

SIG6: Instruments and Experimental Techniques (Powder Diffraction SIG8)

Reported Period: 2012-2013

Report Date: 27-08-2013

Reported by: Bob Cernik (Acting Chair SIG 8, vice chair EPDIC)

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1. Introduction. (50 words max.)

The mission of SIG8 is to promote access and awareness and collaborations in the powder community. This covers many areas including high resolution polycrystalline structure solution and refinement; stress strain analysis; disordered materials; materials in extreme environments and imaging with diffraction signals. Since this year, SIG8 has also suggested activities for the Warwick meeting and arranged or backed the workshops listed. SIG8 members have organised schools, conferences and symposia for ECM-Meetings, which are also outlined below.

2. SIG web site:

We have a web site <http://epdic.ing.unitn.it/> associated with EPDIC. The membership of SIG8 and the EPDIC committee is the same.

3. Number of ECA individual members registered with the SIG according to (<http://www.xray.cz/eca/im-payment.htm>)

SIG6 Instrumentation and Experimental Techniques 108 (as of August 24th 2013)

4. Existence of a SIG mailing list: YES, same as EPDIC

Address of the mailing list: we use personal mail

Number of members in the SIG mailing list: N/A

5. Approximate total number of researchers involved in the SIG (please indicate the basis for the estimate): 14 are in email communication with the Officers of the SIG6 (157 signed up at the ECA web pages).

The EPDIC Committee

6. List of MS organized by the SIG at the last ECMs

ECM27 Bergen planning:-Microsymposia

13 Energy related materials

14 Materials in operando and in situ crystallography of materials

28 Imaging using diffraction, spectroscopy or coherent signals

35 Ferroic and multiferroic materials

36 Towards megabar pressures: complex and geo-materials

37 Electron Crystallography on functional materials

39 Electron diffraction and X-ray powder diffraction: getting the best of both worlds

46 Advances in powder diffraction: structure solution and structure-property relationships

47 3rd Generation Synchrotrons – Radiation Damage/Impact on Crystals

49 Crystallographic teaching

50 X-ray or neutron optics and instrumentations

ECM28 Warwick planning:

Microsymposia

MS 16: X-rays and electrons: joining forces

MS 22: Materials studied by (coherent) diffraction imaging

MS 26: Crystallography of nanoparticles, including strain broadening

MS 27: Total scattering

MS 28: Energy-related materials

MS 34: Thin films

MS 37: The role of crystallography in chemical reactivity/kinetics/catalysis

MS 38: Molecular recognition and complexation in small molecules

MS 46: In situ methods and transient effects in chemical crystallography

7. Prizes sponsored/coordinated

N/A

8. Past Activities other than Microsymposia at ECM

APD meeting May 2013 Washington

TOPAS user meeting Wadhington

Combined analysis using X-ray and neutron scattering July Cean INEI

MTEC tecture analysis Freiburg, Spring 25

Fullprof School Grenoble June Powder diffraction workshop 30

9. Future/Programmed Activities.

EPDIC Arhus 2014

10. Other matters. (50 words max.)

There was no EPDIC in 2013 and we felt we missed an opportunity to expand the powder diffraction component within ECM. The SIG8/EPDIC members present expressed a desire to phase future meetings so the they run of the cycle of ECM-EPDIC separately one year, ECM-EPDIC joint the next (with at least 2 days overlap) followed by a gap for the international meeting. This will, of course, largely depend on local organisers but it was felt that might be a way forward.

11. Brief annual activity report (100 words max.)

SIG members usually communicate via emails, during some large facility user meetings and during ECM meeting. In 2010

12. List SIG officers, name and e-mail, and specify their main function in the SIG:

Same as the EPDIC committee

Supplementary Materials. None