

Technology Innovation Hub: Applied Robotics and Artificial  
Intelligence for Nuclear Decommissioning  
**2024 Robotics/AI Workshop**  
AGENDA

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April 22, 2024 – *Technical Challenges & Solutions*

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**FIU Modesto Maidique Campus**  
**Graham Center (GC 243)**

**8:30 AM - 9:00 AM**

Light Breakfast

**9:00 AM - 9:30 AM**

Welcoming Remarks

- **FIU Leadership** (Dr. Inés Triay)
- **DOE EM TDO** (Rod Rimando)
- **Applied Research Center** (Dr. Leonel Lagos)

**9:30 AM - 11:30 AM**

Plenary Panel: Key Challenges

(Moderator: Dr. Leonel Lagos, FIU)

- **DOE EM Technology Development Office Perspective** (Rod Rimando)
- **IAEA International Perspective** (Vladimir Michal)
- **USACE ERDC-CERL** (Jeffrey Burkhalter)

**11:30 AM - 1:00 PM**

Group Photo/Lunch

**8<sup>th</sup> Street Campus Kitchen at the Graham Center**

**8<sup>th</sup> Street  
Campus Kitchen**



Scan QR code

**1:00 PM - 3:00 PM**

Panel: DOE Nat. Lab/Contractors Tech Needs/  
Challenges (Moderator: Dr. Leonel Lagos, FIU)

- **Oak Ridge** (Brian Shaw, UCOR)
- **Savannah River** (Tom Nance, SRNL)
- **Hanford** (Peter Griffin, WRPS)
- **Los Alamos** (Beth Boardman, LANL)
- **Sandia** (Jason Wheeler, SNL)

**3:00 PM - 3:30 PM**

Coffee Break/Networking

**3:30 PM - 4:45 PM**

Technical Discussions & Solutions

- **Exoskeletons** (Reese Peterson, IHMC)
- **Ocean Robotics** (Leonardo Bobadilla, FIU)
- **Robotic Manipulators** (Young Soo Park, Argonne Nat. Lab)
- **Robotics & Digitalization in Decommissioning** (Leonel Lagos, FIU)

**5:00 PM - 7:30 PM**

Reception hosted by Drummond Carpenter, PLLC  
**Faculty Club at the Graham Center**

- Welcoming Remarks (Chad Drummond)
- Hors D'voures & refreshments will be served
- Cash bar available



**April 23, 2024 – Technical Discussions & Technology Demonstrations**

**FIU Modesto Madique Campus**

**Graham Center (GC 243)**

8:30 AM - 9:00 AM

Breakfast sponsored by Alakai Defense Systems, Inc.



9:00 AM - 9:10 AM

Opening Remarks

- **DoD** (Jeremy Werner, Dir., Operational Test & Eval.)

9:10 AM - 10:30 AM

Technical Discussions & Solutions

- **High Level Waste Tanks** (Peter Griffin, Hanford)
- **Savannah River** (Rich Minichan, SRNL)
- **Mercury** (Boaz Buechley, UCOR)
- **Env. Robotics/UAS Surveys/Mapping** (Dustin Nottage/Ken Pathak, USACE)

10:30 AM – 10:45 AM

Coffee Break

10:45 AM - 11:30 AM

Project Technical Discussions/Presentations

- **Natural Language Processing** (Mustafa Ali Hadi Jarallah, IFE, Norway) - *Virtual*
- **Generative AI - LLM Applications** (Himanshu Upadhyay, FIU)
- **Automaton – Data Intelligence Platform** (Jeremy Werner, DoD)
- **IA Applications in Robotics** (Fan Zhang, Georgia Tech)

11:30 AM - 1:00 PM

Lunch

**FIU Modesto Madique  
Campus Dining Venues**



1:10 PM - 1:25 PM

**Commute to FIU Engineering Center**

**FIU Engineering Center**

**Conference Room (EC 2300)**

1:30 PM - 2:00 PM

**Ribbon Cutting Ceremony – Technology Innovation Hub:  
Applied Robotics and Artificial Intelligence Labs**

**FIU Leadership:**

- Dr. Heather Russell – Vice Provost, Faculty Leadership and Success
- Dr. Andres Gil – Vice President for Research
- Dr. Inés Triay – Interim Dean, College of Engineering & Computing

**Applied Research Center (EC 2100)**

2:00 PM - 5:00 PM

**Facility Tours & Technology Demonstrations**

(Comfortable closed-toe shoes required)

- **Applied Robotics Laboratory (EC 2265)**
  - Lateral Gamma Scanner Leak Detection System for Hanford SSTs
  - Off-Riser Sampling Manipulator for Hanford Single Shell Tanks
  - Wall Crawler Inspection & Repair for SRNL HCAEX Tunnel
  - Upper Limb Exoskeleton for SRNL Glove Boxes
  - Long-Term Surveillance & Emergency Response Mobile Systems for Hanford Tank Farms
  - Autonomous Ground Penetrating Radar for LM Disposal Cells
  - Remote Repair System for Hanford Transfer Pits
  - Mercury Charac. for Oak Ridge Y-12 National Security Complex
  - Utilizing SPOT and Trimble X7 for Site Decommissioning
- **Digital Tools Laboratory (EC 2255)**
  - Digital Tool Development for Nuclear Facilities and Repositories
  - Salt Creep Closure Monitoring for WIPP
- **Artificial Intelligence Center of Excellence (EC 2237)**
  - Advanced Automated Machine Learning System (AAMLS)
  - Alops – KM-IT Text Summarization
  - Computer Vision
- **High Bay (OU 125)**
  - Miniature Magnetic Inspection & Sampler Rover for Hanford DST
  - Off-riser Sampling Crane for Hanford Single Shell Tanks
  - In-situ 3D Waste Containment Printing
  - Solid-Liquid Interface Mapping System for Hanford Tanks
  - Annulus Vacuum Rover for Hanford Double Shell Tanks
- **DOE Sites, Contractors, Nat. Labs Technology Demos**
  - Argonne National Laboratory
  - Sensors & Software Inc.
  - Alakai Defense Systems

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**April 24, 2024 – *International Perspectives & Workforce Development***

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**FIU Modesto Maidique Campus**

**Graham Center (GC 140)**

**8:30 AM - 9:00 AM**

Light Breakfast

**9:00 AM - 10:30 AM**

**International Perspectives** (virtual participation)

- **IAEA** (Vladimir Michal)
- **Norway** (Istvan Szoke, IFE)
- **Germany** (Sebastian Kaus, Universität Mannheim, Germany)
- **South Korea** (Sungmoon Joo, KAERI)

**10:30 AM - 11:30 AM**

**Workforce Development Needs and Opportunities**

- **DOE Nat. Labs/MSIPP** (Simona Murph)
- **FIU** (Leonel Lagos)
- **Broward/Indian River State Colleges** (Robert Diaz, Kevin Cooper)
- **USACE ERDC-CERL** (Jeffrey Burkhalter)

**11:30 AM - 12:00 PM**

**Final Remarks and Conclusions**

- **FIU Leadership** (Dr. Gil, ORED)
- **College of Engineering & Computing** (Dr. Triay)
- **DOE EM TD** (Rod Rimando)
- **FIU Applied Research Center** (Dr. Leonel Lagos, Dr. Himanshu Upadhyay)

**12:00 PM**

Meeting Adjourned

**THANKS TO OUR PANELISTS / PRESENTERS**



**THANKS TO OUR CORPORATE SPONSORS**

