

Report on Materials SIG activities for 2009-2010

Prepared by Angus P. Wilkinson, Chair, Materials SIG

Our 2010 Executive Committee of three officers consisted of:

Past Chair (2008) -- Pamela Whitfield (National Research Council of Canada)

Current Chair (2009) -- Angus Wilkinson (Georgia Tech)

Chair elect (2010) -- James Kaduk (Polycrystallography, Naperville)

Six half-day sessions and a full-day transactions symposium co-sponsored by Materials were scheduled for the 2009 Toronto ACA meeting.

- 6.01 Supramolecular Chemistry -- Sunday PM (with Small-Mol)
- 6.02 Shape-Memory Materials -- Sunday AM (with Neutron)
- 6.04 Diffraction Studies and Mechanical Properties of Engineering Materials -- Monday AM (with Neutron/Powder/Synchrotron)
- 6.07 Superconducting Materials -- Tuesday AM (with Neutron)
- 6.15 Energy-Related Materials -- Wednesday AM (with Powder)
- 6.18 Ferroic and Multiferroic Materials -- Thursday PM (with Neutron)
- TR.01 Phase Transitions (with Service/Powder/Small-Mol/General Interest/SAS) -- Monday AM/PM

Due to a small number of abstract submissions to the shape-memory materials session and oversubscription to Energy Related Materials (6.15), the topic of 6.02 was changed to provide a second Energy Related Materials session scheduled for the same time.

We are grateful to the SIGs who co-sponsored sessions with Materials, and the individuals who organized and chaired these sessions. The interactions between the Materials, Powder and Neutron SIGS have been very productive. Given the overlapping interests, and personnel, of the powder, neutron and materials communities a joint Materials/Powder/Neutron SIG meeting has once again been planned for 2010. The close interactions between these SIGS leads to a variety of joint sessions to better serve the membership.

For the 2010 Chicago ACA meeting, the Materials SIG has co-organized 9 half day sessions partnering extensively with both the neutron and powder SIGS, as well as working with the small angle scattering, small molecule and industrial SIGS.

- 07.02 Non-ambient Environments for Specialized Experiments (Powder, Small Mol, Mats)
- 07.05 Local Structure (Neutron, Powder, Mats)
- 07.13 Weird Materials (Materials, Powder, SAS)
- 07.14 Functional Materials (Neutron, Materials, Powder)
- 07.19 Precipitates & Voids in Advanced Materials (SAS, Materials, Neutron, Indust)
- 07.17 Incommensurately Modulated Materials (Neutron, Powder, Materials)
- 07.23 Energy-related Materials (Materials, Powder)
- 07.24 Mechanisms of Phase Transitions (Materials, Powder, Neutron, SAS)
- 07.25 Powder Diffraction (Powder, Neutrons, Materials)

The 2010 Materials, Neutron and Powder SIG meeting

The SIGS decided to propose to a workshop on symmetry mode analysis for the 2011 ACA meeting, that will be organized by Branton Campbell

There was no interest in creating any further SIGs

The SIGS decided to suggest the following symposia for the 2011 ACA meeting:

- 1) In-Situ diffraction studies of materials. Chair Craig Bridges
- 2) Full day Energy materials/materials for a sustainable future. Chair Ashfia Huq
- 3) Crystallography and the search for new materials. Chair Ken Poeppelmeier

- 4) Local structure and diffuse scattering. Karena Chapman
- 5) Diffraction studies of Industrial Materials. Chair Yan Gao (GE research)
- 6) The evolution of software for powder diffraction data analysis. In recognition of Lachlan Cranswick. Chair Peter Stephens.
- 7) Diffraction studies of magnetic materials. Chair Clarina dela Cruz
- 8) Earth materials. Chair John Parise or Ian Swainson
- 9) Resonant scattering studies of materials. Chair Angus Wilkinson
- 10) What can a beam line do for you? Chair Christina Hofman?

Nominating committees were formed and charged with selecting two qualified and willing candidates for election as officers to each SIG.

Materials SIG nominating committee: Branton Campbell and Brian Toby

Powder SIG nominating committee: Matthew Suchomel and Ashfia Huq

Neutron SIG nominating committee: Ian Swainson and Bryan Chakoumakos