

SIG No: 3

Reported Period: 2013-2014

Report Date: 1 July 2014

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>

<http://aperiodic.iucr.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 : 28

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

ECM28 in Warwick. Representative of SIG#3 Artem Abakumov

- Plenary lecture "Quasi-Periodic Materials – Crystals Redefined" by the Nobel Prize winner Professor Dan Shechtman

- Keynote lecture KN9 "Charge flipping & Co.: dual space algorithms in crystallography" by Lukas Palatinus

- MS 15: Electron microscopy for aperiodic structures, chairs Holger Klein (FR), Joke Hadermann (BE)

- MS 14: Aperiodic crystals: structure, dynamics and magnetism, chairs J. Manuel Perez-Mato (ES), Marc de Boissieu (FR)

- MS 36: Twinning, polytypes and modular structures, chairs Georg Roth (DE), Louisa Meshi (IL), Karen Friese (DE)

7. Prizes sponsored/coordinated

The tenth Ewald Prize has been awarded to Professors A. Janner and T.W.J.M. Janssen (both from the Institute for Theoretical Physics, University of Nijmegen, The Netherlands) for the development of superspace crystallography and its application to the analysis of aperiodic crystals. The presentation of the Ewald Prize will be made during the Montreal Congress Opening Ceremony on 5 August 2014.

8. Past Activities other than Microsymposia at ECM

Title: The 12th International Conference on Quasicrystals, ICQ12 (1-6 September 2013, Cracow, Poland)

Number of Participants: 110

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: Ad hoc Workshops on Jana2006, No 17 - 22 (Prague, Czech Republic)

Number of Participants: 60 (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 and workshops are organized continuously.

Title: Jana Workshops (Regensburg, Germany)

Number of Participants: 20

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 the software Jana2006.

Title: Electron Crystallography School "Introduction to Electron Diffraction Tomography" (7-11 April 2014, Darmstadt, Germany)

Number of Participants: 50

Level of involvement of SIG in the activity:

- ECA Individual members registered with the SIG involved as lecturers

Sponsored by ECA? Yes

Other Sponsors/Organizers: IUCr, EMS, Darmstadt Technical University

Short Description: Electron crystallography for commensurately and incommensurately modulated materials.

Title: The Euroschool of the Complex Metallic Alloys network (16th-20th June, Liverpool, UK)

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

Sponsored by ECA? No

Short Description: The EuroSchool addresses the topic of intermetallic compounds and energy applications. The EuroSchool provides an overview of the energy landscape, followed by lectures and tutorials on a general introduction to intermetallic compounds, energy generation and storage including thermoelectrics, magnetocalorifics and catalysis.

Title: Symposium dedicated to the science examining the arrangement of atoms in solids (17th July, Liverpool, UK)

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

Short Description: The University of Liverpool hosted a workshop and dinner as a celebration of International Year of Crystallography on 17th July. Among the speakers were Nobel Prize winner Prof. Dan Shechtman and the President of the IUCr Prof. Gautam Desiraju.

9. Future/Programmed Activities.

Title: 23rd IUCr Congress and General Assembly (Montreal, Canada)

Number of Participants: ~1000

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: Introduction to aperiodic crystals (Montreal, Canada) – satellite of IUCr Congress

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

Sponsored by ECA? No

Other Sponsors/Organizers: IUCr

Short Description: One-day workshop will introduce modulated structures, quasicrystals and related physical properties

Title: Workshop on the Role of Magnetic Symmetry in the Description & Determination of Magnetic Structures (Hamilton, Canada) – satellite of IUCr Congress

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

Sponsored by ECA? No

Other Sponsors/Organizers: IUCr

Short Description: Three-day workshop about magnetic structures, including incommensurate ones

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 sig3.ecanews.org maintained by Michal Dusek now serves also to CAC (like aperiodic.iucr.org). It contains information on conferences, computer programs, research groups on aperiodic crystals and a weekly updated list of publications dealing with aperiodic crystals. M. Dusek also moderates discussion sub forum www.xrayforum.co.uk/jana about software Jana2006. The aim is to popularize this rarely used sub forum and possibly extend it to aperiodic crystallography.

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 tenth Ewald Prize awarded to Professors A. Janner and T.W.J.M. Janssen for the development of superspace crystallography and its application to the analysis of aperiodic crystals.

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

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Supplementary Materials.