



Exponent®

Engineering & Scientific Consulting

Keli Thurston, Ph.D., P.E.

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Professional Profile

Dr. Thurston specializes in characterization of engineering materials and their modes of failure, with a particular focus in the fatigue and fracture of traditional and exotic metallic alloys. She is experienced in the design and implementation of mechanical testing and post-testing analyses on a range of materials including metals, glasses, composites, and polymers.

Dr. Thurston has significant experience with a versatile array of fractographic and spectroscopic analysis techniques including scanning electron microscopy (SEM), fluorescence confocal microscopy, electron backscatter diffraction (EBSD), grazing incidence x-ray diffraction (GIXD), x-ray diffraction (XRD), and Fourier-transform infrared spectroscopy (FTIR).

During her tenure as a graduate student researcher at the University of California, Berkeley and Lawrence Berkeley National Laboratory, Dr. Thurston studied the mechanical and microstructural properties of unusual metallic alloy systems such as bulk metallic glasses and 'high-entropy' alloys. She is well versed in the development and execution of mechanical testing procedures and has extensive practice working with servo-hydraulic load frames. Her thesis examined the temperature dependence of the crack-propagation behavior in the 'high-entropy' alloy CrMnFeCoNi under high-cycle fatigue with a focus on the impact of cryogenic conditions.

Academic Credentials & Professional Honors

Ph.D., Materials Science and Engineering, University of California, Berkeley, 2018

M.S., Materials Science and Engineering, University of California, Berkeley, 2016

B.S., Materials Science and Engineering, Cornell University, 2013

Licenses and Certifications

Professional Engineer Metallurgical, California, #2038

Professional Affiliations

Materials Research Society

The Minerals, Metals & Materials Society

Tau Beta Pi

Publications

Thurston KVST, Gludovatz B, Hohenwarter A, Laplanche G, George EP, Ritchie RO. Effect of temperature on the fatigue-crack growth behavior of the high-entropy alloy CrMnFeCoNi. *Intermetallics* 2017; 88:65-72.

Gludovatz B, Granata D, Thurston KVST, Loffler J, Ritchie RO. On the understanding of sample size on the variability of fracture toughness of bulk metallic glasses. *Acta Materialia* 2017; 126:494-506.

Gludovatz B, Hohenwarter A, Thurston KVST, Bei H, Wu Z, George EP, Ritchie RO. Exceptional damage-tolerance of a medium-entropy alloy CrCoNi at cryogenic temperatures. *Nature Communications* 2016; 7:10602.

Presentations

Thurston KVST, Gludovatz B, George EP, Ritchie RO. On the temperature dependence of fatigue-crack propagation in the CrMnFeCoNi high-entropy alloy. Symposium presentation, 147th TMS Annual Meeting & Exhibition, Phoenix, AZ, 2018.

Thurston KVST, Gludovatz B, George EP, Ritchie RO. Temperature dependent fatigue and failure in high-entropy Cantor alloy CrMnFeCoNi. Symposium presentation, MRS Fall Meeting & Exhibit, Boston, MA, 2017.

Thurston KVST, Gludovatz B, Laplanche G, George EP, Ritchie RO. The effect of temperature on fracture and fatigue in the high-entropy alloy CrMnFeCoNi. Poster presentation, 146th TMS Annual Meeting & Exhibition, San Diego, CA, 2017.