APS/IIT Summer XAFS School

Now accepting applications

July 9-13, 2012
Illinois Institute of Technology
31st and State St.
Chicago, IL 60616

ILLINOIS INSTITUTE OF TECHNOLOGY

This XAFS summer school is a continuation of the week-long summer school offered annually at the Illinois Institute of Technology in Chicago and Argonne National Laboratory's Advanced Photon Source. Course material will cover fundamental and practical aspects of X-ray Absorption Fine Structure Spectroscopy: overview, sample preparation, experiment, theory, and data analysis.

One day of hands-on experiments will be carried out by participants at several APS beamlines, followed by a guided data analysis laboratory using Athena/iFEFFIT and other programs. Participants are encouraged to bring their own laptops; some computers are available for those without them. The target audience is graduate students, postdocs, and other scientists who are new to XAFS and want to use it in their own research. Space is available for approximately 40 students.

Instructors include: Dr. Steve Heald (ANL), Dr. Matt Newville (UChicago), Prof. Bruce Bunker (U Notre Dame), Prof. Carlo Segre (IIT), Prof. Grant Bunker (IIT); a number of other experienced XAFS researchers also will participate.

The cost of the course is $475 USD, which covers most meals. Students will be responsible for their own housing (available on and off IIT campus) and travel to/from their home institutions. IIT is readily accessible by car, cab, and CTA train from O'Hare and Midway airports. Free time will be available most evenings for participants to visit Chicago attractions such as Grant Park, the Loop, Millennium Park, Lake Michigan; music, architecture, art, theater; Chinatown, White Sox, Field Museum, Shedd Aquarium, Adler Planetarium, and Navy Pier, restaurants, and pubs.

For more info please email bunker@iit.edu with subject line "2012 XAFS School"

Schedule Outline (subject to minor modification)

M1: Lecture: Introduction and overview of XAFS, history, examples
M2: Lecture: Theory: Basic theory and interpretation of EXAFS and XANES
M3: Lecture: Experimental: synchrotron radiation, beamlines, detectors
M4: Lecture: Experimental: choosing measurement modes, geometry, sample preparation methods
T1: Lecture: Data Analysis: Data reduction methods, Fourier methods
T2: Lecture: Data Analysis: Data models, fitting, information content, confidence intervals
T3-T4: Lab: sample preparation and characterization
W1-4: *all day* Lab: Measurements at Advanced Photon Source
R1: Lecture: Theory: Calculation of Theoretical XAFS spectra
R2: Lecture: Theory: Disordered systems and other complications
R3: Lab: Calculating theoretical spectra with FEFF 8 and other programs
R4: Lab: Reduction and Analysis of APS data
F1: Lecture: Related Techniques: IXS, Raman, DAFS, XMCD
F2: Lab: Reduction and Analysis of APS data (continued)
F3: Parallel session: Data Analysis Lab/Consult on special problems
F4: Lecture: Sketch of advanced/related topics, and conclusion

Outline Schedule	**Sun 7/8**	**Mon 7/9**	**Tue 7/10**	**Wed 7/11**	**Thu 7/12**	**Fri 7/13**
8:00-9:00 AM	–	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
9:00-10:15 AM	–	M1	T1	W1->ANL	R1	F1
10:15-10:45 AM	–	coffee/tea	coffee/tea	–	coffee/tea	coffee/tea
10:45 AM -12:00	–	M2	T2	W2	R2	F2
12:00-1:30 PM	–	Lunch	Lunch	–	Lunch	Lunch
1:30-2:45 PM	–	M3	T3	W3	R3	F3
2:45-3:15 PM	–	coffee/tea	coffee/tea	–	coffee/tea	coffee/tea
3:15-4:30 PM	–	M4	T4	W4->IIT	R4	F4
6:00 PM	*Reception*	Dinner	Dinner	Dinner	Dinner	Dinner
Evenings	Open	Open	Open	Open	Open	–