



Canadian National Committee  
for Crystallography  
<http://xtallography.ca/>

# 2021 Canadian Materials Diffraction Workshop

## July 26<sup>th</sup> to Jul 29<sup>th</sup>, 2021

*Virtual Workshop*

## Tentative Program (Rev. 8 – July 28)



All times are in EST.

## Monday, July 26

10:00-10:15	Welcome & Introductions (Vicky, Jim)
10:15-11:15	Fundamentals of X-ray Diffraction (Jim)
11:15-12:00	Fundamentals of Two-Dimensional X-Ray Diffraction (Bob)
12:00-13:00	Lunch Break
13:00-13:45	Visualizing and Understanding Diffraction Data (SCD, PXRD, Texture, Residual Stress, Weird Things) (Jim)
13:45-14:30	The XRD Experiment (Vicky)
14:30-14:45	Break
14:45-15:30	CLS Introduction (Renfei)
15:30-16:30	Demo: Finding CIFs, Mercury, GADDS (Anita, Vicky)

## Tuesday, July 27

10:00-10:45	Residual Stress Theory and Measurement (Bob)
10:45-12:00	3D Visualization of Residual Stress, GADDS demo, Leptos Demo (Jim, Vicky)
12:00-13:00	Lunch Break
13:00-13:30	Phase Identification (Anita)
13:30-14:00	Intro to Weight Percent Analysis (Vicky)
14:00-14:15	Break
14:15-15:00	Application- XRD in the 3D Printing World (Mostafa)
15:00-15:45	Application- in situ XRD (Beatriz)
15:45-16:30	Discussion of student data/problems

## Wednesday, July 28

10:00-11:00	Introduction to Texture Analysis (Jim)
11:00-12:00	Pole Figure Construction (GADDS/Diffrac.TEXTURE, MTex demo) (Jim, Vicky)
12:00-13:00	Lunch Break
13:00-13:45	Group Picture and Self introductions: Virtual Meet and Greet
13:45-14:45	Demo: GADDS/WinWulff (cont.)(Jim)
14:45-15:00	Break
15:00-15:45	CLS Application- Thin Films (Beatriz)
15:45-16:30	Interpreting complicated thin film texture (Jim)

## Thursday, July 29

10:00-11:00	General Discussion of emailed and live questions
11:00-12:00	Break off into Tutorial sessions and Discussions: MAX3D (Jim); GSAS2 and PDFgui (Beatriz); GADDS & WinWulff (Vicky); Anything else of interest (Bob)
12:00	Concluding remarks (Vicky)

Discussion during the presentations is encouraged.

**Instructors, Organizers:** Bob He, PhD (Director of Innovation & Business Development- XRD2, Bruker AXS. Author of "Two-Dimensional X-Ray Diffraction", 2<sup>nd</sup> Edition, Wiley); Beatriz Moreno, PhD (group leader of the BXDS beamline, CLS); Renfei Feng, PhD (senior beamline scientist of the VESPERS beamline, CLS); Jim Britten, PhD (MAX Facility Manager, McMaster University); Mostafa Yakout, PhD (Postdoctoral Fellow, Mechanical Engineering, McMaster University); Samantha Stambula, PhD (ZOOM Guru, CCEM, McMaster University); Victoria Jarvis, MSc (Research Scientist, MAX Diffraction Facility, McMaster University)