

# Daniel T. Bregante

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## Education

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- University of Illinois at Urbana-Champaign;** Urbana, IL 2015 – 2020  
Ph.D. in Chemical and Biomolecular Engineering  
Ph.D. Advisor: David W. Flaherty, Ph.D.
- University of California, Berkeley;** Berkeley, CA 2011 – 2015  
B.S. in Chemical and Biomolecular Engineering  
Concentration in Applied Physical Sciences; Minor in Chemistry

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## Professional Experience

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- Postdoctoral Researcher** Aug. 2020 – Present  
Massachusetts Institute of Technology; Cambridge, MA  
Advisor: Professor *Yogesh Surendranath*, Department of Chemistry
- Graduate Researcher** Sept. 2015 – Aug. 2020  
University of Illinois at Urbana-Champaign; Urbana, IL  
Advisor: Professor *David W. Flaherty*, Department of Chemical Engineering
- Analytical Operations Intern** June 2015 – Aug. 2015  
Genentech; San Francisco, CA  
Manager: *Wayman Chan*, Analytical Operations Division
- Undergraduate Researcher** Jan. 2014 – May 2015  
University of California, Berkeley; Berkeley, CA  
Advisor: Professor *Clayton J. Radke*, Department of Chemical Engineering
- Undergraduate Researcher** Jan. 2013 – Dec. 2013  
University of California, Berkeley; Berkeley, CA  
Advisor: Professor *Thomas J. Maimone*, Department of Chemistry
- Chemistry Demonstrations Laboratory** Jan. 2012 – May 2015  
University of California, Berkeley; Berkeley, CA  
Manager: *Karen Chan*, Department of Chemistry

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## Awards & Honors

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- 2019 – 2020 University of Illinois Dissertation Completion Fellowship
- 2019 – 2020 ARCS Foundation Scholar
- 2020 International Congress on Catalysis Travel Award (Postponed due to COVID-19)
- 2020 Schmidt Science Fellows Finalist
- 2016 – 2019 National Defense Science and Engineering Graduate Fellowship
- 2019 Gordon Research Conference Travel Award
- 2019 Graduate College Travel Award
- 2018 ACS Graduate Student Award in Environmental Chemistry
- 2018 AIChE Catalysis and Reaction Engineering Travel Award
- 2017 – 2018 Frederic and Edith Mavis Future Faculty Fellowship
- 2017 – 2018 School of Chemical Sciences Graduate Teaching Award
- 2017 – 2018 Twice on List of Teachers Ranked as Outstanding/Excellent

2017	Richard J. Kokes Graduate Fellowship
2017	Thomas J. Hanratty Travel Award
2016	1 <sup>st</sup> Place Award for Oral Presentations at 15 <sup>th</sup> Annual ChBE Symposium
2015 – 2016	Samuel W. Parr Graduate Fellowship
2014	College of Chemistry Summer Research Fellowship
2013 – 2014	Melvin J. Heger-Horst Undergraduate Fellowship
2013 – 2014	Engineering Undergraduate Scholarship
2013	Frank Delfino Chemical Engineering Summer Research Fellowship

## **Publications**

‡Denotes co-first authorship; §Denotes undergraduate mentee; Manuscript drafts available upon reasonable request

19. Ayla, E.Z.; Potts, D.S.; **Bregante, D.T.**; Flaherty, D.W.; “Linear Free Energy Relationships Describe Alkene Oxidations with H<sub>2</sub>O<sub>2</sub> over Groups 4-6 Metal-Substituted Zeolites” *In review*.
18. Noh, G.; **Bregante, D.T.**; Lam, E.; Meyet, J.; Flaherty, D.W.; Copéret, C.; “Cu Nanoparticles Supported on SiO<sub>2</sub> Decorated with Metal Sites: Effects of Lewis Acid Strength on CO<sub>2</sub>-to-CH<sub>3</sub>OH Hydrogenation” *In review*.
17. Ardagh, M.A.; **Bregante, D.T.**; Flaherty, D.W.; Notestein, J.M.; “Controlled deposition of silica on titania-silica to impart transport limitation-free confinement effects on epoxidation catalysts” *In review*.
16. **Bregante, D.T.**; Potts, D.S.; Kwon, O.; Ayla, E.Z.; Tan, J.Z.; § Flaherty, D.W.; “[Effects of Hydrofluoric Acid Concentration on the Density of Silanol Groups and Water Adsorption in Hydrothermally Synthesized Transition Metal Substituted Silicalite-1](#)” *Chemistry of Materials*, **2020**, Accepted. DOI: <https://doi.org/10.1021/acs.chemmater.0c02405>
15. **Bregante, D.T.**; Tan, J.Z.; § Schultz, R.L.; § Potts, D.S.; Ayla, E.Z.; Torres, C.; Flaherty, D.W.; “[Catalytic Consequences of Oxidant, Alkene, and Pore Structure on Alkene Epoxidations within Titanium Silicates](#)” *ACS Catalysis*, **2020**, Accepted. DOI: <https://doi.org/10.1021/acscatal.0c02183>
14. **Bregante, D.T.**; Tan, J.Z.; § Sustrino, A.; Flaherty, D.W.; “[Heteroatom Substituted Zeolite FAU with Ultralow Al Contents for Liquid-Phase Oxidation Catalysis](#)” *Catalysis Science & Technology*, **2020**, *10*, 635-647.  
\*Featured on the cover of *Catalysis Science & Technology*\*
13. Hong, Y.T.; **Bregante, D.T.**; Lee, C.W.; Seo, Y.; Flaherty, D.W.; Rogers, S.A.; Schook L.G.; Kong, H.; “[Catalytic Microgelators for Decoupled Control of Gelation Rate and Rigidity of the Biological Gels](#)” *Journal of Controlled Release*, **2020**, *317*, 166-180.
12. **Bregante, D.T.**; Flaherty, D.W.; “[Impact of Specific Interactions Among Reactive Surface Intermediates and Confined Water on Epoxidation Catalysis and Adsorption in Lewis Acid Zeolites](#)” *ACS Catalysis*, **2019**, *9*, 10951-10962.
11. **Bregante, D.T.**; Johnson, A.M.; § Patel, A.Y.; § Ayla, E.Z.; Cordon, M.J.; Bukowski, B.C.; Greeley, J.; Gounder, R.; Flaherty, D.W.; “[Cooperative Effects between Hydrophilic Pores and Solvents: Catalytic Consequences of Hydrogen Bonding on Alkene Epoxidation in Zeolites](#)” *Journal of the American Chemical Society* **2019**, *141*, 7302-7319.
10. **Bregante, D.T.**; Thornburg, N.E.; Notestein, J.M.; Flaherty, D.W.; “[Consequences of Confinement on Highly Dispersed Group IV and V Metal Oxide Catalysts for Olefin Epoxidation with Hydrogen Peroxide](#)” *ACS Catalysis* **2018**, *8*, 2995-3010.  
\*Featured on the cover of *ACS Catalysis* and *Mass Transfer Newsletter*\*
9. **Bregante, D.T.**; Patel, A.Y.; § Johnson, A.M.; § Flaherty, D.W.; “[Catalytic Thiophene Oxidation by Groups 4 and 5 Framework-Substituted Zeolites with Hydrogen Peroxide: Mechanistic and](#)

[Spectroscopic Evidence for the Effects of Metal Lewis Acidity and Solvent Lewis Basicity](#) *Journal of Catalysis* **2018**, 364, 415-425.

8. Wilson, N.M.; Schröder, J., Priyadarshini, P.; **Bregante, D.T.**; Kunz, S.; Flaherty, D.W.; [“Direct Synthesis of H<sub>2</sub>O<sub>2</sub> on PdZn Nanoparticles: The Impact of Electronic Modifications and Heterogeneity of Active Sites”](#) *Journal of Catalysis* **2018**, 368, 261-274.
7. Dion, M.Z.; Wang, Y.J.; **Bregante, D.T.**; Chan, W.; Andersen, N.; Hilderbrand, A.; Leiske, D.; Salisbury, C.M.; [“The use of a 2,2’azobis \(2-amidinopropane\) dihydrochloride \(AAPH\) stress model as an indicator of oxidation susceptibility for monoclonal antibodies”](#) *Journal of Pharmaceutical Science* **2018**, 107, 550-558.
6. **Bregante, D.T.**; Flaherty, D.W.; [“Periodic Trends in Olefin Epoxidation over Group IV and V Framework-Substituted Zeolite Catalysts: A Kinetic and Spectroscopic Study”](#) *Journal of the American Chemical Society* **2017**, 139, 6888-6898.  
*\*Highlighted in Illinois News Bureau, Science Daily, Science Newslines, Phys.org, etc.\**
5. **Bregante, D.T.**; Priyadarshini, P.; Flaherty, D.W.; [“Kinetic and Spectroscopic Evidence for Reaction Pathways and Intermediates for Olefin Epoxidation on Nb in \\*BEA”](#) *Journal of Catalysis*, **2017**, 348, 75-89.
4. Wilson, N.M.;<sup>‡</sup> **Bregante, D.T.**;<sup>‡</sup> Priyadarshini, P.; Flaherty, D.W.; [“Production and use of H<sub>2</sub>O<sub>2</sub> for atom-efficient functionalization of hydrocarbons and small molecules”](#) *Catalysis*, **2017**, 29, 122-212.
3. Moteki, T.; Rowley, A.T.; **Bregante, D.T.**; Flaherty, D.W.; [“Formation Pathways toward 2- and 4-Methylbenzaldehyde via Sequential Reactions from Acetaldehyde over Hydroxyapatite Catalysts”](#) *ChemCatChem*, **2017**, 9, 1921-1929.
2. Dursch, T.J.; Liu, D.E.; Taylor, N.O.; Chan, S.Y.; **Bregante, D.T.**; Radke, C.J.; [“Diffusion of Water-Soluble Sorptive Drugs in HEMA/MAA Hydrogels”](#) *Journal of Controlled Release* **2016**, 239, 242-248.
1. Dursch, T.J.; Liu, D.E.; Oh, Y.; **Bregante, D.T.**; Chan, S.Y.; Radke, C.J.; [“Equilibrium water and solute uptake in silicone hydrogels”](#) *Acta Biomaterialia* **2015**, 18, 112-117.

### **Patent Applications**

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2. Flaherty, D.W.; **Bregante, D.T.**; “Synthesis of Zeolite or Zeotype” U.S. Patent Application No. 63/032,320 (2020)
1. Flaherty, D.W.; **Bregante, D.T.**; “Heteroatom Substituted Zeolites” U.S. Patent Application No. 62/944,412 (2019)

### **Oral Presentations**

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16. **Bregante, D.T.**; Tan, J.Z.;<sup>§</sup> Chan, M.; Shukla, D.; Flaherty, D.W.; “The Shape of Water in Zeolites and Its Impact on Alkene Epoxidations” 2020 AIChE National Meeting, November 20<sup>th</sup>, 2020; Virtual
15. **Bregante, D.T.**; Tan, J.Z.;<sup>§</sup> Schultz, R.L.;<sup>§</sup> Potts, D.S.; Ayla, E.Z.; Torres, C.; Flaherty, D.W.; “Micropore-Mediated Interactions among Surface Intermediates: Role of Oxidant Structure and Pore Size on Alkene Epoxidation in Titanium Silicates” 2020 AIChE National Meeting, November 20<sup>th</sup>, 2020; Virtual
14. **Bregante, D.T.** “The Shape of Water (in Zeolites): Consequences for Epoxidation Catalysis” CEMS Department Seminar at the University of Minnesota; February 20<sup>th</sup>, 2020; Minneapolis, MN (**Invited**)
13. **Bregante, D.T.**; Schultz, R.L.;<sup>§</sup> Ayla, E.Z.; Tan, J.Z.;<sup>§</sup> Torres, C.; Flaherty, D.W. “Influence of Oxidant Chemical Functionality on Alkene Epoxidation over Lewis Acid Zeolites: Intermediate Stabilization

through Inner- and Outer-Sphere Interactions” 2019 AIChE National Meeting; November 13th, 2019; Orlando, FL

12. **Bregante, D.T.;** Tan, J.Z.;<sup>§</sup> Patel, A.Y.;<sup>§</sup> Flaherty, D.W. “Catalysis in Tight Spaces: Confined Solvent Structures Influence Stability of Surface Intermediates during Alkene Epoxidation within Lewis Acid Zeolites” 2019 AIChE National Meeting; November 11th, 2019; Orlando, FL
11. **Bregante, D.T.;** Tan, J.Z.;<sup>§</sup> Schultz, R.L.;<sup>§</sup> Patel, A.Y.;<sup>§</sup> Torres, C.; Ayla, E.Z.; Flaherty, D.W. “Interactions between Surface Species and Confined Solvent Structures within Lewis Acid Zeolites: The (De)Stabilization of Catalytically-Relevant Intermediates” ACS Fall 2019 National Meeting; Aug. 25<sup>th</sup>, 2019; San Diego, CA
10. **Bregante, D.T.;** Tan, J.Z.;<sup>§</sup> Patel, A.Y.;<sup>§</sup> Ayla, E.Z.; Flaherty, D.W. “Confined Solvent Structures within Lewis Acid Zeolites Influence the Stability of Surface Species at the Liquid-Solid Interface” 2019 Gordon Research Conference: Nanoporous Materials and Their Applications; August 5<sup>th</sup>, 2019; New London, NH (*Invited from GRS speakers*)
9. **Bregante, D.T.;** Tan, J.Z.;<sup>§</sup> Patel, A.Y.;<sup>§</sup> Ayla, E.Z.; Flaherty, D.W. “Confined Solvent Structures within Lewis Acid Zeolites Influence the Stability of Surface Species at the Liquid-Solid Interface” 2019 Gordon Research Seminar: Nanoporous Materials and Their Applications; August 4<sup>th</sup>, 2019; New London, NH (*Invited*)
8. **Bregante, D.T.;** Flaherty, D.W. “Solvent Effects in Confined Spaces: Catalytic Consequences of Hydrophilicity on Alkene Epoxidation in Titanium Zeolites” Army Research Office Chemical Sciences Program Review; June 27<sup>th</sup>, 2019; Durham, NC – *PI Invitation; Presented in place*
7. **Bregante, D.T.;** Cordon, M.J.; Gounder, R.; Flaherty, D.W. “Solvent Effects in Confined Spaces: Catalytic Consequences of Hydrophilicity on Alkene Epoxidation in Titanium Zeolites” 26<sup>th</sup> North American Meeting of the Catalysis Society (NAM 26); June 24<sup>th</sup>, 2019; Chicago, IL
6. **Bregante, D.T.;** Johnson, A.M.;<sup>§</sup> Patel, A.Y.;<sup>§</sup> Ayla, Z.; Flaherty, D.W. “The Catalytic Consequences of Silanol Densities within Titanium BEA on Alkene Epoxidation with Hydrogen Peroxide” 2018 AIChE National Meeting; November 1<sup>st</sup>, 2018; Pittsburgh, PA
5. **Bregante, D.T.;** Flaherty, D.W. “Structure-Function Relationships for Dispersed Early Transition Metals on Porous Oxides” Army Research Office Chemical Sciences Program Review; August 2<sup>nd</sup>, 2018; Durham, NC – *PI Invitation; Presented in place*
4. **Bregante, D.T.;** Johnson, A.M.;<sup>§</sup> Patel, A.Y.;<sup>§</sup> Ayla, Z.; Thornburg, N.E.; Cordon, M.J.; Gounder, R.; Notestein, J.M.; Flaherty, D.W. “The Catalytic Consequences of Active Intermediate Polarization, Transition State Confinement, and Silanol Density on Alkene Epoxidation with Hydrogen Peroxide over Highly Disperse Group 4 and 5 Metal Oxides” Catalysis Club of Chicago Symposium; May 11<sup>th</sup>, 2018; Naperville, IL
3. **Bregante, D.T.;** Thornburg, N.E.; Notestein, J.M.; Flaherty, D.W. “Group IV and V Periodic Trends in Olefin Epoxidation: Effects of Local Environment and Electronic Structure” 2017 AIChE National Meeting; November 1<sup>st</sup>, 2017; Minneapolis, MN
2. **Bregante, D.T.;** Flaherty, D.W.; “Kinetic and Spectroscopic Evidence for Periodic Trends in Olefin Epoxidation over Group IV and V \*BEA” 25<sup>th</sup> North American Meeting of the Catalysis Society (NAM 25); June 6<sup>th</sup>, 2017; Denver, CO

1. **Bregante, D.T.**; Flaherty, D.W.; “Periodic Trends in Olefin Epoxidation over Group IV and V Zeolite Catalysts” 253<sup>rd</sup> ACS National Meeting; Apr. 6<sup>th</sup>, 2017; San Francisco, CA

### **Poster Presentations**

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14. **Bregante, D.T.**; Wilcox, L.N.; Paolucci, C.; Gounder, R.; Flaherty, D.W. “Kinetics of O<sub>2</sub> Activation over Cu-exchanged Zeolites: Implications for Partial Methane Oxidation” 2019 AIChE National Meeting; November 13<sup>th</sup>, 2019; Orlando, FL
13. **Bregante, D.T.**; Wilcox, L.N.; Paolucci, C.; Gounder, R.; Flaherty, D.W. “Kinetics of O<sub>2</sub> Activation over Cu-exchanged Zeolites: Implications for Partial Methane Oxidation” 2019 AIChE National Meeting; November 12<sup>th</sup>, 2019; Orlando, FL – *Exxon Mobil Poster Presentation (Invited)*
12. **Bregante, D.T.**; “Engineering the Catalytic Environment: Synthetic, Mechanistic, Spectroscopic Approaches for Developing Design Principles” 2019 AIChE National Meeting; November 10<sup>th</sup>, 2019; Orlando, FL – *Meet the Faculty Candidate Poster Session*
11. **Bregante, D.T.**; “Molecular Interactions at Solid-Liquid Interfaces for Oxidation Catalysis” ARCS Annual Reception; Oct. 16<sup>th</sup>, 2019; Chicago, IL (*Invited*)
10. **Bregante, D.T.**; Tan, J.Z.;<sup>§</sup> Schultz, R.L.;<sup>§</sup> Patel, A.Y.;<sup>§</sup> Torres, C.; Ayla, E.Z.; Flaherty, D.W. “Interactions between Surface Species and Confined Solvent Structures within Lewis Acid Zeolites: The (De)Stabilization of Catalytically-Relevant Intermediates” ACS Fall 2019 National Meeting; Aug. 25<sup>th</sup>, 2019; San Diego, CA – *Sci-Mix (Invited)*
9. **Bregante, D.T.**; Tan, J.Z.;<sup>§</sup> Patel, A.Y.;<sup>§</sup> Ayla, E.Z.; Flaherty, D.W. “Confined Solvent Structures within Lewis Acid Zeolites Influence the Stability of Surface Species at the Liquid-Solid Interface” 2019 Gordon Research Conference: Nanoporous Materials and Their Applications; August 5<sup>th</sup>, 2019; New London, NH
8. **Bregante, D.T.**; Flaherty, D.W. “Confined Chaos: Disruption of Hydrogen-Bonded Water by Hydrophobic Surface Intermediates within Lewis Acid Zeolites” Catalysis Club of Chicago Symposium; April 16<sup>th</sup>, 2019; Naperville, IL
7. **Bregante, D.T.**; Patel, A.Y.;<sup>§</sup> Johnson, A.M.;<sup>§</sup> Flaherty, D.W. “Catalytic Thiophene Oxidation by Groups 4 and 5 Zeolite BEA with H<sub>2</sub>O<sub>2</sub>: Mechanistic and Spectroscopic Evidence for the Effects of Metal Lewis Acidity and Solvent Lewis Basicity” 2018 AIChE National Meeting; October 31<sup>st</sup>, 2018; Pittsburgh, PA
6. **Bregante, D.T.**; Thornburg, N.E.; Notestein, J.M.; Flaherty, D.W.; “Group IV and V Periodic Trends in Olefin Epoxidation: Effects of Electronic Structure and Local Environment” 2017 AIChE National Meeting; November 1<sup>st</sup>, 2017; Minneapolis, MN
5. **Bregante, D.T.**; Flaherty, D.W.; “Periodic Trends in Olefin Epoxidation over Group IV and V Zeolite Catalysts” Catalysis Club of Chicago Symposium; May 16<sup>th</sup>, 2017; Naperville, IL
4. **Bregante, D.T.**; Flaherty, D.W.; “Reaction Pathways and Intermediates for Epoxidation on Nb-\*BEA” Catalysis Club of Chicago Symposium; May 17<sup>th</sup>, 2016; Naperville, IL
3. **Bregante, D.T.**; Chan, W.; Xu, A.; “Automation of a high-throughput assay to quantify peptide modification in mAbs by UHPLC-HRMS” Genentech Internship Poster Presentation; Aug. 15<sup>th</sup>, 2015; South San Francisco, CA



2. **Bregante, D.T.**; Dursch, T.J.; Peng, C.C.; Radke, C.J.; "Sliding Friction Coefficient of Soft Surface-Gel Coatings for Soft Contact Lenses" Saegebarth Undergraduate Research Fair; Apr. 24, 2015; Berkeley, CA
1. **Bregante, D.T.**; Dursch, T.J.; Peng, C.C.; Radke, C.J.; "Surface Gel Coatings for Soft Contact Lenses" Saegebarth Undergraduate Research Fair; Apr. 25, 2014; Berkeley, CA

### ***Teaching Experience***

<i>Kinetics and Reactor Design</i> (ENGR 462) Role: <i>Ad hoc</i> Instructor	Olivet Nazarene University Spring 2019
<i>Chemical Kinetics and Catalysis</i> (ChBE 551) Role: Teaching Assistant and Guest Lecturer Instructor: Prof. David W. Flaherty	University of Illinois Fall 2018
<i>Mass Transfer and Operations</i> (ChBE 422) Role: Teaching Assistant and Guest Lecturer Instructor: Prof. David W. Flaherty	University of Illinois Fall 2017
<i>Chemical Structure and Reactivity</i> (Chem 3A) Role: Teaching Assistant Instructor: Prof. Steven Pedersen	UC Berkeley Summer 2014
<i>Organic Chemistry I</i> (Chem 112A) Role: Teaching Assistant Instructor: Prof. Anne Baranger	UC Berkeley Fall 2013

### ***Undergraduate Mentees (with awards won while mentored; [last known location])***

At the *University of Illinois*

- **Ami Y. Patel** [Exxon Mobil] Jan. 2017 – May 2020
  - 2018 R.J. Van Mynen Chemical Engineering Scholarship
  - 2017 National Science Foundation Research Experience for Undergraduates
- **Jun Zhi Tan** [Ph.D. Student at Princeton ChemE] Sept. 2018 – May 2020
  - 2020 Princeton Graduate Student Fellowship
  - 2020 Chemical Engineering Alumni Scholarship
  - 2019 Finalist for Outstanding Poster Award at Undergraduate ChBE Research Symposium
- **Rebecca L. Schultz** [UIUC] Feb. 2018 – May 2019
  - 2018 National Science Foundation Research Experience for Undergraduates
- **Alayna M. Johnson** [Ph.D. Student at MIT Chemistry] Jan. 2017 – May 2018
  - 2018 Barry M. Goldwater Scholarship
  - 2017 Outstanding Researcher award at the Summer Research Symposium
  - 2017 Best Oral Presentation at the Eastern Central Illinois ACS Conference
  - 2017 National Science Foundation Research Experience for Undergraduates
- **Katherine E. Nagode** [Corning Inc.] May – Nov. 2016
  - 2016 National Science Foundation Research Experience for Undergraduates

### ***Professional Service and Synergistic Activities***

- **Conference Abstract Peer Reviewer:** AIChE National Meeting (2019, 2020); Catalysis Club of Chicago (2019)
- **Conference Session Chair:** AIChE National Meeting (2019, 2020); Catalysis Club of Chicago (2019)
- **Manuscript Reviewer:** Applied Catalysis B: Environmental; Catalysis Science & Technology; Catalysis Communications; Chemical Engineering Science

- **Membership:** American Chemical Society (ACS); American Institute of Chemical Engineers (AIChE); Catalysis Club of Chicago (CCC); The Electrochemical Society (ECS); International Zeolite Association (IZA); North American Catalysis Society (NACS); Tau Beta Pi (TBP)
- **Outreach and Service Activities (University):** Cal Alumni Association Scholarship Reviewer (2016 – Present); Summer Pre-doctoral Institute Mentor (2018 – 2020); Eastern Central Illinois ACS Undergraduate Conference Judge (2017 – 2020); Summer Research Opportunities Program Mentor (2017 – 2018); Omega Chi Epsilon Chemical Engineering Student Panel (2016 – 2020); Engineering Prospective Graduate School Panel (2016 – 2020); Undergraduate Research Symposium Judge (2018 – 2020); Mentees and Mentors Relationships in Research (NSF-REU, 2016 – 2019); Vice President of Graduate Student Advisory Committee (2016 – 2017)
- **Outreach Activities (K-12):** Catalyzing your Interest in Engineering at Illinois (CURIE, 2019); Girls Adventures in Mathematics, Engineering, and Science (GAMES, 2016 – 2018); Berkeley Engineers and Mentors (BEAM, 2014 – 2015)