

Program for the 4th Annual Meeting of the SPP 2364

Kick-off for the 2nd phase

24.-25.11.2025

GenoHotel Karlsruhe
Am Rüppurrer Schloss 40
76199 Karlsruhe

5 minutes oral presentation as a short PowerPoint flash presentation with max. 3 slides on the topic, new results and outlook for the 2nd phase; discussion for each PhD project only at the poster; sequence of individual contributions within the project as desired; presentations can preferably be made by PhDs or PostDocs in English.

Please send each PowerPoint presentation until the 21st of November to spp2364@mvm.kit.edu

Monday, 24.11.2025

12.00-13.00	Check-in and lunch
13.00-13.30	Introduction and short review of the third year (Hermann Nirschl)

Particle Handling:

13.30-13.40	Adaptive optimal control of continuous aqueous two-phase flotation (ATPF) (Katrin Baumgärtner, Florian Messerer, Kim Lohfink)
13.40-13.50	Model-based process control for dynamic and efficient operation of liquid/liquid mixer-settler systems (Chrysoula Bliatsiou, Daniel Topalovic)
13.50-14.05	Autonomous structure formation processes in spray fluidized bed agglomeration (Jialin Men, Eric Julian Otto, Aisel Ajalova)
14.10-15.00	Poster discussion
15.00-15.30	Coffee break

Particle Synthesis:

15.30-15.45 Autonomous control of a process chain for CO₂ carbonation by use of mine waste
(Mohammad Al Kathib, Volker Bächle, Chinmay Hegde)

15.45-15.55 Model-based process control for transferred arc synthesis of nanoparticles
(Danijel Cuturic, Jonah Weidemann)

15.55-16.05 Synthesis of highly functional nanoparticles via a sol-gel process using X-ray scattering methods: from process development to process control
(Guohui Yang, Marcel Kevin Jiekeng Dongmo)

16.05-16.15 Model-based control of the dynamics during fine grinding in wet-operated stirred media mills
(Michel Lahmann, Christoph Thon)

16.15-16.25 ARCO-CRYSTAL: Adaptive robust predictive control of continuous slug flow cooling crystallization
(Collin Johnson, Maximilian Kattner, Marc Meier)

16.30-17.25 Poster discussion

17.30-19.00 Guest lecture with discussion: **Prof. Zoltan Nagy**
Title: tbd

19.00 Dinner

Tuesday, 25.11.2025

Formulation:

09.00-09.10 Autonomous and self-adapting, high-resolution 3D additive manufacturing by high energy impacts of fine particles
(Yannik Sinnwell, Anton Maksakov)

09.10-09.20 Model-based quality control in continuous manufacturing of pharmaceutical granules (QC4CM)
(Stefan Tölle, Stefan Klinken-Uth)

09.20-09.35 Formulation of dispersed systems via (melt) emulsification: Process design, in situ diagnostics and regulation
(Thorben Südhoff, Stefan Buchstaller, Leah Ebner)

09.35-09.45 Model-based control of spray synthesis of structured granules with specified properties, using transfer functions derived by multivariate stochastic models and machine learning
(Rahul Mitra, Lukas Fuchs)

09.50-10.45 Poster discussion

10.45-11.15 Coffee break

11.15-11.45 Outlook for the second period

11.45-13.00 Lunch

13.00 Departure of the PIs