

Particle Interactions 2018

Topical at the 8th World Congress on Particle Technology

Orlando, Florida, USA
22 - 26 April 2018

ISBN: 978-1-5108-6973-8

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2018) by AIChE
All rights reserved.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact AIChE
at the address below.

AIChE
120 Wall Street, FL 23
New York, NY 10005-4020

Phone: (800) 242-4363
Fax: (203) 775-5177

www.aiche.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

(4a) AFM Measurements of Adhesion Force on Hydrophobic Surfaces	1
<i>Lisa Ditscherlein, Paul Knupfer, Urs A. Peuker, J. Fritzsche</i>	
(4b) Flow Optimization in Cohesive Powder Blends: Identifying and Modeling Impact of Shape and Size on Observed Cohesivity Minimum	6
<i>David Goldfarb, Stephen L. Conway, Hirotaka Nakagawa, Sean McClure, Michael Gentzler</i>	
(4c) Influence of Droplet Size on Particle-Particle Adhesion of Colliding Particles through Droplet: Directnumerical Simulation Study	7
<i>Hideya Nakamura, Hiroyuki Kan, Shuji Ohsaki, Satoru Watano</i>	
(4d) Influence of Filter Cake Thickness During Backwash Regeneration	8
<i>Patrick Morsch, Harald Anlauf, Hermann Nirschl</i>	
(18a) Understanding Adhesive Mixing Via Energy-Based Stick/Bounce Model	9
<i>Kai Zheng, Rajesh Dave</i>	
(18b) CFD-DEM Modelling of Dilute-Phase Pneumatic Transport of Cohesive Dairy Powder in a Stainless Steel Pipe	10
<i>Akeem Olaleye, Orest Shardt, Harry E. A. Van Den Akker</i>	
(18c) DEM Simulation of Wet Particulate Flow over a Circular Cylinder	11
<i>Hongsheng Chen, Ran Tao, Huang Zhang, Shuiqing Li</i>	
(18d) Review of Contact Models for Cohesive-Frictional Materials and Applications	12
<i>Stefan Luding</i>	
(28a) High Speed Video Imaging of Jet Cup Attrition Hydrodynamics	13
<i>Kelsey Bailey, Akvile Puraite, Rasa Kales, Ray Cocco, Ben Freireich</i>	
(28b) The Stress, Orientation, Displacement Deviation, and Solid Fraction Predictions from a Modified Attrition Cell Containing Needle-Shaped Particles	14
<i>Rohit Kumar, Avik Sarkar, William R. Ketterhagen, Bruno C. Hancock, Jennifer Sinclair Curtis, Carl R. Wassgren</i>	
(28c) Attrition Prediction of Grid Jets in Fluidized Bed Systems	15
<i>Nathan Galinsky, Samuel Bayham, Ronald W. Breault</i>	
(28d) "Perfect Particles" - 3D Printing of Tuneable Agglomerates for Validation of DEM Breakage Models	16
<i>Ruihuan Ge, Tina Bonakdar, Ian Larson, Zongyan Zhou, Mojtaba Ghadiri, Karen P. Hapgood</i>	
(28e) Particle Attrition: Mechanisms and Jet Cup Attrition Method	17
<i>Yeook Arrington, Reddy Karri, Ray Cocco, Ben Freireich</i>	
(46a) Dispersion of Magnetite Nanoparticles in Brine Solutions Via Coating with Sulfonated Phenolic Resin	18
<i>Yongtae Park, Heechan Cho</i>	
(46b) Dispersibility of Carbon Black As Function of Dispersing Intensity Using Hansen Dispersibility Parameters - Evaluation of Nonideal Mixing Effects Based on Normalized Relative Sedimentation Time	19
<i>Titus Sobisch, Dietmar Lerche, Doris Segets, Sebastian Sub, Wolfgang Peukert</i>	
(46c) The Role of Surfactant Structures at the Metal/Electrolyte Interface for Corrosion Inhibition	21
<i>Akshay Rajopadhye, Anoop Nautiyal, Premal Shukla, Brij Moudgil</i>	
(46d) Particulate and Surfactant Systems for Industrial Applications: Challenges and Opportunities	22
<i>Brij M. Moudgil</i>	
(54a) Evaluating the Influence of Dry Granulation Processing Variables on the Rheological Properties of Granules	23
<i>Tim Freeman, Laura Monington, John Yin, Hartmut Vom Bey, Michael Hanisch</i>	
(54b) Assessment of the Homogeneity of an Alumina Powders Mixture Using Rheological Parameters	24
<i>Martin Giraud, Cendrine Gatamel, Guillaume Bernard-Granger, Henri Berthiaux</i>	
(54c) Characterising the Grain Shape: In Search of Size Independent Shape Descriptors	25
<i>Aman Tripathi, Shivi Dixit, Vimod Kumar, Samik Nag, Anurag Tripathi</i>	
(54d) Investigating Mechanical Properties of Surfactant Films at the Solid-Liquid Interface Using AFM	26
<i>Anoop Nautiyal</i>	
(54e) Deposition Rate Consequences of the Formation of Multi-Spherule Cluster Aggregates in Gases "Role of Momentum Shielding"TM	27
<i>Daniel E. Rosner, Pushkar Tandon</i>	
(54f) Experimental and Numerical Studies on the Thermal Diffusivity of Packed Powder Beds	28
<i>Bereket Yohannes, Sahil Navodia, Anna Nachtigal, Calvin Kim, Fernando J. Muzzio, William G. Borghard, Benjamin Glasser, Alberto Cuitino</i>	
(54g) Determination of Size, Size Distribution and Refractive Index of Artificial and Biological Microparticles	29
<i>Jorg Neukammer, Kathrin Smuda, Jonas Gienger, Hans Bauml</i>	
(54bm) FlowCam Nano® Provides Counts, Sizes and Images of Nano-and Microparticles: Application to a Therapeutic Protein Pumping Study	30
<i>Dave Hamel, Cheng Her, Chris Sieracki, Kent Peterson, Christian Mills, John Carpenter</i>	
(54j) Numerical and Experimental Estimation on the Normal and Tangential Capillary Bridge Force Adhered to Two Spheres	31
<i>Kazuo Murase, Keisuke Arai, Takato Ootsuka, Daiki Sakamoto, Futa Egawa</i>	
(54k) Numerical Simulation of Wire-Plate Electrostatic Precipitator - Effect of Particle Concentration	39
<i>Jun Guo, Bao-Yu Guo, Aibing Yu, Ding Yang</i>	

(54l) Triboelectric Charge of Spherical Glass Particles Against Metal Pipeline	47
<i>Hosu Choi, Kwangseok Choi, Teruo Suzuki</i>	
(54m) Spray-Drying of a Layered Double Hydroxide Nanosuspension	55
<i>Boris Golman, Wittaya Julklang, Aunchana Wangriya</i>	
(54n) Impact of Spheroidization of UO₂ Powders on the Filling of Press Molds	56
<i>Ahmed Madian</i>	
(54o) Modelling a Twin Screw Granulator Using the Discrete Element Method	57
<i>John P. Morrissey, Kevin J. Hanley, Jin Y. Ooi</i>	
(54p) Hybrid Multiscale Modelling of a Twin Screw Granulator	58
<i>John P. Morrissey, Kevin J. Hanley, Jin Y. Ooi, Li Ge Wang, James D. Litster</i>	
(54r) Blocking Rules for Discharging Granular Materials from a Flat Bottom Hopper	59
<i>Charley Wu</i>	
(137b) Characterization of Mesoscopic Structure in Cohesive Powder, Neat or Blended, By X-Ray Computed Tomography and Prediction By the Discrete Element Method	60
<i>Sean McClure, Andrew Abi-Mansour, Michael Gentzler</i>	
(54t) Numerical Research of Hydrodynamics in Gas-Solid Micro Fluidized Beds	61
<i>Xu Liu, Jinglin Su, Jinghui Zhan, Lijie Cui, Xiaoxing Liu</i>	
(54v) An Improved Bubble-Based Drag Model for Accurate Coarse-Grid Two-Fluid Modeling of Geldart a Powder Bubbling Fluidization	62
<i>Kun Hong, Qingang Xiong, Atta Ullah</i>	
(54w) Numerical Simulation on Fine Particle Transport Behaviour in Electrostatic Precipitators	63
<i>Ming Dong, Fei Zhou, Sufen Li</i>	
(54x) Lattice Boltzmann Simulations of Porous Particulate Flows	64
<i>Chenggong Li, Mao Ye, Zhongmin Liu</i>	
(54z) Modeling of a Novel Multi-Particle Collision Model for Gas-Solid Flows	65
<i>Vikrant Verma, Johan T. Padding</i>	
(54aa) Dpm Analysis of Large Fluidized Catalytic Cracking (FCC) Reactors	67
<i>Azita Ahmadzadeh, Michael Sandacz, Richard Johnson</i>	
(54ad) Catalytic Reactor Design Using Multiphase CFD	68
<i>Dimitri Gidaspow</i>	
(54ae) Simulation of Large Particle Turbulent Fluidization in Riser Reactors By Coarse Grain DEM-CFD	69
<i>Alberto Di Renzo, Francesco P. Di Maio</i>	
(54af) Numerical Study of Particles Shape Effects on Solid-Liquid Fluidizations	70
<i>Esmail Abbaszadeh Molaei, Zongyan Zhou</i>	
(54ai) CFD Investigation on Gas-Solids Flow and Heat Transfer in Two Fluidized Catalyst Cooler	71
<i>Xiuying Yao, Chunxi Lu</i>	
(54aj) Hydrodynamics and Mixing Characteristics of a New-Type Particle Mixer	72
<i>Mengxi Liu, Chunxi Lu, Zhenliang Meng</i>	
(54ak) Power Spectral Density Analysis of Pressure Signal in 18 m Circulation Fluidized Bed Riser	80
<i>Chengxiu Wang, Chaoyu Yan, Yaodong Wei, Jinsen Gao, Chunming Xu, Huajian Pei, Xin Su</i>	
(54al) Characteristics of Pressure Fluctuations in Particle-Transport Inclined Pipe of a Circulating Fluidized Bed	81
<i>Chaoyu Yan, Yaodong Wei, Jianfei Song, Jiangyun Wang</i>	
(54am) Dynamic Modeling of Attrition and Reactions in Circulating Fluidized Bed Reactors	82
<i>Johannes Haus, Ernst-Ulrich Hartge, Joachim Werther, Stefan Heinrich</i>	
(54an) Analysis of FCC Cyclone Fault Diagnosis Technology Based on Particles Information	83
<i>Jianfei Song, Di Wang, Liqiang Sun, Chaoyu Yan, Yaodong Wei</i>	
(54ao) The Multi-Hole Throttling Effect and the Erosion Characteristics of the High Pressure Natural Gas	84
<i>Jiangyun Wang, Linqian Hou, Jing Lv, Yaodong Wei, Chaoyu Yan</i>	
(54ap) Numerical Simulation of Flow Field In a Gas Pipe Distributor of the FCCU Regenerator	85
<i>Yaodong Wei, Jianfei Song, Chaoyu Yan</i>	
(54aq) Full-Loop Simulation of Gas-solids Flow in Circulating Fluidized Bed of FCC System	86
<i>Xingying Lan, Min Wang, Yingya Wu, Jinsen Gao</i>	
(54ar) Immobilization of Sulfur-Oxidizing Bacterium, Thioalkalivibrio Sp. D301 on Magnetic Nanaoparticles and Biodesulfurization	87
<i>Jianmin Xing</i>	
(54as) Simulation of Bulk Solids and Granular Systems By Using Combined Discrete Element Models	88
<i>Yongzhi Zhao</i>	
(54bk) Material Optimization of Perovskite Films using High Throughput Synthesis and Multi-Dimensional Analysis	89
<i>Ahmed M. Salaheldin, Elisabeth Reinhardt, Monica Distaso, Doris Segets, Wolfgang Peukert</i>	
(54au) Solid Liquid Separation Via Particle Flow Instability	90
<i>Steven Wang</i>	
(54aw) Milling and Grindability Assessment of Pharmaceutical Materials	91
<i>Tina Bonakdar, Mojtaba Ghadiri, Ali Hassanpour, Kevin J. Roberts</i>	
(54ax) Bi-Directional Thermal Control of Twin Screw Granulation Process Via a Specialised Annular Heat Pipe	92
<i>Ahmad Mustaffar, Kamelia Boodhoo, Anh Phan</i>	
(54ay) Mixing Grains with Different Elongation in a Rotating Drum	93
<i>Claudia Piacenza, Marco Marconati, Colin Hare, Andrea Santomaso, Marco Ramaioli</i>	
(54az) Generation of Particles with a Special Morphology By Desublimation of Copper Phthalocyanine	101
<i>Tim Dillenburger, Sergiy Antonyuk, Maximilian Kerner</i>	

(54bl) Rubbery Milling of Seed Endosperms for Improved Sustainability by Natural Functionality Preservation	102
<i>Linda Brutsch, Erich J. Windhab, V. Meunier</i>	
(54ba) Particle Technology Education at Purdue University	103
<i>Carl Wassgren</i>	
(54bb) Teaching Particle Technology in Portugal - University of Coimbra	104
<i>Maria G. Rasteiro</i>	
(54bc) Highlights of Particle Technology Teaching in Singapore	105
<i>Cindy Lai Yeng Lee, Eldin Wee Chuan Lim, Jia Wei Chew</i>	
(54bd) Particle Technology Course at the University of Salerno	106
<i>Diego Barletta, Massimo Poletto</i>	
(54be) Professional Master of Engineering Degree in Particle Technology	107
<i>R. Bertrum Diemer Jr., James N. Michaels</i>	
(54bf) Recent Developments in Particle Technology at the Universidad Tecnica Federico Santa Maria	108
<i>Francisco Cabrejos</i>	
(54bg) Using Perusall to Enhance Student Learning of Particle Technology at Graz University of Technology	109
<i>Daniel Lepek, Stefan Radl, Johannes G. Khinast</i>	
(54bh) A Graduate Course in Fluidization and Gas-Solid Flow Systems	110
<i>Hamid Arastoopour, Ted Knowlton</i>	
(54bi) Education of Fluid-Solid Multiphase Flow at Department of Mechanical Engineering, Osaka University	111
<i>Toshitsugu Tanaka</i>	
(54bj) Bulk Solids Handling Education at the KSU Bulk Solids Innovation Center	112
<i>Johnselvakumar Lawrence</i>	
(59a) Structure of Spherical Silica Colloid Film Prepared By Electrophoretic Deposition in Pulsed Direct Current Electric Field	113
<i>Yasushige Mori, Yoshiro Sadakami, Ken Nishimura, Katsumi Tsuchiya</i>	
(59b) Dynamic Wetting of Multicomponent Particle Systems	114
<i>Jana Kammerhofer, Lennart Fries, Julien Dupas, Laurent Forny, Stefan Heinrich, Stefan Palzer</i>	
(59c) Aspects of Wettability Heterogeneities in Flotation - Investigations with Inverse Gas Chromatography and Colloidal Probe Atomic Force Microscopy	124
<i>Martin Rudolph, Bent Babel, Paul Knupfer, Urs A. Peuker</i>	
(59d) Surface Engineering for Designing Superhydrophobic and Superhydrophilic Particulate Solids	125
<i>Deepa Dixit, Chinmay Ghoroi</i>	
(66a) Second Dose During the Breakage Occurred in Initial Flocculation Phase: Does It Work Positively?	126
<i>Zhaoyang Su Sr., Xing Li Sr., Yanling Yang Sr.</i>	
(66b) Effect of Particle Wettability on Mineral Oil-Distilled Water Emulsion Stability	127
<i>Cristian Nunez, Ramin Dabirian, Ilias Gavrielatos, Ram S. Mohan, Ovidia Shoham</i>	
(66c) Effect of Oil Filtration on Oil-Water Dispersion Characterization	141
<i>Ramin Dabirian, Cristian Nunez, Ilias Gavrielatos, Ram S. Mohan, Ovidia Shoham</i>	
(71a) The Influence of Nanobubbles on the Interaction Forces between Alumina Particles and Ceramic Foam Filters in Water	142
<i>Lisa Ditscherlein, Urs A. Peuker</i>	
(71b) Effect of Physical Properties of Coal Gasification Fine Ash on Its Wettability	147
<i>Xueli Chen, Lin Xu, Shijie Zhu, Haifeng Lu</i>	
(71c) Analysis and Control of Adhesion Behavior of Sewage Sludge Combustion Ashes at High Temperature	148
<i>Juguan Gao, Miki Matsushita, Hidehiro Kamiya, Mayumi Tsukada</i>	
(71d) Mixed Layer Formation in a Blast Furnace and Its Effect on the Performance	149
<i>Dianyu E, Qinfu Hou, Aibing Yu</i>	
(82a) Anti-Agglomeration Strategy Study of High Sodium Coal Gasification in a Commercial Circulating Fluidized Bed Gasifier	150
<i>Haixia Zhang, Kuangshi Yu, Zhiping Zhu, Weiwei Liu</i>	
(82b) Experimental Investigation and Force Balance Modeling of Wet Particle Collisions	151
<i>Britta Buck, Yali Tang, Niels G. Deen, Hans J. A. M. Kuipers, Stefan Heinrich</i>	
(82c) Interaction Forces in Relation to Agglomerate Size of Hydrophobic Particles	158
<i>Paul Knupfer, Urs A. Peuker</i>	
(82d) Characterizing Nanoparticle Agglomerates in a Nanopowder Fluidized Bed	162
<i>J. Ruud Van Ommen, Andrea Fabre, Samir Salameh, Michiel Kreutzer</i>	
(82e) Granule Structure and Formation Mechanisms of Single Drop Formed Granules from Binary Mixtures	163
<i>Tianxiang Gao, Arun Sundar S. Singaravelu, Nikhilesh Chawla, Heather N. Emady</i>	
(82f) Forming Lumps and Jets when Pouring Particles through a Liquid Interface	164
<i>Xin Yi Ong, Spencer E. Taylor, Marco Ramaioli</i>	
(95a) Particle Measurement in High Temperature Gas Based on Mie Scattering	165
<i>Lifeng Lu Sr., Xiaolin Wu, Zhongli Ji, Mingxing Wang Sr.</i>	
(95b) An Experimental Investigation of Single Droplet Drying Above Boiling Point	173
<i>Wael Ebrahim, Andrew Bayly</i>	
(95c) Characterising Powder Flow in Dynamic Processes	174
<i>Marvellous J. Khala, Colin Hare, Chuan-Yu Wu, Martin Murtagh, Navin Venugopal, Tim Freeman</i>	
(95e) Impact of Non-Spherical Projectiles on Granular Media	175
<i>Spandana Vajrala, Hosain Bagheri, Hamid Marvi, Heather N. Emady</i>	
(95f) Computational and Experimental Shear Cell Study with Rigid Cylindrical Particles	176
<i>Liliana Bello, Kevin E. Buettner, Yu Guo, Virginia Lane, Haim Kalman, Jennifer Sinclair Curtis</i>	

(95i) Defluidization Behaviour of Industrial Reactive Powders at High Temperature	177
<i>Domenico Macri', Paola Lettieri</i>	
(95j) Manufacturing and Characterization of Spherical Blend PBT-PC Particles for Additive Manufacturing	178
<i>Maximilian A. Dechet, Juan S. Gomez Bonilla, Jochen Schmidt, Wolfgang Peukert</i>	
(95k) Creating Tuneable Agglomerates via 3D Printing	179
<i>Ruihuan Ge, Mojtaba Ghadiri, Tina Bonakdar, Zongyan Zhou, Ian Larson, Karen P. Hapgood</i>	
(95l) Effect of Particle Size Distribution and Wettability on Penetration Behavior, Granule Formation and Granule Properties in Single Drop Granulation	180
<i>Tianxiang Gao, Arun Sundar S. Singaravelu, Nikhilesh Chawla, Heather N. Emady</i>	
(95m) Atomically Deposited Sintering Aids: Assessing the Effects of Alumina Particle ALD on the Sintering and Performance of SOFC Electrolytes and Dental Ceramics	181
<i>Rebecca O'Toole, Christopher J. Bartel, Maila Kodas, Alexa Horrell, Sandrine Ricote, Neal P. Sullivan, Austin Drake, Christopher Gump, Robert Hall, Charles B. Musgrave, Alan W. Weimer</i>	
(95n) Effect of Particle Size Distribution and Operating Parameters on Conduction and Convection Heat Transfer Mechanisms in Rotary Drums	182
<i>Manogna Adepu, Shaohua Chen, Yang Jiao, Aytekin Gel, Heather N. Emady</i>	
(95o) Selective Hydrogenation of Citral over Supported Pt Catalysts on Various Substrates	183
<i>Xiaofeng Wang, Xinhua Liang</i>	
(95p) Numerical Simulation of Particle Classification in a Classifier Based on Coanda Effect	184
<i>Dongjoo Kim, Seok-Min Jeong, Junyoung Park, Youngjin Seo</i>	
(95q) Numerical Simulation of the Secondary Air Distribution Layer in the Gas Solid Fluidized Bed Based on Flunt Software	185
<i>Bo Lv Sr., Zhenfu Luo</i>	
(95r) CFD-DEM Simulation of the Fluidization of Non-Spherical Particles in Fluidized Bed	186
<i>Huaqing Ma, Yongzhi Zhao</i>	
(95s) CFD and DEM Simulation of the Cold Spray Process for Surface Coating with Fine Particles	187
<i>Paul Breuninger, Fabian Krull, Sergiy Antonyuk</i>	
(95t) Two-Fluid Validation of Constitutive Models for the Simulation of Cylindrical Particles	188
<i>Kevin E. Buettner, Yu Guo, Softiane Benyahia, Jennifer Sinclair Curtis</i>	
(95u) The Comparison of Coarse Grained CFD-DEM for Simulating the Dense Bubbling Fluidized Bed Requires Immediate Action	189
<i>Yong Zhang, Junwu Wang, Ge Wei, Chenlong Duan, Yuemin Zhao</i>	
(95v) Stability Analysis of Uniform Gas Solids Flow	190
<i>Chenxi Zhang, Weizhong Qian, Fei Wei</i>	
(95w) Numerical Simulation of Particle Sedimentation Related to Nuclear Safety By CFD-DEM Algorithm	191
<i>Byoungcheol Hwang, Kiyofumi Moriyama, Hyun Sun Park</i>	
(95x) Application of Extended Discrete Element Method to the Melting Process of a Packed of Particles	192
<i>Mehdi Bnaiasadi, Maryam Baniasadi, Bernhard Peters, Xavier Besseron</i>	
(95y) Real-Time Interpretation of Chaotic Characteristics and Instability of Dense Gas Solid Fluidization	193
<i>Cheng Sheng, Chenlong Duan, Liang Dong, Tao Liu, Chenyang Zhou, Jinpeng Qiao, Yuemin Zhao</i>	
(95ab) Glucan Particles As Potential Carriers of Natural Flavonoids for Treatment of Idiopathic Inflammation Diseases	194
<i>Petra Salamanova, Jaroslav Hanus, Jan Hosek, Domink Rotrekl, Ivan Salon, Zuzana Plavcova, Frantisek Stepanek, Gabriela Ruphuy Chan</i>	
(95ac) Use of Advanced Imaging Techniques in Tablet Disintegration Study	195
<i>Jakub Dvorak, Denisa Lizonova, Marek Schongut, Frantisek Stepanek, Josef Beranek</i>	
(95ad) Correlation Study Between Liquid Penetration and Mechanical Properties of Pharmaceutical Tablets	196
<i>Jan Tomas, Jakub Dvorak, Marek Schongut, Frantisek Stepanek, Josef Beranek, Ondrej Dammer</i>	
(95ae) In Situ Drug Amorphisation By Microwave Irradiation Stabilized By Mesoporous Silica	197
<i>Jakub Muzik, David Zuzka, Marek Soltys, Denisa Lizonova, Ales Zadrazil, Pavel Kovacic, Frantisek Stepanek</i>	
(95af) Manufacture of Personalised Medicines By API Printing on Porous Tablets	198
<i>Sarah Akhlasova, Marek Soltys, Pavel Kovacic, Ales Zadrazil, Frantisek Stepanek</i>	
(95ag) Understanding Phase Transition of Acetaminophen in the Bulk and Surface of Acetaminophen	199
<i>Hanane Abouhakim, Ali Hassanpour, Frans L. Muller, Sven Schroeder, Mike Quayle</i>	
(95ah) Treatment of Cystinosis through Vitamin E Modified Silicone Hydrogel	200
<i>Phillip Dixon</i>	
(95am) Systems Integration for Dry Granulation Based Continuous Pharmaceutical Tableting	201
<i>Sudarshan Ganesh, Mariana Moreno, Yasasvi Bommireddy, Qinglin Su, Marcial Gonzalez, Zoltan K. Nagy, Gintaras Reklaitis</i>	
(95ai) Modeling Granular Material Mixing and Segregation Using a Multi-Scale Model	202
<i>Yu Liu, Marcial Gonzalez, Carl Wassgren</i>	
(95ak) Modelling Granular Media with Dynamical Density Functional Theory	203
<i>Timothy D. Hurst, B. Goddard, R. Ocone</i>	
(95al) A Study on Partially Wetted Particle Collisions with a Wet Wall	204
<i>Evan Milacic</i>	
(102a) Influence of Interparticle Forces and Particle Collision Properties on the Fluidization Behavior at Elevated Temperatures	205
<i>Milan Mihajlovic, Ivo Roghair, M. Van Sint Annaland</i>	
(102b) Wet Stirred Media Milling of Organic Crystals: Interactions between Product Formulation, Grinding Media Wear and Colloidal Stability	206
<i>Frederik Flach, Sandra Breitung-Faes, Arno Kwade</i>	

(102c) Hydrophobic Attraction between Silanated Silica Surfaces of Different Hydrophobicity	207
<i>Naoyuki Ishida, Kohei Matsuo, Hiroyuki Imanaka, Koreyoshi Imamura</i>	
(102d) Determination of Particle Surface Properties Using Hansen Dispersibility Parameters Demonstrated By Means of Carbon Black and Functionalized ZnO Nanoparticles	208
<i>Doris Segets, Sebastian Sub, Titus Sobisch, Wei Lin, Wolfgang Peukert, Diemar Lerche</i>	
(115c) Collisional Dissipation Rate of Flexible Rods Measured Using Driven and Non-Driven DEM Simulations	210
<i>Kevin E. Buettner, Yu Guo, Liliana Bello, Jennifer Sinclair Curtis</i>	
(115d) Pickering Foam Formulation By Wet Nano-Milling	211
<i>Robert Lehocky, Ivan Salon, Milos Svoboda, Daniel Pecek, Frantisek Stepanek</i>	
(126a) Electrostatics of Dry Powder Aerosols for Inhalation	212
<i>Philip Kwok</i>	
(126b) Electrification and Dispersion of Particles Using Mesh Electrode	213
<i>Mizuki Shoyama, Shuji Matsusaka</i>	
(126c) Novel Electrostatic Field Meter Using Rolling Sector (First Paper)	214
<i>Kwangseok Choi, Teruo Suzuki</i>	
(126d) Investigation of Granular Surface Roughness Effect on Electrostatic Charge Generation.....	219
<i>Jun Yao, Shuo Cong, Yanlin Zhao, Chi-Hwa Wang</i>	
(128a) DIFREX Reactor and Technology Solutions for Many Particle Types and Sizes in Catalytic and Non-Catalytic Systems.....	220
<i>Subhash Dutta, Stephen C. Arnold, Aashish Gaurav, Jim Brenner</i>	
(128b) Erosion and Mobilisation of Highly ACTIVE Simulant Suspensions with Impinging Vertical Jets.....	232
<i>Joshua Croft</i>	
(128c) REAL WORLD Examples of Influences of Particles and Cake Formation on SOLID-Liquid Separation Technology Operation.....	233
<i>Barry A. Perlmutter</i>	
(136a) Influence of Electrostatic Charges on the Particle Concentration in Wall-Bounded Turbulent Flows	234
<i>Holger Grosshans, Laura Villafane, Andrew Banko, Miltiadis V. Papalexandris</i>	
(136b) Powder Electrification Due to Pneumatic Conveying	249
<i>Milad Taghavivand, Andrew Sowinski, Poupak Mehrani</i>	
(136c) Modeling of Electrostatic Charging of Particles in a Shaker	250
<i>Tatsushi Matsuyama, Yuki Mabuchi, Junichi Ida</i>	
(136d) Parametric Study for the Development of a Particle-Particle Collisional Charging Model for Use in the CFD Simulation of Electrostatic Effects in Gas-Solid Fluidized Beds	251
<i>Fahad Chowdhury, Manjil Ray, Andrew Sowinski, Poupak Mehrani, Alberto Passalacqua</i>	
Author Index	