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The logo for the Ceramics and Composites Laboratory (CCL) at The University of Sheffield. It features the letters 'CCL' in a large, bold, black sans-serif font, centered between two horizontal yellow bars.

Ceramics and Composites Laboratory
The University of Sheffield

Out and about

James Schofield, Paul Bingham, Bill Lee and Neil Milestone attended the "Materials for nuclear waste management" meeting organised by the RSC in London on the 18th January. The meeting included talks given by Bill Lee ("Problem wastes, wasteforms and knowledge gaps") and Neil Milestone ("Immobilisation science - cements").

Gabi Miles visited Malaysia for 10 days in December 2005. Gabi spent the first week of her visit at the Chemistry Department at the Universiti Putra, Malaysia (UPM) in Kuala Lumpur where she worked with PhD students Khaw and Kar Ban and their supervisor, Prof Lee. This was part of a long standing collaboration to investigate some pyrochlore phases in Bi-Zn-Ta-O and Bi-Zn-Nb-O systems. Whilst she was there Gabi also gave a departmental seminar entitled "Structural Characterisation of Oxide Materials using X-ray and Neutron Powder Diffraction Data". Gabi went on to attend the International Advanced Materials Congress, 2005, where she gave an invited talk entitled "A Review of Novel Ferroelectric Tetragonal Tungsten Bronze (TTB) Phases".

Gabi also spent a day in the Materials Department at Nanyang Technological University (NTU) in Singapore, as a guest of HoD Prof Thirumany Sritharan. She spent her time in discussion with researchers involved in projects and techniques similar to those carried out here.

Denis Pasero spent two days, in December 2005, at Caen University (ENSICAEN, CRISMAT lab) with Valerie Pralong. He conducted PITT (Potentiostatic Intermittent Titration Technique) and GITT (Galvanostatic Intermittent Titration Technique) electrochemical characterisation of lithium battery material $\text{LiCo}_{1/3}\text{Mn}_{1/3}\text{Ni}_{1/3}\text{O}_2$ and discussed the possibility of further collaboration.

Publications

Zhao FM, Patterson EA, Jones FR, "Phase-stepping photoelasticity for quantifying the interfacial response in fibre composites at fibre-breaks", *Mat. Sci. Eng. A-Struct.* 412 (1-2): 83-87 Sp. Iss. SI, Dec 5 2005

Behzadi S, Jones FR, "Yielding Behavior of Model Epoxy Matrices for Fiber Reinforced Composites: Effect of Strain Rate and Temperature", *Journal of Macromolecular Science, Part B: Physics*, Volume 44, Number 6, 2005, pp.993- 1005.

Zhou Q, Hill J, Byars EA, Cripps JC, Lynsdale CJ, Sharp JH, "The role of pH in thaumasite sulfate attack", Cement and Concrete Research 36 (1) 160-170 2006.

KTP Grading

The KTP between Hereaus Electronite and Bill Lee here in Sheffield has been given a grade 2 out of possible grades 1 - 6 (with 1 being top). The project was completed in July 2005 and was obviously a great success. Let's hope that our new KTP's are as successful.

Visitors to the CCL

John Rodenburg from Electronic and Electrical Engineering visited the CCL on the 11th January and gave a talk on GDOES. The talk gave the audience some further insight into the use of our new equipment. After the talk, John said that he would be happy to offer advice on specific GDOES problems, if needed.

Coffee mornings to start again



The CCL coffee mornings in the Turner Museum will start again in February. They will be held monthly and will offer an informal opportunity for us to get together. The coffee mornings will be held on the last Friday of the month at 11am. The first one will be on Friday 24th February. I hope that you will choose to come.

Become a Researcher in Residence

Last year, two CCL members, Gabi Miles and Ritesh Rawal, took part in the Researchers in Residence scheme. This is a scheme that places young researchers in schools to act as role models. As a Researcher in Residence you would spend time in the school working with pupils on science-based projects. It is a fun experience that gives you the opportunity to enhance your CV and develop your communication skills.

Gabi took up a residency in Ecclesfield School where she worked with year 9 pupils in their science classes. She went to the school for two hours every two weeks for a total of 24 hours and she spent her time teaching specific science topics in less formal ways such as through role plays and web-based research.

Ritesh went to Eckington school. He helped 10-12 year old students to build a solar powered buggy. Through this they gained an understanding of the principles and advantages of solar power and other renewable sources of energy.

If you are interested in becoming a Research in Residence, there is further information about the scheme available on its website (<http://extra.shu.ac.uk/rinr/site/ourmsg/rinr>), or I am sure that Gabi or Ritesh would be happy to tell you a little more about their experiences.

Office move

I would like to inform those who don't already that I can now be found in J10 not H3 as is reported in the Departmental List. If you have any problems or need any information please don't hesitate to drop in.

Technical meeting

Thank you to everyone who gave talks at the CCL Technical Meeting on January 23rd. I hope that you all found it a useful and informative afternoon. The next Technical Meeting will probably be held in May and perhaps it will be the turn of the students to talk. I will inform you as soon as there is a date fixed.

Modelling meeting

The next opportunity for CCL members to get together will be on the 21st February in the afternoon. We will have a special "in-reach" meeting on materials modelling. Karl Travis, John Harding and Thomas Schrefl will be giving short presentations that give an overview of the modelling techniques that they use. These presentations should generate some ideas for future collaborations and get people thinking about how to use modelling in their own research. A time and venue will be announced shortly.

Best Wishes

Helen Fletcher

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Diary dates:

Coffee morning - Friday 24th February, 11am, Turner Museum

Coffee morning - Friday 31st March, 11am, Turner Museum

Modelling meeting - Tuesday 21st February, afternoon, venue to be announced

Remember - you can check CCL events on our website:

<http://www.sheffield.ac.uk/ccl/calendar.html>