

## MONDAY, JUNE 19

### SESSION 1 – Plenary I

**Discussion Leader: A. Erickson (Georgia Tech, USA)**

**8:30 Welcoming Remarks – Anna Erickson**

**8:50 Ronald Walsworth (University of Maryland, College Park, USA)**

*Quantum Diamond Sensors — Best of Both Worlds*

**9:30 Craig Hardgrove (Arizona State University, USA)**

*The Lunar Polar Hydrogen Mapper (LunaH-Map) Mission to the Moon's South Pole*

**10:10 Coffee Break**

### SESSION 2 – Plenary II

**Discussion Leader: Suzanne Nowicki (LANL, USA)**

**10:40 Dracos Marcos (IPHC-IN2P3/CNRS, France)**

*The physics performance of the European Spallation Source neutrino Super Beam*

**11:20 Leonida Antonio GIZZI (Istituto Nazionale di Ottica – CNR, Italy)**

*The EuPRAXIA Compact Plasma Accelerator Infrastructure and Perspectives for Nuclear Applications*

**12:00 Danielle Braje (MIT, USA)**

*Solid State Spin Sensors from Materials to Applications*

**12:40 Lunch, Inter-Session**

**16:30 Coffee and Discussion**

### SESSION 3 – Detection of fissile material and contraband

**Discussion Leader: M. Ojaruega (NGA, USA)**

**17:00 Ioannis Ploumistakis (Technical University of Crete, Greece)**

*High Intensity Laser Based Combined Systems for Detection of Contraband Hazardous and Illicit Materials*

**17:25 Alexander Barzilov (University of Nevada Las Vegas, USA)**

*Neutron Based Material Assay Using Elpasolite Scintillators*

**17:50 Filippo Gagliardi (Nucleco s.p.a., Italy)**

*Integration of independent techniques for overtaking limits of gamma spectrometry in assaying complex objects*

**18:15 Stevie Hendry (NHT, USA)**

*Integrated Ground-based Agent for Radiological Tracking*

**18:40 Malcolm Joyce (Lancaster University, UK)**

*Improving Radiation Localization via Energy-Resolved Angular Photon Responses*

**19:30 Dinner**

## TUESDAY, JUNE 20

### SESSION 4 – Space Applications

**Discussion Leader: A. Klimenko (LANL, USA)**

**8:30 Michael Aspinall (Lancaster University, UK)**

*Boron-Coated Straw Detector Efficiency Comparison with Helium-3 Proportional Counters – A Prospect for Cosmic Ray Neutron Monitoring*

**8:55 David Strivay (Université de Liège, Belgium)**

*Set-ups for Radiation test campaigns of Materials dedicated to Space Applications*

**9:20 Sara Abraham (University of Michigan, USA)**

*Demonstration of Background Rejection in a Near-Space Environment using a Pixelated CdZnTe Detector*

**9:45 Peter Bloser (LANL, USA)**

*The Mini Astrophysical MeV Background Observatory (MAMBO): A CubeSat Mission for Gamma-Ray Astronomy*

**10:10 Coffee and Discussion Session**

### SESSION 5 – Nuclear safeguards, security and forensics

**Discussion Leader: J. Shafer (Colorado School of Mines, USA)**

**10:40 Michael Short (MIT, USA)**

*Forensic Signatures of Historical Uranium Enrichment Measurable via Stored Energy*

**11:05 Brett Isselhardt (LLNL, USA)**

*Deciphering fingerprints of stellar nucleosynthesis through nuclear reaction rate measurements and isotopic analyses of stardust*

**11:30 Malcolm Joyce (Lancaster University, UK)**

*Using  $^{244}\text{Pu}/^{239}\text{Pu}$  to pinpoint  $^{240}\text{Pu}/^{239}\text{Pu}$  signatures of locally derived reactor material in the terrestrial environment*

**11:55 Morgan Collins (Ontario Tech University, Canada)**

*Experimental Investigation of Surface Radiation Damage in Uranium Hexa-fluoride Drums*

**12:20 Riccardo Ferretti (Joint Research Centre, Spain)**

*Slashing the computational cost of producing high fidelity tomography simulations: the Passive Gamma Emission Tomography case study*

**12:45 Lunch, Inter-Session**

**16:30 Coffee and Discussion Session**

### SESSION 6 – Accelerators and neutron generators

**Discussion Leader: N. Winch (LANL, USA)**

**17:00 Nick Gazis (ESS, Sweden)**

*Engineering Design, CAD Modelling, Integration & Infrastructure for ESSnuSB*

**17:25 Ciprian Plostinar (ESS, Sweden)**

*Installation Testing and Commissioning Status of the European Spallation Source Accelerator*

**17:50 Evangelos Gazis (N. T. U. of Athens, Greece)**

*Study of the Radiation Equivalent Dose of the CompactLight X-ray FEL*

**18:15 Andrea Bignami (ESS, Sweden)**

*Vibration Analysis during On-site Transportation and Handling of Cryomodules for the European Spallation Source*

**19:30 Dinner**

## WEDNESDAY, JUNE 21 – Free day

**Dinner at your leisure**

## THURSDAY, JUNE 22

### SESSION 7 – Reactor Operation and Treaty Verification

**Discussion Leader: M. Short (MIT, USA)**

**8:30 Brett Isselhardt (LLNL, USA)**

*Analysis of small samples of spent nuclear materials for interpreting reactor operating history*

**8:55 Gabriel Turturica (ELI-NP, Romania)**

*Homomorphic inference of deep neural networks for zero-knowledge verification of nuclear warheads*

**9:20 Jenifer Shafer (Colorado School of Mines, USA)**

*Molten Salt Characterization Capabilities in Support of Nonproliferation & Nuclear Forensics*

**9:45 Anna Erickson (Georgia Tech, USA)**

*RETINA: Reactor Evaluation through Antineutrino Analysis*

**10:10 Coffee and Discussion Session**

### SESSION 8 – Novel detectors and materials

**Discussion Leader: K. Ogren (LANL, USA)**

**10:40 Martin Nikl (Fyzikální ústav AV ČR v.v.i., Czech Republic)**

*Strategies for Modern Scintillators Tailoring and Optimization*

**11:05 Juan Manfredi (Air Force Institute of Technology, USA)**

*Fast-Cured Plastic Scintillators and Additive Manufacturing for Radiation Detection*

**11:30 Alexander Barzilov (University of Nevada Las Vegas, USA)**

*Synthesis and Characterization of CsPbBr<sub>3</sub> and Cs<sub>3</sub>Bi<sub>2</sub>I<sub>9</sub> Perovskites for Radiation Detectors*

**11:55 Julie Logan (Air Force Institute of Technology, USA)**

*Understanding the fundamental driver of semiconductor radiation tolerance with experiment and theory*

**12:20 Christos Lampoudis (Aristotle University of Thessaloniki, Greece)**

*A Micromegas based telescope for Muography applications*

**12:45 Lunch, Inter-Session**

**16:30 Coffee and Poster Session**

### SESSION 9 – Laboratory and industrial applications

**Discussion Leader: M. Joyce (Lancaster Univ., UK)**

**17:00 Andy Buffer (U. Cape Town, South Africa)**

*Positron emission particle tracking for visualization of flow*

**17:25 Violeta Iancu (ELI-NP, Romania)**

*Applications of nuclear techniques at Extreme Light Infrastructure – Nuclear Physics facility: from industrial to medical applications*

**17:50 Karel Blazek (CRYTUR, spol. s r., Czech Republic)**

*Application of modern scintillator in industrial and geological equipment's*

**18:15 Evangelos Gazis (N. T. U. of Athens, Greece)**

*Socio-Economic Impact of the CompactLight design for an Innovative FEL facility*

**19:30 Dinner**

## FRIDAY, JUNE 23

### SESSION 10 – Imaging and localization

**Discussion Leader: W. Kaye (H3D, Inc., USA)**

**8:30 Moussa N'Gom (Rensselaer Polytechnic Institute, USA)**

*On the Production of Topological Optical Solitons*

**8:55 David Goodman (H3D, Inc., USA)**

*Advances In Quantitative Nuclear Measurements Using 3-D Pixelated CdZnTe Gamma-Ray Imaging Spectrometers*

**9:20 Scott Watson (LANL, USA)**

*Recent History and Application of Field Radiography at Los Alamos*

**9:45 Nicola Winch (LANL, USA)**

*High-Efficiency, Field-Portable Imagers*

**10:10 Coffee Break**

### SESSION 11 – Accelerators and detectors

**Discussion Leader: E. Gazis (N. T. U. of Athens, Greece)**

**10:40 Pierluigi Casolaro (AEC-LHEP, University of Bern, Switzerland)**

*A new dosimeter for FLASH cancer therapy based on yttrium-doped barium fluoride scintillators and optical fibers*

**11:05 Soraia Elisio (Lancaster University, UK)**

*A novel blind-tube monitoring instrument: point-spread analysis of photon-depth spectra*

**11:30 Nicola Winch (LANL, USA)**

*PHOENIX – Efficient, Man-Portable, High-Energy Radiographic Source*

**11:55 David Strivay (Université de Liège, Belgium)**

*Archaeometry and Technical Art History Using Ion Beam Analysis and Non-Invasive Techniques at the University of Liège*

**12:20 Catalin Matei (ELI-NP, Romania)**

*The Quest for Accurate Measurements of the Intensity of Gamma-ray Beams*

