

***SIG3 - Special Interest Group on Aperiodic Crystals***

***Reported Period: 2016-2017***

***Report Date: 30 June 2017***

***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:**

SIG3 has a website common with IUCr Commission on Aperiodic Crystals (CAC). The following links refer to the same website:

<http://sig3.ecanews.org>

<http://aperiodic.iucr.org>

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

91

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

Address of the mailing list: none

Number of members in the SIG mailing list : 29

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)**

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

**6. List of MS, plenary and keynote lectures organized by the SIG at the last ECM**

ECM30, Basel, Switzerland, 28 August – 1 September 2016

- Lecture during the Max Perutz Prize ceremony: Václav Petříček – “On the fascinating way from abstract superspace theory to the practical structure analysis of modulated and composite crystals”
- MS 22. Beyond multipolar refinement
- MS 23. Charge and spin density of materials at extreme conditions
- MS 24. Inorganic and metal-organic magnetic structures
- MS 25. Quasicrystal and approximant: structure and properties
- MS 26. Incommensurate modulated and composite phases
- MS 27. Dynamical refinement of electron diffraction data
- MS 28. New approaches in electron crystallography

**7. Prizes sponsored/coordinated**

We acknowledge the award of the 9th Max Perutz Prize of the European Crystallographic Association to Vaclav Petricek “in recognition of his practical application of the theory of aperiodic structures in the widely used computing system JANA”. The prize was awarded at the 30<sup>th</sup> Meeting of the European Crystallographic Association ECM30 in Basel, Switzerland.

## 8. Past Activities other than Microsymposia at IUCr congress

**Title: The 30<sup>th</sup> Meeting of the European Crystallographic Association (28 August – 1 September 2016, Basel, Switzerland)**

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 microsymposia

**Title: 9th Workshop on Structural Analysis of Aperiodic Crystals (23-26 March 2017, Bayreuth, 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: German Association for Crystallography, university of Bayreuth

Short Description: Four-day workshop about aperiodic structures covering the underlying theory and practical structure analysis.

**Title: 13th International Conference on Quasicrystals (ICQ13), (18-23 September 2016, Kathmandu, Nepal)**

Number of Participants: 98

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: IUCr + commercial sponsors, university of Liverpool

Short Description: Six-day conference bringing together specialists in quasicrystals

**Title: Jana Ad Hoc Workshops (Prague, Czech Republic)**

Four workshops (30-32) listed in <http://jana.fzu.cz>

Number of Participants: 32

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

**Title: workshop New Trends in Magnetic Structure Determination (12-16 December 2016, Institut Laue-Langevin, France)**

Number of Participants: 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? No

Other Sponsors/Organizers: IUCr, ILL

Short Description: Five-day workshop about magnetic structures.

**Title: workshop Open space between aperiodic order and strong electronic correlations (19-22 June 2017, Annecy, France)**

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

Sponsored by ECA? No

Other Sponsors/Organizers: Université Grenoble Alpes + commercial sponsors

Short Description: Four-day workshop about aperiodic order and electronic properties.

**9. Future/Programmed Activities.**

**Title: Twenty-Fourth Congress and General Assembly of the International Union of Crystallography (Hyderabad, India)**

Number of Participants: ~1200

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 microsymbiosia

**Title: 9th International Conference on Aperiodic Crystals (Aperiodic 2018) (Ames, Iowa, USA)**

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: IUCr

Description: A conference about theoretical and practical aspects of aperiodic structures

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

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: Institute of Physics, Prague

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

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

On January 27th 2016 passed away one of the founders of aperiodic crystallography, Aloysio Janner. Obituary is available at [http://www-xray.fzu.cz/sgip/doc/Aloysio\\_Janner.pdf](http://www-xray.fzu.cz/sgip/doc/Aloysio_Janner.pdf). The quasicrystal community lost Chris Henley: [http://www-xray.fzu.cz/sgip/doc/Chris\\_Henley.pdf](http://www-xray.fzu.cz/sgip/doc/Chris_Henley.pdf)

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

Activities of SIG#3 were focused on workshops and conferences and WEB activities. Most notable events in the field of aperiodic crystallography were the Aperiodic2015 conference in Prague and The 3rd International School on Aperiodic Crystals in Antwerp.

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

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### Supplementary Materials.

None