

10:30 Coffee

Emulsion-based methods

- 10:50 **How to decide on an affordable microencapsulation method – economics behind encapsulation**
Professor David York, University of Leeds
- 11:30 **Emulsion theory, importance of miscibility/cLogP, how useful is HLB of surfactants, Pickering emulsions/colloidosomes**
Professor Brent Murray, University of Leeds
- 12:10 *Lunch*
- 13:10 **Introduction on what the rest of the course will focus on regarding these methods – focus on emulsion-based encapsulation methods**
Dr Olivier Cayre, University of Leeds
- 13:20 **Complex Coacervation Methods**
Alex Kerr, Micropore
- 14:00 **Demonstration session 2**
- **Spray drying**
Professor David York, University of Leeds
 - **Highly-upscaled, size-controlled microencapsulation: step emulsification**
Alessandro Ofner, Microcaps
 - **Gelatin/complex coacervation**
Soyeb Manga, University of Leeds
 - **Metal shell capsules preparation – achieving retention and triggered release of small volatile actives**
James Hitchcock, University of Leeds
- 15:15 *Tea*
- 15:35 **Droplet size control theory, importance of surface energy, viscosity and size of molecules**
Professor Megan Povey, University of Leeds
- 16:15 **Industry presentation – Application of emulsion based methods**
Susana Fernandez Prieto, P&G Brussels
- 16:55 Poster/wine reception followed by end of day two

Thursday 20 June

Emulsion-based methods: Turning emulsions into core-shell microcapsules

- 09:00 **Key properties and evaluation I**
Dr Olivier Cayre, University of Leeds
- 09:30 **Interfacial polymerisation: traditional vs potential of living radical polymerisation methods**
Soyeb Manga, University of Leeds
- 10:10 *Coffee*
- 10:30 **Pickering emulsions for food applications with emphasis on the controlled delivery of actives**
Fotis Spyropoulos, University of Birmingham
- 11:30 **Size controlled microencapsulation at industrial scale**
Alessandro Ofner, Microcaps
- 12:10 **Presentation title to be confirmed**
Givaudan
- 12:50 *Lunch*
- 13:50 **Key properties and evaluation II**
Dr Nicole Hondow, University of Leeds
- 14:20 **Forming barriers on droplet and particle surfaces**
Dr Olivier Cayre, University of Leeds
- 15:00 **Evaluating mechanical properties and release rates – techniques, challenges and watch outs**
Professor David York/Dr Olivier Cayre, University of Leeds
- 15:40 Optional lab tour
- 16:30 *End of day three and course*