



CENTER FOR INTEGRATED NANOTECHNOLOGIES

Annual User Meeting

SEPTEMBER 14–16, 2026
SANTA FE CONVENTION CENTER, NM

20 *Years of
Integration
Innovation*

Center for Integrated Nanotechnologies
2026 Annual User Meeting & 20th Anniversary

20 Years of Integration Innovation

September 14–16, 2026
Santa Fe Community Convention Center



The CINT User Program provides the international scientific community access to world-class capabilities and scientific expertise at the CINT Core and Gateway facilities. To support and cultivate that same community, the CINT User Meeting brings together a diverse collection of world-leading scientists, technologists, technicians, members of academia and industry, and student researchers to gather and discuss critical issues in the diverse fields of nanoscience and nanotechnology.

We have an impressive schedule with over 60 distinguished speakers from around the world and hope you enjoy this opportunity to share and discover the latest advances in the exciting world of nanoscience research.

Center for Integrated Nanotechnologies
2026 Annual User Meeting

September 14–16, 2026
Santa Fe Community Convention Center

Symposia

AI-Enabled Discovery and Autonomous Nanoscience
Coronado/DeVargas Meeting Rooms

Energy Reliability and Materials in Extreme Environments
O’Keefe/Milagro Meeting Rooms

Advanced Synthesis and Manufacturing
Peralta/Lamy Meeting Rooms

Quantum, Semiconductors, and Integrated Electronic Materials
Sweeney Ballroom E/F

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Poster Presentation & Reception

Please join us Monday evening for our annual Poster Presentation and Reception. Explore over 80 scientific posters and meet the presenters while you enjoy refreshments courtesy of Government Scientific Source.

Santa Fe Community Convention Center Main Hall, 5:30–7:30 p.m.



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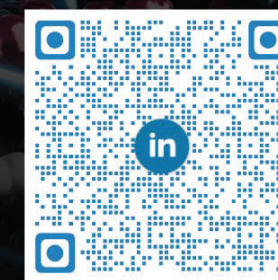
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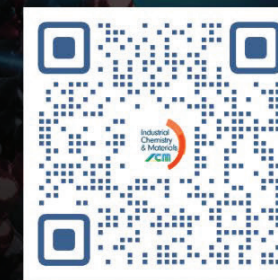
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Center for Integrated Nanotechnologies 2026 Annual User Meeting — Plenary Speaker

Dr. Emory Chan

The Molecular Foundry, Lawrence Berkeley National Laboratory

Automated Nanocrystal Synthesis: Lessons from 20 Years of Robots and Machine Learning.



Dr. Chan received a B.S. in Chemistry from Stanford University and performed his doctoral research on microfluidic nanocrystal synthesis with Professor Paul Alivisatos and Professor Richard Mathies in the Chemistry department at the University of California at Berkeley. Dr. Chan's expertise lies in the combinatorial and high-throughput synthesis of colloidal inorganic nanoparticles. As part of the Foundry's Combinatorial Nanoscience theme, Dr. Chan developed WANDA, a robot for high-throughput nanocrystal synthesis. He also supports analytical tools for high-throughput optical and structural characterization, including the confocal Raman microscope and plate readers for UV/Vis/NIR absorption, luminescence, XRD, and DLS.

Dr. Chan's research group synthesizes colloidal nanocrystals as substrates for patterning complex materials. The three major thrusts of his group's research are Combinatorial nanocrystal synthesis: Developing computational and high-throughput approaches to precisely synthesize large libraries of nano and meso -structures to systematically screen and unravel their physical properties; Engineering energy transfer networks among lanthanide and transition metal dopants to unravel their optical properties and tune them for near-infrared imaging in deep tissue; Leveraging biologically inspired strategies to pattern energy and materials across assemblies of nanocrystals with nanometer resolution.

Center for Integrated Nanotechnologies 2026 Annual User Meeting — Plenary Speaker

Professor David Mitlin

University of Texas at Austin

Grain Boundary Zirconia-Modified Garnet Solid-State Electrolyte.



Dr. Mitlin is a David Allen Cockrell Endowed Professor at the Walker Department of Mechanical Engineering, The University of Texas at Austin. Prior to that, he was a Professor and General Electric Chair at Clarkson University, and an Assistant, Associate and full Professor at the University of Alberta. Dr. Mitlin has published about 150 peer-reviewed journal articles on various aspects of energy storage and conversion materials. This work is cited at near 2000 times per year. Dr. Mitlin holds 5 granted U.S. patents and 9 more pending full applications, with all of them licensed currently or in the past. He has presented 125 invited, keynote and plenary talks at various international conferences. Dr. Mitlin is an Associate Editor for Sustainable Energy and Fuels, a Royal Society of Chemistry Journal focused on renewables. Dave received a Doctorate in Materials Science from U.C. Berkeley in 2000, M.S. from Penn State in 1996, and B.S. from RPI in 1995. He grew up in upstate NY and in southern CT.

Center for Integrated Nanotechnologies
2026 Annual User Meeting — Plenary Speaker

Professor Seongjun Park
Yonsei University
Reality in Semiconductor Innovation.



Dr. Park is currently a professor at Yonsei University, Seoul, Korea, where he explores novel thin-film and process materials tailored to next-generation semiconductor architectures for AI. Prior to joining Yonsei University, he was Executive Vice President at Samsung Electronics, where he led the Material Development Team at Samsung’s Semiconductor Research and Development Center, which develops materials for semiconductor fab processes including photoresists, precursors, etchants and cleaning chemicals, CMP chemicals, etch gases, wafers, and CIS color filters. His main interest is material development to improve the properties and processes of semiconductor devices.

Dr. Park received a B.S. degree in Chemical Engineering from Seoul National University (1994) and received his Ph.D. from Stanford University (2003) where he spent additional two years as a research associate. He joined Intel in 2005 where he investigated high-k/low-k materials, metals for gate electrode, low contact resistant material for S/D, and low resistance metals for interconnect based on quantum mechanical simulations. Since joining Samsung in 2021, Dr. Park has led various projects focused on touch sensors, sound sensors, neuromorphic processes, and quantum computing. He also led material development projects including new materials for DRAM Capacitor, VAND tunnelling barrier, PRAM GST and OTS, MRAM magnetic tunnel barrier, RRAM, ferroelectric materials for Negative Capacitance FET, ultra-low k material, and Graphene and 2D materials. He also investigated materials for display applications including quantum dots and Nano LED.

Center for Integrated Nanotechnologies
2026 Annual User Meeting



Meeting Agenda
Monday, September 14

8:00	Registration and Light Breakfast	Main Hall/Sweeney Ballroom
8:30	Welcome and Opening Plenary Session	Sweeney Ballroom E & F
	CINT Director Adam Rondinone — Welcome and Introductions	
	Acting CINT Co-Director Ryan Wixom — CINT Update	
	Basic Energy Sciences Program Manager Dr. Mikhail Zhernenkov — BES Update	
9:30	Dr. Emory Chan — <i>Automated Nanocrystal Synthesis: Lessons from 20 Years of Robots and Machine Learning.</i>	
10:30	Break	Sweeney Ballroom
11:00	Parallel Symposia	
12:30	Lunch	Sweeney Ballroom
2:00	Parallel Symposia	
3:15	Break	Sweeney Ballroom
5:30–7:30	Poster Presentation and Reception	SFCCC Main Hall

Center for Integrated Nanotechnologies

2026 Annual User Meeting

Monday, September 14
Meeting Agenda — Parallel Symposia

AI-Enabled Discovery and Autonomous Nanoscience

Coronado/DeVargas Meeting Rooms

AI-Enabled Discovery and Autonomous Nanoscience

Session Organizers: Rémi Dingreville and Agus Poerwoprajitno

- 11:00 Atieh Moridi — Cornell University
SMART: High-Throughput Materials Libraries for Data-Driven Discovery of Complex Concentrated Alloys.
- 11:30 Steven Spurgeon — National Laboratory of the Rockies
Agents for Atoms: AI-Orchestrated Discovery Across Characterization and Processing.
- 12:00 Gregory Doerk — Center for Functional Nanomaterials, Brookhaven National Laboratory
Accelerating Process Design for Thin Film Polymer Self-Assembly with Machine Learning.
- 12:30 Lunch — Sweeney Ballrooms
- 2:00 Rama Vasudevan — Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
Autonomous Experiments & AI Agents for Science: Putting Humans at the Center of the New Agentic Era.
- 2:30 Eric Hintsala — Bruker
Smart Mapping: High Throughput Nanoindentation with Intelligence.

Autonomous and Automated Experimental Workflows

Session Organizers: Remi Dingreville and Agus Poerwoprajitno

- 2:45 Jason Hattrick-Simpers — University of Toronto
Trying to Make Useful Predictions with Machine Learning.
- 3:15 Break — Sweeney Ballrooms
- 3:45 Jie Xu — University of Chicago
Accelerating Polymer Innovation Through Autonomous Lab.
- 4:15 Wei Chen — Northwestern University
Autonomous Materials Discovery Through Continual Deep Learning and Collaborative Bayesian Optimization.

Center for Integrated Nanotechnologies

2026 Annual User Meeting

Monday, September 14
Meeting Agenda — Parallel Symposia

Energy Reliability and Materials in Extreme Environments

O’Keefe/Milagro Meeting Rooms

Ion Beam–Driven Platforms for Nuclear Energy Research

Session Organizers: John Watt, Nan Li, and Han Htoon

- 11:00 Yongqiang Wang — CINT Gateway, Los Alamos National Laboratory
Ion Beam-Based Capabilities to Support Nuclear Materials Research.
- 11:30 Lin Shao — Texas A&M University
Advanced Manufacturing Applications in Reactor Systems: Advantages and Challenges.
- 12:00 Khalid Hattar — University of Tennessee
In-Situ Techniques as Tools to Explore Coupled Extreme Environments.
- 12:30 Lunch — Sweeney Ballrooms

Microelectronics for Extreme Environments

Session Organizers: John Watt, Nan Li, and Han Htoon

- 2:00 Alex Tinguely — Massachusetts Institute of Technology
Diamonds as Particle Detectors in Extreme Environments: From CERN to Fusion to Spacecraft Propulsion.
- 2:45 Jinkyoun Yoo — CINT Gateway, Los Alamos National Laboratory
Controlling Ion Beam-Induced Disorders for Electronics Applications of Semiconductor.
- 3:15 Break — Sweeney Ballrooms
- 3:45 Kelly Schutt — National Laboratory of the Rockies
Halide Perovskites in Extreme Environments: Results from Radiation Dosing and Low Earth Orbit.
- 4:15 Kranti Gunthoti — Los Alamos National Laboratory
Radiation Effects Testing at LANSCE: A LANL Capability and Program.

Center for Integrated Nanotechnologies

2026 Annual User Meeting

Monday, September 14
Meeting Agenda — Parallel Symposia

Advanced Synthesis and Manufacturing

Peralta/Lamy Meeting Rooms

Functional Materials and Emergent Functionality
Session Organizers: Aiping Chen and Sundar Kunwar

- 11:00 Geoff Brennecka — Colorado School of Mines
Weed or Flower? The Many Roles of Defects in Ferroelectric Wurtzite Nitrides.
- 11:30 Yongtao Liu — Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
Discovering the Unexpected: Self-Driving Microscopy for Functional Materials.
- 12:00 Alan Farhan — Baylor University
Designing Ferroic Orders in High-Entropy Oxide Perovskite Thin Films.
- 12:30 Lunch — Sweeney Ballrooms
- 2:00 TBD —

2D Materials, Novel Electronic Materials, and 3D Integration of Materials

Organizers: Michael Pettes and Jinkyoun Yoo

- 2:30 Cooper Petty — Keyence
TBD
- 2:45 Houk Jang — Center for Functional Nanomaterials, Brookhaven National Laboratory
Hierarchical Recognition for Universal 2D Flake Identification.
- 3:15 Break — Sweeney Ballrooms
- 3:45 Zakaria Al-Balushi — University of California, Berkeley
Growth of 2D Materials for Next Generation Electronic Device.
- 4:15 Hae Yeon Lee — Rice University
Spatial Control of Optical, Electrical, and Structural Properties in Vdw Oxide.

Center for Integrated Nanotechnologies

2026 Annual User Meeting

Monday, September 14
Meeting Agenda — Parallel Symposia

Quantum, Semiconductors, and Integrated Electronic Materials

Sweeney Ballroom E & F

Advances in Nanophotonics From Materials & Design Methods to Applications
Session Organizers: Chloe Doiron, Tom Harris, and Tzu-Ming Lu

- 11:00 Weilu Gao — University of Utah
Chiroptics with Macroscopic Carbon Nanotube Architectures.
- 11:30 Sachin Vaidya — Massachusetts Institute of Technology
Overcoming Bottlenecks in Physics with AI and Robotics.
- 12:00 Omri Wolf — Light Solver
All Optical Analog Processor for Energy-Efficient HPC: Benchmarks and Real-World Applications.
- 12:30 Lunch — Sweeney Ballrooms

Interaction Physics with Low-Dimensional Materials
Session Organizers — Chloe Doiron, Tom Harris, and Tzu-Ming Lu

- 2:00 Alisa Javadi — University of Oklahoma
Low-Noise Epitaxial Quantum Dots for Photonic Quantum Technologies.
- 2:30 John Braun — United Mineral & Chemical Corp.
Company Overview, Materials Acquisition and Quality Issues.
- 2:45 Dominique Laroche — University of Florida
Reciprocal and Nonreciprocal Coulomb Drag in Coupled Quantum Wires.
- 3:15 Break — Sweeney Ballrooms
- 3:45 Gabor Csathy — Purdue University
New Correlated Ground States in Two Dimensions in the Limit of the Lowest Disorder.



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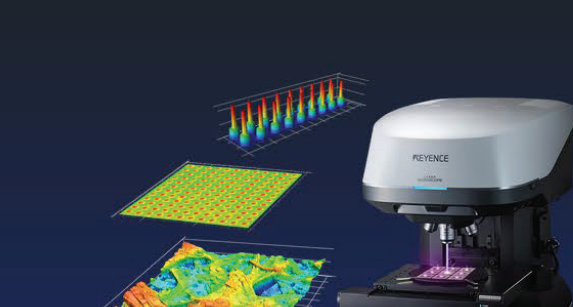
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Center for Integrated Nanotechnologies
2026 Annual User Meeting & 20th Anniversary
20 Years of Integration Innovation

Honored Guest Speakers



Antoinette Taylor
CINT Distinguished Affiliate
CINT Director 2004–2008

Antoinette (Toni) Taylor is a CINT Affiliate Scientist at Los Alamos National Laboratory. She is a pioneer in electromagnetic metamaterials, terahertz science and technology, and applying coherent control techniques to ultrafast optics, which provide unique insight into condensed-matter physics. Toni made key contributions in the exploration of basic properties of superconductors through ultrafast techniques, made important demonstrations of exquisite control of phase and amplitude in ultrafast pulses leading to coherent control of propagation in fibers, and has contributed to novel metamaterial concepts leading to devices with unique dielectric properties. Formerly, Toni served as the Associate Laboratory Director for Physical Sciences at LANL and as the Director of the Center for Integrated Nanotechnologies.



George Maracas
President, GNM Tech, LLC
Program Manager BES NSRCs 2013–2021

George Maracas is the President of GNM Tech, where he provides scientific and technical consulting focused on promoting a sustainable continuum from basic research through commercial impact. Previously, he served as the Program Manager for the DOE Basic Energy Sciences Nanoscale Science Research Centers (NSRCs), where he provided guidance and oversight to the five Nanoscale Science Research Centers as well as the Electron Beam Microscopy Centers.

Center for Integrated Nanotechnologies
2026 Annual User Meeting & 20th Anniversary
20 Years of Integration Innovation

Honored Guest Speakers

Sean Hearne
President & CEO, Southeastern Universities Research Assoc.
CINT Co-Director 2016–2019

Sean J. Hearne is President and CEO of the Southeastern Universities Research Association (SURA), where he focuses on advancing SURA as a leading organization in scientific research and innovation. With more than twenty years of leadership experience in the Department of Energy (DOE) national laboratory system, Dr. Hearne has an extensive background in directing world-leading materials science and technology facilities. Before his current role at SURA, Dr. Hearne held positions as the Director for the Center for Nanophase Materials Sciences at ORNL and served as co-Director of the Center for Integrated Nanotechnologies at Sandia National Laboratories. His research has spanned various aspects of materials science, from nanotechnology to energy storage, significantly impacting the field. Early in his career, he worked at Intel Corporation, contributing to the development of the company's first copper interconnect technology.



Heather Brown
Center for Integrated Nanotechnologies
User Program Manager

Heather Brown is a Business Operations Specialist at Sandia National Laboratories where she initially served as the CINT User Program Administrator (2003–2011). Heather helps develop and implement the strategic direction of CINT's user program. Her responsibilities include managing the operating cadence for the user program and tracking and reporting user program activities to the Department of Energy.



Center for Integrated Nanotechnologies
2026 Annual User Meeting



Meeting Agenda
Tuesday, September 15

8:00	Registration and Light Breakfast	Main Hall/Sweeney Ballroom
8:30	Plenary Session	Sweeney Ballroom E-F
	20 th Anniversary Celebration Panel and Poster Awards Antoinette Taylor, George Maracas, Sean Hearne, and Heather Brown	
9:30	Professor David Mitlin — University of Texas at Austin <i>Grain Boundary Zirconia-Modified Garnet Solid-State Electrolyte.</i>	
10:30	Break	Sweeney Ballroom
11:00	Parallel Symposia	
12:30	Lunch	Sweeney Ballroom
2:00	Parallel Symposia	
3:15	Break	Sweeney Ballroom
3:45	Parallel Symposia	

Center for Integrated Nanotechnologies
2026 Annual User Meeting

Tuesday, September 15
Meeting Agenda — Parallel Symposia

AI-Enabled Discovery and Autonomous Nanoscience
Coronado/DeVargas Meeting Rooms

Integration of Computation, Experiment, and Decision-Making
Session Organizers: Rémi Dingreville and Agus Poerwoprajitno

11:00	Kamal Choudhary — Johns Hopkins University <i>Atomgpt.org: An Open-Access Agentic AI Platform for Accelerated Materials Design.</i>
11:30	Kirsten Winther — SLAC National Accelerator Laboratory <i>AI-Accelerated Modeling of Materials and Interfaces for Low- and High-Temperature Electrolysis.</i>
12:00	
12:30	Lunch — Sweeney Ballrooms

Cross-Cutting AI-enabled Research Platforms for Synthesis and Characterization
Session Organizers: Rémi Dingreville and Agus Poerwoprajitno

2:00	Christopher D. Stiles — Johns Hopkins Laboratory <i>Four Discoveries on the Path from AI Prediction to Useful Materials.</i>
2:30	Rick Passey — Thermo Fisher Scientific, Inc. <i>From Automation to Autonomy: Defining the Modern Materials Lab with High-Throughput Electron Microscopy.</i>
2:45	Keith Brown — Boston University <i>Self-Driving Labs for Polymer Research across Scales.</i>
3:15	Break — Sweeney Ballrooms
3:45	Agus Poerwoprajitno — CINT Core, Sandia National Laboratories <i>How AI Is Accelerating Nanoparticle Research.</i>

Center for Integrated Nanotechnologies

Annual User Meeting

Tuesday, September 15
Meeting Agenda — Parallel Symposia

Energy Reliability and Materials in Extreme Environments

O’Keefe/Milagro Meeting Rooms

Materials and Interfaces for Scalable, Resilient Energy Storage

Session Organizers: John Watt, Nan Li, and Han Htoon

- 11:00 Huiwen Ji — University of Utah
Short-Range Order in Ionic Conductors for Rechargeable Battery Applications.
- 11:30 Dongchang Chen — University of New Mexico
Advancing Toward Next-Generation Battery Materials via Cation-Disordered Solid State Chemistry.
- 12:00 Josey McBrayer — Sandia National Laboratories
Understanding How Ion Implantation Changes LLZTO Performance in Lithium Metal Batteries.
- 12:30 Lunch — Sweeney Ballrooms
- 2:00 Partha Mukherjee — Purdue University
- 2:30 Roger Kerstin — Evident Scientific
Integrating AI into Modern Microscopy Workflows.
- 2:45 Sergio Diaz Abad — Los Alamos National Laboratory
Engineering Materials and Interfaces for Electrochemical Energy Conversion: Fuel Cells and Electrolyzers.
- 3:00 Jaron Vernal Moon — Los Alamos National Laboratory
Engineering NaSICON Interfaces for Wide-Temperature Sodium-Ion Transport.
- 3:15 Break — Sweeney Ballrooms

Center for Integrated Nanotechnologies

2026 Annual User Meeting

Tuesday, September 15
Meeting Agenda — Parallel Symposia

Advanced Synthesis and Manufacturing

Peralta/Lamy Meeting Rooms

Advanced Synthesis and Manufacturing Methods for Next-Generation/Critical Materials

Session Organizers: Winson Kuo and Dean Morales

- 11:00 Julie Renner — Case Western Reserve University
Engineering Peptide Interfaces for Selective Rare Earth Element Capture.
- 11:30 Miha Zakotnik — Sunrise Energy Materials, University of Birmingham
Vertical Integration from Rare Earth Oxide to Magnet.
- 12:00 TBD —
- 12:30 Lunch — Sweeney Ballrooms

Fabrication, Synthesis, and Printing of Soft and Biological/Biomimetic Materials

Organizers: Kyungtae Kim and Bryan Kaehr

- 2:00 Paul V. Braun — University of Illinois Urbana-Champaign
Synthesis and 3D Printing of Heat, Light, and Stress Responsive Hydrogels.
- 2:30 Abhinandh Sankar — Government Scientific Source
A Materials Characterization Toolkit for Semiconductors and Advanced Packaging Materials.
- 2:45 Lauren Zarzar — Penn State University
Self-Organization and Memory in Collections of Active Droplets.
- 3:15 Break — Sweeney Ballrooms
- 3:45 Tim White — University of Colorado, Boulder
Programming Structure and Function in Liquid Crystalline Elastomers Through Advanced Synthesis and Manufacturing.

Center for Integrated Nanotechnologies 2026 Annual User Meeting

Tuesday, September 15
Meeting Agenda — Parallel Symposia

Quantum, Semiconductors, and Integrated Electronic Materials Sweeney Ballroom E & F

Recent Applications of Near-Field and Nanoscale Characterization Methods
Session Organizers: Chloe Doiron, Tom Harris, and Tzu-Ming Lu

- 11:00 Oleg Mitrofanov — University College London
Photoconductive Metasurfaces: From Principles to Applications in Thz Pulse Generation and Detection.
- 11:30 TeYu Chien — University of Wyoming
Probing Quantum Materials with Scanning Tunneling Microscopy.
- 12:00 Ben Whetten — CINT Gateway, Los Alamos National Laboratory
Tip-Enhanced Nanocavity Spectroscopy of Low Dimensional Materials Across the Weak to Strong Coupling Regimes.
- 12:30 Lunch — Sweeney Ballrooms

Heterogenous Integration of Optical and Acoustic Materials Organizers: Chloe Doiron, Tom Harris, and Tzu-Ming Lu

- 2:00 Xiaoxing Xia — Lawrence Livermore National Laboratory
Massively Parallel 3D Nanolithography Using a Metalens Lens Array.
- 2:30 JEOL
TBD
- 2:45 Lisa Hackett — Sandia National Laboratories
Chip-Scale Nonlinear Piezoelectric Phononic Interactions.
- 3:15 Break — Sweeney Ballrooms
- 3:45 Adam Overig — Stevens Institute of Technology
Proton-Irradiation-Resilient Dark Excitons in Graphene/WS2 van der Waals Heterostructures.
- 4:15 Kate Reidy — Stanford University
Atomic-Scale Dynamics of Quantum Interfaces Inside the Electron Microscope.

Center for Integrated Nanotechnologies 2026 Annual User Meeting



Meeting Agenda Wednesday, September 16

- 8:00 Registration and Light Breakfast Main Hall/Sweeney Ballroom
- 8:30 Plenary Session Sweeney Ballroom E–F
- Professor Seongjun Park — *Reality in Semiconductor Innovation.*
- CINT Capability Panel with CINT Thrust Leaders
Join us for capability updates from each thrust followed by audience Q&A.
- 10:30 Break Sweeney Ballroom
- 11:00 Parallel Symposia
- 12:30 Lunch Sweeney Ballroom
- 2:00 Parallel Symposia
- 2:30 Meet CINT Sweeney Ballroom
- 3:15 Break Sweeney Ballroom

Center for Integrated Nanotechnologies

2026 Annual User Meeting

Wednesday, September 16
Meeting Agenda — Parallel Symposia

AI-Enabled Discovery and Autonomous Nanoscience

Coronado/DeVargas Meeting Rooms

Data Handling, Infrastructure, and Analysis for Accelerated Discovery
Session Organizers: Rémi Dingreville and Agus Poerwoprajitno

- 11:00 Edward Barnard —The Molecular Foundry, Lawrence Berkeley National Laboratory
Autonomous Synthesis and Characterization for Materials Discovery at the Molecular Foundry.
- 11:30 Roger French — Case Western Reserve University
MDS-Ontology, Knowledge Graphs and Graph Neural Networks for FAIR, Learning, and Reasoning: Semantic Materials Science.
- 12:00 David Elbert — Johns Hopkins University
Unlocking Autonomy: Event-Driven Linked Data for Scientific Workflows.
- 12:30 Javier Read de Alaniz — University of California, Santa Barbara
BioPACIFIC MIP: Integrating Automation, Data, and Chemistry to Accelerate Materials Discovery.
- 12:30 Lunch
- 2:30 Networking
- 3:15 Break/Light Refreshments

Center for Integrated Nanotechnologies

2026 Annual User Meeting

Wednesday, September 16
Meeting Agenda — Parallel Symposia

Energy Reliability and Materials in Extreme Environments

O’Keefe/Milagro Meeting Rooms

Coatings and Structural Materials for Nuclear Energy Systems
Session Organizers: John Watt, Nan Li, and Han Htoon

- 11:00 Osman Anderoglu — University of New Mexico
Effects of Magnetic-Field-Assisted Tempering on the Microstructure, Mechanical Properties, and Irradiation Response of HT-9 Steel.
- 11:30 Giacomo Po — University of Miami
From Micromechanics to Physically Based Constitutive Modeling of BCC Fusion Alloys.
- 12:00 Di Chen — University of Nevada
Development of an In-Situ LIBS Diagnostic Platform for Extreme-Environment Nuclear Materials.
- 12:30 Lunch
- 2:30 Networking
- 3:15 Break/Light Refreshments

The Center for Integrated Nanotechnologies

2026 Annual User Meeting

Wednesday, September 16
Meeting Agenda — Parallel Symposia

Advanced Synthesis and Manufacturing

Peralta/Lamy Meeting Rooms

Automation and Scalable Fabrication Approaches
Session Organizers: Sadhvikas Addamane and Hyosim Kim

- 11:00 Samrat Choudhury — University of Mississippi
Machine Learning Guided Optimization for Scalable Metal Additive Manufacturing.
- 11:30 Timothy M Smith — NASA
GRX-810: A 3D Printable Alloy Designed for Extreme Environments.
- 12:00 Dan Thoma — University of Wisconsin, Madison
Design, Validation, and Scale-up of New Materials Using Automated Techniques.
- 12:30 Lunch
- 2:30 Networking
- 3:15 Break/Light Refreshments

Center for Integrated Nanotechnologies

2026 Annual User Meeting

Wednesday, September 16
Meeting Agenda — Parallel Symposia

Quantum, Semiconductors, and Integrated Electronic Materials

Sweeney Ballroom E & F

Novel Applications of Low Dimensional Materials
Session Organizers: Chloe Doiron, Tom Harris, and Tzu-Ming Lu

- 11:00 Sungjae Hong — Sandia National Laboratories
Harnessing Interface-Governed Features in Two-Dimensional Material-Based Vertical Schottky Diode for Ultrafast RF Rectification
- 11:30 Vinod Sangwan — Northwestern University
Emerging Nanomaterials for Bio-Realistic Neuromorphic Computing.
- 12:00 Yeonjoo Lee — Los Alamos National Laboratory
Proton-Irradiation-Resilient Dark Excitons in Graphene/WS2 van der Waals Heterostructures.
- 12:30 Lunch
- 2:30 Networking
- 3:15 Break/Light Refreshments



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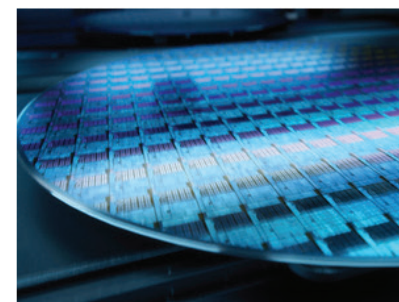
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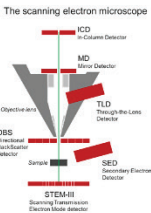
SEM

Thermo Scientific SEM platforms combine high-resolution imaging, live elemental mapping, low-vacuum / ESEM flexibility and automation for routine to advanced materials analysis.

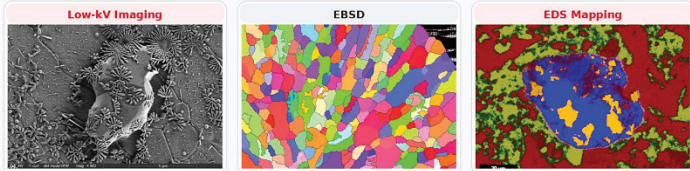


Solution strengths

- Integrated SEM imaging and chemical characterization
- Live quantitative elemental mapping; EDS-ready workflows
- Sub-nanometer resolution options across broad kV ranges
- Low-vacuum / ESEM for wet, dirty or outgassing samples
- 3D serial block-face and compact desktop options



Application focus



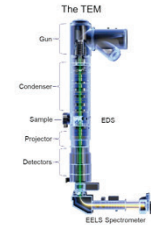
TEM

Thermo Scientific TEM/STEM platforms deliver atomic-scale imaging, spectroscopy and high-throughput analytical workflows for advanced materials research.

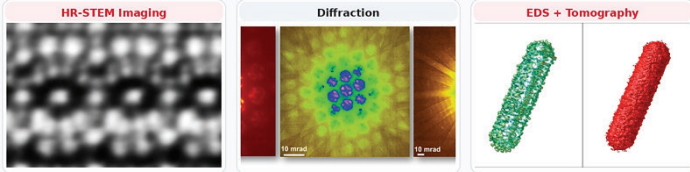


Solution strengths

- Atomic-level structural and chemical information
- High-resolution TEM/STEM across 120-300 kV platforms
- EDS/EDX, EELS, diffraction and tomography capabilities
- High-throughput workflows with simultaneous multi-signal acquisition
- Automation and software for accurate, repeatable results



Application focus



DualBeam

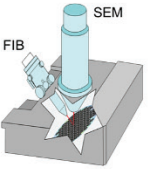
Thermo Scientific DualBeam FIB-SEM platforms unite preparation, imaging, milling and automation to enable cross-sectioning, S/TEM prep, nanoprotyotyping and 3D analysis.



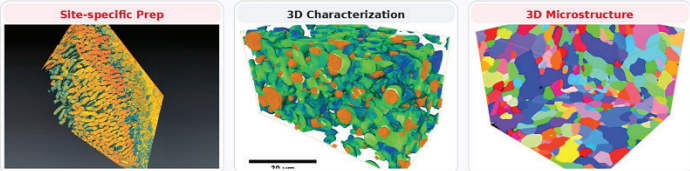
Solution strengths

- Automated, high-quality S/TEM sample preparation
- High-throughput subsurface and 3D characterization
- Fast milling: plasma FIB, laser PFIB and high ion current
- Ga-free and multi-ion workflows for broad material compatibility
- Rapid nanoprotyotyping and advanced ease-of-use automation

The DualBeam microscope



Application focus



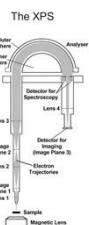
XPS

Thermo Scientific X-ray photoelectron spectrometer (XPS) systems deliver surface-sensitive chemical-state analysis, imaging, depth profiling and multi-technique workflows.

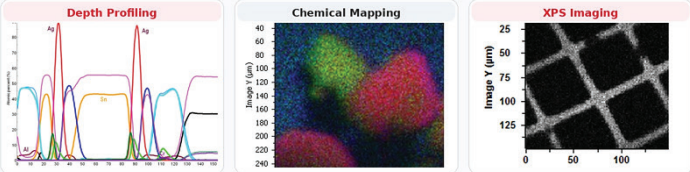


Solution strengths

- High-resolution XPS for chemical-state surface analysis
- Fast automated workflows with ion-source depth profiling
- Multi-technique surface analysis and flexible sample prep
- Micro-focus X-ray sources for targeted analysis and imaging
- Dual-mode ion source for monoatomic and cluster profiling



Application focus



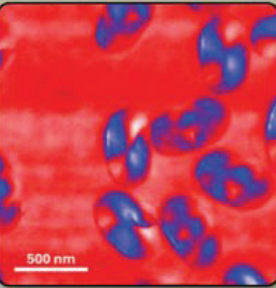
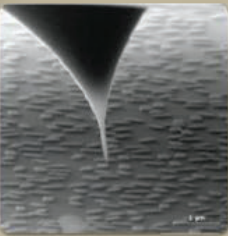
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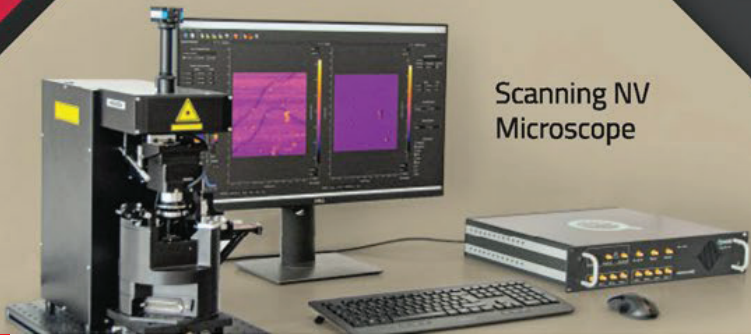
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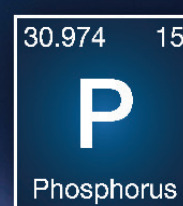
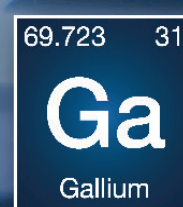
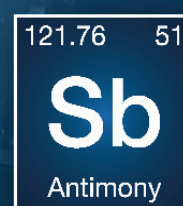
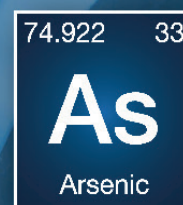
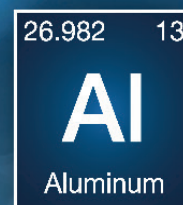


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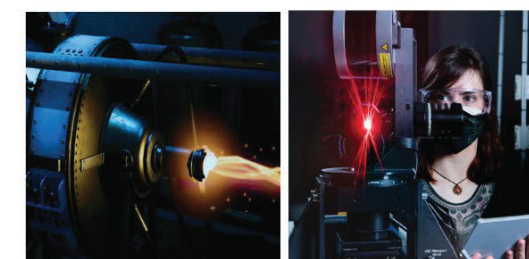
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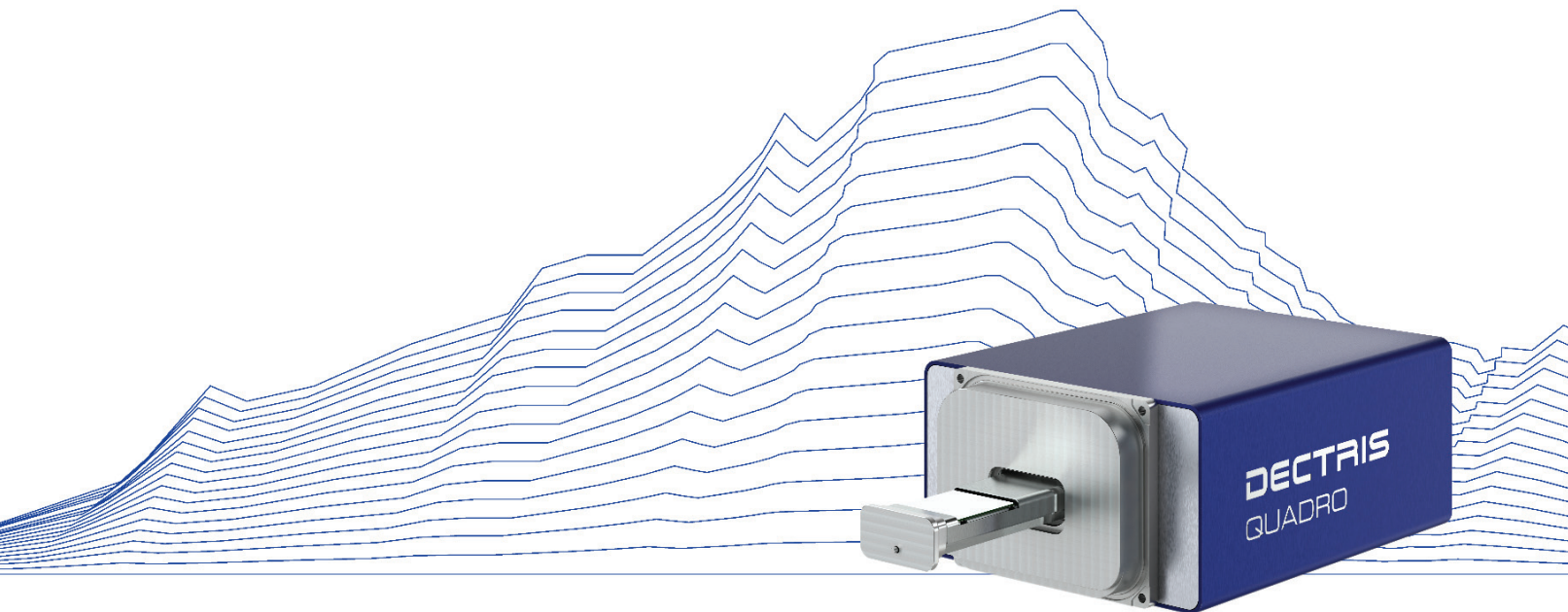


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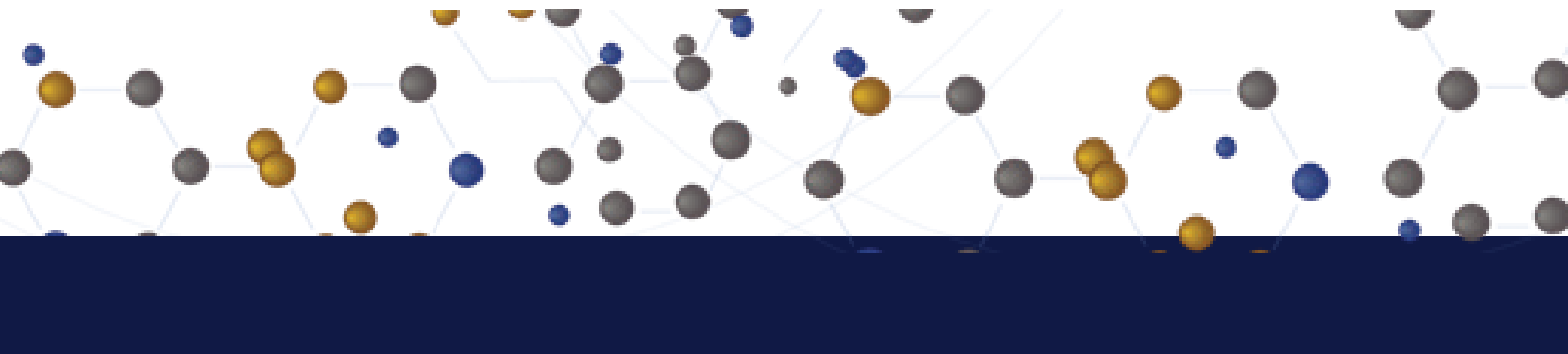


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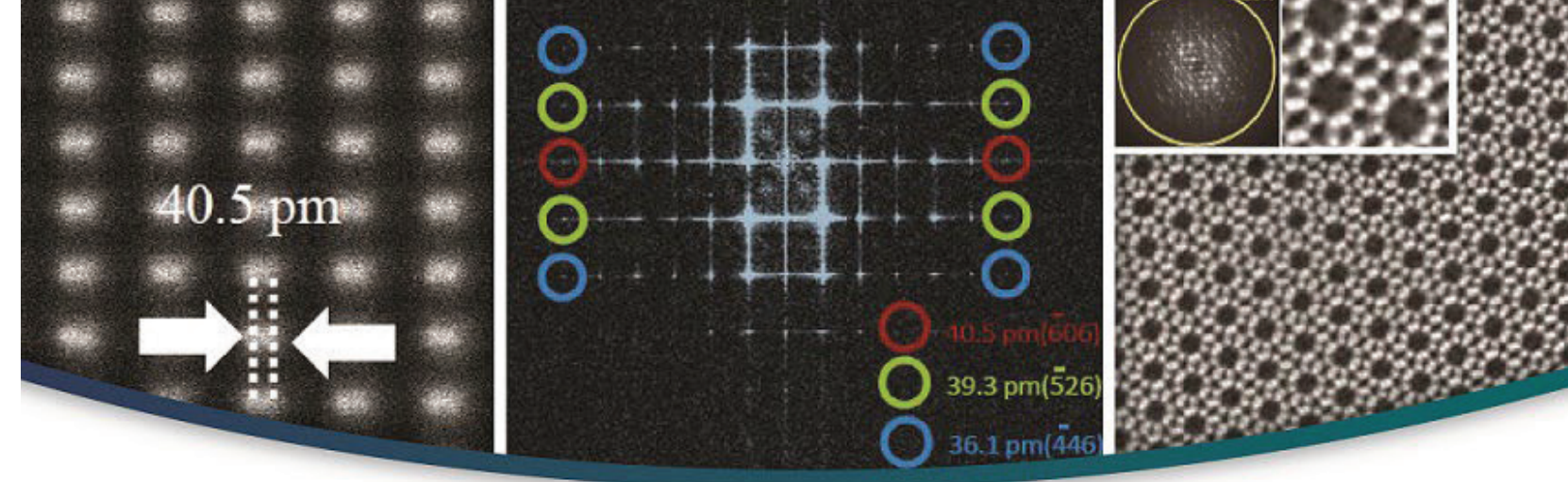
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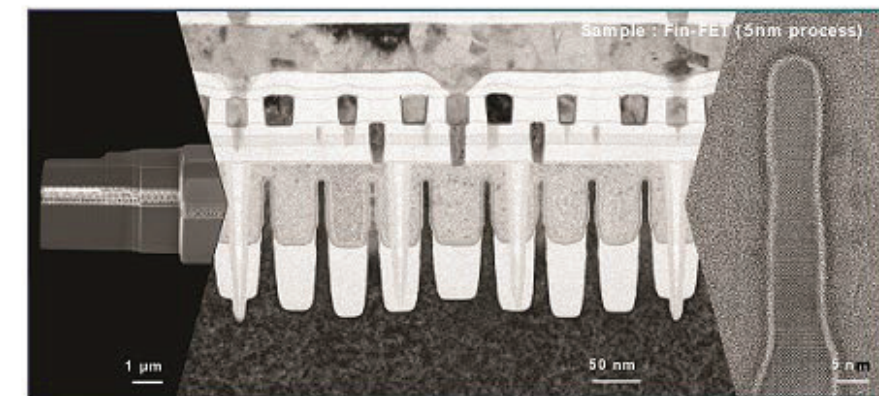


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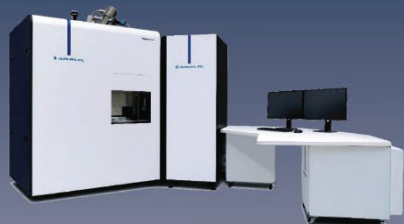
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