Lilian C. Hsiao

Dept. of Chemical and Biomolecular Engineering, North Carolina State University
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U.S. Citizen

RESEARCH OVERVIEW

My group works on fundamental soft matter mechanics. We specialize in bioinspired haptic materials, suspension rheology, and colloidal self-assembly. We use high resolution confocal triborheometry to understand their micromechanical properties, and to leverage structure-property principles to explore, discover, and engineer new physical phenomena.

EDUCATION

University of Michigan — Ann Arbor, MI — Chemical Engineering — M.S.E., Ph.D. (2014)
Ph.D. advisor: Michael J. Solomon (Topic: Colloidal self-assembly and rheology)

University of Wisconsin-Madison — Madison, WI — Chemical Engineering — B.S. (2008)

PROFESSIONAL EXPERIENCE

Associate Professor, Chemical & Biomolecular Engineering, NC State University — 2023 −
Assistant Professor, Chemical & Biomolecular Engineering, NC State University — 2016 − 2023
Founding Scientist, X-MED Hydrogels — 2020 −
Postdoctoral Scholar, Chemical Engineering, Massachusetts Institute of Technology — 2014 − 2016
Postdoc. mentor: Patrick S. Doyle (Topic: 3D printing of nanoemulsions)

AWARDS & HONORS

Early-Career and Emerging Researchers, The Journal of Physical Chemistry A/B/C — 2023
Camille Dreyfus Teacher-Scholar Award — 2022
Goodnight Early Career Innovators Award, NC State — 2022
Sloan Research Fellowship — 2022
ACS Unilever Award for Outstanding Young Investigator — 2021
NSF CAREER Award — 2021
Soft Matter Emerging Investigator, RSC Journals — 2020
AIChE Journal Futures Scholar — 2019
AAAS Marion Milligan Mason Award — 2019
Faculty Research and Professional Development Fund, NC State — 2018
MIT Chemical Engineering Individual Accomplishment Award — 2016
Rackham Predoctoral Fellowship, University of Michigan — 2013
Rackham Graduate Student Research Grant, University of Michigan — 2013
AIChE Fluid Mechanics Division Poster Award — 2012
Meyer Scholarship, University of Wisconsin — 2005

PEER-REVIEWED ARTICLES (* = corresponding author)

35) Y. C. Saraswat, E. A. Kerstein & L. C. Hsiao*. Creep and recovery in dense suspensions of smooth and rough colloids. *Submitted*.
34) M. Nabizadeh, F. Nasirian, X. Li, Y. C. Saraswat, R. Waheibi, L. C. Hsiao, D. Bi, B. Ravandi & S. Jamali. Network physics of attractive colloidal gels: resilience, rigidity, and phase diagram. *arXiv* preprint arXiv:2301.13027 (2023).
33) P. Sarker, P. Jani, L. C. Hsiao, O. Rojas & S. A. Khan. Interacting collagen and tannic acid particles: uncovering pH-dependent rheological and thermodynamic behaviors. *Journal of Colloid & Interface Science* **650**, 541-552 (2023).
32) Y. Kotb, C. M. Serfass, A. Cagnard, K. R. Houston, S. A. Khan, L. C. Hsiao & O. D. Velev. Molecular structure effects on the mechanisms of corrosion protection of model epoxy coatings on metals. *Materials Chemistry Frontiers* **7**, 274-286 (2023).
31) Z. Farrell, A. Jacob, V. Truong, A. Elbourne, W. Kong, L. C. Hsiao, M. D. Dickey & C. Tabor. Compositional design of surface oxides in gallium-indium alloys. *Chemistry of Materials* **35**(3), 964-975

(2023).

30) S. Pradeep, A. Wessel & L. C. Hsiao*. Hydrodynamic origin for the suspension viscoelasticity of rough colloids. *Journal of Rheology* **66**(5), 895 (2022).
Designated as Journal of Rheology's Feature Article.
29) C. M. Serfass, Y. Kotb, K. M. Smith, K. R. Houston, S. A. Khan, O. D. Velev & L. C. Hsiao*. Microstructural visualization of coating-metal systems undergoing corrosion in acidic environments. *ACS Applied Polymer Materials* **4**, 3196 (2022).
28) Y. Ko, V. K. Truong, S. Y. Woo, M. D. Dickey, L. C. Hsiao & J. Genzer. Counter-propagating gradients of antibacterial and antifouling polymer brushes. *Biomacromolecules* **23**, 424 (2022).
27) Y. Kotb, A. Cagnard, K. R. Houston, S. A. Khan, L. C. Hsiao & O. D. Velev. What makes epoxy-phenolic coatings on metals ubiquitous: surface energetics and molecular adhesion characteristics. *Journal of Colloid and Interface Science* **608**, 634 (2022).
26) S. Pradeep, M. Nabizadeh, A. R. Jacob, S. Jamali & L. C. Hsiao*. Jamming distance dictates colloidal shear thickening. *Physical Review Letters* **127**(15), 158002 (2021).
25) P. Adhikari, P. K. Jani, L. C. Hsiao, O. J. Rojas & S. A. Khan. Interfacial contributions in nanodiamond-reinforced polymeric fibers. *Journal of Physical Chemistry B* **125**, 10312 (2021).
24) K. M. Smith & L. C. Hsiao*. Migration and morphology of colloidal gel clusters in cylindrical channel flow. *Langmuir* **33**, 033113 (2021).
23) D. Z. Rocklin, L. C. Hsiao, M. E. Szakasits, M. J. Solomon & X. Mao. Elasticity of colloidal gels: structural heterogeneity, floppy modes, and rigidity. *Soft Matter* **17**, 6929 (2021).
22) A. H. Williams, S. Roh, A. R. Jacob, S. D. Stoyanov, L. C. Hsiao & O. D. Velev. Printable self-reinforced homocomposite hydrogels with a molecular-colloidal double network. *Nature Communications* **12**, 2834 (2021).
21) Y. Peng, C. M. Serfass, A. Kawazoe, Y. Shao, K. Gutierrez, C. Hill, V. Santos, Y. Visell & L. C. Hsiao*. Elastohydrodynamic lubrication of robotic and human fingertips on soft micropatterned substrates. *Nature Materials* **20**, 1707-1711 (2021).
Featured in many scientific news outlets.
Perspective published in Tech Beat Column, STLE Magazine, August 2021 issue.
20) Y. Peng, C. M. Serfass, C. N. Hill & L. C. Hsiao*. Bending of soft micropatterns in elastohydrodynamic lubrication tribology. *Journal of Experimental Mechanics* **61**, 969 (2021).
19) K. M. Smith, A. San-Miguel & L. C. Hsiao*. Local velocity of thermoresponsive colloidal gels in rate-driven flow. *Physics of Fluids* **33**, 033113 (2021).
Selected as Editor's Pick.
18) M. Gao, A. Krissanaprasit, A. Miles, L. C. Hsiao & T. LaBean. Mechanical and electrical properties of DNA hydrogel-based composites containing self-assembled three-dimensional nanocircuits. *Applied Sciences* **11**, 2245 (2021).
17) S. Pradeep & L. C. Hsiao*. Contact criterion for suspensions of smooth and rough colloids. *Soft Matter* **16**, 4890 (2020).
16) B. Farias, L. C. Hsiao & S. A. Khan. Rheological and tribological behavior of gels and emulsions containing polymer and phospholipid. *ACS Applied Polymer Materials* **2**, 1623 (2020).
15) E. D. Cárdenas-Vásquez, K. M. Rafferty, T. J. Doolan & L. C. Hsiao*. Shear-induced microstructural gradients in nanoemulsion-laden organohydrogel fibers. *ACS Applied Polymer Materials* **2**, 594 (2020).
Featured on the front cover.
14) L. E. Kass, E. D. Cárdenas-Vásquez & L. C. Hsiao*. Composite double network hydrogels with thermoresponsive nanoemulsions. *AIChE Journal (Invited, Futures Series)*, **65**, e16817 (2019).
13) A. R. Jacob, D. Parekh, M. D. Dickey & L. C. Hsiao*. Interfacial rheology of gallium-based liquid metals. *Langmuir* **35**, 11774 (2019).
12) L. C. Hsiao* & S. Pradeep. Experimental synthesis and characterization of rough particles for colloidal and granular rheology. *Current Opinion in Colloid & Interface Science* **43**, 94 (2019).
11) K. A. Whitaker, Z. Varga, L. C. Hsiao, M. J. Solomon, J. W. Swan & E. M. Furst. Colloidal gel elasticity arises from the packing of locally glassy clusters. *Nature Communications* **10**, 2237 (2019).
10) L. C. Hsiao*, I. Saha Dalal, R. G. Larson & M. J. Solomon. Translational and rotational dynamics in dense suspensions of smooth and rough colloids. *Soft Matter* **13**, 9229-9236 (2017).
9) L. C. Hsiao*, S. Jamali, E. Glynos, P.F. Green, R.G. Larson & M.J. Solomon. Rheological state diagrams for rough colloids in shear flow. *Physical Review Letters* **119**, 158001 (2017).
Featured in the NC State Engineering Magazine, Spring/Summer 2018 issue.

8) L.-C. Cheng, L. C. Hsiao & P. S. Doyle. Multiple particle tracking study of thermally-gelling nanoemulsions. *Soft Matter* **13**, 6606-6619 (2017).
7) L. C. Hsiao, A.Z.M. Badruddoza, L.-C. Cheng & P. S. Doyle. 3D printing of self-assembling thermoresponsive nanoemulsions into hierarchical mesostructured hydrogels. *Soft Matter* **13**, 921-929 (2017).
6) L. C. Hsiao & P. S. Doyle. Celebrating Soft Matter's 10th Anniversary: Sequential phase transitions in thermoresponsive nanoemulsions. *Soft Matter* **11**, 8426-8431 (2015).
5) L. C. Hsiao, B. A. Schultz, J. Glaser, M. Engel, M. E. Szakasits, S. C. Glotzer & M. J. Solomon. Metastable orientational order of colloidal discoids. *Nature Communications* **6**, 8507 (2015).
4) L. C. Hsiao, H. Kang, K. H. Ahn & M. J. Solomon. Role of shear-induced dynamical heterogeneity in the nonlinear rheology of colloidal gels. *Soft Matter* **10**, 9254-9259 (2014).
3) L. C. Hsiao, K. A. Whitaker, M. J. Solomon & E. M. Furst. A model colloidal gel for coordinated measurements of force, structure, and rheology. *Journal of Rheology* **58**(5), 1485-1505 (2014).
2) L. C. Hsiao, R. S. Newman, S. C. Glotzer & M. J. Solomon. Role of isostaticity and load-bearing microstructure in the elasticity of yielded colloidal gels. *Proceedings of the National Academy of Sciences USA* **109**(40), 16029-16034 (2012).
1) N. Ziebarth, P. Heideman, R. Shapiro, S. Stoddart, L. C. Hsiao, G. Stephenson, P. A. Milewski & A. Ives. Evolution of periodicity in periodical cicadas. *Ecology* **86**(12), 3200-3211 (2005).

INVITED PERSPECTIVES

1) K. M. Smith & L. C. Hsiao. The Formulator's Toolbox for Consumer Products. *Chemical Engineering Progress*, pp. 26-31 (July 2020 Issue).

PATENTS

1) L. C. Hsiao & K. M. Smith. (2021)
Organohydrogel fibers for simultaneous release control of hydrophilic and hydrophobic substances. Non-provisional patent filing date: April 20, 2022. Application No.: 17/724,997.

INVITED KEYNOTES AND SEMINARS

74)	ACS Fall National Symposium, Invited Keynote, Colloidal Networks	Aug 2023
73)	Gordon Research Conference (Adhesion)	Jul 2023
72)	INTUITIVE Spring School on Mechanical Aspects of Haptic Interfaces	Apr 2023
71)	FMC Corporation Technology Forum, R&D Seminar	Mar 2023
70)	Dow Rheology Center of Excellence, R&D Seminar	Mar 2023
69)	California Institute of Technology, Chemical Engineering, Dept. Seminar	Jan 2023
68)	University of Wisconsin-Madison, Chemical Engineering, Dept. Seminar	Dec 2022
67)	Gordon Research Conference (Colloids), Discussion Leader	Nov 2022
66)	Society of Rheology Invited Keynote, Rheology of Gels, Glasses & Jammed Systems	Nov 2022
65)	University of Michigan, Chemical Engineering, Dept. Seminar	Sep 2022
64)	Lehigh University, Chemical and Biomolecular Engineering, Dept. Seminar	Sep 2022
63)	Vanderbilt University, Chemical Engineering, Dept. Seminar	Sep 2022
62)	European Colloid & Interface Society Conference, Tribological Effects on Rheology	Sep 2022
61)	ACS Colloid and Surface Symposium Keynote, Aspects of Colloid & Interface Science	Jul 2022
60)	ETH Zürich, Department of Materials, Dept. Seminar	Jun 2022
59)	Institut Systèmes Intelligents et de Robotique, Sorbonne University, Paris	Jun 2022
58)	Laboratoire Physique et Mécanique des Milieux Hétérogènes, ESPCI, Paris	Jun 2022
57)	University of California-Riverside, Mechanical Engineering, Dept. Seminar	Jun 2022
56)	Nike, Equipment Innovation & Test Lab, R&D Seminar	May 2022
55)	Army Research Office Workshop at Ohio State University, Mechanics Division	May 2022
54)	Massachusetts Institute of Technology, Chemical Engineering, Dept. Seminar	Apr 2022
53)	ACS National Meeting, Invited Keynote, Colloidal Gels	Mar 2022
52)	Virginia Tech, Biomedical Engineering and Mechanics, Dept. Seminar	Mar 2022
51)	North Carolina State University, Textile Engineering, Tissue Engineering Seminar	Jan 2022
50)	Princeton University, Chemical Engineering, Dept. Seminar	Oct 2021
49)	Texas A&M University, Chemical Engineering, Dept. Seminar	Oct 2021
48)	University of Texas-Austin, Chemical Engineering, Dept. Seminar	Sep 2021

47) University of Kentucky, Chemical & Materials Engineering, Dept. Seminar Sep 2021
46) Gordon Research Conference, Science of Adhesion Sep 2021
45) ACS Unilever Award Lecture, 95th ACS Colloid and Surface Science Symposium Jun 2021
44) Unilever Research & Development Seminar Jun 2021
43) Argonne National Lab, Dynamics of Soft Matter with Emphasis on Complex Fluids May 2021
42) APS March Meeting, DSOFT, "Rheology of Gels" Focus Session Mar 2021
41) Oklahoma University, Chemical Engineering, Dept. Seminar Mar 2021
40) Duke University, Materials Science & Engineering, Dept. Seminar Feb 2021
39) 3M Research & Development Seminar Feb 2021
38) North Carolina State University, Staudinger's Legacy in Polymers Seminar Dec 2020
37) University of Illinois-Urbana Champaign, Chemical Engineering, Dept. Seminar Sep 2020
36) Journal of Rheology, Physics of Dense Suspensions Workshop Jul 2020
35) Cabot Corporation, Division of Inkjet Printing May 2020
34) AIChE National Meeting, Orlando FL, AIChE Journal Futures Invited Talks Nov 2019
33) Conference on Engineering Cosmetics and Consumer Products Nov 2019
32) North Carolina State University, Physics, Complex Matter and Biophysics Seminar Sep 2019
31) ACS Fall National Meeting, San Diego, AAAS Mason Award Symposium Aug 2019
30) ECI Colloidal, Macromolecular and Biological Gels II Conference, Cork, Ireland Jul 2019
29) Yale University, 4th Annual Packing Problems Conference Jun 2019
28) Northeastern University, New England Complex Fluids Workshop Mar 2019
27) American Physical Society, GSOFT Short Course, Boston MA Mar 2019
26) North Carolina State University, Materials Science and Engineering, Dept. Seminar Jan 2019
25) American Association for the Advancement of Science, Mason Award Ceremony Dec 2018
24) Kyoto University, Yukawa Institute for Theoretical Physics, Kyoto, Japan Jun 2018
23) Virginia Tech, Chemical Engineering, Graduate Student Research Symposium Apr 2018
22) University of California-Santa Barbara, Kavli Institute of Theoretical Physics Workshop Jan 2018
21) École normale supérieure de Lyon, CECAM Gel Workshop, Lyon, France Jun 2017
20) University of California-Irvine, Chemical Engineering, Dept. Seminar Jun 2017
19) University of North Carolina-Chapel Hill, Triangle Soft Matter Workshop May 2017
18) Proctor & Gamble, Research & Development, Cinncinati OH Mar 2017
17) Cabot Corporation, Business & Technology Center, Billerica MA Mar 2017
16) Duke University, Center for Nonlinear and Complex Systems Sep 2016
15) Hong Kong University of Science and Technology, Physics, Dept. Seminar Jul 2016
14) Georgetown University, Workshop on Rheology of Dense Particulate Suspensions Jun 2016

Prior to NC State

13) North Carolina State University, Chemical Engineering, Dept. Seminar Mar 2016
12) Yale University, Chemical Engineering, Dept. Seminar Mar 2016
11) University of Houston, Chemical Engineering, Dept. Seminar Mar 2016
10) University of Colorado-Boulder, Chemical Engineering, Dept. Seminar Mar 2016
9) University of California-San Diego, NanoEngineering, Dept. Seminar Mar 2016
8) Georgia Institute of Technology, Chemical Engineering, Dept. Seminar Feb 2016
7) University of Delaware, Chemical Engineering, Dept. Seminar Feb 2016
6) Columbia University, Chemical Engineering, Dept. Seminar Feb 2016
5) University of Notre Dame, Chemical Engineering, Dept. Seminar Jan 2016
4) University of Florida, Chemical Engineering, Dept. Seminar Jan 2016
3) Princeton University, Chemical Engineering, Dept. Seminar Jan 2016
2) Rensselaer Polytechnic Institute, Chemical Engineering, Dept. Seminar Jan 2016
1) University of Delaware, Center for Molecular & Engineering Thermodynamics Feb 2013

PROFESSIONAL SERVICE

AIChE Area 1J Fluid Mechanics Meeting Program Chair 2023 − 2024
Local Organizer of the 2024 Soft Matter of the Americas Conference (SMAC) 2023 − 2024
Fundraising Committee Member, APS Division of Soft Matter (DSOFT) 2022 −
Elected to Board of Directors, Polymers Center of Excellence 2022 −
Membership Chair, APS Division of Soft Matter (DSOFT) 2019 − 2023

Society of Rheology's Diversity, Equity, and Inclusion Committee	2019 −
Fluids Planning Committee, AIChE Area 1J Fluid Mechanics	2019 − 2024
Local Arrangements Chair, 2022 ACS Colloids and Surface Science Symposium	2019 − 2023
Scholar Member of APS Wiki Scientists, *Biographies of Women and Minority Physicists*	2020
Local Arrangements Co-chair, 2019 Society of Rheology Annual Meeting	2016 − 2019
Program Committee, APS Topical Group on Soft Matter (GSOFT)	2019
Technical session chairs for AIChE, SOR, APS, ACS meetings	2017 − 2021
Panel service to NSF CBET, CMMI, and DMR divisions	2016 − 2019
AIChE RAPID Roadmapping Committee	2017
President of the MIT Postdoctoral Association (MIT)	2015 − 2016
Founder of the Postdoctoral Organization for Women Engaged in Research (MIT)	2015 − 2016

Referee service to *Science, Nature Materials, Nature Communications, Advanced Materials, ACS Nano, Physical Review Letters, Physical Review Fluids, Physical Review E, Physical Review X, Chemical Engineering Science, Frontier in Physics, Soft Matter, Langmuir, Journal of Chemical Physics, Journal of Colloid & Interface Science, Colloids & Surfaces A, Rheologica Acta, Journal of Rheology, ACS Applied Polymer Materials, etc.*

SERVICE AT NC STATE

Co-chair, Graduate Admissions Recruiting Committee (CBE)	2022 − 2023
Member, Carbon Cluster Search Committee	2022 − 2023
Member, Faculty Search Committee (CBE)	2022
Departmental seminar organizer (CBE)	2021 − 2022
Member, Graduate Admissions Recruiting Committee (CBE)	2019 − 2022
Co-organizer, Triangle Soft Matter Workshop at NC State	2018, 2021
Member, Recognition Committee (CBE)	2017 − 2018
Judge, Schoenborn Symposium (CBE)	2016

HSIAO GROUP AWARDS

- S. Pradeep. Society of Rheology Poster Award (3rd place), Society of Rheology Annual Meeting, 2022.
- S. Pradeep. James K. Ferrell Award for Outstanding PhD graduate, NC State Chemical Engineering, 2022.
- S. Pradeep. Finalist for the Langmuir Graduate Student Oral Presentation Award. "Probing contact microstructure in dense colloidal suspensions". 95th ACS Colloid & Surface Symposium, 2021.
- K. M. Smith. Winner of the Arts-in-Science competition (2nd place). "Nocturnal nanoemulsions". Triangle Soft Matter workshop, 2021.
- P. Thacker. 2020 Future Leaders in Chemical Engineering national awards seminar for outstanding undergraduate researchers. "Towards the engineering of robotic tactility". Winner of the Best Poster award, October 2020.
- A. R. Jacob. Winner of the Gallery of Rheology (1st Place). "Eye of Sauron". Society of Rheology Annual Meeting, 2018. Cover of *Rheology Bulletin* 88 (1), January 2019.

CONTRIBUTED PRESENTATIONS (Incl. Hsiao Group Presentations)

- AIChE Annual Meeting, Orlando FL, November 2023.
- International Congress on Rheology, Athens, Greece, August 2023.
- ACS Colloid & Surface Science Symposium, Raleigh NC, June 2023.
- AIChE Annual Meeting, Phoenix AZ, November 2022.
- Society of Rheology, Chicago IL, October 2022.
- ACS Colloid & Surface Science Symposium, Golden CO, July 2022.
- Society of Tribologists and Lubrication Engineers Annual Meeting, Orlando FL, May 2022.
- AIChE Annual Meeting, Boston MA, November 2021.
- Society of Rheology Annual Meeting, Bangor ME, October 2021.
- ACS Colloid & Surface Science Symposium, Virtual, June 2021.
- APS March Meeting, Virtual, March 2021.
- International Congress on Rheology, Virtual, December 2020.
- APS Division of Fluid Dynamics Annual Meeting, Virtual, November 2020.
- AIChE Annual Meeting, Virtual, November 2020.

- Gordon Research Conference, Ventura CA, February 2020.
- APS Division of Fluid Dynamics Annual Meeting, Seattle WA, USA, November 2019.
- Society of Rheology Annual Meeting, Raleigh NC, USA, October 2019.
- APS March Meeting, Boston MA, USA, March 2019.
- AIChE Annual Meeting, Pittsburgh PA, USA, November 2018.
- ACS Colloid & Surface Science Symposium, New York NY, USA, June 2017.
- AIChE Annual Meeting, San Francisco CA, USA, November 2016.
- ACS Colloid & Surface Science Symposium, Cambridge MA, USA, June 2016.
- AIChE Annual Meeting, Salt Lake City UT, USA, November 2015.
- ACS Colloid & Surface Science Symposium, Pittsburgh PA, USA, June 2015.
- AIChE Annual Meeting, Atlanta GA, USA, November 2014.
- APS March Meeting, Denver CO, USA, March 2014.
- AIChE Annual Meeting, San Francisco CA, USA, November 2013.
- AIChE Annual Meeting, Pittsburgh PA, USA, November 2012.
- International Congress on Rheology (ICR), Lisbon, Portugal, August 2012.
- APS March Meeting, Boston MA, USA, March 2012.
- Society of Rheology Annual Meeting, Cleveland OH, USA, October 2011.
- AIChE Annual Meeting, Salt Lake City UT, USA, November 2010.
- Society of Rheology Annual Meeting, Madison WI, USA, October 2009.

TEACHING

CHE 715: Graduate Transport Phenomena (51 students), NCSU, Spring 2023.
CHE 395: Professional Development Seminar (72 students), NCSU, Fall 2022.
CHE 312H: Mass Transfer and Separations Honors (27 students), NCSU, Spring 2022.
CHE 395: Professional Development Seminar (74 students), NCSU, Fall 2021.
CHE 312H: Mass Transfer and Separations Honors (40 students), NCSU, Spring 2021.
CHE 205: Chemical Process Principles (45 students), NCSU, Fall 2020.
CHE 312H: Mass Transfer and Separations Honors (16 students), NCSU, Spring 2020.
CHE 596: Soft Matter Mechanics (18 students), NCSU, Fall 2019.
CHE 312H: Mass Transfer and Separations Honors (10 students), NCSU, Spring 2019.
CHE 205: Chemical Process Principles (75 students), NCSU, Fall 2018.
CHE 312: Mass Transfer and Separations (34 students), NCSU, Spring 2018.
CHE 205: Chemical Process Principles (67 students), NCSU, Fall 2017.
CHE 205: Chemical Process Principles (40 students), NCSU, Fall 2016.
CHE 230: Material and Energy Balances (~200 sophomores), University of Michigan, Fall 2012.

MENTORING

Postdoctoral Scholars

1) Alan Ranjit Jacob, Chemical Engineering, NCSU, 2017 − 2020. (First employment: Assistant Professor, Chemical Engineering, IIT Hyderabad).

Doctoral Students († = minority/female, $^{\$}$ = competitive awards/fellowships, * = obtained Ph.D.)

1) Luz Meza Carvajal† (co-advised with R. Venditti), Ph.D. Forest Biomaterials & Chemical Engineering, Start: Spring 2023.
2) Oluwatobi Ojuade†, Ph.D. Chemical Engineering, Start: Spring 2023.
3) Pedro Henrique Wink Reis (co-advised with O. Velev), Ph.D. Chemical Engineering, Start: Spring 2023.
4) Cormak Weeks$^{\$}$ (co-advised with W. Tang), Ph.D. Chemical Engineering, Start: Spring 2023.
5) Riley Dowdy-Green$^{\dagger\$}$, Ph.D. Chemical Engineering, Start: Spring 2022.
6) Rony Waheibi, Ph.D. Chemical Engineering, Start: Spring 2022.
7) Emily Schmidt†, Ph.D. Materials Science & Engineering, Start: Spring 2021.
8) Yug Saraswat$^{\$}$, Ph.D. Chemical Engineering, Start: Spring 2021.
9) Pallav Jani$^{\$}$ (co-advised with S. Khan), Ph.D. Chemical Engineering, Start: Spring 2019.
10) Christopher Serfass, Ph.D. Chemical Engineering, Spring 2018 − Spring 2022. (Honorary degree)
11) Kristine Smith$^{*\dagger\$}$, Ph.D. Chemical Engineering, Spring 2019 − Fall 2021. (First employment: Bristol-Myers-Squibb)

"Velocity profiles and microstructure of thermoresponsive nanoemulsions in cylindrical channel flow".

12) Shravan Pradeep*, Ph.D. Chemical Engineering, Spring 2017 − Summer 2021. (Current employment: Postdoc w/ D. Jerolmack & P. Arratio, U. Pennsylvania)
    "Flow mechanics in dense suspensions of smooth and rough colloids"
13) Ernesto Daniel Cardenás Vasquez, Ph.D. Chemical Engineering, Spring 2017 − Spring 2019.
14) Yunhu Peng*, Ph.D. Chemical Engineering, Fall 2016 − Spring 2021. (First employment: Seagen)
    "Elastohydrodynamic friction on soft substrates through surface patterning and porous microstructures"

Masters Students († = minority/female)

1) Ashika Verma†, M. S. Chemical Engineering, NCSU, 2023 − present.
2) Shivani Sutrave†, M.S. Chemical Engineering, NCSU, 2022 − 2023.
3) Shourie Yerabati, M.S. Chemical Engineering, NCSU, 2022 − present.
4) Henry Ho, M.S. Chemical Engineering, NCSU, 2020 − 2021. (First employment: Nexa3D)
5) Elizabeth Cass†, M.S. Chemical Engineering, NCSU, 2018 − 2019. (First employment: Regeneron)

Undergraduate student researchers († = minority/female, # = went to graduate program)

1) Hayden Ni†, Chemical Engineering, NCSU, 2023 − present.
2) Amory Gaylord†, Computer Science & Engineering, NCSU, 2023 − present.
3) Tim Fortunato, Chemical Engineering, NCSU, 2022 − 2023.
4) Isabella Miller†, Chemical Engineering, NCSU, 2022.
5) Eli Kerstein†, Chemical Engineering, NCSU, 2021 − present.
6) Qiang Wang†, GEARS program student, Polymer Materials & Engineering, Tsinghua University, 2022.
7) Runyu Qi, GEARS program student, Materials Science & Engineering, Tsinghua University, 2022.
8) Yuyan Su†, GEARS program student, Pharmacy Engineering, Zhejiang University, 2022.
9) Jacob Kennedy, Chemical Engineering, NCSU, 2022.
10) Catherine Hill†, Chemical Engineering, NCSU, 2018 − 2022. (First employment: Eastman Chemical)
11) Pranav Thacker#, Chemical Engineering, NCSU, 2020 − 2021. (Ph.D. program, UT-Austin, Chemical Engineering).
12) Alan Wessel, Chemical Engineering, NCSU, 2020 − 2021. (First employment: Eastman Chemical)
13) Hunter Ryno, Chemical Engineering, NCSU, 2019.
14) Christine Dang†, Chemical Engineering, NCSU, 2019.
15) Bailey Henkel†, Chemical Engineering, NCSU, 2019.
16) Sarah Monte†, Chemical Engineering, NCSU, 2019.
17) Emily Roe†#, Materials Science and Engineering, NCSU, 2018 − 2019. (Ph.D. program, Duke University Biomedical Engineering).
18) Lauren Kass†#, Chemical Engineering, NCSU, 2017 − 2020. (Ph.D. program, UNC Chapel Hill, Pharmacoengineering).
19) Frank Wang, Chemical Engineering, NCSU, 2018 − 2019.
20) Taylor Doolan†, Chemical Engineering, NCSU, 2018.
21) Katherine Tchinnis†, Textiles Engineering, NCSU, 2017 − 2018.
22) Alex Kramer, Chemical Engineering, NCSU, 2017 − 2019. (First employment: R. E. Mason)
23) Colin Donaldson#, Chemical Engineering, NCSU, 2018 − 2019.
24) Joseph Holder, Chemical Engineering, NCSU, 2018.
25) Fang Yu†, GEARS program student, Chemical Engineering, Zhejiang University, 2017.
26) Mark Gallo, Chemical Engineering, NCSU, 2017. (First employment: NC DOT)
27) Rachel Williams†, Chemical Engineering, NCSU, 2016 − 2017.
28) Elizabeth Pelt†, Chemical Engineering, NCSU, 2016 − 2017.