26th National School on Neutron and X-ray Scattering
July 28 – August 9, 2024

SCHEDULE FOR SATURDAY, July 27, 2024

School participants arrive at Argonne and register at the Argonne Guest House, Building 460.
Registration will be from 4:45 - 5:45 pm with dinner from 6:00-8:00 pm, both at the Argonne Guest House.

ARGONNE SCHOOL OPENING - SUNDAY, July 28, 2024

Building 446, Auditorium B102

Sunday, July 28th	Sunday, July 28th (cont.)	Sunday, July 28th (cont.)
Breakfast Buffet Argonne Guest House 8:00 – 8:30 Shuttles from Guesthouse to Building 446 or walk (~15 min)	Lecture: 8:45 – 9:45 Welcome & Overview of the APS Laurent Chapon APS Director Argonne National Laboratory	Lecture: 1:00– 2:00 Interactions of X-rays and Neutrons with Matter II Rana Ashkar Virginia Tech
8:30 – 8:45 Welcome to ANL Opening Remarks ANL NXS Team: Jessica McChesney Stephan Rosenkranz Chengjun Sun Argonne National Laboratory	Break: 9:45 – 10:00	Break: 2:00 – 2:15
	Lecture: 10:00 – 11:00 Interactions of X-rays and Neutrons with Matter I Roger Pynn Indiana University	Lecture: 2:15– 3:15 Interactions of X-rays and Neutrons with Matter II Efrain Rodriguez University of Maryland
	11:00 – 12:15 APS Tour	3:15 – 4:00 Extended Break
	12:15 – 1:00 Lunch	Lecture: 4:00– 5:00 X-ray Generation and Detection I Dennis M. Mills APS, Argonne National Laboratory
Continued →	Continued →	

26th National School on Neutron and X-ray Scattering

Program Week 1: July 29 – August 3, 2024

Lectures Location: Building 446, Auditorium B102

Monday July 29th	Tuesday July 30th	Wednesday July 31th	Thursday August 1st	Friday August 2md	Saturday August 3rd
Lecture: 8:30 – 9:30 X-ray Generation and Detection II Dennis M. Mills Argonne National Laboratory	Lecture: 8:30 – 9:30 X-ray imaging Chris Jacobson Northwestern University	9:00 – 12:00 APS Tutorials II	Lecture: 8:30 – 9:30 X-ray Photon Correlation Spectroscopy Larry Lurio Northern Illinois University	9:00 – 12:00 APS Tutorials IV	Travel to Oak Ridge Bus leaves Guesthouse at 8 am
Break: 9:30 – 9:45	Break: 9:30 – 9:45		Break: 9:30 – 9:45		
Lecture: 9:45 – 10:45 Powder Diffraction Cora Lind-Kovacs University of Toledo	Lecture: 9:45 – 10:45 Fast X-ray imaging and diffraction Tao Sun Northwestern University		Lecture: 9:45 – 10:45 Surface and Interface Scattering Dillon Fong Argonne National Laboratory		
Break: 10:45 – 11:00	Break: 10:45 – 11:00		Break: 10:45 – 11:00		
Lecture: 11:00 – 12:00 Single Crystal Diffraction William Ratcliff NIST	Lecture: 11:00 – 12:00 Introduction to x-ray free electron lasers Mengning Liang SLAC National Accelerator Lab		Lecture: 9:45 – 10:45 Small Angle Scattering Tao Li Argonne National Laboratory		
Lunch: 12:00 – 1:00					
Lecture: 1:00 – 2:00 X-ray Spectroscopy Shelly Kelly Argonne National Laboratory	1:00 – 4:00 APS Tutorials I	Lecture: 1:00 – 2:00 Coherence based Imaging Stephan Hruszkewycz Argonne National Laboratory	1:00 – 4:00 APS Tutorials III	Lecture: 1:00 – 2:00 Multi-modal experiments Yu-Chen Karen Chen-Wiegart Stony Brook University	
Break: 2:00 – 2:15		Break: 2:00 – 2:15		Break: 2:00 – 2:15	
Lecture: 2:15 – 3:15 Inelastic X-ray Scattering Young-June Kim University of Toronto		Lecture: 2:15 – 3:15 Probing ultrafast dynamics with X-rays Anne Marie March Argonne National Laboratory		Lecture: 2:15 – 3:15 AI for experiment and analysis Mathew Cherukara Argonne National Laboratory	
3:15 – 4:15 Picture, Break		Trip to Chicago		Break: 3:15 – 3:30 3:30 – 4:30 Networking Roundtable discussions with Beamline Scientists	
Lecture: 4:15 – 5:15 X-ray Dichroism Jian Liu University of Tennessee	Panel: 4:15 -5:30: 446/B102 Graduate and Postdoctoral opportunities at National Labs		Panel: 4:15 – 5:30: 446/B102 Career opportunities at National Labs	5:30 pm Farewell and Dinner Guesthouse	
Dinner, Guesthouse	Dinner, Guesthouse		Dinner, Guesthouse		

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SCHEDULE FOR SATURDAY, August 3, 2024

6:00 PM – School participants arrive at Oak Ridge Hotel
6:30 - 8:30 PM – Informal get-together at Oak Ridge Hotel. Buffet and beverages for all school participants.

Oak Ridge SCHOOL OPENING - SUNDAY, August 4, 2024

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

Sunday, August 4th		Sunday, August 4th (cont.)		Sunday, August 4th (cont.)
9:15 am **Bus departs hotel** **(Breakfast on own at hotel before departure each morning)**		Lunch (11:45 – 12:45)		3:05 – 6:30 Tours: SNS, HFIR, Graphite Reactor
9:45 – 11:15 Badging and Safety Training				
11:15 – 11:45 Welcome to ORNL Opening Remarks ORNL NXS Team: Bianca Haberl Mike Manley Adam Aczel & Jon Taylor NSD Director, ORNL		Lecture (12:45– 1:45) X-ray and Neutron User Facilities Stephen Streiffer Oak Ridge National Laboratory		
		Break (1:45 – 2:05)		6:30 – 7:30 Dinner and Discussion **Buses depart ORNL for hotel at 7:30 pm**
		Lecture (2:05 – 3:05) Neutron Generation, Optics, Detection, and Instrumentation Thomas Huegle Oak Ridge National Laboratory		

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Program Week 2 – August 4 – 9, 2024
Spallation Neutron Source (SNS) Building 8600, Iran Thomas Auditorium, Room A103

Monday August 5th	Tuesday August 6th	Wednesday August 7th	Thursday August 8th	Friday August 9th	Saturday August 10th
7:45 am **Bus departs Hotel**	**7:45 am** **Bus departs Hotel**	**7:45 am** **Bus departs Hotel**	**7:45 am** **Bus departs Hotel**	**7:45 am** **Bus departs Hotel**	
Lecture (8:30 – 9:30) Neutron Spectroscopy Bruce Gaulin McMaster University	Lecture (8:30 – 9:30) PDF Analysis Katharine Page UTK/ORNL	Lecture (8:30 – 9:30) Small Angle Neutron Scattering Lisa Debeer-Schmitt, ORNL	Lecture (8:30 – 9:15) Neutron Reflectivity Chuck Majkrzak, NIST	8:30-12:30 HFIR/SNS Experiment 4 (15 Instruments)	Departure for travel home
Break (9:30 – 9:50)	Break (9:30 – 9:50)	Break (9:30 – 9:50)	Break (9:15 – 9:35)		
Lecture (9:50 – 10:50) Neutron Spectroscopy II Bruce Gaulin McMaster University	Lecture (9:50 – 10:50) Engineering Diffraction Donald Brown Los Alamos National Laboratory	Lecture (9:50 – 10:50) Neutron Imaging Yuxuan Zhang, ORNL Hassina Bilheux, ORNL Jean Bilheux, ORNL	Lecture (9:35 – 10:20) Vibrational Spectroscopy Yongqiang Cheng, ORNL		
Break (10:50 – 11:10)	Break (10:50 – 11:10)	Break (10:50 – 11:10)	Break (10:20 – 10:40)		
Lecture (11:10 – 12:10) Magnetic Scattering Pat Clancy McMaster University	Lecture (11:10 – 12:10) Diffuse Scattering Raymond Osborn Argonne National Laboratory	Lecture (11:10 – 12:10) Neutron Polarization Barry Winn, ORNL	Lecture (10:40 – 11:25) Quasi-elastic Neutron Scattering Niina Jalarvo, ORNL		
			Break (11:25 – 11:45)		
			Lecture (11:45 – 12:30) Neutron Spin Echo Laura Stingaciu, ORNL		
Lunch (12:10 – 1:00)	Lunch (12:10 – 1:00)	Lunch (12:10 – 1:00)	Lunch (12:30 – 1:15)	Lunch (12:30 – 1:30)	
1:00 – 5:30 HFIR/SNS Experiment 1 (17 Instruments) See Experiments Schedule	1:00 – 5:30 HFIR/SNS Experiment 2 (17 Instruments) See Experiments Schedule	Lecture (1:00 – 2:00) High Pressure Measurements Stella Chariton University of Chicago	1:15 – 5:45 HFIR/SNS Experiment 3 (17 Instruments) See Experiments Schedule	Lecture (1:30 – 2:15) Machine Learning and AI for Scattering Experiments Thomas Proffen, ORNL	
		Break (2:00 – 2:20)		Break (2:15 – 2:35)	
		Lecture (2:20 – 2:50) Proposal writing Mike Manley ORNL		Lecture (2:35 – 3:20) Neutron scattering under non-equilibrium conditions Alan Tennant UTK/ORNL	
		Break (2:50 – 3:00)		Break (3:20 – 3:40)	
		3:00-4:00 Hands-on proposal writing		Lecture (3:40 – 4:40) Diffraction and Spectroscopy at TOF vs Continuous Sources Stuart Calder, ORNL Garrett Granroth, ORNL	
		Bus Trip from ORNL to Oak Ridge hotel to picnic venue (4:00 – 5:30)			
5:30 – 7:00 DEI Dinner Discussion Host: Shelly Ren & WiNS **Buses depart ORNL for hotel at 7:00 pm**	5:30 – 6:45 Dinner and Discussion **Buses depart ORNL for hotel at 6:45 pm**	5:30 – 7:30 Melton Lake Picnic **Buses depart picnic for hotel at 7:30 pm**	5:45 – 7:00 Dinner & Discussion **Buses depart ORNL for hotel at 7:00 pm**	4:40 – 7:30 Dinner & Social at SNS Hosts: Mary Odom, Michelle Everett **Buses depart ORNL for hotel at 7:30 pm**	