



Centre of Excellence for Coherent X-ray Science

Workshop on Grazing Incidence X-ray Techniques for 2D crystal July 6th, 2006

We are holding a workshop on the 6th of July, at CSIRO Manufacturing and Infrastructure Technology in Clayton, on grazing incidence X-ray scattering methods. Grazing incidence techniques have been identified as a possible means for solving protein structures using two-dimensional protein crystals. Compared to three dimensional crystals, these two-dimensional structures are easier to produce, and may open the door for X-ray scattering from proteins in an active state, by forming the two-dimensional arrays in a phospholipid bi-layer.

The aim of the workshop is to explore grazing incidence X-ray techniques, with a particular focus on identifying the next steps required to move towards structure determination from 2D crystals. This will encompass sample preparation, X-ray experiment geometry and instrumentation and theoretical frameworks for data analysis. As indicated in the schedule below a series of introductory talks will be given during the morning session covering a range of topics. However, we anticipate that the meat of the workshop will be the discussion time during the afternoon, and hence have scheduled a significant block of time for this to occur.

Schedule:

9:30 am		Welcome
9:35 am	Steve Wilkins	Surface Diffraction, Setting the Scene
9:45 am	Ian Gentle	Grazing Incidence X-ray Techniques
10:15 am	Connie Darmanin	Two Dimensional Protein Crystals
10:45 am		Morning Tea
11:00 am	Steve Homolya	2D powder diffraction from Bacteriorhodopsin
11:30 am	Stephen Mudie	Attaching Membrane Proteins to Substrates
12:00 pm	Garth Williams	Surface Scattering
12:30 pm		Lunch
1:15		Discussion Session 1
3:00 pm		Afternoon Tea
3:15 pm		Discussion Session 2
Approx 5:00 pm		Close