Powder Flow 2021

Online Workshop and Conference: 9 -11 March 2021

Workshop programme, (9 March 2021, GMT)

12:00 – 13:00	Online registration
13:00 – 13:10	Welcome, introduction to programme, how sessions will run
13:10 – 13:55	Fundamentals of powder flow – principles of flow, stress in containers and dynamic effects (Dr Ali Hassanpour)
13:55 – 14:40	Fundamentals of powder flow – the onset of flow and measurement principles (Dr Colin Hare)
14:40 – 15:00	Break
15:00 – 15:45	Workshop 1 (demonstration – measurements using uniaxial compression, shear cell and FT4)
15:45 – 16:25	Workshop 2 (hands on experience – analysis of results)
16:25 – 17:15	Open Discussion/Forum
17:15 -	Close of day 1

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Meeting programme (10 March 2021, GMT)

12:00 – 13:00	Online registration
13:00 – 13:10	Welcome, introduction to programme, how sessions will run
13:10 – 13:40	State-of-the-art flow measurement techniques for various applications (Dr Diego Barletta, University of Salerno, Italy)
13:40 – 14:10	A novel approach to predict the powder flowability from milligramme samples (Mr Vivek Garg, University of Greenwich)
14:10 – 14:30	Break
14:30 – 14:50	Granular compaction and powder flow properties: an energetic approach (Dr Maria Camila Jiménez Garavito, Reactions and Process Engineering Laboratory, Nancy, France)
14:50 – 15:20	Cohesive-particle flows: Getting out of a sticky situation (Prof. Christine Hrenya, University of Colorado Boulder)
15:20 – 17:00	Poster session 1 and Virtual Exhibition
17:00 -	Close of day 1

Meeting programme (11 March 2021, GMT)

12:50 – 13:00	Introduction to how sessions will run
13:00 – 13:30	Flow behaviour of formulated powders (Dr Mehrdad Pasha, UCB Pharma)
13:30 – 14:00	Manipulating powder flow via surface chemistry (Dr Jerry Heng, Imperial College)
14:00 – 14:20	Selection criteria and performance evaluation of a powder flow tester for product development and quality control (Dr Tim Bell, DJS Process Consulting)
14:20 – 14:35	Break
14:35 – 15:05	Application of powder flow measurements - case studies (Dr Vincenzino Vivacqua, Johnson Matthey)
15:05 – 15:35	Polymer powders for additive manufacturing: challenges and opportunities (Dr Enrico Gallino, RICOH UK Products Ltd.)
15:35 – 16:35	Poster session 2 and Virtual Exhibition
16:35 – 17:00	Open Discussion/Forum
17:00	Poster Award and close of meeting

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Meeting programme (10 March 2021, GMT)
15:20 – 17:00 Poster session 1

Poster no	Name	Surname	Organisation	Title	Breakout room ID
1.1	Svetlana	Bibiceva	Univ. of Leeds	Understanding auto-agglomeration of dry active pharmaceutical ingredients	1.1
1.2	Bridgit A	Etbon	Univ. of Leeds	Understanding the impact of API particle engineering methods on API surface properties and drug product sticking	1.2
1.3	Thomas	Barker	Univ. of Edinburgh	Continuum modelling of standpipe flow: progressive idealisation leads to simple scaling laws	1.3
1.4	Azza	Aly-Mahmound	Univ. of Surrey	Ball indentation technique for powder flow assessment: influence of bed packing and indentation conditions	1.4
1.5	Andrea	Suaza-Montalvo	Univ. of Lorraine	Granular compaction: from glass beads to more complicated granular materials	1.5
1.6	Liam	Parry	Univ. of Leeds	DEM simulation of inter-particle surface adhesive forces using DigiDEM™	1.6
1.7	Adam	Gothorp	Univ. of Sheffield	Applying Bayesian statistics to optimise powder flowability	1.7
1.8	Csaba	Sinka	Univ. of Leicester	Experimental characterisation and DEM-CFD element modelling of flow rate during hopper discharge under differential pressure	1.8
1.9	Mingyue	Zhang	Univ. of Jiaotong	Numerical simulation on the drag and heat transfer characteristics around and through a porous particle using Lattice Boltzmann method	1.9
1.10	Mozhdeh	Mehrabi	Univ. of Leeds	Characterisation of packing behaviour of metal powders for 3D printing application and ball indentation processes	1.10

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Meeting programme (11 March 2021, GMT)
15:35 – 16:35 Poster session 2

Poster no	Name	Surname	Organisation	Title	Breakout room ID
2.1	Sabiyah	Ahmed	Surface Measurement Systems	Vapour sorption techniques for particle engineering	2.1
2.2	Fatemeh	Talebi	Univ. of Leeds	Characterisation of spreadability behaviour of Ti6Al4V powders for Additive Manufacturing	2.2
2.3	Zobaideh	Haydari	Univ. of Leeds	Characterisation of stainless steel powder spreadability for Additive Manufacturing: effect of blade speed and gap size	2.3
2.4	Hamid	Salehi Kahrizsangi	Univ. of Greenwich	Development and application of a new approach in quantifying AM layer quality	2.4
2.5	Yi	He	Univ. of Leeds	Linking particle properties to the quality of spread powder layer by discrete element modelling	2.5
2.6	Steven	Hall	Univ. of Leeds	Spray dried surface treated titanium dioxide: Influence of surface treatments on powder flowability	2.6
2.7	Marv	Khala	Univ. of Surrey	Density and size-induced mixing and segregation in the FT4 powder rheometer: an experimental and numerical investigation	2.7