

## **SIG5**

**Reported Period: June 2009 – May 2010**

**Report Date: 19 May 2010**

**Reported by: Massimo Nespolo (secretary)**

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### **1. Introduction.**

In August 2009 was held ECM25 in Istanbul, and the SIG5 activity was centred on the organisation of microsymbposia at this meeting and a number of other activities. SIG5 continued promoting two poster prizes, for mineralogical crystallography (sponsored by EMU and restricted to young scientists up to 35-year old) and for inorganic crystallography (sponsored by Zeitschrift für Kristallographie). Our activities also concerned the organization of microsymbposia at ECM26-Darmstadt.

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

SIG5 <http://sig5.ecanews.org/>

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

SIG5 Mineral and Inorganic Crystallography 73

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

**Address of the mailing list:** <http://listes.uhp-nancy.fr/www/info/ecasig5>

**Number of members in the SIG mailing list:** 144

**5. Approximate total number of researchers involved in the SIG (please indicate the basis for the estimate)** 144 (this is the number of members of the mailing list, *i.e.* number of researchers who explicitly indicate their involvement in the SIG)

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

- Minerals as Treasury for Advanced Materials
- Crystallography of Functional Materials Under Challenging Experimental Conditions
- Ferroic Materials
- Mineralogical Crystallography: Layered and Framework Structures (split in two MS because of the large number of submitted abstracts)

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

EMU poster prize for Mineralogical Crystallography

Zeitschrift für Kristallographie for Inorganic Crystallography

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

For Each Activity

Title: Crystallography online: International School on the use and application of the Bilbao Crystallographic Server

Number of Participants: 45

Level of involvement of SIG in the activity: Co-organiser

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

Mois Aroyo, Massimo Nespolo

ECA Individual Members registered with the SIG involved as lecturers Mois Aroyo,

Massimo Nespolo

endorsed (SIG logo on the web page/leaflets) yes (see <http://www.crystallography.fr/mathcryst/bilbao2009.php>)

Sponsored by ECA? Yes

Other Sponsors/Organizers: IUCr, Universidad del Pays Vasco, plus a number of local bodies.

Short Description: (50 words max.) school on the use and application of the Bilbao Crystallographic Server, a full-featured series of tools and routines for the analysis of crystallographic, crystal-chemical and solid-state physical problems.

Title: Advances in the characterisation of industrial minerals

Number of Participants: 46

Level of involvement of SIG in the activity: Co-organiser

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

No

ECA Individual Members registered with the SIG involved as lecturers 1 (Giovanni Ferraris)

endorsed (SIG logo on the web page/leaflets) yes (see [http://www.univie.ac.at/Mineralogie/EMU\\_School\\_2009/welcome.htm](http://www.univie.ac.at/Mineralogie/EMU_School_2009/welcome.htm))

Sponsored by ECA? No

Other Sponsors/Organizers: EMU, IUCr, Technical University of Crete, S&B Industrial Minerals S.A.

Short Description: (50 words max.) EMU School 2009 about traditional and novel techniques used to characterize industrial minerals as well as review and analysis of industrial clays and cement raw materials. Also a series of lectures were given on the utilization of waste materials from the mining industry.

Title: Minerals as a treasure trove for advanced materials

Number of Participants: 25-30

Level of involvement of SIG in the activity: SIG#5 sponsored microsposium at AIC XXXVIII congress

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

No

ECA Individual Members registered with the SIG involved as lecturers No

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

Sponsored by ECA? No

Other Sponsors/Organizers: No

Short Description: (50 words max.) There were two remarkable KN lectures by Tarantino on *Melting of cooperative Jahn-Teller distortion in  $Mg_xCu_{1-x}Cr_2O_4$  solid solution* and by Ventruti on *the HT X-ray diffraction and spectroscopic study of sideronatriite*. Beside them, there were also four interesting oral contributions on topics related to the main theme of the microsposium.

Title: Clays, clay minerals and layered materials- 2009

Number of Participants: 80

Level of involvement of SIG in the activity: The cochair of the conference is the cochair of the SIG

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

Sergey V. Krivovichev.

ECA Individual Members registered with the SIG involved as lecturers 2

Sergey V. Krivovichev, Wulf Depmeier

endorsed (SIG logo on the web page/leaflets)

Sponsored by ECA? No

Other Sponsors/Organizers: IUCr, RFBR, and local bodies

Short Description: (50 words max.) Meeting was devoted to a broad range of topics related to layered materials and minerals, incl. clays, micas, layered double hydroxides, layered uranium compounds, etc.

Title: School on High Pressure Crystallography – June 2009

Number of Participants: 122

Level of involvement of SIG in the activity: SIG5 has given his support to this school.

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) No

Sponsored by ECA Yes (see <http://www.crystalerice.org/erice2009/2009.htm> )

Other Sponsors/Organizers:

Short Description: (50 words max.) School held in Erice (Sicily) from June 4<sup>th</sup> to 14<sup>th</sup>, 2009. See the website for a detailed description.

Title: III International workshop Layered Materials: design and Function

Number of Participants: 25-30

Level of involvement of SIG in the activity: SIG5 has given his support to this school

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

Yes. Wulf Depmeier, Giovanni Ferraris

ECA Individual Members registered with the SIG involved as lecturers Wulf Depmeier

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

Sponsored by ECA? Yes

Other Sponsors/Organizers: DGK, DMG, EMU, local bodies

Short Description: (50 words max.) The present Workshop will focus on the intelligent design of new materials including layered silicates, phosphates, double hydroxides, organic-inorganic hybrids, and others. Newly designed compounds with improved properties can be used for a wide range of applications, from catalysts, membranes, sensor devices to optical and magnetic imaging. The workshop will also focus on characterization techniques like spectroscopy, diffraction and computational methods.

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

For Each Activity

Title: MaThCryst Summer Schools: Topology of Crystal Structures - Irreducible Representations of Space Groups

Number of Participants: 50-60

Level of involvement of SIG in the activity:

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

Mois Aroyo , Massimo Nespolo

ECA Individual members registered with the SIG involved as lecturers 2 (Mois Aroyo,

Massimo Nespolo)

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

Sponsored by ECA? Yes

Other Sponsors/Organizers: IUCr, AFC, plus a number of local bodies (see

<http://www.crystallography.fr/mathcryst/nancy2010.php>)

Short Description: (25 words max.) Summer Schools organised on the occasion of the fifth anniversary of the MaThCryst commission.

Title: Minerals as Advanced Materials II

Number of Participants: 60

Level of involvement of SIG in the activity: SIG5 has given his support to this school.

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

ECA Individual members registered with the SIG involved as lecturers 3 (W. Depmeier, O. Yakubovich, F. Hatert)

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

Sponsored by ECA? Yes

Other Sponsors/Organizers: IUCr, DFG, ECA-SIG5 plus a number of local bodies

Short Description: (25 words max.) Congress held in Kirovsk (Kola peninsula, Russia) from 19<sup>th</sup> to 25<sup>th</sup> of July 2010. For more details see the website (<http://www.minsoc.ru/confs.php?cid=744>)

Title: First North African Crystallographic Conference (NACC-1)

Number of Participants: Unknown so far

Level of involvement of SIG in the activity: SIG5 has given his support to this school.

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

Other Sponsors/Organizers:

Short Description: (25 words max.) In 2009, the Moroccan Association of Crystallography (AMC) Executive Committee decided to organise the first North African Crystallographic Conference. This event will be organised conjointly by AMC and Faculty of Sciences Ben M'Sik-University Hassan II Mohammedia-Casablanca. The aim of this first conference is to contribute to the development of crystallography in North Africa. The congress will be held in Casablanca (Morocco) from 23<sup>rd</sup> to 26<sup>th</sup> of November 2010. For more detail see the first circular ([http://www.visbdev.net/visbdev/fe/Docs/First\\_Annoucement\\_Project\\_NACC1\\_Casablanca\\_November\\_2010.pdf](http://www.visbdev.net/visbdev/fe/Docs/First_Annoucement_Project_NACC1_Casablanca_November_2010.pdf)).

Title: Layered mineral structures and their applications

Number of Participants: Unknown so far

Level of involvement of SIG in the activity: SIG5 has given his support to this school.

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

Other Sponsors/Organizers:

Short Description: (25 words max.) This school will be organized by the European Mineralogical Union (EMU) in Rome (Italy) from July 9<sup>th</sup> to 19<sup>th</sup>, 2011.

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

SIG5 decided to sponsor more systematically the EMU schools. A poster presenting our SIG and the ECA will be presented at the IMA2010 meeting in Budapest.

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

SIG5 is involved in the organization of the ECM26–Darmstadt. We proposed a keynote by Luca Bindi entitled “Forbidden Symmetry in Nature”, and we will be involved in the organization of the workshop on High Pressure Crystallography organized by SIG11. We also proposed 3 microsymbiosia:

- New inorganic materials for technological applications (co-organized with SIG12).
- Phase transitions in minerals and their planetary effects (co-organized with SIG11).
- Mineral and inorganic crystallography.

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

**Chair** Dr. Frédéric Hatert [fhatert@ulg.ac.be](mailto:fhatert@ulg.ac.be)

**Vice-chair** S.V. Krivovichev [skrivovi@mail.ru](mailto:skrivovi@mail.ru)

**Secretary** Massimo Nespolo [massimo.nespolo@crm2.uhp-nancy.fr](mailto:massimo.nespolo@crm2.uhp-nancy.fr)

**Supplementary Materials.**

(List of all supplementary materials, if any, related to the SIG report)

- Addendum 1 to n (to be sent in separate files)