

## **SIG No: 6: Instrumentation and experimental techniques**

**Reported Period: 2011-2012**

**Report Date: 22/05/2012**

**Reported by: R J Cernik**

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**1. Introduction.** This is a short report from the interim chair of Sig 8. It has been agreed that Thomas Tschentscher will take over as full time chair of Sig 6 after ECM27.

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

SIG 6 url: <http://sig6.ecanews.org/>

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

SIG 6 Instrumentation and experimental techniques 74

### **4. Existence of a SIG mailing list 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) ~ 200 based on our registered list of 74 plus WDC interest listings**

### **6. List of MS organized by the SIG at the last ECM 26 Darmstadt**

#### **MS 1: Micro-crystals and synchrotron in life sciences**

Chairs: Sean McSweeney (Grenoble/FR), Thomas Schneider (Hamburg/DE)

#### **MS 42: Time-resolved X-ray diffraction and spectroscopy in biology and chemistry**

Chairs: Ronald Frahm (Wuppertal/DE), Michael Wulff (Grenoble/FR)

#### **MS 40: Micro- and sub-micro-diffraction**

Chairs: Henning Poulsen (Roskilde/DK), Jean-Louis Hodeau (Grenoble/FR)

#### **MS 17: High-pressure crystallography at elevated temperatures**

Chairs: Vitali Prakapenka (Chicago/US), Leonid Dubrovinsky (Bayreuth/DE)

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

Naomi Chayen was awarded the Innovator of the Year Prize in the inaugural 2011 CWT Everywoman in Technology Awards presented by HRH the Princess Royal (22 March 2011).

Naomi Chayen was awarded the Investigator of the Year Prize of the Life Sciences Awards presented by Select BioSciences (29 June 2011).

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

Naomi Chayen was a speaker at Soapbox Science event at the Southbank, London organised by L'Oreal, the Royal Society and the Zoological Society of London aimed at showcasing UK women in science, inspiring the next generation of scientists and making science fun and accessible.

Scientific imagery from Chayen's laboratory was displayed at the Crystal World exhibition at the Royal Society (4 July - 5 October 2011).

SIG 6 involvement in conferences and courses

British Crystallographic Association Spring Meeting 2012  
16 -19 April 2012, Warwick University  
Involvement of Naomi Chayen as Chair of Crystallisation session

Advances in Protein Crystallography  
30 Jun-1 Jul 2011 , Hamburg, Germany  
Involvement of Naomi Chayen as Keynote speaker

European Lab Automation Crystallization Training Course  
29 June 2011  
Hamburg, Germany([http://www.selectbiosciences.com/conferences/ELA2011/Training\\_Courses.aspx](http://www.selectbiosciences.com/conferences/ELA2011/Training_Courses.aspx))  
Involvement of Drs L Govada and S Khurshid of N Chayen team as teachers

5th Annual Proteins Conference 2-3 April 2012, London Involvement of Naomi Chayen as Keynote speaker

FEBS Advanced Course: Advanced methods in protein crystallization, Nove Hrdy Czech Republic 22-29 June 2012. Involvement of Chayen and team as teachers.

Emmanuel Saridakis organised an 'International Workshop on Macromolecular Crystal Growth and Optimisation Methods' 31 October - 3 November 2011 at NCSR Demokritos, Athens. Professor John Helliwell was a distinguished speaker there.

Emmanuel Saridakis was an Invited speaker at the British Crystallographic Association Spring Meeting 2012, April 16-19, Warwick University, UK.

John Helliwell has been teaching at the upcoming Crystallography in Health and Biosciences course on the topic of experimental aspects of protein crystallography In Como in mid June. See [http://scienze-como.uninsubria.it/iiss2012/IISS2012\\_file/Page380.htm](http://scienze-como.uninsubria.it/iiss2012/IISS2012_file/Page380.htm)

John Helliwell is chair of the IUCr Diffraction Data Deposition Working Group, established at the Madrid IUCr Congress by the IUCr Executive Committee. They are holding a DDD Workshop Satellite Meeting at ECM27 Bergen on day zero. (For anyone interested in submitting an abstract it is MS51.)

Vincent Favre-Nicolin has helped to organise the 21st HERCULES course in March 2012. He was among the organizers and also gave the "anomalous diffraction" lecture

Vincent Favre-Nicolin is also a co-organizer for the XFEL2012 school in Annecy, France, June 4-8 <http://xfel2012.grenoble.cnrs.fr>. Thomas Tschenstcher and Ian Robinson are among the lecturers.

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

Sig 6 put forward these microsymbosia and keynote ideas for ECM27

Coupling Spectroscopy & Diffraction, DAFS (possible chairs : A. M. Molenbroek, (H T R L, Nymøllevej, DK) ; S. Hasnain (Univ. Liverpool, UK) ; B. Cernik, UK ; H. Renevier, INPG-Grenoble, F) ; Ronald R. Frahm (Univ. of Wuppertal, D)

## Topography, Tomography

(possible chairs : T. Baumbach (ANKA, Karlsruhe, D) ; J. Baruchel (ESRF, Grenoble, F) ; P. Cloetens (ESRF, Grenoble, F))

## Coherent Diffraction

(possible chairs : I. Robinson (UCL, London Centre for Nanotechnology, UK) ; Favre-Nicolin (CEA-Grenoble) ; F. Pfeiffer (SLS Villigen, CH)) Vratislav Langer Of course we expect stunning results from the hard x-ray FEL in Stanford. Definitely the nanocrystal work will be of interest to the ECM community. Excellent European speakers would be Henry Chapman from DESY or Ilme Schlichting from MPI Heidelberg

Crystallography of heterogeneous material, industrial process control (possible chairs : M.A. Aranda (Univ Malaga, SP), G. Artioli (Università di Padova, I) ; David Rafaja, (Institute of Physical Metallurgy, Freiberg, D)

Control and Monitoring crystal growth and quality (possible chairs : John R. Helliwell Univ. Manchester, UK; E. Saridakis Chem-demokritos, GR)

## X-ray or neutron optics and instrumentations

(possible chairs : R. Barret (ESRF, Grenoble, F) ; a team from Russia? ; Hans H. Boysen, (Universität München, D) or Dr Helmut Ehrenberg, (IFW Dresden, D) or Dr Gernot Heger (Univ aachen-D)

Neutrons for bio-crystallography (possible chairs : Dr Matthew Blakeley (ILL-Grenoble-F) , Dr Ilme Schlichting (D). ; Dr Peter Moody (UK) Dr. A. Podjarny (U. Strasbourg, F) ; see also SIG1 propositions for chair

Joint proposal suggestions with other SIGs

With SIG 12

NMR crystallography, chair: R. K. Harris (to be confirmed)

co-chair: Rosa María Claramunt Vallespí U. Madrid, [rclaramunt@ccia.uned.es](mailto:rclaramunt@ccia.uned.es))

There was very strong support for the suggested talk by Naomi Chayen on crystal growth. Also a suggestion for a talk on dynamic studies using NMR and XRD as complementary tools. A good speaker could be C. Griesinger from MPI-BPC Göttingen.

## 10. Other matters.

## 11. Brief annual activity report

The above listing shows a highly active year and a real willingness to integrate and collaborate with other Sigs.

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

[r.cernik@manchester.ac.uk](mailto:r.cernik@manchester.ac.uk) acting chair

[thomas.tschentscher@xfel.eu](mailto:thomas.tschentscher@xfel.eu) chair elect (after Bergen)

[jean-louis.hodeau@grenoble.cnrs.fr](mailto:jean-louis.hodeau@grenoble.cnrs.fr) past chair

[n.chayen@imperial.ac.uk](mailto:n.chayen@imperial.ac.uk) members

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