

CLS Mail-In Crystallography Highlights

The Canadian Macromolecular Crystallography Facility (CMCF) operates two crystallography beamlines, 08ID-1 and 08B1-1 (<http://cmcf.lightsource.ca>), at the Canadian Light Source (CLS). Normal access is through peer review, but commercial access is also welcome. Users apply for beamtime against their active projects and may collect data in person or via remote access (Remote Control or Mail-In). 2017 witnessed the celebration of 500 peer-reviewed articles and 1000 PDB releases reporting data collected at the CMCF from all access modes since commissioning.

Remote Control allows Users to control beamlines remotely from home institutions. Alternatively, Mail-In projects are collected by experienced CMCF staff according to investigators' instructions, with the highest-scoring peer reviewed projects having priority. This method has proven effective for several reasons. Data are collected by trained personnel experienced with the beamlines and travel costs are eliminated. Data are collected around regular shifts using the most appropriate beamline, maximizing beamline usage and providing flexibility. The process is extremely efficient when integrated with MxLIVE, the CMCF Laboratory Information Management System because results can be downloaded immediately after collection.

Up to three academic Mail-In shifts per week are typically supported during normal operations and on average, over 350 datasets are collected each year. In 2017 alone, 400 crystals were received from about 10 principal investigators across Canada. Several structures to which the Mail-In program contributed and that have appeared in high-quality publications will be discussed.

Canadian Light Source

Shaunivan Labiuk shaun.labiuk@lightsource.ca

James Gorin

Kathryn Janzen

Kiran Mundboth

Denis Spasyuk

Joel Reid

Michel Fodje

Pawel Grochulski