



**27th International Workshop on Industrial Crystallization
BIWIC 2022
31 August – 2 September 2022, Dipoli, Otakaari 24, Espoo**

Programme

Wednesday 31 August

- 14.00 Otaniemi campus tour, Building of School of Chemical Engineering, main entrance of Kemistintie 1, Espoo
- 17-19.30 Get-together party, Signing-up of registered participants, Dipoli, Otakaari 24, entrance 'Juhlaovi', Capitolum hall, 2nd floor next to Kaleva hall

Thursday 1 September

Aalto, Dipoli, Lumituuli hall

- 8-10 Signing-up of registered participants
- 8.30 Opening, Dean Kristiina Kruus, School of Chemical Engineering, Aalto University

Session 1: Crystal Structure and Morphology

Chaired by Heike Lorenz, Max Planck Institute for Dynamics of Complex Technical Systems, Germany

- 8.45 Kevin Roberts, University of Leeds, UK: No. 1
The Structural Pathway to the Polymorphic Forms of para Amino Benzoic acid: From Solvated Molecule through Solute Clustering and Nucleation to Crystallization
- 9.15 Ivo Rietveld, University of Rouen, University Paris Cité, France: No. 2
The Relation between Twinning and Disorder in the γ Form of Pyrazinamide
- 9.45 Joerg Kressler, Martin Luther University Halle-Wittenberg, Germany: No. 3
Characterization of ¹⁵N-Labeled Poly(Sulfur Nitride)
- 10.15-11.00 Coffee and e-poster exhibition

Session 2: Modeling and Simulation

Chaired by Kerstin Forsberg, KTH Royal Institute of Technology, Sweden

- 11.00 Wei Li, Loughborough University, UK: No. 4
Model Driven Crystallization Design and Development for Mefenamic Acid

11.30 Yiming Ma, Tianjin University/China, Loughborough University/UK: No. 5
Design of the Cooling Crystallization Process Using the Machine Learning-Based Strategy

12.00 Huaiyu Yang, Loughborough University, UK: No. 6
Protein Crystallization with Gas Bubble Templates: Screening and Scaling Up

12.30-13.30 Lunch and e-poster exhibition

Session 3: Process Monitoring of Kinetic Phenomena

Chaired by Haiyan Qu, University of Southern Denmark, Denmark

13.30 Hannu Eloranta, Pixact Ltd., Finland: No. 7
Control of Microcrystal Formation with inline Process Microscopy

14.00 Jianxin Zhang, Aalto University, Finland: No. 8
Monitoring of Cobalt Carbonate Precipitation by Raman Spectroscopy

14.30 Nahla Osmanbegovic, Aalto University, Finland: No. 9
Nucleation Kinetics of Ice Crystallization with Various Aqueous Solutions

15.00-15.20 Coffee and e-poster exhibition

16.00 Football game (Otaniemi campus)

19.00 Boat cruise from Otaniemi ('Otaniemi' dock), Conference dinner at 20-22.30 at Sipuli Restaurant, Helsinki

Friday 2 September

Aalto University, Dipoli, Lumituuli hall

Session 4: Recovery and Recycling of Chemicals and Metals 1

Chaired by Adrian Flood, Vidyasirimedhi Institute of Science and Technology, Thailand

8.30 Astrid Seifert, TU Dortmund University, Germany: No. 10
Inert Crystallization and Crystal Product Separation for Effective Recycling of Homogeneous Catalysts

9.00 Steffi Wuensche, Max Planck Institute for Dynamics of Complex Technical Systems, Germany: No. 11
Purification of the Antimalarial Artemisinin from Crude Plant Extract Using a Combination of Adsorption and Antisolvent Cooling Crystallization

9.30 Jonathan Gänsch, Max Planck Institute for Dynamics of Complex Technical Systems, Germany: No. 12
Applicability of Fluidized Bed Crystallization for Continuous Resolution of Enantiomers Featuring Needle-shaped Crystals

10.00-10.30 Coffee and e-poster exhibition

Session 5: Crystallization Kinetics

Chaired by Erik Temmels, Sulzer Chemtech Ltd, Switzerland

10.30 Christos Xiouras, Janssen Pharmaceuticals, Belgium: No. 13
Influence of Different Supersaturation Representations on Crystallization Kinetic Models

11.00 Leif-Thore Deck, ETH Zurich, Switzerland: No. 14
Fundamental Considerations Regarding the Stochastic Nature of Nucleation

11.30 Charline Gerard, Rouen-Normandie University, France: No. 15
Multi-scale Nucleation Rate Measurements of Co-crystals: Comparison of Stirred Vials and Microfluidics

12.00 Ruel Cedeno, CNRS Aix-Marseille University/France, Vidyasirimedhi Institute of Science and Technology/Thailand: No. 16
Microfluidic Approach for Quantifying Nucleation Kinetics

12.30-13.30 Lunch and e-poster exhibition

Session 6: Recovery and Recycling of Chemicals and Metals 2

Chaired by Tuomas Koironen, LUT University, Finland

13.30 Manfred Stepanski, Sulzer Chemtech Ltd, Switzerland: No. 17
Crystallization – A Key Technology for Waste Plastics Recycling

14.00 Kerstin Forsberg, KTH Royal Institute of Technology, Sweden: No. 18
Crystallization and Precipitation in the Recycling of Lithium-ion Batteries

14.30 Phuong Nguyen, AbbVie Inc., US: No. 19
Mother Liquor Recovery: Risk Assessment and Control Strategy Development

15.00 Pekka Tynjälä, University of Oulu, Kokkola University Consortium Chydenius, Finland: No. 20
Effect of Process Conditions on the Co-precipitation of Ni(OH)₂ for LNO Battery Chemical

15.30 Closing

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