

National School on Neutron and X-ray Scattering
September 24 – October 11, 2008

Building 223 Auditorium, Room B002
Argonne National Laboratory
Argonne, Illinois

Wednesday September 24

4:00 p.m. until 8:00 p.m. - An informal get-together is scheduled in the Lodging Facility/Exchange Club located in the lower level of Building 617. Food and beverages will be provided. All School participants and program presenters are invited to attend.

Program –Week 1 – Thursday Sept. 25 – Saturday Sept. 27, 2008

Time/Date	Thursday September 25	Time/Date	Thursday September 25	Time/Date	Friday September 26	Saturday September 27	
8:00 - 9:00	Registration and Continental Breakfast (Foyer of Building 223 Auditorium)	9:15-10:15	Lecture Interaction of X-rays and Neutrons with Matter Lecturer –Des McMorrow (1)	8:30-9:30	Lecture Interaction of X-rays and Neutrons with Matter Lecturer - -Des McMorrow (1)	Bus Travel to Oak Ridge	
9:00	Opening Remarks Dr. Robert Rosner Director Argonne National Laboratory Welcome Dr. Alfred P. Sattelberger Associate Laboratory Director Physical Sciences Argonne National Laboratory Dr. Harold W. Myron Director Division of Educational Programs Argonne National Laboratory Dr. Suzanne te Velthuis Physicist Materials Science Division Argonne National Laboratory Dr. Jonathan Lang Physicist X-ray Science Division Advanced Photon Source Argonne National Laboratory	10:15-10:30	Break	9:30-9:45	Break		
		10:30-11:30	Lecture Continued Interaction of X-rays and Neutrons with Matter (1)	9:45-10:45	Lecture Continued Interaction of X-rays and Neutrons with Matter (1)		
		11:30-12:00	Group Photo	10:45-11:00	Break		
		12:00-1:15	Lunch	11:00-12:00	Lecture Neutron Generation/ Detection J. Carpenter Argonne-NL (3)		
		1:15-2:15	Lecture X-ray Generation/ Instrumentation D. M. Mills Argonne-NL (2)	12:00-1:15	Lunch		
		2:15-2:30	Break	1:15-2:15	Lecture Continued Neutron Generation/ Detection (3)		
		2:30-3:30	Lecture Continued X-ray Generation Instrumentation (2)	2:15-2:30	Break		
		3:30-5:30	APS Tour and Safety Training		2:30-3:30		Lecture Real/Reciprocal Space Complementarity J. M. Gibson Argonne-NL (4)
					3:45-4:45		Lecture Continued Real/Reciprocal Space Complementarity (4)

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Iran Thomas Auditorium, Building 8600
Oak Ridge National Laboratory
Oak Ridge, Tennessee

Program - Week 2

Time/Date	Sunday September 28	Monday September 29	Tuesday September 30	Wednesday October 1	Thursday October 2	Friday October 3	Saturday October 4
8:30 - 9:30	Badging, safety training, orientation	Lecture Powder Diffraction J. Rhyne – LANL (6)	Lecture Inelastic neutron scattering Ray Osborn-ANL (8)	Lecture Magnetic Scattering C. F. Majkrzak - NIST (10)	Lecture (12) Diffuse Scattering G. E. Ice Oak Ridge-NL (12)	Bus Travel back to Argonne	Free day in Chicago
9:30 - 9:45		Break	Break	Break	Break		
9:45 - 10:45		Lecture Continued Powder Diffraction (6)	Lecture Continued Inelastic neutron scattering (8)	Lecture Continued Magnetic Scattering (10)	Lecture Continued Diffuse Scattering (12)		
10:45-11:00		Break	Break	Break	Break		
11:00-12:00		Lecture Quasi-elastic neutron Scattering Ken Herwig- ORNL (7)	Lecture Reflectivity C. F. Majkrzak- NIST (9)	Lecture Single-Crystal Diffraction Xiaoping Wang –ORNL (11)	Lecture Powder Diffraction Applications Ashfia Huq - ORNL (13)		
12:00-12:45	Lunch	Lunch	Lunch	Lunch	Lunch		
12:45-1:45	Welcome (15 min) Thom Mason Lecture Neutron Instrumentation/Optics Dean Myles -ORNL (5)	Lecture Continued Quasi-elastic neutron Scattering (7)	Lecture Continued Reflectivity (9)	Lecture Continued Single-Crystal Diffraction (11)	Lecture PDF Analysis Thomas Proffen – LANL (14)		
1:45-2:00	break	Move to HFIR and SNS	Move to HFIR and SNS	Move to HFIR and SNS	Break		
2:00 – 2:45	Lecture Continued Neutron Instrumentation/Optics (5)	Neutron Experiment 1 See attached "Experiments Schedule "	Neutron Experiment 2 See attached "Experiments Schedule"	Neutron Experiment 3 See attached "Experiments Schedule"	Neutron Experiment Discussions		
3:00 – 6:30	Tours of Graphite Reactor /HFIR/ SNS						
6:30-6:45	dinner	Move back to SNS	Move back to SNS	Move back to SNS			
6:45-7:30		dinner	dinner	dinner			
7:30-8:30		Experiment data analysis	Experiment data analysis	Experiment data analysis			

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Program - Week 3

Time/Date	Sunday October 5	Monday October 6	Tuesday October 7	Wednesday October 8	Thursday October 9	Friday October 10	Saturday October 11
8:30-9:30	Sleep-in	Lecture Small Angle Scattering Susan Krueger – NIST (16)	Lecture X-ray Absorption Fine Structure (XAFS) G. Bunker Illinois Institute of Tech. (19)	Lecture (24)	Lecture Spin-Echo techniques Roger Pynn (26)	Lecture (27)	School participants depart for home.
9:30-9:45		Break	Break	Break	Break	Break	
9:45-10:45	Lecture X-ray Optics/ Detection P Siddons - BNL (15)	Lecture Continued Small Angle Scattering (16)	Lecture Continued X-ray Absorption Fine Structure (EXAFS) (19)	Lecture Continued (24)	Lecture Continued Spin-Echo techniques Roger Pynn (26)	Lecture Continued (27)	
10:45-11:00	Break	Break	Break	Break	Break	Break	
11:00-12:00	Lecture Continued X-ray Optics/ Detection (15)	Lecture Coherent X-ray Scattering Simon Mochrie - Yale. (17)	Lecture High-Pressure Techniques Wendy Mao-Stanford (20)	Lecture Imaging S. R. Stock Northwestern University (25)	Free-Time 11:00 – 11:30 Early Lunch 11:30-12:30	Preparation of Reports	
12:00-1:15	Lunch	Lunch	Lunch	Lunch		Lunch	
1:15-2:15	1:30-6:30 Experiment 3A See attached "Experiments Schedule"	Lecture Inelastic X-ray Scattering Peter Abbemonte – UIUC (18)	Lecture Neutron and X-rays for NanoScience Eric Isaacs - ANL (21)	Lecture continued Imaging (25)	12:30 - 5:30 p.m Experiment 4B continued See attached "Experiments Schedule"	1:00-5:30 Student Presentations	
2:15-2:30		Break	Break	Break			
2:30 - 9:30		Experiment 3B Introduction See attached "Experiments Schedule"	Lecture Neutron Sources Jim Rhyne - LANL (22) Lecture Synchrotron Sources (23)	Experiment 4A Introduction See attached "Experiments Schedule"	Break Reception/Banquet Argonne Guest House Building 460 6:00 p.m. - Reception 6:30 p.m. - Dinner	6:00 School Closing Picnic	