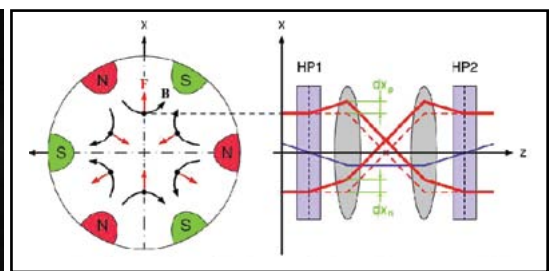
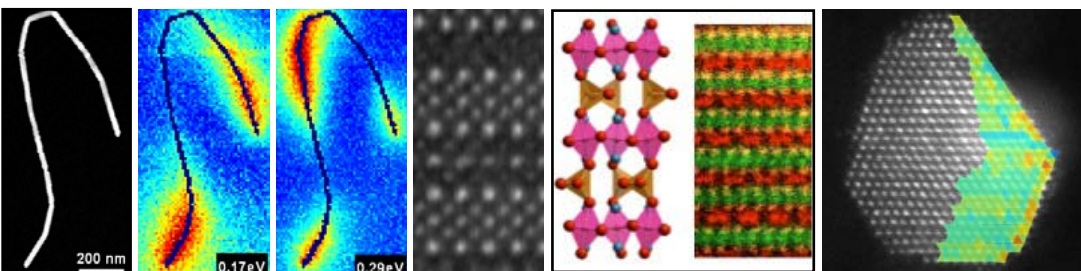


# CCEM Summer School on Electron Microscopy

**A 5-DAY COURSE** for users with experience in electron microscopy, on the fundamentals of aberration corrected imaging, electron energy loss spectroscopy, electron tomography, ultimate physical limits (beam damage and resolution) and the use of aberration-corrected electron microscopes. The aim is to provide students advice in solving characterization problems with the help of experts. The course will include lectures given by experts in the use of the technique and experts in electron optics, alignment and optimization of electron microscopes and EELS spectrometers. Students will have plenty of opportunities for hands-on training on the alignment and operation of the electron microscopes with the experts from the microscope and spectrometer companies. Students are encouraged to bring their own TEM-ready samples. Two FEI Titan microscopes with correctors and monochromators (Quantum and Tridiem spectrometers) and one FEI Osiris with SuperEDX and a FS1 spectrometer will be used for training.



## June 24-28, 2013

**McMaster University**, Hamilton ON Canada. On-campus accommodation is available for confirmed registered students.

### COST

All meals and course notes are included in the registration fee ranging from **\$500.CDN**/full-time students to **\$1000.CDN**/industry researchers. Accommodation will be separate and the responsibility of attendees (see full details on registration form).

### REGISTRATION

**Register online** by **March 22** at the web address below.

For inquiries, email: [ccem@mcmaster.ca](mailto:ccem@mcmaster.ca).

Payment details are given on the registration form.

\*Places are limited to 15 registrants. Please contact us if you are interested to reserve a place.

### TOPICS:

- Aberration-corrected TEM, STEM
- Alignment of microscopes with correctors
- EELS data processing
- Multivariate statistical analysis
- Electron tomography
- Fundamental limits from beam damage
- Inelastic scattering and ultimate resolution
- Monochromated EELS, EELS mapping
- Operation of monochromators
- Optimization of spectroscopy data acquisition

**LECTURERS:** Various instructors from Academic Institutions and technical experts from manufacturers of microscopes, spectrometers and aberration correctors.

**CONFIRMED SPEAKERS:** R. Egerton (U. Alberta); P. Hartel (CEOS); C. Kübel (KIT); S. Lazar (FEI); Q. Ramasse (SuperSTEM/UK); M. Robertson (Acadia); P. Schattschneider (TU Wien); E. Sourty (FEI); P. Tiemeijer (FEI); R. Twisten (Gatan); M. Watanabe (Lehigh)

<http://ccem.mcmaster.ca/outreach-courses>

