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SCHEDULE FOR SATURDAY, July 21, 2018

3:00 - 6:00 PM – School participants arrive at Argonne and register at the Argonne Guest House, Building 460.

6:00 - 8:00 PM – Informal get-together at Argonne Guest House. Pizza buffet and beverages for all School participants.

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ARGONNE SCHOOL OPENING - SUNDAY, July 22, 2018

APS Building 401, Room A1100

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| Time/Date | Sunday, July 22 | Time/Date | Sunday, July 22 | Time/Date | Sunday, July 22 (cont.) |
| 8:30 AM | Breakfast BuffetArgonne Guest HouseRestaurant | 9:45 - 10:45 | Lecture X-ray Generation & InstrumentationDennis M. MillsArgonne National Laboratory | 3:45 - 4:45 | APS Tour |
| 9:30 AM | WelcomeDr. Dennis MillsDeputy DirectorAdvanced Photon SourceArgonne National LaboratoryOpening RemarksDr. Stephan RosenkranzSenior PhysicistMaterials Science DivisionArgonne National LaboratoryDr. Brian TobySenior PhysicistX-ray Science Division Advanced Photon Source Argonne National Laboratory |
| 10:45 - 11:00 | Break | 4:30 - 4:45 | Break |
| 11:00 - 12:00 | Lecture ContinuedX-ray Generation & InstrumentationDennis M. MillsArgonne National Laboratory | 4:45 - 5:45 | LectureInelastic X-ray Scattering (I)RIXS, etc.Jason HancockUniversity of Connecticut |
| 12:00 - 1:15 | Lunch (Guest house) | 6:00 - 7:00 | Dinner (Guest house) |
| 1:15 - 2:15 | LectureInteraction of X-rays andNeutrons with MatterRoger PynnUniversity of Indiana |
| 2:15 - 2:30 | Break |
|  2:30 - 3:30 | Lecture ContinuedInteraction of X-rays andNeutrons with MatterRoger PynnUniversity of Indiana |  |
|  3:30- 3:45  |  Break |

Program Week 1: July 23-26, 2018

Locations: ESB Building 241 Room D172 (Monday & Tuesday)

APS Building 401 Room A1100 (Wednesday-Friday)

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| Time/Date | MondayJuly 23241/D172 | TuesdayJuly 24241/D172 | WednesdayJuly 25401/A1100 | ThursdayJuly 26401/A1100 | FridayJuly 27401/A1100 | SaturdayJuly 28 |
| 8:30 - 9:30 |  Lecture ContinuedInteraction of X-rays andNeutrons with MatterRoger PynnUniversity of Indiana | LectureX-ray Abs. Spectroscopy I Grant BunkerIllinois Institute of Technology | LectureSAXS/SANS IIDale Schaefer University of Cincinnati  | Inelastic X-ray Scattering (II)Ercan AlpArgonne National Laboratory | LectureSingle Crystal Diffraction Christine BeaversAdvanced Light SourceLaurence Berkeley National Lab | Bus Travel toOak RidgeBus departs Argonne Guest House - 8:00 AM Dinner at  Oak Ridge |
| 9:30 - 9:45 | Break | Break | Break | Break | Break |
| 9:45 - 10:45 | Lecture ContinuedInteraction of X-rays andNeutrons with MatterRoger PynnUniversity of Indiana | Lecture ContinuedX-ray Abs. Spectroscopy II Grant BunkerIllinois Institute of Technology | LectureXPCSAndrei FluerasuNSLS-II/Brookhaven | Lecture(TBD)Aymeric RobertLCLC/Stanford Linear Accelerator  | LecturePowder Diffraction Brian TobyArgonne National Lab |
| 10:45 - 11:00 | Break | Break | Break | Break | Break |
| 11:00 - 12:00 | Lecture X-ray ImagingChris JacobsenArgonne/Northwestern | LectureSAXS/SANS IDale Schaefer University of Cincinnati  | LectureX-ray Magnetic Dichroism Elke Arenholz ALS/Lawrence Berkeley National Laboratory | Lecture(TBD: Pulse-probe x-ray measurements)Linda YoungArgonne/UChicago | LecturePolycrystalline Diffraction Matt MillerCornell/CHESS |
| 12:00 - 1:15 | Lunch (cafeteria) |
| 1:30 - 2:30 | LectureCoherence Based ImagingRoss HarderArgonne National Lab | X-ray Experiment 1See ExperimentsSchedule | X-ray Experiment 2See ExperimentsSchedule | X-ray Experiment 3See ExperimentsSchedule | X-ray Experiment 4See ExperimentsSchedule |
| 2:30 - 3:30 |  Group Photo & Break  |
| 3:30 - 4:30 | LectureSurf./Interface ScatteringPaul Zshack NSLS-II, Brookhaven National Laboratory |
| 4:45 - 6:00 |  Break  |
| 6:00 - 7:00 | Dinner (Guest house) | ANL Wrap-up Dinner(Guest house) |

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SCHEDULE FOR SATURDAY, July 28, 2018

School participants arrive in Oak Ridge, TN and check in at the Comfort Inn. Transportation provided from airport and dinner hosted by Oak Ridge National Laboratory.

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OAK RIDGE SCHOOL OPENING - SUNDAY, July 29, 2018

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

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| Time/Date | Sunday, July 29 | Time/Date | Sunday, July 29 | Bus Schedule |
|  10:00 11:30 | -Badging-Safety Training (PFE) | 1:00 - 1:45 |  LectureNeutron Generation and Detection/Neutron Optics and InstrumentationLee RobertsonOak Ridge National Laboratory | 9:30am Buses depart Comfort Inn for ORNL |
| 11:30 - 12:15 | Lunch | 1:45 - 2:00 | Break |  |
| 12:15 - 1:00 | WelcomesOpening RemarksDr. Hans M. ChristenDirector, Neutron Scattering Division, Oak Ridge National LaboratoryWelcoming AddressDr. Jack CarpenterRetired, Argonne National LaboratoryDr. Bryan C. Chakoumakos, Dr. Katharine Page, Dr. Bianca HaberlNeutron Scattering DivisionOak Ridge National LaboratoryDr. Adam Aczel, Representative to the Spallation Neutron Source / High Flux Isotope Reactor User Group (SHUG) | 2:00 - 2:45 | LectureQuasi-elastic Neutron ScatteringKen W. HerwigOak Ridge NationalLaboratory |  |
| 2:45 - 3:00 | Break |  |
| 3:00 - 6:30 | ToursSNS, HFIR, and Graphite Reactor |  |
| 6:30 - 8:00 | Dinner and Discussion | 7:15pm-7:30pm Buses depart ORNL for Comfort Inn |

Program Week 2 – July 29 – August 3 2018

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

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| Time/Date | MondayJuly 30 | TuesdayJuly 31 | WednesdayAugust 1 | ThursdayAugust 2 | FridayAugust 3 | SaturdayAugust 4 |
| 7:30 – 8:15 | Bus departs Comfort Inn |  Bus departs  Comfort Inn |  Bus departs Comfort Inn |  Bus departs Comfort Inn |  Bus departs Comfort Inn |  |
| 8:30 - 9:30 | LectureInelastic NeutronScatteringBruce Gaulin McMaster University | LectureReflectivityChuck F. Majkrzak National Institute of Standards and Technology | LectureNeutron Spin Echo SpectroscopyPiotr A. Zolnierczuk, Julich Centre for Neutron Science | LectureDiffraction ApplicationsAshfia HuqOak Ridge NationalLaboratory  | HFIR/SNS Experiment 4(20 Instruments)See ExperimentsScheduleExperiments Will Run Until 12:30 | School participants depart for home |
| 9:30 - 9:45 | Break / Group Photo | Break | Break | Break |
| 9:45 - 10:45 | LectureInelastic NeutronScatteringBruce GaulinMcMaster University | LectureNeutron Polarization Chuck F. Majkrzak National Institute of Standards and Technology | LectureImaging with NeutronsHassina BilheuxOak Ridge NationalLaboratory | LectureExtreme Conditions EnvironmentsBianca HaberlOak Ridge National Lab |
| 10:45 - 11:00 | Break | Break | Break | Break |
| 11:00 - 12:00 | Lecture ContinuedMagnetic ScatteringBruce GaulinMcMaster University | LecturePDF AnalysisKatharine PageOak Ridge National Laboratory | LectureTimmy Ramirez-CuestaNeutron Vibrational SpectroscopyOak Ridge NationalLaboratory | LectureFlora Meilleur/Josh PierceNeutrons and Structural Biology / Dynamic Nuclear PolarizationOak Ridge National Lab  |
| 12:00 – 1:00 | Lunch | Lunch | Lunch | Lunch | Lunch (12:30-1:15) |
|  1:00 - 6:30 | HFIR/SNS Experiment 1(20 Instruments)See Experiments Schedule | HFIR/SNS Experiment 2(20 Instruments)See Experiments Schedule |

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| WiNS (Women in Neutron Sciences) Career Development Seminar(1:00 – 2:00)Fulvia PilatOak Ridge NationalLaboratory |

Tour of Manufacturing Demonstration Facility (limit 60 students)Buses departure: 2:20 PM returns to Comfort Inn after tour | HFIR/SNS Experiment 3(20 Instruments)See Experiments Schedule |

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|  Lecture (1:15-2:15)Diffuse ScatteringRaymond OsbornArgonne NationalLaboratory |
| Break (2:15 – 2:30) |
|  Lecture (2:30 – 3:30)Simulation of Inelastic Neutron ScatteringYongqiang Cheng Oak Ridge National Lab |
| Break (3:30 – 3:45) |
|  Lecture (3:45 – 4:45) Engineering Diffraction Andrew Payzant |
|  Break (4:45 – 5:00) |
|  Lecture (5:00 – 6:00) Writing Proposals for Beamtime  John D. Budai  |

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| 6:30 - 8:00 | Dinner and Discussion   | Dinner and Discussion | Melton Hill Lake picnicBus departure from Comfort Inn: 5:30 PM | Dinner and Discussion | Dinner &Social in the SNS lobby / Auditorium |