AGENDA

Day 1, February 8, 2023, Wednesday

Breakfast and Registration
7:30–8:30 (CT)

Welcome Remarks & Keynote Presentations

8:30–10:00 (CT)	Paul Wilson, Professor *University of Wisconsin-Madison*	Welcome
	Anna Erickson, ETI Consortium Director, Professor *Georgia Institute of Technology*	ETI Overview
	Keith McManus, University Program Manager *National Nuclear Security Administration*	Overview of the Defense Nuclear Nonproliferation Research and Development (DNN R&D) University Program
	Lorraine Sadler, Physicist *Sandia National Laboratories*	Keynote Presentation: SET – Analysis for Building a Multiuser Testbed

Break, and Poster Setup
10:00–10:25 (CT)

Thrust Area 1: Computer & Engineering Sciences for Nonproliferation
Session Chair: Prof. Paul Wilson, University of Wisconsin-Madison

10:25–11:40 (CT)	Conrad Hougen, Student *University of Michigan*	AToMS: Author-Topic Manifold Summarization for Interpretable Author Collaboration Forecasting
	David Carlson, Assistant Professor *Duke University*	Incorporating Prior Knowledge in Deep Learning Models
	Andrew Fishberg, Student *Massachusetts Institute of Technology*	Collaborative SLAM for Facilitating Radiological Search and Mapping with UWB Enabled Multi-Agent Platforms
	* Alexandra Schueller, Student *Georgia Institute of Technology*	Build Geometry Monitoring and Control for Wire Arc Additive Manufacturing Process

Poster Overview Presentations (one-minute each poster)
11:40–12:00 (CT)

Lunch
12:00–13:00 (CT)

Poster Presentation / Discussion

13:00–14:00 (CT)

#1	Sarah Scott, Student *Duke University*	Identifying Plumes through Semantic Segmentation of Satellite Imagery
#2	Natalie Cannon, Student *Georgia Institute of Technology*	Additive Manufacturing and its Implications for Nuclear Nonproliferation
#3	Andrew Fishberg, Student *Massachusetts Institute of Technology*	Collaborative SLAM for Facilitating Radiological Search and Mapping with UWB Enabled Multi-Agent Platforms
#4	Sarah Popenhagen, Student *University of Hawai'i*	Performance of Near-Real-Time Rocket Ignition and Launch Detection Transfer Learning Model on Recent Launches
#5	Julia Nakhleh, Student *University of Wisconsin-Madison*	Approximating Localized Functions using Shallow Neural Networks
#6	George (Wyatt) Burkley, Student *University of Hawai'i*	Marine Signal Classification and Mapping
#7	Talha Moin Sultan, Student Eric Brandt, Student Khadijeh Masumnia-Bisheh, Postdoc *University of Wisconsin-Madison*	Non-Line-of-Sight Imaging with Single Photon Cameras
#8	Shirin Wyckoff, Student *University of Hawai'i*	Spectral analysis of Lamb wave signals from 2022 Hunga Tonga Eruption
#9	William Kunkel, Student *University of Wisconsin-Madison*	Multi-scale feature prediction and signature identification for directed energy deposition
#10	Hemant Jagannath Ghadi, Postdoc *The Ohio State University*	Influence of Al fraction on the defect spectra of MOCVD grown ß-$(Al_xGa_{1-x})_2O_3$
#11	Gracie Eccleston, Student *Georgia Institute of Technology*	Investigating the Effect of Carbon Nanotube Growth Time of Carbon Nanotube-based Radiation Detectors
#12	Nicole Hege, Student *Colorado School of Mines*	Advancements Towards Molten Salt Spectroelectrochemistry
#13	Haley Schramm, Student *Washington State University*	Probing Molecular Mechanisms of Radioresistance: Toward Tunable Pigmentation for Passive Fungal Sensor Arrays of Radiation Exposure
#14	Daryl Giglio, Student *The Ohio State University*	Characterization of 4H-SiC Schottky Diodes for Potential Uses as Beta Voltaic Power Sources for Spent Fuel Storage Applications

#15	Alexander England, Student *Georgia Institute of Technology*	Correlating reactor core power with radiation detector noise outside of primary shielding
#16	Jacob Tellez, Student *Colorado School of Mines*	Investigation of Species Aggregation in UCl_3-LiCl-KCl Molten Salts by Classical Molecular Dynamics
#17	Jarod Remy, Student *The Ohio State University*	Experimental Demonstration of Ga_2O_3 as a Radiation Sensor and Its High Temperature Resistance
#18	Kate Thompson, Student *University of Wisconsin-Madison*	Hyperspectral bioindicators for remote detection of environmental contaminants

Break

14:00–14:15 (CT)

National Laboratory Internship, Knowledge Transfer Discussion

14:15–14:30 (CT) * Milton Garces, Professor, *University of Hawai'i*

Thrust Area 2: Advanced Manufacturing for Nonproliferation
Session Chair: Prof. Steven Biegalski, Georgia Institute of Technology

14:30–15:45 (CT)	Alec Mangan, Student *University of Wisconsin-Madison*	High Strain Rate Signatures of Additively Manufactured High Entropy Alloys
	Patrick Snarr, Student *The University of Texas at Austin*	Polymer Binder Development for Indirect Selective Laser Sintering of Oxide Ceramics
	Lin Shao, Professor *Texas A&M University*	Irradiation Response and Mechanical Property Changes of Conventionally and Additively Manufactured 316L Stainless Steels
	Domenic DiCarlo, Student *Georgia Institute of Technology*	Improving Makerspace Accessibility by Leveraging Side Channel Data from Machining

Break, and National Lab Recruitment Session

15:45–17:30 (CT)

Reception

17:30–21:00 (CT)

Day 2, February 9, 2023, Thursday

Breakfast
7:30–8:30 (CT)

Thrust Area 1: Computer & Engineering Sciences for Nonproliferation
Session Chair: Prof. Paul Wilson, University of Wisconsin-Madison

8:30–9:45 (CT)	Jordan Stomps, Student *University of Wisconsin-Madison*	Designing Gamma Spectrometry Data Augmentations for Contrastive Machine Learning
	Samuel Kei Takazawa, Student *University of Hawai'i*	Explosion Source Localization using Smartphones
	Samuel Kemp, Student *Georgia Institute of Technology*	Real-Time Radiological Source Term Estimation for Multiple Sources in Cluttered Environments
	Miguel Avalos, Student *Texas A&M University*	Explainability in Satellite Based Remote Sensing of Nuclear Facilities

Break
9:45–10:00 (CT)

Thrust Area 3: Novel Instrumentation for Nuclear Fuel Cycle Monitoring
Session Chair: Prof. Anna Erickson, Georgia Institute of Technology

10:00–11:30 (CT)	Allen Wood III, Student *The University of North Carolina at Chapel Hill*	Organic-Inorganic Hybrid Perovskite Photodetectors for Room Temperature Low Light Detection
	Mackenzie Duce, Student *Georgia Institute of Technology*	Thermal Neutron Detection with Boron-Loaded Polysiloxane Organic Scintillators
	Alex Bocchieri, Student *University of Wisconsin - Madison*	Scintillation-Based Compton Camera via Single Photon Imaging
	* Oliver Moreno, Student *Georgia Institute of Technology*	Large-Volume Scintillator Detectors for Nuclear Nonproliferation
	* Caleb Chandler, Student *Colorado School of Mines*	Vat Photopolymerization of Acrylate-based Plastic Scintillators

Break
11:30–11:45 (CT)

Academic Program Discussion, 2023 ETI Summer School

11:45–12:00 (CT) Pavel Tsvetkov, Associate Professor, *Texas A&M University*

Steven Biegalski, Professor, *Georgia Institute of Technology*

Oral & Poster Presenter Students Awards, and Closing Remarks

12:00–12:15 (CT) Anna Erickson, ETI Consortium Director, Professor, *Georgia Institute of Technology*

Keith McManus, University Program Manager, *National Nuclear Security Administration*

Lunch, and Poster Removal

12:15–13:00 (CT)

Lab Tours

13:00–15:15 (CT) UW Nuclear Reactor – Visit a 1 MW TRIGA reactor with facilities for neutron-based research (45 min)

Alloy Design and Development Lab (ETI PI Thoma) – See the array of processing, characterization and testing equipment for developing novel alloys (30 min)

Ion Beam Lab – A 1.7 MeV tandem accelerator with three beam lines for different kinds of irradiation and in-situ measurement (30 min)

Pegasus-III – A spherical tokamak plasma physics experiment supporting national fusion energy research (30 min)

Adjourn

15:15 (CT)