

## **SIG11**

**Reported Period: 2010-2011**

**Report Date: 01.06.2011**

**Reported by: Leonid Dubrovinsky, Alfonso San Miguel, Karen Friese**

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

For the reported period SIG11 concentrated its activity on organizing conferences and workshops. Special attention was paid to participation of young scientists in the schools and workshops. SIG11 is also actively taking part in planning activities and beam-lines at large-scale facilities – ESRF, PETRAIII, FRMII.

### **2. SIG web site:**

SIG11 NO (prototype is developed and expected to be operational in July-August 2011)

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

SIG11 Crystallography under Extreme Conditions 64

### **4. Existence of a SIG mailing list Yes**

**Address of the mailing list: <http://list.ehu.es/mailman/listinfo/ecasig11>**

**Number of members in the SIG mailing list : 133**

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

About 170 people based on the number of participants of MS at ECM25/26 and special sessions at EHPRG organised or co-organized by SIG11, and the number of members of the SIG mailing list

### **6. List of MS organized by the SIG at the last ECM26, Darmstadt, Germany**

- High-Pressure Crystallography at Elevated Temperatures;
- Structure and Properties of Functional Materials at Extreme Conditions;
- Phase Transitions in Minerals and Their Planetary Effects;
- Aperiodic Crystals at Non-Ambient Conditions

Plenary Lecture:

Prof. M. McMahon (UK)

- Single Crystal Diffraction Studies at Multimegabar Pressures

### **7. Prizes sponsored/coordinated**

### **8. Past Activities other than Microsymposia at ECM**

Title: 48<sup>th</sup> European High Pressure Research Group Conference, Uppsala, Sweden, 25-29.09.2010.

Number of Participants: 100

Level of involvement of SIG in the activity:

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

x ECA Individual members registered with the SIG involved as lecturers

O endorsed (SIG logo on the web page/leaflets)

Sponsored by ECA? No

Other Sponsors/Organizers: EHPRG

Short Description: (25 words max.)

The 48<sup>th</sup> EHPRG was a large scope conference. Several sessions were dedicated to subjects closely related to high-pressure crystallography

Title: Workshop on "Methods of high-pressure single-crystal diffraction, 3-4.9.2010, Darmstadt, Germany, Satellite Workshop to the ECM26.

Number of Participants: 54

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

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Sponsored by ECA? No

Other Sponsors/Organizers: Commercial sponsors; Chairs: R. Miletich-Pawliczek, A. Grzechnik.

Short Description: The aim of the workshop was to teach participants how to perform single-crystal high-pressure X-ray diffraction measurements and to complete the data reduction and analysis to obtain the highest-quality data.

Title: Workshop for Extreme Conditions Research in a Large Volume Press at PETRA III, 14-15.10.2010, Lüneburg, Germany

Number of Participants: 35

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

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Sponsored by ECA? No

Other Sponsors/Organizers: HASYLAB/DESY

Short Description: Discussions on scientific directions and methodology of high-pressure crystallography with large-volume press at PETRAIII.

Title: Workshop on Dynamic X-ray Diffraction & Spectroscopy Experiments at Extreme Conditions: Implementing time resolved experiments for 3<sup>rd</sup> and 4<sup>th</sup> generation light sources, 5-6.05.2011, Hamburg, Germany

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: HASYLAB/DESY

Short Description: The workshop provided an opportunity to discuss types of time-resolved structural investigation at extreme conditions to be conducted at 3<sup>rd</sup> generation synchrotron sources and at X-ray Free Electron Lasers.

## **9. Future/Programmed Activities.**

Title: 5<sup>th</sup> Spanish School of High Pressure, June/July 2011, La Laguna, Spain.

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: Commercial sponsors, Malta Consolider, Universidad de La Laguna  
Short Description: Introduction to high pressure methods and science including crystallographic issues.

Title: 49<sup>th</sup> European High Pressure Research Group Conference, Budapest, Hungary, 28.08-02.09.2011.

Number of Participants: Estimated to 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

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Sponsored by ECA? No

Other Sponsors/Organizers: EHPRG

Short Description: The 49<sup>th</sup> EHPRG will be a large scope conference. Several sessions will be dedicated to subjects closely related to high-pressure crystallography.

Title: Joint Meeting of the DGK, DMG and ÖMG, 20–24.09.2011, Salzburg, Austria

Number of Participants: Estimated to 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

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Sponsored by ECA? No

Sponsors/Organizers: DGK, DMG, ÖMG.

Short Description: The meeting will be a large scope conference. Several sessions will be dedicated to subjects directly related to high-pressure crystallography.

Title: High Pressure Semiconductor Physics International Conference HPSP-15, July 2012, Montpellier, France.

Number of Participants: Estimated to 90

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

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Sponsored by ECA? No

Other Sponsors/Organizers:

Short Description: Semiconductor physics at high pressure including sessions relating structure determination and electronic properties.

Title: 2<sup>nd</sup> Workshop on “High Pressure Single Crystal Diffraction”, Satellite Workshop to ECM27, August 2012, Bergen, Norway.

Number of Participants: estimated 50-55

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?

Will ask for Sponsorship.

Other Sponsors/Organizers: not yet decided.

Short Description: The aim of the workshop will be to teach participants how to perform single-crystal high-pressure X-ray diffraction measurements and to complete the data reduction and

analysis to obtain the highest-quality data. An overview over single crystal diffraction experiments at large scale facilities will be included.

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

SIG11 officers are working on the development of a prototype of the WEB-site. It is expected to be operational in July-August 2011

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

The SIG organised four microsymbosia related to high pressure crystallography during ECM26. In addition SIG11 sponsored plenary talk at ECM26 and SIG-officers and individual members were actively involved in the organization of a satellite workshop at ECM26. In 2010-2011 the mailing list of the SIG was fully functioning, contains currently 133 subscribers, and is actively used for advertising ECA, IUCr, and SIG11 supported events. The SIG has organized workshops and schools which aim at providing experimental and methodological expertise on high pressure crystallography to the scientific community, in particular to its younger members. Other activities of the SIG are focused on the development of new infrastructure at large scale facilities (PETRA III, FMRII).

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

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