

## W0336

**Automated Data Collection at the IMCA-CAT Advanced Photon Source User Facility.** A. Mulichak, K.P. Battaile, J.L. Muir, L.J. Keefe, Sector 17, Advanced Photon Source, Argonne National Laboratory, Argonne, IL 60439.

The Industrial Macromolecular Crystallography Association Collaborative Access Team (IMCA-CAT) operates a data collection facility for protein crystallography at Sector 17 of the Advanced Photon Source. Equipped with a Rigaku ACTOR robot, the IMCA-CAT insertion device beamline has offered automated sample mounting for routine use since 2004. Automated mounting, centering, and retrieval of protein samples enable high-throughput sample screening and unattended data acquisition, significantly reducing the time necessary for crystal screening and the need for direct operator interaction. The ACTOR system has also greatly facilitated the use of a mail-in data collection option for IMCA members. Recent upgrades of hardware and software, including a second system with higher storage capacity now installed at the bending magnet beamline, continue to expand the role of robotics at IMCA-CAT.

While targeting the needs of drug discovery research, the automation capabilities at IMCA-CAT are also ideally suited for structural genomics and other research efforts requiring high-throughput experiments. IMCA-CAT facilities are available to interested researchers through the APS General User Program.