

Technical Programme

PSA2014 Programme incorporating The UK Particle Technology Forum and Fine Bubble Symposium

Monday 15th September

From	To					
11:00	13:00	Registration				
12:00	Exhibition commences					
12:00	13:00	Lunch				
13:00	13:10	Conference Opening in The Pioneer Theatre				
13:10	14:00	Plenary 1 Marc-Olivier Coppens: Nature-inspired design and synthesis of hierarchically structured materials for catalysis and therapeutics				
			Pioneer Theatre	Leader Suite	Conference Room 7	
14:00	14:25	Session 1	01: International Standardization of Particle Characterization in Liaison with Nanotechnology Michael Stintz	25: The properties; challenges and benefits, of the Picket Fence reference standard M. Wedd	46: The Importance of Thresholding in Imaging Particle Analysis Lew Brown	
14:25	14:50		02: An open-source multi-modal size characterization tool for nanoparticle tracking analysis Thorsten Wagner, Martin Ward, Hans-Gerd Lipinski, Martin Wiemann	26: Static Image Analysis - Critical Elements in Calibration and Validation K Brocklehurst, A Hassall, G Rideal, A Stewart	47: Development of an Alternative Laser Diffraction Method for Particle Size Analysis of API in Aqueous Nasal Spray Formulations Uchenna R Agwo, Jo Rowland, Xue Z Wang	
14:50	15:15		03: One-Pot Preparation of Conducting Polymer-Coated Silica Particles: Model Highly Absorbing Aerosols J. R. Lovett, L. A. Fielding, R. Buxton and S. P. Armes	27: A Study of Intermittent and Continuous Jets Re-suspending Particulate Solids G. A. H. McArthur, J. M. Dodds, S Rawlinson, I Docherty, A Ricketts & R Holmes	48: Morphological analysis of particle suspensions with automated imaging Deborah Huck-Jones and Luke Green,	
15:15	15:40	Coffee				
15:40	16:30	Plenary 2 Zoltan Nagy: Recent Advances in the Integrated Process Analytical Technology Based Control of Crystallization Systems				
16:30	16:55	Session 2	04: Characterisation and assessment of edible particles for use in Pickering emulsion systems Laudina Duffus, Jennifer Norton, Paul Smith, Ian Norton, Fotios Spyropoulos	28: The inverse gas chromatography as a tool to characterize the polymorphism impact on the surface properties of organic solids M. Cares-Pacheco, G. Vaca-Medina, R Calvet, E. Rodier, A. Chamayou, F. Baillon, S. Del Confetto, S. Patry, A. Rouilly,	49: A PAT Approach to the Analysis and Characterisation of Powder Processing Systems Tim Freeman, Jamie Clayton and Brian Armstrong	
16:55	17:20		05: Encapsulated particle production by membrane emulsification Marijana M. Dragosavac, Richard G Holdich, Goran T. Vladislavljevic	29: Use of Inverse Gas Chromatographic (IGC) and Nitrogen Gas Adsorption (BET) Techniques for Assessing Surface Energy Heterogeneity of Finely Divided Aspirin D.R.Merrifield	50: Current developments on the flow behaviour of particulate materials using advanced simulations and tomography experiments S. Joseph Antony, Andeep Mandare, Saeed Albaraki and Babatunde Arowosola	
17:20	17:45		06: A Unique Zero Length Cell (ZLC) Approach to Investigate the Controlled Release of Drugs and Flavours from Nanoporous Particles: Exemplified by Functionalised Calcium Carbonates (FCCs) C.L. Levy, G.P. Matthews, G. M. Laudone, C.M. Gribble	30: A Study of Particulate Surface Energetic of Urea via Inverse Gas Chromatography and Molecular Modelling Ain Siti Yusop	51: Application of X-ray microtomography to investigate the effect of raw material properties on the kinetics of iron ores granulation Rafael J. Contreras, Maxime Evrard, Frédéric Van Loo Eric Pirard	
17:45	19:00	Poster Sessions, Exhibition & Reception				

Tuesday 16th September						
From	To		Pioneer Theatre	Leader Suite	Conference Room 7	
08:50	09:40		Plenary 3 Jon Binner: Processing and Characterisation of Advanced Ceramics for Demanding Applications			
			Fine Bubble Symposium			
09:40	10:05	Session 3	07: Generation and measurement of fine bubble from mm to nm Tschung-il Kim, Hyoungjun Kim, Mooyoung Han,	31: Characterization of sedimentation stability using Electroacoustics Andrei Dukhin	52: Multidimensional Nanoparticle Analysis by Means of Analytical Ultracentrifugation Johannes Walter, Wolfgang Peukert"	
10:05	10:30		08: Research for Fukushima reconstruction with ultra-fine bubble technology Yoshikatsu Ueda, Yomei Tokuda and Naoto Nihei,	32: Advances in scattering models for ultrasonic monitoring of concentrated emulsions and suspensions Valerie Pinfield and D Michael Forrester	53: Developments in Characterisation of Suspensions by Nanoparticle Tracking Analysis (NTA) Owen, B., Hole, P., Smith, J., Sillence, K., Carr, B,	
10:30	10:55		09: Applications of Ultrafine Bubble Technology for Industrial Cleaning Joshua Turner and Greg Spicer	33: Enhanced In-situ Particle Characterization using Digital Ultrasound Spectroscopy Richard J. Tweedie, Vladimir Ivchecko,	54: Production of tailored Nanomaterials: Integration of hardware, process and formulation Thomai Panagiotou and Yand Su	
10:55	11:20	Coffee				
11:20	11:45	Session 4	10: Sono-optical tweezers: an instrument for microbubble characterisation Gianluca Memoli, Chris Fury	34: Measurement of crystal nucleation kinetics in colloids by ultrasound velocity Malcolm Povey	55: High Aspect Fluidised Bed Test Rig to Inform Re-Design of the Thermal Denitration Reactor Central Air Distributor Nozzle R. Holmes, A. Milliken, S. Kaighan, G. Quin, D. Rhodes, A. Shimmin, G. P. Sheppard, J. M. Dodds	
11:45	12:10		11: Measuring and controlling the surface charge of ultra fine bubbles Mooyoung Han	35: Water droplet size analysis of emulsions by pfg-NMR diffusometry Lien Vermeir, Mathieu Balcaen, Koen Dewettinck, Paul Van der Meeren	56: Measurement of accumulation process of electrostatic charge on single particle due to cascade impacts onto metal wall Ayako Murakami, Yoko Takesawa, Tatsushi Matsuyama, Junichi Ida and Hideo Yamamoto	
12:10	12:35		Innovation Highlights in The Pioneer Theatre			
12:35	13:10	Lunch (joined by UKPTF delegates)	UK Particle Technology Forum in Green			

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13:10	14:00	Plenary 4 Timothy Leighton: Bubble acoustics			
14:00	14:25	Session 5	12: Interaction of a nanobubble suspension with a soiled substrate James R. T. Seddon	36: Dynamic Analysis of the FT4 Powder Rheometer C. Hare, U. Zafar, M. Ghadiri, M.J. Murtagh, J. Clayton, T. Freeman	57: Interfacial Shear Resistant Networks to Impede Emulsion Separation David Harbottle and Zhenghe Xu
14:25	14:50		13: Experimental verification of cleaning effects and mechanism by using ultrafine bubble water Tadashi Nagai, Koichi Terasaka, Masatoshi Kawaragaki, Naoyuki Sumida and Yasuo Fukunaga	37: Non-Active Slurry Transport Test Rig to Direct Post Operative Cleanout Operations (POCO) Strategy J. M. Dodds, G. A. H. McArthur, I Docherty, A Ricketts & R Holmes	58: Nano-particle analysis using dark beam sensor Meir Teichner
14:50	15:15		14: Improvement of the removal effect of contaminants on silicon wafer surface using high density ultrafine bubbles generated by ultrafineGALF Shigeo Maeda, Hideaki Kobayashi, Masakazu Kashiwa, Ikkan Nishihara, Toshihiro Fujita	38: The Influence of Ambient Moisture and Time on Powder Flow Characteristics Tim Freeman, Katrina Brockbank, Jamie Clayton and Brian Armstrong	59: Dissolution of single spherical sodium carbonate particle Changdong Li, Carlos Amador and Yulong Ding
15:15	15:45	Coffee			
15:45	16:35	Plenary 5 Alan Rawle: TLA*s and the 4Qs in relation to elucidation of particle sizing issues (*Three-letter acronyms)			
16:35	17:00	Session 6	15: Characterization of a nanobubble suspension using dynamic light scattering James R. T. Seddon and Minmin Zhang	39: Parameterisation of DEM Simulations: A Statistical Analysis Z. Yan, S. K. Wilkinson, E. H. Stitt and M. Marigo,	60: Particle Size Characterisation of Active Pharmaceutical Ingredient in Multi-component Granules Uchenna R Agwo, Jo Rowland, Xue Z Wang
17:00	17:25		16: Using various particle-size measuring instruments to measure ultrafine bubbles and the resonance mass measurement method to distinguish bubbles from solid particles Shigeo Maeda, Hideaki Kobayashi, Masakazu Kashiwa, Toshihiro Fujita	UKPTF Elevator pitches	61: An investigation into the potential use of in-silico prediction techniques in rationalising inverse gas chromatographic (IGC) behaviour D.R.Merrifield, R.B.Hammond, V.Ramachandran, K.J.Roberts
17:25	17:50		17: Engineered Therapeutic Microbubbles Peyman, S.A., Abou-Saleh, R.H., Evans S.D	See below for the full programme details	62: An introduction to particle size characterisation by DCS: Do you know the real size of your nano particles? Hiran Vegad
17:50	18:15		18: Crystal growth of ZnO microparticles with microbubbles Yomei Tokuda, Hiroaki Matsuki, Yoshikatsu Ueda, Hirokazu Masai and Toshinobu Yoko	UKPTF Elevator pitches	
	19:00	Poster session & Exhibition			
20:00	21:30	Conference Dinner at Manchester Free Trade Hall (Radisson Blu)			

Wednesday 17th September

From	To		Pioneer Theatre	Leader Suite	Conference Room 7
08:50	09:40		Plenary 6 Paola Lettieri: Measuring What Matters: Integrating fluidization, rheological and imaging studies of gas-solid systems		
			Young Researcher Awards (YRA) competition:		
09:40	10:05	Session 7	19 YRA: Particle Agglomeration and Dispersion in Fully-Coupled Turbulent Channel Flow using Large Eddy Simulation and Discrete Element Method Mohammed Afkhami	40: Standardization of Pores and Pore Distributions Peter Klobes, Erich Robens, and Nayland Stanley-Wood	63: Indirect labelling of SiC particles by using surface modification and functionalization P. García-Triñanes, J. Anguita, K. Gandhi, S. Ravi P. Silva, J. Seville, T.W. Leadbeater, D.J. Parker,
10:05	10:30		20 YRA: Multi-compartment population balance model for a granulation process Kok Foong Lee	41: Advances in the characterization of materials with hierarchical pore structure Matthias Thommes	64: Determination of Size and Size Distribution of Nanomaterials in Liquid Phase: A Comparison of Various Sizing Methods Haruhisa Kato, Ayako Nakamura and Naoko Oouchi
10:30	10:55		21 YRA: Oscillating Membrane Emulsification for Controlled Particle Production Pedro Silva	42: Using NMR Solvent Relaxation to study Graphene, Graphene Oxide and Nanographite Dispersions David Fairhurst and Terence Cosgrove	65: TRPS: Advanced Nanoparticles Characterisation Dimitri Aubert
10:55	11:20	Coffee			
11:20	11:45	Session 8	22 YRA: Tablet disintegration and dissolution using a novel on-line particle imaging approach Arthi Rajkumar	43: Particle Characterisation in Forensic Analysis Deborah Huck-Jones, Chris Jones, Paul Kippax and Cathryn Langley	
11:45	12:10		23 YRA: Modeling and Control of Batch Pulsed Top-spray Fluidized bed Granulation Based on One-dimensional Population Balance Model Huolong Liu	44: The Importance of Particle Shape in Analysing Aperture Sizes in 3D-Woven Stainless Steel Meshes by Challenge Testing K Brocklehurst, A Hassall, G Rideal, A Stewart	
12:10	12:35		24 YRA: Heat Exchanger Fouling Mitigation via Silica Particles Tomer Lapidot	45: Evaluation of Electrostatic Charging of Powder Using Two Components System Tatsushi Matsuyama, Tomohiro Kitamura, Junichi Ida and Hideo Yamamoto	
12:35	13:10	Lunch			
13:10	14:00		Plenary 7 Ricky Wildman: Making it flow, making it stick, making it strong: Rheological aspects of multimaterial 3D Printing		
14:00	15:00	Session 9 (Pioneer Theatre)	Workshop		
	15:00		Prizes and Conference Close		
		Coffee & Tea			

Posters (PSA2014):

- P1: [The latest situation about the measurement technology of Ultra-fine bubbles](#); Yasuyuki Takei, Toshikatsu Mori, Seika Ohuchi, Makoto Hirasawa, Keizo Saito, Hiroshi Kasai
- P2: [Oil washing using fine bubbles with different surface charges](#); Tschung-il Kim, Mooyoung Han, Hun Kang
- P3: [Analysis of dissolved ozone concentration and oxidation efficiency by sub-micron ozone bubble](#); Mooyoung Han, Seung-hyun Baek, Tschung-il Kim
- P4: [Bacterial Inactivation Using Ultrafine Bubble Water Produced by Atmospheric Multi-gas Plasma](#); Takaya Oshita, Yosuke Watanabe, Toshihiro Takamatsu, Masakazu Kashiwa, Hidekazu Miyahara, Toshihiro Fujita and Akitoshi Okino
- P5: [An Expert System for Particle Characterisation equipment selection](#); R. Holdich
- P6: Ultrasonic characterisation of polymer-brush-modified silica particles, Jinrui Huang, Valerie Pinfield and Steve Edmondson
- P7: Controlled synthesis of metallic nanoparticles stabilised by polymers, Kirsty Stark
- P8: New generation X-ray Imaging for Multiphase Systems, Paola Lettieri
- P9: Influence of molecular exchange on the enclosed water volume fraction of W/O/W double emulsions as determined by low-resolution NMR diffusometry and T2-relaxometry, Lien Vermeir
- P10: Iron ore granules characterisation using X-ray microtomography, Rafael Jaimes Contreras
- P11: Suggested mechanism of First Break milling of debranned wheat described with the Double Normalised Kumaraswamy Breakage Function, Silvia Galindez-Najera
- P12: Population Balance Modeling and Multi-stage Optimal Control of a Pulsed Spray Fluidized Bed Granulation, Huolong Liu

Poster Presentations for the UK Forum

Elevator pitches			
	Young Research Worker	Title of poster and paper	Affiliation
1	Laudina Duffus	Characterisation and assessment of edible particles for use in Pickering emulsion systems	University of Birmingham
2	Thomas Hazlehurst	Ultrasound characterisation of bi-disperse particulate sedimentation in a pipe	School of Mathematics, University of Leeds
3	Zhongliang Hu	Nanoparticle transport for subsurface applications	IPSE Leeds University
4	Daniel Rathbone	Development of an elastic-plastic force-displacement model for discrete element simulations	Department of Physics, Imperial College
5	Sandra Chauruka	Effect of Mill Type of Size Reduction and Phase Transformation of Gamma Alumina	IPSE Leeds University
6	Xi Yu	Inter-particle force and stress models for dry particulate flow in a bubbling fluidized bed	Aston University
7	Serena Morelli	Crosslinked poly (vinyl alcohol) microparticles for controlled drugs release produced by membrane emulsification	Loughborough University,
8	Jianyi Zhang	Characterization of bulk density distribution of roll-compacted ribbons using terahertz pulsed imaging	University of Surrey
9	David Slade	Development of a hybrid CFD-population balance approach to modelling co- and counter-current spray dryers	Process Systems Enterprise Ltd
10	Matthew Bryan	Elucidating extrusion-spheronisation of pharmaceutical pastes	University of Cambridge
11	Mohammed F. Saleh	Continuous Wet Granulation: Online monitoring the effect of Binder Delivery	University of Sheffield
12	Yunan Peng	Ultra-fast MRI of liquid jetting through a granular bed	University of Cambridge
Additional posters			
13	Adeola Grace Olugbenga	Measuring Stress Transmissions in Opaque Cementitious Particulate Materials	University of Leeds
14	Chalak Omar	Roller compaction: Reducing the percentage of fines in the product using lactose powders at different relative humidities	University of Sheffield
15	Charlotte L Levy	A Unique Zero Length Cell (ZLC) Approach to Investigate the Controlled Release of Drugs and Flavours from Nanoporous Particles: Exemplified by Functionalised Calcium Carbonates (FCCs)	Plymouth University
16	Chuan Li	Thermal energy storage based on composite phase change materials: linking materials properties to system performance	IPSE Leeds University
17	Ekanem Ekanem	Microparticles production for drug delivery using glass using glass microfluidic devices	Loughborough University
18	Emma J Ireland	Pulsed flow fluidisation: increasing mixing of powders in a modified fluidised bed	University of Cambridge
19	Hui Cao	Simulating the Convective Dissolution Behavior of Sodium Carbonate Particle by Lattice Boltzmann Method	IPSE Leeds University
20	Jahn, Niklas	Towards stable amorphous bio-?formulations: modeling the protein-water system	Imperial College London
21	James Manchisi	Use of Slag Materials as Sustainable Adsorbents to Treat Waste Streams	University of Birmingham
22	Martin Riley	Effect of Grinding Media Density in a Stirred Media Mill	University of Birmingham
23	Raza Ghulam	Transport of TiO2 nanoparticles through artificial and natural porous media	IPSE Leeds University
24	Riyadh Al-Asady	Roller compactor: the effect of nano-scale mechanical property of a single primary particle	University of Sheffield
25	Rodrigo Guadarrama-Lara	Algorithm implementation for coupled DEM-LBM simulations of fluid-structure interactions	IPSE Leeds University
26	Selasi Dogbe	Simulation of a Spiral Jet Mill	IPSE Leeds University
27	Suzanne Pinkney	Resident Time Distributions in Stirred Media Mills	University of Birmingham
28	Xi Yu	Simulation of slightly wet suspension in a bubbling fluidized bed	Aston University
29	Yunan Peng	Modelling liquid jetting in granular dispersion	University of Cambridge
30	Babatunde Arowosola	Simulations of particulate flow under low gravitational environments	IPSE Leeds University
31	Simone Loreti	DEM Modelling of fragmentation of pharmaceutical ribbons during impact	University of Surrey
32	Ado Farsi	Numerical Simulations of Particle Stress and Fracture using FEMDEM	Imperial College London
33	Mehrdad Pasha	Discrete Element Analysis of Particle Motion in a Seed Coater	IPSE Leeds University
34	Serena Schiano	The impact of roll compaction on the properties of pharmaceutical granules	University of Surrey