

22nd National School on Neutron and X-ray Scattering
June 15-June 26, 2020

Program Week 1: June 15 – 19, 2020, **OAK RIDGE TIME (EDT)!**

Time/Date	Monday June 15	Tuesday June 16	Wednesday June 17	Thursday June 18	Friday June 19
12:15 – 12:30pm (EDT)		Recap and Q&A session	Recap and Q&A session	Recap and Q&A session	Recap and Q&A session
12:30 – 2pm (EDT)	Welcome to NXS and ORNL Bianca Haberl, Mike Manley, Matthias Frontzek, Uta Ruett, Stephan Rosenkranz Hans M. Christen Director, Neutron Scattering Division Ken Herwig Second Target Station Project	Lecture continued Interaction of X-rays and Neutrons with Matter Roger Pynn University of Indiana Efrain Rodriguez University of Maryland Rana Ashkar Virginia Tech	Lecture Neutron Generation and Detection/Neutron Optics and Instrumentation Thomas Huegle ORNL	Lecture Powder Diffraction Cora Lind-Kovacs University of Toledo	Lecture Imaging with Neutrons Hassina Bilheux ORNL Yuxuan Zhang ORNL
2 – 3:30pm (EDT)	Lecture Interaction of X-rays and Neutrons with Matter Roger Pynn University of Indiana	Lecture Inelastic Neutron Scattering Bruce Gaulin McMaster University	Lecture Reflectivity Chuck F. Majkrzak National Institute of Standards and Technology	Lecture PDF Analysis Katharine Page University of TN, Knoxville	Lecture Neutron Vibrational Spectroscopy Yongqiang Cheng ORNL
3:30 – 4:30pm (EDT)	Break	Break	Break	Break	Break
4:30 – 6pm (EDT)	Lecture continued Interaction of X-rays and Neutrons with Matter Efrain Rodriguez University of Maryland	Lecture continued Inelastic Neutron Scattering Bruce Gaulin McMaster University	Lecture Neutron Polarization Kathryn Krycka National Institute of Standards and Technology	Lecture Engineering Diffraction Jeff Bunn ORNL	Lecture Quasi-elastic Neutron Scattering Niina Jalarvo ORNL
6 – 7:30pm (EDT)	Lecture continued Interaction of X-rays and Neutrons with Matter Rana Ashkar Virginia Tech	Lecture Magnetic Scattering Kate Ross Colorado State University	Lecture Small Angle Neutron Scattering Lisa DeBeer-Schmitt ORNL	Lecture Single Crystal Diffraction – Technique, Development and Science Christina Hoffmann ORNL	Lecture Neutron Spin Echo Spectroscopy Laura Stingaciu ORNL
7:30 onward (EDT)	Icebreaker with lecturers and ORNL and ANL scientists		Interaction rooms with lecturers and ORNL and ANL scientists		Interaction rooms with lecturers and ORNL and ANL scientists

Each 90 min lecture slot is structured as follows:

30 min lecture
15 min interactive break with lecturer
30 min lecture

22nd National School on Neutron and X-ray Scattering
June 15-June 26, 2020

15 min interactive break with lecturer

Program Week 2: June 22 – 26, 2020 **CHICAGO TIME (CDT)!**

Time/Date	Monday June 22	Tuesday June 23	Wednesday June 24	Thursday June 25	Friday June 26
11:15 – 11:30am (CDT)	Recap and Q&A session	Recap and Q&A session	Recap and Q&A session	Recap and Q&A session	Recap and Q&A session
11:30 – 1pm (CDT)	Welcome to Argonne National Laboratory by Stephan Rosenkranz, Uta Ruett ----- Lecture Welcome & Overview of the APS Stephen Streiffer APS Director	Lecture X-ray Absorption Spectroscopy Grant Bunker Illinois Institute of Technology	Lecture X-ray Imaging Chris Jacobsen Argonne National Laboratory / Northwestern University	Lecture <i>In Situ and Operando</i> Measurements Karena Chapman Stony Brook University	Lecture Fast x-ray imaging and diffraction for engineering materials science Tao Sun University of Virginia
1 – 2:30pm (CDT)	Lecture High Pressure Measurements with X-rays and Neutrons Bianca Haberl Oak Ridge National Laboratory	Lecture Inelastic X-ray Scattering Jason Hancock University of Connecticut	Lecture Coherence Based Imaging Ross Harder Argonne National Laboratory	Lecture Small Angle X-ray Scattering Millie Firestone Lawrence Berkeley National Laboratory	Lecture X-ray Photon Correlation Larry Lurio Northern Illinois University
2:30 – 3:30pm (CDT)	Break	Break	Break	Break	Break
3:30 – 5pm (CDT)	Lecture X-ray Generation & Instrumentation Dennis M. Mills Argonne National Laboratory	Lecture Resonant elastic and inelastic scattering Stuart Wilkins Brookhaven National Lab	Lecture General introduction to FELs. Paul Fuoss LCLS/Stanford Linear Accelerator	Lecture Surface/Interface Scattering John Freeland Argonne National Laboratory	Lecture X-ray Magnetic Dichroism Elke Arenholz Cornell University/CHES
5 – 6:30pm (CDT)	Lecture continued X-ray Generation & Instrumentation Dennis M. Mills Argonne National Laboratory	Lecture X-ray Raman Scattering Mahalingam Balasubramanian Argonne National Laboratory	Lecture Probing ultrafast dynamics Anne Marie March Argonne National Laboratory	Lecture Diffuse Scattering Ray Osborn Argonne National Laboratory	Lecture User facilities in North America & Writing a Beamtime Proposal Suzanne te Velthuis Argonne National Laboratory
6:30 onward (CDT)	Interaction rooms with lecturers and ORNL and ANL scientists	Panel Discussion Diversity, Inclusion, and Belonging Working at User Facilities	Interaction rooms with lecturers and ORNL and ANL scientists		Closing of the school All NXS organizers Interaction rooms with lecturers and ORNL and ANL scientists

Each 90 min lecture slot is structured as follows:

30 min lecture

15 min interactive break with lecturer

22nd National School on Neutron and X-ray Scattering
June 15-June 26, 2020

30 min lecture
15 min interactive break with lecturer