Shannon E. Moran

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EDUCATION

2015 – 2020	**University of Michigan, Ann Arbor**	Ann Arbor, MI
Expected	Ph.D. candidate in Chemical Engineering, Certificate: Data Science	GPA: 3.9/4.0
	Advisor: Professor Sharon C. Glotzer	
2008 – 2012	**Massachusetts Institute of Technology**	Cambridge, MA
	B.S. in Chemical Engineering, Minor: Writing	GPA: 4.2/5.0

PUBLICATIONS

Peer-reviewed

[1] **Moran, S.E.**, Bruss, I.R., and Glotzer, S.C. "Leveraging anisotropy for tailored self-assembly of active matter". *(In preparation for submission to Proceedings of the National Academy of Sciences).*

[2] Helgeson, M.E., Gao, Y., **Moran, S.E.**, Lee, J., Godfrin, M., Tripathi, A., Bose, A., and Doyle, P.S. "Homogeneous percolation versus arrested phase separation in attractively-driven nanoemulsion colloidal gels". *Soft Matter*, 10(17):3122, 2014.

[3] Helgeson, M.E., **Moran, S.E.**, An, H.Z., and Doyle, P.S. "Mesoporous organohydrogels from thermogelling photocrosslinkable nanoemulsions". *Nature Materials*, 11(4):344–352, 2012.

Engineering education

[1] Vilas Bôas Fávero*, C., **Moran, S.E.***, and Eniola-Adefeso, O. "The power of peer mentoring in enabling a diverse and inclusive environment in a chemical engineering graduate program". Accepted: *Chemical Engineering Education*, Special Issue on Diversity in Chemical Engineering, 2018. *Contributed equally to this work.

HONORS

National/International

2017 **ACM SIGHPC Computational & Data Science Fellowship**, Association for Computing Machinery Special Interest Group on High Performance Computing & Intel
Ten awarded internationally based on research potential in computational and/or data science

2017 **NSF Graduate Research Fellowship**, National Science Foundation

2017 **Point Scholar**, Point Foundation

2017 **Ford Predoctoral Fellowship Honorable Mention**, Ford Foundation

2011 **Link Scholarship**, Kappa Alpha Theta Foundation
Thirteen awarded nationally on the basis of outstanding scholarship and community impact

Institutional

2017 **Dr. Martin Luther King, Jr. Spirit Award**, University of Michigan, Ann Arbor
Twelve awarded (undergrad and grad)

2017 **Outstanding Service Award**, University of Michigan Chemical Engineering

2016 **Rackham Graduate Student Research Grant**, University of Michigan

2015 **Graduate Student Community Grant**, University of Michigan College of Engineering

2015 **Dwight F. Benton Fellowship**, University of Michigan College of Engineering

2015 **Polaris Award**, The Boston Consulting Group
Awarded for "outstanding client impact" on project for Fortune 100 chemicals company

2011 **John Reed Fund for Undergraduate Research Awardee**, MIT

2011 **Robert Boit Writing Prize for Essay, First Prize**, MIT Writing Department

2011 **Singapore-MIT Undergraduate Research Fellowship**, Singapore-MIT Alliance for Research and Technology

2011 **Department Special Service Award**, MIT Department of Chemical Engineering

2010 **Undergraduate Research Opportunities Program Endowment Awardee**, MIT

2009 **Meijer Research Fellowship**, Van Andel Research Institute

PROFESSIONAL EXPERIENCE

2012 – 2015 **The Boston Consulting Group** Chicago, IL
Consultant (promoted from Associate in June 2015)

RESEARCH EXPERIENCE

2015 – Pres **Biointerfaces Institute, Computational Assembly Lab** Ann Arbor, MI
Graduate Research Assistant
Advisor: Professor Sharon Glotzer

Summer 2011 **National University of Singapore** Singapore, Singapore
Research Fellow, BioSystems and Micromechanics Interdisciplinary Research Group, Singapore-MIT Alliance for Research and Technology
Advisor: Professor Linda Griffith

2010 – 2012 **Novartis-MIT Center for Continuous Manufacturing** Cambridge, MA
Research Assistant, Laboratory of Dynamics of Biopolymers & Complex Fluids
Advisors: Professor Patrick Doyle, Professor Matthew Helgeson (UC Santa Barbara)

Summer 2009 **Van Andel Research Institute** Grand Rapids, MI
Summer 2008 Meijer Research Fellow, Laboratory of Cancer & Developmental Cell Biology
Advisor: Professor Nicholas Duesbery

LEADERSHIP & SERVICE

University of Michigan, Ann Arbor

2016 – Pres **Graduate & Professional Board Member**, University of Michigan Diversity, Equity, and Inclusion (DEI) Student Advisory Board

2017 – Pres **Mentorship Lead**, Graduate oSTEM (Out in STEM)

2016 – Pres **Graduate Student Peer Mentor & Lead Peer Mentor**, Department of Chemical Engineering

2016 – 2017 **Graduate Recruitment Co-Chair**, Department of Chemical Engineering

2016 **Panelist**, Seminar for undergraduate researchers on demystifying graduate school
2015 – 2016 **Founder & Presenter of Professional Communication Workshop Series**, College of Engineering

Out for Undergrad (O4U) Conferences
National professional development conferences for high-achieving LGBT undergrads
2016 **Programming Director**, O4U Engineering
2015 **Programming Coordinator**, O4U Business
2013 – 2015 **Professional Mentor**, O4U Business

The Boston Consulting Group
2013 – 2015 **Associate Mentor**
2012 – 2015 **LGBT Associate Recruiting Lead**, Midwest Region
2012 – 2013 **Pro-bono project for the Chicago Field Museum**, "Best Practices and Recommendations for Corporate Giving to Cultural Institutions"

Massachusetts Institute of Technology
2015 – 2018 **Educational Counselor**, MIT Undergraduate Admissions
2010 – 2011 **First Year Associate Advisor**
2010 **Secretary**, American Institute of Chemical Engineers (AIChE) Undergrad Chapter
2009 – 2011 **Program Coordinator & Counselor**, Freshman Leadership Program
2009 **MIT Class of 2012 Ring Committee**
2008 – 2012 **Facility Manager (2010)**, Kappa Alpha Theta Fraternity

PRESENTATIONS

[1] **Moran, S.E.**, Vilas Bôas Fávero, C., and Eniola-Adefeso, O. "Peer mentoring in graduate school - fostering diversity to achieve scholarly excellence". Poster presented at: *Engineering Education Research Day*. Ann Arbor, MI, Mar 14 2018.

[2] Vilas Bôas Fávero, C., **Moran, S.E.**, and Eniola-Adefeso, O. "Peer mentoring in graduate school - fostering diversity to achieve scholarly excellence". Poster presented at: *American Institute of Chemical Engineers Annual Meeting*. (Attendance funded by a Rackham Conference Travel Grant), Minneapolis, MN, Oct 9 - Nov 3 2017.

[3] **Moran, S.E.**, Bruss, I.R., and Glotzer, S.C. "Putting together the building blocks of non-equilibrium self-assembly". Poster presented at: *University of Michigan Engineering Graduate Symposium*. Ann Arbor, MI, November 11 2016. ***Technical session award in "Chemical Physics" session.***

[4] **Moran, S.E.**, Dai, C., Bruss, I.R., and Glotzer, S.C. "How does shape impact active particle behavior?" Poster presented at: *Center for Bio-Inspired Energy Science Annual Meeting*. Evanston, IL, August 11-12 2016.

[5] Dai, C., **Moran, S.E.**, Bruss, I.R., and Glotzer, S.C. "Collective behavior of self-propelled anisotropic particles". Poster presented at: *Active and Smart Matter*. Syracuse, NY, June 19-23 2016.

[6] **Moran, S.E.**, Polim, I., Ng, C.P., Liu, Y., Chan, M., Griffith, L., and Hammond, P. "Cell plating efficiency dependence on seeding density". Poster presented at: *Singapore-MIT Undergraduate Research Fellowship Review*. Singapore, Singapore, July 10 2011.

[7] **Moran, S.E.**, Helgeson, M.E., and Doyle, P.S. "Polymerizable thermoresponsive nanoemulsions: a novel route to tailored organohydrogels". Poster accepted at: *Mas-*

sachusetts Institute of Technology Program in Polymer Science and Technology Poster Session. Cambridge, MA, March 18 2011.

[8] Helgeson, M.E., **Moran, S.E.**, and Doyle, P.S. "Organohydrogels from thermogelling, photocurable nanoemulsions". Poster presented at: *American Institute of Chemical Engineers Annual Meeting*. Salt Lake City, UT, Nov 7-12 2010.

[9] **Moran, S.E.**, Lee, C.S., White, J., Boguslawski, E., and Duesbery, N. "Differential splice variant expression of VEGFR-3 in canine tissues". Poster presented at: *Van Andel Research Institute Intern Symposium*. Grand Rapids, MI, August 14 2009.

[10] **Moran, S.E.**, Boguslawski, E., and Duesbery, N. "Anthrax lethal toxin and myeloproliferation in mice". Poster presented at: *Van Andel Research Institute Intern Symposium*. Grand Rapids, MI, August 2008.

TEACHING EXPERIENCE

University of Michigan, Ann Arbor

2016 – 2018 Guest Lecturer, Project Management & Consulting (Center for Entrepreneurship)
Instructor: Amy Cell

Massachusetts Institute of Technology

Winter 2012 Discussion Facilitator, January-term Special Topics Seminar (Political Science Dept.)
Instructor: Tobie Weiner

PROFESSIONAL EDUCATION

April 2018 **Building Interpersonal Skills (COM19)** Palo Alto, California
Stanford University, Continuing Studies Program
(Registered) Modeled after the popular "Interpersonal Dynamics" course at Stanford's Graduate School of Business.

July 2016 **Summer School: Active Complex Matter** Cargèse, Corsica Island, France
Institut d'Etudes Scientifiques de Cargèse
Physics of active systems: Active matter hydrodynamics, micro-organism motility (e.g. swimming, collective motion), and cell motility (e.g. cell migration, blood flow, and crawling) (supported by Rackham Graduate Student Research Grant)

PROFESSIONAL AFFILIATIONS

2017 – Pres **Associate Member** Sigma Xi
2017 – Pres **Member** Society of Industrial and Applied Mathematics (SIAM)
2017 – Pres **Member** American Chemical Society (ACS)
2016 – Pres **Member** American Physical Society (APS)
2010 – Pres **Member** American Institute of Chemical Engineers (AIChE)

SKILLS & INTERESTS

Programming Python, C++, bash, git, HTML/CSS, LaTeX
Software *Mathematica*, MATLAB, COMSOL, Adobe InDesign, MS Excel
Interests Cooking science, craft cocktails, and recreational hockey