

MASSIVE Newsletter

MAnufacture of Safe and Sustainable Volatile Element Functional Materials

No. 4 | March 2016



Industrial Advisory Group meeting

The university research teams came together with members of the Industrial Advisory Group to discuss the current focus and future direction of MASSIVE at the second annual IAG meeting, held at Queen Mary University of London on 10th February. Following an overview by project lead Robert Dorey (pictured below), the academic groups presented ongoing work addressing



powder synthesis, processing techniques, and environmental and health risk assessment of lead-free substitute functional materials. They were given valuable feedback by the advisory group about the issues which are of most concern to industry such as scale-up of manufacturing routes and business drivers from current and future legislation on safety and sustainability of

ENI report highlights the environmental impact of nanomaterials

materials supply. With the first of the programme of short-term Feasibility Studies recently completed - a collaboration between the University of Surrey and Knowles to improve ink formulation for printed dielectric films - we welcome proposals from our industry partners for further collaborative projects within the framework of MASSIVE.

Dr Sophie Rocks, MASSIVE co-investigator and NERC Knowledge Exchange Fellow at Cranfield University, was one of the organisers of the Environmental Nanoscience Initiative (ENI) finale event held in December 2015 at the Royal Society in London to showcase the final outcomes of three major UK/US research collaborations on the impact of nanomaterials on the environment. Running since 2006 and funded by UK Research Councils, Defra, the Environment Agency and Department of Health in conjunction with the US Environmental Protection Agency, the ENI's findings highlight key future impacts for both industry and policy audiences, as outlined in the report **Fate, behaviour and impacts of nanomaterials in the environment**. Cranfield's focus within MASSIVE is on the environmental risks associated with the original and replacement functional materials and processes currently under development at the other partner universities. Contact: s.rocks@cranfield.ac.uk

Functional materials activity at Surrey

Engineering degree students are currently undertaking a range of small-scale projects supporting MASSIVE in the University of Surrey's Functional Nanomaterials lab, looking at low temperature integration of zinc oxide films with flexible fabrics, developing a piezoelectric energy harvesting demonstrator platform for public engagement purposes and screen printing of electrically conductive aluminium doped zinc oxide thick films onto silicon substrates.

SFM2016

Our research teams will be looking forward to some Spring sunshine as they head to Scarborough for the Sustainable Functional Materials conference in early April! The conference programme is now finalised and MASSIVE will be well represented, with presentations from the university groups as well as an invited talk on **Piezoelectric ceramics under the scope of RoHS** by Eberhard Hennig of **PI Ceramic**, one of our partner companies. The conference aims especially to gain an industry perspective on future sustainability issues for functional materials and manufacturing processes so promises to be of interest to all of our partners.

Events

Sustainable Functional Materials (SFM2016)

5-6 Apr 2016

Scarborough

Organised jointly by EPSRC projects Substitution and Sustainability in Functional Materials and Devices (SUBST), led by Prof Ian Reaney at the University of Sheffield, and MASSIVE.

[SFM2016](#)

Collaborate with MASSIVE

MASSIVE is continually looking to grow its **industrial engagement** by maintaining an active industrial advisory group, expanding its industry partner base and developing new collaborative projects.

Co-funding from MASSIVE is available for joint projects, including short term **Feasibility Studies** enabling exploration of novel manufacturing concepts and evaluation of their potential to lead to longer term, strategic **Industry Development Projects**.

Please contact us if you are interested in working with the MASSIVE team.

Contact Us

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