

CHoPS2018



## Technical Programme – Finale



**10<sup>th</sup> – 14<sup>th</sup> September 2018 London · UK**  
**CHoPS 2018**

**9<sup>th</sup> International Conference for Conveying and Handling of Particulate Solids**

**COLOR CODE**

<b>Lignocellulosic biomass</b>	
<b>Powderreg</b>	
<b>Wear, erosion and attrition</b>	
<b>Design and analysis of chutes, conveyors and feeders</b>	
<b>Slurry flow</b>	
<b>Modelling</b>	
<b>Particles in motion</b>	
<b>Mixing and segregation</b>	
<b>Adhesion forces, wall friction and stress distribution</b>	
<b>Flow properties</b>	
<b>Hopper and silo design</b>	
<b>Pneumatic conveying</b>	
<b>Multiphase flow &amp; porous media</b>	
<b>Experimental methods and sensors</b>	
<b>Processing and Formulation of powders</b>	
<b>Dust control and safety</b>	

If you have any questions regarding technical program/publication/conference proceedings, please do not hesitate to contact:

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## LOCAL ORGANISING COMMITTEE

Mike Bradley   The Wolfson Centre for Bulk Solids Handling Technology, University of Greenwich   Conference Chair	Pablo Garcia Trinanés   The Wolfson Centre for Bulk Solids Handling Technology, University of Greenwich   Technical Co-Chair
Caroline Chapman   The Wolfson Centre for Bulk Solids Handling Technology, University of Greenwich	Ian Birkinshaw   Solids Handling and Processing Association (SHAPA)
Andy Clow   KP Snacks	Beverley Ford   Gericke Rotaval Ltd
Peter Guttridge   Guttridge Ltd	Simon Livings   Nestle
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Eddie McGee   Ajax Equipment	Don McGlinchey   University of Glasgow
Barry Ridley   Brookfield Ametek Engineering	David Smith   DJS Process Consulting
Csaba Sinka   University of Leicester	Stephen Ward-Smith   Malvern Instruments
Peter Ullman   Process Industry Informer	Peter Webster   Materials Handling Engineers Association (MHEA)
Deborah Reed-Aspley   Constable & Smith Events   Conference secretariat	



## CHoPS2018

**Note: The preliminary technical programme is a working document that is subject to change.**

EVENING DAY 0: Monday 10<sup>th</sup> September 2018



	Time	
	2– 5 pm	Industrial visits Tate and Lyle Thames Refinery, London
	1 – 5 pm	<b>EFCE WPMPS Annual Meeting</b> (room KW003) –Members only-
	7 – 9 pm	Welcome reception and pre-registration event



Alan Reed Theatre (KW002)



Andrew Jenike Theatre (KW302)



Alan Roberts Theatre (KW303)



Brian Scarlett Theatre (KW315)

# LIST OF POSTER PRESENTATIONS

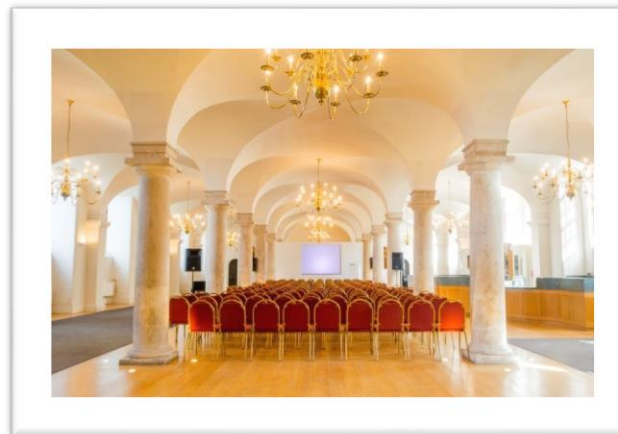
ID	Title	Author(s)
CHoPS.041	KINETIC THEORY BASED ANALYSIS OF GRANULAR-LIQUID OPEN-CHANNEL FLOW	Václav Matoušek, Czech Technical University in Prague, CZE
CHoPS.065	CHARACTERISING COMMERCIAL PHARMACEUTICAL DIRECT COMPRESSION BASES USING A FREEMAN FT4 POWDER RHEOMETER AND RIVA MULTIPRESS SYSTEM	Mark Leaper, Loughborough University, GBR
CHoPS.121	SILO STORAGE OF BUILDING INDUSTRY POWDERS: CONSIDERATION OF THE STRESS DEPENDENCE OF THE BULK DENSITY	Christof Lanzerstorfer University of Applied Sciences Upper Austria, AUT
CHoPS.124	PROCESS BASED ESTIMATIONS OF DUST FORMATION TENDENCY BY MEANS OF DISTRIBUTION- AND MATERIAL- SPECIFIC PARAMETERS FOR DRY AND MOIST MATERIALS	Eberhard Schmidt, Universität Wuppertal, GER
CHoPS.125	EXPERIMENTAL DETERMINATION OF REPOSE ANGLE – REVIEW OF METHODS	Jakub Hlosta, VSB, Ostrava, CZE
CHoPS.126	DEM MODEL VALIDATION OF DOSING DEVICE	Jiri Rozbroj, VSB, Ostrava, CZE
CHoPS.127	THE EFFECT OF SETTING THE OPERATING CONDITIONS OF THE SAMPLING DEVICE ON THE REPRESENTATIVE SAMPLE OF COAL	David Zurovec, VSB, Ostrava, CZE
CHoPS.136	DEVELOPMENT OF DUST RELEASE FUNCTIONS TO DESCRIBE THE PARTICLE EMISSIONS OF BULK MATERIALS	Nadja Schwindt, Universität Wuppertal, GER
CHoPS.144	DETERMINATION OF THE PARTICLE SIZE OF DRY POWDERS USING A CONCEPTUAL IN-LINE DISPERSER	Tina Rowney, Malvern Pananalytical, GBR
CHoPS.164	USING SCREW TECHNOLOGY FOR BEST MIXING	Eddie McGee, Ajax Equipment Ltd, GBR
CHoPS.177	EXPERIMENTAL STUDY AND MODELING OF ANHYDROUS LACTOSE HYDRATION IN REALTIONSHIP WITH CAKING	Zahra Afrassiabian, Sorbonne Universités, UTC, FRA
CHoPS.183	RELATING SURFACE PROPERTIES TO FOOD POWDER FLOWABILITY	Lennart Fries, Nestle, CHE
CHoPS.188	POWDER FLOWABILITY IMPROVEMENT WITH MESOPOROUS SILICA ADDITION	Filip Francqui, Granu Tools, BEL
CHoPS.190	IN-LINE ELECTROSTATIC CHARGE MEASUREMENTS OF CONVEYING PHARMACEUTICAL POWDERS USING AN ELECTROSTATIC POWDER FLOW SENSOR (EPFS)	Nik Yusuf Hill-Izani, De Montfort University, GBR
CHoPS.199	AN EXPERIMENTAL INVESTIGATION INTO THE STUDY OF BLOCKAGE PHENOMENON IN THE PIPELINE OF THE PNEUMATIC CONVEYING SYSTEM	Amit Kumar, Wolfson Centre for Bulk Solids Handling Technology, University of Greenwich, GBR
CHoPS.200	IMPACT OF PULSED FLOW CHARACTERISTICS ON HYDRAULIC PARTICLE TRANSPORT WITH RECIPROCATING POSITIVE DISPLACEMENT PUMPS	Katrin Kelm, Friedrich-Alexander University, GER

# CHoPS2018

Session	Date/Time/Location	Session Chairs
<b>DAY ONE - Tuesday 11th September 2018</b>		
Lignocellulosic biomass I	10 AM – 12.10 PM Alan Roberts Theatre (KW303)	Ulrich Teipel and Rizwan Chaudhry
Powderreg	10 AM – 14.10 PM Brian Scarlett Theatre (KW315)	Sergey Antonyuk and Sébastien Kiesgen de Richter
Wear, erosion and attrition I	10 AM – 12.10 PM Andrew Jenike Theatre (KW302)	Avi Levy and Tong Deng
Design and analysis I	10 AM – 12.10 PM Alan Reed Theatre (KW002)	Mark Jones and Ian Birkinshaw
Lignocellulosic biomass II	13.40 – 14.40 PM Alan Roberts Theatre (KW303)	Alvaro Ramirez-Gomez and Mike Bradley
Wear, erosion and attrition II	13.40 – 14.40 PM Andrew Jenike Theatre (KW302)	Tong Deng and Ian Hancock
Design and analysis II	13.40 – 14.40 PM Alan Reed Theatre (KW002)	Filip Francqui and Andre Katterfeld
Particles in motion I	15.00 – 16.20 PM Alan Roberts Theatre (KW303)	Kerry Johanson and Don McGlinchey
Particles in motion II	15.00 – 16.20 PM Brian Scarlett Theatre (KW315)	Ben Freireich and Diego Barletta
Slurry flow	15.00 – 16.20 PM Andrew Jenike Theatre (KW302)	Michael Bradley and Maria Rasteiro
Design and analysis III	15.00 – 16.20 PM Alan Reed Theatre (KW002)	Laurent Babout and Craig Wheeler
<b>DAY TWO –Wednesday 12<sup>th</sup> September 2018</b>		
Modelling I	10.00 AM – 12.10 PM Alan Roberts Theatre (KW303)	Dingena Schott and Tom Simons
Pneumatic conveying I	10.00 AM – 12.10 PM Brian Scarlett Theatre (KW315)	Haim Kalman and Paul Bailey
Modelling II	10.00 AM – 12.10 PM Andrew Jenike Theatre (KW302)	Pablo Garcia-Trinanes and Andreas Aigner
Particles in Motion III	10.00 AM – 12.10 PM Alan Reed Theatre (KW002)	Gerard van den Hondel and Yi Fan
Mixing and Segregation	13.40-14.50 PM Alan Roberts Theatre (KW303)	Lennart Fries and Stefan Luding
Adhesion forces, wall friction and stress distribution	13.40-16.30 PM Brian Scarlett Theatre (KW315)	Mark Leaper and Baldeep Kaur
Flow properties I	13.40-16.30 PM Andrew Jenike Theatre (KW302)	Tim Freeman and Ulrich Teipel
Modelling III	13.40-16.30 PM Alan Reed Theatre (KW002)	Martin Servin and Haim Kalman
<b>DAY THREE - Thursday 13th September 2018</b>		
Hopper and silo design I	10.00 AM - 12.10 PM Alan Roberts Theatre (KW303)	Eddie McGee and Hamid Salehi
Modelling IV	10.00 AM - 12.10 PM Brian Scarlett Theatre (KW315)	Csaba Sinka and Christoph Kloss
Pneumatic conveying II	10.00 AM - 12.10 PM Andrew Jenike Theatre (KW302)	Richard Ellis and Mike Bradley
Multiphase flow & porous media	10.00 AM - 12.10 PM Alan Reed Theatre (KW002)	Stefan Zigan and Filip Francqui
Experimental methods and sensors I	13.40 - 14.40 PM Alan Roberts Theatre (KW303)	Gianandrea Vittorio Messa and Majid Naderi
Experimental methods and sensors II	13.40 - 14.40 PM Brian Scarlett Theatre (KW315)	Hermann Nirschl and Sébastien Kiesgen de Richter
Experimental methods and sensors III	13.40 - 14.40 PM Andrew Jenike Theatre (KW302)	Don McGlinchey and Tina Rowney
Experimental methods and sensors IV	13.40 - 14.40 PM Alan Reed Theatre (KW002)	Stefan Heinrich and Tom Simons
Flow properties II	15.00 - 16.30 PM Alan Roberts Theatre (KW303)	Sergey Antonyuk and Barry Ridley
Processing and Formulation of powders	15.00 - 16.30 PM Brian Scarlett Theatre (KW315)	Pablo Garcia-Trinanes and Isamu Suzuki
Flow properties III	15.00 - 16.30 PM Andrew Jenike Theatre (KW302)	Tim Bell and Diego Barletta
Pneumatic conveying III	15.00 - 16.30 PM Alan Reed Theatre (KW002)	Avi Levy and Kenneth Williams

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DAY FOUR - Friday 14th September 2018		
Hopper and silo design II	10.00-11.10 AM Alan Roberts Theatre (KW303)	Francisco Cabrejos and Edouard Izard
Pneumatic conveying IV	10.00-11.10 AM Brian Scarlett Theatre (KW315)	George Klinzing and Thierry Destoop
Dust control and safety I	10.00-11.10 AM Alan Reed Theatre (KW002)	Kenneth Williams and Stefan Zigan
Hopper and silo design III	11.30 AM-13.00 PM Alan Roberts Theatre (KW303)	Gabriel Lodewijks and Massimo Poletto
Dust control and safety II	11.30 AM-13.00 PM Alan Reed Theatre (KW002)	Stefan Zigan and John Pethullis
Flow properties IV	11.30 AM-13.00 PM Brian Scarlett Theatre (KW315)	Martin Murtagh and Koichiro Ogata





# CHoPS2018

08:35	<b>DAY ONE</b>	Introductory Welcome; Prof Mike Bradley - Tuesday 11 <sup>th</sup> September 2018			
08:45		<b>Plenary I (Queen Mary Undercroft) - Prof. Dr. Frank Kleine Jäger, BASF SE, Germany; FUTURE DIRECTIONS IN BULK SOLIDS HANDLING:THE BASF PERSPECTIVE</b>			
	3 min	Exhibitor presentation: DMN			
	3 min	Exhibitor presentation: Granutools			
		<b>Morning Session Day 1</b>			
		Alan Roberts Theatre (KW303) King William Court Lignocellulosic biomass I	Brian Scarlett Theatre (KW315) King William Court Powderreg	Andrew Jenike Theatre (KW302) King William Court Wear, erosion and attrition I	Alan Reed Theatre (KW002) King William Court Design and analysis I
10:00 30 min	1.1	<b>KEYNOTE 1</b> CHoPS.186: DURABILITY OF THERMALLY UPGRADED WOOD PELLETS AND COMPARISON OF THE BREAKAGE BEHAVIOR WITH DIFFERENT GRADE PELLETS Speaker: Andreas Averheim (Valmet, SWE)	<b>KEYNOTE 2</b> CHoPS.165: FROM MICROSCOPIC PARTICLE PROPERTIES TO THE COMPLEX MACROSCOPIC BEHAVIOR OF POWDERS: INTERREG PROJECT "POWDERREG" Speakers: Sergiy Antonyuk (Universität Kaiserslautern, GER) and Sébastien Kiesgen de Richter (University of Lorraine, FRA)	<b>KEYNOTE 3</b> CHoPS.187: FROM ATTRITION INDICES TO ATTRITION PREDICTION Speaker: Ben Freireich (PSRI, USA)	<b>KEYNOTE 4</b> CHoPS.115: VIRTUAL COMMISSIONING OF A MOBILE ORE CHUTE (USING DISCRETE ELEMENT AND MULTIBODY SIMULATION) Speaker: Martin Servin (Algoryx, SWE)
10:30 20 min	1.2	CHoPS.030: EXPERIMENTAL AND SIMULATION INVESTIGATION ON ARCHING BEHAVIOUR OF TWO BIOMASS MATERIALS FROM A WEDGE SHAPE HOPPER Speaker: Hamid Salehi (Swedish University of Agricultural Science, SWE)	CHoPS.138: INFLUENCE OF SURFACE TREATMENT ON THE FLOW PROPERTIES OF POWDERS Speaker: Shirin Enferad (Université de Lorraine, FRA)	CHoPS.055: MODELING OF SIMULTANEOUS PARTICLE ATTRITION AND PIPE WEAR Speaker: Avi Uzi (Ben-Gurion University of the Negev, ISR)	CHoPS.096: CALIBRATION OF THE DEM PARAMETERS OF COHESIVE BULK MATERIALS FOR THE OPTIMISATION OF TRANSFER CHUTES Speaker: Andrew Katterfeld (Universität Magdeburg, GER)
10:50 20 min	1.3	CHoPS.102: CORRELATION OF SINGLE PARTICLE AND BULK PROPERTIES OF PARTICLES WITH HIGH ASPECT RATIOS Speaker: Steffan Beitz (TU Braunschweig, GER)	CHoPS.141: RHEOLOGICALLY PROBING AND PREDICTING THE NON-LINEAR BEHAVIOR OF FUNCTIONAL POWDERS Speaker: Rishab Handa (Universität des Saarlandes, GER)	CHoPS.101: INVESTIGATION OF BREAKAGE AND ATTRITION BEHAVIOR OF WOOD PELLETS Speaker: Olga Ochkin-Konig (Universität Hamburg, GER)	CHoPS.003: INVESTIGATION OF CONTROLLED FLOW CHUTE CASCADES Speaker: Don McGlinchey (Glasgow Caledonian University, GBR)
11:10		<b>Coffee break</b>			
11:30 20 min	1.4	CHoPS.180: NEED OF THE HOUR: COAL TO BIOMASS CONVERSION. DESIGN CHALLENGES IN PNEUMATIC WOOD PELLET CONVEYING AND INJECTION SYSTEM Speaker: Rizwan Chaudhry (Clyde Bergemann, GBR)	CHoPS.140: NUMERICAL AND EXPERIMENTAL STUDY OF GRANULAR SUSPENSIONS ON A VIBRATED INCLINED PLANE Speaker: Caroline Chalak (Université de Lorraine, FRA)	CHoPS.098: DEVELOPMENT OF A CALIBRATION PROCEDURE FOR THE QUANTITATIVE PREDICTION OF ABRASIVE WEAR IN DEM SIMULATIONS Speaker: Thomas Roessler (Universität Magdeburg, GER)	
11:50 20 min	1.5	CHoPS.174: MODELING OF THE SEGREGATION OF WOOD PELLETS IN HANDLING AND STORING IN SILOS AND DOMES Speaker: Susantha Chandana Dissanayake Mudiyanse (The Wolfson Centre, Uni of Greenwich, GBR)	CHoPS.154: STUDY OF GRANULAR COMPACTION DUE TO HORIZONTAL AND VERTICAL VIBRATIONS Speaker: Salvatore Pillitteri (Uni of Liege, BEL)	CHoPS.185: PERFORMANCE EVALUATION OF AN EROSION MITIGATION DEVICE IN GAS SOLID FLOWS Speaker: Kane Prasad, Pliszka Dominic (Advisian / WorleyParsons, GBR)	
12:10		<b>Lunch / Poster Session</b>			

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Afternoon Session Day 1					
13:30	DAY ONE	Alan Roberts Theatre (KW303) King William Court	Brian Scarlett Theatre (KW315) King William Court	Andrew Jenike Theatre (KW302) King William Court	Alan Reed Theatre (KW002) King William Court
		<b>Lignocellulosic biomass II</b>	<b>Powderreg</b>	<b>Wear, erosion and attrition II</b>	<b>Design and analysis II</b>
13:40 20 min	2.1	<b>CHoPS.009: INVESTIGATION INTO THE RELATIONSHIP BETWEEN COMPACTION EFFICIENCY AND SUPPORTING LOGISTICS NETWORKS FOR LIGNOCELLULOSIC BIOMASS</b> Speaker: Dusan Ilic (University of Newcastle, AUS)	<b>CHoPS.106: NUMERICAL AND EXPERIMENTAL STUDY OF THE AIR FLOW FIELD AND DISCHARGE RATES FOR COHESIVE PARTICLES IN HOPPER GEOMETRIES</b> Speaker: Robert Hesse (Universität Kaiserslautern, GER)	<b>CHoPS.184: EXPERIMENTAL STUDIES FOR EROSION WEAR OF LOW CARBON STEEL EMPLOYING TEXTURED SURFACES</b> Speaker: Vijay Agarwal (IIT Delhi, IND)	<b>CHoPS.021: DETERMINATION OF THE INDENTATION ROLLING RESISTANCE PERFORMANCE OF CONVEYOR BELT COMPOUNDS USING MECHANICAL AND DIELECTRIC RELAXATION PROPERTIES</b> Speaker: Jayne O'Shea (University of Newcastle, AUS)
14:00 20 min	2.2	<b>CHoPS.120: INFLUENCE FACTORS ON THE COMMUNITION PROCESS OF WOOD FOR THE PRODUCTION OF PRECURSORS AND BASIC CHEMICALS FOR THE CHEMICAL INDUSTRY</b> Speaker: Moritz Eisenlauer (Technische Hochschule Nürnberg, GER)	<b>CHoPS.152: DEM INVESTIGATION OF DRAINING PROPERTIES OF MODEL POWDERS IN A HOPPER: EFFECTS OF VIBRATIONS</b> Speaker: Arthur Pascot (Université de Lorraine, FRA)	<b>CHoPS.100: MEASUREMENT OF UNEVEN WEAR IN A ROTARY WEAR TEST RIG FOR SLURRY FLOWS</b> Speaker: Anubhav Rawat (IIT Delhi, IND)	<b>CHoPS.037: MEASUREMENT AND ANALYSIS OF CONVEYOR BELT FLEXURE RESISTANCE</b> Speaker: Craig Wheeler (University of Newcastle, AUS)
14:20 20 min	2.3	<b>CHoPS.202: A METHOD FOR EXTRACTING PARTICLE CONCENTRATIONS FROM CFD – DEM SIMULATIONS FOR USE IN EXPERIMENTAL VALIDATION</b> Speaker: Lahiru L. L. Waduge (The Wolfson Centre, University of Greenwich, GBR)	<b>CHoPS.129: DISSIPATION IN SHEARED WET AND DRY SAND UNDER CONFINEMENT MEASURED BY A TUBE RHEOMETER</b> Speaker: Jorge Eduardo Fiscina (Universität des Saarlandes, GER)	<b>CHoPS.148: MULTIVARIATE ANALYSIS OF IMPACT EROSION BY CaMg(CO<sub>3</sub>)<sub>2</sub></b> Speaker: Mahesh Ediriweera (Uni College of Southeast Norway, NOR)	<b>CHoPS.097: EXPERIMENTAL ANALYSIS OF LATERAL BELT MOVEMENT AND SIMULATION OF MISTRACKING OF CONVEYOR BELTS</b> Speaker: Hendrik Otto (Universität Magdeburg, GER)
14:40		Tea break			
		<b>Particles in motion I</b>	<b>Particles in motion II</b>	<b>Slurry flow</b>	<b>Design and analysis III</b>
15:00 20 min	3.1	<b>CHoPS.014: PARTICLE ENTRAINMENT IN ROTARY KILNS</b> Speaker: Haozhi Jie (Universität Magdeburg, GER)	<b>CHoPS.025: INVESTIGATION OF AN INNOVATIVE METHOD FOR CENOSPHERE SEPARATION FROM FLY ASH</b> Speaker: Kenneth Williams (University of Newcastle, AUS)	<b>CHoPS.001: COMPUTATIONAL INVESTIGATION OF FINE GLASS-BEAD SLURRY FLOW IN HORIZONTAL PIPE</b> Speaker: Gianandrea Vittorio Messa (Politecnico di Milano, ITA)	<b>CHoPS.051: ARAMID CONVEYOR BELTS: FROM THEORY TO OPERATIONS</b> Speaker: Gabriel Lodewijks (University of New South Wales, AUS)
15:20 20 min	3.2	<b>CHoPS.015: AXIAL SOLID TRANSPORT IN ROTARY KILNS – INFLUENCE OF OPERATIONAL PARAMETERS</b> Speaker: Claudia Meitzner (Universität Magdeburg, GER)	<b>CHoPS.087: CLASSIFYING GRANULAR MATERIALS FOR FEEDING PERFORMANCE USING EXPERIMENTAL AND NUMERICAL TECHNIQUES</b> Speaker: Joel Torres (TMI Técnicas Mecánicas Ilerdenses, S.L,ESP)	<b>CHoPS.044: PIPE FRICTION OF BIMODAL SETTLING SLURRY FLOW</b> Speaker: Vaclav Matousek (Czech Tech University in Prague, CZE)	<b>CHoPS.143: MODEL TO CALCULATE FINANCIAL AND ENVIRONMENTAL PERFORMANCE FOR ARAMID REINFORCED CONVEYOR BELTS</b> Speaker: Gerard van den Hondel (Teijin Aramid, NLD)
15:40 20 min	3.3	<b>CHoPS.054: THE USE OF MODERN RHEOMETERS IN POWDER AND GRANULAR MEDIA MEASUREMENTS FOR SCIENTIFIC AND INDUSTRIAL PURPOSES</b> Speaker: Denis Schütz (Anton Paar, AUT)	<b>CHoPS.092: THREE-DIMENSIONAL DYNAMIC X-RAY ANALYSIS OF THE EVOLUTION OF DENSITY, VELOCITY, SIZE AND SHAPE DURING THE FLOW OF PARTICULATE SOLIDS</b> Speaker: James Baker (University of Sydney, AUS)	<b>CHoPS.050: STUDY OF THE INFLUENCE OF PULVERIZED COAL PARTICLE SIZES ON PROXIMATE COMPOSITION AND RHEOLOGY OF COAL WATER SLURRY FUELS (CWSFS)</b> Speaker: Neha Vishnoi (Thapar University, IND)	<b>CHoPS.163: A RETROFIT CONVERSION TO MASS FLOW TO IMPROVE FEEDING OF MILLED PHOSPHATE IN EGYPT</b> Speaker: Eddie McGee (Ajax Equipment, GBR)
16:00 20 min	3.4	<b>CHoPS.099: EXPERIMENTAL AND NUMERICAL INVESTIGATION OF THE PARTICLE TRANSPORT BEHAVIOR WITHIN MULTI-STAGED HORIZONTAL FLUIDIZED BEDS</b> Speaker: Eugen Diez (Universität Hamburg, GER)	<b>CHoPS.116: CFD – DEM VALIDATION OF AIR ENTRAINMENT MECHANISMS</b> Speaker: Luke Stone (University of Wollongong, AUS)	<b>CHoPS.158: DETERMINATION OF HEAD LOSS IN A SLURRY PIPELINE FOR THE FLOW OF COAL WATER SLURRY USING COMPUTATIONAL FLUID DYNAMICS APPROACH</b> Speaker: Harmanpreet Singh (Thapar University, IND)	
16.20		Workshops and Poster session			

## CHoPS2018

EVENING DAY 1: Tuesday 11<sup>th</sup> September 2018

	4.30-6 pm	<b>Workshop: Characterisation of Particulate Systems (KW302)</b>
	7 pm	BBQ: Queen Anne Courtyard. (Weather cover Council room & Edinburgh room, Queen Anne Building)



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08:35	<b>DAY TWO</b>	Introductory Welcome; Dr Pablo Garcia-Trinanes - Wednesday 12 <sup>th</sup> September 2018 In memoriam: Prof. em. Dr.-Ing. Jörg Schwedes			
08:45		<b>Plenary II - (Queen Mary Undercroft) - Prof. Dr. Stefan Luding, UTwente, The Netherlands</b> <b>FROM DISCRETE PARTICLE SIMULATIONS TOWARDS CONTINUUM THEORY AND APPLICATIONS</b>			
	3 min	Exhibitor presentation: Surface Measurement Systems			
	3 min	Exhibitor presentation: Lontra			
		<b>Morning Session Day 2</b>			
		Alan Roberts Theatre (KW303) King William Court	Brian Scarlett Theatre (KW315) King William Court	Andrew Jenike Theatre (KW302) King William Court	Alan Reed Theatre (KW002) King William Court
		Modelling I	Pneumatic conveying I	Modelling II	Particles in Motion III
10:00 20 min	1.1	CHoPS.045: PREDICTING BREAKAGE OF STRUCTURED PARTICLES USING PARTICLE SCALE PROPERTIES AND FEM ANALYSIS Speaker: Kerry Johanson (Material Flow Solutions, USA)	CHoPS.046: NUMERICAL SIMULATION OF FLUIDIZED DENSE-PHASE PNEUMATIC CONVEYING SYSTEMS Speaker: Baldeep Kaur (Thapar Uni, IND)	CHoPS.078: SIMULATION OF SELECTIVE LASER SINTERING: FORMATION OF POWDER BED Speaker: Daniele Sofia (Università degli Studi di Salerno, ITA)	CHoPS.147: REVEALING RHEOLOGY OF DENSE NON-COHESIVE GRANULAR MATERIALS BY DEM SIMULATION Speaker: Fenglei Qi (Uni of Luxembourg, LUX)
10:20 20 min	1.2	CHoPS.023: DISCRETE ELEMENT MODELLING OF PROBLEMATIC BULK MATERIALS ONTO IMPACT PLATES Speaker: Michael Carr (University of Newcastle, AUS)	CHoPS.167: MODELLING THE EFFECT THAT MOISTURE HAS ON THE BEHAVIOUR OF MATERIALS WHEN THEY ARE PNEUMATICALLY CONVEYED Speaker: Martin Chisholm (Schenck Process, UK)	CHoPS.109: DEM SIMULATION OF THE PELLET ROUNDING DURING SPHERONIZATION PROCESS Speaker: Dominik Weis (Universität Kaiserslautern, GER)	CHoPS.110: ESTIMATES OF POWDER FLOW PROPERTIES AT LOW CONSOLIDATION FROM THE TORQUE MEASURED IN A POWDER RHEOMETER EQUIPPED WITH A CYLINDRICAL IMPELLER Speaker: Marco Lupo (Università degli Studi di Salerno, ITA)
10:40 20 min	1.3	CHoPS.032: DISCRETE ELEMENT MODEL OF COHESIVE MATERIAL IN A RING SHEAR TESTER BY APPLYING GENETIC ALGORITHMS Speaker: Huy Do (Delft University of Technology, NLD)	CHoPS.151: TRUE INNOVATION IN AIR COMPRESSION Speaker: Emrah Gozturk (Lontra, GBR)	CHoPS.150: DISCRETE ELEMENT MODELLING OF COHESIVE PARTICLES UNDER HIGH PRESSURE Speaker: Christoph Kloss (DCS Computing, AUT)	CHoPS.095: DETERMINING THE PERCENTAGE OF CENOSPHERES PRODUCE IN POWER STATION FLY ASH Speaker: Thomas Bunn (University of Newcastle, AUS)
11:00		Coffee break			
11:30 20 min	1.4	CHoPS.131: CALIBRATION OF DISCRETE ELEMENT PARAMETERS AND THE EFFECT OF PARTICLE SCALE Speaker: Corne Coetzee (Stellenbosch University, ZAF)			CHoPS.077: COMPARING PHASE DIAGRAMS FOR SETTLING AND NON-SETTLING PARTICLES IN HYDRAULIC CONVEYING Speaker: Ofek Gabrieli (Ben-Gurion University of the Negev, ISR)
11:50 20 min	1.5	CHoPS.171: A DEM-BASED COMPUTATIONAL TOOL FOR THE CENTRIGUFAL SPREADING OF FERTILIZERS Speaker: Miguel Celigueta (CIMNE, Universitat Politècnica de Catalunya, ESP)			CHoPS.156: BEHAVIOR OF GROWING PARTICLES WITHIN A ROTARY DRUM AND SPRAY COATING Speaker: Andreas Aigner (DCS Computing, AUT)
12:10 20 min		Group photo on the steps outside Undercroft – for delegates, speakers, exhibitors			
12:30 1hr		Lunch / <b>Poster Session</b>			

# CHoPS2018

Afternoon Session Day 2					
13:30	DAY TWO	Alan Roberts Theatre (KW303) King William Court	Brian Scarlett Theatre (KW315) King William Court	Andrew Jenike Theatre (KW302) King William Court	Alan Reed Theatre (KW002) King William Court
		Mixing and Segregation	Adhesion forces, wall friction and stress distribution	Flow properties I	Modelling III
13:40 30 min	2.1	<b>KEYNOTE 1</b> CHoPS.132: DEM INVESTIGATIONS ON THE SEGREGATION BEHAVIOR OF DRY AND WET BULK SOLIDS IN DISCONTINUOUS MIXING Speaker: Hermann Nirschl (Karlsruhe Institute of Technology, GER)	<b>KEYNOTE 2</b> CHoPS.093: DYNAMICS OF WET PARTICLE - WALL COLLISIONS Speaker: Stefan Heinrich (Universität Hamburg, GER)	<b>KEYNOTE 3</b> CHoPS.175: UNDERSTANDING POWDER FLOW BEHAVIOR – WHAT DO WE NEED? Speaker: Tim Bell (Dupont, USA)	<b>KEYNOTE 4</b> CHoPS.107: INDUSTRIAL SCALE VALIDATION OF DEM SUPPORTED GRAB DESIGN – COMPLETING THE DESIGN CYCLE Speaker: Dingena Schott (Delft University of Technology, NLD)
14:10 20 min	2.2	CHoPS.176: MODELLING GRANULAR FLOWS AND SEGREGATION PATTERNS AT A SINTER COOLER CHARGING CHUTE WITH A DISCRETE ELEMENT METHOD Speaker: Edouard Izard (Arcelormittal, FRA)	CHoPS.022: A METHODOLOGY FOR COHESION AND ADHESION ANALYSIS OF BULK MATERIALS Speaker: Michael Carr (University of Newcastle, AUS)	CHoPS.191: PREDICTION OF FLOWABILITY OF FORMULATED PRODUCTS AT HIGH STRAIN RATE CONDITIONS Speaker: Mehrdad Pasha (University of Leeds, GBR)	CHoPS.155: BASICS AND APPLICATION OF SCALABLE DEM METHOD Speaker: Mikio Yamanoi (Prometech, JPN)
14:30 20 min	2.3	CHoPS.084: USING CONE-IN-CONES AND OTHER HOPPERS AS ANTI-SEGREGATION DEVICES WITH GAS PRESSURE GRADIENTS Speaker: Kerry Johanson (Material Flow Solutions, USA)	CHoPS.070: EMPIRICAL MODEL TO PREDICT THE WALL FRICTION Speaker: Haim Kalman (Ben-Gurion University of the Negev, ISR)	CHoPS.170: APPLICATION OF SHEAR CELLS FOR OPTIMISING THE FLOWABILITY OF POWDER BLENDS Speaker: Michael Bradley (The Wolfson Centre, Uni of Greenwich, GBR)	CHoPS.160: A CALIBRATION METHODOLOGY FOR DEM SIMULATION OF INDUSTRIAL APPLICATIONS Speaker: Tom Simons (BASF, GER)
14:50		Tea break			
15:10 20 min	3.1		CHoPS.071: COMPARISON BETWEEN WALL FRICTION MEASUREMENTS FROM A JENIKE DIRECT SHEAR TESTER AND LARGE SCALE WALL FRICTION TESTER Speaker: Andrew Grima (University of Wollongong, AUS)	CHoPS.137: APPLICATION OF VAPOUR SORPTION TECHNIQUES FOR PARTICLE ENGINEERING AND FLOW PROPERTIES Speaker: Majid Naderi (Surface Measurement Systems, GBR)	CHoPS.005: MODELLING THE PARTICLE MOTION IN FLIGHTED ROTARY DRUMS Speaker: Jakob Seidenbecher (Universität Magdeburg, GER)
15:30 20 min	3.2		CHoPS.133: DETACHMENT OF SOLID PARTICLE SYSTEMS FROM WALLS IN AN OSCILLATING FLOW FIELD Speaker: Tobias Wollborn (Universität Bremen, GER)	CHoPS.085: IMPROVED CLASSICAL FLOWABILITY TESTS MEETING CURRENT REQUIREMENTS OF INDUSTRIES Speaker: Filip Francqui (Granutools, BEL)	CHoPS.017: SIEVING SIMULATIONS UNDER MOIST AND WET CONDITIONS Speaker: Harald Kruggel-Emden (Universität Berlin, GER)
15:50 20 min	3.3		CHoPS.080: A NOVEL APPROACH TO DETERMINE THE ROTATION OF SPHERICAL MICRO PARTICLES AFTER COLLISION WITH ROUGH SURFACES Speaker: Fabian Krull (Universität Kaiserslautern, GER)	CHoPS.075: MEASUREMENT AND COMPARISON OF HIGH PRESSURE FLOW FUNCTION Speaker: Andrew Grima (University of Wollongong, AUS)	CHoPS.036: PENETRATION RESISTANCE OF COHESIVE IRON ORE: A DEM STUDY Speaker: Mohammadjavad Mohajeri (Delft University of Technology, NLD)
16:10 20 min	3.4		CHoPS.063: INVESTIGATING THE COEFFICIENT OF RESTITUTION OF PARTICLES COLLIDING WITH SURFACES IN AIR AND WATER Speaker: Idan Yardeny (Ben-Gurion University of the Negev, ISR)	CHoPS.181: CALCIUM LOOPING EFFICIENCY OF LIMESTONE FOR CO <sub>2</sub> CAPTURE AND SUBSEQUENT THERMOCHEMICAL ENERGY STORAGE Speaker: Pablo Garcia-Trinanes (University of Greenwich, GBR)	CHoPS.157: DEM ANALYSIS ON HOPPER WALL LOADS DURING ECCENTRIC DISCHARGE Speaker: Bin Chen (University of Newcastle, AUS)
16:30		Workshops and Poster session			



## CHoPS2018

EVENING DAY 2: Wednesday 12<sup>th</sup> September 2018

	4.30-5.30 pm	CHoPS Global Powder & Bulk Associations Summit (room KW003)
	4.30-5.30 pm	<b>Round table: Numerical simulation of particulate systems (KW302)</b>
	7 pm	<b>Conference dinner</b> – Leeds Castle (Coach departs for Leeds Castle at 6pm, return trip departs at midnight)



# CHoPS2018

08:35	<b>DAY THREE</b>	Introductory Welcome; Dr Pablo Garcia-Trinanes -Thursday 13 <sup>th</sup> September 2018			
08:45		<b>Plenary III - (Queen Mary Undercroft) - Dr. Martin (Marty) J. Murtagh, Corning Inc. / Cornell University, USA</b> <b>AN INDUSTRIAL PERSPECTIVE: PARTICLE MODELING AND MULTI-SCALE ANALYSIS OF PARTICULATE SYSTEMS</b>			
	3 min	Exhibitor presentation: Dustcheck			
	3 min	Exhibitor presentation: Fike			
		<b>Morning Session Day 3</b>			
		<b>Alan Roberts Theatre (KW303) King William Court</b>	<b>Brian Scarlett Theatre (KW315) King William Court</b>	<b>Andrew Jenike Theatre (KW302) King William Court</b>	<b>Alan Reed Theatre (KW002) King William Court</b>
		<b>Hopper and silo design I</b>	<b>Modelling IV</b>	<b>Pneumatic conveying II</b>	<b>Multiphase flow &amp; porous media</b>
10:00 20 min	1.1	<b>CHoPS.018: HOW TO ESTIMATE THE STORAGE CAPACITY OF FLAT-BOTTOM STOCKPILES</b> Speaker: Francisco Cabrejos (Jenike and Johanson Chile, CHL)	<b>CHoPS.034: MODELLING THE COMPACTION BEHAVIOUR OF CEMENT CLINKER</b> Speaker: Thomas Mutze (Universität Freiberg, GER)	<b>CHoPS.049: BEND PRESSURE DROP ANALYSIS IN DILUTE PHASE PNEUMATIC CONVEYING SYSTEMS</b> Speaker: Naveen Tripathi (Ben-Gurion University of the Negev, ISR)	<b>CHoPS.058: FRACTURES GROWTH IN SOFT CONSOLIDATE SAND. PORE-SCALE ANALYSIS</b> Speaker: Paula Alejandra Gago (Imperial College London, GBR)
10:20 20 min	1.2	<b>CHoPS.068: THE RELATIONSHIP BETWEEN FLOW DENSITY, HOPPER ANGLE AND PARTICLE-SIZE DISTRIBUTION DURING CONICAL HOPPER DISCHARGE: EXPERIMENTAL AND NUMERICAL ANALYSIS</b> Speaker: Chetan Patel (Sadar Vallabhbhai National Institute of Tech, IND)	<b>CHoPS.108: MODELLING OF CONFINED GRANULAR COMPACTION WITH MULTIPLE CONTACTS IN DEM</b> Speaker: Kostas Giannis (Universität Braunschweig, GER)	<b>CHoPS.082: DETERMINING THE CORRECT FORM OF THE FUNDAMENTAL PRESSURE DROP EQUATION FOR THE ESTABLISHED-FLOW REGION OF DILUTE-PHASE, VERTICAL PNEUMATIC CONVEYORS</b> Speaker: John Wheeldon (Independent consultant, GBR)	<b>CHoPS.123: CHARACTERIZATION OF THE RHEOLOGICAL BEHAVIOR OF SATURATED PARTICULATE SOLID NETWORKS</b> Speaker: Simon Hammerich (Karlsruhe Institute of Technology, GER)
10:40 20 min	1.3	<b>CHoPS.016: METAMODELING OF STRUCTURAL DESIGN PARAMETERS AFFECTING SILO DISCHARGE PERFORMANCE</b> Speaker: Marc Fransen (Delft University of Technology, NLD)	<b>CHoPS.149: FORCE ASSESSMENT OF FLOATING SOLID PARTICLE BED USING CFD-DEM MODELLING</b> Speaker: Tim Nijssen (TU Eindhoven, NLD)	<b>CHoPS.135: BREAKAGE OF FAT FILLED MILK POWDER IN A DILUTE PHASE PNEUMATIC CONVEYING SYSTEM</b> Speaker: Fuweng Zhang (University College Cork, IRL)	<b>CHoPS.038: MODELLING OF COARSE-GRAINED BED SLIDING IN PIPE FLOW OF VISCOPLASTIC CARRYING LIQUID</b> Speaker: Mikolas Kesely (Czech Tech University in Prague, CZE)
11:00		<b>Coffee break</b>			
11:30 20 min	1.4			<b>CHoPS.134: EXPERIMENTAL ANALYSIS OF BEND EFFECTS AND SECONDARY ACCELERATION IN VERTICAL DILUTE PHASE PNEUMATIC CONVEYING</b> Speaker: Naveen Tripathi (Ben-Gurion University of the Negev, ISR)	<b>CHoPS.061: A COMPARISON BETWEEN INTERPARTICLE FORCES ESTIMATED WITH DIRECT POWDER SHEAR TESTING AND WITH SOUND ASSISTED FLUIDIZATION</b> Speaker: Diego Barletta (University of Salerno, ITL)
11:50 20 min	1.5			<b>CHoPS.072: VELOCITIES AND POROSITIES IN PNEUMATIC SLUG CONVEYING</b> Speaker: Philipp Schweda (TU Munich, GER)	<b>CHoPS.118: STUDY OF STRATIFIED PATTERNS IN HORIZONTAL PIPE FLOW OF OIL/WATER MIXTURES COMBINING EIT AND CFD</b> Speaker: Maria Rasteiro (Universidade de Coimbra, PRT)
12:10		<b>Lunch / Poster Session</b>			

# CHoPS2018

Afternoon Session Day 3					
13:30	DAY THREE	Alan Roberts Theatre (KW303) King William Court	Brian Scarlett Theatre (KW315) King William Court	Andrew Jenike Theatre (KW302) King William Court	Alan Reed Theatre (KW002) King William Court
		Experimental methods and sensors I	Experimental methods and sensors II	Experimental methods and sensors III	Experimental methods and sensors IV
13:40 20 min	2.1	CHoPS.027: STUDY OF VACUUM DEWATERING ON IRON ORE WITH COURSE SIZE FRACTION Speaker: Jie Guo (University of Newcastle, AUS)	CHoPS.146: DRYING CHARACTERISTICS ON WASTE GYPSUM PARTICLE BED BY USING PERMEATION TEST OF HEATED AIR Speaker: Koichiro Ogata (Oita College, JPN)	CHoPS.173: EXPLORATORY TRIALS OF AN INDUCTIVE CHARGE SENSOR FOR THE MONITORING OF CHARGE DISTRIBUTION ON HIGHLY CHARGED POWDERS Speaker: Tong Deng (University of Greenwich, GBR)	CHoPS.059: ANALYSIS OF THE DEFLUIDIZATION BEHAVIOUR OF INDUSTRIAL REACTIVE POWDERS AT HIGH TEMPERATURE Speaker: Domenico Macri (University College London, GBR)
14:00 20 min	2.2	CHoPS.114: APPLICATION OF NEAR-INFRARED VISION TECHNOLOGY FOR COAL GANGUE DETECTION Speaker: Yusong Pang (Delft University of Technology, NLD)	CHoPS.024: THE INFLUENCE OF VELOCITY INPUTS IN THE PREDICTION OF THE STATIONARY LAYER IN HORIZONTAL SLUG FLOW Speaker: Ognjen Orozovic (University of Newcastle, AUS)	CHoPS.020: THE SENSITIVITY OF DUSTINESS TESTER RESULTS WHEN VARYING HUMIDITY Speaker: Ian Frew (University of Wollongong, AUS)	CHoPS.019: DENSE PHASE PNEUMATIC CONVEYING – INVESTIGATION USING AN IN-SITU MICROPROBE SENSOR Speaker: Alex Lavrinec (University of Newcastle, AUS)
14.20 20 min	2.3	CHoPS.198 ADVANCED DEWATERING OF FINE ORES AND TAILINGS Speaker: Peter Robinson, (University of Newcastle, AUS)	CHoPS.062: TRANSVERSE AND AXIAL VOID FRACTION DISTRIBUTION ACROSS PARTICULATE PLUGS Speaker: Anubhav Rawat (Ben-Gurion University of the Negev, ISR)	CHoPS.033: TIME-LAPSE X-RAY TOMOGRAPHY IMAGING OF FLOW PATTERNS IN VERSATILE SILO MODEL Speaker: Laurent Babout (Lodz University, POL)	CHoPS.179: THE THEORY AND APPLICATION OF ACOUSTIC CLEANERS WITHIN KEY AREAS OF THE DRY PROCESSING AND POWER GENERATION INDUSTRIES Speaker: Donald Cameron (Primasonics, GBR)
14:40		Tea break			
		Flow properties II	Processing and Formulation of powders	Flow properties III	Pneumatic conveying III
15.00 30 min	3.1	<b>KEYNOTE 1</b> CHoPS.105: FLOW PROPERTIES OF POLYMERIC POWDERS FOR SELECTIVE LASER SINTERING Speaker: Massimo Poletto (Università degli Studi di Salerno, ITA)	<b>KEYNOTE 2</b> CHoPS.189: VIRTUAL FORMULATION LABORATORY FOR PREDICTION AND OPTIMISATION OF MANUFACTURABILITY OF ADVANCED SOLIDS BASED FORMULATIONS Speaker: Csaba Sinka (University of Leicester, GBR)	<b>KEYNOTE 3</b> CHoPS.006: IN-LINE MEASUREMENT OF POWDER PROCESSES USING DRAG FORCE FLOW SENSORS Speaker: Tim Freeman (Freeman Technology, GBR)	<b>KEYNOTE 4</b> CHoPS.057: EXPLORING PHASE DIAGRAMS FOR HORIZONTAL PNEUMATIC CONVEYING Speaker: George Klinzing (Uni of Pittsburgh, USA)
15.30 20 min	3.2	CHoPS.076: REVIEW OF CONSOLIDATION WITHIN FLOW PROPERTY TESTERS Speaker: Andrew Grima (University of Wollongong, AUS)	CHoPS.103: ROLLER COMPACTION OF AMORPHOUS FOOD PARTICLES Speaker: Lennart Fries (Nestle, CHE)	CHoPS.047: AN EXPERIMENTAL INVESTIGATION INTO THE FLOWABILITY OF DETERGENT POWDERS Speaker: Vivek Garg (Thapar University, IND)	CHoPS.004: INVESTIGATION OF AUDIO SIGNALS AT A PNEUMATIC CONVEYING SYSTEM PIPELINE BEND Speaker: Don McGlinchey (Glasgow Caledonian University, GBR)
15.50 20 min	3.3	CHoPS.128: BULK SOLIDS FLOW PROPERTIES DURING FLUIDIZATION Speaker: Jan Necas (VSB, Ostrava, CZE)	CHoPS.201: DEVELOPMENT OF A NOVEL ROBOTIC DISPENSING SYSTEM FOR INGREDIENTS IN FOOD AND OTHER INDUSTRIES Speaker: Michael Bradley, (The Wolfson Centre, Uni of Greenwich, GBR)	CHoPS.073: RELATING PHYSICAL CHARACTERISTICS OF FOOD PARTICLES TO DYNAMIC FLOW BEHAVIOUR Speaker: Sophie Samain (Nestle, CHE)	CHoPS.145: FLOW CHARACTERISTICS ON FLUIDIZED CONVEYING OF POWDER IN A HORIZONTAL CHANNEL Speaker: Koichiro Ogata (Oita College, JPN)
16.10 20 min	3.4	CHoPS.172: ALTERNATIVE APPROACH TO PREDICT THE STRESSES AND TENSILE STRENGTH OF COHESIVE POWDERS Speaker: Stefan Zigan (University of Greenwich, GBR)	CHoPS.178: CAKING MECHANISMS BETWEEN INDIVIDUAL AMORPHOUS FOOD PARTICLES Speaker: Christine Haider (Nestle, CHE)	CHoPS.079: FLOWABILITY OF POWDERS IN THE LASER SINTERING PROCESS Speaker: Daniele Sofia (Università degli Studi di Salerno, ITA)	CHoPS.197: AN INDUSTRIAL TOOL TO ANALYSE AND MEASURE THE ATTRITION PHENOMENA IN PNEUMATIC CONVEYING Speaker: Thierry Destoop, (NEU Process, FRA)
16.30		Workshops and Poster session			

## CHoPS2018

EVENING DAY 3: Thursday 13<sup>th</sup> September 2018

	4.30-6 pm	<b>Workshop: Pneumatic conveying system design (KW302)</b>
	6 – 7.30 pm	<b>CHoPS International Scientific Council</b> (room KW003) –Members only-

# CHoPS2018

08:40	<b>DAY FOUR</b>	Introductory Welcome; Prof Mike Bradley - Friday 14 <sup>th</sup> September 2018		
08:50		<b>Plenary IV - (Queen Mary Undercroft) - Mr John Pethullis, Southdowne Solutions Ltd</b> <b>DRAX ECOSTORE – TURNING RESEARCH INTO PRACTICE</b>		
		<b>Morning Session Day 4</b>		
		Alan Roberts Theatre (KW303) King William Court Hopper and silo design II	Brian Scarlett Theatre (KW315) King William Court Pneumatic conveying IV	Andrew Jenike Theatre (KW302) King William Court Dust control and safety I
10.00 30 min	1.1	<b>KEYNOTE 1</b> CHoPS.122: A COMPREHENSIVE COMPARISON OF HOPPER DESIGNS BY USING TWO DIFFERENT POWDER FLOW TESTING PROCESSES Speaker: Yi Fan (The Dow Chemical Company, USA)	<b>KEYNOTE 2</b> CHoPS.010: MODELLING PNEUMATIC CONVEYING SYSTEMS Speaker: Mark Jones (University of Newcastle, AUS)	<b>KEYNOTE 3</b> CHoPS.104: PRESSURE MEASUREMENTS IN AN 18.5 m <sup>3</sup> SILO FOR DUST EXPLOSIONS Speaker: Alvaro Ramirez-Gomez (Escuela Técnica Superior Madrid, ESP)
10:30 20 min	1.2	CHoPS.119: DISCRETE ELEMENT MODELLING OF FLOW OF POWDER DURING HOPPER DISCHARGE UNDER DIFFERENT AIR PRESSURE CONDITIONS Speaker: Hasan Elmsahli (University of Leicester, GBR)	CHoPS.086: INFLUENCE OF MASS LOADING RATIO ON THE PARTICLE-LADEN TURBULENT FLOW THROUGH HORIZONTAL CHANNEL Speaker: Vikul Tomar (Indian Institute of Tech Bombay, IND)	CHoPS.081: THE DYNAMICS OF DUST SUPPRESSION SPRAYS UNDER CROSSFLOW CONDITIONS Speaker: Jon Roberts (University of Wollongong, AUS)
10:50 20 min	1.3	CHoPS.012: LAB SCALED TESTS OF THE STICK-SLIP EFFECT TO DISCRIBE SILO VIBRATION Speaker: Thomas Falke (Universität Freiberg, GER)	CHoPS.193: ROTARY VALVE SPECIFICATION, HOW IT MAKES A DIFFERENCE TO CONVEYING PERFORMANCE Speaker: Paul Bailey (Gericke Rotaval, GBR)	CHoPS.066: CASE STUDY: DESIGN OF A LONGWALL BSL AND DISCHARGE HOOD DUST SUPPRESSION SYSTEM Speaker: Jon Roberts (University of Wollongong, AUS)
11.10		<b>Coffee break</b>		
		Hopper and silo design III	Flow Properties IV	Dust control and safety II
11:30 20 min	2.1	CHoPS.112: COMBINING X-RAY TOMOGRAPHY IMAGING AND DEM SIMULATIONS TO INVESTIGATE GRANULAR MATERIAL FLOW DURING SILO DISCHARGE Speaker: Konrad Miśkiewicz (Lodz Universit, POL)	CHoPS.007: IMPROVED FLOW AID ADDITION THROUGH THE USE OF MAGNETICALLY ASSISTED IMPACTION COATING (MAIC) Speaker: Tim Freeman (Freeman Technology, GBR)	CHoPS.083: DUST EMISSION AT BULK MATERIAL HANDLING – SIMULATION BY DEM-CFD, LABORATORY MODEL TESTS AND INDUSTRIAL IMPLEMENTATION Speaker: Christoph Grübler (Montanuniversität Leoben AUT)
11:50 20 min	2.2	CHoPS.008: THE INFLUENCE OF BULK SOLID PROPERTIES ON THE PHENOMENON OF SILO VIBRATIONS Speaker: Karl Kruger (Universität Freiberg, GER)	CHoPS.060: ANALYSIS OF TITANIA POWDERS FLOW PROPERTIES AT AMBIENT AND HIGH TEMPERATURES: AN EXPERIMENTAL AND MODELLING APPROACH Speaker: Domenico Macri (University College London, GBR)	CHoPS.056: INVESTIGATION OF THE DUST RELEASE FROM BULK MATERIAL USING A COUPLED DEM/CFD APPROACH Speaker: Daniel Schulz (Universität Berlin, GER)
12.10 20 min	2.3	CHoPS.169: EVALUATION OF THE USE OF STATIC INSERTS TO CORRECT HOPPER FLOW PROBLEMS Speaker: Michael Bradley (The Wolfson Centre, Uni of Greenwich, GBR)	CHoPS.117: A STUDY OF FLOWABILITY USING FREEMAN APT UNIAxIAL POWDER TESTER AND FT4 RHEOMETER Speaker: Stefan Pantaleev (University of Edinburgh, GBR)	CHoPS.113: PREDICTING DUST LADEN AIR-FLOW IN TRANSIENT BULK MATERIAL OPERATIONS Speaker: Luke Stone (University of Wollongong, AUS)
12.45		<b>Conference closure (Queen Mary Undercroft)</b>		



## CHoPS2018

AFTERNOON DAY 4: Friday 14 September 2018

	TBC	Coach to The Wolfson Centre for Bulk Solids Handling Technology Laboratory

For more clarification on CHoPS Social Events and Accompanying persons programme, please contact:

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