

Program (as of February 20, 2020)

Sunday, 23 Feb. 2020	19:00	Welcome reception Arrival and registration Get-together		
Monday, 24 Feb. 2020	From 6:30	Breakfast		
	9:00-10:00	Registration		
	10:00-10:10	Opening remarks (A. Seidel-Morgenstern & S. Pushpavanam)		
	Session I: Fundamentals and modeling			
	Chair: Ulrich Nieken, University of Stuttgart, Germany			
	Lec01 10:10-10:40	Krishnamurthy Suresh Akkihebbal	IIT Bombay, India	A perspective for modelling solid-solid reactions - the contact point framework
	Lec02 10:40-11:00	Raimund Horn	Hamburg University of Technology, Germany	Understanding catalyst dynamics by operando concentration-, temperature-, XASs- and raman profiles in a fixed-bed reactor
	Lec03 11:00-11:20	Preeti Aghalayam	IIT Madras, India	Detailed kinetic modeling of catalytic NOx reduction in automotive applications
	Lec04 11:20-11:40	Sri Sivakumar	IIT Kanpur, India	Nature inspired artificial skin models
	Lec05 11:40-12:00	Heiko Briesen	Technical University of Munich, Germany	Morphological characterization and modeling of filamentous fungi
	Lec06 12:00-12:15	Faseeh Kulangara Kandiyil	IIT Madras, India	Process intensification through dean vortices: study of the direct synthesis of hydrogen peroxide in a serpentine membrane micro-reactor
	12:15-13:15	Lunch break		
	Session II: Separation: principles and processes			
	Chair: Kamal Kishore Pant, IIT Dehli, India			
	Lec07 13:15-13:45	Heike Lorenz	Max Planck Institute Magdeburg, Germany	From plant-based extracts to specific target compounds via crystallization
	Lec08 13:45-14:05	Guhan Jayaraman	IIT Madras, India	Continuous matrix-assisted refolding of proteins from solubilized inclusion bodies
	Lec09 14:05-14:25	Ulrich Nieken	University of Stuttgart, Germany	Combined material and process design in adsorption cooling
	Lec10 14:25-14:40	Fridolin O. Sommer	University of Rostock, Germany	Membranes based on UV-polymerized vinylimidazolium ionic liquids
	Lec11 14:40-14:55	Vamsi Vikram	IIT Madras, India	Sequential extraction of metals from printed circuit boards (PCBs) using nitric acid
	Lec12 14:55-15:10	Sebastian Schwaminger	Technical University of Munich, Germany	Novel magnetic separation strategies for biotechnological downstream processing
Lec13 15:10-15:25	Subramaniam Pushpavanam	IIT Madras, India	Modeling temperature-dependent sex determination in oviparous species using a dynamical systems approach	
15:25-16:00	Coffee break			
16:00-18:00	Guided walking tour "Dahlem – The German Oxford"			
19:00	Dinner Poster session			

Tuesday, 25 Feb. 20

From 6:30	Breakfast		
Session III:	Microfluidics devices		
	Chair: Mirjana Minceva, <i>Technical University of Munich, Germany</i>		
Lec14 8:00-8:30	Siddhartha Panda	IIT Kanpur, India	Microfluidic immunosensors – perspectives on transport, reactions and device designs
Lec15 8:30-8:50	Arnab Atta	IIT Kharagpur, India	Passive control of droplet separation in a microfluidic device
Lec16 8:50-9:10	Stefan Haase	Technical University of Dresden, Germany	Hydrodynamics of gas-liquid-flows in microfluidic devices
Lec17 9:10-9:30	Anand Mohan	IIT Hyderabad, India	Computational modelling in blood flow and coagulation
Lec18 9:30-9:50	Dipankar Bandyopadhyay	IIT Guwahati, India	Mixing separation reaction inside microfluidic devices
Lec19 9:50-10:05	Agnidhra Gain	IIT Madras, India	Intensification of reaction network through optimization of microreactor
10:05-11:10	Coffee break Poster session		
Session IV:	Chromatographic separation		
	Chair: Preeti Aghalayam, <i>IIT Madras, India</i>		
Lec20 11:10-11:40	Mirjana Minceva	Technical University of Munich, Germany	Deep eutectic solvents and their use in liquid-liquid chromatography
Lec21 11:40-11:55	Anurag Misra	Otto von Guericke University Magdeburg, Germany	Multi-fluid CFD simulation of gravity-driven liquid-liquid separation process using a moment-based method
Lec22 11:55-12:15	Wolfgang Peukert	Friedrich-Alexander University Erlangen-Nürnberg, Germany	Nanoparticle chromatography - a promising way of property classification
Lec23 12:15-12:30	Shamsul Qamar	Max Planck Institute Magdeburg, Germany	Analysis of transport model for isocratic and gradient liquid chromatography
Lec24 12:30-12:50	Malte Kaspereit	Friedrich-Alexander University Erlangen-Nürnberg, Germany	A flexible framework for modelling and optimisation of conventional and advanced chromatographic processes - CADET-Process
12:50-14:00	Lunch break		
Session V:	Novel developments in reaction engineering		
	Chair: Thaseem Thajudeen, <i>IIT Goa, India</i>		
Lec25 14:00-14:30	Amol Kulkarni	CSIR-National Chemical Laboratory, India	Reaction engineering and scale-up of a continuous process for manufacturing silver nanowires
Lec26 14:30-14:50	Jan von Langermann	University of Rostock, Germany	Development of an integrated crystallization-transaminase process for the continuous synthesis of chiral amines
Lec27 14:50-15:10	Nilanjana Banerjee	University of Petroleum and Energy Studies, India	Design of photobioreactors for algal biomass growth
Lec28 15:10-15:25	Krishna Vadiraj Kinhal	IIT Madras, India	Simultaneous synthesis and separation of nanoparticles in a continuous millifluidic system using aqueous two phase system
Lec29 15:25-15:40	Luka Živković	Max Planck Institute Magdeburg, Germany	Computer-enhanced nonlinear frequency response application: a new tool for development and optimization of periodic processes
Lec30 15:40-15:55	Andreas Seidel-Morgenstern	Max Planck Institute Magdeburg, Germany	Forced periodic reactor operation
15:55-16:30	Coffee break Poster session		

Tuesday, 25 Feb. 20	Session VI: Particles and thin films			
	Chair: Wolfgang Peukert, Friedrich-Alexander University Erlangen-Nürnberg, Germany			
	Lec31 16:30-17:00	Rabibrata Mukherjee	IIT Kharagpur, India	Morphology, texture and dewetting of liquid crystal thin films
	Lec32 17:00-17:20	Ateeque Malani	IIT Bombay, India	Analysis of nanoporous materials for gas separation and storage: multiscale modelling study
	Lec33 17:20-17:40	Achim Kienle	Otto von Guericke University Magdeburg, Germany	Dynamics and control of fluidized bed granulation processes
	Lec34 17:40-18:00	Thaseem Thajudeen	IIT Goa, India	Multidimensional characterization of non-spherical nanoparticles
	Lec35 18:00-18:20	Ashish Bhateja	IIT Goa, India	Kinematics of granular flow in the region of orifice influence in silo discharge
	Lec36 18:20-18:35	Faez Ahmad	Otto von Guericke University Magdeburg, Germany	Modelling and simulations of solute transport in drying porous media
19:00	Conference dinner Poster award ceremony "Networking" discussions			

Wednesday, 26 Feb. 20	From 6:30	Breakfast		
	Session VII: Fundamentals, simulation, optimization			
	Chair: Heike Lorenz, Max Planck Institute Magdeburg, Germany			
	Lec37 8:30-9:00	Shantanu Roy	IIT Delhi, India	Hydrodynamic investigations in forced convective boiling flows
	Lec38 9:00-9:20	Abderrahim Ouazzi	Technical University of Dortmund, Germany	Generalized quasi-Newtonian approach for modeling and simulating complex flows
	Lec39 9:20-9:40	Nandini Bhandaru	Birla Institute of Technology & Science, Pilani, Hyderabad, India	Underwater durability of patterned hydrophobic surfaces
	Lec40 9:40-9:55	Daniel Hirche	Technical University of Munich, Germany	Assessing different volume fraction determinations in three-phase flow simulations using CFD-VoF-DEM
	Lec41 9:55-10:10	Kai Langenbach	University of Kaiserslautern, Germany	Mass- and momentum transfer at interfaces
	Lec42 10:10-10:25	Christian Kunde	Otto von Guericke University Magdeburg, Germany	Optimization in integrated process design
	Lec43 10:25-10:45	René Schenkendorf	Technical University of Braunschweig, Germany	Distributionally robust process design, uncertainty and sensitivity analysis in pharmaceutical manufacturing
	10:45-11:15	Coffee break		
	Session VIII: Methane, syngas, CO₂			
	Chair: Dipankar Bandyopadhyay, IIT Guwahati, India			
	Lec44 11:15-11:45	Roland Dittmeyer	Karlsruhe Institute of Technology, Germany	Carbon dioxide from air as a feedstock for fuels and chemicals - vision and facts
	Lec45 11:45-12:05	Matthias Stein	Max Planck Institute Magdeburg, Germany	The liquid structure and dynamics of CO ₂ sequestration in aqueous alkanolamine solutions
	Lec46 12:05-12:25	Thomas Burger	Technical University of Munich, Germany	Tuning catalyst properties for CO ₂ methanation
	Lec47 12:25-12:40	Kamal Kishore Pant	IIT Dehli, India	Methanol synthesis via CO ₂ /CO hydrogenation: catalyst synthesis and reactor design
12:40	Final remarks			
13:00-14:00	Lunch			

Poster list (as of February 20, 2020)

No	Presenting author	Affiliation	Title
P01	Pravinraj Alagumannan	University of Twente, The Netherlands	Ecosystem services and green Infrastructure in cities
P02	Ahmad Alhadid	Technical University of Munich, Germany	Deep eutectic solvents design: constituent selection based on molecular structure
P03	Dipankar Bandyopadhyay	IIT Guwahati, India	Squeezing to bending transitions of EHD instabilities for digitization and mixing of two-phase microflows
P04	Dipankar Bandyopadhyay	IIT Guwahati, India	Acoustically propelled teabots for ROS scavenging activity
P05	Dipankar Bandyopadhyay	IIT Guwahati, India	Electric field mediated particle chaining: experimental and numerical investigations
P06	Dipankar Bandyopadhyay	IIT Guwahati, India	Acoustic wave stimulated microdroplet based urea biosensor
P07	Dipankar Bandyopadhyay	IIT Guwahati, India	Multimodal chemo-/magneto-/phototaxis of 3G CNT-bots to power fuel cells
P08	Shashank Bhandari	Max Planck Institute Magdeburg, Germany	Preferential crystallization for conglomerate forming systems: experiments and modelling
P09	Shivangi Borate	Otto von Guericke University Magdeburg, Germany	Microkinetic modeling of the oxygen reduction reaction in alkaline medium
P10	Matthias Felischak	Max Planck Institute Magdeburg, Germany	Optimization of methanol synthesis under forced dynamic operation
P11	Agnidhra Gain	IIT Madras, India	Investigation of Moffat-Swern Oxidation reaction kinetics for batch and continuous microreactors
P12	Mohammad Khan	IIT Bombay, India	Promoting effect of silicotungstic acid (STA) on hydrogenolysis of glycerol to 1,3-propanediol over Pt-STA/ β zeolite catalysts
P13	Yannick Krauke	KNAUER, Berlin, Germany	Simulated moving bed (SMB) – a powerful tool for continuous purification of xylitol
P14	Aditya Kulkarni	University of Kaiserslautern, Germany	Multi-criteria optimisation and dimensionless quantities: applications in thermodynamics
P15	Mark Michaud	Friedrich-Alexander University Erlangen-Nürnberg, Germany	Prediction of integrated precipitation processes by solution of population balance equations via moment methods
P16	Anand Mohan	IIT Hyderabad, India	Computational Fluid Dynamics (CFD) simulation of blood flow in idealized abdominal aorta bifurcation
P17	Minakshee Phutke	IIT Bombay, India	Study of a solid-solid reaction
P18	Adeem Ghaffar Rana	Technical University of Munich, Germany	Synthesis and characterization of Carbon Nitride (g-C ₃ N ₄) based catalyst to harvest visible light for oxidation and reduction application
P19	Basanta Saikia	Max Planck Institute Magdeburg, Germany	Molecular recognition for racemic resolution of pharmaceuticals
P20	Moritz Schluz	Technical University of Braunschweig, Germany	Semi-synthesis of anti-malaria drug artemisinin: Modeling and parameter identifiability
P21	Bahne Sosna	Hamburg University of Technology, Germany	Probing local diffusion and reaction in a catalyst pellet
P22	Laura Lisa Trinkies	Karlsruhe Institute of Technology, Germany	3D-printed fluid-guiding-elements for flow control in a microstructured membrane reactor for H ₂ O ₂ direct synthesis
P23	Krishna Vadiraj Kinhal	IIT Madras, India	Simultaneous synthesis and separation of nanoparticles in a continuous millifluidic system using aqueous two-phase system
P24	Krishna Vadiraj Kinhal	IIT Madras, India	Understanding the effect of modified photocatalysts on the conversion of carbon dioxide to useful chemicals
P25	Vamsi Vikram	IIT Madras, India	Mechanistic understanding of the kinetics of copper pellet dissolution in nitric acid
P26	Vamsi Vikram	IIT Madras, India	Sequential extraction of metals from printed circuit boards (PCBs) using nitric acid
P27	Luka Živković	Max Planck Institute Magdeburg, Germany	Guide to the computer-enhanced Nonlinear Frequency Response method