

CHoPS2018



COLOR CODE

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

If you have any questions regarding technical program/publication/conference proceedings, please do not hesitate to contact:
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CHoPS2018

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

EVENING DAY 0: Monday 10 September 2018

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



CHoPS2018

09:00	DAY ONE	Introductory Welcome; Prof Mike Bradley - Tuesday 11 September 2018			
09:05		Plenary I - Prof. Dr. Frank Kleine Jäger, BASF SE, Germany FUTURE DIRECTIONS IN BULK SOLIDS HANDLING:THE BASF PERSPECTIVE			
		Morning Session Day 1			
		P1	P2	P3	P4
		Lignocellulosic biomass I	Powderreg	Wear, erosion and attrition I	Design and analysis I
		KEYNOTE 1	KEYNOTE 2	KEYNOTE 3	KEYNOTE 4
10:00 30 min	1.1	CHoPS.186: DURABILITY OF THERMALLY UPGRADED WOOD PELLETS AND COMPARISON OF THE BREAKAGE BEHAVIOR WITH DIFFERENT GRADE PELLETS Speaker: Andreas Averheim (Valmet, SWE)	CHoPS.165: FROM MICROSCOPIC PARTICLE PROPERTIES TO THE COMPLEX MACROSCOPIC BEHAVIOR OF POWDERS: INTERREG PROJECT "POWDERREG" Speakers: Sergey Antonyuk (Universität Kaiserslautern, GER) and Sébastien Kiesgen de Richter (University of Lorraine, FRA)	CHoPS.187: FROM ATTRITION INDICES TO ATTRITION PREDICTION Speaker: Ben Freireich (PSRI, USA)	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: Avy Uzi (Ben-Gurion University of the Negev, ISR)	CHoPS.003: INVESTIGATION OF CONTROLLED FLOW CHUTE CASCADES Speaker: John Fuller (Graviload, GBR)
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.159: DESIGN MODIFICATION OF DRYER FEED CHUTE USING DISCRETE ELEMENT METHOD Speaker: Saprativ Basu (Tata Steel, IND)
11.10		Coffee break			
11:30 20 min	1.4	CHoPS.013: A GENERAL DISCRETE ELEMENT CONTACT MODEL FOR BIOMASS MATERIAL Speaker: Dean Ellis (University of Newcastle, AUS)	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)	CHoPS.096: CALIBRATION OF THE DEM PARAMETERS OF COHESIVE BULK MATERIALS FOR THE OPTIMISATION OF TRANSFER CHUTES Speaker: Andrew Katterfeld (Universität Magdeburg, GER)
11:50 20 min	1.5	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.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: Vijay Agarwal (IIT Delhi, IND)	CHoPS.052: PIPE CONVEYOR BELT STIFFNESS AND PIPE-ABILITY Speaker: Gabriel Lodewiiks (University of New South Wales, AUS)

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12:10		Lunch / Poster Session			
13:30		Afternoon Session Day 1			
	DAY ONE	P1	P2	P3	P4
		Lignocellulosic biomass II	Powderreg	Wear, erosion and attrition II	Design and analysis II
13:40 20 min	2.1	CHoPS.009: INVESTIGATION INTO THE RELATIONSHIP BETWEEN COMPACTION EFFICIENCY AND SUPPORTING LOGISTICS NETWORKS FOR LIGNOCELLULOSIC BIOMASS Speaker: Dusan Ilic (University of Newcastle, AUS)	CHoPS.106: NUMERICAL AND EXPERIMENTAL STUDY OF THE AIR FLOW FIELD AND DISCHARGE RATES FOR COHESIVE PARTICLES IN HOPPER GEOMETRIES Speaker: Robert Hesse (Universität Kaiserslautern, GER)	CHoPS.148: MULTIVARIATE ANALYSIS OF IMPACT EROSION BY CaMg(CO ₃) ₂ Speaker: Mahesh Ediriweera (Uni College of Southeast Norway, NOR)	CHoPS.021: DETERMINATION OF THE INDENTATION ROLLING RESISTANCE PERFORMANCE OF CONVEYOR BELT COMPOUNDS USING MECHANICAL AND DIELECTRIC RELAXATION PROPERTIES Speaker: Jayne O'Shea (University of Newcastle, AUS)
14:00 20 min	2.2	CHoPS.120: INFLUENCE FACTORS ON THE COMMUNITION PROCESS OF WOOD FOR THE PRODUCTION OF PRECURSORS AND BASIC CHEMICALS FOR THE CHEMICAL INDUSTRY Speaker: Moritz Eisenlauer (Technische Hochschule Nürnberg, GER)	CHoPS.152: RHEOLOGY AND DRAINING PROPERTIES OF COHESIVE MODEL POWDERS: APPLICATION TO HOPPER FLOW Speaker: Arthur Pascot (Université de Lorraine, FRA)	CHoPS.184: EROSION WEAR OF ASTM A36 STEEL WITH HARDENED TEXTURED SURFACES Speaker: Vijay Agarwal (IIT Delhi, IND)	CHoPS.037: MEASUREMENT AND ANALYSIS OF CONVEYOR BELT FLEXURE RESISTANCE Speaker: Craig Wheeler (University of Newcastle, AUS)
14:20 20 min	2.3		CHoPS.129: DISSIPATION IN SHEARED WET AND DRY SAND UNDER CONFINEMENT MEASURED BY A TUBE RHEOMETER Speaker: Jorge Eduardo Fiscina (Universität des Saarlandes, GER)	CHoPS.100: MEASUREMENT OF UNEVEN WEAR IN A ROTARY WEAR TEST RIG FOR SLURRY FLOWS Speaker: Anubhav Rawat (IIT Delhi, IND)	CHoPS.097: EXPERIMENTAL ANALYSIS OF LATERAL BELT MOVEMENT AND SIMULATION OF MISTRACKING OF CONVEYOR BELTS Speaker: Hendrik Otto (Universität Magdeburg, GER)
14:40		Tea break			
		Particles in motion I	Particles in motion II	Slurry flow	Design and analysis III
15:00 20 min	3.1	CHoPS.014: PARTICLE ENTRAINMENT IN ROTARY KILNS Speaker: Haozhi Jie (Universität Magdeburg, GER)	CHoPS.025: INVESTIGATION OF AN INNOVATIVE METHOD FOR CENOSPHERE SEPARATION FROM FLY ASH Speaker: Jie Guo (University of Newcastle, AUS)	CHoPS.001: COMPUTATIONAL INVESTIGATION OF FINE GLASS-BEAD SLURRY FLOW IN HORIZONTAL PIPE Speaker: Gianandrea Vittorio Messa (Politecnico di Milano, ITA)	CHoPS.051: ARAMID CONVEYOR BELTS: FROM THEORY TO OPERATIONS Speaker: Gabriel Lodewiiks (University of New South Wales, AUS)
15:20 20 min	3.2	CHoPS.015: AXIAL SOLID TRANSPORT IN ROTARY KILNS – INFLUENCE OF OPERATIONAL PARAMETERS Speaker: Claudia Meitzner (Universität Magdeburg, GER)	CHoPS.087: CLASSIFYING GRANULAR MATERIALS FOR FEEDING PERFORMANCE USING EXPERIMENTAL AND NUMERICAL TECHNIQUES Speaker: Joel Torres (TMI Técnicas Mecánicas Ilerdenses, S.L,ESP)	CHoPS.044: PIPE FRICTION OF BIMODAL SETTLING SLURRY FLOW Speaker: Vaclav Matousek (Czech Tech University in Prague, CZE)	CHoPS.143: MODEL TO CALCULATE FINANCIAL AND ENVIRONMENTAL PERFORMANCE FOR ARAMID REINFORCED CONVEYOR BELTS Speaker: Gerard van den Hondel (Teijin Aramid, NLD)
15:40 20 min	3.3	CHoPS.054: THE USE OF MODERN RHEOMETERS IN POWDER AND GRANULAR MEDIA MEASUREMENTS FOR SCIENTIFIC AND INDUSTRIAL PURPOSES Speaker: Denis Schütz (Anton Paar, AUT)	CHoPS.156: BEHAVIOR OF GROWING PARTICLES WITHIN A ROTARY DRUM AND SPRAY COATING Speaker: Andreas Aigner (DCS Computing, AUT)	CHoPS.050: STUDY OF THE INFLUENCE OF PULVERIZED COAL PARTICLE SIZES ON PROXIMATE COMPOSITION AND RHEOLOGY OF COAL WATER SLURRY FUELS (CWSFS) Speaker: Neha Vishnoi (Thapar Universit, IND)	CHoPS.163: A RETROFIT CONVERSION TO MASS FLOW TO IMPROVE FEEDING OF MILLED PHOSPHATE IN EGYPT Speaker: Eddie McGee (Ajax Equipment, GBR)
16:00 20 min	3.4	CHoPS.099: EXPERIMENTAL AND NUMERICAL INVESTIGATION OF THE PARTICLE TRANSPORT BEHAVIOR WITHIN MULTI-STAGED HORIZONTAL FLUIDIZED BEDS Speaker: Eugen Diez (Universität Hamburg, GER)	CHoPS.092: THREE DIMENSIONAL DYNAMIC X-RAY ANALYSIS OF THE EVOLUTION OF DENSITY, VELOCITY, SIZE AND SHAPE DURING THE FLOW OF PARTICULATE SOLIDS Speaker: Benjy Marks (University of Sydney, AUS)	CHoPS.158: DETERMINATION OF HEAD LOSS IN A SLURRY PIPELINE FOR THE FLOW OF COAL WATER SLURRY USING COMPUTATIONAL FLUID DYNAMICS APPROACH Speaker: Harmanpreet Singh (Thapar University, IND)	
16:20		Workshops and Poster session			

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EVENING DAY 1: Tuesday 11 September 2018

	4.30-6 pm	Workshop: Characterisation of Particulate Systems
	7 pm	BBQ

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09:00	DAY TWO	Introductory Welcome; Wednesday 12 September 2018			
09:05		Plenary II - Prof. Dr. Stefan Luding, UTwente, The Netherlands FROM DISCRETE PARTICLE SIMULATIONS TOWARDS CONTINUUM THEORY AND APPLICATIONS			
		Morning Session Day 2			
		P1	P2	P3	P4
		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:DENSE GRANULAR FLOW RHEOLOGY IN A CYLINDRICAL COUETTE CELL 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: Massimo Poletto (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.048: AN EVALUATION OF TWO-LAYER MODELLING APPROACH FOR FLUIDIZED DENSE-PHASE PNEUMATIC CONVEYING OF FLY ASH Speaker: Kapil Sharma (Thapar Uni, IND)	CHoPS.150: DISCRETE ELEMENT MODELLING OF COHESIVE PARTICLES UNDER HIGH PRESSURE Speaker: Christoph Kloss (DCS Computing, AUT)	CHoPS.077: COMPARING PHASE DIAGRAMS FOR SETTLING AND NON-SETTLING PARTICLES IN HYDRAULIC CONVEYING Speaker: Ofek Gabrieli (Ben-Gurion University of the Negev, ISR)
11.00		Coffee break			
11:30 20 min	1.4	CHoPS.042: EXTRACTING BULK BEHAVIOR FROM DEM SIMULATIONS OF INDUSTRIAL PROCESSES Speaker: Carlos Labra (Particle Analytics, GBR)	CHoPS.072: INFLUENCE OF PARTICLE WALL FRICTION AND SPHERICITY ON PNEUMATIC CONVEYING Speaker: Philipp Schweda (TU Munich, GER)	CHoPS.171: A DEM-BASED COMPUTATIONAL TOOL FOR THE CENTRIGUFAL SPREADING OF FERTILIZERS Speaker: Miguel Celigueta (CIMNE, Universitat Politècnica de Catalunya, ESP)	CHoPS.182: AN EXAMPLE OF PIPELINE SUPPLY SYSTEMS Speaker: Deniz Ulusarslan (Yildiz Technical University,TUR)
11:50 20 min	1.5	CHoPS.131: CALIBRATION OF DISCRETE ELEMENT PARAMETERS AND THE EFFECT OF PARTICLE SCALE Speaker: Corne Coetzee (Stellenbosch University, ZAF)		CHoPS.035: A FRAMEWORK FOR DEVELOPING A VALIDATED DEM SIMULATION OF EXCAVATION PROCESS Speaker: Mohammadjavad Mohajeri (Delft University of Technology, NLD)	CHoPS.053: UNMANNED AERIAL INSPECTION AND MONITORING IN BULK HANDLING SYSTEMS Speaker: Gabriel Lodewiiks (University of New South Wales, AUS)
12:10		Lunch / Poster Session			

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13:30		Afternoon Session Day 2			
	DAY TWO	P1	P2	P3	P4
		Mixing and Segregation	Adhesion forces, wall friction and stress distribution	Flow properties I	Modelling III
13:40 30 min	2.1	KEYNOTE 1 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)	KEYNOTE 2 CHoPS.093: DYNAMICS OF WET PARTICLE - WALL COLLISIONS Speaker: Stefan Heinrich (Universität Hamburg, GER)	KEYNOTE 3 CHoPS.175: UNDERSTANDING POWDER FLOW BEHAVIOR – WHAT DO WE NEED? Speaker: Tim Bell (Dupont, USA)	KEYNOTE 4 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.166: VALIDATION OF DISCRETE ELEMENT MODELLING (DEM) ON A FREEMAN FT4 RHEOMETER USING ELECTRICAL CAPACITANCE TOMOGRAPHY TO ASSESS POWDER BLENDING Speaker: Michele Marigo (Johnson Matthey, GBR)	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.176: MODELLING GRANULAR FLOWS AND SEGREGATION PATTERNS AT A SINTER COOLER CHARGING CHUTE WITH A DISCRETE ELEMENT METHOD Speaker: Edouard Izard (Arcelormittal, FRA)	CHoPS.070: EMPIRICAL MODEL TO PREDICT THE WALL FRICTION Speaker: Galit Weidenfeld (Ben-Gurion University of the Negev, ISR)	CHoPS.170: APPLICATION OF SHEAR CELLS FOR OPTIMISING THE FLOWABILITY OF POWDER BLENDS Speaker: Rob Berry (University 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.174: MODELING OF THE SEGREGATION OF WOOD PELLETS IN HANDLING AND STORING IN SILOS AND DOMES Speaker: Susantha Chandana Dissanayake Mudiyansele (University of Greenwich, GBR)	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.040: CONTINUUM ANALYSIS OF DEM SIMULATIONS OF MIXING PROCESSES Speaker: Alvaro Janda (Particle Analytics, GBR)	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: Quentin Ribeyre (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.164: USING SCREW TECHNOLOGY FOR BEST MIXING Speaker: Simon Fields (Ajax Equipment, GBR)	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: Edward Alexander (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.084: USING CONE-IN-CONE AND OTHER HOPPERS AS ANTI-SEGREGATION DEVICES WITH GAS PRESSURE GRADIENTS Speaker: Kerry Johanson (Material Flow Solutions, USA)	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 CO2 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			

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EVENING DAY 2: Wednesday 12 September 2018

	4.30-5.30 pm	CHoPS Global Powder & Bulk Associations Summit
	4.30-6 pm	Workshop: Numerical simulation of particulate systems
	7 pm	Conference dinner – Leeds Castle

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09:00	DAY THREE	Introductory Welcome; Thursday 13 September 2018			
09:05		Plenary III - Dr. Martin (Marty) J. Murtagh, Corning Inc. / Cornell University, USA AN INDUSTRIAL PERSPECTIVE: PARTICLE MODELING AND MULTI-SCALE ANALYSIS OF PARTICULATE SYSTEMS			
		Morning Session Day 3			
		P1	P2	P3	P4
		Hopper and silo design I	Modelling IV	Pneumatic conveying II	Multiphase flow & porous media
10:00 20 min	1.1	CHoPS.011: SELECTING HOPPER OPENING AND PREDICTING FLOW RATE OF MOIST, COHESIVE BULK SOLIDS Speaker: Wei Chen (University of Newcastle, AUS)	CHoPS.034: MODELLING THE COMPACTION BEHAVIOUR OF CEMENT CLINKER Speaker: Thomas Mutze (Universität Freiberg, GER)	CHoPS.049: BEND PRESSURE DROP ANALYSIS IN DILUTE PHASE PNEUMATIC CONVEYING SYSTEMS Speaker: Naveen Tripathi (Ben-Gurion University of the Negev, ISR)	CHoPS.058: FRACTURES GROWTH IN SOFT CONSOLIDATE SAND. PORE-SCALE ANALYSIS Speaker: Paula Alejandra Gago (Imperial College London, GBR)
10:20 20 min	1.2	CHoPS.068: THE RELATIONSHIP BETWEEN FLOW DENSITY, HOPPER ANGLE AND PARTICLE-SIZE DISTRIBUTION DURING CONICAL HOPPER DISCHARGE: EXPERIMENTAL AND NUMERICAL ANALYSIS. Speaker: Chetan Patel (Sadar Vallabhbhai National Institute of Tech, IND)	CHoPS.074: EFFECT OF BOND STRENGTH ON PULVERIZATION BEHAVIOUR OF CRUSHABLE PARTICLES UNDER CONFINED COMPRESSION Speaker: Yun-Chi Chung (National Central University Taiwan, TWN)	CHoPS.082: DETERMINING THE CORRECT FORM OF THE FUNDAMENTAL PRESSURE DROP EQUATION FOR THE ESTABLISHED-FLOW REGION OF DILUTE-PHASE, VERTICAL PNEUMATIC CONVEYORS Speaker: John Wheeldon (Independent consultant, GBR)	CHoPS.130: PORE SCALE STUDY OF FLUID FLOWS THROUGH PACKED BEDS Speaker: Yongli Wu (Monash University, AUS)
10:40 20 min	1.3	CHoPS.018: HOW TO ESTIMATE THE STORAGE CAPACITY OF FLAT-BOTTOM STOCKPILES Speaker: Francisco Cabrejos (Jenike and Johanson Chile, CHL)	CHoPS.108: MODELLING OF CONFINED GRANULAR COMPACTION WITH MULTIPLE CONTACTS IN DEM Speaker: Kostas Giannis (Universität Braunschweig, GER)	CHoPS.135: BREAKAGE OF FAT FILLED MILK POWDER IN A DILUTE PHASE PNEUMATIC CONVEYING SYSTEM Speaker: Fuweng Zhang (University College Cork, IRL)	CHoPS.123: CHARACTERIZATION OF THE RHEOLOGICAL BEHAVIOR OF SATURATED PARTICULATE SOLID NETWORKS Speaker: Simon Hammerich (Karlsruhe Institute of Technology, GER)
11:00		Coffee break			
11:30 20 min	1.4	CHoPS.033: TIME-LAPSE X-RAY TOMOGRAPHY IMAGING OF FLOW PATTERNS IN VERSATILE SILO MODEL Speaker: Laurent Babout (Lodz University, POL)	CHoPS.116: CFD – DEM VALIDATION OF AIR ENTRAINMENT MECHANISMS Speaker: Luke Stone (University of Wollongong, AUS)	CHoPS.151: TRUE INNOVATION IN AIR COMPRESSION Speaker: Clive Hudson (Lontra, GBR)	CHoPS.038: MODELLING OF COARSE-GRAINED BED SLIDING IN PIPE FLOW OF VISCOPLASTIC CARRYING LIQUID Speaker: Mikolas Kesely (Czech Tech University in Prague, CZE)
11:50 20 min	1.5	CHoPS.016: METAMODELING OF STRUCTURAL DESIGN PARAMETERS AFFECTING SILO DISCHARGE PERFORMANCE Speaker: Marc Fransen (Delft University of Technology, NLD)	CHoPS.149: COUPLED CFD-DEM METHOD FOR THE STUDY OF BLAST FURNACE HEARTH DYNAMICS Speaker: Tim Nijssen (TU Eindhoven, NLD)	CHoPS.134: EXPERIMENTAL ANALYSIS OF BEND EFFECTS AND SECONDARY ACCELERATION IN VERTICAL DILUTE PHASE PNEUMATIC CONVEYING Speaker: Naveen Tripathi (Ben-Gurion University of the Negev, ISR)	CHoPS.118: STUDY OF STRATIFIED PATTERNS IN HORIZONTAL PIPE FLOW OF OIL/WATER MIXTURES COMBINING EIT AND CFD Speaker: Maria Rasteiro (Universidade de Coimbra, PRT)
12:10		Lunch / Poster Session			

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13:30		Afternoon Session Day 3			
	DAY THREE	P1	P2	P3	P4
		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.114: APPLICATION OF NEAR- INFRARED VISIONTECHNOLOGY FOR COAL GANGUE DETECTION Speaker: Yusong Pang (Delft University of Technology, NLD)	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.031: AERATION MOISTURE REDUCTION OF IRON ORE Speaker: Sam Caldwell (University of Newcastle, AUS)	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.195: HIGH VALUE SOLIDS PAT TEST BED FACILITY DEMONSTRATING A HIGH LEVEL OF PROCESS INSTRUMENTATION AND ONLINE PROCESS ANALYTICAL TOOLS Speaker: Ejay Nsugbe (CPI-Centre for Process Innovation, GBR)	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.027: STUDY OF VACUUM DEWATERING ON IRON ORE WITH COURSE SIZE FRACTION Speaker: Jie Guo (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.020: THE SENSITIVITY OF DUSTINESS TESTER RESULTS WHEN VARYING HUMIDITY Speaker: Ian Frew (University of Wollongong, AUS)	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	KEYNOTE 1 CHoPS.105: FLOW PROPERTIES OF POLYMERIC POWDERS FOR SELECTIVE LASER SINTERING Speaker: Massimo Poletto (Università degli Studi di Salerno, ITA)	KEYNOTE 2 CHoPS.189: VIRTUAL FORMULATION LABORATORY FOR PREDICTION AND OPTIMISATION OF MANUFACTURABILITY OF ADVANCED SOLIDS BASED FORMULATIONS Speaker: Csaba Sinka (University of Leicester, GBR)	KEYNOTE 3 CHoPS.006: IN-LINE MEASUREMENT OF POWDER PROCESSES USING DRAG FORCE FLOW SENSORS Speaker: Tim Freeman (Freeman Technology, GBR)	KEYNOTE 4 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: Edward Alexander (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.177: EXPERIMENTAL STUDY AND MODELING OF ANHYDROUS LACTOSE HYDRATION IN REALTIONSHIP WITH CAKING Speaker: Zhara Afrassiabian (Université de Picardie Jules Verne, FRA)	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.061: A COMPARISON BETWEEN INTERPARTICLE FORCES ESTIMATED WITH DIRECT POWDER SHEAR TESTING AND WITH SOUND ASSISTED FLUIDIZATION Speaker: Roberto Chirone (University College London, GBR)	CHoPS.178: CAKING MECHANISMS BETWEEN INDIVIDUAL ARMORPHOUS 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: Marc Fischer, (Ecole Nationale Supérieure des Mines de Saint-Etienne, FRA)
16.30		Workshops and Poster session			

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EVENING DAY 3: Thursday 13 September 2018

	4.30-6 pm	Workshop: Pneumatic conveying system design
	5 – 7 pm	CHOPS International Scientific Council (room KW003) –Members only-
	TBC	Thames Cruise

CHoPS2018

09:00	DAY FOUR	Introductory Welcome; Friday 14 September 2018		
09:05		Plenary IV - Mr John Pethullis, Southdowne Solutions Ltd DRAX ECOSTORE – TURNING RESEARCH INTO PRACTICE		
		Morning Session Day 4		
		P1	P2	P3
		Hopper and silo design II	Pneumatic conveying IV	Dust control and safety I
10:00 30 min	1.1	KEYNOTE 1 CHoPS.122: A COMPREHENSIVE COMPARISON OF HOPPER DESIGNS BY USING TWO DIFFERENT POWDER FLOW TESTING PROCESSES Speaker: Yi Fan (The Dow Chemical Company, USA)	KEYNOTE 2 CHoPS.010: MODELLING PNEUMATIC CONVEYING SYSTEMS Speaker: Mark Jones (University of Newcastle, AUS)	KEYNOTE 3 CHoPS.104: PRESSURE MEASUREMENTS IN AN 18.5 m ³ 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.111: ANALYSIS OF THE FLAMMABILITY PROPERTIES OF SOLID FUELS Speaker: Ljiljana Medic-Pejic (Escuela Técnica Superior Madrid, ESP)
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 (Gerike Rotaval, GBR)	CHoPS.081: THE DYNAMICS OF DUST SUPPRESSION SPRAYS UNDER CROSSFLOW CONDITIONS Speaker: Jon Roberts (University of Wollongong, AUS)
11:10		Coffee break		
		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 University, POL)	CHoPS.007: IMPROVED FLOW AID ADDITION THROUGH THE USE OF MAGNETICALLY ASSISTED IMPACTION 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 Grubler (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: Rob Berry (University 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.066: CASE STUDY: DESIGN OF A LONGWALL BSL AND DISCHARGE HOOD DUST SUPPRESSION SYSTEM Speaker: Jon Roberts (University of Wollongong, AUS)
12:30 20 min	2.4		CHoPS.172: ALTERNATIVE APPROACH TO PREDICT THE STRESSES AND TENSILE STRENGTH OF COHESIVE POWDERS Speaker: Stefan Zigan (University of Greenwich, GBR)	
13:00		Conference closure		

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AFTERNOON DAY 4: Friday 14 September 2018

	TBC	Coach to Whitstable on the Kent Coast