

RYAN POLING-SKUTVIK

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RESEARCH EXPERIENCE

- 2020–Now** **Assistant Professor**, University of Rhode Island, Kingston RI
Department of Chemical Engineering
- 2018–2020** **Postdoctoral Researcher**, University of Pennsylvania, Philadelphia, PA
Department of Chemical and Biomolecular Engineering with Chinedum Osuji
- 2013–2018** **Graduate Research Assistant**, University of Houston, Houston, TX
Department of Chemical and Biomolecular Engineering with Jacinta C. Conrad and Ramanan Krishnamoorti

EDUCATION

- 2013–2018** **Ph.D. Chemical Engineering**
University of Houston Houston, TX
- 2009–2013** **B.E. Chemical Engineering**
The Cooper Union for the Advancement of Science and Art New York, NY

PEER-REVIEWED PUBLICATIONS

- 2023** 1. Keane, D.[#]; Mellor, M.[‡]; Constantine, C.[‡]; Poling-Skutvik, R.[†] Nanoparticle transport in biomimetic polymer-linked emulsions. *AIChE J.* 2023. (70), e18307.
 ○ To be featured in *CEP Magazine*
 ○ Featured on *AIChE J Cover* ([link](#))
2. Kotkar, S. B.; Howard, M. P.; Nikoubashman, A.; Conrad, J. C.[‡]; Poling-Skutvik, R.[†]; Palmer, J. C.[†] Confined Dynamics in Spherical Polymer Brushes. *ACS Macro Lett.* 2023. (12), 1503-1509.
3. Nikoumanesh, E.[#]; Poling-Skutvik, R.[†] The Effect of Thixotropy on the Yield Transition in Reversible, Colloidal Gels. *J. Chem. Phys.* 2023. 159, 044905.
 ○ Featured in the *Emerging Investigators Special Collection*
4. Keane, D.[#]; Mellor, M.[‡]; Constantine, C.[‡]; Poling-Skutvik, R.[†] Bridging Heterogeneity Dictates the Microstructure and Yielding Response of Polymer-Linked Emulsions. *Langmuir.* 2023. 39 (22), 7852-7862.
- 2022** 5. Slim, A. H.; Shi, W. H.; Samghabadi, F. S.; Faraone, A.; Marciel, A. B.[‡]; Poling-Skutvik, R.[†]; Conrad, J. C.[†] Electrostatic Repulsion Slows Relaxations of Polyelectrolytes in Semidilute Solutions. *ACS Macro Lett.* 2022. 11 (7), 854-860.
6. Reredy, S. K.; Cao, A. C.[‡]; Blackwell, B.; Poling-Skutvik, R.; Arratia, P. E.; Mirza, N. Rheology of Saliva in Health and Disease. *Biorheology.* 2022. 59 (1-2), 19-27.
7. Keane, D. P.[#]; Mellor, M. D.[‡]; Poling-Skutvik, R.[†] Responsive Telechelic Block Copolymers for Enhancing the Elasticity of Nanoemulsions. *ACS Appl. Nano Mater.* 2022. 5 (5), 5934-5943.
 ○ Featured in the *ACS Applied Nano Materials Early Career Forum*
- 2021** 8. Gabinet, U.R.; Lee, C.; Poling-Skutvik, R.; Keane, D.[#]; Kim, N. K.; Dong, R.; Vicars, Z.; Cai, Y.; Thosar, A. U.; Grun, A.; Thompson, S. M.; Patel, A. J.; Kagan, C. R.; Composto, R. J.; Osuji, C. O.[†] Nanocomposites of 2D-MoS₂ exfoliated in thermotropic liquid crystals. *ACS Mater. Lett.* 2021. 3 (6), 704–712.
9. Smith, M.; Poling-Skutvik, R.; Slim, A. H.; Willson, R. C.[‡]; Conrad, J. C.[†] Dynamics of Flexible Viruses in Polymer Solutions. *Macromolecules.* 2021. 54 (10), 4557–4563.
10. Zhang, Y.; Dong, R.; Gabinet, U. R.; Poling-Skutvik, R.; Kim, N. K.; Lee, C.; Imran, O. Q.; Feng, X.; Osuji, C. O.[†] Rapid Fabrication by Lyotropic Self-Assembly of Thin Nanofiltration Membranes with Uniform 1 Nanometer Pores. *ACS Nano.* 2021. 15 (5), 8192–8203.
11. Chen, R.*; Kotkar, S. B.*; Poling-Skutvik, R.; Howard, M. P.; Nikoubashman, A.; Conrad, J. C.[‡]; Palmer, J. C.[†] Nanoparticle dynamics in semidilute polymer solutions: rings versus linear chains. *J. Rheol.*, 2021. 65 (4), 745–755.
12. Dhand, A. P.; Poling-Skutvik, R.[†]; Osuji, C. O.[†] Simple production of cellulose nanofibril microcapsules and the rheology of their suspensions. *Soft Matter.* 2021. 17 (17), 4517–4524.
 ○ Artwork featured on back cover ([link](#))
- 2020** 13. Poling-Skutvik, R.; McEvoy, E.; Shenoy, V.; Osuji, C. O.[†] Yielding and bifurcated aging in nanofibrillar networks. *Phys. Rev. Mat.* 2020, 4 (10), 102601.
14. Slim, A. H.; Poling-Skutvik, R.; Conrad, J. C.[†] Local confinement controls diffusive nanoparticle dynamics in semidilute polyelectrolyte solutions. *Langmuir* 2020, 36 (31), 9153–9159.

15. Poling-Skutvik, R.*; Di, X.*; Osuji, C. O.† Correlation of droplet elasticity and volume fraction effects on emulsion dynamics. *Soft Matter*. 2020, 16 (10), 2574-2580.
16. Liu, J.*; Gao, Y.*; Wang, H.; Poling-Skutvik, R.; Osuji, C. O.; Yang, S.† Shaping and locomotion of soft robots using filament actuators made from liquid crystal elastomer-carbon nanotube composites. *Adv. Intell. Syst.* 2020, 1900163.
 - Featured in Advanced Science News ([link](#))
 - Artwork featured on back cover ([link](#))
- 2019** 17. Roberts, R. C.; Poling-Skutvik, R.; Conrad, J. C.†; Palmer, J. C.† Tracer transport in attractive and repulsive supercooled liquids and glasses. *J. Chem. Phys.* 2019, 19, 194501.
 - Featured as Editor's Pick
18. Poling-Skutvik, R.; Slim, A. H.; Narayanan, S.; Conrad, J. C.†; Krishnamoorti, R.† Soft interactions modify the diffusive dynamics of polymer-grafted nanoparticles in solutions of free polymer. *ACS Macro Lett.* 2019, 8, 917-922.
 - Artwork featured on cover ([link](#))
19. Poling-Skutvik, R.; Roberts, R. C.; Slim, A. H.; Narayanan, S.; Krishnamoorti, R.; Palmer, J. C.†; Conrad, J. C.† Structure dominates localization of tracers within aging nanoparticle glasses. *J. Phys. Chem. Lett.* 2019, 10, 1784-1789.
20. 13.Chen, R.; Poling-Skutvik, R.; Howard, M. P.; Nikoubashman, A.; Egorov, S.; Conrad, J. C.; Palmer, J. C.† Influence of polymer flexibility on nanoparticle dynamics in semidilute solutions. *Soft Matter* 2019, 15 (6), 1260-1268.
- 2018** 21. Goel, V.; Pietrasik, J.; Poling-Skutvik, R.; Jackson, A.; Matyjaszewski, K.; Krishnamoorti, R.† Structure of block copolymer grafted silica nanoparticles. *Polymer* 2018, 159, 138-145.
22. Mongcopa, K. I. S.*; Poling-Skutvik, R.*; Ashkar, R.; Butler, P.; Krishnamoorti, R.† Conformational change and suppression of the Θ -temperature for solutions of polymer grafted nanoparticles. *Soft Matter* 2018, 14 (29), 6102-6108.
23. Roberts, R. C.; Poling-Skutvik, R.; Palmer, J. C.†; Conrad, J. C.† Tracer transport probes relaxation and structure of attractive and repulsive glassy liquids. *J. Phys. Chem. Lett.* 2018, 9 (11), 3008-3013.
24. Conrad, J. C.†; Poling-Skutvik, R. Confined flow: consequences and implications for bacteria and biofilms. *Annu. Rev. Chem. Biomol. Eng.* 2018, 9 (1), 175-200.
25. Chen, R.*; Poling-Skutvik, R.*; Nikoubashman, A.; Howard, M. P.; Conrad, J. C.; Palmer, J. C.† Coupling of nanoparticle dynamics to polymer center-of-mass motion in semidilute polymer solutions. *Macromolecules* 2018, 51 (5), 1865-1872.
26. Poling-Skutvik, R.; Lee, J.; Narayanan, S.; Krishnamoorti, R.†; Conrad, J. C.† Tunable assembly of gold nanorods in polymer solutions to generate controlled nanostructured materials. *ACS Appl. Nano Mater.* 2018, 1 (2), 877-885.
- 2017** 27. Poling-Skutvik, R.; Olafson, K. N.; Narayanan, S.; Stingaciu, L.; Faraone, A.; Conrad, J. C.†; Krishnamoorti, R.† Confined dynamics of grafted polymer chains in solutions of linear polymer. *Macromolecules* 2017, 50 (18), 7372-7379.
28. Safari, M. S.; Poling-Skutvik, R.; Vekilov, P. G.†; Conrad, J. C.† Differential dynamic microscopy of bidisperse colloidal suspensions. *npj Microgravity* 2017, 3 (1), 21.
29. Kim, J.; Poling-Skutvik, R.; Trabuco, J. R. C.; Kourentzi, K.; Willson, R. C.†; Conrad, J. C.† Orientational binding modes of reporters in a viral-nanoparticle lateral flow assay. *Analyst* 2017, 142 (1), 55-64.
 - Artwork featured on January Cover ([link](#))
 - Designated HOT article
- 2016** 30. Poling-Skutvik, R.; Mongcopa, K. I. S.; Faraone, A.; Narayanan, S.; Conrad, J. C.†; Krishnamoorti, R.† Structure and dynamics of interacting nanoparticles in semidilute polymer solutions. *Macromolecules* 2016, 49 (17), 6568-6577.
- 2015** 31. Safari, M. S.; Vorontsova, M. A.; Poling-Skutvik, R.; Vekilov, P. G.†; Conrad, J. C.† Differential dynamic microscopy of weakly scattering and polydisperse protein-rich clusters. *Phys. Rev. E* 2015, 92 (4), 42712.
32. Poling-Skutvik, R.; Krishnamoorti, R.†; Conrad, J. C.† Size-dependent dynamics of nanoparticles in unentangled polyelectrolyte solutions. *ACS Macro Lett.* 2015, 4 (10), 1169-1173.
- 2014** 33. Babaye Khorasani, F.; Poling-Skutvik, R.; Krishnamoorti, R.†; Conrad, J. C.† Mobility of nanoparticles in semidilute polyelectrolyte solutions. *Macromolecules* 2014, 47 (15), 5328-5333.

AWARDS AND HONORS

2024 CAREER Award, National Science Foundation

2022 Doctoral New Investigator, American Chemical Society Petroleum Research Fund

- 2018** **Finalist in the Excellence in Graduate Research Symposium**, American Institute of Chemical Engineers
Finalist for the Frank J. Padden Jr. Award for Excellence in Polymer Physics Research, American Physical Society
APS Invited Student Talk at the APS/CNM Annual User Meeting, Argonne National Lab
Travel Award for APS/CNM Annual User Meeting, Argonne National Lab
Research highlighted for Department of Energy triennial review, Oak Ridge National Lab
- 2017** **Poster Award**, Organization of Chemical Engineering Graduate Students Symposium, University of Houston
Poster Award for Graduate Student Research, Society of Rheology
Cullen Travel Grant, University of Houston
- 2015** **Poster Award**, Organization of Chemical Engineering Graduate Students Symposium, University of Houston
Travel Grant, NorTex Petroleum Cluster
- 2013** **Full Tuition Scholarship**, The Cooper Union for the Advancement of Science and Art

RESEARCH SUPPORT

Current Support:

- 2020-2023** **University of Rhode Island**, Start-Up Funds, \$425,000, PI
- 2022-2024** **American Chemical Society Petroleum Research Fund**, Doctoral New Investigator, \$110,000, PI
Isolating the yield stress in tunable thixotropic emulsions
- 2023-2025** **RI-INBRE**, Early Career Development, \$293,740, PI
Hydrogels with improved biomimicry to screen in vitro transport of nanoparticle vectors
- 2023-2024** **University of Rhode Island**, Proposal Development Grant, \$19,854, PI
Self-oscillating nanoparticle assemblies: a novel class of active materials
- 2023-2026** **Department of Transportation**, Pipeline Safety Research Competitive Academic Agreement Program (CAAP), \$1,000,000, Co-PI (PI: Srivastava, *Brown University*)
Selection and development of safer polymer and composite pipeline liners through microstructural and macroscopic study of materials and designs
- 2023-2028** **National Institutes of Health**, ESTEEMED R25, \$1,142,105, Co-PI (PI: Meenach)
ESTEEMED Scholars Program at the University of Rhode Island
- 2024** **Rhode Island Water Resources Center**, United States Geological Survey, \$19,300, PI
Nanoparticle-based sensors for real-time, continuous PFAS identification
- 2024-2026** **NIJVT**, Comprehensive Grant, \$350,000, PI
Harvesting seafloor energy to support autonomous underwater devices
- 2024-2029** **National Science Foundation**, CBET, CAREER, \$589,933, PI
CAREER: Telechelic triblock copolymers as a platform to design functional colloidal gels

Pending Support:

- 2024-2027** **National Institutes of Health**, NIBIB R21, \$581,002, Co-PI, (PI: Abiri)
A novel EMG-based soft robotic exoskeleton to improve hand dexterity
- 2024-2027** **National Science Foundation**, REU, \$435,893, Co-I (PI: Craver)
REU Site: Plastic Collaboratory at the University of Rhode Island

Completed Support:

- 2021-2022** **Rhode Island Foundation**, Medical Research Funds, \$25,000, PI (100% Effort)
Development of a biomimetic tissue library for targeted drug delivery assays
- 2022-2023** **RI-INBRE**, Pilot Project, \$40,000, PI (100% Effort)
Responsive hydrogels to enhance in vitro screening of theranostics

INVITED PRESENTATIONS

- | | | |
|-------------|--|---|
| 2024 | University of Cincinnati Seminar
Presentation: Bottom-Up Design of Biomimetic Soft Matter | University of Cincinnati,
Cincinnati, OH |
| 2023 | Brown Fluids Seminar
Presentation: The Yield Transition in Gels: Accounting for Structural Breakdown | Brown University,
Providence, RI |
| | American Physical Society March Meeting
Presentation: The Yield Transition in Gels: Accounting for Structural Breakdown | Las Vegas, NV |
| | American Chemical Society Fall Meeting
Presentation: Evaluating kinetics of network restructuring in colloidal gels using serial creep divergence rheology | San Francisco, CA |

	Bridgewater State University Chemistry Seminar Presentation: From nano to macro: designing soft matter systems that replicate biology	Bridgewater State University, Bridgewater, MA
	University of Rhode Island Amgen Chemical Engineering Seminar Presentation: Incorporating Dynamics into Structure-Property Relationships for the Next Generation of Soft Matter	University of Rhode Island, Kingston, RI
2022	New England Complex Fluids Presentation: Tuning the linear and non-linear rheology in suspensions of deformable particles	Northeastern University, Boston, MA
2021	SHUG/CNMS User Meeting Presentation: Confined dynamics of grafted polymer chains and implications for transport	Oak Ridge National Lab, Oak Ridge, TN (Virtual)
	APS/CNM User Meeting Presentation: Relating dynamics of soft materials across nano, micro and mesoscales	Argonne National Lab, Argonne, IL (Virtual)
	Brown Fluids Seminar Presentation: Heterogeneous soft materials: effects of local dynamics on transport and mechanics	Brown University, Providence, RI (Virtual)
2020	University of Rhode Island Amgen Seminar Series Presentation: Relating structure and dynamics in complex soft materials	University of Rhode Island, Kingston, RI

PRESENTATIONS AND POSTERS

2024	American Physical Society March Meeting Presentation: Nanoparticle dynamics in fully synthetic biomimetic analogues	Minneapolis, MN
2023	American Institute of Chemical Engineers Fall Meeting Presentation: Polymer-linked emulsions as fully synthetic tissue mimics to evaluate nanoparticle transport	Orlando, FL
	ACS Colloids Presentation: Transport of nanoparticles in biomimetic polymer-linked emulsions	North Carolina State University, Raleigh, NC
2022	Society of Rheology Annual Meeting Presentation: Triblock copolymers as effective additives to control the linear and nonlinear rheology of emulsion suspensions	Chicago, IL
	American Institute of Chemical Engineers Fall Meeting Presentation: Controlling the nonlinear rheology of emulsions using telechelic block copolymers	Phoenix, AZ
	Polymer Physics Gordon Research Conference Poster: Telechelic Triblock Copolymers as Efficient Rheological Modifiers	Holyoke, MA
	ACS Colloids Presentation: Isolating the yield transition in thixotropic cellulose nanocrystal gels	Colorado School of Mines, Golden, CO
	American Physical Society March Meeting Presentation: Controlling emulsion elasticity by bridging telechelic triblock copolymers	Chicago, IL
2021	American Institute of Chemical Engineers Fall Meeting Presentation: Tuning the yield stress in suspensions of soft colloids	Boston, MA
	Society of Rheology Annual Meeting Presentation: Responsive yielding in colloidal suspensions	Bangor, ME
	ACS Colloids Presentation: Tunable yield stresses in suspensions of porous microcapsules <i>via</i> internal additives	Virtual
	American Physical Society March Meeting Presentation: Isolating the yield stress in thixotropic fibrillar gels	Virtual
2020	NANO Conference (Sustainable Nanotechnology Organization and Nanotechnology, Occupational and Environmental Health Committee) Poster: Mechanisms for enhanced transport of nanoparticles in complex fluids	Virtual

	New England Complex Fluids Presentation: Measuring the yield stress of a thixotropic fluid	Brandeis University, Waltham, MA (Virtual)
	American Physical Society March Meeting Presentation: Role of soft interactions in enhanced diffusivity of polymer-grafted nanoparticles in heterogeneous environments Poster: Bifurcated yielding response of aging fibrillar networks	Denver, CO (Virtual)
2019	American Institute of Chemical Engineers Fall Meeting Presentation: Rheology and yielding of fibrillar networks	Orlando, FL
	Society of Rheology Annual Meeting Presentation: Bifurcated yielding response of aging fibrillar networks	Raleigh, NC
	Mid-Atlantic Soft Matter Symposium Presentation: Aging of cellulose nanofibril gels after yielding	Johns Hopkins University, Baltimore, MD
	University of Pennsylvania Polymer Symposium Presentation: Relaxations in complex fluids and implications for transport	Philadelphia, PA
2018	American Institute of Chemical Engineers Fall Meeting Presentation: Softly confined relaxations of grafted polymers <ul style="list-style-type: none"> ○ <i>Finalist presentation in the Excellence in Graduate Polymer Research award session</i> Presentation: Tunable assembly of gold nanorods in polymer solutions to generate controlled nanostructured materials	Pittsburgh, PA
	ACS Colloids Presentation: Tunable assembly of gold nanorods in semidilute polymer solutions	Penn. State University, State College, PA
	American Physical Society March Meeting Presentation: Softly confined relaxations of grafted polymers <ul style="list-style-type: none"> ○ <i>Finalist presentation in Frank J. Padden award session</i> 	Los Angeles, CA
2017	Organization of Chemical Engineering Graduate Students Symposium Poster: Polymer-induced structural changes in suspensions of gold nanorods <ul style="list-style-type: none"> ○ <i>Poster award</i> 	University of Houston, Houston, TX
	Society of Rheology Spring Meeting Presentation: Dynamics of polymer-grafted nanoparticles in solutions of linear polymer: a combined neutron and x-ray scattering study Poster: Dynamics of concentrated suspensions of nanoparticles in semidilute polymer solutions <ul style="list-style-type: none"> ○ <i>Poster award for graduate student research and featured in UH News (link)</i> 	Tampa, FL
	American Physical Society March Meeting Presentation: Confined relaxations of grafted polymer in solutions of linear polymer Presentation: Dynamics of interacting particles in semidilute polymer solutions	New Orleans, LA
2016	Organization of Chemical Engineering Graduate Students Symposium Presentation: Structure and dynamics of nanoparticles dispersed in polymer solutions	University of Houston, Houston, TX
	ACS Colloids Presentation: Dynamics of interacting particles in semidilute polymer solutions	Harvard University, Boston, MA
	Texas Soft Matter Presentation: Dynamics of polymer-grafted nanoparticles using complementary scattering methods	University of Texas – Dallas, Dallas, TX
2015	American Physical Society March Meeting Presentation: Length-scale dependent diffusivity in dilute and semidilute polyelectrolyte solutions Poster: Size-dependent effects on mobility of nanoparticles through dilute and semidilute polyelectrolyte solutions	San Antonio, TX
	Graduate Research and Scholarships Projects Day Poster: Transport of nanoparticles through structured materials	University of Houston, Houston, TX
	Organization of Chemical Engineering Graduate Students Symposium Poster: Particle and polymer dynamics in semidilute solutions <ul style="list-style-type: none"> ○ <i>Poster award</i> 	University of Houston, Houston, TX

Texas Soft Matter

Presentation: Dynamics of nanoparticles in polymer solutions

**Rice University,
Houston, TX****2014 Texas Soft Matter**

Poster: Effect of particle size on the dynamics of nanoparticles in semidilute polyelectrolyte solutions

**University of Texas,
Austin, TX****Organization of Chemical Engineering Graduate Students Symposium**

Poster: Size-dependent coupling between particles and polymers in semidilute polyelectrolyte solutions

**University of Houston,
Houston, TX****TEACHING**

CHE 503	Dynamics of Chemical Engineering Applications	3 cr.	Fall 2023
CHE 449	Transfer Operations III	3 cr.	Fall 2020 – Fall 2022
CHE/BME 466	Biomaterials	3 cr.	Spring 2021 – Spring 2024
CHE 491/492	Special Projects (Undergraduate research)	3 cr.	Spring 2021 – Current
CHE 491/492	ChemE Car Competition	3 cr.	Fall 2021 – Spring 2023
CHE 491/492	URI ESTEEMED	1 cr.	Fall 2023
CHE 699	PhD Dissertation	6 cr.	Fall 2020 –Current
EGR 106	Foundations of Engineering II	3 cr.	Spring 2022

MENTORING*Graduate Student Advisees (Major Advisor)*

PhD Candidate	Daniel Keane , Chemical Engineering <i>Expected Graduation: 12/2025</i> <i>Thesis: Towards Synthetic Biology: Creating Elastic, Compartmentalized Materials Mimicking Biological Tissue</i>
PhD Candidate	Elnaz Nikoumanesh , Chemical Engineering <i>Expected Graduation: 08/2026</i> <i>Thesis: Isolating the Yield Transition in Thixotropic Complex Fluids</i>
PhD Candidate	Mohammadjavad Hajirezaei , Chemical Engineering <i>Expected Graduation: 12/2027</i> <i>Thesis: Development of Safer Polymer and Composite Liners for Pipeline Rehabilitation</i>
PhD Candidate	Masoud Abdi , Chemical Engineering (co-advised with Dr. Irene Andreu) <i>Expected Graduation: 12/2029</i> <i>Thesis: Polymer-grafted Nanoparticles for Next-Generation Photometric Sensing</i>

Student Awards and Honors

2024	Elnaz Nikoumanesh, PhD , APS DSOFTE Future Investigator Travel Award
2023	Matthew Mellor, Undergraduate , Selected for the Future Leaders in Chemical Engineering Symposium, North Carolina State University
2023	Elnaz Nikoumanesh, PhD , Invited Speaker for the Society of Rheology Future of Rheology Seminar Series
2023	Daniel Keane, PhD , URI Chemical Engineering Symposium Poster Award
2023	Elnaz Nikoumanesh, PhD , URI Chemical Engineering Graduate Student Travel Award
2022	Elnaz Nikoumanesh, PhD , Society of Rheology Student Travel Award

PhD and MS Thesis Committees:

2023 – Now	Sophia Boiani , MS Chemical Engineering, “ <i>Innovative Bioink Formulations for 3D Bioprinting of Tissue-Engineered Intervertebral Disc Implants</i> ”
2023 – Now	Sophia Tiano , PhD Chemistry, “ <i>Using transient absorption spectroscopy to study the dynamics of heteroarene dye photooxidation</i> ”
2023 – Now	Miyuru Madusanka , PhD Chemistry, “ <i>Probing Intermolecular Interactions of Deep Eutectic Solvents via Infrared Action Spectroscopy</i> ”
2020 – 2023	Weizhou Yue , PhD Pharmacy, “ <i>Development of Localized Drug Delivery Strategies for the Treatment of Cancers and Infectious Diseases</i> ”
2022 – 2023	Lisa Madungwe , MS Chemical Engineering, “ <i>Cytoplasmic Delivery of Single-Walled Carbon Nanotubes for Disease Detection and Therapy</i> ”
2023	Shivraj Kotkar , University of Houston, PhD, Chemical Engineering, “ <i>Understanding the Dynamics of Complex Nanoparticle and Polymer Solutions Using Molecular Simulations</i> ”

- 2023** **Jesse Duroha**, PhD Mechanical, Industrial, and Systems Engineering (Chair), “*Sustainable Ergonomics for Solar Installations*”
- 2023** **Pedro Mesquita**, MS Mechanical, Industrial, and Systems Engineering (Chair), “*Microfluidic Devices for Microplastics Separation and Identification*”
- 2023** **Zachary Shepard**, PhD Civil & Environmental Engineering (Chair). “*Nano/Bio Interactions for Synthetic and Natural Nanomaterials*”

Current Undergraduate Student Advisees:

- 2021 – Now** **Matthew Mellor**, Chemical Engineering
- 2022 – Now** **Colby Constantine**, Chemical Engineering
- 2022 – Now** **Charles Joseph Jouaneh**, Chemical Engineering
- 2023 – Now** **David Amirsadri**, Chemical Engineering
- 2023 – Now** **Abigail Olson**, Chemical Engineering
- 2023 – Now** **William Bourke**, Chemical Engineering
- 2023 – Now** **Maile Campbell**, Industrial and Systems Engineering
- 2023 – Now** **Aiden Ferreira**, Mechanical Engineering
- 2023 – Now** **Kylie Hartley**, Chemical Engineering and Cell and Molecular Biology
- 2023 – Now** **Sean Cooper**, Electrical Engineering

Graduated Undergraduate Student Advisees:

- 2020 – 2022** **Brittany Briere**, Chemical Engineering
- 2020 – 2022** **Enrique Hernandez Rodriguez**, Chemical Engineering
- 2021 – 2022** **Temitope Aina**, Biomedical Engineering
- 2021 – 2022** **Matthew Noyes**, Chemical Engineering
- 2021 – 2022** **Annie Brose**, Chemical Engineering
- 2021 – 2022** **Kaylee Coletti**, Chemical Engineering
- 2023** **Jonatan Flores**, Pharmaceutical Science
- 2023** **Steven Rego**, Community College of Rhode Island (INBRE SURF)

SERVICE

Service to Professional Organizations

- 2023 – Now** Member, Education Committee, Society of Rheology
- 2023 – Now** Membership Committee Chair, DSOFT, American Physical Society
- 2022 – Now** Editorial Advisory Board Member, *iScience*
- 2024** Session Chair, Fluid Mechanics (Area 1J), American Institute of Chemical Engineering Annual Meeting
- 2024** Session Organizer and Chair, ACS Colloids Meeting, *Rheology and Complex Fluids*
- 2023** Panelist for Soft Matter: Dynamics, National Institute of Standards and Technology, Center for Neutron Research, Neutrons for the Future Workshop
- 2023** Discussion Leader, Argonne National Lab, Advanced Photon Source, X-Ray Photon Correlation Spectroscopy Workshop
- 2023** Chair and Organizer, 94th New England Complex Fluids Symposium, University of Rhode Island
- 2023** Session Chair, DPOLY, American Physical Society March Meeting
- 2023** Session Organizer and Chair, ACS Colloids Meeting, *Emulsions, Foams, and Surfactants*
- 2023** Session Chair, Fluid Mechanics (Area 1J), American Institute of Chemical Engineering Annual Meeting
- 2023** Session Chair, Polymers (Area 8A), American Institute of Chemical Engineering Annual Meeting
- 2022** Session Chair, Fluid Mechanics (Area 1J), American Institute of Chemical Engineering Annual Meeting
- 2022** Session Chair, Polymers (Area 8A), American Institute of Chemical Engineering Annual Meeting
- 2022** Session Chair, DSOFT, American Physical Society March Meeting
- 2021** Session Chair, Fluid Mechanics (Area 1J), American Institute of Chemical Engineering Annual Meeting
- 2021** Conference Organizer, March Meeting at URI, New England Complex Fluids Workshop

Proposal and Manuscript Review:

- 2023** American Chemical Society Petroleum Research Fund Reviewer
- 2023** NSF Panel Review
- 2020 – Now** Peer-Reviewer
- ACS Applied Materials and Interfaces, ACS Applied Nano Materials, ACS Applied Polymer Materials, ACS Macro Letters, AIChE Journal, Cellulose, Electrophoresis, European Polymer Journal E, Frontiers in Physics, GIANT, iScience, Journal of Rheology, Langmuir, Macromolecules, New Journal of Chemistry, Particle and Particle Systems Characterization, Physical Review Applied, Physical Review E, Physical Review Letters, Physics of Fluids, Rheologica Acta, Small, Soft Matter*

Outreach:

2023 URI ESTEEMED Summer Bootcamp

Designed and conducted outreach efforts to incoming ESTEEMED cohort focusing on colloidal inks for biomimicry, design of non-Newtonian fluids to understand rheology, and ecological microscopy.

2023 Rhode Island Nano-Bio Engineering (RINBE) Academy

Conducted nanoparticle assembly experiments with high school students from Narragansett High School

PROFESSIONAL AFFILIATIONS

- Society of Rheology (SoR)
- American Institute of Chemical Engineers (AIChE)
- American Physical Society (APS)
- American Chemical Society (ACS)