

SIG4

Reported Period: 2010-2011

Report Date: 22/04/2010

Reported by: Dr. Louisa Meshi

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1. Introduction.

The aim of this SIG is to raise the awareness and acceptance of Electron Crystallography (EC) to rank comparable to X-ray crystallography. This requires concerted effort of groups and researchers in this field and external support. Our purpose is realization of full potential of electron optical methods in structural research.

2. SIG web site:

SIG4 <http://sig4.ecanews.org/>

SIG4 has an active homepage www.gfe.rwth-aachen.de/sig4/

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

SIG4 Electron Crystallography 31

4. Existence of a SIG mailing list Yes / No

Address of the mailing list:

Number of members in the SIG mailing list :

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

12 active members (researchers) that organize schools and other activities at regular basis and 31 total members (researchers) that appear in our records (attend the SIG4 meetings etc').

6. List of MS organized by the SIG at the last ECM – at ECM 26

MS24: "Quantitative Electron Crystallography", chairs: Prof. S. Hovmoller, Dr. T. Wierich

MS25: "Modern electron diffraction exploring structure and properties", chairs: Dr. J. Hadermann, Dr. L. Meshi

Plenary Lecture at parallel to ECM26 – EPDIC12 : **Dr. Ute Kolb** 'Complementaries between precession electron and X ray powder diffraction', chair: Prof. S. Hovmöller

7. Prizes sponsored/coordinated

We are continue to give a prize for remarkable research in the field of electron crystallography to the best student/postdoc lecture/poster.

The prize was rewarded three times:

2010 ECM26 conference in Dramstadt, best poster on electron crystallography subject, given to Roland Schierholz, (Institute of Material Science, Darmstadt University of Technology, Germany) on his poster "Refinement of structural parameters of PbTiO₃ by convergent beam electron diffraction". This prize was sponsored by "Calidris" and "Nanomegas" companies.

2010 Israel Society for Microscopy annual meeting, the prize was given to Anna Osherov (Ben Gurion University, Israel) for her research in the electron crystallography area. This prize was sponsored by “Nanomegas”.

2011 Israel Society for Microscopy annual meeting, the prize was given to Yakov Krimer (Ben Gurion University, Israel) for his research in the electron crystallography area. This prize was sponsored by “Nanomegas”.

We intend to continue and reward this prize at conferences where electron crystallography is widely presented.

8. Past Activities other than Microsymposia at ECM

Title: **Facets of Electron Crystallography**

Number of Participants: approx. 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?

Yes/ • No

Other Sponsors/Organizers: Organized by the Joint Laboratory for Electron Microscopy Adlershof of the **Humboldt University Berlin** (HUB) and the Leibniz Institute for Crystal Growth (IKZ) in conjunction with the Electron Microscopy Section of the German Society for Crystallography.

The local coordinator is **Prof. Peter Moeck**.

Short Description: (50 words max.)

http://crysta.physik.hu-berlin.de/workshop_FoEC/workshop_FoEC.html

9. Future/Programmed Activities.

Title: Electron Crystallography school: New methods to explore structure and properties of the nano world (June 2011, Erice, Italy)

Number of Participants: 36

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) (*intend to*)

Sponsored by ECA?

• Yes – *sponsored partially also by IUCr and ESM*

Other Sponsors/Organizers: organizers Prof. A. Avilov, Dr. U. Kolb and Dr. L. Meshi

Short Description: (25 words max.)

The course intends to review the structure solution using electron crystallography methods as well as novel applications. Web page: <http://www.crystalerice.org/erice2011/2011ec.htm>

Title: Microsymposia and Keynote lecture at the IUCr meeting in Madrid.

10. Other matters.

None

11. Brief annual activity report

Our SIG had a very productive year which is pronounced in the microsymbiosia organized in ECM meeting and also future sessions in the upcoming IUCr. We are happy that our secretary – Dr. Ute Kolb was chosen as vice-chair of the Commission on Electron Crystallography of the IUCr. One of the main activities of SIG4 is teaching in order to promote electron crystallography as science for structure determination; this is why we organize each year as many schools as possible and, as can be seen from this report, the number of participants is quite high. We (9 active members of SIG4 from 8 different European universities) also intend to apply for COST grant – this will enable us to organize more electron crystallography schools and more fruitful collaboration in the future.

Our SIG provides each year detailed activity report. Please see information at the http://www.ecanews.org/sig_activity.php

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

Chair: Dr. Louisa Meshi, BGU (Israel), louisa@bgu.ac.il

Secretary: Dr. Ute Kolb, Mainz (Germany), kolb@uni-mainz.de

Dr. Thomas Weirich, email: t.weirich@gmx.de - past chairman

Supplementary Materials.

None