

SIG12

Reported Period: 2016-2017

Report Date: 21/06/2017

Reported by: Andrzej Grzechnik, Manuel Hinterstein, Jerome Rouquette

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1. Introduction. (50 words max.)

The main activities of the SIG team have been to prepare the Basel and Oviedo ECMs.

2. SIG web site:

SIG12: <http://ecanews.org/mwp/groups/sig-12-crystallography-of-functional-materials/>

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

SIG12 Materials Science

197 (as of 21/06/2017)

4. Existence of a SIG mailing list: yes

SIG12 communicates with its members via the ECA webpages <http://ecanews.org/mwp/groups/sig-12-crystallography-of-functional-materials/>

5. Approximate total number of researchers involved in the SIG (please indicate the basis for the estimate)

197 members registered on <http://ecanews.org/mwp/groups/sig-12-crystallography-of-functional-materials/>

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

Title: ECM30 Basel

SIG12 proposed and was the principal organizer of the following microsymposia :

1. MS 20 Materials for energy conversion and harvesting
2. MS 17 Minerals, materials and polymorphs
3. MS 19 Solid state oxygen fuel cell, hydrogen storage & battery materials

Moreover, SIG12 also co-organized the following microsymposia proposed by other SIGs:

1. MS 21 Structural disorder and materials' properties at ambient and non-ambient conditions
2. MS 14 Biomineralogical crystallography and bioinspired inorganic materials
3. MS 16 Structure-property relationships in high pressure crystallography
4. MS 15 Minerals and materials
5. MS 18 Structures of minerals, planetary and carbon materials at Earth and planetary conditions

7. Prizes sponsored/coordinated

STOE regularly sponsors a poster prize in the field of the crystallography of functional materials at the ECMs (Warwick, Rovinj, and Basel).

8. Past Activities other than Microsymposia at ECM

SIG12 members actively participated in the organization of the “International Conference on Applied Crystallography” in Houston (USA, October 17-19, 2016). The topics included, among others, energy storage and energy transformation (batteries, fuel cells, electrolysis, thermoelectrics, and magnetocalorics) & solar energy applications.

SIG12 members also participate in the organization of the second “International Conference on Applied Crystallography” in Chicago (USA, October 16-18, 2017).

9. Future/Programmed Activities.

Currently, the SIG12 representative, Jerome Rouquette, participates in the organization of the ECM31 in Oviedo as a member of the program committee.

10. Other matters. (50 words max.)

Members of SIG 12 are also involved in the design and use of experimental stations and new sample environments at large scale facilities (Petra-III in Hamburg, FRM-II in Munich and ESRF and ILL in Grenoble) to open new possibilities for the structural investigation of functional materials under *in situ* and *in operando* conditions.

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

SIG officers are involved in the organization of conferences and workshops related to materials crystallography at material science and diffraction-related meetings. They participate in review and advisory committees in various European large-scale facilities.

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

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