# Program

## DAY 1 (2/Sep/Monday)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td>Registration desk open</td>
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<tr>
<td>9:00 AM</td>
<td><strong>Opening Ceremony</strong></td>
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<tr>
<td>9:10 AM</td>
<td><strong>Invited Keynote Talk I</strong></td>
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<tr>
<td>9:10 AM</td>
<td><strong>The Science Behind a Granule: &quot;A life Story&quot;</strong></td>
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<tr>
<td>9:10 AM</td>
<td><em>Agba D. Salman, University of Sheffield, UK</em></td>
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<tr>
<td>10:00 AM</td>
<td><strong>Oral Session 1-1</strong></td>
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<tr>
<td>10:00 AM</td>
<td><strong>Synthesis, Aggregation, Dispersion of Nanoparticles I</strong></td>
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<tr>
<td>10:00 AM</td>
<td><strong>O-1 Synthesis and Dispersion Control of Iron Nanoparticles for</strong></td>
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<td>10:00 AM</td>
<td><strong>Magnetorheological Fluid</strong></td>
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<td>10:00 AM</td>
<td><strong>H. Abe(^1), M. Naito(^1), S. Yamanaka(^2)</strong></td>
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<td>10:00 AM</td>
<td><strong>Osaka University, JAPAN, (^2)Muroran Institute of Technology, JAPAN</strong></td>
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<tr>
<td>10:20 AM</td>
<td><strong>O-2 Nanohybrid Nanopowders of Sol-Gel derived Ceria and Mullite for</strong></td>
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<td>10:20 AM</td>
<td><strong>Catalytic Use by Aggregation Control of Sol</strong></td>
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<td>10:20 AM</td>
<td><strong>H. Suzuki, N. Sakamoto, N. Wakiya</strong></td>
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<td>10:20 AM</td>
<td><strong>Shizuoka University, JAPAN</strong></td>
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<tr>
<td>10:40 AM</td>
<td>Break</td>
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<tr>
<td>10:50 AM</td>
<td><strong>Oral Session 1-2</strong></td>
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<tr>
<td>10:50 AM</td>
<td><strong>Synthesis, Aggregation, Dispersion of Nanoparticles II</strong></td>
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<tr>
<td>10:50 AM</td>
<td><strong>O-3 Control of Aggregation and Dispersion of Mechanochemically Synthesized</strong></td>
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<td>10:50 AM</td>
<td><strong>Magnetite Nanoparticles in Aqueous Magnetic Fluid</strong></td>
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<td>10:50 AM</td>
<td><strong>T. Iwasaki, T. Kagawa, H. Nakamura, S. Watano</strong></td>
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<td>10:50 AM</td>
<td><strong>Osaka Prefecture University, JAPAN</strong></td>
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</tbody>
</table>
11:10 AM O-4 Hydrothermal Synthesis of Size-controlled Crystalline Magnetite Nanoparticles Using Response Surface Methodology
N. Mizutani, T. Iwasaki, S. Watano
Osaka Prefecture University, JAPAN

11:30 AM O-5 Formation Mechanism of Non-Spherical CaCO₃ Particles on an Agglomeration Process by a Hybrid Simulation
K. Kadota¹,², R. Furukawa¹, Y. Tozuka², A. Shimosaka¹, Y. Shirakawa¹, J. Hidaka¹
¹Doshisha University, JAPAN, ²Osaka University of Pharmaceutical Sciences, JAPAN

11:50 AM Lunch

Invited Keynote Talk II
1:10 PM – 2:00 PM
Session Chair: Kunikazu Moribe

Gas Phase Synthesis of Coated Particles for Inhalation Drug Delivery
Esko I. Kauppinen, Aalto University, FINLAND

Oral Session 2-1
2:00 PM – 3:00 PM
Session Chair: Kunikazu Moribe

Pharmaceutical Science and Technology I

2:00 PM O-6 Preparation of Inhalable Dry Powders of Thymopentin-loaded Chitosan Nanoparticles
C. Cuifang, W. Lei, T. Xing
Shenyang Pharmaceutical University, CHINA

2:20 PM O-7 Solubility Improvement of Poorly Water Soluble Drug with Solid Dispersing System by Spray Drying and Hot Melt Extrusion Techniques with Amphiphilic Polymer
N. Ogawa, T. Hiramatsu, R. Suzuki, M. Kataoka, S. Kondo, K. Shibagaki, C. Takahashi, Y. Kawashima, H. Yamamoto
Aichi Gakuin University, JAPAN

2:40 PM O-8 Phospholipid Based Pellets Using Extrusion-Spheronization
S. Chopra¹, N. Venkatesan², G. Betageri¹
¹Western University of Health Sciences, USA, ²Midwestern University, USA

3:00 PM Break
Pharmaceutical Science and Technology II

3:20 PM  O-9  Preparation and Evaluation of Nifedipine Multi-reservoir Controlled Release Tablet Using Hot Melt Extrusion  
Y. Zhang, Q. Yao, Y. Shao, X. Tang  
Shenyang Pharmaceutical University, CHINA

3:40 PM  O-10  A Novel Type of Short-term Delayed Release Microcapsules with Expansionary Cores and Multi-layered Coatings Prepared by Using Wurster Fluid Bed  
D. Liu¹, H. Ichikawa², T. Uemura³, X. Tang¹, F. Cui¹, Y. Fukumori²  
¹Shenyang Pharmaceutical University, CHINA, ²Kobe Gakuin University, JAPAN, ³Pharma PolyTech Inc., JAPAN

O-11  Paper Withdrawn by the Authors

4:00 PM  O-12  The Consideration of Issues Concerning Precipitation in Collagen Drinks  
M. Kanie, Y. Yamada  
Nissin Pharmaceutical Industries Co., Ltd., JAPAN
DAY 2
(3/Sep/Tuesday)

8:30 AM Registration desk open

Invited Keynote Talk III 9:00 AM – 9:50 AM
Session Chair: Satoru Watano

Pharmaceutical Granulation - Improving Particle Design and Processing
Karen P. Hapgood, Monash University, AUSTRALIA

Oral Session 3-1 9:50 AM – 10:30 AM
Session Chair: Satoru Watano

Modeling and Simulation I

9:50 AM O-13 Modeling the Disintegration and Dissolving of Water-soluble Bulk Solids from Online Particle Concentration Measurements
W. R. Mitchell1, T. O. Althaus2, L. Forny3, G. Niederreiter4, S. Palzer4, M. J. Hounslow1, A. D. Salman1
1University of Sheffield, UK, 2Nestlé Product Technology Centre, UK, 3Nestlé Research Centre, SWITZERLAND, 4Nestlé SA Headquarters, SWITZERLAND

10:10 AM O-14 Numerical Modeling of Dynamic Liquid Bridge between Moving Particles
H. Nakamura, Y. Yamamoto, K. Hiroyuki, S. Watano
Osaka Prefecture University, JAPAN

10:30 AM Break

Oral Session 3-2 10:40 AM – 11:40 AM
Session Chair: Hideya Nakamura

Modeling and Simulation II

10:40 AM O-15 Direct Numerical Simulation of Liquid Penetration into a Dense Powder Bed
K. Washino1, T. Tsuji1, T. Tanaka1, H. S. Tan2, M. J. Hounslow3, A. D. Salman3
1Osaka University, JAPAN, 2P&G Innovation Centres Ltd., UK, 3University of Sheffield, UK

11:00 AM O-16 Numerical Study of Dispersion of a Carrier-Based Dry Powder Inhalation System
Z. Tong1, H. Kamiya1, R. Yang2, A. Yu2
1Tokyo University of Agriculture & Technology, JAPAN, 2University of New South Wales, AUSTRALIA
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<tr>
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<tbody>
<tr>
<td>11:20 AM</td>
<td>Paper Withdrawn by the Authors</td>
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<td></td>
<td><strong>Exhibitor Short Presentation</strong> 11:20 AM – 11:55 AM</td>
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<td>Session Chair: Hideya Nakamura</td>
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<td>11:20 AM</td>
<td>E-1-1 Nara Machinery Co., Ltd.</td>
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<td>11:25 AM</td>
<td>E-1-2 Nara Machinery Co., Ltd.</td>
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<td>11:30 AM</td>
<td>E-2 Shinagawa Machinery Works Co., Ltd.</td>
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<td>11:35 AM</td>
<td>E-3 Ohkawara Kakohki Co., Ltd.</td>
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<td>E-4 Dalton Co., Ltd.</td>
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<td>11:45 AM</td>
<td>E-5 Nippon Soda Co., Ltd.</td>
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<td>11:50 AM</td>
<td>E-6 Evonik Japan Co., Ltd.</td>
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<td>11:55 AM</td>
<td>Lunch with Exhibition</td>
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<td><strong>Invited Keynote Talk IV</strong> 1:40 PM – 2:30 PM</td>
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<td>Session Chair: Agba D. Salman</td>
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<tr>
<td></td>
<td>Advanced Granulation Technology - from Past to Future –</td>
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<td>Satoru Watano, Osaka Prefecture University, JAPAN</td>
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<td></td>
<td><strong>Poster Session &amp; Exhibition</strong> 2:30 PM – 4:30 PM</td>
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<td>2:30 PM Poster Viewing and Exhibition</td>
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<td>4:30 PM Break</td>
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<td><strong>Excursion</strong> 5:00 PM – 6:00 PM</td>
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<td></td>
<td>5:00 PM Kobe Bay Cruise</td>
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<td>6:00 PM Bus Transfer to Banquet venue</td>
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<td><strong>Banquet</strong> 7:00 PM – 9:00 PM</td>
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<td>7:00 PM Banquet at Kobe Portopia Hotel (South Bldg., 16F, Ballroom “Rainbow”)</td>
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DAY 3
(4/Sep/Wednesday)

8:30 AM Registration desk open

Invited Keynote Talk V 9:10 AM – 10:00 AM
Session Chair: Karen Hapgood

Analysis of Seeded Granulation in Batch and Continuous High Shear Granulators
Mojtaba Ghadiri, University of Leeds, UK

Oral Session 4-1 10:00 AM – 11:00 AM
Session Chairs: Karen Hapgood, Hideya Nakamura

Granulation and Coating I

10:00 AM O-18 Preparation of Controlled Release Fine Particles by the Dry Coating Method
H. Yuasa¹, S. Nakamura¹, T. Ito¹, K. Kabasawa², T. Sakamoto¹
¹Matsuyama University, JAPAN, ²Tokyo Printing Ink Manufacturing Co., Ltd., JAPAN

10:20 AM O-19 Design of Fine Granules by a Horizontal High Shear Mixer with a Super High Speed Chopper
N. Asai¹, T. Tsuji¹, H. Nakamura², S. Watano²
¹Dalton Co. Ltd., JAPAN, ²Osaka Prefecture University, JAPAN

10:40 AM O-20 High Shear Mixer Granulation of Xanthan Gum
J. Wangler, M. Beck, R. Kohlus
University of Hohenheim, GERMANY

O-21 Paper withdrawn

O-22 Paper withdrawn

11:00 AM Group Photography

11:30 AM Lunch with Poster Viewing & Exhibition

Oral Session 5-1 1:00 PM – 2:00 PM
Session Chair: Yuichi Tozuka

Measurement and Characterization I
1:00 PM  O-23  Correlation of Granulation Torque with Granules and Tablet Properties
T. Uemura1,2,3, M. Morizane1, S. Uramatsu2, Y. Fukumori3
1Pharm PolyTech Inc., JAPAN, 2Daido Chemical Corp., JAPAN, 3Kobe Gakuin University, JAPAN

O-24  Paper Withdrawn by the Authors

1:20 PM  O-25  Agglomerate Attrition Testing by Coupled Shearing and Impact
H. Ahmadian1,2, M. Ghadiri1
1University of Leeds, UK, 2Procter & Gamble Technical Centres, UK

1:40 PM  O-26  A New Method of Zeta-potential Measurement by Use of the Sedimentation Balance Method
H. Yoshida1, F. Nakatuka1, T. Tatekawa1, K. Fukui1, T. Yamamoto1, M. Matuzawa2, K. Takai2
1Hiroshima University, JAPAN, 2Hitachi Chemical Co. Ltd., JAPAN

2:00 PM  Break

Oral Session 5-2  2:20 PM – 3:20 PM  Session Chair: Kimiaki Washino

Measurement and Characterization II

2:20 PM  O-27  Strength of Sinter Bridges between Hygrosensitive Maltodextrin Particles
C. I. Haider1, T. Althaus2, G. Niederreiter3, S. Palzer3, M. J. Hounslow1, A. D. Salman1
1University of Sheffield, UK, 2Nestlé Product Technology Centre, UK, 3Nestlé SA Headquarters, SWITZERLAND

2:40 PM  O-28  Process Parameters Influencing Unwanted Agglomeration of Amorphous Particles
C. I. Haider1, T. Althaus2, G. Niederreiter3, S. Palzer3, M. J. Hounslow1, A. D. Salman1
1University of Sheffield, UK, 2Nestlé Product Technology Centre, UK, 3Nestlé SA Headquarters, SWITZERLAND

3:00 PM  O-29  Surface Forces in Oil Phase Mediated by a Secondary Immiscible Liquid
A. A. Negreiros1, T. O. Althaus2, G. Niederreiter3, S. Palzer3, M. J. Hounslow1, A. D. Salman1
1University of Sheffield, UK, 2Nestlé Product Technology Centre, UK, 3Nestlé SA Headquarters, SWITZERLAND

Closing Ceremony  3:20 PM – 3:30 PM

Closing remarks  Satoru Watano  Co-Chairman of Agglos10, Osaka Prefecture University, JAPAN