

NUCLEAR SCIENCE AND SECURITY CONSORTIUM KICKOFF & ADVISORY BOARD MEETING

April 19 - 20, 2022

TUESDAY, APRIL 19TH, 2022

LOCATION: [ZOOM](#)



TIME (PDT)	TOPIC/EVENT	PRESENTE
7:30a	Arrivals	
8:00a	Welcome, Introductions and Logistics	Dr. Bethany Goldblum (UCB)
8:05a	Welcome Message from UC Berkeley	Prof. Kathy Yelick (UCB)
8:10a	Welcome Message from College of Engineering	Prof. Tsu-Jae King Liu (UCB)
8:15a	DOE/NNSA Mission	Dr. Ed Watkins (NNSA)
8:20a	NNSA DNN University Programs	Dr. Keith McManus (NNSA)
8:30a	NSSC: Past, Present, and Future	Prof. Jasmina Vujic (UCB)
9:10a	U.S. DOE Lab Collaborations	Dr. David Peters (SNL), Ms. Margaret Root (LANL), Dr. John Valentine (LBNL), Dr. Vladimir Mozin (LLNL), Dr. Jennifer Ladd-Lively (ORNL), Moderator: Dr. Scot Olivier (LLNL)
9:40a	Consortium Picture	
9:45a	Break	
Focus and Crosscutting Areas		
10:00a	Nuclear Physics and Nuclear Data	Prof. Barbara Jacak (UCB)
10:20a	Radiochemistry and Nuclear Chemistry	Prof. Ken Czerwinski (UNLV)
10:40a	Nuclear Materials Science	Prof. Peter Hosemann (UCB)
11:00a	Radiation Detection	Prof. Kai Vetter (UCB)
11:20a	Nuclear Chemical Engineering and Nuclear Engineering	Prof. Raluca Scarlat (UCB)
11:40a	Computing and Optimization in Nuclear Applications	Prof. Vladimir Sobes (UTK)
12:00p	Lunch	
12:55p	Poster Session	Gather Software
3:00p	Adjourn	

NUCLEAR SCIENCE AND SECURITY CONSORTIUM FALL WORKSHOP & ADVISORY BOARD MEETING

April 19 - 20, 2022

APRIL 19TH, 2022 POSTER SESSION

LOCATION: Gather Software

POSTER #	POSTER TITLE	PRESENTER
1	Developing NIR Scintillators and the Associated Pulse Processing Chain to Detect NIR Wavelengths	Kate Joshi (UTK)
2	A Dual-Modality High-Purity Germanium Gamma-Ray Imager for Near-Field Applications	Emily Frame (UCB)
3	Development of a pixelated BaF2 test bed for timing applications	Tyler Jordan (UCB)
4	Stacked Target Cross Section Measurements at Crocker Nuclear Laboratory	Lena Korkeila (UCD)
5	Developing A Xenon-Doped Argon Ionization Detector With Direct VUV Light Readout	James Kingston (UCD)
6	A Highly Tunable ASIC Prototype For Reading out Scintillators and Providing Real Time Pulse Shape Discrimination	Jyothis Johnson (UCD)
7	Identifying Neutron Captures in LAr TPCs with Machine Learning	Nick Carrara (UCD)
8	A camera for monitoring xenon-doped argon in the CHILLAX detector	Ryan Smith (UCB)
9	Quantification of molten salt composition for molten salt advanced nuclear reactors	Sasha Kennedy (UCB)
10	Simulations in Laser Wakefield Acceleration: exploring the parameters that control injection in multiple buckets	Camille Woicekowski (UCB)
11	Natural Language Processing for Nuclear Data	Laura Shi (UCB)
12	Proton light yield of a Gd-doped water-based liquid scintillator for antineutrino detection	Nate Tausik (UCB)
13	GENESIS Measurement of Delayed-Neutron Emission from Actinide Targets	Preston Awedisean (UCB)
14	Performance of Simulated Detector Responses in Training Neural Networks for Neutron Spectrum Unfolding	James McGreivy (UCB)
15	CAMIS: A Cylindrical Active Mask Imaging System	Chris Lamb (UCB)
16	Comparing the Morphology and Solid-State Structure of UTc3 to URu3	Josephine Libero (UNLV)
17	Hybrid Imaging Method Combining Coded Aperture and Compton Imaging for Uranium Holdup Quantification	Blake Montz (UTK)
18	Initial Testing of a Proof-of-Concept Passive Fast Neutron Emission Tomography Imager to Safeguard Spent Nuclear Fuel	Mairead Montague (UTK)

Even numbered posters must be staffed by students from 12:55p – 1:55p (PDT)
Odd numbered posters must be staffed by students from 1:55p – 2:55p (PDT)

(The list of poster presentations continues on to the next page.)

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APRIL 19TH, 2022 POSTER SESSION
LOCATION: Gather Software

POSTER #	POSTER TITLE	PRESENTER
19	Berkeley RadWatch and DoseNet: engaging students and communities in learning about our radioactive world	Ali Hanks for RadWatch (UCB)
20	Beta-decay properties of Co-isotopes	Hannah Berg (MSU)
21	Novel Helium Ion Beam Degradation for the 88-Inch Cyclotron	Sarah Stevenson (UCB)
22	Fluorination of Uranium Oxide Microspheres via Bifluoride	Harry Jang (UNLV)
23	Modification of Material Properties via Non-covalent Interactions in Low Dimensional Organic-Inorganic Halide Perovskites	Ben Walusiak (GWU)
24	Laser ablation mass spectrometry for interrogating nuclear materials	Peter Boone (UCB)
25	Contextualizing and Characterizing Cyber Deterrence	Gabriel Kelvin (UCB)
26	AI/ML Tool for Automated Resonance Evaluation & Uncertainty Quantification	Noah Walton (UTK)
27	3D Compton Imaging of Distributed Sources Around the Chernobyl NPP	Kalie Knecht (UCB)
28	Isolated photon cross sections for pp and p-Pb at 5.02 TeV with ALICE	Dhruv Dixit (UCB)

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TIME (PDT)	TOPIC/EVENT	PRESENTER
7:30a	Arrivals	
8:00a	Nuclear Science, Technology & Policy Education and Lab Collaboration	Dr. Bethany Goldblum (UCB)
	<i>Student Talks</i>	
8:25a	Sub-barrier Coulomb Excitation of $^{112,116,120}\text{Sn}$	Ava Hill (MSU)
8:40a	Dissolution and Electrochemical Recovery of UO_2 , UO_3 , and U_3O_8 in Ionic Liquids	Katherine Luebke (UNLV)
8:55a	The role of defects on microscale plasticity	Hi Vo (UCB)
9:10a	Sensor Networks for Environmentally-Distributed Radioactivity	David Raji (UTK)
9:25a	Break	
9:40a	Applying Machine Learning to Optimise Pulse Shape Discrimination in Scintillators	Billy Boxer (UCD)
9:55a	Measurement of turbulent dissipation with advanced laser diagnostics for data-driven simulations	Peter Huck (GWU)
10:10a	Development of a Methodology for the Radiochronometric Analysis of ^{226}Ra -containing Radiological Samples for Nuclear Forensics.	Jenna Garcia (TAMU)
10:25a	Light Collection Measurements and Simulations of Wavelength Shifting Plates for Water-Cherenkov Detectors	Austin Mullen (UCB)
10:40a	Break	
10:55a	Experimental Investigation of a Machine Learning Model for Scintillator Discovery: Crystal Growth and Characterization of New Ce-doped Elpasolites	Daniel Rutstrom (UTK)
11:10a	Optical Property Measurements in Antineutrino Detector Media	Jake Hecla (UCB)
11:25a	Neutron capture cross sections constrained in beta-decay experiments	Erin Good (MSU)
11:40a	First Deployment of a Large Area Picosecond Photodetector in a Physics Experiment	Julie He (UCD)
11:55a	Immobilization and Recovery of ^{99}Tc Using Benzotriazole	James Louis-Jean (UNLV)
12:10p	Closing Remarks	Prof. Jasmina Vujic (UCB)
12:15p	<i>Adjourn</i>	
12:15p	Lunch + Advisory Board (CLOSED SESSION)	
2:00p	Advisory Board Outbrief and Discussion (CLOSED SESSION)	

Contact nssc_info@berkeley.edu with any questions