

ORAL PRESENTATIONS

March 29, Day 1: [Click here to view the presentation profiles and materials](#)

1:00 – 1:10, Welcome and Workshop Overview, Sara Pozzi & Shaun Clarke, University of Michigan

1:10 – 1:28, Overview of the DNN R&D University Program, Keith McManus, NNSA-DOE

1:28 – 1:46, Consortium for Monitoring, Technology, and Verification, Sara Pozzi, University of Michigan

1:46 – 2:04, Time Encoded Dual Particle Imager (LANTERN), Jack Kuchta, Ph.D. Student, University of Michigan

2:04 – 2:22, Region of Interest Image Reconstruction for Gamma-Ray Source Localization Using Position Sensing CdZnTe, Val Nwadeyi, Ph.D. Student, University of Michigan

[2:22 – 2:52, National Lab / MTV Student roundtables: Brookhaven National Laboratory, Los Alamos National Laboratory, Pacific Northwest National Laboratory, Princeton Plasma Physics Laboratory, Y-12 National Security Complex](#)

2:52 – 3:10, Muon Imaging for Dry-Cask Storage Verification, Jesus Valencia, Ph.D. Student, University of New Mexico

3:10 – 3:28, Neutrino-Induced Nuclear Fissions, Tyler Johnson, Ph.D. Student, Duke University

3:28 – 3:46, CEvNS track detectors, Patrick Huber, Faculty, Virginia Tech.

3:46 – 4:04, Development of Calibration Sources for a Large Gd-Doped Water Cherenkov Detector, Kristofer Ogren, Ph.D. Student, University of Michigan

4:04 – 4:19, Poster Session: 1-minute overviews, Main Session Zoom room

[4:19 – 4:50, Poster Session, Day 1](#)

5:00, Adjourn Day 1

March 30, Day 2: [Click here to view the presentation profiles and materials](#)

12:30 – 12:35, Welcome / Overview, Sara Pozzi & Shaun Clarke

12:35 – 1:20, Alumni Panel: Kyle Hartig, University of Florida, Meghan McGarry, Lawrence Livermore National Laboratory, Chandra Radiation Monitoring Devices, Alexis Trahan, Los Alamos National Laboratory

1:20 – 1:38, Structure in the Energy-Dependent Event-by-Event Neutron-Photon Multiplicity Correlations, Stefano Marin, Ph.D. Student, University of Michigan

1:38 – 1:56, Review of the Windowed Multipole Nuclear Data Formalism, Matthew Lazaric, Ph.D. Student, University of New Mexico

1:56 – 2:14, Exploring novel wavelength shifters in organic glass scintillators, Nathan Giha, Ph.D. Student, University of Michigan

2:14 – 2:32, Revisiting seismic magnitudes of Soviet UNEs to investigate the mb-MS discriminant, Jocely Lopez Luna, Post-Doctoral Research Fellow, Columbia University

2:32 – 2:47, Poster Session, 1-minute overviews, Main Session Zoom room

[2:47 – 3:17, Poster Session, Day 2](#)

3:17 – 3:35, Low-Frequency Sound from Explosive Sources, Milton Garces, Faculty, University of Hawaii

3:35 – 3:53, Investigation of Organic Glass Scintillators for Improved Energy Resolution for Radioxenon Detection, Leah Clark, Ph.D. Student, University of Michigan

3:53 – 4:11, The Do-It-Yourself Geiger-Muller (DIYgm): Circuit Optimization and Evaluation, Jordan Noey, Ph.D. Student, University of Michigan

4:11 – 4:29, Group Photo

[4:29 – 5:00, National Lab / MTV Student roundtables: Argonne National Laboratory, Lawrence Berkeley National Laboratory, Los Alamos National Laboratory, Sandia National Laboratories](#)

5:00, Adjourn Day 2

March 31, Day 3, Click here to view the presentation profiles and materials

1:00 – 1:05, Welcome / Overview, Sara Pozzi & Shaun Clarke, University of Michigan

1:05 – 1:20, Poster Session: 1-minute overviews, Main Session Zoom room

[1:20 – 1:50, Poster Session, Day 3](#)

1:50 – 2:08, Confirming the absence of nuclear weapons via passive gamma-ray measurements, Alex Glaser, Faculty, Princeton University

2:08 – 2:28, Direct and Moment-Reconstructed Fast Neutron Multiplicity Distribution Computations, Jawad Moussa, Ph.D. Student, University of New Mexico

2:28 – 2:44, DT-based Neutron Resonance Transmission Analysis for Nuclear Security Applications, Ethan Klein, Ph.D. Student, Massachusetts Institute of Technology

2:44 – 3:02, Using Machine Learning Techniques to Identify Irradiated Fuel Attributes, Patrick O’Neal, Ph.D. Student, Texas A&M University

[3:02 – 3:32, National Lab / MTV Student roundtables: Idaho National Laboratory, Lawrence Livermore National Laboratory, National Security Site, Savannah River National Laboratory](#)

3:32 – 3:50, Identification of stress in plants via femtosecond laser-induced fluorescence and steady-state absorption spectroscopy, Lauren Finney, Ph.D. Student, University of Michigan

3:50 – 4:08, Quantifying Moss Response to Contaminant Exposure Using Laser-Induced Fluorescence, Kelly Truax, Ph.D. Student, University of Hawaii

4:08 – 4:26, Monte Carlo Simulations for Time-of-Flight Epithermal Neutron Activation Analysis for Isotopic Signatures, Nick G. Ph.D. Student, Pennsylvania State University

4:26 – 4:44, Prediction of Neutral Particle Analog Monte Carlo Computational Time with Discrete Ordinates, Eric Pearson, Master Student, University of Michigan

4:44 – 4:50, Student Awards and Closing Remarks, Sara Pozzi, University of Michigan, and Keith McManus, NNSA-DOE

5:00, Adjourn meeting

POSTER PRESENTATIONS

March 29 Poster Session (Day 1)

Poster 1, An Update on Quenching Factor Measurements at TUNL, Connor Awe, Ph.D. Student, Duke University

Poster 2, Improving environmental contamination monitoring through microbial genomics with the integration of machine learning and mechanistic knowledge, David Bernstein, Postdoc, UC Berkeley

Poster 3, NuLat: A Compact Anti-Neutrino Detector, Jack Borusinski, Ph.D. Student, University of Hawaii

Poster 4, Cross-Correlation Breakdown of BC-420 Plastic Scintillators, Caizer Bravo, Undergraduate Student, University of Michigan

Poster 5, Forensic Signatures for Atomic Vapor Laser Isotope Separation, Henry Burns, Ph.D. Student, GA Tech

Poster 6, Scintillation Time Profile Measurements using an LAPPD, Edward Callaghan, Ph.D. Student, University of California, Berkeley

Poster 8, Machine Learning Methods for Antineutrino-Based Safeguards, Matthew Dunbrack, Ph.D. Student, GA Tech

Poster 9, Biosensors for Detecting Nuclear Fuel Cycle Activities in the Environment, Isis Fukai, Ph.D. Student, University of Tennessee Knoxville

Poster 10, Characterization of Boron Loaded Liquid Scintillators, Colton Graham, Undergraduate Student, University of Michigan

Poster 11, Development of Prototype Simplified Neutron Scatter Camera for Nuclear Safeguards Applications, Taylor Harvey, Ph.D. Student, University of Florida

March 30 Poster Session (Day 2)

Poster 12, ROOT_FAME: Analysis Scripts for the Investigation of Fission Events, Isabel Hernandez, Undergraduate Student, University of Michigan
Poster 13, Scintillator coupled with photographic film for application to zero-knowledge verification, Jihye Jeon, Ph.D. Student, Princeton University
Poster 14, Development of Magnetic Microcalorimeters for Decay Energy Spectroscopy, Alexander Kavner, Ph.D. Student, University of Michigan
Poster 15, Validation of Nuclear Data Sensitivity Calculations by the MCNP PERT Card, Juliann Lamproe, Ph.D. Student, University of Michigan
Poster 16, No Access, No Data, No Problem: Toward Autonomous Robotic Inspections of Nuclear Facilities, Eric Lepowsky, Ph.D. Student, Princeton University
Poster 17, Simulations of a small-scale NRTA setup using an isotopic source to generate the epithermal neutron beam, Penina Masters Student, MIT
Poster 18, Validation of MCNP through Isotopic Analysis of LEU UO ₂ , Sean Martinson, Ph.D. Student, Texas A&M University
Poster 19, Discriminating Single and Pile-up Pulses Using an Autoencoder in Photon Active Interrogation, Tessa Maurer, Undergraduate Student, University of Michigan
Poster 20, Detection of fast neutrons during photon active interrogation, Christopher Meert, Ph.D. Student, University of Michigan
Poster 21, Systems modeling of the nuclear fuel cycle to enhance safeguards implementation, Katie Mummah, Ph.D. Student, University of Wisconsin

March 31 Poster Session (Day 3)

Poster 23, Neutron Activation Analysis for Flux Measurements during Active Interrogation, Andrew Panter, Undergraduate Student, University of Michigan
Poster 24, Rocket Ignition Detection Using Data Collected by Smartphones, Sarah Popenhagen, Ph.D. Student, University of Michigan
Poster 25, Super-MeV Gamma-Ray Time-Encoded Imaging, Alexander Rice, Student, University of Michigan
Poster 26, Directionally-Dependent Event-by-Event Neutron-Photon Multiplicity Correlations in ²⁵² Cf, Eoin Sansevero, Masters Student, University of Michigan
Poster 27, Real-Time Analysis of Organic Scintillator Neutron Noise Measurements, Prashant Shankar, Ph.D. Student, University of Michigan
Poster 28, Single-shot Double-pulse Method Used to Determine Deposited Energy in Laser Ablation Plasmas, Lauren Nagel, Ph.D. Student, University of Michigan
Poster 29, Passive Gamma-Ray Imaging of Special Nuclear Materials, William Steinberger, Ph.D. Student, University of Michigan
Poster 30, Explosion Yield Estimation using Machine Learning Methods, Samuel Takazawa, Ph.D. Student, University of Hawaii
Poster 31, Undergraduate Research on Fully-Automated Thermoluminescent Dosimeter Glow Curve Analysis Software, Jack T. Undergraduate Student, University of Michigan
Poster 32, Inferring UAV Position Relative to Smartphone Sensors Based on Acoustic Characteristics, Jonathan Tobin, Ph.D. Student, University of Hawaii