



UC Berkeley

Geosystems Engineering

Wednesday Lecture Series

Wednesday, February 5, 2025

1:10-2:00 PM

Lecture Room: 406 Davis Hall

Tailings Engineering - Examples of the diversity and challenges of tailings dam design

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BGC Engineering

Tailings dams are among the largest man-made structures on earth and require a rigorous understanding and application of geotechnical engineering and soil mechanics principles. Effective tailings management is essential for minimizing environmental impact and ensuring the safety of surrounding communities while meeting the needs of society's resource demands. Tailings engineering is a key aspect of mining operations, focusing on the safe and efficient management of the byproducts produced during resource extraction. The geotechnical challenges in this field are multifaceted and include issues related to the feasibility, design, construction, operation, and closure of tailings storage facilities (TSFs). This presentation will provide an overview of tailings engineering and then dive into two TSF project examples that highlight the diverse settings and some of the key challenges of these projects.

Jean Kugel is a registered professional engineer in Colorado, New Mexico, and South Dakota. She is a senior geotechnical engineer in BGC's Golden, Colorado office with over 14 years of experience in design and construction of tailings storage facilities. She graduated with a Bachelor's degree from UC Berkeley in 2007 and went on to get her Master's degree from CU Boulder in 2010.

Eryn Alexander is an intermediate geotechnical engineer (EIT) in BGC's Vancouver, Canada office with over 7 years of experience in design and construction of tailings storage facilities. She graduated with a Bachelor's degree from University of Michigan in 2016, and went on to get her Master's degree from UC Berkeley in 2017.

