8th International Granulation Workshop
Sheffield, UK, June 2017

Granulation Course: 26th - 27th June
Granulation Conference: 28th - 30th June
Granulation and agglomeration technology is a popular topic and of growing interest for industry - and, therefore, academia - as it is such a key process in the manufacture of many solid products. Growing interest in the field has led to the development of International Granulation Workshop, which has become one of the world’s largest forum for industry and academia to share and discuss recent developments in this complex and evolving field.

The 8th edition of this workshop will take place in 2017 in Sheffield, United Kingdom. It will consist of two parts: a 2-day hands-on Course to serve as an introduction to agglomeration technologies, hosted by some of the world’s leading experts in granulation in industry and academia, followed by a 3-day scientific conference, during which cutting-edge research in the field will be presented. The workshop will cover a variety of important topics and will offer a platform for participants to present their latest results, to discuss ideas and to establish new collaborations.

In addition to being a platform for interaction between industry and academia, we also strive to make the workshop a prime venue for professional networking, with a friendly atmosphere and social events included in the conference program.

We look forward to welcoming you to Sheffield in 2017.

Prof. Agba Salman
Prof. Stefan Palzer
Prof. Mike Hounslow

Plenary Speakers

Prof. Jim Litster: “Back to the future - eight years on” The University of Sheffield, UK

Prof. Dr. Stefan Heinrich: “Multiscale simulation of fluidized bed spray granulation” Hamburg University of Technology, Germany

Dr. Liz Meehan: “The role of materials science in pharmaceutical powder processing” AstraZeneca, UK

Prof. Karen Hapgood: “Future directions in pharmaceutical particle processing research” Monash University, Australia

Prof. Frank Kleine Jäger: “Design of Functional Chemistry by Granulation Technologies” BASF, Germany

Prof. Stefan Palzer: “Quo vadis particle technology?” Nestlé, Switzerland

Granulation Course

26th-27th June 2017

Prior to the Conference there will be a 2 day Granulation Course, led by experts from the food, detergent and pharmaceutical industries. This course is designed for you if you work in industrial granulation or are a PhD student. At the course you will get hands-on granulation experience and knowledge from renowned experts in the field.

Topics:
- Product and Process Design.
- Elements of granulation technology – wet granulation regime map.
- Equipment for granulation, including: low and high shear mixers, fluid bed granulators, roller compaction, tableting, extrusion and spheronisation.
- Continuous and batch granulation.
- Finished product characterization; Key finished particle properties will be investigated.

Scientific Committee

Prof. Hans Kuipers, Technical University of Eindhoven, The Netherlands
Prof. Frank Kleine Jaeger, BASF, Germany
Prof. Satoru Watano, Osaka Prefecture University, Japan
Prof. Kheshayar Saleh, Université de Technologie de Compiègne, France
Prof. Mojtaba Ghadiri, University of Leeds, UK
Prof. Karen Hapgood, Monash University, Australia
Dr. Gabrie M.H. Meesters, DSM, The Netherlands
Prof. David York, University of Leeds, UK
Prof. Jim Michaels, University of Delaware, USA
Prof. Gavin Walker, University of Limerick, Ireland
Prof. Mike Adams, University of Birmingham, UK
Prof. Peter Kleinebudde, Heinrich-Heine-University Dusseldorf, Germany
Dr. Ingela N. Björn, AstraZeneca, Sweden
Prof. Frantisek Stepanek, Institute of Chemical Technology, Prague, CZ
Prof. Chuan-Yu Wu, University of Surrey, UK
Dr. Gerhard Niederreiter, Nestlé, Switzerland
Ass. Prof. Rohit Ramachandran, The State University of New Jersey, USA
Prof. Gavin Reynolds, AstraZeneca, UK
Prof. Chris Vervaet, Ghent University, Belgium
Dr. Gurjit Bajwa, GSK, UK
Prof. Stefan Heinrich, Technical University Hamburg-Harburg, Germany
Dr. Kendal Pitt, GSK, UK
Dr. Poul Bach, Novoynmes, Denmark
Dr. Hong Sing Tan; Procter & Gamble Co, China
Prof. Markus Thommes, TU Dortmund University, Germany
Dr. Steve Keningley, Unilever, UK
Prof. Anders Rasmussen, Chalmers University of Technology, Sweden
Dr. Tibor Attila Nagy, Gedeon Richter Ltd., Hungary
Prof. Göran Alderborn, Uppsala University, Sweden
Dr. Bindhu Gurusurajan, Novartis Pharma AG, Switzerland
Prof. Evangelos Tsotsas, Otto-von-Guericke-University Magdeburg, Germany
Prof. Jim Litster, University of Sheffield, UK
Prof. Stefan Palzer, Nestlé, Switzerland
Prof. Mike Hounslow, University of Sheffield, UK
Prof. Agba Salman, University of Sheffield, UK
Workshop Themes

The Macro Scale I: Processing for Granulation Processes
- Fluidized Bed Granulation
- Spray Drying
- High Shear Granulation
- Extrusion-Spherisation and Pelletization
- Roller Compaction
- Tableting
- Coating and Encapsulation

General topics
- Continuous Granulation (including feed rate and granule composition)
- Scale-Up
- Powder Mixing
- Particle Dissolution, Dispersion and Deposition
- Tools for Process Control and PAT
- Evaluating Product Performance
- Environmental Aspects / Energy Consumption
- Overall Process Concepts & Design
- Granulation: Variability and Error
- On-line measurement
- Variability and Error
- Affordability/Economics of granulation
- Industrial challenges in manufacturing
- Process control when running on the edge-continuous and batch systems
- Fast start up and shut downs

The Meso Scale: Mechanistic Description
- Wetting and Nucleation, and Growth and Consolidation
- Granulation Rate Processes
- Breakage in Granulation
- Characterisation of Material Properties and their Influence on Granulation
- Binder Properties
- Transport Phenomena during Granulation
- Stress Distributions and Flow Profiles in Granulation Processes

Towards a Generalised Model of Agglomeration
- Influence of material properties of feed particles on agglomeration mechanism
- High Viscosity and Low Viscosity Binders
- High Shear and Low Shear Granulators
- How to Design the Optimal Agglomerator
- How to Control Properties (Shape, Density, Strength and Size)

The Macro Scale II: Applications
- Tableting
- Pharmaceutical Granulation
- Fertilizer Granulation
- Agglomeration in the Food Industry
- Detergent and Personal Care Products
- Agglomeration in Suspension-Flocculation
- Nanoparticle-Granulation
- Agglomeration in the Metallurgical Industry
- Agglomeration in Catalysts
- Bio-granulation-Aerobic granulation
- Agglomeration in other Processes
- Undesired Agglomeration and Powder Caking
- Green Granulation - Innovative Processes

The Micro Scale: Granules and Smaller
- Structure-Property (Granule Structure, Product Performance)
- Droplet; wetting, spreading and rebound phenomena
- Interparticle Forces – Particle Adhesion – Sintering – Liquid bridge
- Product Structure vs Application Properties
- New Granule Characterisation Methods
- Hierarchically Structured Granules

How to register
To register please visit: http://www.sheffield.ac.uk/agglom/2017/registration

Organisation Committee
- Dr. Dave Doughty
- Dr. Csaba Sinka
- Dr. Robert Sochon
- Dr. Ian Gabbott
- Dr. Nejat Rahmanian
- Dr. Iyad Rashid
- Dr. Constantin Sanders
- Dr. Ali Hassanpour
- Dr. Hong Sing Tan
- Dr. Ranjit Dhenge
- Dr. Vikram Chouk
- Dr. Waleed Al Nasser
- Dr. Chi Mangwandi
- Dr. Kimiaki Washino
- Mr. Jiankai Yang

Local Organisation Committee:
- Dr Ranjit Dhenge
- Miss Arthi Rajkumar
- Bilal Khorsheed
- Dr Syed Islam
- Mr Jiankai Yang

Abstracts
For details on how to submit an abstract and the deadline, please visit: http://www.sheffield.ac.uk/agglom/2017/callforabstracts
For details on how to submit a paper and the deadline, please visit: http://www.sheffield.ac.uk/agglom/2017/papersubmission

Further Information
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Poster Competitions
There will be poster competitions at the conference, sponsored by GSK, AstraZeneca, IChemE, TTC and Alexanderwerk.

Sponsors

How to register
To register please visit: http://www.sheffield.ac.uk/agglom/2017/registration
Sheffield City Hall is one of Sheffield's prominent historical landmarks, located in the heart of the city at Barker's Pool. It is a popular venue for numerous international and local events thanks to its famous ballroom and Concert Hall. It is also home to the Sheffield's War Memorial.

Cutlers' Hall, built in 1832, is an outstanding example of Victorian architecture and is described as being the most prestigious venue in Sheffield. It is home to the Company of Cutlers’ in Hallamshire and, therefore, Sheffield’s steel history shines through its walls.