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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

PA Bingham, SD Forder, RJ Hand & A Lavaysierre, "Mossbauer studies of phosphate glasses for the immobilisation of toxic and nuclear wastes", *Hyperfine Interactions* 165 (2005) 135-140.

GC Miles, AR West "Pyrochlore phases in the system ZnO-Bi₂O₃-Sb₂O₅: II. Crystal structures of Zn₂Bi_{3.08}Sb_{2.92}O_{14+delta} and Zn_{2+x}Bi_{2.96-(x-y)}Sb_{3.04-y}O_{14.04+delta}" *Solid state sciences* 8 (12): 1422-1429 (2006)

R Punn, AM Feteira, DC Sinclair, C Greaves "Enhanced oxide ion conductivity in stabilized delta-Bi₂O₃" *JACS* 128 (48): 15386-15387 (2006)

S Bandyopadhyay-Ghosh, IM Reaney, IM Brook, K Hurrell-Gillingham, A Johnson, PV Hatton "In vitro biocompatibility of fluorcanasite glass-ceramics for bone tissue repair" *J. Biomedical Mats Res Part A* 80A (1): 175-183 JAN 2007

Z Zhou, WM Rainforth, U Falke, M Falke, A Bleloch, PE Hovsepian "On the structure and composition of nanoscale TiAlN/VN multilayers" *Philosophical Magazine* 87 (6): 967-978 21 (2007)

C Rodenburg, WM Rainforth "The influence of beam energy and oxidation on quantitative carbide analysis in the scanning electron microscope" *J. Appl. Phys.* 100 (11): Art. No. 114902 (2006)

ZS Li, WE Lee, SW Zhang "Low-temperature synthesis of CaZrO₃ powder from molten salts" *J. Amer. Ceram. Soc.* 90 (2): 364-368 (2007)

G Bhattacharya, S Zhang, DD Jayaseelan, WE Lee "Mineralizing effect of Li₂B₄O₇ and Na₂B₄O₇ on magnesium aluminate spinel formation" *J. Amer. Ceram. Soc.* 90 (1): 97-106 (2007)

JP Foreman, D Porter, S Behzadi, KP Travis, FR Jones "Thermodynamic and mechanical properties of amine-cured epoxy resins using group interaction modelling" *J. Mat. Sci.* 41 (20): 6631-6638 (2006)

Z Zhang, GR Lumpkin, CJ Howard, KS Knight, KR Whittle and K Osaka "Structures and phase diagram for the system CaTiO₃ - La_{2/3}TiO₃" *J. Solid State Chem.* Vol 180 Issue 3 1083-1092 (2007)

Out and about

Tony West and Derek Sinclair attended the kick-off meeting for NUOTO, a European project that they are partners in. Derek gave a presentation on Sheffield's CCTO-type work and they discussed collaborative results with EPFL (Switzerland) and (STMicroelectronics/CNR-Sicily). Dr Rainer Schmidt will start to work on this project at Sheffield as a PDRA on 1st April.

Funding success

Congratulations to Tony West who has been awarded £81,227 from EPSRC to study "Stoichiometry, Stability and Phase Equilibria of CaCu₃Ti₄O₁₂ (CCTO) High Permittivity Ceramics".

Congratulations

Congratulations to Heath Bagshaw who recently passed his PhD viva. Heath's PhD was on 'Structure-Property Relations in CaTiO₃ based Microwave Dielectric Resonators'.

Research Council Funding for FP7 Proposal Preparation

EPSRC has funds available to pay for travel within Europe where the purpose of the visit is putting together an FP7 Proposal. In order to be eligible you must be a grant holder with the relevant research council. Further details can be found on the International Activity pages of their websites, or for more information please contact: for EPSRC: craig.walker@epsrc.ac.uk

Visitor to the CCL

Professor Phillippe Ghosez will be visiting the CCL on the 26th and 27th April. He will hopefully give a talk on the afternoon of the 26th April. Phillippe works on the modelling of various materials including dielectric and ferroelectrics. If you would like some time with Phillippe during his visit please let me know and I will make sure there is some time set aside.

Visitors to the CCL

The CCL was visited recently by two members of Panasonic. They came to the CCL to discuss the lithium battery materials work in the groups of Peter Wright and Tony West.

Crucible 2007

Crucible 2007 is a unique year long programme run by NESTA (National Endowment for Society, Technology and the Arts), designed to stimulate innovation by bringing together budding researchers from different disciplines to develop new ideas and explore the wider potential of their work.

Further information may be obtained from Dr Rachel Brazil, email: Crucible2007@nesta.org.uk.

This year NESTA is looking for 30 early-career researchers in science, technology, engineering, medicine, maths, science policy and social sciences. They must have a high level of achievement and an ongoing commitment to a career in research (within academia or industry). We're particularly interested in people who have an interest in science and society beyond their own research. After completing the programme, participants will be able to apply for NESTA follow-on activities including NESTA internships at the Parliamentary Office of Science and Technology, innovative science communication activities or access to enterprise support programmes.

Applicants should complete an online form and attach a copy of their CV (including publications) before 30 April 2007. <http://www.nesta.org.uk/programmes/crucible.aspx>.

The programme pays for all residential costs, including accommodation and catering, travel costs and other reasonable costs such as childcare.

1-DRAC

The next 1DRAC (One Day Research Conferences on Advanced Ceramics) meeting will be on Tuesday 24th April in the TWI Conference Centre, Cambridge. There will be an EPSRC SCERN structural ceramics network meeting the day before at the same venue and overnight accommodation will be available for those attending both.

The day will be like other 1-DRAC meetings, viz informal research presentations and discussion of them, morning and afternoon.

There will be no charge for the meeting and catering on the 1-DRAC day, courtesy of TWI, though there will be a charge for an overnight stay.

If you would like to GIVE A RESEARCH PRESENTATION at 1-DRAC on 24th April please contact Diane Taylor (diane.taylor@materials.ox.ac.uk) with the name of a presenter and tentative title. Remember, 1-DRAC is informal and anything of interest goes, including works in progress, provocative ideas, and normal research presentations.

Best Wishes Helen Fletcher H.L.Fletcher@sheffield.ac.uk
