

AMC 2024

2024 Advanced Materials Characterization Workshop

June 4 and 5

Materials Research Laboratory – University of Illinois at Urbana-Champaign

Registration required – only \$80

<http://go.illinois.edu/amc2024>

Tuesday, June 4		
8 am	Registration and coffee / breakfast (MRL 2 nd floor Main Hallway)	
8:40	Welcome and introduction to MRL (ESB 190)	Moderator: M. Sardela Streaming: A. Popescu
9	<i>Tutorial 1: Rutherford backscattering analysis</i> <i>Tim Spila, MRL, University of Illinois</i>	
9:30	<i>Tutorial 2: Optical and spectroscopic characterization (I)</i> <i>Julio Soares, MRL, University of Illinois</i>	
10	Coffee Break	
10:30	<i>Tutorial 3: Optical and spectroscopic characterization (II)</i> <i>Julio Soares, MRL, University of Illinois</i>	Moderator: R. Goncalves Streaming: S. S. Melo
11	<i>Tutorial 4: Atomic force microscopy</i> <i>Kathy Walsh, MRL, University of Illinois</i>	
12	Lunch	
1 pm	New horizons for TEM innovation: advancements in technology driving new materials research and discovery <i>Lee Casalena, ThermoFisher</i>	Moderator: G. MacDougall Streaming: L. Westfall
1:20	Instrumentation for magnetic and transport measurements <i>Rick Hapanowicz, Quantum Design</i>	
1:40	Nanoscale chemical characterization of surface functionalization/modification <i>Patrick O’Hara, Molecular Vista</i>	
2	<i>Tutorial 5: Macro scale material characterization for hard and soft materials</i> <i>David Ehrhardt, MRL, University of Illinois</i>	
2:40	Coffee Break	
3:10	<i>Tutorial 6: Nanomechanical characterization</i> <i>Kathy Walsh, MRL, University of Illinois</i>	Moderator: R. Basu Streaming: S. S. Melo
3:40	Improved AFM measurement accuracy and precision using quadrature phase differential interferometry for tip displacement sensing <i>Ted Limpoco, Oxford Instruments</i>	
4 - 5	<i>Tutorial 7: X-ray analysis</i> <i>Mauro Sardela, MRL, University of Illinois</i>	
5:30–6:30	Reception and networking (MRL 2 nd floor Main Hallway)	

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Wednesday, June 5		
8 am	Coffee / Breakfast (MRL 2 nd floor)	
8:30	<i>Tutorial 8: Atom probe tomography</i> <i>Tim Spila, MRL, University of Illinois</i>	Moderator: M. Hota
9	Tutorial 9: Scanning electron microscopy & focused ion beam <i>Jade Wang, MRL, University of Illinois</i>	Streaming: A. Popescu
10	Coffee Break	
10:30	Material characterization using a KRAKEN™ microscope <i>Torben Purz, MONSTR Sense Technologies</i>	Moderator: T. Joshi Streaming: X. Wang
10:50	Introduction to dynamic vapor sorption and its uses for advanced characterization of porous materials <i>Chris Vander Tuuk, Surface Measurement Systems</i>	
11:10	<i>Tutorial 10: Characterization of soft materials and polymers</i> <i>Roddel Remy, MRL, University of Illinois</i>	
12	Lunch	
1 pm	Thermogravimetric analysis (TGA) with evolved gas coupling via FTIR, QMS, GCMS and automatic software evaluation <i>Peter Vichos, Netzch</i>	Moderator: M. Ali Streaming: A. Sibert
1:20	<i>Tutorial 11: X-ray photoelectron spectroscopy</i> <i>Rick Haasch, MRL, University of Illinois</i>	
2:10	<i>Tutorial 12: Transmission electron microscopy (I)</i> <i>Kristen Flatt, MRL, University of Illinois</i>	
2:30	Coffee Break	
3	<i>Tutorial 13: Biomaterials and cryo-EM</i> <i>Kristen Flatt, MRL, University of Illinois</i>	Moderator: J. Lopez Streaming: R Goncalves
3:35 – 4:15	<i>Tutorial 14: Transmission electron microscopy (II)</i> <i>Honghui Zhou, MRL, University of Illinois</i>	
4:30 – 5:30	MRL lab tours (meet at MRL 2 nd floor Main Hallway)	

All presentations are in Room 190 ESB (Engineering Sciences Building Auditorium)

Vendors' exhibit show: June 4, 9 am-6 pm, and June 5, 9 am-3 pm on the MRL 2nd floor main hallway.

Platinum sponsors: Molecular Vista, Monstr Sense Technologies, Netzch, Oxford Instruments, Quantum Design, Surface Measurement Systems, ThermoFisher.

Sponsors: Angstrom, Anton Paar, Bruker, DMS, Gatan EDAX, Hitachi, Horiba, JEOL, Kratos, KJ Lesker, Nanoscribe, Park Systems, PHC Co., Physical Electronics, Samco, Thomas Scientific Leica, Waters TA.

Registration and details, go to

<http://go.illinois.edu/AMC2024> or scan the QR code:

