**The Center for Integrated Nanotechnologies (CINT)**

 **Annual Meeting (Virtual),** **September 21-23, 2021**

**Day 1**

**Tuesday, September 21**

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| **9:00 am** | [**Plenary Session I**](https://lanl-events.webex.com/lanl-events/onstage/g.php?MTID=e46d41968f0b591e706a33826b6bcf877) |
|  | **Welcome and Introductions***Adam Rondinone, CINT Co-Director* |
| **9:10 am** | **CINT Update** *Jeff Nelson, CINT Director* |
| **9:30 am** | **Basic Energy Sciences (BES) Update***Dr. Linda Horton, Associate Director of Science for Basic Energy Sciences*  |
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| **9:45 am** | **Professor David Jamieson**Department of Physics, University of Melbourne*Bridging the Classical-Quantum Divide with Implanted Ions: Engineered Donors in Enriched Silicon* |
| **10:30 am** | **Break** |

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| **2021 CINT Annual Meeting – Parallel Symposia** |
|  | **Advanced Optical Microscopy I** | **Emerging Nanoscale Materials Research Aided with Ion Beams I:** ***Quantum Materials Research Aided with Ion Beams*** | **Hybrid photonic and quantum low-dimensional materials I:** ***Hybrid Topological Materials*** |
|  | ***Organizers:****Peter Goodwin, Jim Werner, Alan Van Orden (UEC)* | ***Organizers:****Rachel Goldman (SAC)* | ***Organizers:****Jennifer Hollingsworth, Jinkyoung Yoo, Mike Lilly, Rohit Prasankumar, Andy Jones, Andy Mounce*  |
| **10:45am** | **J. Enderlein**University of Gottingen*“Metal- and graphene-induced energy transfer imaging”* | **Ania Bleszynski Jayich**UCSB*“Mechanical Quantum Technologies in Diamond”* | **Rob Moore**CNMS-ORNL*“Templated Synthesis of Topological Material for QIS Applications”* |
| **11:15am** | **Tim Stasevich**Colorado State University*“Imaging and Quantifying Single mRNA Translation Dynamics in Living Cells”* | **Michael Titze**Sandia National Labs.*“Focused Ion Beams for Deterministic Nanoscale Device Fabrication”* | **Julia Chan**UT Dallas*“Getting Your Lattice in Shape- An exercise in crystal growth of intermetallics”* |
| **11:45am** | **Special Poster Session** | **Special Poster Session** | **Special Poster Session** |
| **12:45 pm** | **Victor Acosta**University of New Mexico*“Imaging and spectroscopy with diamond quantum sensors”*  | **Michael Pettes**CINT- LANL*“Towards control over 2D material properties through ion beam modification and analysis”* | **Jagadesh Moodera**MIT*“Quantum driven phenomena in hybrid systems”* |
|  |  |  | ***SiC and Diamond Nanophotonics*** |
| **1:15 pm** | **Peter Dahlberg**Stanford University*“Cryogenic Single-Molecule Fluorescence Localizations Correlated with Electron Tomography”* | **Chris Smallwood**San Jose State University*“Coherent Optical Spectroscopy of Silicon-Vacancy Centers in Diamond”*  | **Shuo Sun**CU- Boulder*“Hybrid photonic integration of diamond color center”* |
| **1:45pm** | ***End of Daily Session*** | ***End of Daily Session*** | **Niels Quack**Swiss Fed. Inst. Of Tech Lausanne.*“Recent Advances in Micro- and Nanostructuring of Single Crystalline Diamond for Photonics”* |
| **2:15pm** |  |  | **Peter Schultz**Sandia National Laboratories“*Toward predictive simulations of candidate color centers in wide band gap semiconductors*” |

**The Center for Integrated Nanotechnologies (CINT)**

 **Annual Meeting (Virtual), September 22, 2021**

**Day 2**

**Wednesday, September 22**

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|  | [**Plenary Session II**](https://lanl-events.webex.com/lanl-events/onstage/g.php?MTID=e2fd86aa2cb53a3333b507e8b1337df96) |
| **9:00 am** | **Professor Jelena Vuckovic** Department of Electrical Engineering, Stanford University*Scalable Semiconductor Quantum Systems* |
| **9:45 am** | **Break** |
| **2021 CINT Annual Meeting – Parallel Symposia** |
| **Symposia** | **Advanced Optical Microscopy II****Organizers:** | **Emerging Nanoscale Materials Research Aided with Ion Beams****II:** **Emerging Functional Materials research aided with Ion Beams** | **Hybrid photonic and quantum low-dimensional materials II:** ***Light Emitting Metasurfaces*** |
|  | ***Organizers:****Peter Goodwin, Jim Werner, Alan Van Orden (UEC)* | ***Organizers:****Yong Wang* | ***Organizers:****Jennifer Hollingsworth, Jinkyoung Yoo, Mike Lilly, Rohit Prasankumar, Andy Jones, Alex Cerjan, Andy Mounce* |
| **10:00 am** | **Keith Lidke**University of New Mexico*“TBA”* | **Chunmei Ban**University of Colorado Boulder*Toward All-Solid-State Lithium-“Metal Batteries: Surface Modification of Li7La3Zr2O12 for Lithium Dendrite Suppression***“** | **David Masiello**University of Washington*“Advances in single-particle spectroscopy using fast electrons***”** |
| **10:30 am** | **Sabrina Leslie**McGill Univesity*“TBA”* | **Mark Hersam**Northwestern University“*Mixed-Dimensional Heterostructures for Electronic and Energy Technologies”* | **Isabelle Staude**University of Jena *“Hybridizing dielectric metasurfaces with two-dimensional semiconductors”* |
| **11:00am** | **D. Shepherd** Arizona State University*“Versatile, high-speed, and large field-of-view single molecule imaging using oblique plane microscopy”* | **Claire Xiong**Boise State University*“Ion Irradiation effects on TiO2 nanotubes”* | **Maiken Mikkelsen**Duke University *“Ultrafast spectrally-selective photodetection with plasmonic metasurfaces”* |
| **11:30 am** | **Special Poster Session** | **Special Poster Session** | **Special Poster Session** |
| **12:30pm** | **Vatsal Joshi**UT Arlington*“Exploration of underdamped behavior of a nanoparticle in an optical tweezer”* | **Gang Wang**Ningbo University*“Synthesis of Layer/Doping/ Dimension- Tunable Graphene: A Combined Kinetic Implantation and Thermal Ejection Approach”* | **Jennifer Dionne**Stanford University*“High quality factor metasurfaces for quantum and nonlinear nanophotonics”* |
| **1:00pm** | **Sandra Rosenthal**Vanderbilt University*“TBA”*  | **Hope Ishii**University of Hawaii at Manoa*“Solar Wind Irradiation of Extraterrestrial materials”* |  |
| **1:30pm** | ***Special Session: How to Become a CINT User*** ***Heather Brown, CINT User Program Manager*** |
| **2:00pm** | ***End of Daily Session*** | ***End of Daily Session*** | ***End of Daily Session*** |

**The Center for Integrated Nanotechnologies (CINT)**

 **Annual Meeting (Virtual), September 23, 2021**

**Day 3**

**Thursday, September 23**

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|  | [**Plenary Session III**](https://lanl-events.webex.com/lanl-events/onstage/g.php?MTID=eab0b1b4c75cfd4f7a59b84a36a8456a9) |
| **9:00 am** | **Dr. Hari Shroff**National Institutes of Health, Laboratory of High-Resolution Optical Imaging and the Advanced Imaging and Microscopy Resource*Enhancing Optical Imaging with Computation* |
| **9:45 am** | **CINT User Executive Committee Presents: Best poster award** |
| **2020 CINT Annual Meeting – Parallel Symposia** |
| **Symposia** | **Advanced Optical Microscopy III** | **Emerging Nanoscale Materials Research Aided with Ion Beams III:*****Nuclear materials research aided with ion beams*** | **Hybrid photonic and quantum low-dimensional materials III:****Adv. Combined Scanning-Probe and optical microscopy for Quantum and Nanophotonics Materials** |
|  | ***Organizers:****Peter GoodwinJim Werner, Alan Van Orden (UEC)* | ***Organizers:****Khalid Hattar* | ***Organizers:****Jennifer Hollingsworth, Jinkyoung Yoo, Mike Lilly, Rohit Prasankumar, Andy Jones, Alex Cerjan, Andy Mounce* |
| **10:15am** | **Duncan Ryan**CINT LANL*“Multidimensional nanoscopy of interacting nanocrystals”* | **Yanwen Zhang**Oak Ridge National Laboratory*“Microstructure evolution in concentrated and high-entroy allows under ion irradiation”*  | **Tyler Cocker**Michigan State University*“Atomic-scale terahertz scanning tunneling spectroscopy”* |
| **10:45am** | **Tonmoy Chakraborty**University of New Mexico*“Imaging for physiologically relevant 3D microenvironment”* | **Mike Short**MIT*“Nuclear Materials at the speed of throught with the I3TFS beamline”* | **Mengkun Liu**Stonybrook University*“Infrared nano-imaging and nano-spectroscopy of quantum materials: the chances and difficulties”* |
| **11:15am** | **Diego Krapf**Colorado State University*“Dissecting heterogeneous diffusion processes in the cytoplasm using quantum dots”* | **Jason Trelewicz**Stony Brook University*“Elucidating the Mechanisms Governing Stability and Mechanical Softening in Nanograin Tungsten through Targeted Ion Irradiations”* | **Joanna Atkin**UNC-Chapel Hill“*Near-field microscopy of semiconducting nanostructures*” |
| **11:45am** | **Claudia Lopez**Oregon Health & Science University*“Correlated Multimodal Bioimaging”* | **Cheng Sun**Idado National Laboratory*“Defect superlattices in metals under irradiation”* | **Ronen Rapaport** The Hebrew U. of Jerusalem*“Single photon sources with nano-emitters at room temperature: beating the rate-directionality tradeoff”* |
| **12:15pm** | ***Concluding Remarks*** | ***Concluding Remarks*** | ***Concluding Remarks*** |