Jeffrey M. Ting

Institute for Molecular Engineering
University of Chicago
5640 South Ellis Ave
Chicago, IL 60637

Cell: (832) 366-4303
Email: tingx030@umn.edu
Web: z.umn.edu/jting

Education

University of Minnesota – T.C.	Ph.D. Chemical Engineering GPA: 3.707 / 4.000	2016
The University of Texas – Austin	B.S. Chemical Engineering, *High Honors* GPA: 3.96 / 4.00	2011

Professional Experience

NIST-CHiMaD Postdoc Fellow; Argonne National Lab MSD Resident Associate	Dr. Matthew Tirrell University of Chicago Institute for Molecular Engineering	2016 – present
Graduate Research Assistant	Dr. Frank S. Bates University of Minnesota Chem. Eng. and Mat. Sci. Dept.	2011 – 2016
	Dr. Theresa M. Reineke University of Minnesota Dept. of Chemistry	2011 – 2016
Visiting Scientist	Dr. Steven Guillaudeu The Dow Chemical Company	Summer 2014
Recitation Teaching Assistant	CHEN 3005: Transport Phenomena	Fall 2014
Graduate Teaching Assistant	CHEM 4221: Intro. Polymer Chem. CHEN 3101: ChE Thermodynamics	Fall 2013 Fall 2012
Undergraduate Research Assistant	Dr. C. Grant Willson University of Texas – Austin Dept. of Chemistry	2010 – 2011
	Dr. Brett A. Helms Lawrence Berkeley National Laboratory The Molecular Foundry	Summer 2010

Research Interests

I am interested in investigating fundamental structure-property relationships between polymers and small molecules for new materials discovery and biomedical applications. For my doctoral work, I studied how judiciously–engineered polymers can enhance solubilization of otherwise-intractable drugs in oral dosage formulations. Designer polymers exhibited excellent translation from systematic chemistry to drug screening and in vivo testing. Currently, I am exploring soft matter design based on charge complexation for advancing the characterization and commercialization of biomaterials.

Awards and Distinctions

NIST-CHiMaD Postdoctoral Fellowship	2016 – 2017
University of Minnesota DDF Conference Presentation Grant	2016
Sigma Xi Charles and Dorothy Andrew Bird Award	2016
University of Minnesota Doctoral Dissertation Fellowship (DDF)	2015 – 2016
AIChE ChEnected Graduate Student Research Spotlight	2015
National Science Foundation (NSF) Graduate Research Fellowship	2011 – 2015
AIChE Pharmaceutical Discovery, Development and Manufacturing Student Award	2015
Council of Graduate Students Conference Travel Grant	2015
Sigma Xi Rising Star Award and Revitalizing Science Scholarship	2015
ACS Graduate Student Symposium Planning Committee Award	2014 – 2015
University of Minnesota Joint Safety Team Safe Lab Award (Reineke lab)	2014
Chemical Engineering Outstanding TA Award (professor-nominated)	2013
Council of Graduate Students Award for Graduate Teaching (student-nominated)	2013
L.E. and D.H. Scriven Fellowship	2011
Department of Energy Science Undergraduate Laboratory Internship Fellowship	2010
Dwight E. Huth Endowed Presidential Scholarship in Chemical Engineering	2010
Leaton T. Oliver Endowed Scholarship in Chemical Engineering	2008 – 2009
Timothy Go Friends of Alec Scholarship	2007

Peer-reviewed Publications (*equal contribution by authors)

[5] Ting, J. M.; Ricarte, R. G.*; Schneiderman, D. K.*; Jiang, Y.; Saba, S. A.; Hillymer, M. A.; Bates, F. S.; Reineke, T. M.; Macosko, C. W.; Lodge, T. P. "Polymer Day: Outreach Experiments for High School Students" *J. Chem. Educ.*, *Submitted*.

[4] Ting, J. M.; Tale, S.; Purchel, A. A.; Jones, S. D.; Widanapathirana, L.; Tolstyka, Z. P.; Li, G.; Guillaudeu, S. J.; Bates, F. S.; Reineke, T. M. "High–throughput Excipient Discovery Enables Oral Delivery of Poorly Soluble Pharmaceuticals" *ACS Cent. Sci.*, **2016**, *2*, 748–755. DOI: 10.1021/acscentsci.6b00268 (**ACS Author Choice: Open-Access**)

[3] Ting, J. M.; Navale, T. S.; Jones, S. D.; Bates, F. S.; Reineke, T. M. "Deconstructing HPMCAS: Excipient Design to Tailor Polymer–drug Interactions for Oral Drug Delivery" *ACS Biomat. Sci. Eng.*, **2015**, *1*, 978-990. DOI: 10.1021/acsbiomaterials.5b00234 (**ACS Editors' Choice: Open-Access**)

[2] Ting, J. M.*; Navale, T. S.*; Bates, F. S.; Reineke, T. M. "Design of Tunable Multicomponent Polymers as Modular Vehicles to Deliver Highly Lipophilic Drugs" *Macromolecules*, **2014**, *47*, 6554-6565. DOI: 10.1021/ma501839s

[1] Ting, J. M.*; Navale, T. S.*; Bates, F. S.; Reineke, T. M. "Precise Compositional Control and Systematic Preparation of Multimonomeric Statistical Copolymers" *ACS Macro Lett.*, **2013**, *2*, 770-774. DOI: 10.1021/mz4003112

Patents

[4] Navale, T. S.; Ting, J. M.; Bates, F. S.; Reineke, T. M. "Sugar containing, amphiphilic copolymers," European Patent Application No. 14 730 308.5, filed on Nov. 2015 (*in collaboration with The Dow Chemical Company and the University of Minnesota*).

[3] Reineke, T. M.; Tale, S.; Bates, F. S.; Ting, J. M.; Widanapathirana, L.; Guillaudeu, S.; Li, G. "Copolymers as Excipients for Effective Solubilization of Poorly Water-Soluble Substances from Solid Mixtures" Patent Application No. 62/127874, filed on March 2015. (*in collaboration with The Dow Chemical Company and the University of Minnesota*).

[2] Navale, T. S.; Ting, J. M.; Bates, F. S.; Reineke, T. M. "Sugar containing, amphiphilic copolymers," Patent Application No. 61/819,923, filed on May 2013 *(in collaboration with The Dow Chemical Company and the University of Minnesota)*.

[1] Navale, T. S.; Ting, J. M.; Bates, F. S.; Reineke, T. M. "Sugar free, random copolymers made from at least three monomers," Patent Application No. 61/819,928, filed on May 2013 *(in collaboration with The Dow Chemical Company and the University of Minnesota)*.

Technical Presentations (presenter underlined)

[17] Ting, J. M.; Tale, S.; Purchel, A. A.; Jones, S. D.; Widanapathirana, L.; Tolstyka, Z. P.; Li, G.; Guillaudeu, S. J.; Bates, F. S.; Reineke, T. M. "From Discovery to Design: Enabling Functional Drug and Nucleic Acid Transport Through Controlled Polymer Synthesis," *Gordon Research Conference: Drug Carriers in Medicine & Biology*, **Aug. 2016**. URL: grc.org

[16] Ting, J. M.; Tale, S.; Purchel, A. A.; Jones, S. D.; Li, G.; Guillaudeu, S.; Bates, F. S.; Reineke, T. M. "Tunable Multifunctional Polymers to Encapsulate and Solubilize Hydrophobic Drugs" *Twin Cities Chapter of the Society of Cosmetic Chemists Meeting*, **Feb. 2016 (invited talk)**. URL: TCCSCC.org

[15] Ting, J. M.; Navale, T. S.; Jones, S. D.; Bates, F. S.; Reineke, T. M. "Design of Tunable Polymers as Modular Excipients for Oral Drug Delivery" *American Institute of Chemical Engineering (AIChE) ChEnected Graduate Student Research Spotlight Series*, **Jan. 2016**. URL: aiche.org/chenected

[14] Ting, J. M.; Reineke, T. M. "Design of tunable multifunctional polymers for solubilizing highly lipophilic drugs," *Pacifichem: Macromolecular Self-Assembly for Smart Biopolymers*, **Dec. 2015**. URL: pacifichem.org

[13] Ting, J. M.; Tale, S.; Widanapathirana, L.; Tolstyka, Z.; Jones, S. D.; Li, G.; Guillaudeu, S.; Bates, F. S.; Reineke, T. M. "High-throughput Polymer Screening for Biological Delivery: From Discovery to Design," *Pacific Polymer Conference 14: Bio-related Polymers*, **Dec. 2015**. URL: ppc14.org

[12] Ting, J. M.; Tale, S.; Widanapathirana, L.; Tolstyka, Z.; Jones, S. D.; Li, G.; Guillaudeu, S.; Bates, F. S.; Reineke, T. M. "High-throughput Polymer Screening for Oral Drug Delivery: From Discovery to Design," *American Institute of Chemical Engineers (AIChE) Annual Meeting: Innovations in Drug Delivery Technology*, **Nov. 2015 (invited to be recorded for AIChE Academy webcast)**. URL: aiche.org, AIChE Academy webcast

[11] Ting, J. M.; Tale, S.; Widanapathirana, L.; Tolstyka, Z.; Jones, S. D.; Li, G.; Guillaudeu, S.; Bates, F. S.; Reineke, T. M. "High-throughput Polymer Screening for Biological Delivery: From Discovery to Design," *Dow Solubility Symposium: Solving the Insoluble*, **Oct. 2015**. URL: pharmaandfood.dow.com

[10] Ting, J. M.; Tale, S.; Widanapathirana, L.; Tolstyka, Z.; Jones, S. D.; Li, G.; Guillaudeu, S.; Bates, F. S.; Reineke, T. M. "High-throughput Polymer Screening for Biological Delivery: From Discovery to Design," *Nanomedicine and Drug Delivery Systems Symposium (NanoDDS)*, **Sept. 2015**. URL: nanodds15.org

[9] Ting, J. M.; Tale, S.; Widanapathirana, L.; Tolstyka, Z.; Jones, S. D.; Li, G.; Guillaudeu, S.; Bates, F. S.; Reineke, T. M. "High-throughput Polymer Screening for Biological Delivery: From Discovery to Design," *ACS POLY Polymers in Medicine and Biology Workshop*, **Sept. 2015**. URL: polyacs.net

[8] Ting, J. M.; Tale, S.; Widanapathirana, L.; Jones, S. D.; Li, G.; Guillaudeu, S.; Bates, F. S.; Reineke, T. M. "Design of Tunable Polymers as Excipients for Oral Drug Delivery," *University of Minnesota Doctoral Dissertation Fellowship Seminar Series*, **Oct. 2015** (**invited seminar**). URL: grad.umn.edu

[7] Ting, J. M.; Tale, S.; Widanapathirana, L.; Tolstyka, Z.; Jones, S. D.; Li, G.; Guillaudeu, S.; Bates, F. S.; Reineke, T. M. "High-throughput Polymer Screening for Oral Administration: From Discovery to Design," *Industrial Partnership for Research in Interfacial and Materials Engineering Annual Meeting – Microstructured Polymers Program Review*, **May 2015**. URL: iprime.umn.edu

[6] Ting, J. M.; Navale, T. S.; Reineke, T. M.; Bates, F. S. "Design of Tunable HPMCAS-Inspired Polymers As Modular Oral Excipients to Deliver Poorly Water-Soluble Drugs," *American Institute of Chemical Engineers (AIChE) Annual Meeting: Excellence in Materials Engineering and Science Division – Polymers Graduate Student Research Honorary Awards Session*, **Nov. 2014 (selected as one of 10 nominated presentations, placed 3rd overall)**. URL: aiche.org

[5] Ting, J. M.; Navale, T. S., Bates, F. S.; Reineke, T. M. "Spray Dried Dispersions with Glycopolymers for Oral Drug Delivery," *Industrial Partnership for Research in Interfacial and Materials Engineering Mid-year Workshop – Amorphous Materials: Theory and Practice in Pharmaceuticals and Devices*, **Jan. 2014**. URL: iprime.umn.edu

[4] Ting, J. M.; Navale, T. S.; Bates, F. S.; Reineke, T. M. "Design of Tunable Excipients to Enhance the Solubility and Storage of Poorly Water-soluble Drugs," *Dow Sustainability Innovation Student Challenge Award (SISCA) Competition*, **Dec. 2013** (**finalist, recorded on Institute on the Environment webcast**). URL: environment.umn.edu

[3] Ting, J. M.; Navale, T. S.; Bates, F. S.; Reineke, T. M. "Precise Compositional Control of Multimonomeric Random Copolymers: Excipient Design for Oral Drug Delivery," *American Institute of Chemical Engineers (AIChE) Annual Meeting: Innovations in Drug Delivery Technology*, **Nov. 2013** (**invited to be recorded for AIChE "ChemE on Demand" webcast**). URL: aiche.org, ChE On Demand webcast

[2] Ting, J. M.; Navale, T. S., Bates, F. S., Reineke, T. M. "Sugar-Coated Nanocomplexes: Designed Block Copolymers for Therapeutic Delivery," *Gordon Research Conference: Polymers (Biomimetic Polymers)*, **June 2013**. URL: grc.org

[1] Ting, J. M.; Navale, T. S.; Bates, F. S.; Reineke, T. M. "Precise Monomeric Control of Multicomponent Random Copolymers: Excipient Design for Oral Delivery," *Industrial Partnership for Research in Interfacial and Materials Engineering Annual Meeting – Microstructured Polymers Program Review*, **May 2013**. URL: iprime.umn.edu

Poster Presentations (presenter(s) underlined)

[16] Ting, J. M.; Tale, S.; Purchel, A. A.; Jones, S. D.; Widanapathirana, L.; Tolstyka, Z. P.; Li, G.; Guillaudeu, S. J.; Bates, F. S.; Reineke, T. M. "Strategic, High-throughput Excipient Synthesis and Screening for Poorly-soluble Pharmaceuticals in Oral Drug Delivery," *Gordon Research Conference: Drug Carriers in Medicine & Biology*, **Aug. 2016**. URL: grc.org

[15] Ting, J. M.; Tale, S.; Purchel, A. A.; Jones, S. D.; Widanapathirana, L.; Tolstyka, Z. P.; Li, G.; Guillaudeu, S. J.; Bates, F. S.; Reineke, T. M. "Strategic, High-throughput Excipient Synthesis and Screening for Poorly-soluble Pharmaceuticals in Oral Drug Delivery," *Gordon Research Seminar: Drug Carriers in Medicine & Biology*, **Aug. 2016**. URL: grc.org

[14] Ting, J. M.; Bates, F. S.; Reineke, T. M. "Designing Tunable Polymers as Excipients for Oral Drug Delivery," *University of Minnesota Doctoral Research Showcase*, **Apr. 2016**. URL: grad.umn.edu

[13] Ting, J. M.; Tale, S.; Widanapathirana, L.; Jones, S. D.; Guillaudeu, S. J.; Li, G.; Bates, F. S.; Reineke, T. M. "High-throughput Polymer Screening for Oral Administration: From Discovery to Design," *Industrial Partnership for Research in Interfacial and Materials Engineering Valspar Poster Session*, **Sept. 2015**. URL: iprime.umn.edu

[12] Ting, J. M.; Tale, S.; Widanapathirana, L.; Jones, S. D.; Guillaudeu, S. J.; Li, G.; Bates, F. S.; Reineke, T. M. "High-throughput Polymer Screening for Oral Administration: From Discovery to Design," *Polymers Gordon Research Conference*, **June 2015**. URL: grc.org

[11] Ting, J. M.; Tale, S.; Widanapathirana, L.; Jones, S. D.; Guillaudeu, S. J.; Li, G.; Bates, F. S.; Reineke, T. M. "High-throughput Polymer Screening for Oral Administration: From Discovery to Design," *Polymers Gordon Research Conference*, **June 2015**. URL: grc.org

[10] Ting, J. M.; Tale, S.; Widanapathirana, L.; Jones, S. D.; Guillaudeu, S. J.; Li, G.; Bates, F. S.; Reineke, T. M. "High-throughput Polymer Screening for Oral Administration: From Discovery to Design," *Polymers Gordon Research Seminar*, **June 2015**. URL: grc.org

[9] Ting, J. M.; Mannion, A. M.; Lewis, R.; Chanpuriya, S.; Bates, F. S. "The Bates Group Research Poster," *Department of Chemical Engineering and Materials Science Prospective Graduate Student Visit Weekend*, **Mar. 2015**. URL: chem.umn.edu, cems.umn.edu

[8] Ting, J. M.; Navale, T. S.; Bates, F. S.; Reineke, T. M. "Design of Tunable Polymers to Solubilize Highly Lipophilic Drugs in Oral Formulations," *Gordon Research Conference: Drug Carriers in Medicine & Biology*, **Aug. 2014**. URL: grc.org

[7] Ting, J. M.; Navale, T. S.; Bates, F. S.; Reineke, T. M. "Design of Tunable HPMCAS-inspired Polymers as Modular Oral Excipients," *Industrial Partnership for Research in*

Interfacial and Materials Engineering Annual Meeting – Microstructured Polymers Program Review, **May 2014**. URL: iprime.umn.edu

[6] Ting, J. M.; Bates, F. S.; Reineke, T. M. "Drug Solubilization with Engineered Polymer Design," *Photo Show and Contest for the Graduate Revels at Northrop: Results, Findings, Outcomes*, **Apr. 2014** (**finalist**, SEM photograph displayed in Memorial Hall at the McNamara Alumni Center). URL: grad.umn.edu

[5] Ting, J. M.; Phillips, H. R.; Purchel, A. A.; Jung, S.; Boyle, W. S.; Reineke, T. M. "The Reineke Group Research Poster," *Department of Chemistry and Department of Chemical Engineering and Materials Science Prospective Graduate Student Visit Weekend*, **Mar. 2014**. URL: chem.umn.edu, cems.umn.edu

[4] Ting, J. M.; Navale, T. S.; Bates, F. S.; Reineke, T. M. "Design of Tunable Excipients to Enhance the Solubility and Storage of Poorly Water-soluble Drugs," *Dow Sustainability Innovation Student Challenge Award (SISCA) Competition*, **Dec. 2013** (**finalist**). URL: environment.umn.edu

[3] Navale, T. S.; Ting, J. M.; Bates, F. S.; Reineke, T. M. "Precise Monomeric Control of Multicomponent Random Copolymers: Excipient Design for Oral Drug Delivery," *Gordon Research Conference: Polymers*, **June 2013**. URL: grc.org

[2] Ting, J. M.; Phillips, H. R.; Jung, S.; Boyle, W. S.; Reineke, T. M. "The Reineke Group Research Poster," *Department of Chemistry and Department of Chemical Engineering and Materials Science Prospective Visits*, **Mar. 2013**. URL: chem.umn.edu, cems.umn.edu

[1] Ting, J. M.; Dean, L. M.; Bates, C. M.; Ellison, C. J.; Willson, C. G. "Random Copolymer Synthesis and Characterization for Thermally Annealed Silicon-containing Block Copolymers," *McKetta Department of Chemical Engineering Undergraduate Poster Competition*, **Dec. 2010**. URL: che.utexas.edu

Skills

Polymer Synthesis: reversible addition-fragmentation chain transfer (RAFT) polymerization, atom-transfer radical polymerization (ATRP), free-radical polymerization.

Instrumental Techniques: size-exclusion chromatography with multi-angle static light scattering (SEC-MALS), proton nuclear magnetic resonance spectroscopy (Bruker and Varian; 1D and 2D experiments), scanning electron microscopy (SEM), polarized light microscopy, powder X-ray diffraction (PXRD), modulated differential scanning calorimetry (MDSC), rheometry, Fourier transform infrared spectroscopy (FTIR), static and dynamic light scattering (SLS and DLS), refractometry, ultraviolet–visible spectroscopy (UV-*vis*), high-performance liquid chromatography (HPLC), wide-angle X-ray scattering (WAXS), small-angle X-ray scattering (SAXS), spray drying, micro-centrifuge dissolution tests.

High-throughput Experience (The Dow Chemical Company): semi-continuous parallel pressure reactor (Freeslate ScPPR), turbidity solution testing (TST), liquid robotic handler (Tecan Evo 200).

Software: Mathematica, Matlab, Origin, Igor Pro, JMP, Scifinder, Web of Knowledge, Papers, Adobe Firework/Dreamweaver/Photoshop/Illustrator CS6.

Undergraduate Researchers Supervised

[1] Seamus D. Jones: Senior majoring in Chemical Engineering — 2014 – 2016
- awarded a Department of Energy 2016 Science Undergraduate Laboratory Internship (SULI) at Argonne National Laboratory
- awarded 2016 Sigma Xi George T. Walker scholarship (2 given out for undergraduate students in the chemical sciences field)

Professional Memberships

American Institute of Chemical Engineers (AIChE)	2007 – current
American Chemical Society (ACS)	2015 – current
Division of Polymer Chemistry (POLY)	2015 – current
Division of Polymeric Materials: Science and Engineering Division (PMSE)	2015 – current
Sigma Xi	2015 – current
Tau Beta Pi (TBP)	2008 – 2011
Omega Chi Epsilon (OXE)	2008 – 2011

Professional Service

NSF Workshop: Frontiers in Polymer Science and Engineering, *Organizer* — 2016
The workshop will engage approximately 60 participants representing a broad and comprehensive range of topics spanning polymer science and engineering. As a graduate student assistant to the Chair, I helped the steering committee members with planning and implementation of the workshop. Additionally, I designed and managed the workshop website to dissipate information to the participants and the general public. URL: sites.google.com/a/umn.edu/nsf-polymer-workshop/

POLY/PMSE Grad Panel, *Panelist* — 2016
Senior POLY/PMSE graduate students and postdocs that have recently secured job offers in industry and academia were selected to give their insights into the job search process. I gave perspective on searching for a postdoctoral researcher position while finishing graduate school. URL: www1.chem.umn.edu/grad/polypmse/

ACS POLY/PMSE Student Chapter, *Vice President* — 2015 – 2016
This is a student-run organization, affiliated with the ACS Division of Polymer Chemistry (POLY) and the Division of Polymeric Materials: Science and Engineering (PMSE). As a founding member of this student group, our team raised funding from departments, centers, and companies to support academic lectures, career development workshop, and various social team-building events. URL: chem.umn.edu/grad/polypmse/

Graduate Student Symposium Planning Committee (GSSPC), *Publicity Chair* — 2014 – 2015
Our committee won a nationwide competition to organize a symposium at the 250th American Chemical Society (ACS) National Meeting and

Exposition. I designed the website and promotional items for our event, invited speakers, and contacted companies and organizations for sponsorship. Our speakers included Donde Anderson, Angela Belcher, Carolyn Bertozzi, Joseph DeSimone, Robert Grubbs, Paula Hammond, Dan Nocera, Buddy Ratner, Jonathan Sweedler, and C. Grant Willson. We raised $34,000 and established a Developing Young Innovator Travel Award to support the first-time travel of a student to the ACS conference. URL: chem.umn.edu/grad/gsspc

Featured in ACS Central Science Editorial Article: Bertozzi, C. R. "It's about the Students" *ACS Cent. Sci.*, **2015**, *1*, 279-280. DOI: 10.1021/acscentsci.5b00301 (**ACS AuthorChoice**)

Omega Chi Epsilon – Epsilon Chapter, *Various officer positions* 2008 – 2011

I held leadership positions as Service Chair, Corporate Liaison, Vice President, and President, was elected Best Pledge, implemented undergraduate peer advising (still ongoing at UT Austin), and initiated an annual graduate school panel (still ongoing at UT Austin).

Public Outreach

Energy and U Show, *Chem. Eng. and Mat. Sci. Dept. & Dept. of Chem.* 2011 – 2016

This semi-annual event invites ~5000 elementary students to University of Minnesota campus, where professors inspire students to pursue science and engineering by showcasing the concepts of energy and its challenges for sustainability. I coordinated student arrivals and departures and analyzed data that assessed the learning abilities of students. URL: chem.umn.edu/energyU

Green Chemistry & Green Engineering Exhibit, *Center for Sustainable Polymers* 2015

At the Minnesota State Fair, the Center for Sustainable Polymers organizes an exhibit in the EcoExperience building, which receives over 300,000 visitors each year. I volunteer to staff the exhibit for an evening shift to educate the general public on the overall importance of supporting research in the development of sustainable polymers. URL: csp.umn.edu

Polymer Day: Exploring Careers in Science & Engineering, *Col. of Sci. & Eng.* 2012 – 2015

Every spring for this program, local high school students in the Minneapolis-St. Paul area receive an overview of various mathematics, science, and engineering fields. I co-organized the design and execution of interactive demonstrations (e.g., exploring the mechanical properties of tensile bars, synthesizing and testing polymeric foams) to foster interest and excitement in polymer science. URL: cse.umn.edu/r/k-12-outreach-2

Prospective Weekend CEMS Alumni Outreach, *Chem. Eng. and Mat. Sci. Dept.* 2013 – 2014

Every spring, for prospective graduate student visit weekends the department invites local alumni to meet with visiting prospectives and share their graduate study experiences. My role as a liaison required contacting alumni, coordinating the evening dinner schedule for five different restaurants, and managing financial reimbursement. URL: cems.umn.edu

Nanotechnology in Medicine, *Dept. of Chem. Freshmen Seminar Course* 2013

The Freshmen Seminar course taught by Prof. R. Lee Penn invited Janesville junior high school students to learn about nanotechnology in everyday life. Students discussed the interplay between nanotechnology and biology in the form of targeted therapeutics delivery. I conducted basic fluorescence microscopy and light scattering demos to convey how genes or drugs can be facilitated into cells using polymeric carriers. URL: chem.umn.edu

NSF GRFP Peer Review, *Chem. Eng. and Mat. Sci. Dept.* 2013

The Chemical Engineering and Materials Science Department encourages first- and second-year graduate students to apply for the National Science Foundation Graduate Research Fellowship Program (NSF GRFP) by supporting a peer-review program for research and personal statements. As a NSF GRFP fellow, I facilitated the pairings of interested graduate students to other fellows in the department and co-organized this program with the Directors of Graduate Studies in the department. URL: cems.umn.edu

STEM Academy, *The Association of Multicultural Scientists* 2012

This annual event presents science experiments and projects across all math and science disciplines for kids (ages 8-12). I taught the scientific principles of a non-Newtonian fluid demonstration consisting of cornstarch and water. URL: tc.umn.edu/~ams

Introduce a Girl to Engineering Day, *Cockrell School of Engineering* 2008 – 2011

This annual outreach event brings in more than 2000 elementary students to engage in hands-on engineering demonstrations and meet students, professors, and industrial engineers. I participated in the popular "Chemical Engineers on Fire" activity led by American Institute of Chemical Engineers booth. URL: engr.utexas.edu/wep/k12/girlday

Extracurricular Activities

Website graphics/design: *Bates and Reineke group webmaster, NSF Workshop: Frontiers in Polymer Science and Engineering webmaster* 2012 – 2016

Triathlon Training: *U. Minnesota Tri-U-Mah, Life Time Tri Minneapolis, Wisconsin Milkman Relay Triathlon finisher* 2015, 2016

Running: *TC Ultra Loony Challenge (5K + 10K + Marathon) finisher* 2015

Running: *Austin Marathon, Twin Cities Marathon, Twin Cities 10 Mile Run, Chicago Half Marathon* 2011, 2012, 2014, 2016

Swimming: *four-time University of Texas intramural swimming champion* 2007 – 2011