub - Theory section* (2019). **Invited**

11. Theory of crystallization vs. vitrification, *DOE (Condensed Phase and Interfacial Molecular Sciences) Meeting* (2019). **Invited Lecture**

12. Crystallization vs. Vitrification, *Laboratoire Charles Coulomb, Universite de Montpellier, Cedex 5, France* (2019). **Invited Lecture**

13. On some problems related to transport theories in active matter, *ENS Lyon, France* (2019). **Invited Lecture**

14. On some problems related to transport theories in active matter, *ESPCI, Paris* (2019). **Invited Lecture**

15. Non-equilibrium thermodynamics and mathematical modeling of biological membranes, *University of Paris, Paris 07, Diederot* (2019). **Invited Lecture**

16. Non-equilibrium thermodynamics of biological membranes, *Pierre et. Marie Curie University (UPMC), Laboratoire Physico Chimie Curie, Institut Curie, Paris 06.* (2019). **Invited Lecture**

17. Non-equilibrium thermodynamics and mathematical modeling of biological membranes, *United States Association for Computational Mechanics Meeting* (2019). **Invited Lecture**

18. Non-equilibrium thermodynamics and mathematical modeling of biological membranes, *Harvard University* (2019). **Invited Lecture**

19. Crystallization vs. Vitrification, *ACS Meeting, Orlando, Florida* (2019). **Invited Lecture**

20. Crystallization vs. Vitrification, *IBM Research, Almaden, San Jose* (2018). **Invited Lecture**

21. Dynamical facilitation theory for glass formers, *Unifying concepts in glassy physics, Bristol, United Kingdom* (2018). **Invited Lecture**

22. Phase transitions, pre-transition effects and interfaces in and out-of-equilibrium, *CPIMS (Condensed Phase and Interfacial Molecular Sciences) Program, LBNL, DOE* (2018).

23. General non-axisymmetric deformations of membranes and applications to endocytosis, *Biophysical Society Meeting* (2018).

24. Homogenization of thermo-mechanical continua using extensive physical quantities: Theory and Simulation, *Geosciences Division, Lawrence Berkeley National Laboratory* (2017). **Invited Lecture**

25. Consideration of phase transitions and mechanics in cell membranes, *UT Southwestern Medical School* (2017). **Invited Lecture**

26. Solvation at small and large scales in trajectory space mediated by dynamical phase transitions, *DOE (Condensed Phase and Interfacial Molecular Sciences) Meeting* (2017). **Invited Lecture**

27. The orderphobic effect: a general mechanism for membrane mediated forces for proteins, *American Chemical Society Meeting, San Francisco* (2017). **Invited Lecture - Symposium celebrating Peter Debye Award to Prof. Bruce Berne**

28. The orderphobic effect: a generic force for self-assembly of proteins in lipid bilayers, *Theory and Applications of Computational Chemistry, TACC* (2016). **Invited Lecture**

29. The orderphobic effect: a new paradigm for understanding membrane mediated assembly, reorganization and dynamics, *Annual Biophysical Society Meeting of Canada, Winnipeg* (2016). **Invited Lecture**

30. A homogenization method for continuous media based on extensive physical quantities. *Applied Mathematics Seminar, University of California at Berkeley* (2016). **Invited Lecture**

31. Homogenization of thermo-mechanical continua: Theory and Simulation. *Applied Mathematics Seminar, Collaboratory on Mathematics for Mescoscopic Modeling of Materials (CM4), PNNL, DOE* (2016). **Invited Lecture**

32. Molecular dynamics of complex systems: Phase transitions, interfaces and pretransition effects. *CPIMS (Condensed Phase and Interfacial Molecular Sciences) Meeting, DOE* (2015). **Invited Lecture**

33. The orderphobic effect: A generic force for assembly of proteins in lipid bilayers. *GRC Conference on the Chemistry and Physics of Liquids* (2015). (Joint work with Katira, S., Vaikuntanathan S., Smit, B., and Chandler, D.) **Invited Lecture**

34. Nontrivial correlation length distinguishes melt from glass in a large-scale atomistic non-equilibrium simulation of a glass transition. *APS March Meeting, San Antonio, TX* (2015). (Joint Work with Hudson, A., and Chandler, D.)

35. Physical principles of organization in biological membranes. Department of Chemical and Bio-molecular Engineering, *University of California, Berkeley* (2015). **Invited Lecture**

36. Physical principles of organization in biological membranes. Department of Chemical and Biological Engineering, *University of Wisconsin Madison* (2015). **Invited Lecture**

37. The orderphobic effect: A generic force for self-assembly of proteins in lipid bilayers, *Membrane Supergroup Meeting, University of California, Berkeley* (2015). (Joint Work with Katira, S., and Vaikuntanathan, S.)

38. The orderphobic effect: A fundamental force for self-assembly of proteins in lipid bilayers, *Poster at Mini Stat-Mech Meeting, Berkeley* (2015). (Joint Work with Katira, S., and Vaikuntanathan, S.) **Poster Prize**

39. Energy transduction in the bacterial flagellar motor, *DARPA DSRC Microsystem-Scale Energy Conversion* (2014). (Joint work with Oster, G.) **Invited Lecture**

40. Polarization as a field variable from molecular dynamics simulations: Applications to water at solid interfaces. *Poster at Mini Stat-Mech Meeting, Berkeley* (2014).

41. Effect of protein induced spontaneous curvature on membrane surface tension. *USNCCM MMVMB II, Berkeley* (2014).

42. Polarization as a field variable from molecular dynamics simulations: Applications to electrical double layers, *USNCCM, Raleigh* (2013).

43. Effect of protein induced spontaneous curvature on membrane surface tension. *Sandia National Laboratories* (2013). **Invited Lecture**

44. Theoretical and computational aspects of homogenization in thermo-mechanical continua, *Multiscale Modeling Workshop, Sandia National Laboratories* (2013). **Invited Lecture**

45. Homogeneous non-equilibrium molecular dynamics methods for calculating the heat transport coefficient of solids and mixtures, *Mini Statistical Mechanics Seminar, Department of Chemistry, University of California, Berkeley* (2013). **Invited Lecture**

46. Polarization as a field variable from molecular dynamics simulations, 65^{th} *Annual meeting of American Physical Society, Division of Fluid Dynamics* (2012).

47. Homogeneous non-equilibrium molecular dynamics methods for calculating the heat transport coefficient of solids and mixtures, *International Workshop on Computational Mechanics of Materials IWCMM XXII* (2012).

48. Homogeneous non-equilibrium molecular dynamics methods for calculating the heat transport coefficient of solids and mixtures, *Sandia National Laboratories* (2010). **Invited Lecture**

49. Equilibrium and non-equilibrium molecular dynamics methods for thermal conductivity calculations, *University of California at Berkeley* (2010).

50. Thermal conductivity calculations using homogeneous non-equilibrium molecular dynamics (HNEMD) method, *Indian Institute of Technology at Kanpur* (2008). **Invited Lecture**

51. Cytoskeleton and soft glassy rheology, *Summer Bioengineering Conference* (2007).

Professional Service

- Department Chair Search Committee Member, Chemical and Biomolecular Engineering, UC Berkeley (2021)
- Faculty Search Committee Member, Chemical and Biomolecular Engineering, UC Berkeley (2020).
- Co-Chair on Membrane Dynamics symposium at Biophysical Society Meeting (2020).
- Minisymposium organizer for a session on Membranes, *World Congress on Computational Mechanics, Paris* (2020).
- Undergraduate education committee member, Chemical and Biomolecular Engineering, UC Berkeley (2019-2020).
- Graduate Admissions Committee, Chemical and Biomolecular Engineering, UC Berkeley (2016-Present).
- Chair Graduate Admissions Committee, Chemical and Biomolecular Engineering, UC Berkeley (2018-2019, 2020-2021).
- Contributed to running a part of Berkeley fluids seminar with my post-doc Joel Tchoufag (2018).
- External adviser for master's thesis of Mr. Yannick Omar at RWTH, Aachen University, Germany (2017).
- Search Committee Member for a Theory Staff Scientist position at *Lawrence Berkeley National Laboratory* (2018).
- Minisymposium Chair for a session on Membranes: Biological and Synthetic, *American Phhysical Society March Meeting*, San Antonio, Texas, 2015.
- Minisymposium Chair for a session on Micro- and Nano-Scale Modeling of hcp Alloys at *4th International Conference on Material Modeling*, Berkeley, California, May 27-29, 2015.
- Minisymposium Chair for a session on Non-linear elastiticy at *4th International Conference on Material Modeling*, Berkeley, California, May 27-29, 2015.
- Conference co-organizer for *Multiscale Methods and Validation in Medicine and Biology II: Biomechanics and Mechanobiology (MMVMB II)*, Berkeley, February 13-14, 2014.
- Mini-Symposium co-organizer in *United States National Congress on Computational Mechanics US-NCCM*, Raleigh, July 22-25, 2013.
- Mini-Symposium co-organizer in *International Workshop on Computational Mechanics of Materials IWCMM XXII*, Baltimore, September 24-26, 2012.
- Reviewed for

1. *Department of Energy (DOE)*
2. *Physical Review E*
3. *Scientific Reports*
4. *Cell*
5. *Proceedings of National Academy of Sciences USA*
6. *Bulletin of Mathematical Biology*
7. *APL Bioengineering*
8. *Proceedings of Royal Society London Series A*
9. *eLife*
10. *Journal of Molecular Biology*
11. *Biophysical Journal*
12. *Nano Letters*
13. *Journal of Chemical Physics*
14. *Biomechanics and Modeling in Mechanobiology*
15. *Journal of Biomechanics*
16. *Mathematics and Mechanics of Solids*
17. *IEEE Transactions on Biomedical Engineering*
18. *International Journal of Heat and Mass Transfer*
19. *Journal of Applied Physics*
20. *Langmuir*
21. *Zeitschrift fur angewandte Mathematik und Physik*

- Ph.D. Students

1. Clay Batton (Chemical and Biomolecular Engineering 2016 –)
2. Muhammad Hasyim (Chemical and Biomolecular Engineering 2017 –)
3. Yannick Omar (Chemical and Biomolecular Engineering 2018 –)
4. Alison Lui (Chemical and Biomolecular Engineering 2018 –) (Co-advised by Prof. Markita Landry)
5. Cory Hargus (Chemical and Biomolecular Engineering 2018 –) (Co-advised by Prof. Rui Wang)
6. Zach Lipel (Chemical and Biomolecular Engineering 2018 –)
7. Ahmad Alkadri (Chemical and Biomolecular Engineering 2019 –)
8. Pedro Guimaraes Martin (Chemical and Biomolecular Engineering 2020 –) (Co-advised by Prof. Karthik Shekhar)
9. Amaresh Sahu (Chemical and Biomolecular Engineering 2016 – 2022), Will join as Asst. Prof. @ UT Austin in Chemical and Biomolecular Engineering.
10. Jeffrey Epstein (Physics 2017 – 2020), Current a NIST NRC Postdoctoral Fellow at U. Maryland.

- Post-doctoral Scholars

1. Dimitrios Fraggedakis (2021-2024), Miller Post-doctoral Fellow at Berkeley.
2. Vida Jamali (2019 –), Jointly with Prof. Paul Alivisatos
3. Shachi Katira (2016 – 2019), Currently in India
4. Joel Tchoufag (2016 – 2020), Currently an R&D scientist Michelin Company, France.
5. Sho C. Takatori (2017 – 2020), Miller Post-doctoral Fellow at Berkeley, Currently Asst. Prof. @ UCSB.

6. Alexander Hudson (2016 – 2018), Currently a data scientist in SF Bay Area.
7. Katie Klymko (2018), Has performed part of her graduate research with me, along with a short post-doc, and is currently a post-doc at Applied Mathematics Division, LBL.
8. Pushpita Ghosh (2015 – 2016), Currently an INSPIRE faculty @ TIFR, Hyderabad.

- Undergraduate Researchers

1. Lewis Pan – Currently pursuing Ph. D. @ UC Berkeley in Applied Mathematics.
2. Alec Glisman – Currently pursuing Ph. D. @ California Institute of Technology
3. Chatipat Loraipaboon – Currently pursuing Ph.D. @ University of Chicago
4. Bernardo Gouveia – Currently pursuing Ph.D. @ Princeton University
5. Michael Li – Will begin for his Ph. D. @ Massachusetts Institute of Technology

Teaching and Related Experience

- Instructor for Introduction to Chemical Processes, Spring 2021, Fall 2021 (Undergraduate course).
- Instructor for Mechanics and Physics of Lipid Bilayers, Fall 2017 (Advanced graduate course).
- Instructor for Transport Phenomena, Spring 2017, 2018, 2019, 2020 (Undergraduate course).
- Instructor for Advanced Transport Phenomena, Fall 2016, 2018, 2020 (Advanced graduate course).
- Teaching Assistant for Statistical Mechanics of Elasticity, Fall 2010.
- Notes for a short course on Modeling and Simulation of Multiscale Continuum Systems, International Center for Mechanical Sciences, Udine, Italy, June 28-July 2, 2010.
- Reader for Introduction to Continuum Mechanics, University of California at Berkeley, Fall 2008.
- Reader for Advanced Computer Programming, University of California at Berkeley, Spring 2008.
- Teaching Assistant for Introduction to Computer Programming, University of California at Berkeley, Fall 2007, Spring 2009, and Fall 2009.