

Calendar of Events

May 14, 2025

CAGE Luncheon Meeting - Isolation of Radioactive Waste in Western US

PPA Event Center

2105 Decatur St.

Denver, CO 80211

11:30 AM - 01:00 PM MST

ISOLATION OF RADIOACTIVE WASTE IN THE WESTERN UNITED STATES

Alan K. Kuhn, PhD, PE, D.GE, F.ASCE, R.G. (Ret.)

Alan Kuhn Associates LLC

For many decades, radioactive elements have been mined in the western U.S. for nuclear weapons, electric power generation, and a wide range of industrial and medical applications. Those elements, primarily uranium, other radioisotopes, and their decay products pose both radioactive and chemical long-term hazards from the waste products, which must be permanently isolated from the accessible environment. The only feasible option is isolation in the geosphere.

Although physical releases via erosion or breach of containment are potential mechanisms for radioactive waste to enter the accessible environment, the most likely and problematic is the aqueous pathway. As a group, radionuclides are soluble and can travel away from the waste containment in both saturated and vadose media. Therefore, radioactive waste must be isolated within a repository that keeps the solid waste in place and protects against aqueous migration of contaminants.

Spent nuclear reactor fuel and transuranic waste are highly radioactive with long half-lives, requiring deep geologic isolation that provides dependable shielding from radiation and protection from migration of aqueous radionuclide solutions. The Waste Isolation Pilot Plant (WIPP) in New Mexico, active since 1998, encases transuranic waste in thick salt deposits. The Yucca Mountain Project in Nevada, canceled because of local opposition, would have isolated spent nuclear fuel in dry volcanic rocks. Other sites in the west, including WIPP, are being considered to replace Yucca Mountain.

Low-level radioactive wastes and uranium mill tailings have been successfully isolated in above-ground impoundments through the West. Typically these wastes have been placed dry or dewatered within earthen embankments, then covered with a monolithic soil cover or a composite evapotranspiration cover, some including a geomembrane.

This presentation describes the various types of geologic isolation of radioactive waste, the performance criteria unique to radioactive waste repositories, and some of the design features of each isolation system.

August 21, 2025

CAGE, ADSC, SEAC & ASCE Denver Branch 2025 Golf Tournament

DU Highlands Ranch Golf Course

9000 Creekside Way

Highlands Ranch, CO 80129

08:00 AM - 01:00 PM MST

May 13, 2025

AEG Meeting
New Terrain Brewing
16401 Table Mountain Pkwy.
Golden, CO 80403

05:30 PM - 07:00 PM MST

Our last (!) chapter meeting of the 2024-2025 academic year will be on TUESDAY, May 13, 2025 at New Terrain. Our speaker will be Todd Loar with USACE-RMC, on Unprecedented Geological Process on Non-Geological Timescales: Regressive Erosion, Mitigation, Socio-Economic Impacts, San Rafael Waterfall Collapse, Rio Coca, Ecuador. Todd's abstract is at the end of this email.

Please note that the May meeting is on a Tuesday to avoid the crowd (and parking challenges) associated with Baby Goat Night at New Terrain. We are planning to survey the May meeting attendees to determine whether people prefer meetings on Tuesday or Wednesday nights for 2025-2026 (assuming JETS continues to meet on Thursdays in 2026 and we get invited back).

May 2025 Chapter Meeting details:

Tuesday, May 13, 2025

Social hour & dinner begin at about 5:30

Dinner and non-alcoholic beverages provided

New Terrain Brewing

16401 Table Mountain Parkway, Golden CO 80403 ([map](#))

Reservations

STUDENT Reservations

We will cast the May talk out live to remote participants. If you are planning to join us on the stream and don't already have the recurring Teams link, please email meetings@aegmilehigh.org and we will send a Teams invite.

Our last (!) chapter meeting of the 2024-2025 academic year will be on TUESDAY, May 13, 2025 at New Terrain. Our speaker will be Todd Loar with USACE-RMC, on Unprecedented Geological Process on Non-Geological Timescales: Regressive Erosion, Mitigation, Socio-Economic Impacts, San Rafael Waterfall Collapse, Rio Coca, Ecuador. Todd's abstract is at the end of this email.

Please note that the May meeting is on a Tuesday to avoid the crowd (and parking challenges) associated with Baby Goat Night at New Terrain. We are planning to survey the May meeting attendees to determine whether people prefer meetings on Tuesday or Wednesday nights for 2025-2026 (assuming JETS continues to meet on Thursdays in 2026 and we get invited back).

May 2025 Chapter Meeting details:

Tuesday, May 13, 2025

Social hour & dinner begin at about 5:30

Dinner and non-alcoholic beverages provided

New Terrain Brewing

16401 Table Mountain Parkway, Golden CO 80403 ([map](#))

Reservations

STUDENT Reservations

We will cast the May talk out live to remote participants. If you are planning to join us on the stream and don't already have the recurring Teams link, please email meetings@aegmilehigh.org and we will send a Teams invite.

June 24, 2025
- June 25, 2025

GBA 2025 Crystal Ball Workshop
All day
JCarson@Geoprofessional.org