

Wednesday, September 11, 2013	
08.00-8.45am	Registration
08.45-9.00am	Welcome and opening
Session 1	
Chair :	
09.00–10.00am	Optimization and Control Using Population Balance Models Richard Braatz, MIT, USA
10.10-10.30am	Coffee Break
10.30–11.00am	Online parameter identification for continuous fluidized bed spray granulation Stefan Palis , Achim Kienle, Otto-von-Guericke University, Germany
11.00–11.30am	Product control in pharmaceutical coating by population balance modelling A. Bueck , N. Hampel, M. Peglow, E. Tsotsas, Germany Otto-von-Guericke University
11.30–12.00am	Population Balance Model Based Multi-objective Optimization of a Continuous Plug-Flow Antisolvent Crystallizer Bradley J. Ridder, Aniruddha Majumder , Zoltan K. Nagy, Loughborough University, UK
12.00-12.30pm	Poster session I (Six poster presentations, 5 minutes each)
12.30-2.00pm	Lunch Break and Poster session I
Session 2	
Chair :	
02.00–02.30pm	New formulation of the Nucleation Law for polymer system and coupling with PBE N. Di Pasquale , N. Di Marchisio, D. L.; Carbone, P., Barresi, A. A., Politecnico Di Torino, Italy
02.30–03.00pm	Improved Predictions of Effluent Suspended Solids in wastewater treatment plants by integration of a PBM with Computational Fluid Dynamics Torfs Elena , Vesvikar Mehula, Nopens Ingmar, Ghent University, Belgium
03.00–03.30pm	A kinetic Approach towards Polymorph Prediction. Identifying Nucleation Kernels Specific to a Polymorph Conor D Parks , Meenesh Singh, Doraiswami Ramkrishna, Purdue University, USA
03.30–04.00pm	On the Constrained Maximum Entropy Solution of the Bivariate Population Balance Equation for Liquid Extraction Columns Menwer Attarakih , Hans-Jorg Bart, The University of Jordan, Germany
04.00–04.30pm	Coffee Break
04.30pm --	Visit to Indian Institute of Science (IISc): Cultural Programme / Banquet

Wednesday September 11 , 2013	
12.00-12.30pm	Poster session I (Six poster presentations, 5 minutes each)
12.30-01.00pm	Poster session I
1.	Multi-scale modeling of formation of nanoparticles <u>Ethayaraja Mani</u> and Shyam P Krishnan, Indian Institute of Technology Madras, Chennai
2	Augmented Quadrature Method of Moments for solving Population Balance Equations Yi Caoz, <u>Vinay Kariwala</u> , and Zoltan Nagy, ABB, Bangalore
3	Direct discretizations of bi-variate population balance systems <u>Volker John</u> and Carina Suci, WIAS, Germany
4	Population Balance Model Based Multi-objective Optimization of a Continuous Plug-Flow Application of population balance model to combined fragmentation and evaporation processes in a spray Narayana P. Rayapati, <u>Mahesh V. Panchagnula</u> , John Peddieson, Indian Institute of Technology Madras, Chennai
5	Modelling of flocculation in a jar test : introduction of a fractal dimension in population balance equations and resolution based on QMOM <u>Melody Vlieghe</u> , Carole Saudejaud, Christine Frances, Alain Lin, University of Toulouse, France
6	The effect of bioreactor compartmentalization on yeast population dynamics during continuous cultivation Rita Lencastre Fernandes, Anker D., Jensen, Ingmar Nopens, <u>Krist V. Gernaey</u> , Technical University of Denmark
7	Coupling of three-dimensional flow simulation and one-dimensional population balance equation by Fixed Pivot Method for stirred systems <u>A. Walle</u> , S. Kumar, M. Schafer, Technical University Darmstadt, Germany

Thursday, September 12, 2013	
Session 3	
Chair :	
09.00–10.00am	Heterogeneity in cell populations underlying viral infections and treatment response Narendra M Dixit, Indian Institute of Science, Bangalore
10.00-10.30am	Coffee Break
10.30–11.00am	Predicting Clinical Responses for Chemotherapeutics: Population Balance Modeling for Personalized Treatment Jayachandran Devaraj, <u>Doraiswami Ramkrishna</u>, Purdue University, USA
11.00–11.30am	Modeling the cryopreservation process of a suspension of cells: the effect of a size-distributed cell population Alberto Cincotti and <u>Sarah Fadda</u>, University of Cagliari, Italy
11.30–12.00am	Multi-scale population balance modeling and control of a continuous pharmaceutical manufacturing process <u>Rohit Ramachandran</u> , Maitraye Sen, Dana Barrasso, Anwesha Chaudhury, Ravendra Singh, Sarang Oka, Rutgers School of Engineering, USA
12.00-12.30pm	Poster session II (Six poster presentations , 5 minutes each)
12.30-02.00pm	Lunch Break and Poster session II
Session 4	
Chair :	
02.00–02.30pm	Arrested Precipitation of Nanoparticles: From Approximate Simplification of a Bivariate Model to a Simple Theory Sivaramkrishna Perala, <u>Sanjeev Kumar</u>, Indian Institute of Science, Bangalore
02.30–03.00pm	Parameter estimation and statistical analysis of a new model for silicon nanoparticle synthesis George P.E. Brownbridge, William J. Menz, <u>Markus Kraft</u>, University of Cambridge, UK
03.00–03.30pm	New Coalescence and Breakup Kernels for Air-Water and Steam-Water Pipe Flows <u>Yixiang Liao</u> , Dirk Lucas, Eckhard Krepper, Roland Rzehak, Institute of Fluid Dynamics Dresden, Saxony, Germany
03.30-04.00pm	Coffee Break
04.00–04.30pm	Modeling the Effect of Influencing Parameters in a Spray Fluidized Bed Granulation Mubashir Hussain, <u>Jitendra Kumar</u> , Mirko Peglow, Evangelos Tsotsa, Otto-von-Guericke University, Germany
04.30–05.00pm	Design of an Aerosol Flame Reactor for Nanoparticle Synthesis Nagaravi Kumar Varma Nadimpalli, <u>Venkataramana Runkana</u>, TCS Pune, India
05.00–05.30pm	Modeling and simulation of simultaneous continuous preferential crystallization in a

coupled mode
Shamsul Qamar, Kamila Galan, Andreas Seidel-Morgenstern, **Max Planck Institute, Germany**

September, Thursday 12 , 2013

12.30-01.00pm	Six poster presentations (Poster session I), 5 minutes each
12.30-2.00pm	Poster session II
1.	Modeling of Nanoparticle Synthesis in Water-in-Oil Microemulsions Viswanadh Bandla and Venkataramana Runkana, TCS, India
2	Multi-Scale Modeling the Intraparticle Transfer and Catalytic Hydrogenation Reaction of Dimethyl Oxalate in Fluidized Bed Reactors Ya-Ping Zhu, <u>Zheng-Hong Luo</u> , and XiaoDong Chen, Xiamen University, China
3	A Comparison between Molecular Dynamics Simulations and Modelling by the Population Balance Equation G. Inci, and <u>A. Kronenburg</u> , University of Stuttgart, Germany
4	Scenario Analysis on a PBM describing the drying modeling of wet pharmaceutical granules <u>Mortier, Severine Therese F.C.</u> , Gernaey, Krist V., De Beer, Nopens, Ingmar, Ghent University, Belgium
5	Adaptive population balances using direct quadrature method of moments in a finite element framework Gaurav Bhutani , Pablo R. Brito-Parada, Kathryn Hadler, Jan J. Cilliers, Imperial College London, United Kingdom
6	Identification of the linear relationship between two uncertain kinetic parameter Xiaoming Hao, Huazhong University of Science & Technology, China
7	Global Sensitivity Analysis on a PBM-model describing the drying behaviour of wet pharmaceutical granules <u>Mortier, Séverine Thérèse F.C.</u> , Gernaey, Krist V., De Beer, Thomas, Nopens, Ingmar Ghent University, Belgium

Friday, September 13, 2013	
Session 5	
Chair :	
09.00–10.00am	Moment based methods to solve PBEs, and their contribution to the growth of population balance modeling Daniele Marchisio, Politecnico Di Torino, Italy
10.100-10.30am	Coffee Break
10.30–11.00am	Simulation of the enzymatic depolymerization of branched starch with DQMOM Christoph Kirse, Simon Weber, Heiko Briesen, Technical University Munich, Germany
11.00–11.30am	Accelerating Population Balance-Monte Carlo from the Markov Jump Model, Stochastic Algorithm and GPU Parallel Computing Xiaoming Hao, Haibo Zhao, Zuwei Xu , Chuguang Zheng, Huazhong University of Science and Technology, China
11.30–12.00am	A multi-level finite element discretization for efficient solution of multidimensional population balance models Sashi kumaar Ganesan, Bhanu Teja, Indian Institute of Science, Bangalore
12.00-12.30pm	An efficient method for calculating the moments of multidimensional growth processes Robert Durr and A. Kienle, Max-Planck-Institute, Germany
01.00-02.00pm	Lunch Break and Poster session III
Session 6	
Chair :	
02.00–02.30pm	Parametric Investigation of Sedimentation of Raindrop using Quadrature Method of Moments Achintya Mukhopadhyay, Indian Institute of Technology Madras, Chennai
02.30–03.00pm	Simulation of stagnant layer formation in a 2D+1D population balance model of a LDPE reactor Mykhaylo Krasnyk, Christian Kunde , Michael Mangold, Max Planck Institute, Germany
03.00–03.30pm	Multi-component and -phase population balance model for the investigation of Methanol catalyst precursor formation Martin. A. J. Hartig , Nikolas Jacobsen, Wolfgang Peukert, FAUE-Nuremberg, Germany
03.30–04.00pm	Coffee Break
04.00–04.30pm	Mass transfer and Population Balance Modeling using 3D-CFD Hans-Jorg Bart , Mark W. Hlawitschka, Menwer M. Attarakih, University of Kaiserslautern, Germany
04.30–05.00pm	PBE Modeling of a Modular Microreaction Plant for Continuous Production of Quantum



5th International Conference on Population Balance
Modelling in Bangalore, September 11-13, 2013
Indian Institute of Science, Bangalore, INDIA



	Dots <u>Michael Haderlein</u> , Michael Groschel, Gunthar Leugering Wolfgang Peukert, FAUE-Nuremberg, Germany
05.00-05.30pm	Best Poster Awards + Concluding Remarks