



OIST

OKINAWA INSTITUTE OF SCIENCE AND TECHNOLOGY GRADUATE UNIVERSITY
沖縄科学技術大学院大学

OIST SEMINAR

Synchrotrons and X-ray Free Electron Lasers in Structural Biology

From “Slow” to “Ultrafast”



Speaker
Prof. Britt Hedman
SSRL and SLAC
Stanford University

Tuesday, May 19th
14:00-
B503 Seminar Room

Synchrotron radiation has enabled major discoveries in structural biology over the past 4 decades. Technology developments and innovations have been essential in making this possible, most notably in source characteristics, robotics, software control and detectors. The Stanford Synchrotron Radiation Lightsource (SSRL) structural biology program continues to pioneer new developments in technologies, methodologies and applications to

enable new discoveries. This talk will highlight both synchrotron light and x-ray laser based development made over the past few years.

At SSRL, there is a focus on macromolecular crystallography (MC), advanced x-ray spectroscopy and imaging and small angle x-ray scattering (SAXS). Developments and applications on the in-vacuum undulator-based MC beam line enabling remote access, study of microcrystals and technology developments related to XFEL MC applications will be highlighted, as well as recent developments in advanced x-ray spectroscopy and SAXS.

The revolutionary new x-ray light source, the LCLS x-ray free electron laser at SLAC, has opened completely new and potentially transformational new lines of research where the unique properties of the LCLS x-rays (fsec pulses, extraordinary peak brightness and coherence) are enabling experiments not feasible with ‘conventional’ synchrotron sources. This seminar will also briefly introduce the XFELs and LCLS, and provide an overview of recent developments and pioneering research in the area of structural biology.

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