

The 5th AOFSSR School

# Cheiron School 2011



## SPRING-8, Japan

September 26th (Mon) - October 5th (Wed)

**Organizers:**

**AOFSSR, 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

- Major Experimental Techniques
- Diffraction and Scattering
- Soft and Hard X-ray Microscopy
- XAFS/XANES
- 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

### 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
- 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 and X-MCD
- Time-resolved Techniques
- X-ray Imaging
- X-ray Free Electron Laser
- Infrared
- 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 Beamline
- High-energy X-ray Diffraction Technique
- Powder Diffraction
- X-ray Photoemission Spectroscopy
- XAFS/XANES Measurement
- Pump and Probe Technique
- Beam Diagnostics
- Small-angle Scattering
- Surface X-ray Diffraction Measurements
- Protein Crystallography
- X-ray imaging
- Infrared
- More...

<http://cheiron2011.spring8.or.jp>