



FROM THE CHAIRMAN

Welcome to the Physical Crystallography Group-Structural Condensed Matter Physics Group Spring 2011 Newsletter. This newsletter, as always, contains an interesting mix of reports on past meetings, news from within our community and invitations to future events. I hope that you will enjoy browsing through it.

The recent Government spending announcements mean that although spending on Diamond has been protected, UK crystallographers will have less access to ESRF and ILL in France through a negotiated reduction of beam days for UK members and to ISIS through a reduced operational period. Although science spending overall has not been hit as hard as other parts of the public sector, this is not good news for our community and in particular our access to central facilities will inevitably become more competitive. Universities are also facing an uncertain future with cuts to government funding and substantial changes to future funding mechanisms. I only hope that you are able to 'weather the storm', continue to carry out high-quality crystallographic research and come through relatively unscathed!

In contrast, other aspects of this coming year are very exciting – we have an excellent series of 'local' meetings this year, headlined by the triennial IUCr Congress and General Assembly that has returned to Europe again; the 22nd meeting is to be in Madrid 22nd-30th August 2011. This is an opportunity to meet crystallographers from around the world and to discover what is current and developing within our field and I hope that many of you will have the opportunity to attend. Other meetings include the BCA Spring Meeting in Keele this year (11th-14th April 2011) – see further details later in this newsletter. At this meeting we will announce the winner of the PANalytical-sponsored PCG Thesis prize, a prize that was extremely hotly contested this year giving the judging panel a very difficult, but encouraging, task. November sees our own PCG-SCMP Winter meeting (dates to be confirmed) and

finally in December there is the Condensed Matter and Materials Physics annual meeting which this year—on the strength of an impressively high attendance last year, with around 420 delegates—is being held at Lancashire County Cricket Ground in Old Trafford, Manchester (13th-15th December 2011). There is also a perhaps more specialised workshop in Grenoble on the Analysis of Diffraction Data in real space (ADD2011, 12th-14th October 2011). This should be of interest to those of us whose appetite for PDF measurements has been whetted by recent satellite workshops of the BCA Spring meetings or for those who are anticipating using the proposed XPDF beam line at Diamond (whose funding decision, as well of that of a Large Area Detector Powder Diffraction beam line, is currently being awaited).

Other Central Facility news of interest to PCG-SCMP members is the re-opening of two neutron beam lines at ISIS following substantial upgrades. Polaris, the earliest 'workhorse' powder diffractometer at ISIS has been re-built with enhanced detector coverage, improved backgrounds and sharper resolution. Its characteristics now complement those of GEM very well and it should even provide total scattering data of superior quality from crystalline samples. Pearl, the high-pressure diffractometer at ISIS, has an upgraded and enlarged detector assembly and improved beam collimation for cleaner higher resolution data. Both instruments should have been commissioned and available for user experiments from this summer.

Since I last wrote we have enjoyed another interesting Winter meeting at Cosener's House, Abingdon. We again joined forces with the ISIS Crystallography Group User Meeting under this year's imaginative meeting title "Current research in Physical Crystallography". A more detailed report of this meeting is given later in this newsletter, but I was again encouraged by the meeting's great atmosphere; indeed one regular attendee

thought that it was the best PCG-SCMP Winter meeting he had ever been to.

There will also be changes to the PCG-SCMP Committee this year, with a new chair, vice-chair and secretary/treasurer being voted in at the PCG-SCMP Annual General Meeting to be held at the BCA Spring meeting in Keele on Wednesday 13th April. Nominations are still welcome to these positions, as well as to ordinary member positions that are also open. Please contact our secretary, Matt Tucker in advance of the AGM for further details if you are interested in standing for any of these positions.

As this is my last chair's message, I would like to end with a final thank you to all who have worked with me over the past three years in the running of this group. The committee have made an enormous contribution in this and have been a very enjoyable team to be a part of. I am particularly pleased with the way that the joint Winter meetings have developed and grown through our links with the ISIS Crystallography User Group meeting and with the strength of recent thesis prize nominations, still willingly supported by PANalytical. These show that the PCG-SCMP Group and the subject areas that it represents remains in good shape, especially with younger people being introduced to—and invigorated by—the subject.

Best wishes

David Keen
PCG-SCMP Group Chair

ANNOUNCEMENTS

Vacancies on the PCG-SCMP Committee

Call for Nominations

Vacancies for the positions of Chair, Vice-Chair and secretary/treasurer are arising on the PCG-SCMP Committee. Nominations for these positions are invited and should be sent to the current Honorary Secretary/Treasurer, Matt Tucker (matt.tucker@stfc.ac.uk).

Nominations should include the name of the proposer, the name of the seconder and the nomination acceptance by the nominee, confirming his/her willingness to take on the leadership responsibilities for the group, and to contribute to the Committee efforts by actively participating in BCA and PCG-SCMP meetings and meeting organisation. Informal enquiries

about the group officers' roles should be directed to the current Chairman (david.keen@stfc.ac.uk).

Elections for these positions will be held at the Annual General Meeting of the PCG-SCMP, which will be held during the BCA Spring Meeting at Keele University, 12-14th April 2011.

PCG-SCMP bursaries

Student bursary applications are welcome from the BCA or the IoP members affiliated to the PCG-SCMP group. Bursaries are intended to help research students to attend meetings, conferences and training schools relevant to PCG-SCMP areas of interest. Students may apply for up to a total amount of £250 during the course of their PhD.

Applications can be submitted to the IoP throughout the year, but will be considered by the Group Committee on a quarterly basis (and therefore should reach the IoP by 1st March, 1st June, 1st September and 1st December).

Successful bursary applicants are expected to produce a short written report on the meeting, which may be published in this Newsletter, in Crystallography News or on the PCG-SCMP website (www.pcg-scmp.org).

For further information please contact the PCG-SCMP Honorary Secretary/Treasurer (matt.tucker@stfc.ac.uk) or visit the relevant Institute of Physics web page (http://www.iop.org/about/grants/research_student/page_38808.html).

FUTURE EVENTS

Meeting Calendar

- BCA Spring Meeting, 12-14th April 2011, Keele University
- 5th European Conference on Neutron Scattering, 17th to 22th July 2011, Prague
- XXII Congress and general Assembly of the International Union of Crystallography, 22nd-30th August 2011, Madrid, Spain
- PCG-SCMP winter meeting, 3rd – 4th November 2011 (tentative dates), Cosener's House, Abingdon

**BCA Spring Meeting, 12–14th April 2011,
Keele University**



The BCA Spring Meeting 2011 will run from 11:30 on Tuesday 12th April to 13:30 on Thursday 14th April.

The PCG Plenary lecture, entitled "Crystallography in the cultural heritage: personal experiences", will be given by Dr Gilberto Artioli (Università di Padova) on **Thursday, 14th April**.

PCG parallel sessions and speakers include:

New Developments at Diamond (Tuesday 12th April, joint with CCG)

Ian Robinson (London Centre for Nanotechnology): *Coherent diffraction imaging of nanocrystals: effects of partial coherence*

Steve Baker (Leicester University): *Tailoring magnetism in nanoparticles through control of crystal structure*

Jawwad Darr (University College London): *Combinatorial direct solid state syntheses of doped lanthanum nickelates from nanoceramic precursors; is this the end of shake and bake?*

Local Structure (Tuesday 12th April)

Serena Corr (Kent): *Local structure studies of the metal-insulator transition in rutile VO₂*

Joe Hriljac (University of Birmingham): *PDF studies of the pressure induced amorphisation of zeolites*

Alastair Florence (University of Strathclyde): *Pharmaceuticals, powders, polymorphs and PDF*

High Pressure and Energetic Materials (Wednesday 13th April)

Colin Pulham (University of Edinburgh): *Modification of the structures of energetic materials using high pressures and co-crystallisation*

Peter Portius (University of Sheffield): *Single-crystal X-ray structures of nitrogen-rich main group element polyazides*

Ben Slater (University College London): *Simulation of materials at high pressure*

Materials Science: White-beam Methods (Thursday 14th April, joint with IG)

Xu Song (University of Oxford): *Characterisation of polycrystal deformation at different scales by white beam X-ray diffraction*

Moreton Moore (Royal Holloway University of London): *White beam X-ray topography and microscopy*

Simon Jacques (University of Manchester): *Diffraction tomography using synchrotron sources and its application to the imaging of materials in static and dynamic systems*

Cultural Heritage (Thursday 14th April)

Andy Smith (Daresbury Laboratory): *A host of golden angels - Coin making in Tudor times explored by XRF and neutron diffraction*

Julia Farley (Leicester University): *A comparison of WDXRF and neutron diffraction analysis techniques for the study of ancient silver coins from the Hallaton Treasure*

Panagiota Manti (Cardiff University): *The Cu₆Sn₅ phase 'problem' of tinned archaeological bronzes*

NEWS

Prizes and awards

PANalytical Thesis Prize 2011



The winner of the PANalytical Thesis Prize in Physical Crystallography 2011 will be announced at the conference dinner, at the BCA Spring Meeting at Keele.

RECENT EVENTS

PCG-SCMP Winter Meeting, 15th - 16th November 2010, The Cosener's House, Abingdon

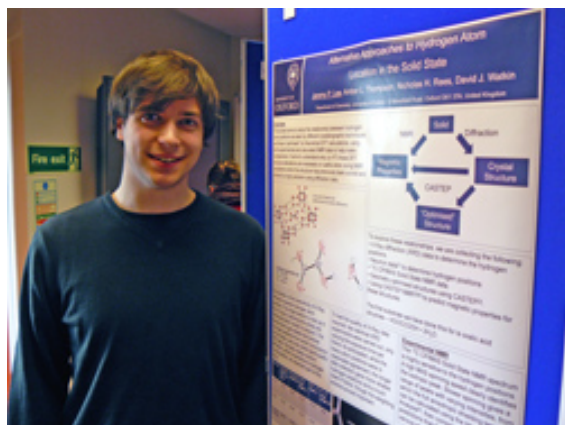
The PCG-SCMP Winter Meeting took place on Monday 15th and Tuesday 16th November at Cosener's House, Abingdon in conjunction

with the ISIS Crystallography Group User Meeting.

This is a format that has worked particularly well in previous years and this year was no exception. Just over sixty people attended the two-day meeting to hear about developments within Crystallography at ISIS as well as a series of talks under the heading "Current Research in Physical Crystallography".

We had an eclectic mix of talks within the broad physical crystallography theme with Mike Hayward (Oxford), Pam Thomas (Warwick), Andrew Wills (UCL), Joe Hriljac (Birmingham), Eddie Cussen (Strathclyde), Richard Walton (Warwick) and Steve Bramwell (UCL) discussing Multiferroics, NBT, Frustrating Metals, High Pressure PDF, Li-ion Mobility, Flexible MOFs and Spin Ice, respectively. All talks were very well received and each elicited a good deal of discussion. We also had a session for younger researchers to present their work, with contributions from Emma McCabe (Durham), Alex Gibbs (St Andrews) and Chris Knee (Gothenburg) and we heard about the work on high-pressure methane phases contained in the thesis that was awarded the 2010 PANalytical-sponsored PCG Thesis prize from the recipient, Helen Maynard-Casely (RI).

The meeting also included a poster session with punch and an excellent dinner on the Monday evening. After dinner a prize was awarded to Jeremy Law for his poster on "Alternative Approaches to Hydrogen Atom Location in the Solid State". Jeremy is a 4th year undergraduate student working with Nicholas Rees and David Watkin in Oxford and the prize was awarded for his enthusiastic presentation and the potential outcomes of the work.



Jeremy Law (Oxford) and his prize-winning poster "Alternative Approaches to Hydrogen Atom Location in the Solid State"

The meeting benefitted considerably from the convivial atmosphere of Cosener's House made possible through the financial support from ISIS Crystallography and the Structural Condensed Matter Physics Group of the Institute of Physics. We are already looking forward to the next meeting!

David Keen

YOUNG CRYSTALLOGRAPHERS

YC Meeting, 11th April 2011, Keele University

At the upcoming Young Crystallographers Meeting (a satellite meeting prior to the BCA Spring Meeting in Keele), there will be a number of inspiring, multi-disciplinary talks given by young crystallographers.

The Parkin Lecture, which highlights outstanding contributions to promoting science, will be given by Helen Maynard-Casely. In the Professional Development Session, Paul Raithby (Bath University) and David Berry (AstraZenca) will be talking about industrial careers in crystallography.

The annual YC AGM will also be held, where young crystallographers can be nominated for the following committee posts: 2 ordinary members, PCG representative, webmaster, chair, vice chair and BSG representative.

Samantha Callear

PCG-SCMP AGM

The 69th PCG-SCMP AMG will take place at the BCA Spring Meeting at Keele University, on Wednesday, 13th April 2011, 11:45 – 12:30.

The meeting agenda includes the following items:

- Apologies for absence
- Minutes of the 68th PCG-SCMP AGM held at Warwick, 14th April 2010
- Matters arising from minutes
- Chairman's report
- Secretary/Treasurer's report
- Elections to PCG-SCMP Committee
- Consultation on possible group name change
- Any other business

ACKNOWLEDGEMENT

Many thanks to everyone who contributed to this issue of the PCG-SCMP Newsletter.

Ivana Evans, Durham

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