EXAFS

Summer School

Synchrotron X-Ray Absorption Spectroscopy

Summer School June 10–June 14, 2013

SSRL will conduct the **2013 SSRL Summer School on Synchrotron X-Ray Absorption Spectroscopy** between June 10 and June 14. The school will consist of two sets of parallel sessions, one covering basics of XANES and EXAFS data collection, FEFF based analysis and interpretation and the other covering advanced topics in data analysis, FEFF based near-edge analysis and DFT approaches to XANES data.

The first curriculum will be suitable for beginner level participants, who have little or no practical experience with EXAFS data collection and analysis. The second curriculum is designed around the needs of participants who already have some experience with data collection and FEFF based data analysis and wish to learn more about approaches to data analysis for more challenging problems.

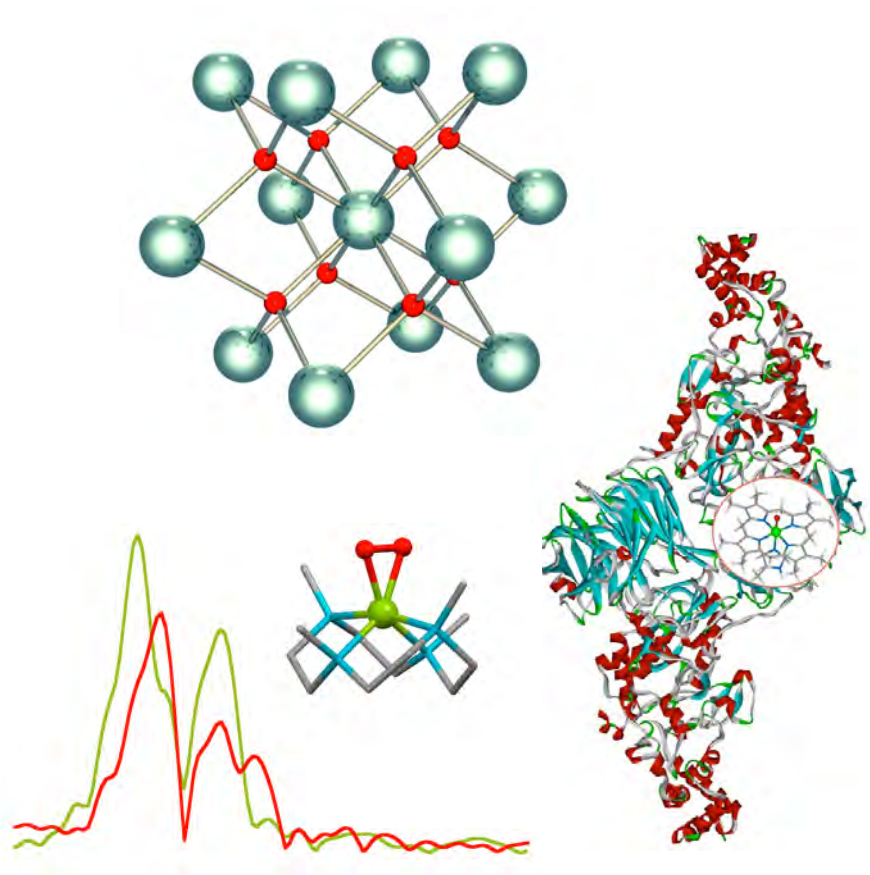
Beginner Curricula: A four-day session will be held to provide training in theory, experimental design, data acquisition strategies and FEFF based data analysis useful to new users and participants with limited experience. Examples will be highlighted in the fields of biology, environmental sciences, catalysis and material sciences. The practical training session will focus on teaching detailed sample preparation and data acquisition procedures at SSRL beam lines 11-2, 7-3 and 4-1. Data processing and analysis techniques will be covered on subsequent days and will include introductions to EXAFS data fitting, principle component analysis (PCA), and peak-fitting based analysis.

Advanced Session: A three-day session concurrent with the beginner session will be held in parallel and will provide in-depth details on error analysis, methods to tackle difficult problems, such as constraining co-varying parameters and Debye-Waller factors, fitting mixtures of species, and low-signal to noise ratio data, etcand quantitatively linking shells together to test structure models. The session will also include near-edge analysis techniques using FEFF and DFT. The participants of this session are expected to have participated insignificant prior experience with XANES/EXAFS data collection and analysis; and beamline tutorials are not included in this session. The participants will be requested have the opportunity to submit difficult EXAFS analysis problems from their own research that will be used in the curriculum to illustrate various aspects of advanced data analysis. , out of which a A select few number of these examples will be chosen to be the basis for in-class data analysis. **To be eligible for consideration, we must receive your example by April 30th, 2013**. The advanced session will also host, participant driven small group1-on-1 sessions for in-depth analysis of specific problems.

Students and researchers wishing to participate in the Summer School **must first apply to attend through the school web portal**. Once accepted, the participant will be informed to follow the requirements for the registration process. Space is limited and interested participants are requested to submit an application early. The deadline to submit an application is April 15th, 2013 and accepted participants will be notified by April 30th, 2013.

Co-chairs for the Summer School are SSRL Staff Scientists John Bargar and Ritimukta Sarangi. The Summer School will be held at SSRL with additional facilities used at the SLAC National Accelerator Laboratory site. Funding for the SMB Summer School program is provided by NIH, DOE-BES, and DOE-BER.

We look forward to your participation and a fruitful Summer School.



www-ssrl.slac.stanford.edu/conferences/workshops/srxas2013

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