

21st National School on Neutron and X-ray Scattering
June 16-June 29, 2019

SCHEDULE FOR SATURDAY, June 15, 2019

3:00 - 6:00 PM – School participants arrive at Oak Ridge Hotel-Holiday Inn of Oak Ridge via flights.

6:00 - 8:00 PM – Informal get-together at Oak Ridge Hotel. Buffet and beverages for all school participants.

Oak Ridge SCHOOL OPENING - SUNDAY, June 16, 2019

Spallation Neutron Source (SNS) Building 8600, Iran Thomas Auditorium, Room A103

Time/Date	Sunday, June 16	Time/Date	Sunday, June 16 (cont.)	Time/Date	Sunday, June 16 (cont.)
8:30 AM	Picked up at Hotel (breakfast on own at hotel each morning before 8:30)	11:00 - 12:00	Lecture Interaction of X-rays and Neutrons with Matter Roger Pynn University of Indiana	3:30 – 6:00	Tours: SNS, HFIR, Graphite Reactor
9:00 – 10:00	Badging and Safety Training (PFE)				
10:00 AM	Welcome to ORNL Opening Remarks Tim Powers Director, Research Reactors Division Welcoming Address Drs. Bianca Haberl, Mike Manley, Katharine Page, Matthias Frontzek Co-Directors Dr. Ken Herwig Second Target Station	12:00 - 1:00	Lunch (SNS)	6:00 - 7:00	Dinner and Discussions (SNS) 7:15pm Buses depart ORNL for Hotel
		1:00 - 2:00	Lecture Continued Interaction of X-rays and Neutrons with Matter Roger Pynn or Efrain Rodriguez University of Maryland		
		2:00- 2:15	Break		
		2:15 - 3:15	Neutron Generation and Detection/Neutron Optics and Instrumentation Lee Robertson Oak Ridge National Laboratory		
		3:15 -3:30	Break		

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Program Week 1 – June 17-22, 2019
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Time/Date	Monday June 17	Tuesday June 18	Wednesday June 19	Thursday June 20	Friday June 21	Saturday June 22
8:00 – 8:45	Bus departs Hotel	Bus departs Hotel	Bus departs Hotel	Bus departs Hotel	Bus departs Hotel	
9:00 – 10:00	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 Powder Diffraction Cora Lind-Kovacs University of Toledo	HFIR/SNS Experiment 4 (19 Instruments) See Experiments Schedule	Bus Travel to Argonne Bus Departs Hotel 8:00 AM
10:00 – 10:15	Break / Group Photo	Break	Break	Break		
10:15 - 11:15	Lecture Interaction of X-rays and Neutrons with Matter Efrain Rodriguez University of Maryland	Lecture Inelastic Neutron Scattering Bruce Gaulin McMaster University	Lecture Neutron Polarization Kathryn Krycka National Institute of Standards and Technology	Lecture Engineering Diffraction Ke An ORNL		
11:15 - 11:30	Break	Break	Break	Break		
11:30 - 12:30	Lecture Single Crystal Diffraction Christine Beavers Diamond Light Source	Lecture Magnetic Scattering Kate Ross Colorado State University	Lecture Imaging with Neutrons Hassina Bilheux ORNL	Lecture PDF Analysis Katharine Page ORNL		
12:30 – 1:30	Lunch	Lunch	Lunch	Lunch	Lunch	
1:30 - 5:00	HFIR/SNS Experiment 1 (19 Instruments) See Experiments Schedule	HFIR/SNS Experiment 2 (19 Instruments) See Experiments Schedule	WiNS (Women in Neutron Sciences) Career Development Seminar Despina Louca, University of Virginia (1:30-2:30)	HFIR/SNS Experiment 3 (19 Instruments) See Experiments Schedule	Lecture Quasi-elastic Neutron Scattering Niina Jalarvo ORNL (1:30-2:30)	
			Lecture (2:30-3:30) Yongqiang Cheng Neutron Vibrational Spectroscopy ORNL		Break (2:30-2:45)	
			Break (3:30 – 3:45)		Lecture Neutron Spin Echo Spectroscopy Laura Stingaciu ORNL (2:45-3:45)	
			Lecture (3:45 – 4:45) Small Angle Neutron Scattering Lisa Debeer-Schmitt ORNL		Break (3:45-4:00)	
			4:45 Bus Departure to hotel		Lecture Practical Experimental Considerations Mike Manley ORNL (4:00-5:00)	
5:30 - 7:30	Dinner and SHUG discussion (Adam Aczel)	Dinner and Discussion	Melton Hill Lake picnic Bus departure from Hotel: 5:45 PM	Dinner and Discussion	Dinner/Social at SNS Hosts: Everette/Moody 5:00 PM – 7:30 PM	Dinner at Argonne

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SCHEDULE FOR SATURDAY, June 22, 2019

? PM School participants arrive at Argonne Guest House, Building 460, for informal get-together. Dinner and beverages will be provided. All School participants and program presenters are invited to attend.

ARGONNE SCHOOL OPENING - SUNDAY, June 23, 2019
Lower Level Gallery, APS Building 402

Time/Date	Sunday, June 23	Time/Date	Sunday, June 23
8:30 AM	Breakfast Buffet Argonne Guest House Restaurant	9:45 - 10:45	Lecture Welcome & Overview of the Advanced Photon Source Stephen Streiffer APS Director Argonne National Laboratory
9:30 AM	Opening Remarks Stephan Rosenkranz Materials Science Division Argonne National Laboratory Brian Toby X-ray Science Division Advanced Photon Source Argonne National Laboratory Uta Ruett X-ray Science Division Advanced Photon Source Argonne National Laboratory	10:45 - 11:00	Break
		11:00 - noon	Lecture High Pressure Measurements with X-rays and Neutrons Bianca Haberl Neutron Science Division Oak Ridge National Lab
		12:30 - 8 pm	Outing to Chicago Bus leaves from Guest House, box lunch provided

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Program Week 2: June 24-28, 2019
Location: Lower Level Gallery, APS Building 402

Time/Date	Monday June 24	Tuesday June 25	Wednesday June 26	Thursday June 27	Friday June 28	Saturday June 29
8:30 - 9:30	Lecture X-ray Generation & Instrumentation Dennis M. Mills APS, Argonne National Lab	Lecture Coherence Based Imaging Ross Harder APS, Argonne National Lab	Lecture Surface/Interface Scattering Paul Zshack NSLS-II, Brookhaven National Laboratory	Lecture <i>In Situ and Operando</i> Measurements Uta Reutt APS, Argonne National Lab	Lecture Diffuse Scattering Ray Osborn Materials Science Division Argonne National Lab	Return travel
9:30 - 9:45	Break	Break	Break	Break	Break	
9:45 - 10:45	Lecture Continued X-ray Generation & Instrumentation Dennis M. Mills APS, Argonne National Lab	Lecture X-ray Abs. Spectroscopy I Grant Bunker Illinois Institute of Technology	Lecture General introduction to FELs. Aymeric Robert LCLS/Stanford Linear Accelerator	Lecture (SAXS) Millie Firestone Los Alamos National Lab	Lecture Polycrystalline Diffraction Matt Miller Cornell/CHESS	
10:45 - 11:00	Break	Break	Break	Break	Break	
11:00 - 12:00	Lecture Inelastic X-ray Scattering (I) Ercan Alp APS, Argonne National Lab	Lecture Continued X-ray Abs. Spectroscopy II Grant Bunker Illinois Institute of Technology	Lecture Probing ultrafast dynamics using X-ray FELs Diling Zhu LCLS/SLAC	Lecture X-ray Photon Correlation Spectroscopy Andrei Fluerasu NSLS-II/Brookhaven	Lecture X-ray Magnetic Dichroism Elke Arenholz Cornell/CHESS	
12:00 - 1:15	Lunch (Cafeteria or 401 Grill)					
1:30 - 2:30	Lecture Inelastic X-ray Scattering (II) Jason Hancock University of Connecticut	X-ray Experiment 1 See Experiments Schedule	X-ray Experiment 2 See Experiments Schedule	X-ray Experiment 3 See Experiments Schedule	X-ray Experiment 4 See Experiments Schedule	
2:30 - 3:00	Group Photo & Break					
3:00 - 4:00	Lecture X-ray Imaging Chris Jacobsen Argonne/Northwestern					
4:00 - 5:00	APS Tour					
5:00 - 6:00	Lecture Writing a Beamtime Proposal Stephan Rosenkranz Materials Science Division Argonne National Laboratory					
6:00 - 7:00	Dinner (Guest house)				ANL Wrap-up Dinner (location TBD)	