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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 bold, black, sans-serif font, centered between two horizontal yellow bars.

Ceramics and Composites Laboratory
The University of Sheffield

Publications

M Li, A Feteira, D C Sinclair, and A R West, "Influence of Mn doping on the semiconducting properties of $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ ceramics", *Appl. Phys. Lett.* 88, 232903 (2006)

R Harrington, G C Miles & A R West, "Crystallography of Ni-doped $\text{Zn}_7\text{Sb}_2\text{O}_{12}$ and phase equilibria in the system $\text{ZnO-Sb}_2\text{O}_3\text{-NiO}$ ", *J. Eur. Ceram. Soc.* 26 (2006) 2307-2311

A Feteira, D C Sinclair and M T Lanagan, Microstructural and Electrical Characterisation of $\text{La}_x\text{Ba}_{1-x}\text{Ti}_{1-x}\text{Y}_x\text{O}_3$ ($0 \leq x \leq 0.35$) Ceramics, *Key Engineering Materials* (Ceramic Society of Japan, CSJ Volume 14, ISBN 0-87849-401-4, ISBN-13:978-0-8784-401-9), 317-318 (2006) 873-876.

A Feteira, R Elsebrock, A Dias, R L Moreira, M T Lanagan and D C Sinclair, "Synthesis and characterisation of $\text{La}_{0.4}\text{Ba}_{0.6}\text{Ti}_{0.6}\text{RE}_{0.4}\text{O}_3$ (RE = Y, Yb) ceramics", *Journal of European Ceramic Society*, 26 (2006) 1947-1951.

S Kongtaweelert, D C Sinclair and S Panichphant, "Phase and Morphology Investigation of $\text{Ba}_x\text{Sr}_{1-x}\text{TiO}_3$ ($x = 0.6, 0.7$ and 0.8) Powders", *Current Applied Physics*, 6 (2006) 474-477.

CC Calvert, WM Rainforth, DC Sinclair and AR West, EELS characterisation of bulk $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ Ceramics, *Micron*, 37 (2006) 412-419

A Feteira, DC Sinclair and IM Reaney, "Synthesis and Characterisation of $\text{BaTi}_{1-x}\text{GaxO}_3$ ($0 \leq x \leq 0.15$) Ceramics", *Journal of American Ceramic Society*, 89 [7] (2006) 2105-2113.

R Zhang, A Barnes, Y Wang, B Chambers, P V Wright "Organo-metal Diodes Based on a Nanoparticulate Poly(3,4-ethylenedioxythiophene) Composite" (p 1161-1165)
Published Online: 4 May 2006 DOI: 10.1002/adfm.200500745

W.M.RAINFORTH & Z. ZHOU,, "On the structure and oxidation mechanisms in nanoscale hard coatings" Invited paper for proc. Proc. EMAG-NANO 2005: Imaging, Analysis and Fabrication on the Nanoscale, Ed. P.D. Brown, R.T. Baker, B. Hamilton, Institute of Physics Conference Series, Vol. 26, (2006) 89-94.

Z. ZHOU, C.C. CALVERT, W.M.RAINFORTH, Q. LUO, L. CHEN, P. Eh. HOVSEPIAN, "Investigating worn surfaces of nanoscale TiAlN/VN multilayer coatings using FIB and TEM" Proc. EMAG-NANO 2005: Imaging, Analysis and Fabrication on the Nanoscale, Ed. P.D. Brown, R.T. Baker, B. Hamilton, Institute of Physics Conference Series, Vol. 26, (2006) 95-97.

P. ZENG, B.J. INKSON & W.M.RAINFORTH, "Characterisation of alumina hip-joint by FIB microscopy" Proc. EMAG-NANO 2005: Imaging, Analysis and Fabrication on the Nanoscale, Ed. P.D. Brown, R.T. Baker, B. Hamilton, Institute of Physics Conference Series, Vol. 26, (2006) 343-346.

Out and about

Pat Sooksaen attended the Ferroelectrics UK 2006 conference, May 23rd-25th 2006 at the Conference Park, University of Birmingham. At the conference he gave an oral presentation entitled "Characterisation of lead titanate glass-ceramics".

Ritesh Rawal attended CIMTEC 2006, (International Conference on Modern Materials and Technologies). At the Conference Ritesh gave a talk on "Crystal structure and microwave dielectric properties of B-site cation deficient hexagonal perovskites" Ritesh received £600 as a travel grant from Armourers and Brasiers Trust, London for attending this conference. Derek Sinclair also attended this conference and gave an invited talk entitled 'Oxide Ion Conduction in Rare Earth Apatites'.

Ritesh Rawal attended MMA 2006 (Microwave Materials and their applications) in Oulu, Finland from 12 June 2006 to 15 June 2006. He gave a talk entitled "Preparation and microwave dielectric properties of hexagonal perovskites". Ritesh was awarded a travel grant of £200 from SMEA, Sheffield for this conference.

Mark Rainforth was a visiting Professor at the Universidad Rey Juan Carlos, Madrid, Spain, 6th-9th June. He gave 6h lectures on the Universities' equivalent of the RTP.



Mark Rainforth, Ian Ross and John Walker attended the first EU review meeting of INNOVATIAL, a large FP6 IP project. Following a 10h interrogation by the EU, delegates were able to visit the historic town of Salamanca in the evening! Pictured below are Mark, Ian and John with representatives of Sheffield Hallam University, Hauzer (Holland) and the EU coordinator, Ms Koch in front of the stunning cathedral in Salamanca. The cathedral is a prototypical example of *plateresque* style typical for Spain, marking the transition from Gothic to Renaissance. The province of Salamanca is situated in the South-west corner of Castile & León on the borders with Extremadura and Portugal. Salamanca is well known for several reasons, one of which is that the inhabitants speak the "purest" Spanish in

Spain - Castillian. Salamanca is also known for having the oldest university in Spain and one of the oldest in Europe.

Zhoaxia Zhou spent 2 days in May on the SuperSTEM at Daresbury. Whilst there should look at multilayer coatings.

Peter Wright attended the 10th Asian Conference on Solid-State Ionics (ACSSI- 10), 12-16 June, Kandy, Sri Lanka. Whilst there he gave an invited lecture entitled "Organised or disorganised? Looking at polymer electrolytes from both points of view"

Tony West, Denis Pasero and Yun Wu, attended the IMLB 2006 meeting held in Biarritz, France from 18-23 June 2006. Tony then went on to Castellon, Spain for a PhD Viva at the Universitat Jaume I, followed by another PhD Viva in Tenerife at the Universidad de La Laguna.

Talk to the CCL

Michael Silverstein, an associate professor from the Department of Engineering Materials, Technion will be in Sheffield to attend a conference in early September. Frank Jones has asked for him to give a seminar whilst he is here. The seminar will take place on the 4th September in the afternoon and will be in the Hadfield room. I will circulate reminders and a final time closer to the date.

Michael's research interests cover polymers, plasma polymerisation, composites and polymer precursors for ceramic synthesis. A link to his website is attached for further information. <http://materials.technion.ac.il/silverstein.html>

The title of his talk will be: Polymer Precursors: Porous Interpenetrating Networks, Organic - Inorganic Hybrids, and Ceramic Monoliths

Industrial forum

The arrangements for the industrial forum are progressing well. Thank you to everyone who has agreed to give talks. We so far have around 25 people registered to attend and these are mainly from industry. A flyer for the event has been sent out with this newsletter to give you some more information about the day. We plan to have a selection of themed posters on display at the event; more information will be circulated about this shortly.

Fire safety training

I would like to remind everyone that they should ensure that their fire safety training is kept up to date. If you have not attended fire safety training you should attend one of the University's general fire training sessions. The next few dates are given below:

10-Jul-2006	11.15 - 12.45	Arts Tower LT4
08-Aug-2006	12.15 - 13.45	Biology (Alfred Denny) LT1
15-Sep-2006	14.15 - 15.45	Sir Henry Stephenson LT1

If you have already attended one of these sessions you can renew your training online through this website: <http://www.shef.ac.uk/firetraining/online.do>

Best Wishes

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Diary dates:

Seminar by Michael Silverstein on 4th September.
CCL Industrial Forum Meeting on 7th September.