

## **SIG No: 3 Aperiodic Crystallography**

Reported Period: 2012-2013

Report Date: 29 May 2012

Reported by: Artem Abakumov (Chair) and Michal Dusek (Secretary)

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### **1. Introduction.**

The activities of SIG#3 concentrate on spreading the knowledge about aperiodic crystallography in conferences and workshops as well as through the WEB site on Aperiodic Crystals.

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

SIG#3 url: <http://sig3.ecanews.org>

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

53

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

Address of the mailing list: none

Number of members in the SIG mailing list : 25

Currently we maintain only distribution list for making various announcements. People interested in this mailing list can subscribe through the SIG#3 web page.

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

70 (estimate based on the attendance of MS organized by SIG#3, the interest in giving lectures in those MS, number of individual members and similar measures.)

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

ECM27 in Bergen. Representative of SIG#3 Artem Abakumov

a) A special symposium on quasicrystals organized at the occasion of the 2011 Nobel Prize awarded to Professor Dan Shechtman. The symposium was organized by Marc de Boissieu and aimed at non-specialists. Speakers: W. Steurer, C. Pay Gomez, H. Euchner, J. Ledieu and R. Lifshitz.

b) MS 15 "Structural complexity of minerals and inorganic Materials"

c) MS 21 "Crystal chemistry of Aperiodic crystals"

d) MS 22 "Quasicrystals, their approximants and surfaces: from the atomic to the nanoscale"

c) MS 34 "Aperiodic, short-range ordered and non-crystalline materials at ambient and non-ambient conditions"

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

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

**Title: Aperiodic 2012 (Cairns, Australia)**

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

Sponsored by ECA? No

Other Sponsors/Organizers: The Australian National University; Rigaku; IUCr and other sponsors

Short Description: Aperiodic materials: crystallography, chemistry, physics and theory

**Title: 2<sup>nd</sup> International School on Aperiodic Crystals (7-12 April 2013, Bayreuth, Germany)**

Number of Participants: 50

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

Sponsored by ECA? No

Other Sponsors/Organizers: Euroschool 2013 of the European C-MAC, German Crystallographic Association (DGK), IUCr, CNRS, University of Bayreuth, and others

Short Description: Introducing crystal structures of aperiodic crystals followed by practical exercises in structural analysis of modulated structures and quasicrystals

**Title: The 30 Years of Quasicrystals International Conference (Taipei, Taiwan)**

Number of Participants: ~ 80

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

Sponsored by ECA? No

Other Sponsors/Organizers: National Taipei University of Technology

**Title: Ad hoc Workshops on Jana2006, No 13,14,15,16 (Prague, Czech Republic)**

Number of Participants: 51 (together)

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 Physics, Prague

Short Description: Small workshops organized on various topics about Jana2006. Participants select the topics through the web page [jana.fzu.cz](http://jana.fzu.cz) and workshops are organized continuously.

**Title: 3<sup>rd</sup> Shanghai Workshop of X-Ray Crystallography (Shanghai, China)**

Number of Participants: 60

Level of involvement of SIG in the activity:

- 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: IUCr

Short Description: Among other activities: workshop on the software Jana2006.

**Title: Jana2006 Workshop in the 3<sup>rd</sup> Turkish Crystallographic Meeting (Izmir, Turkey)**

Number of Participants: 50

Level of involvement of SIG in the activity:

- 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: IUCr and many sponsors

Short Description: workshop on the software Jana2006.

**Title: International School on Fundamental Crystallography (Uberlandia, Brazil)**

Number of Participants: 50

Level of involvement of SIG in the activity:

- 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: IUCr and many sponsors

Short Description: Among other activities: workshop on the software Jana2006.

**Title: Jana Workshops (Regensburg, Germany)**

Number of Participants: 24

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: University Regensburg

Short Description: A workshop on Jana2006

**Title: International Symposium "Quasicrystals Today" (Grenoble, France)**

Number of Participants: 60

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

Sponsored by ECA? No

Other Sponsors/Organizers: CNRS, ESRF, IUCr and others

Short Description: The symposium gathers internationally renowned scientists presenting state of the art researches in the field of quasicrystal and aperiodic crystals.

**9. Future/Programmed Activities.**

**Title: The 28th Meeting of the European Crystallographic Association (Warwick, UK)**

Number of Participants: ~800

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

Other Sponsors/Organizers: IUCr

Short Description: Members of SIG3 will participate in lectures and organization of microsymbosia

**Title: 12th International Conference on Quasicrystals (Cracow, Poland)**

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

Sponsored by ECA? No

Other Sponsors/Organizers: AGH University of Science and Technology, IUCr and others

Short Description: News in the field of quasicrystals

**Title: Jana Ad Hoc Workshops (Prague, Czech Republic) (~ five workshops during the next year)**

Number of Participants: 30-60

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 Physics, Prague

Short Description: Small workshop on various topics connected with software Jana2006

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

The web page of SIG 3 at <http://sig3.ecanews.org/> is maintained by Michal Dusek. It contains information on conferences, computer programs, research groups on aperiodic crystals and publications dealing with aperiodic crystals with weekly updates. From the year 2011 the web page reports also on activities of the Commission on aperiodic crystals (IUCr). The integration is still under progress.

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

Activities of SIG#3 were focused on workshops and conferences and WEB activities. Most notable event in the field of aperiodic crystallography is the 2011 Nobel prize in chemistry awarded to D. Shechtman for his discovery of quasicrystals. This event will be celebrated at the next ECM (ECM28, August 2013 in Warwick, GB) with a keynote lecture by D. Shechtman. The ad hoc workshops on Jana continue to be useful and widely attended.

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

|                           |                              |           |
|---------------------------|------------------------------|-----------|
| A. Abakumov (Antwerp)     | artem.abakumov@ua.ac.be      | chair     |
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