

McGill AFM Summer School and Workshop

McGill University, June 6-7, 2018

Increase Your AFM Knowledge

This informative workshop will include lectures and hands-on demonstrations for researchers who want to better understand how AFM can capture dynamic processes at the nanoscale. The workshop is ideal for those that have AFM experience, as well as those who would like to learn more about incorporating AFM into their research.

Scope

The first day will cover biological applications. The second day will focus on nanomechanics, electrochemistry and materials. Lectures will be presented by leading researchers and will cover:

- Video-Rate AFM with the Cypher VRS
- Biomineral nanostructure
- Time-resolved, ultra fast AFM imaging
- High resolution electrochemistry for energy storage applications
- Nanomechanical measurements

Hands-on demonstration labs will complement the lectures. It's an excellent opportunity to get tips and tricks on AFM operation, modes (force measurements, imaging techniques), sample prep, tip selection, etc. Lab seats will be limited and are available on a first-come, first-served basis.

Speakers

Dr. Peter Grütter, Chair, Dept. of Physics, McGill University
 Dr. Marc D. McKee, Dept. of Anatomy and Cell Biology, McGill University
 Sophia Hohlbauch & Marta Kocun Applications Scientists, Asylum Research
 Mayur Savla, US Technical Sales, Asylum Research

Registration

Registration is \$50USD and includes all lectures, labs, lunch and happy hour. Register at oxford-instruments.com/McGillAFM

Venue

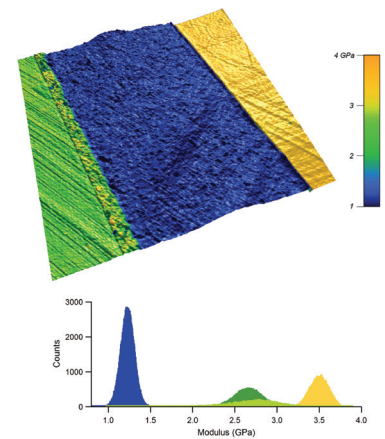
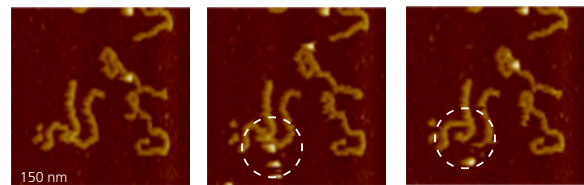
McGill University
 Ernest Rutherford Physics Building, Room 103 (Bell Room) for lectures
 3600 Rue University
 Montreal, QC H3A 2T8 Canada

Contact

Mayur Savla, mayur.savla@oxinst.com
www.oxford-instruments.com/McGillAFM



BIOCHEMICAL REACTIONS AT VIDEO-RATE SPEEDS



Elastic modulus overlaid on topography for a multi-layer polymer structure in cross section. Modulus differences between polyethylene terephthalate (PET, green), polyethylene (PE, blue), and ethylene vinyl alcohol (EVOH, yellow) are clearly resolved. Scan size 9 μm .

Program

June 6 Bio Day			
Time	Title	Presenter	Room
8:30 – 9:00am	Arrival, registration and coffee	Group	Bell Room 103
9:00 – 9:10	Welcome and Introduction to AFM	Peter Grütter, McGill University	Bell Room 103
9:10 – 10:00	Video-Rate AFM with the Cypher VRS	Sophia Hohlbauch, Asylum Research	Bell Room 103
10:00 – 10:45	Organic Control of Biomineral Nanostructure	Marc D. McKee, Dept. of Anatomy and Cell Biology, McGill University	Bell Room 103
10:45 – 11:00	Break		
11:00 – 12:30pm labs	Cypher VRS Video-Rate demonstration	Marta Kocun, Asylum Research	Physics Lab Rm 421
	Fluid Imaging—DNA Origami Cypher S	Mohini Ramkaran, McGill University	Pulp & Paper Bldg., Lab 202
	Fluid Imaging—Cells or Biomolecules MFP-3D-BIO	Sophia Hohlbauch, Asylum Research	Physics Lab Rm 435
12:30 – 1:30	Lunch provided		Room 102
1:30 – 3:00 labs	Cypher VRS Video-Rate demonstration	Marta Kocun, Asylum Research	Physics Lab Rm 421
	Fluid Imaging—Lipids Cypher S	Mohini Ramkaran, McGill University	Pulp & Paper Bldg., Lab 202
	Force Measurements MFP-3D-BIO	Sophia Hohlbauch, Asylum Research	Physics Lab Rm 435
3:00 – 3:30	Break		
3:30 – 5:00 labs	Cypher VRS Video-Rate demonstration	Marta Kocun, Asylum Research	Physics Lab
	Fluid imaging tips, tricks & probes MFP-3D-BIO	Sophia Hohlbauch, Asylum Research	Physics Lab Rm 435
5:00– 5:15	Break		
5:15 – 6:30 Happy Hour	Everything You've Wanted to Know About AFM But Were Afraid to Ask	Open Discussion with the Experts	Bell Room 103
June 7 Materials Day			
9:00 – 9:45am	Nanomechanical Measurements	Marta Kocun, Asylum Research	Bell Room 103
9:45 – 10:30	High-resolution Electrochemistry for Energy Applications	Mayur Savla, Asylum Research	Bell Room 103
10:30 – 10:45	Break		
10:45 – 11:30	Time-resolved Ultra Fast AFM Measurements	Peter Grütter, McGill University	Bell Room 103
11:30 – 12:00	Q&A: Pick the Brains of the Experts	Open Discussion with the Experts	Bell Room 103
12:00 – 1:00	Lunch provided		Room 102
1:00 – 2:30 labs	Fast Force Mapping Cypher VRS	Marta Kocun, Asylum Research	Physics Lab Rm 421
	AM-FM Nanomechanics Cypher S	Sophia Hohlbauch, Asylum Research	Pulp and Paper Bldg., Lab 202
2:30 – 3:00	Break		
3:00 – 4:30	AM-FM Nanomechanics Cypher VRS	Marta Kocun, Asylum Research	Physics Lab Rm 421
	Nanomechanics tips, tricks and probes Cypher S	Sophia Hohlbauch, Asylum Research	Pulp and Paper Bldg., Lab 202