Beamline 17-ID-B: Sector 17 - Insertion Device Beamline

X-ray Science Division, APS
Life Sciences

Description

IMCA-CAT is dedicated to high-throughput macromolecular crystallography for the pharmaceutical industry. The beamline is equipped with robotics and automated for sample mounting, centering, data acquisition, and data processing. Multiple modes of access are available, including on site and remote.

Supported Techniques

- Macromolecular crystallography
- Multi-wavelength anomalous dispersion
- Microbeam
- Single-wavelength anomalous dispersion
- Large unit cell crystallography
- Subatomic (<0.85 Å) resolution

Beamline Controls and Data Acquisition

Epics; GUI for beamline control (including energy or wavelength, energy scans for MAD, attenuation, slits); and JDirector (Rigaku) for data acquisition.

Detectors

- Dectris Pilatus 6M Pixel Array
- Rontec X-Flash SDD for fluorescence spectroscopy

Additional Equipment

- Rigaku ACTOR automounting robot (capacity for 180 samples)
- Oxford Instruments cryojet
- Alio air bearing goniometer (1.2 microns SOC)
- On-axis sample visualization system
- Automatic filling of liquid nitrogen dewars
- User-accessible computers for data processing
- Biochemistry laboratory for sample preparation
- Cold room (4 degrees C)
- Olympus stereo microscopes; Olympus DP111 digital camera
- Mini-quad Collimators (5, 10, 20, 50, 300µm)
- >60 TB Storage System

Local Contacts

Name LISA J. KEEFE
Phone 630.252.0544
Email keefe@anl.gov

Beamline Specs

Source	3.3 Undulator (Undulator A)
Monochromator Type	Si(111)
Energy Range	6-20 keV
Resolution (ΔE/E)	1.5 x 10^{-4}
Flux (photons/sec)	7.7 x 10^{12} @12.4 keV
Beam Size (HxV)	
Focused	70μm x 35μm

For additional information see:
http://www.imca-cat.org

Current Status: Operational/Accepting General Users

Access Mode: On-site Remote