

**POSTER TIMETABLE**  
**Day 1- 24th June 2009**

Poster No.	Poster Topic	Presenter	Group
<b>Session 1</b>			
1	Affect of spray location on coated granule quality	A. Alrashidi, E. Chan, H. Charles, M. Hounslow, A. Salman	The University of Sheffield, UK
2	Relationship between particle shape and some process variables in high shear wet granulation using binders of different viscosity	A. Santomaso, E. Franceschinis, M. Cavinato, N. Realdon	University of Padova, Italy
3	Analysis of low shear granulation and tabletting of pharmaceutical powders	H. Ma, G. Andrews, D. Jones G. Walker	Queen's University Belfast, UK
4	Effect of impeller speed on mechanical properties of granules	C. Mangwandi <sup>1</sup> , Adams M.J <sup>2</sup> , Hounslow M.J. <sup>1</sup> , A.D. Salman <sup>1</sup>	<sup>1</sup> The University of Sheffield, UK <sup>2</sup> University of Birmingham, UK
5	Effect of process parameters on properties of granules produced in high shear granulators	N. Rahamanian, X. Jia, M. Ghadiri	University of Leeds, UK
6	Effect of binder type and concentration on compactability of Acetaminophen granules	J. Balasubramaniam <sup>1</sup> , V. U. Rao <sup>1</sup> , Y. V. R. Kumar <sup>1</sup> , K. Bindu <sup>1</sup> , R. Halder <sup>2</sup> A. Brzeczek <sup>3</sup>	<sup>1</sup> International Specialty Products India (Pvt) Limited, India <sup>2</sup> International Specialty Products, USA <sup>3</sup> ISP Pharma Systems, USA
7	Population balance modeling of granula breakage during pneumatic conveying systems	N. Baş, P.B. Pathare, J. J. Fitzpatrick, K. Cronin E.P. Byrne	University College Cork, Ireland
8	Influence of the process parameters on particle properties during fluidized bed granulation	A. Sommer <sup>1,2</sup> , S. Heinrich <sup>2</sup> , S. Antonyuk <sup>2</sup> , M. Peglow <sup>1</sup> , E. Tsotsas <sup>1</sup>	<sup>1</sup> Otto-von-Guericke- University Magdeburg, Germany <sup>2</sup> Hamburg University of Technology, Germany
9	Impact of solid properties on flow structure and particle motions in bubbling fluidisation	Xinafeng Fan <sup>1</sup> , David J. Parker <sup>2</sup> , Zhufang Yang <sup>2</sup>	<sup>1</sup> London South Bank University, London UK <sup>2</sup> University of Birmingham,

			UK
10	Granulation of microcrystalline cellulose in vibrofluidized bed	S. Costa, V.A.S. Moris, V. R. Pereira, O.P. Taranto, S.C.S. Rocha	State University of Campinas - UNICAMP, Brazil
11	Pressure drop fluctuations analyses during microcrystalline cellulose in vibro and modified fluidized beds	V.A.S. Moris, R.L.G da Cunha, C.B. Visnadi, O.P. Taranto, S.C.S.Rocha	State University of Campinas - UNICAMP, Brazil
12	Agglomeration of soy protein isolate in a pulsed-fluid bed	G. C. Dacanal, F.Z. Vissotto F. C. Menegalli	State University of Campinas - UNICAMP, Brazil
13	Construction of a quality index for granules produced by fluid bed technology by application of the correspondence analysis as a discriminant procedure	T. Albuquerque <sup>1</sup> , V.H. Dias <sup>2</sup> , N. Poellinger <sup>3</sup> J.F. Pinto <sup>2</sup>	<sup>1</sup> Escola Superior de Tecnologia, Portugal <sup>2</sup> Universidade de Lisboa, Portugal <sup>3</sup> Glatt GmbH, Germany
14	Modelling of particle motion in a recirculatory fluidised bed; prediction of process residence times	K. Cronin <sup>1</sup> , S O'Brien <sup>2</sup> , M. Catak <sup>1</sup> D. Tellez-Medina <sup>1</sup>	<sup>1</sup> University College Cork, Ireland <sup>2</sup> University of Limerick, Ireland
15	SolidSim-Dynamics – A novel software for the dynamic flowsheet simulation of solids processes	M. Dosta, S. Heinrich, J. Werther, C. Reimers, M. Pogodda	Hamburg University of Technology, Germany
16	Design of regime separated granulation	H.N. Emady <sup>1</sup> , D. Kayrak-Talay <sup>1</sup> , W.C. Schwerin <sup>2</sup> J.D. Litster <sup>1,2</sup>	<sup>1</sup> Purdue University, USA <sup>2</sup> UOP, USA
17	Effect of formulation hydrophobicity on drug distribution in wet granulation	Thanh Nguyen, Wei Shen, Karen Hapgood	Monash University, Australia
18	Binder addition methods and binder distribution	J. Osborne <sup>1</sup> , R. Sochon <sup>1</sup> , J. Fu <sup>1</sup> , D. Dougherty <sup>2</sup> , C. Gilmour <sup>2</sup> , J. Cartwright <sup>2</sup> , M. Hounslow <sup>1</sup> A.D. Salman <sup>1</sup>	<sup>1</sup> The University of Sheffield, UK <sup>2</sup> GlaxoSmithKline, UK
19	Breakage of drop nucleated granules in a	R.M. Smith,	The University of

	breakage only high shear mixer	J.D. Litster	Queensland, Australia
20	Producing hollow granules from hydrophobic powders in high-shear mixer granulators	Nicky Eshtiaghi <sup>1</sup> , Benedicta Arhatari <sup>2</sup> , Karen P. Hapgood <sup>1</sup>	<sup>1</sup> Monash University, Australia <sup>2</sup> La Trobe University, Australia
21	Granulation of Food Powders: Unsteady Granular Bed Velocities	Selassie K. Dorvlo <sup>1</sup> , Stefan Palzer <sup>2</sup> , Markus Hartmann <sup>3</sup> , Michael J. Hounslow <sup>1</sup> and Agba D. Salman <sup>1</sup>	<sup>1</sup> Department of Chemical and Process Engineering, University of Sheffield, Mappin Street, S1 3JD, UK, <sup>2</sup> Nestlé Research Centre, PO Box 44, CH-1000, Lausanne 26, Switzerland <sup>3</sup> Nestlé Product Technology Centre, Post box: 671, 78221, Singen, Germany
22	Rewetting effects and droplet motion in wet granulation	T.H. Nguyen, K. Hapgood W. Shen	Monash University, Australia
23	Inline monitoring the effect of chemical inhibitor on the calcium carbonate precipitation and Agglomeration	W.N. Al Nasser <sup>1</sup> , F. H. AL-Salhi <sup>2</sup> , M. J. Hounslow <sup>1</sup> , and A. D. Salman <sup>1</sup>	<sup>1</sup> Department of Chemical and Process Engineering, University of Sheffield, Sheffield, <sup>2</sup> Saudi Aramco Company, Dhahran 31311, Saudi Arabia
24	Scaling rules for high shear granulation: a case study for pharmaceutical granulation	D. Kayrak-Talay, J.D. Litster	Purdue University, USA
25	Analysis of in-vitro drug dissolution from a PCL melt extrusion process	P. Douglas, G. Andrews, D. Jones G. Walker	Queen's University Belfast, UK.

## Day 2 - 25<sup>th</sup> June 2009

26	Modelling particle size distribution and binder liquid distribution in wet granulation by population balance	V. Falk, N. Smirani, E. Schaer, N. Bardin-Monnier, L. Marchal-Heussler	Nancy-Université, France
27	Wet granulation in a laboratory scale high shear mixer: Effect of chopper presence, design and impeller speed	T. M. Chitu <sup>1</sup> , D. Oulahna <sup>1</sup> , M. Hemati <sup>2</sup>	<sup>1</sup> RAPSODEE Research Centre, Ecole des Mines d'Albi-Carmaux, France <sup>2</sup> Laboratoires de Génie Chimique, Toulouse, France
28	Optimisation of variable high shear mixer conditions in a group design project	A. Wieteska <sup>1</sup> , M. Zargary <sup>1</sup> , W. Osley <sup>1</sup> , J. Cartwright <sup>2</sup> , D. Dougherty <sup>2</sup> , T. Wood <sup>1</sup> , J. Tyson <sup>1</sup> , J. Fu <sup>1</sup> , M. J. Pitt <sup>1</sup>	<sup>1</sup> The University of Sheffield, UK <sup>2</sup> GlaxoSmithKline, UK
29	Why is granulation of pharmaceutical materials in high shear mixer difficult?	J. Fu <sup>1</sup> , C. M. Gilmour <sup>2</sup> , M. Hounslow <sup>1</sup> and A.D. Salman <sup>1</sup>	<sup>1</sup> The University of Sheffield, UK <sup>2</sup> GlaxoSmithKline, UK
30	New strategies for scaling up of high shear granulation processes	J. Fu <sup>1</sup> , E. L. Chan <sup>1</sup> C. M. Gilmour <sup>2</sup>	<sup>1</sup> The University of Sheffield, UK <sup>2</sup> GlaxoSmithKline, UK
31	Estimation of water amount required for granulation of pharmaceutical materials	J. Fu <sup>1</sup> C. M. Gilmour <sup>2</sup> M. Hounslow <sup>1</sup> A.D. Salman <sup>1</sup>	<sup>1</sup> The University of Sheffield, UK <sup>2</sup> GlaxoSmithKline, UK
32	Characterisation and measurement of impeller stress in high shear granulation	J. Fu <sup>1</sup> , E. L. Chan <sup>1</sup> , C. M. Gilmour <sup>2</sup> , M. Hounslow <sup>1</sup> A.D. Salman <sup>1</sup>	<sup>1</sup> The University of Sheffield, UK <sup>2</sup> GlaxoSmithKline, UK
33	Effect of nucleation mechanism on granule properties in fluidised hot melt granulation	L. Shu, H.Zhai, G. Andrews,	Queen's University Belfast, UK

		D. Jones G. Walker	
34	He Microscopic Evaluation of the Effect of Fluidization and Compaction on Binderless Granulation in Pressure Swing Fluidization	Noor F. Abu Bakar <sup>1</sup> , <sup>2</sup> , Ryouhei Anzai <sup>1</sup> , Amit Suri <sup>1</sup> , Masayuki Horio <sup>1</sup>	<sup>1</sup> Tokyo University of Agriculture and Technology, Tokyo, Japan <sup>2</sup> Universiti Teknologi Shah Alam, Malaysia
35	Residence time distribution in fluidised beds using non-intrusive optical measuring techniques	M. Börner <sup>1</sup> , M. Peglow <sup>1</sup> , M.S.v.Buijtenen <sup>2</sup> , N.G. Deen <sup>2</sup> , E. Tsotsas <sup>1</sup> , J.A.M. Kuipers <sup>2</sup> , S. Heinrich <sup>3</sup>	<sup>1</sup> Otto-von-Guericke-University Magdeburg, Germany <sup>2</sup> University of Twente, Enschede, The Netherlands <sup>3</sup> Technical University Hamburg-Harburg, Germany
36	Fiber-optical inline measurements of particle size distributions in fluidized bed processes	C. Fischer, M. Peglow, E. Tsotsas	Otto-von-Guericke-University Magdeburg, Germany
37	A bed-state oriented, new data acquisition method of fluidized bed granulation	Z. Bézy <sup>1</sup> , M. Virág <sup>1</sup> , T. Nagy <sup>1</sup> , T. Meszéna <sup>2</sup> , M. Varga <sup>3</sup> , S. Balogh <sup>3</sup> , B. Csukás <sup>3</sup>	<sup>1</sup> Gedeon Richter Plc, Hungary <sup>2</sup> Budapest University of Technology and Economics, Hungary <sup>3</sup> Kaposvar University, Department of Information Technology, Hungary
38	Bed-state diagram based scale-up of fluidized bed granulation	M. Varga <sup>1</sup> , S. Balogh <sup>1</sup> , B. Csukás <sup>1</sup> , Z. Bézy <sup>2</sup> , M. Virág <sup>2</sup> , T. Nagy <sup>2</sup>	<sup>1</sup> Kaposvar University, Hungary <sup>2</sup> Gedeon Richter Plc, Hungary
39	Effects of process geometry on the extrusion-spheronisation of pharmaceutical pastes	M. Zhang, S.L. Rough, C. Seiler <sup>2</sup> , R. Ward <sup>2</sup> D.I. Wilson	Department of Chemical Engineering & Biotechnology, Cambridge, UK <sup>2</sup> Merck Sharp & Dohme Devlab, UK
40	Predicting granule mean diameter during fluidized bed granulation using acoustic emission technique	Sami Poutiainen, Sanni Matero, Tatu Hämäläinen, Jari Leskinen, Jarkko Ketolainen	University of Kuopio, Kuopio, Finland,
41	Rheological measurement methods to predict material properties of fat based coating materials	C. Grabsch <sup>1</sup> , S. Grüner <sup>2</sup> ,	<sup>1</sup> TU Muenchen, Germany <sup>2</sup> Raps Forschungszentrum,

		F. Otto <sup>2</sup> K. Sommer <sup>1</sup>	Germany
42	Control of the agglomeration process in high shear mixer	Erik Marcussen	Novozymes A/S, Denmark
43	Multidimensional population balance modeling for a coating granulation process	J. Li, B. Freireich, C. Wassgren, J. Litster	Purdue University, West Lafayette, USA
44	Wheat flour reactivity and agglomeration process: influence on growth and texture of agglomerates	M. Saad <sup>1</sup> , E. Rondet <sup>1</sup> , T. Ruiz <sup>2</sup> , B. Cuq <sup>1</sup>	<sup>1</sup> UMR Ingénierie des Agropolymères et Technologies émergentes (IATE), France. <sup>2</sup> Université Montpellier II, France
45	The Variability of Pharmaceutical Granulation	Robert P.J. Sochon <sup>1</sup> , Simeone Zomer <sup>2</sup> , James J. Cartwright <sup>2</sup> , Michael. J. Hounslow <sup>1</sup> . Agba D. Salman <sup>1</sup>	<sup>1</sup> The University of Sheffield, UK <sup>2</sup> GlaxoSmithKline, UK
46	Spray-coating of pharmaceutical fine particles by miniature spouted-bed process	Hideki Ichikawa <sup>1</sup> , Masaaki Kadota <sup>1</sup> , Yoshifumi Osako <sup>2</sup> Yoshinobu Fukumori <sup>1</sup>	<sup>1</sup> Kobe Gakuin University, Japan <sup>2</sup> Research Department, Fuji Paudal Co. Ltd, Osaka, Japan
47	Multi-scale modeling of particle flows in granulators	B. Freireich <sup>1</sup> , J. Li <sup>2</sup> , J. Litster <sup>2,3</sup> , and C. Wassgren <sup>1,3</sup>	<sup>1</sup> School of Mechanical Engineering, Purdue University, USA <sup>2</sup> School of Chemical Engineering, Purdue University, USA <sup>3</sup> Department of Industrial and Physical Pharmacy, Purdue University, USA
48	Influence of Electronic Anti Fouling on Agglomeration of Calcium Carbonate	W. N. Al Nasser <sup>1</sup> , A. H. AL Ruwaie <sup>2</sup> , M. J. Hounslow <sup>1</sup> and A. D. Salman <sup>1</sup>	1. Department of Chemical and Process Engineering, University of Sheffield, Mappin Street, Sheffield-S1 3JD, waleed.nasser@aramco.com 2. Saudi Aramco Company, Dhahran 31311, Saudi Arabia.
49	Textural analysis of acrylic polymer-based pellets using SEM images	Livia C. Sa-Barreto, Carmen Alvarez-	Departamento de Farmacia, Tecnologia Farmaceutica,

		Lorenzo, Angel Concheiro, Ramon Martinez-Pacheco and Jose L. Gomez- Amoza	Facultad de Farmacia, Universidad de Santiago de Compostela, Spain
50	Studies on the Physical Properties of Biodegradable Films for Detergent Encapsulation	G.R.J. Lewis <sup>1</sup> , G. Andrews <sup>2</sup> , T.R.A. Magee G.M. Walker <sup>1</sup>	<sup>1</sup> School of Chemistry and Chemical Engineering, Queen's University Belfast, <sup>2</sup> School of Pharmacy, Queen's University Belfast

**Day 3 - 26<sup>th</sup> June 2009**

Session 3			
51	The phenomena of liquid marble formation using hydrophobic and super-hydrophobic powders	P. McEleney, I.A. Larmour, S.E.J. Bell G. Walker	Queen's University Belfast, UK
52	Particle-gas mass transfer in a spouted bed with controllable air inlet	T. Hoffmann <sup>1</sup> , A. Hailu <sup>1</sup> , M. Peglow <sup>1</sup> , E. Tsotsas <sup>1</sup> , M. Jacob <sup>2</sup>	<sup>1</sup> Otto-von-Guericke-University Magdeburg, Germany <sup>2</sup> Glatt Engineering GmbH, Germany
53	Texturation of a bulk bed of wet agglomerates under vertical vibrations	E. Rondet, T. Ruiz, M. Delalonde, J.P. Desfours	Université Montpellier, France
54	Stability of sub micron grinded food products	S.L.A. Hennart <sup>1,2</sup> , W.J. Wildeboer <sup>1</sup> , P. van Hee <sup>1</sup> G.M.H. Meesters <sup>1,2</sup>	<sup>1</sup> DSM Food Specialties, The Netherlands <sup>2</sup> Technical University Delft, The Netherlands
55	Collision Behaviour of Dominant-Plastic Food Granules	L. Fries <sup>1</sup> , S. Antonyuk <sup>1</sup> , S. Heinrich <sup>1</sup> , S. Palzer <sup>2</sup>	<sup>1</sup> Hamburg University of Technology, Germany <sup>2</sup> Nestlé Research Centre Lausanne, Vers-Chez-Les-Blanc, Switzerland
56	Study of the process parameters and the influence of sugar size in the agglomeration with steam of cocoa beverage powder	F.Z. Vissotto, G.C. Dacanal, M.I. Rodrigues, F.C. Menegalli	University of Campinas, Brazil
57	Application of low-substituted hydroxypropyl cellulose (L-HPC) to dry granulation	N. Maruyama S. Obara	Shin-Etsu Chemical Co., Ltd., Japan
58	Evaluation of process analytical technologies for on-line particle size measurement	Daniel Shearer <sup>1</sup> , Barry Crean <sup>2</sup> and James Kraunsoe <sup>2</sup>	<sup>1</sup> Loughborough University, UK <sup>2</sup> AstraZeneca R&D Charnwood, UK
59	Effects of process variables on kinetics of fluidized bed granulation of lactose	S. Movahedirad	Sharif University of technology, Tehran, Iran
60	Recrystallization of naphthalene from toluene using antisolvent CO <sub>2</sub>	Ebrahim Nemati Lay	Univeristy of Kashan, Iran
61	A new approach to the granulation of cyclodextrin	N.P. Silva Jr. <sup>1</sup> ,	<sup>1</sup> São Paulo State

	inclusion complexes	M.P.D. Gremião <sup>1</sup> , B.S.F. Cury <sup>1</sup> , R.C. Evangelista <sup>1</sup> , L.A.P. Freitas <sup>2</sup> , A.D. Castro <sup>1</sup>	University, Brazil. <sup>2</sup> USP – São Paulo University, Brazil.
62	Benefits of Continuous Granulation for Pharmaceutical Research, development and Manufacture	Swanborough, Alan	Thermo Fisher Scientific Stone, Staffordshire, ST15 0SR United Kingdom
63	Some aspects of granulation of colloidal disperse ceramic material mixtures	M. Nebelung and M. Fries	Fraunhofer-Institut Keramische Technologien und Systeme, Germany
64	Quantitative analysis of internal granule structures	S. Eckhard, S. Höhn, B. Matthey	Fraunhofer-Institut Keramische Technologien und Systeme, Germany
65	Degree of compression as a process indicator of tablet tensile strength	J. Nordström and G. Alderborn	Uppsala University, Sweden
66	A systematic study of the distribution of force between agglomerates during uniaxial compression	F. Mahmoodi, G. Alderborn and G. Frenning	Uppsala University, Sweden