

FRTR Spring 2022 Web Meeting

Application of Robotics, Machine Learning and Artificial Intelligence Technologies to Site Remediation

Meeting Objectives

The FRTR Spring 2022 Meeting will explore advances in applying artificial intelligence technologies to site cleanup. Artificial intelligence technologies are beginning to transform how people and machines work together. Robotics and unmanned systems provide opportunities to access dangerous or toxic environments, and improve worker safety. Advances in machine learning are making it possible to process and analyze large data sets in new ways to support remediation decisions. Specific objectives are

- Review recent technology advances supporting site characterization and remediation.
- Identify potential benefits, risks and limits of robotics and unmanned aerial systems to support site characterization and remediation.
- Discuss appropriate use of machine learning and artificial intelligence to support remediation decisions.

Session 1: Advances in Robotics and Unmanned Aerial Systems to Support Site Characterization and Remediation June 6, 2022, 1:00 to 3:45 PM (EDT)

1:00	Meeting Opening <i>Kent Glover, FRTR Steering Committee Chair</i>
1:05	Introduction to the Spring Meeting <i>Moderator: Kent Glover, AFCEC</i>
1:15	Climate Resiliency and Long-Term Surveillance of Nuclear Facilities and Repositories Using Aerial and Ground Mobile Platforms <i>Speakers: Anthony Abrahao and Leonel Lagos, Florida International University</i>
1:40	Potential Use of Drones and Robotics for Radiological Characterization, Site Surveys and Emergency Responses <i>Speakers: Bobby Abu-Eid and Stephanie Bush-Goddard, US NRC, and Amoret Bunn, Pacific Northwest National Laboratory</i>
2:05	Wearable Robotics for DOE-EM Workers <i>Speaker: Jason Wheeler, Sandia National Laboratory</i>
2:30	Break – Agency announcement slides
2:45	Multi-Scale Thermal and Electromagnetic Technologies Toolbox for Improved Mapping and Monitoring of Contaminated Groundwater Discharges to Surface Water <i>Speakers: Ramona Iery, NAVFAC Engineering and Expeditionary Warfare Center, and Martin Briggs, USGS</i>
3:10	Using Drones, Aircraft, Sensors, Satellite, and Other Next Generation Emissions Measurement Technology at a Landfill <i>Speaker: Susan Thorneloe, EPA Office of Research and Development (ORD)</i>
3:35	Concluding Remarks <i>Moderator: Kent Glover, AFCEC</i>
3:45	Adjourn