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Studying structural dynamics in biology at SLAC National Accelerator Laboratory

Thursday, May 18, 2023 4:00 PM (15 minutes)

The Linac Coherent Light Source (LCLS) at SLAC National Accelerator Laboratory has partnered with the U.S. National Institute of General Medical Sciences (NIGMS) to create the Center for Structural Dynamics in Biology (SDB). The center serves the biomedical research community by developing tools and technologies for studying protein dynamics at LCLS and the Stanford Synchrotron Radiation Lightsource (SSRL). Beyond developing technologies and methods for enabling cutting-edge bioscience experiments at LCLS, the Center aims to standardize bioscience experiments at LCLS and SSRL, together with other light sources worldwide.

The tools and technologies developed by the Center boost the synergy between LCLS and SSRL, expand the spectroscopic capabilities across beamlines, and push towards the automation of the structural biology beamtime at LCLS, where reasonable. The Center furthermore develops improved sample preparation, delivery, and activation tools for serial crystallography experiments. The biomedical research community is actively involved in the Center's operations through collaboration (supporting nine Driving Biomedical Projects), user training, and outreach activities. The overall work of the Center will enable all scientists to use the capabilities of X-ray free electron lasers and synchrotron light sources for studying the structure and motion of life's molecules.

Select Topic 1

Strategy of Large Facilities

Select Topic 2

Modern Methods in Structural Biology and Dynamics

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Session Classification: Strategy Discussion