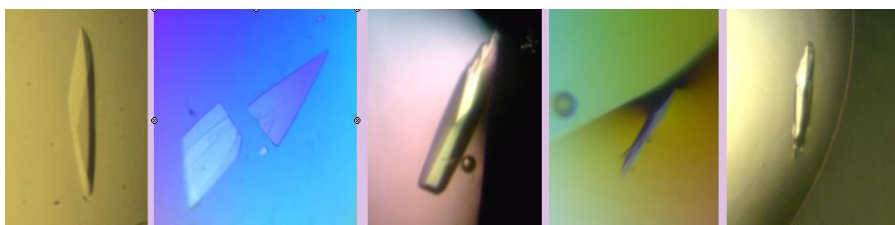
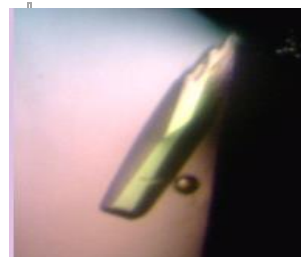

MACROMOLECULAR CRYSTALLOGRAPHY @ CHRIST CHURCH

PROVIDING STRUCTURE TO YOUR RESEARCH



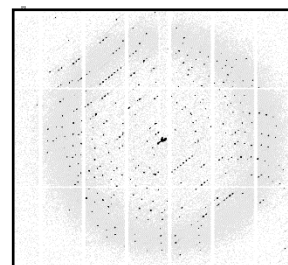
RESEARCH OPPORTUNITIES

Crystallography



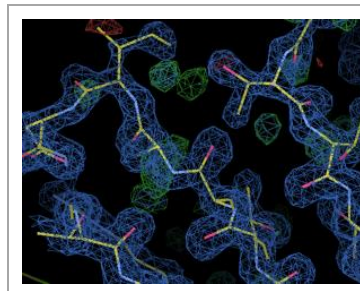
Initial screening and optimisation using a variety of vapour diffusion methods. Crystal imaging and manipulation. Cryo-protection and sample preparation prior to X-ray diffraction data collection. Access to all cryo and transportation equipment can be arranged.

Data collection



In collaboration with the Principal Investigator of your project and the registered Diamond Light Source User at CCCU, proposals can be submitted for standard Synchrotron access twice yearly. Rapid access to DLS can also be applied for at any time dependent on beamline availability.

Data processing and Molecular Dynamics



Access to Xia2 and DIALS output files as well as raw diffraction data for individual user input to software such as iMosflm. Use of the CCP4i2 GUI for all aspects of phasing, model building, refinement and validation. On site Molecular Dynamics specialist available.

CRYSTALS? WHAT NOW? SYNCHROTRON BEAMLINE ACCESS

If you think you have a project that has scientific impact and would like to conduct structural biology studies, you will need to discuss a proposal with the PI/supervisor and the university Diamond Light Source Registered User in the first instance. Standard access is available and proposal applications are accepted bi-annually with deadlines of 1 April and 1 October. Beamtime access will be granted for six month periods only, therefore strategic experimental planning is essential. Applications will be submitted through the DLS Central Authentication Service by a registered user.

For some projects, the most appropriate route to a specific beamline is the 'Rapid Access' pathway. This is usually for an initial investigation and will be assessed on the scientific merit of the proposal, as decided by a peer review panel and can be submitted at any time. The CCCU DLS registered user will liaise with the appropriate DLS Principal Beamline Scientist prior to application submission to ensure rapid access is available on that line.

“Diamond is free for researchers who are prepared to publish in the public domain”

Diamond Light Source Ltd.

Should you have a research proposal involving one of our Life Sciences Industry Liaison partners with proprietary access requirements, these will incur a fee and can be arranged through your university registered user in conjunction with the DLS Industrial Liaison Office. All results will be confidential and the property of the fee payer.

YOUR PROJECT MATTERS

Here at Christ Church we pride ourselves on providing research opportunities that will contribute impact to the Human and Life Sciences in a meaningful way.

Your research project idea could be contributing a new protein structure to the Worldwide Protein Data Bank in years to come!

It is essential to work closely with your supervisor, as they will be required to be named on any proposal and go through registration and safety protocols with DLS.

Contact Us

For further information, or for an initial discussion about a research idea, please contact Dr Simon Harvey, Director of Life Sciences:

science.enquiries@canterbury.ac.uk

For synchrotron based enquiries contact the registered user:

Marie McConnell BSc (hons) PhD

Life Sciences Industry Liaison Labs

Innovation house

Innovation Way

Discovery Park

Sandwich

CT13 9JG

Phone: 01304 806905

Email: marie.mcconnell@canterbury.ac.uk

WHICH BEAMLINER SHOULD I APPLY TO?

Things to consider:

Classification of molecule?

Pathogenic status?

Experimental phasing requirement?

Tuneable energy?

Size of crystal?

In situ handling?

Talk to the CCCU DLS registered user: marie.mcconnell@canterbury.ac.uk

For more information visit Diamond Light Source at the MX pages:

<http://www.diamond.ac.uk/Beamlines/Mx.html>