# The Advanced Photon Source XAFS School July 6 - 10, 2009

A broad introduction to the collection and analysis of XAFS data.

**Conference Location:**
Argonne National Laboratory
Advanced Photon Source
Argonne, IL 60439

**Lectures:**
B401/E1100-1200

**APS Beamlines:**
5-BM-D, 9-BM, 10-BM,
12-BM, and 20-BM

**Beamline Instructors:**
Mali Balasubramanian,
ANL, APS Sector 20 BM
Trudy Bolin,
ANL, APS Sector 9 BM
Nadia Leyarovska,
ANL, APS Sector 12
Qing Ma,
Northwestern University, APS Sector 5
Carlo Segre
IL Institute of Technology, APS Sector 10

**Lectures:**
Scott Calvin,
Sarah Lawrence College
Serena DeBeer George,
Stanford University, SSRL
Shelly Kelly,
UOP
Matt Newville,
University of Chicago, APS Sector 13
Bruce Ravel,
NIST

**Program Committee:**
Scott Calvin, Sarah Lawrence College
Julie Cross, APS
Shelly Kelly, UOP
Matt Newville, University of Chicago
Bruce Ravel, NIST

**Local Organizing Committee:**
Julie Cross, jox@aps.anl.gov
Rachael Reed, rreed@aps.anl.gov

**Purpose:**
The five-day course includes classroom lectures delivered by leading experts in the field, and hands-on instruction in sample preparation, data collection, and data analysis using state-of-the-art software. The lectures will cover the basic physics of x-ray absorption and XAFS theory, as well as best practices in XAFS sample preparation, data collection, and basic principles of data analysis. Participants will collect XAFS data from a variety of samples during the beamline practicals, then learn to analyze the data collected during the data analysis laboratories. Two days are devoted to hands-on experiments at APS spectroscopy beamlines 5 BM, 9 BM, 10 BM, 12 BM, and 20 BM. Significant time is spent on hands-on instruction in data processing and data analysis using Feff, Ifeffit and Athena & Artemis.

**Possible activities and lecture topics:**
- Overview of XAFS Theory
- Collecting Fantastic XAFS Data
- Athena Basics
- XAFS Analysis
- Tour of XAFS Beamlines and Sample Prep Facilities
- Related and Complimentary Techniques
- Getting Beamtime at the APS
- XAFS Analysis Examples and Demonstrations
- Detectors and Optics
- Interpretation of XANES
- Advanced XAFS Analysis
- Data Analysis Labs

**Important Dates:**

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| 5/11/09 | Last day to apply/register for the course |
| 5/18/09 | Acceptance letters sent by email |
| 6/19/09 | Tuition due |
| 07/06/09 | 9:00 am, School begins |
| 07/10/09 | 12:00 pm, School ends |

**Web Page:**
http://xafs.org/Workshops/APS2009