Program for the 2nd Annual Meeting of the SPP 2364

27.-29.11.2023

GenoHotel Karlsruhe

Am Rüppurrer Schloss 40

76199 Karlsruhe

10 minutes oral presentation for each subproject plus 5 minutes discussion for the whole project; Sequence of individual contributions within the project as desired; presentations can preferably be made by Ph.D.s or PostDocs in English.

Monday, 27.11.2023

12.00-13.00   Check-in and lunch

13.00-13.30   Introduction and short review over the first year
Hermann Nirschl

Particle synthesis:

13.30-14.05   Autonomous control of a process chain for CO_2 carbonation by use of mine waste

(Mikhail Kakanov, Volker Bächle, Chinmay Hegde)

14.05-14.30   Model-based process control for transferred arc synthesis of nanoparticles

(Danijel Cuturic, Jonah Weidemann)

14.30-15.00   Coffee break

15.00-15.25   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 Jiokeng Dongmo)

15.25-15.50   Model-based control of the dynamics during fine grinding in wet-operated stirred media mills

(Michel Lahmann, Christoph Thon)

15.50-16.15	ARCO-CRYSTAL: Adaptive robust predictive control of continuous slug flow cooling crystallization
	(Collin Johnson, Moritz Heinlein, Anne-Cathrine Kufner)
16.15-16.45	Coffee break

Particle handling:

16.45-17.05	Optimization of gas-solid fluidized beds operation using machine learning
	(Sanaz Mostaghim)
17.05-17.30	Adaptive optimal control of continuous aqueous two-phase flotation (ATPF)
	(Katrin Baumgärtner, Florian Messerer, Kim Lohfink)
17.30-19.00	Hotel Check-in
19.00	Dinner
20.30	Guest lecture: Prof. Alain Vande Wouwer, An introduction to model-free extremum seeking control with applications

Tuesday, 28.11.2023

9.00-9.25	Model-based process control for dynamic and efficient operation of liquid/liquid mixer-settler systems
	(Enni Mattern, Elham Hassannezhad)
9.25-9.55	Autonomous structure formation processes in spray fluidized bed agglomeration
	(Jialin Men, Eric Julian Otto, Aisel Ajalova)
9.55-10.10	Coffee break

Formulation:

10.10-10.35	Autonomous and self-adapting, high-resolution 3D additive manufacturing by high energy impacts of fine particles
	(Yannik Sinnwell, Anton Maksakov)
10.35-11.00	Adaptive data-driven predictive control using behavioral approach for autonomous powder compaction
	(Ali Azarbahram, René Brands)
11.00-11.20	Coffee break
11.20-11.45	Model-based quality control in continuous manufacturing of pharmaceutical granules (QC4CM)
	(Stefan Tölle, Stefan Klinken)
11.45-12.20	Formulation of dispersed systems via (melt) emulsification: Process design, in situ diagnostics and regulation
	(Thorben Südhoff, Stefan Buchstaller, Nicolas Hesse, Leah Ebner)
12.20-12.45	Model-based control of spray synthesis of structured granules with specified properties, using transfer functions derived by multivariate stochastic models and machine learning
	(Sarah Daus, Orkun Furat)
12.45-13.15	Lunch
13.45	Departure of the PIs