

Poster Presentation

MS105.P01

BioSync: an online resource for X-ray facilities worldwide

Stephen Kevin Burley¹, Margaret J. Gabanyi¹, Raul Sala¹, John D. Westbrook¹, Judith L. Flippen-Anderson¹, Isabella Deshmukh¹, Helen M. Berman¹

¹*Rutgers, The State University Of New Jersey, Piscataway, United States*
E-mail: sburley@proteomics.rutgers.edu

The BioSync website (biosync.sbkb.org) has served as a technical resource for the structural biology community for over 25 years. BioSync provides curated information on 150+ worldwide high-energy (synchrotron) beamlines that support measurements on biological samples. BioSync also serves as an important annotation resource for the PDB by helping connect released PDB entries to the facilities from which the data were collected. BioSync is used by researchers, beamline scientists, and funding agencies from around the world.

Features of BioSync include:

- Experimental capabilities (XRD, MAD/SAD, SAS, Fiber, Time-resolved, Neutron, etc.)
- Beamline characteristics (energy range, flux, wavelengths supported, etc.)
- Available services such as remote and mail in data collection, crystallization, and structure solution; robotics for crystal screening and mounting, and microfocus beams; and facilities for collecting data under extreme conditions.
- Progress on future facilities and information on decommissioned sites is also maintained for historical purposes.
- Summary statistics, based on PDB depositions, are updated weekly.
- For individual beamlines, galleries of structures, tables of citations, and general information are also provided.

Two new features are being presented. First, all worldwide X-ray Free Electron Laser (XFEL) facilities and beamlines are being added to the BioSync catalog. In response to the rise of serial femtosecond nanocrystallography (SFX), the recently updated database contains new support for XFELs, and describes the various instrument characteristics and special facility capabilities (pump-probe, pink beam, sample handling, etc.) to assist potential users. Second, a diffraction dataset portal is being created on BioSync to unite access to publicly available diffraction datasets, and connect them to the beamlines where they were collected as data availability permits.

BioSync is supported by the NIH/NIGMS (GM111959-03S1)

Keywords: [synchrotron](#), [beamline](#), [xfel](#)