

MACROMOLECULAR CRYSTALLOGRAPHY STREAM CLS

SUMMER SCHOOL

Sunday June 13th, 2010

9:30 - 11:30	Registration Open - CLS Main Reception	
Please check in with us to receive your registration packages prior to your safety orientation and join us for lunch.		
10:15 - 10:45	Beamline safety orientation for crystallography - 10 people	
11:00 - 12:00	Beamline safety orientation for biomedical session Wednesday	
11:00 - 11:30	Beamline safety orientation for crystallography - 10 people	
Those registered for multi-techniques in x-ray and infrared microscopy, your safety orientation is included in your practical session.		
12:00 - 12:30	Lunch! In the upper floor of the BMIT addition.	
GO TO VIDO - EAST, ACROSS THE GRASS - Vaccine & Infectious Disease Organization		
12:45 - 13:00	Welcome to S4V!!	Announcements by event organizers: Tracy Walker, Robert Blyth
13:00 - 13:45	CLS & synchrotrons - a history?	Josef Hormes, Executive Director, CLS
13:45 - 14:45	Synchrotron 101	Ward Wurtz, Accelerator Physicist, CLS
14:45 - 15:00	Nutrition break	
15:00 - 16:00	Beamline Basics	Tom Regier, CLS Staff Scientist - SGM
16:00 - 17:30	Tours of CLS	
Monday June 14th, 2010 - room 2068 at CLS		
8:00 - 9:00	Introduction to macromolecular crystallography	Pawel Grochulski, CLS Staff Scientist - CMCF
9:00 - 10:00	Data collection with MXDC	Michel Fodje, CLS Staff Scientist - CMCF
10:00 - 10:15	Nutrition Break	
10:15 - 11:15	Data reduction with MOSFLM	Randy Read, Professor, University of Cambridge
11:15 - 12:15	Data reduction with HKL suite	Wladek Minor, Professor, University of Virginia
12:15 - 13:00	Lunch	
13:00 - 14:00	Data reduction with XDS and AutoProcess	Michel Fodje, CLS Staff Scientist - CMCF
14:00 - 17:00?	Hands on at CMCF beamlines	Mentors: Wladek, Randy CLS staff: Shaun, James, Ben (sample prep), Pawel and Michel
18:00	Cocktails at Western Development Museum	Enjoy dinner and a visit to Boomtown!

Tuesday June 15th, 2010 - room 2068 at CLS		
8:00 - 9:00	Introduction to MAD/SAD and MR structure solving	Pawel Grochulski, CLS Staff Scientist - CMCF
9:00 - 10:00	MAD data collection strategies for crystals with weak anomalous signal and weak diffraction	Raj Rajashankar, Operations Team Leader, Northeastern Collaborative Access Team at the National Centre for Research Resources
10:00 - 10:15	Nutrition Break	
10:15 - 11:15	Structure solving with SHELX	Roland Pfoh, Post Doctoral Fellow, University of Toronto
11:15 - 12:15	Structure solving with PHASER	Randy Read, Professor, University of Cambridge
12:15 - 13:00	Lunch	
13:00 - 14:00	Structure solving with PHENIX	Paul Adams, Acting Division Director, Lawrence Berkeley Laboratory
14:00 - 18:00	Hands on solving structures/Hands on at CMCF Beamlines	Mentors: Paul, Randy, Roland, Wladek and Raj CLS staff: James, Shaun, Ben, Pawel, and Michel
Wednesday June 16th, 2010 - room 2068 at CLS		
8:00 - 9:00	Structure Refinement with SHELX	Roland Pfoh, Post Doctoral Fellow, University of Toronto
9:00 - 10:00	Model building and refinement with PHENIX	Paul Adams, Acting Division Director, Lawrence Berkeley Laboratory
10:00 - 10:15	Nutrition Break	
10:15 - 11:15	Model building and refinement with COOT	Trevor Moraes, Assistant Professor, University of Toronto
11:15 - 12:15	REFMAC, RAPPER and validation tools	Nick Furnham, European Bioinformatics Institute, Cambridge
12:15 - 13:00	Lunch	
13:00-13:45	Perspectives on Industrial Structural Biology and the Impact of the CLS upon it	Rick Walters, Shamrock
13:45 - 17:45	Hands on modelling	Mentors: Roland, Paul, Trevor and Nick

Thursday June 17th, 2010 - AUM workshops at TCUP downtown		
full day	Diffraction Measurements on Micro and Nano scales using Synchrotrons	Renfei Feng, CLS Staff Scientist - REXIS
morning	Capabilities, Limitations and Opportunities in Micro-CT Imaging	David Cooper, Assistant Professor, University of Saskatchewan
split session - early afternoon	Scientist Research Reports: 1. "Advances in Coherent Synchrotron Radiation at CLS" 2. "Mapping gallium in tissues: a possible new treatment for infection" 3. "Wide Range Optical Spectroscopy on SWNTs and Few Layer Graphene"	1. Jack Bergstrom, CLS 2. Julie Thompson, Industry Scientist, CLS 3. Ferenc Borondics, Canadian Light Source
full day	Macromolecular Crystallography	Pawel Grochulski, CLS Staff Scientist, CMCF
morning	Practicalities in Biological Sample Preparation	Summer School Organization Committee
afternoon	Biomedical Imaging and Therapy (BMIT) Opportunities	Dean Chapman, University of Saskatchewan
CLS 13th Annual Users' Meeting Agenda, Friday, June 18, 2010, Salon C, TCU		
Time	Event/Title of Talk	Speakers/Session Chair
7:30	Meeting Registration & Poster Set-Up in Salon A/B/E and Foyer, TCU Place	
8:00 - 6:00	Vendor Exhibition	Salon A, B & E, TCU Place
Introduction and Status of the CLS		Stewart McIntyre, UAC Chair
8:30	Welcome	Stewart McIntyre, UAC Chair
8:40	Status and Future of the CLS	Josef Hormes, Executive Director, Canadian Light Source
Keynote Speaker (CISR funded)		Stewart McIntyre, UAC Chair
9:15	Louis Delbaere Tribute	Pawel Grochulski, CLS
9:20	Complexity in Simple Systems: Diffraction Studies of elements at Extreme Conditions using Synchrotron	Malcolm McMahon, University of Edinburgh

10:00	Coffee Break and Poster Viewing – in foyer/exhibitor area	
Science Session: Highlights from the CLS		
10:20	BMIT Comes Alive. What's Next?	Dean Chapman, University of Saskatchewan
11:00	Recent Protein Crystallographic Studies using CMCF and other beamlines	Michael Murphy, University of British Columbia
11:30	Soft and Hard X-ray Absorption Spectroscopic Studies of Transition Metal Oxides Using Beamlines Located at the CLS	Andrew Grosvenor, University of Saskatchewan
12:00–2:00	Lunch and Poster Viewing in foyer/exhibitor area (Exhibitor talks in Salon C)	
Science Session: Young Scientists		
2:00	NSERC's Role in Supporting Research and Innovation at the Leading Edge	Suzanne Fortier, President, NSERC
2:40	Effects of Annealing Temperature on Phase Transformation and Optical Properties of Titanium Oxides Nanotubes: XANES and XEOL Studies	Lijia Liu , University of Western Ontario
3:05	Techniques for Handling Channel Spectra in Synchrotron Source Fourier Transform Spectroscopy	Amr Ibrahim, University of Lethbridge
3:30	Coffee Break in foyer/exhibitor area	
3:50	Exploring the Hardness of Nitride Ceramics: Bandgap and Electronic Properties Studied using X-ray Absorption Spectroscopy	Teak Boyko, University of Saskatchewan
4:15	X-Ray Linear Dichroism in Carbon Nanotubes	Ebi Najafi, McMaster University
4:40	CLS offers Something Different: Authentic Scientific Inquiry for High School Students	Tracy Walker, CLS
5:00	Session Adjourned – Final Poster Viewing	
6:00	Gather for Cocktails	
6:45	Awards Reception - CISR Student Poster Award Presentation and Summer School Poster Award Presentation Annual Users' Meeting Banquet – Salon D & C, TCU Place Dinner After Dinner Speaker: The Honourable Rob Norris, Saskatchewan's Minister of Advanced Education, Employment and Labour -- <i>"Synchrotron Science and Saskatchewan's Future"</i>	