

QIN MAGGIE QI

Massachusetts Institute of Technology

77 Massachusetts Avenue, Building 66-546, Cambridge, MA 02139 ♦ 6172530096

qmqi@mit.edu ♦ qigroup.mit.edu ♦ @maggieqigroup

PROFESSIONAL EXPERIENCE

James R. Mares '24 Career Development Chair Assistant Professor	2022
<i>Department of Chemical Engineering, Massachusetts Institute of Technology</i>	
Member of Multi-Cellular Engineered Living Systems, Massachusetts Institute of Technology	
Member of the Program in Polymers and Soft Matter, Massachusetts Institute of Technology	
Member of Computational & Systems Biology Program, Massachusetts Institute of Technology	
Postdoctoral Associate	2021
<i>Department of Chemical Engineering, Massachusetts Institute of Technology</i>	
Postdoctoral Fellow	2018 - 2021
<i>School of Engineering and Applied Sciences, Harvard University</i>	
<i>Wyss Institute for Biologically Inspired Engineering, Harvard University</i>	
Advisor: Professor Samir Mitragotri	
Visiting Scientist	2015, 2017
<i>Dermot Kenny Lab, Royal College of Surgeons in Ireland</i>	
Visiting Scientist , Becton Dickinson Biosciences Company	2017
Teaching Assistant , Stanford University	2014 - 2015
Research Assistant	2013
<i>Gerald G. Fuller Lab, Department of Chemical Engineering, Stanford University</i>	
Research Assistant	2011 - 2013
<i>Yong L. Joo Lab, School of Chemical and Biomolecular Engineering, Cornell University</i>	
Teaching Assistant , Cornell University	2012 - 2012
Process Engineering Intern , Qingdao Refining and Chemical Co Ltd, Sinopec Group	2012
Quantitative Analyst Intern , Everbright Pramerica Fund Management Co., Shanghai	2010

EDUCATION

Stanford University , Stanford, CA	June 2018
<i>Ph.D. Chemical Engineering</i>	
Thesis Advisor: Professor Eric S.G. Shaqfeh	
Title: <i>Understanding Particle Migration, Margination and Adhesion in Cellular Suspensions</i>	
Stanford University , Stanford, CA	June 2017
<i>M.S. Chemical Engineering</i>	
Cornell University , Ithaca, NY	May 2013
<i>B.S. Chemical Engineering</i>	
<i>B.S. Operations Research</i>	

AWARDS AND HONORS

14. FY26 Research Support Committee Award, Massachusetts Institute of Technology	2026
13. NSF CAREER Award	2024
12. Science Influencer Mentor, Texas A & M University	2023, 2024

11. FY23 Research Support Committee Award, Massachusetts Institute of Technology 2022
10. Semi-finalist Honoree, University of Washington Distinguished Young Scholars 2019
9. Selected to attend University of Delaware Future Faculty Workshop at Princeton University 2019
8. Participant of MIT Rising Star in ChemE Program 2018
7. Stanford Graduate Fellowship in Science and Engineering 2014 - 2017
6. T.S. Lo Graduate Fellowship, Stanford University 2013 - 2014
5. Cornell University Chemical Engineering Undergraduate Research Award 2013
4. Cornell Engineering Learning Initiatives Research Award 2012
3. Rockwell Collins Scholarship, Society of Women Engineers (turned down) 2011 - 2012
2. College of Engineering Dean's List, Cornell University 2009 - 2013
1. Selected to attend Leadershape Summer Program, Cornell University 2010

PUBLICATIONS

Published Journal Articles

15. S. Yang, L. Elhaisouni, J.A. Placides, K. Zinelis and Q.M.Qi, "[Cell-Dependent Particle Shape Preference during Phagocytosis is Governed by Cell Mechanics](#)", *Nano Letters*, (2026).
14. P. Dumnoenchanvanit, Y.J. Lee, M. Adolphus, M.H. Can, M. J. Silvera Tafur, P. Matrakul, J. Wang and Q.M.Qi, "[Molecular Evaluation of Deep Eutectic Solvents for Wet Algae Lipid Extraction and Biofuel Production](#)", *ACS Omega*, (2026).
13. L. Attia, D. Nguyen, K.Liu, Q.M.Qi, P.S. Doyle, "[Size-Controlled Templating of Stable Drug Nanoparticles from Nanoemulsion Precursors for Versatile Nanoformulation](#)", *Chemistry of Materials* **38**, 1 (2026).
12. I. Pincus and Q.M.Qi, "[Nanoparticle-induced lipid membrane deformation influences the design of biomedicine](#)", *Biophysical Journal* **10.24**, 00701-5 (2025).
11. V. Suja*, Q.M.Qi*, K. Halloran, J.Zhang, S. Shaha, S. Prakash, N. Kumbhojkar, A. Deslandes, S. Huille, Y.Gokarn and S.Mitragotri, "[A biomimetic chip to assess subcutaneous bioavailability of monoclonal antibodies in humans](#)", *PNAS Nexus* **2**, 10 (2023).
10. Z.Zhao*, D.C.Pan*, Q.M.Qi, J.Kim, N.Kapate, T.Sun, C.W.Shields, L.L.Wang, D.Wu, C.Kwon, W.He, J.Guo, and S. Mitragotri, "[Engineering of Living Cells with Polyphenol-Functionalized Biologically Active Nanocomplexes](#)", *Advanced Materials*, 2003492 (2020).
9. Q.M.Qi, M.Duffy, A.M.Curreri, J.P.R.Balkaran, E.E.L.Tanner and S.Mitragotri, "[Comparison of Ionic Liquids and Chemical Permeation Enhancers for Transdermal Drug Delivery](#)", *Advanced Functional Materials*, 2004257 (2020).
8. V.Dharamdasani, A.Mandal, Q.M.Qi, I.Suzuki, M.V.L.B.Bentley and S.Mitragotri, "[Topical Delivery of siRNA into Skin using Ionic Liquids](#)", *Journal of Controlled Release* **475-482**, 323 (2020).
7. Q.M.Qi and S.Mitragotri, "[Mechanism of transdermal delivery of macromolecules assisted by ionic liquids](#)", *Journal of Controlled Release* **311-312**, 162-169 (2019).

6. Q.M.Qi, I.Oglesby, J.Cowman, A.J.Ricco, D.Kenny and E.S.G.Shaqfeh, “[In-vitro measurement and modeling of platelet adhesion on VWF-coated surfaces in channel flow](#)”, *Biophysical Journal* **116**, 6 (2019).
5. E.Dunne, Q.M.Qi, E.S.G.Shaqfeh, A.J.Ricco, J.O'Donnell and D.Kenny, “[Blood group alters platelet binding kinetics to von Willebrand factor and consequently platelet function](#)”, *Blood* **133**, 12 (2018).
Commentary by J.Dong, “ABO on platelets goes beyond transfusion”, DOI: 10.1182/blood-2019-02-898791
4. Q.M.Qi and E.S.G.Shaqfeh, “[Time-dependent particle migration and margination in the pressure-driven channel flow of blood](#)”, *Physical Review Fluids* **3**, 034302 (2018).
3. Q.M.Qi and E.S.G.Shaqfeh, “[Theory to predict particle migration and margination in the pressure-driven channel flow of blood](#)”, *Physical Review Fluids* **2**, 093102 (2017).
2. S.Fitzgibbon, A.P.Spann, Q.M.Qi and E.S.G.Shaqfeh, “[In vitro measurement of particle margination in the microchannel flow: effect of varying hematocrit](#)”, *Biophysical Journal* **108**, 10 (2015).
1. C.M.Elkins, Q.M.Qi and G.G.Fuller, “[Corneal cell adhesion to contact lens hydrogel materials enhanced via tear film protein deposition](#)”, *PloS One* **9.8**, e105512 (2014).

Published Book Chapter

1. Q.M.Qi and E.S.G.Shaqfeh, “[Microstructure and rheology of cellular blood flow, platelet margination and adhesion](#)”, *Dynamics of blood cells in microflows* **101-124**, edited by A.Viallat and M.Abkarian, Taylor & Francis Group (2019).

Manuscript Under Review

1. Y.J.Lee and Q.M.Qi, “Unified Mesoscale Framework Bridging Equilibrium Thermodynamics and Transport Properties of Ionic Liquids and Their Mixtures”, .2026

Manuscript in Preparation

1. Kevin Liu, Xi Liu, Bernard Burman, Kyle Pratt Q.M.Qi, “In Vitro In Silico Modeling of Leukocyte Dynamics in Glaucoma”, .

Patent

1. S. Mitragotri and Q.Qi, US21/52134, “Systems and Methods Relating to Subcutaneous Administration”.

SELECT CONFERENCE PRESENTATIONS AND SEMINARS

39. “New in vitro and in silico approaches to model retinal diseases and drug development”, Q.M.Qi, Virtual Academic Committee of the Chinese American Society for Vision Research (**invited talk**), virtual, 2025
38. “Understanding structure-property relationships of ionic liquids for biofuel production”, Q.M.Qi, APS DFD meeting Andreas Acrivos Memorial Symposium (**invited talk**), Houston, Texas, 2025
37. “Understanding structure-property relationships of ionic liquids for biofuel production”, Q.M.Qi, Society of Rheology 96th Annual Meeting, Santa Fe, New Mexico, 2025
36. “Modelling particle-membrane interactions for biomaterial designs”, Q.M.Qi, Department of Chemistry, University of Victoria, (**invited talk**), Victoria, Canada, 2025

35. “New in vitro and in silico approaches to model retinal diseases and drug development”, Q.M.Qi, Harvard Medical School Department of Ophthalmology Schepens Eye Research Institute of Massachusetts Eye and Ear (**invited talk**), Boston, MA, 2025
34. “Building Advanced In Vitro Models to Study Neuroinflammation in Retinal Diseases”, Q.M.Qi, Physics and Chemistry of Microfluidics Gordon Research Conference (**invited talk**), Barga, Italy, 2025
33. “In vitro and in silico modeling of thrombosis and thrombosis-inspired drug delivery”, Q.M.Qi, 3rd International School on HemoPhysics (**invited talk**), Montpellier, France, 2024
32. “Microfluidic Flow for Health: from Bleeding to Drug Delivery”, Q.M.Qi, Centre interdisciplinaire de nanosciences de Marseille, CNRS Aix-Marseille University (**invited talk**), Marseille, France, 2024
31. “Modelling particle-membrane interactions for biomaterial designs”, Q.M.Qi, Centre de Biologie Structurale, University of Montpellier (**invited talk**), Montpellier, France, 2024
30. “Modelling particle-membrane interactions for biomaterial designs”, Q.M.Qi, Massachusetts Institute of Technology PPSM seminar, Cambridge, MA, 2024
29. “Modelling particle-membrane interactions for biomaterial designs”, Q.M.Qi, The 100th New England Complex Fluids Workshop (**invited talk**), Waltham, MA, 2024
28. “Modelling particle-membrane interactions for biomaterial designs”, Q.M.Qi, The 26th International Congress of Theoretical and Applied Mechanics, Daegu, Korea, 2024
27. “Microfluidic Flow for Health: from Bleeding to Drug Delivery ”, Q.M.Qi, 2024 Hemostasis Gordon Research Conference (**invited talk**), Waterville Valley, New Hampshire, 2024
26. “Modelling particle-membrane interactions for biomaterial designs ”, Q.M.Qi, 98th ACS Colloids and Surface Science Symposium (**invited talk**), Seattle, WA, 2024
25. “Microfluidic Flow Dynamics for Health: Bridging Experimental and Computational Approaches for Precision Medicine ”, Q.M.Qi, St Louis University Edward A. Doisy Department of Biochemistry & Molecular Biology (**invited talk**), St Louis, MO, 2024
24. “Microfluidic Flow Dynamics for Health: Bridging Experimental and Computational Approaches for Precision Medicine ”, Q.M.Qi, MIT Industrial Liaison Program (**invited talk**), Tokyo, Japan, 2024
23. “Modelling the Effects of Particle Surface Loading on Uptake and Cell Deformation ”, Q.M.Qi, I.Pincus, Annual Meeting of the American Physics Society Division of Fluid Dynamics, DC, 2023, Annual Meeting of the American Institute of Chemical Engineers, Orlando, FL, 2023
22. “Microfluidic Flow for Health: from Bleeding to Drug Delivery”, Q.M.Qi, Boston Children’s Hospital Ophthalmology Seminar Series (**invited talk**), Boston, MA, 2022
21. “Complex Fluids in Microchannel Flows: from Bleeding to Drug Delivery”, Q.M.Qi, Program in Polymers and Soft Matter (**invited talk**), Massachusetts Institute of Technology, 2022
20. “A Microphysiological Model of Blood Cell Endothelium Interactions to Study Drug Delivery Mechanisms”, Q.M.Qi, J. Guo, C. Hamadani and S. Mitragotri, 19th U.S. National Congress on Theoretical and Applied Mechanics (**invited talk**), Austin, TX, 2022
19. “A Microphysiological System for Ocular Drug Testing”, Q.M.Qi, Massachusetts Eye and Ear (**invited talk**), Boston, MA, 2022

18. “A Microphysiological System for Ocular Drug Testing”, Q.M.Qi, Massachusetts Institute of Technology (**invited talk**), Virtual, 2021
17. “Complex Fluids in Microchannel Flows: from Bleeding to Drug Delivery”, Q.M.Qi, National ChemE Future Faculty Virtual Seminar Series (**invited talk**), Virtual, 2021
16. “Complex Fluids in Microchannel Flows: from Bleeding to Drug Delivery”, Q.M.Qi, Stanford University (**invited talk**), Virtual, 2021
15. “Complex Fluids in Microchannel Flows: from Bleeding to Drug Delivery”, Q.M.Qi, University of British Columbia (**invited talk**), Virtual, 2021
14. “Complex Fluids in Microchannel Flows: from Bleeding to Drug Delivery”, Q.M.Qi, Massachusetts Institute of Technology (**invited talk**), Virtual, 2021
13. “Complex Fluids in Microchannel Flows: from Bleeding to Drug Delivery”, Q.M.Qi, University of Wisconsin Madison (**invited talk**), Virtual, 2021
12. “Complex Fluids in Microchannel Flows: from Bleeding to Drug Delivery”, Q.M.Qi, Johns Hopkins University (**invited talk**), Virtual, 2021
11. “A Microfluidics-Based Approach to Model Drug Transport across 2D and 3D Biological Barriers”, Q.M.Qi, J.Guo, C.Hamadani and S.Mitragotri, Annual Meeting of the American Institute of Chemical Engineers, Virtual, 2020
10. “A Microfluidic Model to Assess Subcutaneous Transport and Pharmacokinetics in Vitro”, Q.M.Qi and S.Mitragotri, Annual Meeting of the American Institute of Chemical Engineers, Virtual, 2020
9. “Evaluation of Ammonium-Based Ionic Liquids As Novel Chemical Permeation Enhancers for Transdermal Drug Delivery”, Q.M.Qi, M.Duffy, E.E.L.Tanner and S.Mitragotri, Annual Meeting of the American Institute of Chemical Engineers, Virtual, 2020
8. “Biologically Inspired Complex Fluids and Soft Matter”, Q.M.Qi, Global Forum for Young Scholars of Sichuan University (**invited talk**), Virtual, 2020
7. “Blood Group Alters Platelet Binding Kinetics And Translocation Dynamics Under Arterial Shear”, Q.M.Qi, E.Dunne, D.Kenny, J.O'Donnell, A.J.Ricco, I.Schoen and E.S.G. Shaqfeh, Annual Meeting of the American Institute of Chemical Engineers, Orlando, FL, 2019
6. “Mechanism of Transdermal Delivery of Macromolecules Assisted by Ionic Liquids”, Q.M.Qi and S.Mitragotri, Gordon Research Conference: Preclinical Form and Formulation for Drug Discovery, Waterville Valley, NH (poster), 2019
5. “In-vitro Measurement and Modelling of Platelet Adhesion on Von-Willebrand-Factor-Coated Surfaces in Channel Flow”, Q.M.Qi, I.Oglesby, E.Dunne, D.Kenny, J.O'Donnell, A.J.Ricco, I.Schoen and E.S.G. Shaqfeh, Annual Meeting of the American Physics Society Division of Fluid Dynamics, Denver, CO, 2017, Annual Meeting of the American Institute of Chemical Engineers, Minneapolis, MN, 2017
4. “Time Evolution of Shear-Induced Particle Margination and Migration in a Cellular Suspension”, Q.M.Qi and E.S.G.Shaqfeh, Annual Meeting of the American Physics Society Division of Fluid Dynamics, Portland, OR, 2016
3. “A Coarse-Grained Theory to Predict Particle Margination and Migration in Blood Suspensions”, Q.M.Qi and E.S.G.Shaqfeh, 23rd International Congress of Theoretical and Applied Mechanics, Montreal, Canada, 2016

2. “Accelerating Blood Simulations: a Coarse-Grained Theory to Understand Cellular Suspensions”, Q.M.Qi and E.S.G.Shaqfeh, Society for Industrial and Applied Mechanics (**invited talk**), Boston, MA, 2016
1. “Coarse-Grained Theory to Predict Red Blood Cell Migration in Pressure-Driven Flow at Zero Reynolds Number”, Q.M.Qi and E.S.G.Shaqfeh, Annual Meeting of the American Physics Society Division of Fluid Dynamics, Boston, MA, 2015

TEACHING EXPERIENCE

9. **Instructor**, Massachusetts Institute of Technology Fall 2025, 2026
10.302 Heat and Mass Transfer
8. **Instructor**, Massachusetts Institute of Technology Fall 2024
10.52 Mechanics of Fluids
7. **Instructor**, Massachusetts Institute of Technology Fall 2022, 2023, Spring 2025
10.50 Analysis of Transport Phenomena
6. **Instructor**, Massachusetts Institute of Technology Spring 2022, 2023, 2024, 2026
10.32 Separation Processes
5. **Senior thesis advisor**, Bioengineering, Harvard University 2019 - 2020
ES 100: Engineering Design Principles
4. **Teaching assistant**, Department of Chemical Engineering, Stanford University 2014 - 2015
CHEMENG 300: Applied Mathematics in the Chemical and Biological Sciences
3. **Teaching assistant**, School of Chemical and Biomolecular Engineering, Cornell University 2012
ENGRI 1120: Introduction to Chemical Engineering
2. **Grader**, School of Chemical and Biomolecular Engineering, Cornell University 2012
CHEME 6400: Polymeric Materials
1. **MATLAB consultant**, Department of Computer Science, Cornell University 2010 - 2011
CS 1112: Introduction to MATLAB

MENTORING EXPERIENCE

56. Jenny Wang, **undergraduate student**, MIT 2026 - Present
55. Karthik Sriramulu, **undergraduate student**, University of Wisconsin Madison 2026
54. Rajvi Babaria, **master student**, Johns Hopkins University 2025 - Present
53. Thomas Tao, **PhD candidate**, MIT 2026 - Present
Project: multiphase flow for 3D bioprinting
52. Sophia Yang, **PhD candidate**, MIT 2026
Project: glaucoma immunopathology in vitro
51. Shu Yang, **Postdoc**, MIT 2025 - Present
Project: leukocyte dynamics in diseases and drug delivery
50. Youngjin Lee, **Postdoc**, MIT (*Postdoc at Purdue University*) 2025 - 2026
Project: modeling ionic liquids and particle-cell interactions

49. Xi Liu, Postdoc , MIT (<i>Research scientist at Boston University</i>)	2025 - 2026
Project: microfluidic culturing of stem cell-derived retinal organoids	
48. Konstantinos Zinelis, Postdoc , MIT (<i>Staff Engineer at Takeda</i>)	2024 - 2025
Project: multiscale modeling of nanoparticle-cell interactions	
47. Andrea Goertzen, PhD candidate , MIT	2024
Project: glaucoma immunopathology in vitro	
46. Etienne Boulais, Postdoc , MIT (<i>Postdoc at Max Planck Institute</i>)	2024
Project: ionic liquids for biofuel production	
45. Isaac Pincus, Postdoc , MIT (<i>Postdoc at Universite de Lausanne</i>)	2022 - 2024
Project: biomechanical modeling of cellular drug carriers	
44. Efsthathios Iliakis PhD candidate , MIT	2024
Project: ionic liquids for biomaterial design	
43. Nicholas King, PhD candidate , MIT	2022 - 2024
Project: biomechanical modeling of leukocyte and leukocyte-based drug carriers	
42. Bob Zhang, PhD candidate , MIT	2022
Project: microfluidic systems to model retinal diseases	
41. Miranda Wang, PhD rotation student , MIT	2022
Project: improving retinal organoid cultures using microfluidics	
40. Talia Zheng, PhD thesis committee , advisor: Patrick S. Doyle, MIT	2023 - Present
39. Mateusz Wojtaszek, PhD thesis committee , advisor: Patrick S. Doyle, MIT	2022 - Present
38. Lucas Attia, PhD thesis committee , advisor: Patrick S. Doyle, MIT	2022 - 2026
37. Shakul Pathak, PhD thesis committee , advisor: Martin Z. Bazant, MIT	2022 - 2026
36. Joules Provenzano, PhD thesis committee , advisor: Desirée Plata, MIT	2022 - Present
35. Pablo Dean, PhD thesis committee , advisor: Zachary P. Smith, MIT	2022 - Present
34. Jisoo Kim, PhD thesis committee , advisor: Kwanghun Chung, MIT	2022 - Present
33. Mary Agnes Joens, PhD thesis committee , advisor: Gareth McKinley and Patrick S. Doyle, MIT	2022 - 2024
32. Pedro de Souza, PhD thesis committee , advisor: Martin Z. Bazant, MIT	2022
31. Jina Koh, undergraduate student , MIT	2024 - Present
30. Jennifer Espinoza Modonaldo, undergraduate student , MIT	2024 - Present
29. Tony Jiminez, undergraduate student , MIT	2024 - Present
28. Nicole Johnston, undergraduate student , MIT	2024 - Present
27. Maeve McGinnis, undergraduate student , MIT	2024 - Present
26. Samantha Philips, undergraduate student , MIT	2024 - 2025
25. Gabriela Wojcik, undergraduate student , MIT	2024 - 2026
24. Michaela Sinclair, undergraduate student , Harvard	2024 - 2025

23. Kevin Liu, undergraduate student , MIT	2022 - 2026
22. Gabrielle L Moore, undergraduate student , MIT	2022 - 2024
21. Kathleen R Bailey, undergraduate student , MIT <i>Current Position: PhD student, Stanford University</i>	2022 - 2024
20. Yi Jun Yang, undergraduate student , MIT <i>Current Position: Boston Consulting Group</i>	2022 - 2024
19. Yan Zheng, undergraduate student , MIT <i>Current Position: PhD student, Columbia University</i>	2022 - 2024
18. Eunice Park, research associate , MIT	2023 - 2024
17. Joshua Martinez, undergraduate student , MIT	2024
16. Fiona Duong, undergraduate student , MIT <i>Current Position: PhD student, UC Berkeley-UCSF bioengineering</i>	2022 - 2024
15. Camryn Couvillion, undergraduate student , Texas A & M University	2022
14. Duha Syar, undergraduate student , MIT <i>Current Position: PhD student, UC Berkeley</i>	2022 - 2023
13. Krishnapriya Rajaram, undergraduate student , Wellesley College	2022
12. Jehan Ahmed, undergraduate student , MIT	2022
11. Jyotsna Nair, undergraduate student , MIT	2022
10. Andrew J Zhao, undergraduate student , MIT	2022
9. Vihar Trada, undergraduate student , University of Illinois Chicago	2022
8. Ananth Shyamal, undergraduate student , MIT	2022
7. Austin Chin, undergraduate student , MIT	2022
6. Joshua Placides, High school student , Oceanside High School East	2024
5. Nicola Knowles, PhD rotation student , MIT Project: a microphysiological system mimicking the blood-retinal barrier under dynamic conditions	2021 - 2022
4. Ninad Kumbhojkar, PhD student , Harvard University Project: blood-brain barrier chip for neutrophil-based drug delivery	2020 - 2021
3. Supriya Prakash, PhD student , Harvard University Project: blood-brain barrier chip for natural-killer-cell-based drug delivery	2020 - 2021
2. Kelly Luo, undergraduate student , Harvard University <i>Current Position: Twitter, San Francisco, CA</i> Project: hybrid ionic liquid drug delivery system for topical targeting to the epidermis	2019 - 2020
1. Miya Duffy, undergraduate student , Santa Clara University <i>Current Position: PhD student, MIT</i> Project: spectroscopic analysis of ionic liquids on skin stratum corneum	2019

FUNDING SOURCES

Reed Fund, Massachusetts Institute of Technology

PI: Qin M. Qi

Date: 7/1/2026-7/1/2028

Title: Development of a Microfluidic Organ-on-a-Chip Platform for Immune-Targeted Drug Screening in Glaucoma and CNS Neurodegeneration

Amount: Direct \$90,000

SynQor Energy Efficiency Fund, Massachusetts Institute of Technology

PI: Qin M. Qi

Date: 6/1/2026-5/31/2027

Title: : Simulation-based screening of chemicals for energy-efficient microalgal biofuel production

Amount: Total \$200,000

Blindness grant, Sarah K. deCoizart Tenth Perpetual Trust

PI: Qin M. Qi

Date: 3/1/2026-2/28/2027

Title: : Retina-on-a-chip for novel therapies in glaucoma-related blindness

Amount: Total \$75,000

Koch Frontier Award, Massachusetts Institute of Technology

PI: Patrick Doyle

Co-PI: Qin M. Qi

Date: 5/31/2024-5/31/2025

Title: : PROTAC nano-templated hydrogel microparticles to enable membrane permeability and aqueous dissolution

Amount: Direct \$50,000

MISTI Travel Award, Massachusetts Institute of Technology

PI: Qin M. Qi

Co-PI: Katherine Elvira

Date: 7/1/2024-1/31/2026

Title: : Understanding nanoparticle-induced changes in membrane permeability

Amount: Direct \$25,000

CAREER Award, National Science Foundation

PI: Qin M. Qi

Date: 3/1/2024-3/1/2029

Title: : Design Principles of Deformable and Adhesive Particles in Multiphase Flow through Microchannels

Amount: Direct \$405,201

Research Support Committee, Massachusetts Institute of Technology

PI: Qin M. Qi

Date: 7/1/2022-7/1/2024

Title: An in silico-in vitro model to accelerate the design and translation of erythrocyte-based targeted drug delivery carriers

Amount: Direct \$75,000

Energy Initiative Seed Grant, Massachusetts Institute of Technology

PI: Qin M. Qi

Date: 7/1/2022-7/1/2025

Title: Aqueous Ionic Liquid Microstructures for Efficient Lipid Extraction in Microalgal Biofuel

Production

Amount: Total \$125,000

JOURNAL REVIEWER

Physical Review Letter, Journal of Fluid Mechanics, ACS Biomaterials, ACS Applied Nanomaterials, Bioengineering and Translational Medicine, Physical Review Fluids, Physical Review Applied, Rheology Acta, Journal of Rheology, Biophysical Journal 2015 - Present

SERVICE AND OUTREACH

- | | |
|---|--------------|
| 20. Organizing Committee, Annual Meeting of Society of Rheology | 2026 |
| 19. Session Chair, Annual Meeting of ACS Colloids | 2024 |
| 18. Diversity, Equity and Inclusions Committee Member, Department of Chemical Engineering, MIT | 2023 |
| 17. Review Panelist, National Science Foundation | 2022-present |
| 16. Review Panelist, National Institute of Health | 2022-present |
| 15. Education Committee, Society of Rheology | 2022-present |
| 14. Area(1J) programming committee, American Institute of Chemical Engineers | 2022-2027 |
| 13. Graduate and Postdoc Education Strategic Planning Committee Member, Department of Chemical Engineering, MIT | 2022 |
| 12. Graduate Admissions Committee Member, Department of Chemical Engineering, MIT | 2022 |
| 11. Mentor and Panel Discussion Moderator, Rising Star in ChemE, MIT | 2022 |
| 10. Faculty Mentor, MIT Summer Research Program | 2022 |
| 9. Session Chair, Annual Meeting of the Society of Rheology | 2022 |
| 8. Session Chair, Annual Meeting of the American Institute of Chemical Engineers | 2021, 2023 |
| 7. Presenter and volunteer, 3rd Annual Postdoc Research Symposium, Harvard University | 2019 |
| 6. Presenter and volunteer, Postdoc Science Cafe, Harvard University | 2019 |
| 5. Mentor, Chemical Engineering Student Committee, Stanford University | 2014 - 2017 |
| 4. Judge, Undergraduate Research Symposium, Stanford University | 2015 |
| 3. Mentor, Women in Science and Engineering, Stanford University | 2014 - 2015 |
| 2. Volunteer, Annual Meeting of the American Physics Society Division of Fluid Dynamics | 2014 |
| 1. Section leader, Chinese Students and Scholars Association, Cornell University | 2010 - 2011 |