

Sustainable Functional Materials 2016. Scarborough. UK

Tuesday 5th April 2016

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| 10:45 | Opening remarks | | |
| Session 1 | Sustainable Piezoelectrics and Dielectrics 1 | | |
| 11:00 | Plenary: Prof Clive Randall | Challenges and New Directions for Dielectrics and Piezoelectrics | Penn State, USA |
| 11:40 | Mr Amir Khesro | PbO-free temperature-stable, fatigue resistant electrostrictive ceramics | Sheffield, UK |
| 11:55 | Dr Amit Mahagan | Effect of processing and semiconductor inclusion on the electrical properties of 0.94Bi _{0.5} Na _{0.5} TiO ₃ -0.06BaTiO ₃ solid solution | Queen Mary, London, UK |
| 12:10 | Dr Dawei Wang | Phase diagram and electrical properties of potassium–sodium niobate lead-free ceramics with morphotropic phase boundary compositions | Sheffield, UK |
| 12:25 | Invited talk: Prof Paula Vilarinho | Will the next generation of piezoelectric components be dominated by Potassium–Sodium Niobate? | University of Aveiro, Portugal |
| 12:55 | Lunch – posters | | |
| Session 2 | Sustainable Piezoelectrics and Dielectrics 2 | | |
| 14:00 | Invited talk: Prof Andy Bell | What is a sustainable piezoelectric material? | Leeds, UK |
| 14:30 | Mr Phil Foeller | A resource efficient design strategy to optimise the temperature coefficient of capacitance of BaTiO ₃ -based ceramics | Sheffield, UK |
| 14:45 | Mr James Heath | Finite Element Modelling of the Electrical Microstructure of Rough Interfaces | Sheffield, UK |
| 15:00 | Ms Robyn Ward | The effect of rare earth doping on oxygen migration in barium titanate | Sheffield, UK |
| 15:15 | Coffee - posters | | |
| Session 3 | Fuel and Solar cells | | |
| 15:45 | Prof Steve Dunn | Photo-enhancement of activity in spray-coated Cu ₂ SnSe ₃ nanoparticle counter electrode for dye-sensitised solar cells | Queen Mary, London, UK |
| 16:00 | Dr Armando Lacerda | Pd modified TiO ₂ co-catalyst for solar hydrogen production via methanol reforming | Queen Mary, London, UK |
| 16:15 | Ms Kathrin Preuß | Biomass-derived catalysts for the oxygen reduction reaction in fuel cells | Queen Mary, London, UK |
| 16:30 | Dr Giorgio Schileo | Perovskite Solar Cells: State of the Art and Current Issues | Sheffield/Dyesol, UK |
| 16:45 | Dr Chris Handley | Atomistic Simulation of the Initial Stages of Methylammonium Lead Iodide Formation | Sheffield, UK |
| 17:00 | Invited talk: Mr Jon Booth | Making a Potential Difference | Johnson Matthey, UK |
| 17:30-18:30 | Poster Session | | |

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| Session 4 | Thermoelectrics | | |
| 9:00 | Invited talk: Prof Derek Sinclair | Electrical heterogeneity and anomalous conductivity behaviour in reduced titanates | Sheffield, UK |
| 9:30 | Dr Whitney Schmidt | The Road to All Oxide Thermoelectric Generators | Sheffield, UK |
| 9:45 | Dr Colin Norman | The Role of the Synthetic Route in the Development of Thermoelectric Oxide Ceramics | Manchester, UK |
| 10:00 | Mr Tom Dunlop | Production of Higher Manganese Silicide films on silicon substrates | Swansea, UK |
| 10:15 | Dr Ruizhi Zhang | Sulfide Thermoelectrics | Queen Mary, London, UK |
| 10:30 | Invited talk: Dr Emmanuel Guilmeau | Recent advances in sulphur based thermoelectric compounds | CRISMAT Laboratory, France |
| 11:00 | Coffee - posters | | |
| Session 5 | Processing of Sustainable Functional Materials | | |
| 11:30 | Invited talk: Dr Simon Hall | Biomediated Crystal Growth of High Temperature Oxide Phases | Bristol, UK |
| 12:00 | Dr Rebecca Boston | Deep Eutectic Solvent-mediated Synthesis of Nanoscale Barium Titanate | Sheffield, UK |
| 12:15 | Prof Robert Dorey | Stability of Na-rich functional ceramics during synthesis and manufacture | Surrey, UK |
| 12:30 | Dr Rebecca Townsend | Synthesis optimisation of a thermoelectric bismuth telluride ink | Surrey, UK |
| 12:45 | Dr Nicola Morley | Tuning phase transitions and the magnetocaloric effect of La(Fe,Si) ₁₃ alloys | Sheffield, UK |
| 13:00 | Dr Ewa Jakubczyk | Effect of ink formulation on rheology and print quality of ZnO-based screen printed films | Surrey, UK |
| 13:15 | Lunch - posters | | |
| Session 6 | Life Cycle Analysis | | |
| 14:30 | Invited talk: Prof Richard Murphy | Life Cycle Assessment: Sustainability, driven by functionality | Surrey, UK |
| 15:00 | Dr Taofeeq Ibn-Mohammad | Integrated Hybrid Lifecycle Assessment and Supply Chain Environmental Profile Evaluations of Lead-based PZT vs Lead-free KNN Piezoelectric materials | Sheffield, UK |
| 15:15 | Dr Oleksandra Ieromina | Assessing the risks associated with changing manufacturing processes for sustainable functional materials | Cranfield, UK |
| 15:30 | Coffee - posters | | |
| Session 7 | Characterisation of Sustainable Functional Materials | | |
| 16:00 | Dr Huairuo Zhang | Structural Evolution of Sodium Bismuth Titanate | Sheffield, UK |
| 16:15 | Dr Fan Yang | Enhanced electrical conductivity of A-site divalent acceptor-doped sodium bismuth titanate | Sheffield, UK |
| 16:30 | Prof Ian Reaney | Local structure in sustainable functional ceramics | Sheffield, UK |
| 17:00 | Closing remarks | | |