**S. Eileen Seo**

Arizona State University

School for Engineering of Matter, Transport and Energy Email: eileenseo@asu.edu

Biodesign Center for Sustainable Macromolecular Materials and Manufacturing Phone: 602-496-4280

797 E Tyler St, Office C293 Tempe, AZ 85281 [faculty.engineering.asu.edu/eseo/](https://faculty.engineering.asu.edu/eseo/)

**Professional Appointments**

Arizona State University, Tempe Campus **2021 – present**

**Assistant Professor** of Chemical Engineering

**Faculty** of Biodesign Center for Sustainable Macromolecular Materials and Manufacturing

**Graduate Faculty** of School of Molecular Sciences (Chemistry)

**Graduate Faculty** of Materials Science and Engineering

University of California, Santa Barbara **2018 – 2021
Postdoctoral Fellow** (Advisor: Craig J. Hawker)

Research focus: 2- and 3D polymeric materials using light-mediated radical polymerization reactions

**Education**

Northwestern University **2012 – 2018**

**Ph.D.** in Chemistry (Advisor: Chad A. Mirkin)

Thesis: Single Crystal Engineering with DNA

University of California, Berkeley  **2008 – 2011**  **B.S.** in Chemical Biology in College of Chemistry (Advisor: Jamie H. D. Cate)

**Research Interests**

Polymer nanocomposites; stimuli-responsive polymeric and composite materials; photo-mediated 3D printing of chemically reprocessable polymers; self-assembly of kinetically controlled nanoparticle superlattices; macromolecule sustainability.

**Awards/Fellowships**

|  |  |
| --- | --- |
| BioPACIFIC MIP Catalyzing Automated Polymer Synthesis Fellowship | **2025** |
| ACS PRF Doctoral New Investigator Grant | **2024** |
| DOE Early Career Research Program | **2024** |
| Oak Ridge Associated Universities (ORAU) Ralph E. Powe Junior Faculty Enhancement Award | **2023** |
| ASU Lightworks Sustainable Fuels and Products (SF&P) Seed Funding | **2023** |
| Engineering for One Planet Faculty Fellowship | **2023** |
| Dow MI/MRL Travel Fellowship Award, UCSB | **2020** |
| Outstanding Oral Presentation Award, Polymers for Advanced Technologies | **2019** |
| International Institute for Nanotechnology (IIN) Outstanding Researcher Award, IIN | **2018** |
| Fellowship in Center of Computation and Theory of Soft Materials, Northwestern University | **2016** |
| NUANCE Image Gallery Award, Northwestern University  | **2015** |
| Fellowship in Center for Bio-Inspired Energy Science, Northwestern University | **2015** |
| Presidential Fellowship Semi-Finalist, Northwestern University | **2015** |

**Journal Publications from ASU**

1. Mirkin, C. A. et al., 33 Questions in Nanoscience. **2025,** In preparation.
2. Seo, S. E., Lee, B., Oh, T., Girard, M., Mirkin, C. A.\* Thermal Processing of DNA-Colloidal Crystals at Elevated Salt Concentration Activates Phase Transition. **2025**, In Preparation.
3. Gonzalez Calvo, T., Yu, J. -C., Seo, S. E.\* Photoswitching Controlled Radical Polymerizations under UV and Visible Light. **2025**, In Preparation.
4. Du, J., Qi, X., Seo, S. E., Zhang, S., Borkiewicz, O. J. Crystallization and Assembly at Interfaces: Celebrating the Achievements of a Vibrant Research Community. *MRS Adv.* **2024,** *9*, 1037-1038 [[doi: 10.1557/s43580-024-00922-0](https://link.springer.com/article/10.1557/s43580-024-00922-0)].
5. Yu, J. -C., Browne, R. A., Seo, S. E.\* Mechanically Robust, Self-Healing Polymer Nanocomposites with Tailorable Nanoparticle-Based Bonds. *Macromolecules* **2024**, *57*, 9059-9066 [[doi: 10.1021/acs.macromol. 4c01013](https://urldefense.com/v3/__https%3A/doi.org/10.1021/acs.macromol.4c01013__;!!IKRxdwAv5BmarQ!Z8Zd1XQkcieOWl0h2802NMBDR9pRD51WKsTYpx0OwitBIjdtilCsB0ECibX3Um2G-cZgFQvbnY8y_A9pziQ$" \t "_blank)].
6. Alfarhan, S., Nettles, J., Prabhudesai, P., Yu, J. -C., Westover, C., Tang, T., Wang, W., Chen, X., Seo, S. E., Li, X., Long, T. E., Jin, K. Directing Network Degradability using Wavelength-Selective Thiol-Acrylate Photopolymerization. *Polym. Chem.* **2024,** *15*, 1141 [[doi: 10.1039/D3PY01285A](https://doi.org/10.1039/D3PY01285A)].
7. (Invited) Gonzalez Calvo, T.,+ Hawkins, K.,+ Seo, S. E.\* Rapid, Visible Light-Controlled Cationic Polymerization of Vinyl Ethers for 3D Printing of Chemically Reprocessable Networks under Ambient Conditions. *J. Polym. Sci.* **2024**, *62*, 2630 [[doi.org/10.1002/pol.20230678](https://doi.org/10.1002/pol.20230678)]. \*featured as a journal cover.
8. Kwon, Y., Seo, S. E., Lee, J., Berezvai, S., Read de Alaniz, J., Eisenbach, C. D., McMeeking, R. M., Hawker, C. J., Valentine, M. T.\* 3D-Printed Polymer Foams Maintain Stiffness and Energy Dissipation under Repeated Loading. *Compos. Commun.* **2023**, *37*, 101453 [[doi: 10.1016/j.coco.2022.101453](https://doi.org/10.1016/j.coco.2022.101453%22%20%5Ct%20%22_blank%22%20%5Co%20%22Persistent%20link%20using%20digital%20object%20identifier)].

**Journal Publications Prior to ASU**

1. Seo, S. E., Kwon, Y., Dolinski, N. D., Sample, C. S., Self, J., Bates, C. M., Valentine, M. T., Hawker, C. J.\* Three-Dimensional Photochemical Printing of Thermally Activated Polymer Foams. *ACS Appl. Polym. Mater.* **2021**, *3*, 4984-4991 [[doi: 10.1021/acsapm.1c00726](https://pubs.acs.org/doi/abs/10.1021/acsapm.1c00726)].
2. Seo, S. E., Hawker, C. J.\* The Beauty of Branching in Polymer Science. *Macromolecules* **2020**, *53,* 3257-3261 [[doi: 10.1021/acs.macromol.0c00286](https://pubs.acs.org/doi/pdf/10.1021/acs.macromol.0c00286)].
3. Abdilla, A., Dolinski, N. D., de Roos, P., Ren, J. M., van der Woude, E., Seo, S. E., Zayas, M. S., Lawrence, J., Read de Alaniz, J., Hawker, C. J.\* Polymer Stereocomplexation as a Platform for Scalable Nanoparticle Assembly. *J. Am. Chem. Soc.* **2020**, *142,* 1667-1672 [[doi: 10.1021/jacs.9b10156](https://pubs.acs.org/doi/10.1021/jacs.9b10156)].
4. Seo, S. E., Discekici, E. H., Zhang, Y., Bates, C. M., Hawker, C. J. Surface-Initiated PET-RAFT Polymerization under Metal-Free and Ambient Conditions using Enzyme Degassing. *J. Polym. Sci.* **2020**, *58,* 70-76 [[[doi](https://onlinelibrary.wiley.com/doi/full/10.1002/pola.29438): 10.1002/pola.29438](https://onlinelibrary.wiley.com/doi/full/10.1002/pola.29438)].
5. Jung, K., Corrigan, N., Ciftci, M., Xu, J., Seo, S. E., Hawker, C. J., Boyer, C.\* Designing with Light: Advanced 2D, 3D, and 4D Materials. *Adv. Mater.* **2020**, *32,* 1903850 [[doi: 10.1002/adma.201903850](https://onlinelibrary.wiley.com/doi/10.1002/adma.201903850)].
6. Seo, S. E., Girard, M., de la Cruz, M. O., Mirkin, C. A.\* The Importance of Salt-Enhanced Electrostatic Repulsion in Colloidal Crystal Engineering with DNA. *ACS Cent. Sci.* **2019**, *5,* 186-191 [[[doi](https://pubs.acs.org/doi/abs/10.1021/acscentsci.8b00826): 10.1021/acscentsci.8b00826](https://pubs.acs.org/doi/abs/10.1021/acscentsci.8b00826)].
7. Seo, S. E., Girard, M., de la Cruz, M. O., Mirkin, C. A.\* Non-Equilibrium Anisotropic Colloidal Single Crystal Growth with DNA. *Nat. Commun.* **2018**, *9,* 4558 [[[doi](https://www.nature.com/articles/s41467-018-06982-9): s41467-018-06982-9](https://www.nature.com/articles/s41467-018-06982-9)]*.*
8. Gabrys, P. A.,+ Seo, S. E.,+ Wang, M. X.,+ Oh, E., Macfarlane, R. J., Mirkin, C. A.\* Lattice Mismatch in Crystalline Nanoparticle Thin Films. *Nano Lett.* **2018**, *18,* 579-585 [[[doi](https://pubs.acs.org/doi/abs/10.1021/acs.nanolett.7b04737): 10.1021/acs.nanolett.7b04737](https://pubs.acs.org/doi/abs/10.1021/acs.nanolett.7b04737)].
9. Wang, M. X.,+ Brodin, J. D.,+ Millan, J. A., Seo, S. E., Girard, M., de la Cruz, M. O., Lee, B., Mirkin, C. A.\* Altering DNA-Programmable Colloidal Crystallization Paths by Modulating Particle Repulsion. *Nano Lett.* **2017**, *17,* 5126-5132 [[[doi](https://pubs.acs.org/doi/abs/10.1021/acs.nanolett.7b02502): 10.1021/acs.nanolett.7b02502](https://pubs.acs.org/doi/abs/10.1021/acs.nanolett.7b02502)].
10. Seo, S. E.,+ Li, T.,+ Senesi, A. J., Mirkin, C. A., Lee, B.\* The Role of Repulsion in Colloidal Crystal Engineering with DNA. *J. Am. Chem. Soc*. **2017**, *139,* 16528-16535 [[[doi](https://pubs.acs.org/doi/abs/10.1021/jacs.7b06734): 10.1021/jacs.7b06734](https://pubs.acs.org/doi/abs/10.1021/jacs.7b06734)]*.*
11. Wang, M. X.,+ Seo, S. E.,+ Gabrys, P. A., Fleischman, D., Lee, B., Kim, Y., Atwater, H. A., Macfarlane, R. J., Mirkin, C. A.\* Epitaxy: Programmable Atom Equivalents *versus* Atoms. *ACS Nano* **2017**, *11,* 180-185 [[[doi](https://pubs.acs.org/doi/abs/10.1021/acsnano.6b06584): 10.1021/acsnano.6b06584](https://pubs.acs.org/doi/abs/10.1021/acsnano.6b06584)].
12. Seo, S. E.,+ Wang, M. X.,+ Shade, C. M., Rouge, J. L., Brown, K. A., Mirkin, C. A.\* Modulating the Bond Strength of DNA-Nanoparticle Superlattices. *ACS Nano* **2016**, ***10,* 1771-1779 [**[[doi](https://pubs.acs.org/doi/abs/10.1021/acsnano.5b07103): 10.1021/acsnano.5b07103](https://pubs.acs.org/doi/abs/10.1021/acsnano.5b07103)**].**
13. Shade, C. M., Kennedy, R. D., Rouge, J. L., Rosen, M. S., Wang, M. X., Seo, S. E., Clingerman, D. J., Mirkin, C. A.\* Duplex Selective Ruthenium-Based DNA Intercalators. *Chemistry* **2015**, *21,* 10983-10987 [[[doi](https://onlinelibrary.wiley.com/doi/full/10.1002/chem.201502095): 10.1002/chem.201502095](https://onlinelibrary.wiley.com/doi/full/10.1002/chem.201502095)].

**Patents**

1. Mirkin, C. A.,\* Shade, C. M., Rouge, J. L., Seo, S. E., Wang, M. X. “DNA Intercalators with Duplex-Selective Luminescence Enhancement and Their Use as Nanoparticle-Conjugate Sensing Agents.” Patent 9969759, Issued May 2018.
2. Seo, S. E.,\* Yu, J. -C. “Dynamic Supramolecular Bonds in Self-Healing Polymer Nanocomposites.” Provisional U.S. Patent 2952332-000021, non-provisional patent filed April **2024** (US Patent Application Serial No. 18/645,069).

**Presentations**

1. Invited: *Stimuli-Responsive Materials and Nanocomposites, Pacifichem 2025* — Honolulu, HI, December **2025**.
2. Invited: *DuPont Polymer Processing Community of Practice* — virtual, May **2025**.
3. Invited: *Polymers and Soft Matter Program, MIT* — Boston, MA, April **2025**.
4. Invited: *Seminar at the Oak Ridge National Laboratory* — Oak Ridge, TN, February **2025**.
5. *Polymer Blends: Eurofillers 2025 Conference* — Lyon, France, January **2025**.
6. Invited: *Korea Institute of Science and Technology* — Seoul, Korea, December **2024**.
7. Invited: *Department of Chemistry and Nanoscience, Ewha Womans University* — Seoul, Korea, December **2024**.
8. Invited: *Department of Chemical and Biological Engineering, University of New Mexico* — Albuquerque, NM, October **2024**.
9. Invited: *2024 International Symposium on Stimuli-Responsive Materials* — Sonoma, CA, October **2024**.
10. Invited: *Syensqo Stimuli-Responsive Polymers Lecture* — Alpharetta, GA, August **2024**.
11. Invited: *Gordon Research Conference; Additive Manufacturing of Soft Materials* — Smithfield, RI, August **2024**.
12. Invited: *ACS Fall Meeting* — Denver, CO, August **2024**.
13. *IUPAC Macro 2024 World Polymer Congress* — Warwick, UK, July **2024**.
14. Invited: *Polymer Group Meeting at Sandia National Laboratories* — Albuquerque, NM, July **2024**.
15. (Poster) *2024 Tosoh Polymer Conference* — Raleigh, NC, June **2024**.
16. *ACS Spring Meeting, Adaptive Materials from Dynamic Polymer Networks and Composites* — New Orleans, LA, March **2024**.
17. *ACS Spring Meeting, Many Flavors of Polymer Chemistry for 3D Printing* — New Orleans, LA, March **2024**.
18. Invited: *UCSB-ASU Partnership Meeting* — Santa Barbara, CA, February **2024**.
19. Invited: *2024 Biodesign Institute Town Hall, 7 Minutes of Science* — Tempe, AZ, February **2024**.
20. *AIChE Annual Meeting, Polymer Thermodynamics, Self-Assembly, and Polymer-Molecule Interactions II* — Orlando, FL, November **2023**.
21. *AIChE Annual Meeting, Polymer Synthesis and Reaction Engineering* — Orlando, FL, November **2023**.
22. Invited: *AIChE Annual Meeting, 2023 KIChE-US Chapter Emerging Junior Investigator Forum* — Orlando, FL, November **2023**.
23. Invited: *2023 International Symposium on Stimuli-Responsive Materials* — Sonoma, CA, October **2023**.
24. *ASU Technical Advisory Board Meeting* — Tempe, AZ, October **2023**.
25. Invited: *Emerging Engineer and Scientist Seminar Series in the Department of Mechanical Engineering at Ohio State University* — Virtual, October **2023**.
26. Invited: *ASU Biological Design Seminar Series* — Tempe, AZ, September **2023**.
27. Invited: *Department of Chemical Engineering Seminar, Korea University* — Seoul, South Korea, May **2023**.
28. Invited: *Department of Chemical and Biological Engineering, Colorado School of* *Mines* — Golden, CO, April **2023**.
29. *AIChE Annual Meeting, 3D Printing of Composites* — Phoenix, AZ, November **2022**.
30. *ACS Fall Meeting* — Chicago, IL, August **2022**.
31. (Poster) *Additive Manufacturing of Soft Materials Gordon Research Conference* — Ventura, CA, August **2022**.
32. *ACS Spring Meeting* — San Diego, CA, March **2022**.
33. *ASU Technical Advisory Board Meeting* — Tempe, AZ, February **2022**.
34. Invited: *Biodesign Center for Sustainable Macromolecular Materials and Manufacturing Seminar Series* — Tempe, AZ, October **2021**.
35. Invited: *School for Engineering of Matter, Transport & Energy, Arizona State University* — Tempe, AZ, February **2021**.
36. Invited: *Department of Materials Science and Engineering, University of California, Berkeley* — Berkeley, CA, February **2021**.
37. *ACS Fall Meeting* — Virtual Meeting, August **2020**.
38. Invited: *Department of Materials Science and Engineering, Cornell University* — Ithaca, NY, February **2020**.
39. *Polymers for Advanced Technologies Conference* — College Station, TX, August **2019**.
40. (Poster) *Materials Research Outreach Program* — Santa Barbara, CA, January **2019**.
41. Invited: *SPIE-MRSEC Student Seminar Series at Northwestern University* — Evanston, IL, March **2018**.
42. Invited: *Materials Research Laboratory, University of California, Santa Barbara* — Santa Barbara, CA, November **2017**.
43. (Poster) *Gordon Research Conference on Noble Metal Nanoparticles* — South Hadley, MA, June **2016**.
44. Invited: *Korean American Scientists and Engineers Association Seminar Series at Northwestern University* — Evanston, IL, March **2016**.
45. (Poster) *Materials Research Society National Meeting* — San Francisco, CA, April **2015**.

**Teaching**

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| --- | --- |
| Introduction to Applied Chemical Thermodynamics, CHE342 | Fall **2024** |
| Circular Plastics Laboratory, CHE/CHM 598 | Spring **2024 –** **2025** |
| Soft Matter Morphology, CHE/CHM 494/598 | Spring **2023 –** **2025** |
| Thermodynamics of Chemical Systems, CHE543 | Fall **2021 –** **2023** |

 **Professional Activities and Service (External)**

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| --- | --- |
| *Session Chair* for the American Institute of Chemical Engineers, MES Division*Excellence in Graduate Polymer Research* | **2025** |
| *Session Chair* for the International Symposium on Stimuli-Responsive Materials  | **2024 –** **2025** |
| *Faculty Chair* for the ACS POLY National Graduate Research Polymer Conference, Tempe, AZ | **2024 –** **2025** |
| *Session Chair* for the American Institute of Chemical Engineers, MES Division*Polymer Synthesis and Reaction Engineering* | **2024** |
| *MRS Advances Co-Editor* | **2024** |
| *Doolittle Judge* for the ACS Fall Meeting, Denver CO | **2024** |
| *Poster Judge* for the ACS Fall Meeting, Denver CO | **2024** |
| *Discussion Leader* for Gordon Research Conference: Additive Manufacturing of Soft Materials | **2024** |
| *Discussion Leader* for Tosoh Polymer Conference | **2024** |
| *Proposal Reviewer* for *NSF BioPACIFIC MIP (UCSB/UCLA)* | **2023 –** **2025** |
| *Track Chair* for the Society for Laboratory Automation and Screening Meeting*Micro-and Nanotechnology* | **2023** **–** **2024** |
| *Session Chair* for the Society for Laboratory Automation and Screening Meeting *Next Generation 3D Printing in Medicine* | **2023** **–** **2024** |
| *Session Chair* for the American Institute of Chemical Engineers, MES Division*Polymer Synthesis and Reaction Engineering* | **2023** |
| *Graduate Student Award Reviewer* for the 2023 MRS Fall Meeting, Boston MA | **2023** |
| *Symposium Organizer* for the 2023 MRS Fall Meeting, Boston MA*Crystallization and Assembly at Interfaces* | **2023** |
| *Session Chair* for the Society for Laboratory Automation and Screening Meeting *Nanomedicine* | **2023** |
| *Associate Track Chair* for the Society for Laboratory Automation and Screening Meeting*Micro-and Nanotechnology* | **2022** **–** **2023** |
| *Session Chair* for the American Institute of Chemical Engineers, MES Division*Polymer Synthesis and Reaction Engineering**Polymer Thermodynamics and Self-Assembly* | **2022** |
| *NSF DMR Workshop: Materials Laboratories of the Future* | **2022** |
| *Mentor* for NSF EFRI REM Program | **2022** **–** **2024** |
| *Mentor* for the Chemistry Women Mentorship Network |  **2022** |
| *Peer Reviewer* for RSC Applied Polymers | **2024– present** |
| *Peer Reviewer* for Macromolecules | **2024– present** |
| *Peer Reviewer* for Polymer Chemistry | **2024– present** |
| *Peer Reviewer* for ACS Nano | **2023– present** |
| *Peer Reviewer* for Giant | **2023– present** |
| *Peer Reviewer* for ACS Applied Polymer Materials | **2022 – present** |
| *Peer Reviewer* for Journal of American Chemical Society | **2021 – present** |
| *Peer Reviewer* for Journal of Polymer Science | **2018 – present** |
| *Reviewer* for the Office of Basics Energy Sciences within DOE |  |
| *Review Panelist* for Programs in NSF SBIR/STTR, ENG (Interfacial Engineering, Nanoscale Interactions), CHE (Macromolecular, Supramolecular, and Nanochemistry) Divisions, and Graduate Research Fellowship Program  |  |

**Professional Activities and Service (Internal)**

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| --- | --- |
| *Internal Culture Committee,* Chemical Engineering Program | **2024** |
| *Lead PI,* NSF EFRI REM Program | **2024** |
| *Faculty Hiring Committee*, SEMTE/Center for Biomaterials Innovation and Translation | **2023 – 2024** |
| *New Faculty Advisory Council*, Ira A. Fulton Schools of Engineering | **2023 – present** |
| *Faculty Mentor* for AIChE ASU Student Chapter | **2023 – present** |
| *External Engagement Leader* for Biodesign Center for SM3 | **2021 – present** |
| *Mentor* for Swing 4 SWE (The Society of Women Engineers) | **2023** |
| *Poster Judge* for Biodesign FUSION 2023 Retreat | **2023** |
| *Scientist* for Meet the Scientist Working in Sustainability Day – Grades KG-2 | **2022** |
| *Faculty Hiring Committee*, School of Molecular Sciences/Center for SM3  | **2021 – 2023** |
| *Poster Judge* for Biomaterials Day Conference  | **2021** |
| *Review Committee* for Fulton Undergraduate Research Initiative and Master’s Opportunity for Research in Engineering | **2021, 2023** |
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| Prior to ASU |  |
| Future Leaders in Advanced Materials, UCSB, Mentor | **2019** |
| Careers Conference, University of Chicago, Teaching Volunteer | **2016** |
| STEM and Sports Day, Northwestern University, Course Designer | **2015** |
| Science In The Classroom, Northwestern University, Teaching Volunteer | **2014 – 2016** |

**Professional Organizations and Boards**

American Chemical Society (ACS), ACS POLY Division, ACS PMSE Division, Biodesign Center for Sustainable Macromolecular Materials and Manufacturing, American Institute of Chemical Engineers, Korea Technology Advisory Group (International Collaborative Research and Development Program in Korea Institute for Advancement of Technology initiated by MOTIE, South Korea).

**Research and Training Grants**

1. NSF EFRI E3P GOALI: Waste Management and Circularity of Crosslinked Polyurethane Foams – REM Supplement (co-PI with T. Long, K. Song, K. Biegasiewicz, M. Green, K. Jin), 6/1/22-5/31/23, $110,000.

PI Recognition: $11,000 (10%)

1. NIST Training for Improving Plastics Circularity Grant Program – Exciting Students for Sustainability with Curriculum, Open-Access Resources and Training (ESSCORT) (co-PI with T. Long, K. Jin, R. Xie, J. Oswald, C. Muhich, M. Green, K. Dooley), 9/1/22-8/31/24, $500,000.

PI Recognition: $50,000 (10%)

1. ASU Lightworks Sustainable Fuels and Products (SF&P) Seed Funding (Lead PI with co-PI M. Lind, M. Green, F. Perreault), 1/1/23-6/30/23, $15,000.

PI Recognition: $3,750 (25%)

1. NSF EFRI E3P GOALI: Waste Management and Circularity of Crosslinked Polyurethane Foams – REM Supplement (co-PI with T. Long, K. Song, K. Biegasiewicz, M. Green, K. Jin, R. Xie), 6/1/23-5/31/24, $110,000.

PI Recognition: $15,400 (14%)

1. ORAU Ralph E. Powe Junior Faculty Enhancement Award, 6/1/23-5/31/24, $10,000.

PI Recognition: $10,000 (100%)

1. Arizona New Economy Initiative (NEI) Performance Engineering and Research for Optimizing Response Mechanisms (PERFORM) Science and Technology Center (STC) Funding with ALTR FLTR: Improving Health and Wellbeing by Reducing Alcohol Consumption Through New Processes to Produce Alcohol-free Beverages (co-PI with M. Lind, M. Green), 9/1/23-8/31/24, $129,492.

PI Recognition: $38,848 (30%)

1. Arizona Water Innovation Initiative. Global Center for Water Technology: Selective Removal of Low Molecular Weight Molecules from Industrial Wastewater (co-PI with M. Lind), 12/1/20-12/31/24, $40,000,004.

PI Recognition: $400,000 (1%)

1. NSF EFRI E3P GOALI: Waste Management and Circularity of Crosslinked Polyurethane Foams – REM Supplement (co-PI with T. Long, M. Green, K. Jin, J. Self, Y. Simon, C. Sample), 6/1/24-5/31/25, $110,000.

PI Recognition: $44,000 (40%)

1. ACS National Graduate Research Polymer Conference Proposal (Lead PI) – ASU has been selected, 2025.
2. DOE: Sandia National Laboratories (SNL): Sustainable Engineering Polymers Designed for On-Demand Depolymerization (co-PI with T. Long (PD)), 4/1/23-9/30/24, $182,747.

PI Recognition: $45,687 (25%)

1. ASU Knowledge Enterprise Core Facilities Seed Funding Pilot Program, 12/19/23-7/15/24, $2,500.

PI Recognition: $2,500 (100%)

1. NSF IUCRC Phase II Arizona State University: Center for Science of Heterogeneous Additive Printing of 3D Materials (SHAP3D) (co-PI with T. Long (PD), M. Green, Y. Simon, K. Jin), 5/1/24-4/30/29, $118,660.

PI Recognition: $23,732 (20%)

1. National Research Foundation of Korea: Innovative Electroanalytical Method and Portable Sensor Development Utilizing Diffusion Mechanism in Redox Couples and Individual Particle Behavior Analysis (co-PI with B. Kim (Ewha Womans University)), 5/1/24-4/30/27, $90,000.

PI Recognition: $90,000 (100%)

1. NSF 2025 ACS National Graduate Research Polymer Conference: Polymer Sustainability: Diverse Strategies for Addressing Global Challenges (DMR/POLY), 9/1/24-3/21/25, $6,000.

PI Recognition: $6,000 (100%)

1. DOE Early Career Research Program: Dynamically Switching Polymer Networks using Transmutable Nanoparticles as Crosslinks, 7/1/24-6/31/29, $1,073,959.

PI Recognition: $1,073,959 (100%)

1. ACS PRF Doctoral New Investigator Grant: Designing Mechanically Robust, Self-Healing Polymer Nanocomposites with Tunable Interfacial Interactions, 9/1/25-8/31/27, $110,000.

PI Recognition: $110,000 (100%)

1. NSF IUCRC SHAP3D: Photoswitching Chemistries for Multimaterial 3D Printing, 1/1/25-12/31/25, $48,886.

PI Recognition: $48,886 (100%)

1. NSF BioPACIFIC MIP User Proposal/CAPS Fellowship: Pervaporation Polymer Membrane Design for Continuous Removal of Alcohol (PI with M. Lind (co-PI)), 3/1/25-3/31/25, $10,000.

PI Recognition: $10,000 (100%)

**Mentoring**

Current Ph.D. Students

* Jen-Chieh Yu, 4th year, Chemical Engineering, School for Engineering of Matter, Transport and Energy (SEMTE Outstanding TA Award, **2023**, **2024** Excellence in Graduate Polymer Research Award at the ACS Spring Meeting, Einstein award for best use of physical principles at Fusion **2024**).
* Thalia Gonzalez Calvo, 4th year, School of Molecular Sciences (George U. Yuen Memorial Award for the **2023-2024** academic year, Marie Curie award for best use of chemistry at Fusion **2024**, **2024** School of Molecular Sciences Outstanding Graduate Student Merit Award).
* Jordy Sarmas Farf$\acute{a}$n, 3rd year, Chemical Engineering, School for Engineering of Matter, Transport and Energy.
* Jimmy Lei, 1st year, Chemical Engineering, School for Engineering of Matter, Transport and Energy.

Current M.S. Students

* Mihir Patel, Chemical Engineering, School for Engineering of Matter, Transport and Energy (Applied Project, MORE Fellow, **2024-2025**).
* Gina Briones, Chemistry, School of Molecular Sciences (**2024**).

Current Undergraduate Students

* Justin Diao, Chemical Engineering, School for Engineering of Matter, Transport and Energy (FURI Fellow, **2024**).
* Maren Thompson, Chemical Engineering, School for Engineering of Matter, Transport and Energy (Thesis, FURI Fellow, **2024**).
* Michael Swart, Chemical Engineering, School for Engineering of Matter, Transport and Energy (**2024**).

M.S. Students Graduated

* Christina Sims, 4+1 Student, Chemical Engineering, School for Engineering of Matter, Transport and Energy (Applied Project, **2023**).
* Ryan Browne, 4+1 Student, Chemical Engineering, School for Engineering of Matter, Transport and Energy (Applied Project, **2022**).
* Kade Hawkins, Chemical Engineering, School for Engineering of Matter, Transport and Energy (Thesis, MORE Fellow, **2021-2023**).
* Braxton Bradbeer, 4+1 Student, Chemical Engineering, School for Engineering of Matter, Transport and Energy (Applied Project, **2023**).
* Luca Welch, 4+1 Student, Chemical Engineering, School for Engineering of Matter, Transport and Energy (Applied Project, **2024**).
* Soham Sanghvi, Chemical Engineering, School for Engineering of Matter, Transport and Energy (Applied Project, MORE Fellow, **2024**).

Summer NSF REM (equivalent to REU) Students

* Helen Nguyen, Biomedical Engineering, School of Biological and Health Systems Engineering (**2024** Spring).
* Karyme Medina Castillo, Chemistry at Smith College (**2024** Summer).
* Esther Tan, Chemical and Biomolecular Engineering at University of Maryland (**2023** Summer).
* Taras Nagornyy, Chemical Engineering at UMass Amherst (**2022** Summer, MIT (PhD)).

**Visiting Faculty**

Byung-Kwon Kim, Professor, Department of Chemistry and Nanoscience, Ewha Womans University, South Korea (**2024**)

**Dissertation Committee**

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* Rose McDonough, Ph.D. in Chemistry, Committee Chair: T. Long
* Charlotte Barker, Ph.D. in Chemistry, Committee Chair: T. Long
* Taysha Telenar, Ph.D. in Chemical Engineering, Committee Chair: M. Green
* Kacie Niimoto, Ph.D. in Chemical Engineering, Committee Chair: M. Green
* Ani Nazari, Ph.D. in Chemical Engineering, Committee Chair: M. Green
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* Ann-Carolin Jahn, Ph.D. in School of Molecular Sciences, Committee Chair: C. Sample
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* Gabriel Niles, Ph.D. in Chemical Engineering, Committee Chair: K. Jin
* Bradley Grim, Ph.D. in Chemical Engineering, Committee Chair: M. Green
* Husain Mithaiwala, Ph.D. in Chemical Engineering, Committee Chair: M. Green
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* Yusi Li, Ph.D. in Chemical Engineering, Committee Chair: M. Lind
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* Gareth Fuller, M.S. Project in Chemical Engineering, Committee Chair: K. Rege
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* Ramasai Dharani Harika Nalam, M.S. Thesis in Chemical Engineering, Committee Chair: J. Lin