

The 2nd AOFSSRR Summer School

Cheiron School

SPRING-8, Japan

September 29th - October 8th

Organizer:

AOFSSRR, RIKEN, JASRI, KEK

The Cheiron School's main aim is to provide useful and basic knowledge as well as perspectives of synchrotron radiation science and technology for graduate students, postdoctoral fellows, young scientists and engineers who wish to pursue their career in a field requiring synchrotron radiation and join a synchrotron radiation facility in the Asia Oceania region.

School Curriculum

Lectures

- Overview of Synchrotron Radiation
- X-ray Free Electron Laser
- Ring Accelerator Physics
- Light Source Insertion Devices
- X-ray Monochromator, Mirror, and Multilayer Optics
- Micro-Focusing Optics
- Beamline Design
- Detectors
- Coherence of X-rays
- New Scientific Possibilities and Directions

- Major Experimental Techniques
- Diffraction and Scattering
- Soft and Hard X-ray Microscopy
- EXAFS spectroscopy
- Inelastic X-ray Scattering
- Pump-Probe Experiment

- X-ray Applications:
- Powder Diffraction
- Small-Angle Scattering
- Protein Crystallography
- Medical Imaging
- X-ray Fluorescence Analysis

- VUV/Soft-X-ray Applications:
- Photoemission—Spectroscopy and Microscopy
- Atomic and Molecular Physics
- Absorption Spectroscopy and Resonant Scattering
- Infrared Spectroscopy/Microscopy

- Beamline Engineering:
- Beamline Controls
- Radiation Safety
- High-Heat-Load Optics and Components

Meet the Experts

Round table discussion course with the lecturers and SR engineers about the practical specific activities at the home facilities

- Beamline Control
- Design of Soft X-ray Beamline Optics
- Design of X-ray Beamline Optics
- Fluorescence Analysis and Imaging
- High-pressure Techniques
- Non-crystalline X-ray Diffraction
- Powder X-ray Diffraction
- Protein Crystallography
- Single-crystal X-ray Diffraction
- Small-angle X-ray Scattering
- SR-based Nanoscience
- Surface and Interface Diffraction
- SX-MCD
- Time-resolved Techniques
- X-MCD
- X-ray Imaging

More...

Beamline Practicals

More than 20 laboratory courses (beamline practicals) on the application sciences, etc. using SPring-8 facilities

- LEEM/PEEM at Soft X-ray
- High-energy X-ray Diffraction Technique
- Powder Diffraction
- Evaluation of Soft X-ray Beamline
- XAES Measurement
- Pump and Probe Technique
- Beam Diagnostics
- Small-angle Scattering
- Surface X-ray Diffraction Measurements

More...