TAYLOR A. OGDEN

www.TaylorOgden.engineer
801 - 842 - 4776 togden@gmail.com Salt Lake City, Utah

Education

University of Utah - M.S. in Mechanical Engineering May 2019
Cumulative GPA: 3.733

University of Utah - B.S. in Mechanical Engineering Dec 2016
Cumulative GPA: 3.385

Skills

Research and Data Collection: SolidWorks 3D Modeling and Simulations, Design of Experiments, Statistical Analysis
Programming: MATLAB, Arduino, C++, HTML, CSS | github.com/togden
Characterization and Analysis Techniques: SEM, EDS, micro/nano hardness testing, DIC, Instron

Work Experience

Regional Applications Engineer, Russell Mineral Equipment *Salt Lake City, Utah* May 2019 - Present
- Identifies and supports new business development, and expansion of existing RME relining services to new and existing sites.
- Assesses and advises clients on commercial proposals related to RME's mill relining products and services.
- Provides technical aid to customers using RME products and makes recommendations for alternate use, new products, upgrades, or replacements as required.
- Gives technical advice to management and operating departments related to mill relining.

Design Engineer, Aquafect LLC *Bountiful, Utah* May 2016 - Dec 2016
- Contracted to design and test acrylic water tanks for use in decorative water features.
- Created 3D models of prototype water tanks and used SolidWorks to perform hydrostatic load simulations.
- Selected prototypes for further testing based on the simulation results and carried out real-world load tests on those designs.

Instructor, American Indian Services PREP *Blanding, Utah* Jun 2016 - Aug 2016
- Instructor and mentor for junior high academic pre-engineering summer program for students from Navajo reservations in Southern Utah, Arizona, and Colorado.
- Planned and taught intensive courses in Algebra and Introductory Physics.
- Adapted study sessions to needs of individual students and fostered an environment of acceptance, respect, and learning.

Research and Projects

Ultrasound Freeze Casting - *Master's Research* Jan 2017 - Dec 2018
- Developed a novel process for manufacturing bioinspired ceramic scaffolds that mimic ring structures found in nature (e.g. tree rings, Liesegang rings).
- Identified and resolved problems throughout the development process and reported progress weekly.
- Carried out mechanical tests to quantify the change in properties within the scaffolds and ran statistical analyses on the collected data.
- Published results in the scientific journal *Materials & Design* and presented a poster at the *TMS 2018* conference.

Programmable Decorative Fountain - *Undergraduate Senior Design* Jan 2016 - Dec 2016
- Worked with a team of students to design and build a decorative water fountain that displayed a variety of customizable patterns in sheets of falling water.
- Targeted client specifications through open communication and an iterative design process.
- Performed fluid dynamics simulations to optimize fountain flow under given product parameters.

Publications

1. Niksiar, P., Su, F.Y., Frank, M.B., **Ogden, T.A.**, Naleway, S.E., Meyers, M.A., McKittrick, J., Porter, M.M. "External Field Assisted Freeze Casting" *Ceramics*, Mar 2019, 2, 208-234.
2. **Ogden, T. A.**, Prisbrey, M., Nelson, I., Raeymaekers, B., Naleway, S. E. "Ultrasound freeze casting: Fabricating bioinspired porous scaffolds through combining freeze casting and ultrasound directed self-assembly" *Materials & Design*, Jan 2019.
3. Nelson, I., **Ogden, T. A.**, Khateeb, S. A., Graser, J., Sparks, T. D., Abbott, J. J., Naleway, S. E. "Freeze Casting of Surface-Magnetized Fe_3O_4 particles with a Helmholtz coil in a unidirectional static magnetic field" *Advanced Engineering Materials*, Jan 2019.