

NUCLEAR SCIENCE AND SECURITY CONSORTIUM SEPTEMBER WORKSHOP & ADVISORY BOARD MEETING

September 11-12, 2017

*September 11, 2017 Morning Location: Lawrence Berkeley National Laboratory
Building 66, Room 317 (unless otherwise noted)*

- 8:30-9:00 a.m.** Refreshments and Registration *in Lobby of Room 317*
- 9:00-9:10** Welcome and Opening Remarks *Victoria Franques (NNSA)*
- 9:10-9:30** NSSC Overview - Structure, Accomplishments & Metrics *Jasmina Vujic (UCB)*
- 9:30-9:50** **Nuclear and Particle Physics:** The Impact of Prompt Neutron Emission From Fission Fragments on the Final Abundance Pattern of the Astrophysical R-Process *Alexander Dombos (MSU)*
- 9:50-10:10** **Nuclear and Particle Physics:** Heavy-Ion Collision Processes and Symmetry Energy *Krystin Stiefel (MSU)*
- 10:10-10:30** **Nuclear and Particle Physics:** ACED: Argon Capture Experiment at DANCE *Steven Gardiner (UCD)*
- 10:30-10:50** Break
- 10:50-11:10** **Radiation Detection and Instrumentation:** Non-Proportionality of Scintillation Detectors *Cordell Delzer (UTK)*
- 11:10-11:30** **Radiation Detection and Instrumentation:** Proton Light Yield Measurements in Organic Scintillators *Thibault Laplace (UCB)*
- 11:30-11:50** **Radiochemistry and Forensics:** Designing Molecular Precursors to Nanostructured Uranium Oxides and Nitrides *Mark Straub (UCB)*
- 11:50-12:00** Group Photo *in front of Building 66*
- 12:00-1:30** Lunch *in Lobby of 317*
Research Demonstrations *in Room 316*
- 1:30-1:50** **Radiochemistry and Forensics:** Application of Silicon Drift Detector to Nuclear Forensics *Katherine Thornock (UNLV)*
- 1:50-2:10** **Nuclear Data:** Statistical Properties of Exotic Nuclei for National Security Applications *Adriana Ureche (UCB)*
- 2:10-2:30** **Nuclear Data:** Characterization of Pb-206 Nuclear Recoils in Liquid Xenon *Jacob Cutter (UCD)*
- 2:30-2:50** Break
- 2:50-3:10** **Nuclear Engineering:** Fuel Inventory Characterization for Fast Spectrum Molten Salt Reactors *Michael Martin (UCB)*
- 3:10-3:30** **Modeling and Simulation:** New Measurements of Liquid Xenon Response for the NEST Simulation Package *Brian Lenardo (UCD)*
- 3:30-3:50** **Modeling and Simulation:** Demonstration of an Approach to Precisely Measure Gamma-ray Branching Ratios for Long-Lived Beta Emitters *Amber Hennessy (UCI)*
- 3:50-4:10** **Nuclear Security Policy:** State Participation in Nonproliferation Regime Networks *Sarah Laderman (UCB)*

*September 11, 2017 Evening Location:
The Faculty Club on UC Berkeley Campus*

- 5:00 -6:30 pm** Poster Reception and Hors d'oeuvres at Faculty Club
in the Seaborg Room
- 6:30** By Invitation Only: Dinner and Discussion with Advisory Board and Executive Team
in the Bowker Room

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September 11, 2017 - Poster Session
UC Berkeley Faculty Club in the Seaborg Room

Poster #	Poster Title	Presenter
1	Gallium Recovery from Irradiated Copper Targets	<i>Ethan Boado (UCB)</i>
2	In-beam Gamma-ray Spectroscopy of ^{25}Si	<i>Brenden Longfellow (MSU)</i>
3	Development of SiPM Arrays for Fast Neutron Imaging	<i>Ben Godfrey (UCD)</i>
4	The WATCHMAN Demonstration: Remote Detection, Exclusion, and Monitoring of Reactors Using a Gadolinium-Doped Water Cherenkov Detector	<i>Teal Pershing (UCD)</i>
5	Synthesis and Characterizations of Hexafluororhenate (IV) Complexes	<i>James Louis-Jean (UNLV)</i>
6	Measurement of ^9He ground and excited states	<i>Daniel Votaw (MSU)</i>
7	A New Detector Array for Fission Fragment Beta Spectroscopy	<i>Elizabeth Heckmaier (UCI)</i>
8	Unbound States in the Island of Inversion	<i>Dayah Chrisman (MSU)</i>
9	Collectivity Beyond $N = 50$ in Neutron-Rich Kr and Se Isotopes	<i>Brandon Elman (MSU)</i>
10	Modeling of Delayed Gamma-Ray Emission Using FIER	<i>Eric Matthews (UCB)</i>
11	Lifetime Measurement of O-26	<i>Thomas Redpath (MSU)</i>
12	UV-Vis Spectroscopic Characterization of Metal Ion Complexes for Nuclear Waste Remediation and Forensics	<i>Kara Thomas (UCI)</i>
13	Plastic Scintillator Enhancement through Quantum Dot	<i>Alan Tam (UCI)</i>
14	Modeling, Prediction, and Monitoring of Chemical Species for Advanced Nuclear Fuel Reprocessing	<i>Edward Jenner (UCI)</i>
15	Optimizing Pulse Shape Discrimination in Liquid Scintillators	<i>Daniel Naim (UCD)</i>
16	Separation of NORM from Oil and Gas Production Wastewaters via Ion Exchange Technology	<i>Rose Pier (UCI)</i>
17	Hybrid Materials for the Aqueous Sequestration of Actinyl Ions	<i>Jaclynn Unangst (UCI)</i>
18	High Fidelity MCNP Simulation of the UNCL Active Neutron Interrogation Collar with Modern Fresh Fuel Assemblies	<i>C. Ryan Priest (UTK)</i>

Even numbered posters must be manned by students from 5:00 – 5:45
Odd numbered posters must be manned by students from 5:45 – 6:30

NUCLEAR SCIENCE AND SECURITY CONSORTIUM SEPTEMBER WORKSHOP & ADVISORY BOARD MEETING

September 11 -12, 2017

*September 12, 2017 Location: Lawrence Berkeley National Laboratory
Building 66, Room 317 (unless otherwise noted)*

- 8:30-9:00 a.m.** Refreshments and Registration *in Lobby of Room 317*
Closed Board Session *in Room 316*
- 9:00-9:15** Welcome Address, Goals, Charge to the Board *Karl van Bibber (UCB)*
- 9:15-9:35** Research and Lab Engagement at George Washington University *Allison Macfarlane
and Emily Hammond (GWU)*
- 9:35-9:55** Research and Lab Engagement at Michigan State University *Sean Liddick (MSU)*
- 9:55-10:10** Break
- 10:10-10:30** Research and Lab Engagement at Texas A&M University *Cody Folden (TAMU)*
- 10:30-10:50** Research and Lab Engagement at the University of California, Davis *Mani Tripathi (UCD)*
- 10:50-11:10** Research and Lab Engagement at the University of California, Irvine *Mikael Nilsson (UCI)*
- 11:10-11:30** Research and Lab Engagement at the University of Nevada, Las Vegas *Frederic Poineau (UNLV)*
- 11:30-11:50** Research and Lab Engagement at the University of Tennessee, Knoxville *Jason Hayward (UTK)*
- 11:50-12:10** Research and Lab Engagement at the University of California, Berkeley *Lee Bernstein (UCB)*
- 12:10 – 12:30** NSSC-LANL Keepin Nonproliferation Science Summer Program *Bethany Goldblum (UCB)*
- 12:30-1:30** Lunch *in Lobby of Room 317*
After lunch students are dismissed for the day
- 1:30-2:45** Lab Engagement Moderated Discussion – Closed Session
Lab Collaborators and Advisory Board Only *Moderators: Erik Brubaker (SNL)
and Stephan Friedrich (LLNL)*
- 2:45-3:00** Break and Refreshments *in Lobby of Room 317*
- 3:00-4:00** Advisory Board - Closed Session
Board Members Only
- 4:00-5:00** Advisory Board Debrief
Board Members, Executive Team, and NSSC faculty