



University of
Sheffield

11th International Granulation Workshop

Sheffield, UK, June 2025

Granulation Course: 23rd – 24th June

Granulation Conference: 25th – 27th June

11th International Granulation Workshop, Sheffield, UK

Course: 23rd-24th June 2025

Conference: 25th-27th June 2025

Granulation and agglomeration technology is a popular topic and of growing interest for different industries - 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 the one of the world's largest forum for industry and academia to share and discuss recent developments in this complex and evolving field.

The 11th edition of this workshop will take place in 2025 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 2025,

Plenary Speakers

Prof. Stefan Palzer: "How data science, artificial intelligence, and quantum computing will impact particle technology" *Nestlé Research Center, Switzerland*

Prof. Jim Litster: "Bringing systems engineering to particle product manufacture" *The University of Sheffield, UK*

Prof. Göran Alderborn: "Some aspects on the engineering of pharmaceutical granules" *Uppsala University, Sweden*

Prof. Stefan Heinrich: "Challenges in modelling and understanding of fluidized bed spray granulation" *Hamburg University of Technology, Germany*

Prof. Lilia Ahrne: "Sustainability and food powder systems" *University of Copenhagen, Denmark*

Prof. Csaba Sinka: "Pharmaceutical tableting: from mechanistic models to data analytics" *University of Leicester, UK*

Granulation Course

23rd-24th June 2025

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:

- Material science for powder.
- Elements of granulation technology – wet granulation regime map.
- Understanding granule formation: Mechanisms in agglomeration – mechanisms of size enlargement, effects of liquid distribution, binder selection, control of granule size.
- Artificial intelligence (AI) in granulation
- Equipment for granulation, including: low and high shear mixers, fluid bed granulators, roller compaction, tableting, extrusion and spheronisation.
- Drying, milling, and tableting.
- Continuous and batch granulation.
- Finished product characterization; Key finished particle

Scientific Committee

Prof. Evangelos Tsotsas, Otto von Guericke University Magdeburg, Germany

Dr. Abderrahim Michrafy, Ecole Mines-Albi, France

Prof. Chuan-Yu Wu, University of Surrey, UK

Prof. Chris Vervaet, Ghent University, Belgium

A. Prof. Gabriele Meesters, Delft University of Technology, The Netherlands

Prof. Gavin Andrews, Queen's University Belfast, UK

Prof. Göran Alderborn, Uppsala University, Sweden

Prof. James Michaels, University of Delaware, USA

Prof. Haifeng Lu, East China University of Science and Technology, China

Prof. Bindhu Gururajan, Novartis, Switzerland

Prof. Hans Kuipers, Technical University of Eindhoven, Netherlands

Prof. Xianfeng Fan, The University of Edinburgh, UK

Prof. Khashayar Saleh, Université de Technologie de Compiègne, France

Prof. Paul Mort, Purdue University, USA

Prof. Ioannis Nikolakakis, Aristotle University of Thessaloniki, Greece

Prof. Gavin Reynolds, AstraZeneca, UK

Sander van den Ban, Almac Group, UK

Prof. Rohit Ramachandran, Rutgers University, USA

Prof. Stefan Heinrich, Hamburg University of Technology, Germany

Dr. Hong Sing Tan, Procter & Gamble Co, China

Prof. Markus Thommes, TU Dortmund University, Germany

Dr. Vincint Meunier, Nestlé, Switzerland

Prof. Lifeng Zhang, University of Saskatchewan, Canada

Ass. Prof. Pirjo Tajarobi, AstraZeneca, Sweden

Prof. Marcial Gonzalez, Purdue, USA

Dr. Kimiaki Washino, Osaka University, Japan

Prof. Frantisek Stepanek, Institute of Chemical Technology, Prague, CZ

Prof. Jukka Rantanen, University of Copenhagen, Denmark

Prof. Lilia Ahrne, University of Copenhagen, Denmark

Prof. Frank Kleine Jaeger, BASF, Germany

Prof. Csaba Sinka, University of Leicester, UK

Prof. Kendal Pitt, University of Strathclyde (CMAC), UK

Prof. Enrique Sánchez Vilches, Universitat Jaume I Castellón, Spain

Prof. Ming-Chun Lu, National Chung Hsing University, Taiwan

A. Prof. Géza Regdon jr., University of Szeged, Hungary

Prof. Gerhard Niederreiter, Nestlé, Switzerland

Prof. Jim Litster, University of Sheffield, UK

Prof. Stefan Palzer, Nestlé, Switzerland

Prof. Agba Salman, University of Sheffield, UK

Workshop Themes

The Macro Scale I: Processing for Granulation Processes

- Fluidised Bed Granulation
- High Shear Granulation
- Twin Screw Granulation
- Roller Compaction
- Spray Drying
- Extrusion-Spheronisation and Pelletisation
- Tableting
- Coating and Encapsulation

The Macro Scale II: Applications

- Agglomeration in the Food Industry
- Sensory Perception and Mouthfeel of Food Particles
- Pharmaceutical Granulation
- Fertiliser Granulation
- Detergent and Personal Care Products
- Agglomeration in the Metallurgical Industry
- Agglomeration in Suspension-Flocculation
- Nanoparticle-Granulation
- Agglomeration in Catalysts
- Bio-granulation-Aerobic granulation
- Undesired Agglomeration and Powder Caking
- Green Granulation - Innovative Processes
- Agglomeration in Batteries and Energy Storage
- Deglobalization of manufacturing process via small & local industrial-scale sites

The Meso Scale: Mechanistic Description

- Wetting and Nucleation, and Growth and Consolidation
- Granulation Rate Processes
- Breakage in Granulation
- Transport Phenomena during Granulation

The Micro Scale: Granules and Smaller

- Structure-Property (Granule Structure, Product Performance)
- Droplet; wetting, spreading, drying and rebound phenomena
- Interparticle Forces – Particle Adhesion – Sintering – Liquid bridge
- New Granule Characterisation Methods
- Hierarchically Structured Granules

Science & Technology of Reconstitution

- Fundamentals of Reconstitution: Wetting, Capillarity, Dispersion, Dissolution
- Innovative Analytical Methods to measure Reconstitution
- Mathematical Modelling of Reconstitution Processes
- Powder Processing Technologies to enhance Reconstitution
- Effect of Powder Structure on Reconstitution and related Functional Properties

Systems Engineering of Granulation Processes

- Control of Granulation Processes
- Control and Optimisation of Flowsheets
- Dynamic Flowsheet Modelling

General Topics

- Continuous Granulation (including Feeding, Blending and Granule Composition)
- Process Control in Continuous and Batch Systems
- Tools for Process Control and PAT
- Scale-Up
- Powder Mixing
- Toxicity of Nanoparticles
- Evaluating Product Performance
- Environmental Aspects / Energy Consumption
- Granulation: Variability and Error
- On-line measurement
- Affordability/Economics of Granulation
- Industrial Challenges in Manufacturing
- Feed Forward Control based on Powder Characterisation
- Application of Artificial intelligence (AI) and machine learning to R&D, process control, and trial data analysis
- Fast Start up and Shut downs and Quality Monitoring
- Advances in numerical modelling of powders and powder processing
- Machine learning and Artificial intelligence (AI) applied to granulation
- Granulation and 3D printing

Organisation Committee

- Dr. Riyadh Al-asady
- Dr. Syed Islam
- Dr. Chalak Omar
- Dr. Kimiaki Washino
- Dr Mingzhe Yu
- Dr Mohammed Al Hanaq
- Dr. Ranjit Dhenge
- Dr. Wafaa Al Alaweem
- Dr. Chiamaka Nnaeozie
- Dr. Chi Mangwandi
- Dr Feng Li
- Dr Yan Zhou

Local Organisation Committee:

- Dr Riyadh Al-Asady
- Miss Jeanina Bungau
- Mr Shengda Hou
- Mr Zheng Wang
- Mr Yashodh H Karunanayake
- Miss Eleni Georgiou
- Miss Francesca Pinna
- Mr Luc Dewulf
- Mr Mohammed Mohammed
- Miss Yang Sarah Mohamad
- Mr Xuqian Li
- Mr Yongang Ma
- Miss Ahri Wu
- Miss Yifan Sun

Abstracts

For details on how to submit an abstract/paper and the deadline, please visit:

<https://www.sheffield.ac.uk/agglom/call-abstracts>

Further Information

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Poster Competitions

There will be poster competitions at the conference, sponsored by Glatt/TTC, and Alexanderwerk.

Sponsors



How to register: to register please visit:

<https://www.sheffield.ac.uk/agglom/11th-international-granulation-workshop-2025/registration-2025>

25th June 2025 Gala Dinner The City Hall

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.



26th June 2025 Evening Dinner Cutlers' Hall

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.

