Exponent®
Engineering & Scientific Consulting

Keldy Mason, Ph.D.

Scientist | Polymers & Chemistry
Menlo Park
+1-650-688-6791 | kmason@exponent.com

Professional Profile

Dr. Mason is trained as a polymer chemist and materials scientist, with specialized experience in photo-curing polymers, additive manufacturing, chemical recycling, and polymer synthesis. He leverages broad expertise in formulation, synthesis, and analytical techniques to consult on a variety of projects, with an emphasis on failure analysis, materials compatibility, composition, and performance optimization.

Dr. Mason has extensive experience with polymer characterization and analytical techniques, including nuclear magnetic resonance (NMR), gel permeation chromatography (GPC), Fourier transform infrared spectroscopy (FTIR), differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), rheology, tensile testing, and other spectroscopic methods.

Prior to joining Exponent, Dr. Mason earned his Ph.D. in Chemistry from the University of Texas at Austin. During his doctoral work, he was recognized with awards such as the UT Austin Discovery to Impact Proof of Concept Award and held an internship at Sandia National Laboratories. His research focused on development of novel photopatterning techniques for multi-scale control of polymer architectures, with applications in critical resource recovery and automation of additive manufacturing.

Academic Credentials & Professional Honors

Ph.D., Chemistry, University of Texas, Austin, 2026

B.A., Chemistry, Lewis & Clark College, 2020

Prior Experience

Graduate Research Assistant, UT Austin, 2020–2025

Graduate Research & Development Intern, Sandia National Laboratories, 2024

Professional Affiliations

American Chemical Society

Publications

Mason KS, Cater HL, Saada BJ, Liu Y, Page ZA. Bifunctional ruthenium alkylidene initiator for outward growth of block copolymers via ring-opening metathesis polymerization. Journal of Polymer Science 2025; 63(16):3379–3385.

Mason KS, Kim J-W, Recker EA, Nymick JM, Shi M, Stolpen FA, Ju J, Page ZA. Multicolor digital light

processing 3D printing enables dissolvable supports for freestanding and non-assembly structures. ACS Central Science 2025; 11(6):975–982.

Dhand AP, Bean RH, Chiaradia V, Commisso AJ, Dranseike D, Fowler HE, Fraser JM, Howard H, Kaneko T, Kim J-W, Kronenfeld JM, Mason KS, O'Dea CO, Pashley-Johnson F, Procincula DH, Segal MI, Yu S, Saccone MA. Advances in vat polymerization: early-career researchers shine light on a path forward. RSC Applied Polymers 2025; 3(3):574–591.

Kutagulla S, Carmichael P, Coupin M, Mutyala D, Ignacio N, Le NH, Bohn ITC, Kim J-W, Mason KS, Warner J, Aluru N, Korgel BA, Page ZA, Akinwande D. Ozonated monolayer graphene for extended performance and durability in hydrogen fuel cell electric vehicles. ACS Nano. 2025; 19(9):9422–9431.

Kiker MT, Uddin A, Stevens LM, O'Dea CJ, Mason KS, Page ZA. Onium photocages for visible-light-activated poly(thiourethane) synthesis and 3D printing. Journal of the American Chemical Society 2024; 146(29):19704–19709.

Mason KS†, Huang S-Y†, Emslie SK, Zhang Q, Humphrey SH, Sessler JL, Page ZA. 3D printed porous supramolecular sorbents for cobalt recycling. Journal of the American Chemical Society 2024; 146(6):4078–4086. † Authors contributed equally.

Stevens LM, Recker EA, Zhou KA, Garcia VG, Mason KS, Tagnon C, Abdelaziz N, Page ZA. Counting all photons: efficient optimization of visible light 3D printing. Advanced Materials Technologies 2023; 8(23):230052.

Rylski AK, Cater HL†, Mason KS†, Allen MJ†, Arrowood AJ, Freeman BD, Sanoja GE, Page ZA. Polymeric multimaterials by photochemical patterning of crystallinity. Science 2022; 378(6616)211–215. † Authors contributed equally.

Presentations

Mason KS, Huang S-Y, Emslie SK, Zhang Q, Humphrey SM, Sessler JL, Page ZA. Hierarchical structured sorbents for cobalt recycling. GRC: additive manufacturing of soft materials. Poster presentation, Smithfield, RI, August 11, 2024.

Mason KS, Huang S-Y, Emslie SK, Zhang Q, Humphrey SM, Sessler JL, Page ZA. 3D-printed porous supramolecular sorbents for cobalt recycling. Oral presentation, carbon invited speaker for Materials Team, Redwood City, CA, 2023.

Mason KS, Huang S-Y, Emslie SK, Zhang Q, Humphrey SM, Sessler JL, Page ZA. 3D-printed porous supramolecular sorbents for cobalt recycling. Oral presentation, Fall 2023 National Meeting, San Francisco, CA, 2023.