

Ariel Zelmanowitz Plantz

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EDUCATION

University of Texas at Austin: Cockrell School of Engineering
Mcketta Department of Chemical Engineering

Ph.D. Expected: Spring 2025
Cumulative GPA: 3.89

University of California at Berkeley: College of Chemistry
Chemical Engineering (Energy and Environment Concentration)

B.S. Awarded: May 2020
Cumulative GPA: 3.65

Specialized Coursework

- Climate Change Mitigation, Carbon Capture and Sequestration, Sustainability for Engineers

LABORATORY EXPERIENCE

Graduate Research Assistant: Gary T. Rochelle Lab

October 2020 - Present

- Studied the oxidation of amine solutions for carbon capture
- Focused on iron assisted oxidation of piperazine

Undergraduate Research: Jeffrey A. Reimer Lab

January 2018 – May 2020

- Self-directed in situ solution-state NMR to study precursors to MOF crystallization
- Re-engineered a solid-state nuclear magnetic resonance (NMR) probe to detect Thallium and Lithium nuclei
- Conducted dynamic analysis of diffusion in metal organic frameworks (MOFs) using NMR
- Synthesized a wide array of MOFs and organic linkers
- Designed NMR sample holder using Fusion360 to increase efficiency and ease of experiments

Publications

- Popp, T. M. O.; **Plantz, A. Z.**; Yaghi, O. M.; Reimer, J. A. Precise Control of Molecular Self-Diffusion in Isorecticular and Multivariate Metal-Organic Frameworks. *ChemPhysChem* **2019**, *1*, 32-35.
- Mao, H.; Tang, J.; Xu, J.; Peng, Y.; Chen, J.; Wu, B.; Jiang, Y.; Hou, K.; Chen, S.; Wang, J.; Lee, H. R.; Halat, D. M.; Zhang, B.; Chen, W.; **Plantz, A. Z.**; Lu, Z.; Cui, Y.; Reimer, J. A. Revealing Molecular Mechanisms in Hierarchical Nanoporous Carbon via Nuclear Magnetic Resonance. *Matter* **2020**, *6*, 2093-2107.

TEACHING EXPERIENCE

An Insider's Guide to Berkeley Engineering (Instructor)

Fall 2018

- Taught academic and professional engineering skills to Berkeley freshmen
- Developed individualized lessons around resume building, academic planning, interview skills, and study strategies to meet the needs of each student

ACADEMIC AWARDS AND HONORS

University of Texas, Austin

August 2020 - Present

- Cockrell School of Engineering Topper Fellowship
- Graduate School Recruitment Fellowship

Fall 2020 - Present

Fall 2020

University of California, Berkeley

August 2016 – May 2020

- John M. Prausnitz Award for Outstanding Undergraduate Research in CBE
- College of Chemistry Stauffer Undergraduate Summer Research Scholarship
- Inducted into Tau Beta Pi (top eighth of junior standing undergraduate engineers)
- Dean's List (3.9 GPA requirement)
- Honors (cumulative GPA within top 20% of College of Chemistry)

May 2020

Summer 2018 & Summer 2019

Fall 2017

Spring 2017

Fall 2016 & Spring 2017

WORK EXPERIENCE

Marketing Associate: Ashkenaz Music & Dance Community Center

June 2017 - February 2018

- Spearheaded publicity for 6-8 shows per week including print, social media, and radio ads
- Created and implemented novel marketing strategies to expand audience base and increase ticket sales by approximately 75%
- Restructured and coordinated flow of information between artists, sound engineers, and booking staff

SKILLS

Drafting, Programming, and Engineering Skills

- Proficient in MATLAB, Adobe Illustrator, and Fusion360
- Experience with 3D printing, laser cutting, and soldering

Communication and Language Skills

- Updated research sponsors and collaborators at the Texas Carbon Management Program biannual meeting
- Presented work to peers at the College of Chemistry Spring 2018 Undergraduate Research Fair
- Conversational Spanish
- Elementary Yiddish

HONOR SOCIETIES AND PROFESSIONAL MEMBERSHIPS

*American Chemical Society**Fall 2018 – Present**Tau Beta Pi: The Engineering Honor Society**Fall 2017 – Present**American Institute of Chemical Engineers**Fall 2016 - Present***CLUBS & ACTIVITIES**

*UT Austin ChemE Graduate Leadership Council**Outreach Chair**October 2020 – Present*

- Organized volunteer opportunities for graduate students in chemical engineering
- Crafted a K-5 virtual science demonstration booth for UT Austin Girl Day
- Put together holiday donation drive to service the Salvation Army, Central Texas Food Bank, and SAFE Alliance Women's Shelter

*Tau Beta Pi: The Engineering Honor Society**Treasurer**May 2019 – May 2020*

- Balanced club budget
- Organized and presented budget and funding requests to student government

*President**December 2018 – May 2019*

- Obtained university sponsorship
- Mediated disputes and helped officers work cooperatively through compromise
- Fostered an inclusive environment to boost officer retention by 50%

*Vice President**May 2018 – December 2018*

- Set requirements for admission into society
- Host and put together all major events for prospective members throughout the semester

*Publicity Chair**December 2017 - May 2018*

- Organized publicity team and increased event attendance using social media marketing
- Took initiative to sell vintage TBP apparel to alumni to increase club revenue

*American Chemical Society (ACS): Corporate Outreach Committee**August 2018 – May 2019*

- Co-hosted and volunteered at UC Berkeley Career Center's 2018 STEM career fair

*UC Berkeley Chem-E-Car: Mechanical Team**September 2016 – May 2018*

- Cooperated with mechanical engineers to prepare the chassis for annual competition
- Collaborated with peers to design and build cars to use in competition and at community outreach events
- Utilized Adobe Illustrator, Fusion360, 3D printers, and laser cutters to complete final product

COMMUNITY SERVICE

*Volunteer Deputy Registrar – Travis County**August 2020 – Present*

- Organized and participated in voter registration drives prior to the 2020 general election

*Volunteer at Central Texas Food Bank**June 2020 – Present*

- Broke down boxes and took out the trash
- Inspected donations to ensure food safety

*Cal Engineering Overnight Host-Program**Fall 2017 – May 2020*

- Hosted prospective Berkeley engineers for a weekend program showcasing Berkeley engineering every fall
- Focused outreach towards underrepresented communities in the bay area
- Mentored students on college applications after the program concluded