

**Formulation**  
Science & Technology



A subject group of the RSC

## Formulation Science and Technology Group Newsletter

### Letter from the chairman

Simon Gibbon

### UK Particle Technology Forum

Richard Greenwood



2012 is proving to be a very interesting year for FSTG and its partners.

NanoFormulation2012 was over-subscribed in Barcelona and the UK "In The Mix" and MiBio one day meetings provided unique insights into the key issues for practical formulation today. Looking forward to 2013 shows next year to be exciting for formulation activities in the UK and beyond. The Technology Strategy Board has aligned formulation to the high value manufacturing initiative and set up a special interest group, which has the aim of bringing together companies across different sectors to optimise the UK's ability to formulate. This is our opportunity to get involved, either through our companies or by supporting the projects, and is a good time to get your colleagues to join the FSTG. Membership of the group will help you stay informed of the planned events and help the FSTG input into this process.

Summer 2013 will have several key conferences aimed at the whole spectrum of formulation. Formula VII in Paris will bring together formulators from across Europe to discuss the science, NanoFormulation2013 in Manchester will focus on the practical application of nanotechnology in new formulations and EcoForm in Chatham will highlight new ecological approaches to formulation.

The eleventh UK Particle Technology Forum was held at the University of Loughborough over two extremely cold snowy days in early April and was attended by 82 delegates mostly from academia and with an exhibition of equipment attracting eight exhibiting companies. The theme of the conference was "Formulating with Particles" which reflected the interests of the joint organisers; the Particle Technology Subject Interest Group of the IChemE and the Particle Characterisation Interest Group of the RSC, and the prize sponsors which included the Formulation Groups of both professional bodies. The Forum incorporated the Young Researcher's Award and poster competition along with three plenary talks from industrialists and a presentation on funding opportunities for young scientists / engineers from the Chemistry Innovation Knowledge Transfer Network. Six entrants for the Young Researcher Award (YRA) were selected by a panel to give full presentations, whilst the next dozen students were short listed to give an elevator pitch and poster. The main prizes were sponsored by Procter and Gamble and the Brian Scarlett Memorial Fund, which was extremely appropriate as Brian was one of the original founders of the Particle Technology Group at Loughborough before moving to Delft.

The YRA was won by Dr Colin Hare of the University of Leeds who talked about Particle Breakage in Agitated Beds, whilst the runner up prize was awarded to the host University courtesy of Dr Marijana Dragosavac who presented her thesis work on Spherical Functionalised Silica Particles Produced by Membrane Emulsification. The poster prizes were both awarded to the University of Cambridge: firstly to Takehiro



Prof Hugh Stitt presenting Dr Colin Hare the young researcher award

Kojima for his work on Incipient flow properties of two component powder systems and their relationships with bulk density and particle contacts, and secondly to William Menz for his poster on Stochastic modelling of narrowly distributed silicon nanoparticle synthesis. *Continued on page 2*

### UK Particle Technology Forum (continued from page 1)

All the prizes were awarded by Prof Hugh Stitt of Johnson Matthey, who also opened the Forum with an entertaining lecture on Particle Technology in Catalyst Manufacture. A second industrialist, Dr Dominic Rhodes, from NNL Sellafield started the afternoon session with an informative presentation on Particle Formulation in the Nuclear Industry. The conference was closed by a fascinating talk by Dr Richard Tweedie of Industrial Tomography Systems, who presented on in situ monitoring of complex materials.

Special thanks must go to Prof Richard Holdich for organising the event and in particular for organising the surprise speaker at the evening reception, Dr Mark Lewney, for his thought provoking interpretation of physics using an electric guitar and some other props (see <http://www.doctorlewney.com/>).

The next Forum is scheduled for 2014, provisionally to be hosted at University College, London and it will hopefully be just as entertaining and informative.

### Join us!

Visit our website for details on how to join the Formulation and Science Technology group:

<http://www.formulation.org.uk/join-us.html>

Full membership of the FSTG enables you to attend conferences organised by or with the group at a reduced rate, receive regular updates from the formulation world, participate in the running of the FSTG and its strategy, and be eligible for election to the offices of the group

You can also find us on LinkedIn under the name FSTG.

### It's all in the mix; the processing route to unique formulations

*Richard Greenwood*

The conference was held at the School of Chemical Engineering at the University of Birmingham on the 21st March and was attended by 42 people and one exhibitor. The conference began with a talk by Peter Graham of Unilever on controlling the product microstructure. This was followed by Prof John Mitchell of Biopolymer Solutions on modifying xanthan gum for new functionality. Ramana Sundara from Nestlé quickly won over the audience with free Kit Kats and his presentation on the role of the baking process in the formation of the wafers. Finally Darren Ragheb from CIKTN gave a short talk on funding opportunities with the technology strategy board. Over lunch the delegates visited the Microstructure labs of Prof Ian Norton.

A talk by Dr Thomas Mills started the afternoon session with a presentation on the use of Pickering stabilised emulsions in food products. This was followed by Lyn Daintree introducing supercritical fluid crystallisation of molecules. The Conference was closed by two shorter presentations from two PhD students; the first by Asja Ports described the effect of various sugars on mixed biopolymers whilst Laura Lee presented her work into the processing of nano emulsions. In particular comparing a microfluidiser with a high pressure homogeniser with particular emphasis on the droplet break up mechanisms.

Thanks to Constable and Smith for an efficient registration process and Pat MulQueen for co organisation of the event

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<http://www.formulation.org.uk>

## Forthcoming Events

### Annual General Meeting

The FSTG AGM will be held at the RSC, Burlington House, London on Friday 14th December 2012 from 11:15 - 12:00 - all welcome, please let the secretary know if you would like to attend (<http://www.formulation.org.uk/contact.html>)

### NanoFormulation 2013

18 - 21st June 2013– The University of Manchester, Manchester, UK

### EcoForm 2013

25 - 26th June 2013– The University of Greenwich, Chatham, UK

### Formula VII

1 - 4th July 2013– Université de Haute Alsace, Mulhouse, France

**For more information on conferences please visit:**

<http://www.formulation.org.uk/conferences/upcoming-conferences.html>

## FSTG Student Bursary Scheme

The **Gordon J. Tiddy bursary** is an award made for the purpose of assisting in travel to conferences in the UK and overseas. Bursaries are provided solely to offset the costs of travel and accommodation and are normally limited to a maximum of £500. The bursary scheme does not cover meetings organized wholly by the FSTG within the UK, for which alternative grant or discount schemes may be organized by the meeting committee as it sees appropriate.

**Applicant Eligibility:** Applications may be made by any FSTG member, and will be considered on the basis of merit and need. Applicants must be members of at least six months standing and must not have already received an FSTG travel bursary in the previous 2 years.

**Application Process:** Applications must be made online using the form on the FSTG website ([www.formulation.org.uk](http://www.formulation.org.uk)) and will be considered by the review panel (the officers of the FSTG) on an *ad hoc* basis; there are no fixed application deadlines. Applicants' attention is drawn to the requirements detailed in the notes on the website by which applications are bound.

*Some conditions may be waived at the discretion of the review panel, and applicants are always encouraged to contact the current secretary or chairman of the FSTG for advice. All awards are made at the discretion of the review panel whose decisions are final and binding.*

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**Member focus:**  
**Josie Harries**



**Organization** Domino Printing Sciences

**Job title** Ink Development Manager

**Research interests** inkjet ink formulations, colour and colloid chemistry and development of sustainable products

**What do you think are the current areas of challenge in the field of Formulation Science** The development of formulations which are truly sustainable and do not have negative environmental impact

**Hobbies** I enjoy making my own clothes and jewellery and am a keen printmaker. I also have an allotment and have been growing my own fruit and vegetables for the past 7 years

**Top Tip** It is never too late to start a new hobby!

## Do you want to contribute?

Would you like to contribute to the FSTG newsletter?

Have you attended an interesting conference, read about some interesting products or want to share your thoughts on formulation science? If so we would love to hear from you!

<http://www.formulation.org.uk/contact.html>

*Disclaimer: The views presented in this newsletter do not represent those of the collective memberships of either the RSC or FSTG or individual members. Unless otherwise stated, the views solely represent those of the authors.*

<http://www.formulation.org.uk>