



The
University
Of
Sheffield.



Research

9th International Granulation Workshop 2019

Granulation Conference

Lausanne, Switzerland, 26th - 28th June 2019

9th International Granulation Workshop

Granulation Conference in Lausanne, Switzerland: 26th-28th June 2019

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 the 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 9th International Granulation Workshop is split up into two parts, a three-day conference which will be hosted by Nestlé at Lausanne Palace and the Nestlé Research in Lausanne, Switzerland and a three-day course which will be hosted by Sheffield University, England.

During the 3-day scientific conference, cutting-edge research in the field will be presented. The conference 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 Lausanne and Sheffield in 2019,

Prof. Gerhard Niederreiter
Prof. Agba Salman
Prof. Stefan Palzer
Prof. Jim Litster

Plenary Speakers

Prof. Mike Hounslow: "Powders and droplets: some reflections on quantifying nucleation" *The University of Sheffield, UK*

Prof. Gerhard Niederreiter: "Innovation in Food through Particle Science" *Nestlé Research, Lausanne, Switzerland*

Prof. Frantisek Stepanek: "General Granulation: Mathematical modelling" *University of Chemistry and Technology, Prague.*

Dr. Richard Green: "Advances in Continuous Manufacturing of Pharmaceutical Products" *Pfizer, UK*

Scientific Committee

Prof. Hans Kuipers, Technical University of Eindhoven, The Netherlands
Prof. Frank Kleine Jaeger, BASF, Germany
Prof. Khashayar Saleh, Université de Technologie de Compiègne, France
Prof. Mojtaba Ghadiri, University of Leeds, UK
Prof. Karen Hapgood, Monash University, Australia
Dr. Gabriele 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 Duesseldorf, 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. Abderrahim Michrafy, Ecole Mines-Albi, France
Dr Alison Wagland, Johnson Matthey, UK
Ass. Prof. Rohit Ramachandran, The State University of New Jersey, USA
Prof. Jukka Rantanen, University of Copenhagen, DENMARK
Prof. Bertram Wolf, University of Anhalt, Germany
Prof. Chris Vervaet, Ghent University, Belgium
Prof. Anne Juppo, University of Helsinki, Finland
Prof. Gavin Reynolds, AstraZeneca, UK
Prof. Stefan Heinrich, Technical University Hamburg-Harburg, Germany
Prof. Claire Gaiani, Université de Lorraine, France
Dr. Marco Ramaoli, University of Surrey, UK
Dr Laurent Forny, Nestlé, Switzerland
Dr. Kendal Pitt, GSK, UK
Dr. Poul Bach, Novozymes, Denmark
Dr. Hong Sing Tan; Procter & Gamble Co, China
Mr. Nigel Somerville Roberts, NSR Innovation, UK
Dr. Kimiaki Washino, Osaka University, Japan
Prof. Markus Thommes, TU Dortmund University, Germany
Prof. Anders Rasmuson, Chalmers University of Technology, Sweden
Prof. Göran Alderborn, Uppsala University, Sweden
Dr. Bindhu Gururajan, Novartis Pharma AG, Switzerland
Prof. Evangelos Tsotsas, Otto-von-Guericke-University Magdeburg, Germany
Dr Richard Green, Pfizer, UK
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

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

The Macro Scale II: Applications

- Agglomeration in the Food Industry
- Sensory Perception and Mouthfeel of Food Particles
- Pharmaceutical Granulation
- Fertilizer 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

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 and rebound phenomena
- Interticulate 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

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
- Fast Start up and Shut downs
- Quality Monitoring

How to register

To register please visit:

<https://www.sheffield.ac.uk/agglom/2019/registration>

Organisation Committee

- Prof. Gerhard Niederreiter
- Dr. Christine Haider
- Dr. Chalak Omar
- Dr. Kimiaki Washino
- Miss Denise Arnold

Local Organisation Committee:

- Dr. Chalak Omar
- Dr. Christine Haider
- Miss Denise Arnold
- Miss Elyane Bardou
- Miss Diamanto Angelopoulou
- Miss Annabel Bozon

Abstracts

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

<https://www.sheffield.ac.uk/agglom/2019/callforabstracts>

For details on how to submit a paper and the deadline, please visit:

<https://www.sheffield.ac.uk/agglom/2019/papersubmission>

Further Information

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Poster Competitions

There will be poster competitions at the conference, sponsored by GSK, AstraZeneca, TTC and Alexanderwerk.

New in 2019: Nestlé Student Challenge (more details will follow on the conference website)

Sponsors



Conference Events

Social Events

26th June 2019

Cruise on Lake Geneva & Dinner at Chillon Castle

A cruise aboard one of these gorgeous boats, amidst the picture-postcard backdrop of the lake, will leave you with wonderful lasting memories. The boat will bring you to the splendid 12th century Chillon Castle where the dinner will take place. The Switzerland most-visited historical landmark enjoys a super location on a Lake Geneva island overlooking the Alps.



27th June 2019

Gala Dinner Royal Savoy Hotel & Spa

The gala dinner will take place at the Royal Savoy Hotel & Spa. Built in 1906, the hotel is famous for its timeless elegance.

The conference poster prize and student competition winners will be awarded in the course of the evening.



Excursion (28th June 2019)

Nestlé Research Vers-chez-les- Blanc visit

In the morning and as part of the scientific program, the conference delegates will be welcomed at Nestlé Research Vers-chez-les-Blanc. Inaugurated in 1987, this place is at the heart of scientific research and innovation within Nestlé's global R&D network. An introduction to research at Nestlé will be given and selected speakers will present their multidisciplinary work.



Excursion to the Nest, Henri Nestlé's museum

In the afternoon, participants are invited to join for a trip to Vevey. There, newly opened in 2016 on the site of Nestlé's original Vevey headquarters, visitors of the Nest museum can delve into 150 years of the history of one of Switzerland's best-loved brands. An inspiring and entertaining venue, the museum is aimed at anyone who wants to learn more about Nestlé.

