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New Group Members

We welcome Abtsam Alagdl from Libya who is doing a part-time PhD with Tony West on "Synthesis and characterisation of novel catalytic oxides".

Also welcome to Jan Pokorny who joined the CCL in February, from the Czech Republic to work with Derek Sinclair, Mark Rainforth and Ian Reaney on the Raman Spectroscopy of Electroceramics. Also working with Derek, Mark and Ian is Shu Miao who recently joined the Department to work on the microscopy of electroceramics.

Congratulations

Congratulations to Yun Wu (Cherry), who got married in January this year, to Yongxing Luo (Sam).

Congratulations to Tony West who was awarded the Griffith award in recognition of distinguished work which has made or is making a notable contribution to any branch of materials science.

Publications

Sooksaen P, Reaney IM "Thermal analysis and phase evolution of ferroelectric PbTiO₃ obtained from silicate and borate based glasses" JOURNAL OF MATERIALS SCIENCE 43 4 1265-1269 2008

Kanchanarat, N; Bandyopadhyay-Ghosh, S; Reaney, IM, et al. "Microstructure and mechanical properties of fluorcanasite glass-ceramics for biomedical applications" JOURNAL OF MATERIALS SCIENCE 43 759-765 2008

Tkach, A; Vilarinho, PM; Kholkin, AL, et al. "Mechanisms of the effect of dopants and P(O-2) on the improper ferroelastic phase transition in SrTiO₃" CHEMISTRY OF MATERIALS 19 6471-6477 2007

Zheng, H; Reaney, IM; Muir, D, et al. "Effect of glass additions on the sintering and microwave properties of composite dielectric ceramics based on BaO-Ln(2)O(3)-TiO₂ (Ln = Nd, La)" JOURNAL OF THE EUROPEAN CERAMIC SOCIETY 27 4479-4487 2007

Raineri, V; Fiorenza, P; Lo Nigro, R, et al. "Nanoscale imaging of CaCu₃Ti₄O₁₂ dielectric properties: the role of surface defects"

Conference Information: 12th International Autumn Meeting on Gettering and Defect Engineering in Semiconductor Technology, Date: OCT 14-19, 2007 Erice ITALY Source: GETTERING AND DEFECT ENGINEERING IN SEMICONDUCTOR TECHNOLOGY XII Volume: 131-133 Pages: 443-447 Published: 2008

Maso, N; Beltran, H; Cordoncillo, E, et al. "Polymorphism and dielectric properties of nb-doped BaTiO₃" JOURNAL OF THE AMERICAN CERAMIC SOCIETY 91 Pages: 144-150 2008

Bridges CA, Allix M (, Suchomel MR, Kuang XJ (, Sterianou I, Sinclair DC, Rosseinsky MJ "A pure bismuth a site polar perovskite synthesized at ambient pressure"
Source: ANGEWANDTE CHEMIE-INTERNATIONAL EDITION 46 46 8785-8789 2007

Sooksaen, P; Reaney, IM; Sinclair, DC "Crystallization and dielectric properties of borate-based ferroelectric PbTiO₃ glass-ceramics" JOURNAL OF ELECTROCERAMICS 19 221-228 2007

Zhao, F; Jones, FR "Thermal loading of short fibre composites and the induction of residual shear stresses" COMPOSITES PART A-APPLIED SCIENCE AND MANUFACTURING 38 2374-2381 2007

Zhao, FM; Liu, Z; Jones, FR "Photoelastic determination of interfacial shear stresses in model composites" Conference Information: 5th Asian/Australasian Conference on Composite Materials (ACCM-5), Date: NOV 27-30, 2006 Hong Kong JAPAN
ADVANCES IN COMPOSITE MATERIALS AND STRUCTURES, PTS 1 AND 2 Volume: 334-335
Pages: 289-292 Part: 1-2 Published: 2007

Pankov, AS; Batyukhnova, OG; Ojovan, MI, et al. "Simulation of self-irradiation of high-sodium content nuclear waste glasses"
Conference Information: 30th Symposium on Scientific Basis for Nuclear Waste Management, Date: NOV 27-DEC 01, 2006 Boston MA
Source: SCIENTIFIC BASIS FOR NUCLEAR WASTE MANAGEMENT XXX Volume: 985 Pages: 353-358 Published: 2007

Li, ZS; Zhang, SW; Lee, WE "Molten salt synthesis of zinc aluminate powder"
JOURNAL OF THE EUROPEAN CERAMIC SOCIETY 27 3407-3412 2007

Liao YP, Apperley DC, Liu J, Zheng Y, Wright PV "Grain boundaries and the influence of the ionophilic-ionophobic balance on Li-7 and F-19 NMR and conductivity in low-dimensional polymer electrolytes with lithium tetrafluoroborate" ELECTROCHIMICA ACTA Volume: 53 Issue: 4 Special Issue: Sp. Iss. SI Pages: 1444-1454 Published: 2007

V.J.J. Aerts, F.R. Jones: The effect of interfacial morphology on the bond strength between rubber-toughened epoxy adhesive and aluminium. Proceedings of the Annual Meeting of The Adhesion Society, Inc., pp126-128. 17-20 February, 2008. Austin, Texas, USA.

Cassingham, Nathan J.; Bingham, Paul A.; Hand, Russell J.; Forder, Sue D., "Property modification of a high level nuclear waste borosilicate glass through the addition of Fe₂O₃", Glass Technology - European Journal of Glass Science and Technology Part A 49 (2008) 21-26.

Hannant, O.M.; Bingham, P.A.; Hand, R.J.; Forder, S.D., "The structural properties of iron in vitrified toxic waste ashes", Glass Technology - European Journal of Glass Science and Technology Part A 49 (2008) 27-32.

Future event

We are planning a final show case for the current CCL. We will arrange a 1-day meeting in mid-late September to which we will invite relevant academic and industrial partners. The meeting will be an opportunity for us to publicise our scientific achievements and tell

people about our plans for the future. As soon as the date has been agreed I will let you know so you can put it in your diaries.

Out and about

Vincent Aerts attended the conference "31st Annual Meeting of The Adhesion Society, Inc." in Austin, Texas, USA. February 17 to 20. He presented a paper entitled "The effect of interfacial morphology on the bond strength between rubber-toughened epoxy adhesive and aluminium".

Andy Donovan, Matt Ferrarelli, Chaou Tan and Andrew McQueen went to the RSC Solid State Group meeting in Durham. Matt gave a talk and Andy and Chaou presented posters. Andy won the runners-up poster prize. £50.

Nik Reeves attended a Magnetic Rietveld Workshop 2008 at Cosener's House in Abingdon, where he learnt all about using the Rietveld method on neutron diffraction data to solve magnetic structures.

Russell Hand gave an invited lecture entitled "Nano-indentation of silica and silicate glasses" (co-authored with Damir Tadjiev) at the 4th International Workshop on Flow and Fracture in Advanced Glasses held in Nagahama, Japan 4th-7th Nov 2007.

Tony West attended the first Zing conference on "Solid State Chemistry" in Cancun, Mexico, in March and gave an oral presentation "Oxygen non-stoichiometry in lithium cathode materials." He also gave a talk in April at an Institute of Physics conference on Charge Transport in Non-Metallic Solids entitled "The electrical properties of Ionically- and Electronically- conducting ceramics: characterisation of electrical heterogeneity."

Frank Jones attended the Gordon Research Conference on Composites in January (California) and the Interfaces and Interphases in multi-component materials 3, Sanoma, California.

Prof Rainforth attended the "2008 International Conference On Nanoscience and Nanotechnology" in Melbourne, Australia, 25-29th February. He also visited Monash University and Swinburne University both in Melbourne. He stayed with Prof Beynon (formerly of the Department) and enjoyed the varied wildlife that the bush had to offer where John lives! On route to Australia, he stopped at the National University of Singapore to visit Prof S.C. Lim (Tribology) and Prof J. Wang (Functional Ceramics).

Prof WM Rainforth attended the 54th American Orthopaedic Society meeting in San Francisco, March 2nd - 5th, which attracted in excess of 3000 registrants. He presented a poster "Advanced Microscopy of Alumina-on-Alumina Hip Prostheses Tested In Vitro with Micro-separation", authored by P Zeng, WM Rainforth, BJ Inkson and TD Stewart (Leeds University). The last day at the conference was joint with the American Academy of Orthopaedic Surgeons, that attracted well in excess of 10,000 delegates, and included interesting pointed discussions the best methods for hip replacements that any individual unlucky enough to need one should know about!

Visitor to the CCL

Dr Tomas Mares from the Department of Mechanics, Biomechanics and Mechatronics in CTU Prague has visited the CCL for 10 days to discuss micromechanics problems in composites.

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