Commercialisation of Pickering Emulsions

A one day workshop on 23.11.2017 in London to discuss the challenges of incorporating current Pickering technologies into commercial formulations and products and to review future roadblocks for Pickering emulsions in industry.

Conventional surfactants have dominated emulsion science due to their ease of use, relatively low cost and control. However, their future industrial use is under threat, because of formulation foaming problems, skin irritation issues for home & personal care products and the need to reduce VOCs and carbon footprints. In principle, Pickering emulsions can address these problems.

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The Joint Colloids Group

Pickering emulsions are stabilised by solid particles, rather than surfactants. However, despite being recognised for more than a century, they have received relatively little commercial attention. Suitable particle-based emulsifiers include clays, silica and polymer nanoparticles, with morphologies ranging from spheres to worms to dumbbells to discs. In principle, Pickering emulsions can be used in many industrial sectors, including agrochemicals, cosmetics, food manufacturing and drug delivery.

The aim of this workshop is to further our understanding of how to tailor Pickering emulsifiers to achieve high performance within an industrial context.

- **We aim to** enhance the interface between industry and academia with respect to further understanding of Pickering technologies and to identify any challenges in commercialisation.
- **We aim to** establish a set of practical guidelines to help industrial scientists identify which particles to use for a given system to produce the desired final properties ("A Beginners Guide to Pickering Technologies").
- **We aim to** direct future academic research to tackle the perceived current commercial limitations of Pickering emulsions.
- **We aim to** give young colloid scientists the opportunity to meet established companies in the field.

Session 1 – Control of Pickering Emulsions.

Presentations on how particle size, morphology and chemical composition combine with the processing conditions to produce a broad spectrum of macroscopic and microscopic emulsion properties.

Invited Speaker: Professor Bernie Binks (University of Hull) – Fundamentals of particle-stabilised emulsions.

Invited Speaker: Professor Steve Armes (University of Sheffield) – Bespoke Pickering emulsifiers based on block copolymer nanoparticles.

Session 2 – Formulating with Pickering Emulsifiers

What are the benefits and challenges, successes and failures of Pickering technology in commercial formulations?

Invited Speaker: Dr. Phil Taylor (Syngenta) – Formulating with Pickering emulsions

Invited Speaker: Dr. Ir. Albert T. Poortinga (Bether Encapsulates) – Commercialisation of Pickering Emulsions: examples from food and pharma.

Session 3 – Emulsion Polymerisation

Talks exploring the possibility of using particle emulsifiers in emulsion polymerisation to produce materials with new and diverse properties and performances. From armoured colloids to clay-polymer nanocomposite materials.

Invited Speaker: Professor Stefan Bon (University of Warwick) – The ins and outs of Pickering emulsion polymerization

Invited Speaker: Dr. Konrad Roschmann (BASF) – Interfacial stabilization by soft Janus nanoparticles

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Session 4 – Q and A session with the Experts

A round-table discussion to establish "A Beginners Guide to Pickering Technologies" – to be authored after the event and sent out to delegates.

Location: Burlington House, London

Early Bird registration:
Full Price - £155 (Non-Members) & £130 (RSC or SCI Members)
Concessions (Students and Young (<28YO) Investigators) - £125 (Non-Members) & £100 (RSC or SCI Members)
Subsidised (Retired or Unemployed RSC or SCI Members) - £100

Registration after 8th October:
Full Price - £190 (Non-Members) & £165 (RSC or SCI Members)
Concessions (Students and Young (<28YO) Investigators) - £150 (Non-Members) & £125 (RSC or SCI Members)
Subsidised (Retired or Unemployed RSC or SCI Members) = £100

Date: 23rd November 2017

Refreshments: Tea/coffee breaks x 3, poster lunch

To register to attend or present at the event, visit:

http://www.rsc.org/events/detail/26882/commercialisation-of-pickering-emulsions