

2024 Research Symposium Schedule

*Please note, this is a hybrid event and in-person attendees must be badged. Family, friends, and non-staff are invited to join the virtual event.

8:00 AM - 8:10 AM



Welcome and Opening Remarks Office of STEM Education



EMSL AUDITORIUM (BADGE REQUIRED) AND ZOOM*

8:42 AM - 8:54 AM James Adams, EED Creating a Home Assistant add-on

8:54 AM - 9:06 AM Kaustav Bhattacharjee, EED Do you trust the model? Interactive Visual Analytics for Trust-Augmented Net Load Forecasting

9:06 AM - 9:18 AM Ian Meyer, NSD AI Explainability & The Loss Landscape

9:18 AM - 9:30 AM Carlos Munoz Salazar

9:30 AM - 9:42 AM Arman Ter-Petrosyan, NSD Unsupervised Multimodal Graph Analysis to Understand Order-Disorder in Materials

9:42 AM - 9:54 AM Vladyslav Tsepenok, EED Technology & Modern Web Development Practices

9:54 AM - 10:06 AM Andrea Harrison, EBSD - Developing quality control methods with machine learning for Mass Spectrometry

10:06 AM - 10:18 AM Jillian Newmyer, EED - Differentiation of Background and Hanford Anthropogenic Radionuclides

10:18 AM - 10:30 AM Rudolph Dimura, EBSD Computational Modeling of Cyanobacteria Utilizing Gene Regulatory Networks

10:30 AM - 10:42 AM Iliana Alvarez, NSD Permutation Entropy for Signal Analysis

10:42 AM – 10:54 AM Melinda Martinez Gonzalez, EBSD Bioavailability of Pyrogenic Dissolved Organic Matter in an Aquatic Ecosystem

10:54 AM - 11:06 AM Connor O'Loughlin, EBSD Fe-OM interactions may act as a mechanism for DOC mobilization following seawater inundation in coastal upland forest soils

11:06 AM - 11:18 AM Matthew Ley, EED Color stability of red protein extracts from P. cruentum for use as a sustainable food ingredient

11:18 AM - 11:30 AM Ven Alejandro Chavez, EBSD Optimization of Microalgal Growth at Air-Medium Equilibrium pH

11:30 AM - 11:42 AM Carolina Torres Sanchez, EED Investigating Alkalinity Sources for Marine Carbon Dioxide Removal



EMSL AUDITORIUM (BADGE REQUIRED)

EMSL 1077/1075 (BADGE REQUIRED)

AND ZOOM

AND ZOOM

- **12:18PM 12:30PM** Diana Horangic, NSD Surface Roughness and Effective Absorptivity for 316 Stainless Steel
- **12:30PM 12:42PM** Maria Guzman, EBSD Biodegradation of plastics by anaerobic hyperthermophilic bacteria
- **12:42PM 12:54PM** Dylan Hermosillo, EBSD Characterizing Molecular Chemodiversity and Microbial Functions of the Rhizosphere
- **12:54PM 1:06PM** Pele Scott, EBSD Understanding Microbial Interactions in Biofilm Formation
- 1:06PM 1:18PM Tatiana Serrano-Zayas, PCSD - LmrR Scaffold Catalytic Active Site
- **1:18PM 1:30PM** Kristen Mast, PCSD Effects of Iron Doping and UV Irradiation on Gibbsite Dissolution Behavior
- 1:30PM 1:42PM Jackson Kelley, PCSD Enhancing the Recovery of Rare Earth Elements through Machine Learning-Driven Solubility Prediction
- 1:42PM 1:54PM Luke Hibscher, NSD Video Authentication Human-Machine Interface
- **1:54PM 2:06PM** Samiha Chabane, EBSD Developing software tools for multidimensional mass spectrometry measurements
- **2:06PM 2:18PM** Mayra Diaz Acevedo, PCSD Exploring Various

- **12:18PM 12:30PM** Emilia Osti, PCSD Using Permutation Entropy to Discover Information Content of Radio Signals
- **12:30PM 12:42PM** Richie Martinez, OSD GreyNoise Intelligence Tool Deep Dive
- **12:42PM 12:54PM** Marissa Gomez Hernandez, COMM/IT Group Auditing - Team Message Alert
- **12:54PM 1:06PM** Anna Diaz Farias, PCSD Unraveling IoT Traffic Patterns: A Graph Analysis Approach
- 1:06PM 1:18PM Marnie Aoyama, NSD Importance of Supply Chain Risk Management
- 1:18PM 1:30PM Adriana Ramirez, NSD Food and Agriculture Risk Modeling (FARM)
- 1:30PM 1:42PM Jonathan Lambert, COMM/IT - Improving Campus Wayfinding at PNNL
- 1:42PM 1:54PM Wyatt Kiff, EED Crystalline Phase Evolution in High-Level and Low-Activity Nuclear Waste Immobilization

Classical Shadows for Quantum-Computed Hamiltonian Moments

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