



# Future Innovation Needs for Responsible Mining of Critical Minerals

June 5-6, 2024

Embassy Suites Boston at Logan Airport  
Mystic Ballroom

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## Day 1, June 5, 2024

8:15 – 9:00 am	<b>Registration</b>
9:00 – 9:30 am	<b>Welcome from USEA and Workshop Introduction from DOE</b> Ryan Peay, DOE-FECM
9:30 – 10:45 am	<b>Advanced Concepts Panel</b> Moderator: Doug Hollett, MHTP & Doug Wicks, ARPA-E Guangping Xu, Sandia Wenfeng Li, LANL Todd Schaeff, PNNL Pat Okita, Enegis Erica Briscoe, DARPA
10:45 – 11:15 am	Break
11:15 – 12:15 pm	<b>Cutting Edge Now: Advanced Robotics</b> Moderator: Grant Bromhal, DOE-FECM Jen Blank, NASA Ames Matthew Travers, Carnegie Mellon University
12:15 – 1:30 pm	<b>Lunch</b>
1:30 – 3:00 pm	<b>Detailed Characterization/Geophysics Panel</b> Moderator: Scott Montross, NETL Anjana Shah, USGS Christina Lopano, NETL Frederick Day-Lewis, PNNL
3:00 – 3:30 pm	<b>Break</b>
3:30 – 5:00 pm	<b>Cutting Edge Now: AI/Machine Learning</b> Moderator: Grant Bromhal, DOE-FECM

Graham Lederer, USGS  
Daven Quinn, University of Wisconsin-Madison  
Yair Frastai, VerAI Discoveries

5:00 – 7:00 pm **Poster Session**

## **Day 2, June 6, 2024**

8:30 – 9:00 am **The DOE Perspective**  
Grant Bromhal, DOE-FECM

9:00 – 10:15 am **Cutting Edge Now: Biotech Panel**  
Moderator: Bob Fox, INL  
Eric Herrera, Maverick Biometals  
Tiffany Prest, DARPA Ember Program  
Daniel Goodwin, Homeworld Collective  
Scott Banta, Columbia University  
Liz Dennett, Endolith

10:15 – 10:45 am **Break**

10:45 – 12:00 pm **Non-Technical Challenges Panel**  
Moderator: Doug Hollett, MHTP  
Jay Turner, Wellesley College  
Nicole Smith, Colorado School of Mines (virtual)  
Elizabeth Holley, Colorado School of Mines  
Batchimeg Ganbaatar, Nomadic Venture Partners

12:00 – 1:15 pm **Lunch**

1:15 – 2:15 pm **Community and Workforce Development Panel**  
Moderator: Emily Brooks, DOE  
Caleb Woodall, DOE  
Kray Luxbacher, University of Arizona  
Antonio Arribas, University of Texas – El Paso

2:15 – 2:30 pm **Break**

2:30 – 3:30 pm **Bridging the Gap Between Past Practices and Future Paths**  
Moderator: Doug Wicks, ARPA-E  
Dawn Wellman, Rio Tinto  
Kray Luxbacher, University of Arizona  
Todd Malan, Talon Metals

3:30 – 4:30 pm **Advanced Concepts Discussion (No Such Thing as Bad Ideas) and Adjourn**