

**SIG12**

**Reported Period: 2008-2009**

**Report Date: 01.07.2010**

**Reported by: Helmut Ehrenberg, Julien Haines, Xavier Torrelles**

**1. Introduction.** (50 words max.)

The responsibilities within SIG 12 have changed in August 2009. The new SIG officers express their thanks to the past chair Prof. Pam Thomas and her team for their work.

**2. SIG web site:**

SIG12: NO

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

SIG12 Materials Science 122 (at 14<sup>th</sup> of July 2010)

**4. Existence of a SIG mailing list:** No

**Address of the mailing list:** -.-

**Number of members in the SIG mailing list:** -.-

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

-.-

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

Title: 25<sup>th</sup> European Crystallographic Meeting, Istanbul, Turkey  
microsymposium "Crystallography at high pressure"

Number of Participants: about 40

Level of involvement of SIG in the activity:

ECA Individual Members registered with the SIG involved in the organizing committee

ECA Individual Members registered with the SIG involved as lecturers

endorsed (SIG logo on the web page/leaflets)

Sponsored by ECA?

Yes

Other Sponsors/Organizers:

Short Description: (50 words max.)

A member of SIG12 participated in the organization of the microsymposium "Crystallography at high pressure" proposed and organized by SIG11. Results on a wide variety of materials were presented and many participants were from the "materials science community".

Microsymposia at ECM 25 in Istanbul were organized by the past SIG 12 officers. Therefore, we provide a list of the MS organized for ECM 26:

<b>Title</b>	<b>Proposed together with other SIGs</b>
<i>Complex metallic alloys</i>	SIG 3
<i>New inorganic materials for technological applications</i>	SIG 5
<i>Open structures and aperiodic crystals under in situ/non-ambient conditions</i>	SIG 11, SIG 13

<i>Structure and properties of functional materials at extreme conditions</i>	SIG 11
<i>Self-assembled functional materials: biomineralization, biomimetics and beyond</i>	SIG 7

## 7. Prizes sponsored/coordinated

A poster prize will most probably be available for ECM 26.

## 8. Past Activities other than Microsymposia at ECM

a)

Title: 4<sup>th</sup> Meeting of the Spanish Society of Neutron Techniques

Number of Participants: 100

Level of involvement of SIG in the activity:

ECA Individual Members registered with the SIG involved in the organizing committee

ECA Individual Members registered with the SIG involved as lecturers

endorsed (SIG logo on the web page/leaflets)

Sponsored by ECA?

No

Other Sponsors/Organizers:

- Institute of Materials Science of Barcelona (ICMAB)
- Spanish Scientific Research Council (CSIC)
- SETN (Spanish Society of Neutron Techniques)
- ESS- Bilbao
- Spanish Department of Research & Science (MICINN)

Short Description: (50 words max.)

The Spanish Society of Neutron Techniques organizes a meeting every two years with the objective to provide a forum to the Spanish neutron community to encourage the scientific discussions.

Usually the meeting is divided in eight sessions and takes three days. The subjects object of discussions are very multidisciplinary and related with neutron techniques: physics, chemistry, material science, geology, biology, environment, energy, ...

(8-10 September 2008, Sant Feliu de Guixols, Girona, Spain)

b)

Title: IV Meeting of the Spanish Association of Synchrotron Radiation Users

Number of Participants: 120

Level of involvement of SIG in the activity:

ECA Individual Members registered with the SIG involved in the organizing committee

ECA Individual Members registered with the SIG involved as lecturers

endorsed (SIG logo on the web page/leaflets)

Sponsored by ECA?

No

Other Sponsors/Organizers:

- Institute of Materials Science of Barcelona (ICMAB)
- Spanish Scientific Research Council (CSIC)
- AUSE (Spanish Users of Synchrotron Radiation)
- Spanish Department of Research & Science (MICINN)

Short Description: (50 words max.)

The Spanish Association of Synchrotron Radiation Users (AUSE) organizes a meeting every two years with the objective to provide a forum to the Spanish radiation synchrotron community to encourage the scientific discussions in different scientific areas as physics, chemistry, material science, geology, biology, environment, energy,...

Usually the meeting is divided in eight sessions and takes three days.

(15-18 September 2009, Barcelona, Spain)

c)

Title: Euromat 2009, Microsymposium A52 "Ion-conducting materials for energy generation and storage systems" within Topic A "Functional Materials"

Number of Participants: 30

Level of involvement of SIG in the activity:

ECA Individual Members registered with the SIG involved in the organizing committee

ECA Individual Members registered with the SIG involved as lecturers

endorsed (SIG logo on the web page/leaflets)

Sponsored by ECA?

No

Other Sponsors/Organizers:

- FEMS

Short Description: (50 words max.)

Dedicated classes of functional materials are addressed in conferences on Materials Science.

Crystallographic aspects play the major role for the resulting properties and where in the focus of this session on ion-conducting materials for energy storage systems.

## 9. Future/Programmed Activities.

a)

Title: V<sup>th</sup> Meeting of the Spanish Society of Neutron Techniques

Number of Participants: 150

Level of involvement of SIG in the activity:

ECA Individual members registered with the SIG involved in the organizing committee

ECA Individual members registered with the SIG involved as lecturers

endorsed (SIG logo on the web page/leaflets)

Sponsored by ECA?

Yes/  No (may be)

Other Sponsors/Organizers:

- Spanish Scientific Research Council (CSIC)

- AUSE (Spanish Users of Synchrotron Radiation)

- Spanish Department of Research & Science (MICINN)

Short Description: (25 words max.)

The Spanish Association of Synchrotron Radiation Users (AUSE) organizes a meeting every two years with the objective to provide a forum to the Spanish radiation synchrotron community to encourage the scientific discussions in different scientific areas as physics, chemistry, material science, geology, biology, environment, energy,...

Usually the meeting is divided in eight sessions and takes three days.

(10-14 September 2011, Valencia, Spain)

b)

Title: 12<sup>th</sup> European Powder Diffraction Conference (EPDIC12), Darmstadt, Germany  
Microsymposium "Structure and properties of functional ceramics"

Number of Participants: 30-40 expected

Level of involvement of SIG in the activity:

ECA Individual Members registered with the SIG involved in the organizing committee

ECA Individual Members registered with the SIG involved as lecturers

endorsed (SIG logo on the web page/leaflets)

Sponsored by ECA?

Yes

Other Sponsors/Organizers:

EPDIC

Short Description: (50 words max.)

This microsymposium will present recent results on a variety of functional ceramics such as ferroelectrics, ferrites, superconductors, solid electrolytes, etc. by x-ray and neutron powder diffraction techniques. The microsymposium consists of 5 oral presentations and 8 posters.

**10. Other matters.** ( 50 words max.)

SIG 12 officers are actively involved in the conception, realisation and use of experimental stations at large scale facilities (e.g., ALBA in Barcelona, HASYLAB in Hamburg and FRM-II in Munich) 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 12 has to bridge different communities. Dedicated conferences deal with specific classes of functional materials, while crystallographic expert knowledge is growing and well preserved mainly in the national and international crystallographic societies and associations. The activities of SIG 12 aim to be involved in the development of methods (e.g. at synchrotron and neutron facilities) and to spread the crystallographic knowledge in materials devoted workshops and meetings. On the European level the European Powder Diffraction Conference (EPDIC) is one of the meetings with highest relevance for the development of methods and the EUROMAT one with the focus on specific classes of materials.

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

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