**Erik Sease**

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**Summary**

Graduate student at University of California, Riverside, pursuing a Ph.D. in Materials Science and Engineering. Graduate Student Researcher and member of the Mathaudhu Research Group, specializing in the processing, performance, properties, and structure relationship of metallic materials. Bachelor of Science in Metallurgical and Materials Engineering from the Colorado School of Mines.

**Education**

**University of California, Riverside, Riverside CA Expected Graduation June 2022**

Ph.D. in Materials Science and Engineering

Cumulative GPA: 3.9

**Colorado School of Mines, Golden CO Graduated December 2015**

Bachelor of Science in Metallurgical & Materials Engineering, degree awarded December 2015

Cumulative GPA: 2.9, Major GPA: 3.1

**Publications**

**Production of High Strength Bulk Nanocrystalline Silver Alloys by Cryomilling**

**and Spark Plasma Sintering In Preparation**

Erik Sease, Evander Ramos, Suveen Mathaudhu, Ricardo Komai, Vladilena Gaisina

**Work Experience**

**Graduate Student Researcher: Mathaudhu Research Group 2017 – Current**

Research in high-strength nanocrystalline silver alloys for high strain rate applications. Responsibilities include project management, literature-based research and experimental design for PhD degree work

**Lifeguard and Water Safety Instructor 2017**

North of the River Recreation & Park District, Bakersfield, CA.

**Traditional Log Cabin Construction Team Member 2015 – 2016**

Part of multidisciplinary team building traditional log cabins from raw local materials in the Colorado Rocky Mountains, Golden, CO

**Hazen Research Inc. 2014**

Intern in pyrometallurgy department. Responsibilities included operation, assembly and disassembly of fluidized bed reactor pilot plant and auxiliary components, daily collection and consolidation of reactor samples and data, Golden, CO

**Innovation Exploration Ventures LLC.**   **2013**

Operated magnetometer and spectrometer as part of a field team looking for anomalies associated with iron and rare earth metals. Managed daily work schedule, responsible for care and maintenance of equipment. Quality controlled and archived data, daily report management, Casper, WY

**Projects**

**Ph.D. Dissertation Project Fall 2017 – Current**

Top-down and bottom-up processing of nanocrystalline silver alloys for high strain-rate applications. Processing achieved through powder metallurgy, field assisted sintering techniques and severe plastic deformation processing routes.

**Ceramics Engineering Project Fall 2015**

Designed using SolidWorks CAD program and successfully 3D printed a polymer model ternary phase diagram.

**Manufacturing Processes Project Fall 2015**

Examined reduction of warping and defect propagation in 3D printed polymer thin sections.

**Senior Design Spring 2015**

Worked with multi-disciplinary team to develop a process for fabricating aluminum alloy micro-lattices to be used in impact energy-absorbing sportswear. Fabricated a sufficient number of lattices to perform mechanical testing on performance of micro-lattice design.

**Metallurgy of Welding Project Fall 2014**

Conducted experiments to determine the effects of multiple-pass gas metal arc welding on the strength of common structural steels.

**Technical Skills**

**Sample preparation and production**

High energy ball milling, cryogenic ball milling, spark plasma sintering, glovebox use and processing, reactive powder handling, manual metallurgical sample preparation and polishing, etching, sand casting, spin casting, shielded metal arc welding, lathe, micromill, 3D printing of CAD

**Advanced microstructural and chemical characterization**

Scanning electron microscopy (SEM), concentric backscatter (CBS), energy dispersive spectroscopy (EDS), x-ray diffractometry (XRD), light optical microscopy (LOM)

**Mechanical properties characterization**

Vickers microhardness, Archimedes’ method for density measurement, black/white image thresholding for density measurement, tensile testing

**Software**

SolidWorks, Malvern Panalytical HighScore, OriginPro, Microsoft Office

**Affiliations**

Group member of the Mathaudhu Research Group, UCR

American Citizen

Member of the Colorado School of Mines Materials Advantage Chapter (CSMMAC)

Member of the Society of Petroleum Engineers (SPE International)

Member of the Association for Iron and Steel Technology (AIST), the American Ceramic Society (ACerS), the American Society for Metals (ASM International), and The Minerals, Metals and Materials Society (TMS)

**Volunteer Work**

**UCR Science and engineering outreach at Riverside Unified School District 2018 – Current**

Outreach with focus on bringing the fundamentals of STEM to younger age groups through relevant media and pop-culture to cultivate early interest in STEM education paths.

**Kern County American Red Cross Chapter Volunteer 2016 – 2017**

Responsibilities including computer database support, disaster shelter management readiness, volunteer intake and profiling, Bakersfield, CA.

**Central California region Vex Robotics Youth Competitions Competition Judge 2016 – 2017**

Bakersfield, CA.

**Other Languages**

**Spanish**

Working proficiency in speaking, writing, and reading comprehension.