

The 6th AOFSSRR School



# Cheiron School 2012

## 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  
Infrared

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  
Absorption Spectroscopy and Resonant Scattering

## Spring-8, Japan

September 24th - October 3rd

### 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...

## Organizers: 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.

<http://cheiron2012.spring8.or.jp>