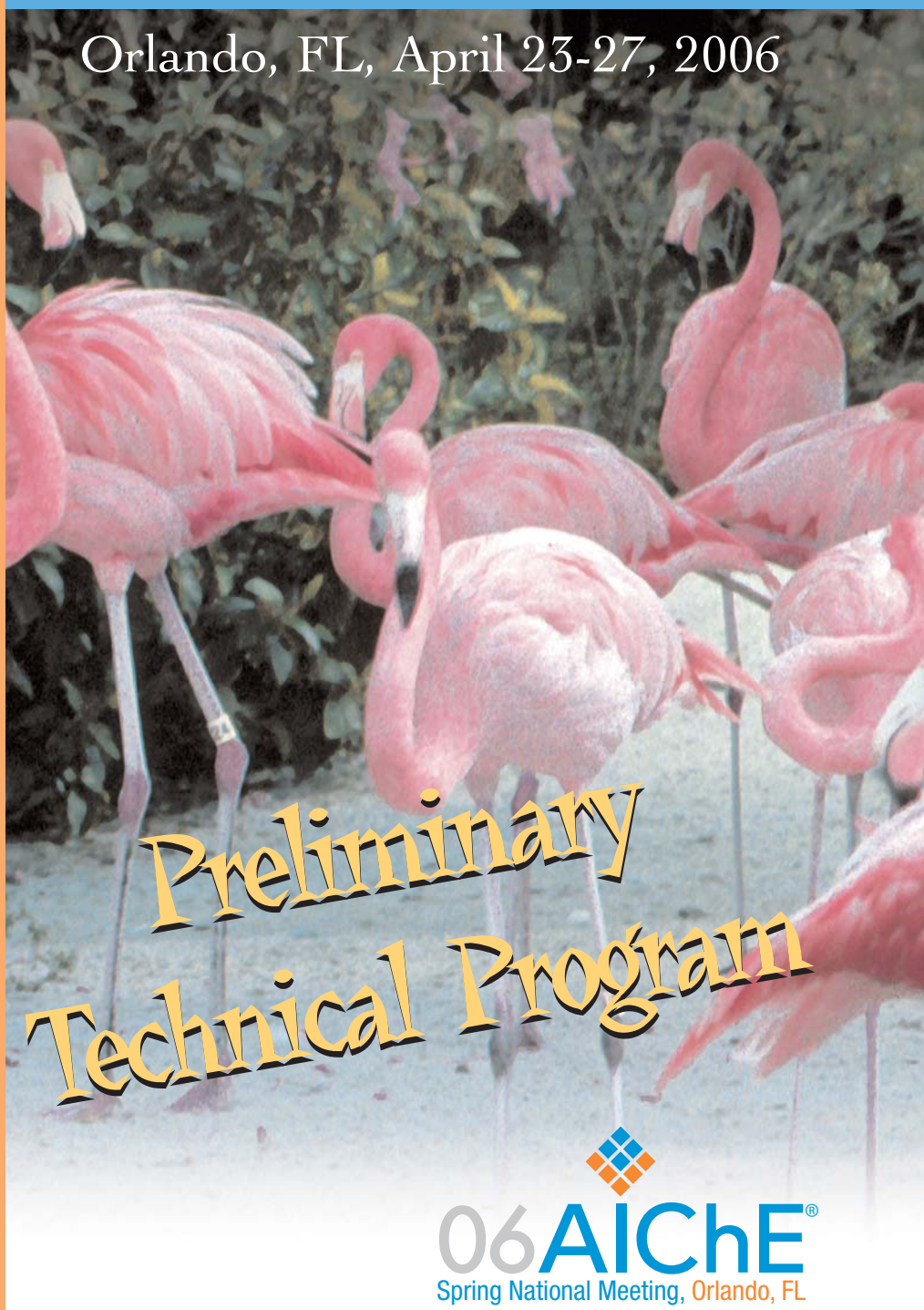
AIChE 2006 Spring National Meeting & 2nd Global Congress on Process Safety

Orlando, FL, April 23-27, 2006



Join an international gathering of chemical engineers, process safety professionals and particle scientists providing unmatched breadth, depth and content.

Featuring

2nd Global Congress on Process Safety

- 40th Loss Prevention Symposium
- 21st CCPS International Conference
- 8th Process Plant Safety Symposium

18th Ethylene Producers' Conference

Plus...

Fifth World Congress on Particle Technology

- Energy Critical Issues Series
  Featuring The US Department of Energy
- 14 Topical Conferences
- Noted Featured Speakers
- Networking Events

And More

06AIChE®
Spring National Meeting, Orlando, FL

The following is the preliminary technical program and is subject to change. For the latest program, visit: www.aiche.org/Conferences/SpringMeeting/MeetingProgram/TechnicalProgram.aspx.

Sunday, April 23

Dolphin Hotel, Southern Hemisphere 4 & 5

Loss Prevention: Past, Present, and Future

Expanding Role of the Loss Prevention Professional, Past, Present and Future •10:45 AM
The History of the Loss Prevention Symposia • 12:15 PM
Looking from the Past to the Future - Is Loss Prevention Affected by Globalization? • 12:45 PM
Evolving a Corporate KPC HSE Management System • 1:15 PM
10 Years of Progress or Slipping into Complacency • 1:45 PM

2:00 PM – 5:00 PM, Dolphin Hotel, Northern Hemisphere BCD

Energy Critical Issues Series (CIS)

- **Samuel Bodman,** U.S.Department of Energy Secretary (Invited Speaker)
- **Jeff Siirola,** Technology Fellow of Eastman Chemical Co.
  Case Study Analyzing a Biomass Growing Process
- **Calvin Cobb,** President of Calvin Cobb & Co.
  Metrics for Evaluating Energy Systems
- **Amos Avidan,** Principal Vice President of the Bechtel Corp.
  Update on AIChE's Commission on Energy Challenges

Monday, April 24

Dolphin Hotel, Asia 1

Agglomeration and Breakage in Fluid-Particle Systems - I

A Population Balance Model for Flocculation of Colloidal Suspensions Incorporating the Influence of Surface Forces • 8:00 AM
Solution of Population Balance Equations for Wet • Granulation and Combination with the FLUENT Software • 8:20 AM
An Approach to Model High Shear Wet Granulation by Using a Multi-Dimensional Population Balance Equation • 8:40 AM
Dispersion Dynamics of Fractal and Non-fractal Aggregates in Shear Flow • 9:00 AM
Extension to Smoluchowski's Population Balance Equation to Include Liquid Binder • 9:20 AM
Characterization of the Structure of Fractal Aggregates •9:40 AM

Dolphin Hotel, Asia 1

Agglomeration and Breakage in Fluid-Particle Systems - II

Improving Fluidizability of Cohesive Particles by Surface Coating with Flow Conditioners • 1:00 PM
An Experimental Analysis of Fluid Bed Co-Granulation of Two Active Pharmaceutical Ingredients • 1:20 PM
Agglomeration in the Spray Zone of a Spray Drier • 1:40 PM
Drying in a Fluidized Bed of Inert Glass Spheres • 2:00 PM
Study of Particle Growth and Particle Size Distributions in Batch Fluidized Bed Granulation • 2:20 PM
Spinning Wheel Powder Feeding Device - Fundamentals and Applications • 2:40 PM

Dolphin Hotel, Asia 3

Engineered Particles or Engineered Nanoparticle Structures - I

One-Step Fabrication of Core-Shell Nanofibers from Electrified Coaxial Jets • 8:00 AM
Synthesis of Flexible Magnetic Nanowires of Permanently-Linked Core-Shell Magnetic Beads Tethered to a Glass Surface Patterned by Microcontact Printing • 8:20 AM
Effects of Temperature Cycling on Crystallization in Surfactant-Free Monodisperse Emulsions • 8:40 AM
Benign Nano-Thin Film Composite Particles for Protection from Uva/Uvb - Rays • 9:00 AM
Fluorescence and Magnetic Resonance Enabled Silica Nanoparticles for Bio Imaging Applications • 9:20 AM
Folate Mediated Delivery of Dye-Doped Silica Nanoparticles for Biolabelling • 9:40 AM

Dolphin Hotel, Asia 3

Engineered Particles or Engineered Nanoparticle Structures - II

Radiopaque Flame-Made Ta_2O_5/SiO_2 Nanoparticles with Controlled Refractive Index and Transparency • 1:00 PM
Nanoparticle Structural Organisation and Scaffolding in Organic Media • 1:20 PM
Cubic or Monoclinic Y_2O_3:Eu^{3+} Nanoparticles by One Step Flame Spray Pyrolysis • 1:40 PM
Fine Polycarbosilane Particles for Precursors of Silicon Carbide Ceramics Synthesized by Precipitation Processing in Solvents • 2:00 PM
Novel Application of Surfactant to Selectivity Enhancing Agent in Chemical Mechanical Polishing • 2:20 PM
The Effects of the Operational Parameters on the Charactaristics of Protein Microparticles • 2:40 PM

Dolphin Hotel, Asia 4

Fluid-Particle Interactions and Inter-Particle Forces in Fine Particle Systems I

Basic Investigations on Fugitive Dust Emissions Caused by Falling Bulk Solid Streams • 8:00 AM
Dispersion of High Aspect Ratio Particles in Air • 8:20 AM
Controlling the Interparticle Forces of Nanoparticles • Using Atomic Layer Deposition • 8:40 AM
Simulation of the Hydrodynamic Behavior of Aggregated Particles • 9:00 AM
Fine Particle Flow - from a Discrete Element Perspective • 9:20 AM
Agglomerate Shrinkage and Bubbling Stimulation on Vibrated Apf Beds • 9:40 AM

Dolphin Hotel, Asia 4

Fluid-Particle Interactions and Inter-Particle Forces in Fine Particle Systems II

Segregation in Polydisperse Fluidized Beds:Development and Validation of a Multi-Fluid Model • 1:00 PM
A Study on the Conductivity of the Particles-Solvent Suspensions • 1:20 PM
Coarse-Graining of Two-Fluid Models for Fluidized Gas-Particle Suspensions • 1:40 PM
A New Polydisperse Drag Law Derived from Lattice Boltzmann Simulations • 2:00 PM
Surface Deformation in a Liquid Environment Resulting from Single-Particle Collisions • 2:20 PM
Multi-Scale Structure of Clustering Particles • 2:40 PM

Dolphin Hotel, Oceanic 6

Fluid/Particle Systems in Material Processing

Mathematical Modeling of Reaction Kinetics of Limestone $CaCO_3$ Decarbonization in a Stationary Furnace • 8:00 AM
Preparation of Spherical Nanostructured Particles

Topical W: Fifth World Congress on Particle Technology*

Conference Plenaries

Dolphin Hotel, Northern Hemisphere BC

Particle and Bulk Solids Handling Technology - Bridging the Theory Practice Gap • April 24 • 10:30 AM • Alan Roberts*, University of Newcastle
Particle and Product Design Strategies Through Interfacial Engineering • April 24 • 3:20 PM • Wolfgang Peukert*, Friedrich-Alexander-University Erlangen-Nuremberg
Multi-Scale Modeling of Dense Phase Gas-Particle Flows • April 25 •10:30 AM • Yukata Tsuji*, Osaka University
Electrical Capacitance Volume Tomography for Process Imaging • April 25 • 3:20 PM • L.S. Fan*, Ohio State University
Particle Technology Education 2006 • April 26 • 10:30 AM • Martin Rhodes*, Monash University
Functional Nanoparticles Made in Flame Aerosol Reactors • April 26 • 3:20 PM • Sotiris Pratsinis*, Swiss Federal Institute of Technology
Particle Characterization - from Bulldog, to Eagle, to Dinosaur • April 27 • 10:30AM • Reg Davies, University of Florida

*This is only a Plenaries and Tutorial of the World Congress on Particle Technology. Other sessions appear throughout the preliminary program.

Tutorials

1. **Flow Properties and Particle Analysis**
   • April 24 • 8:00 AM • Dolphin Hotel, Oceanic 5
2. **Particle Formation Processes**
   • April 24 • 8:00 AM • • Dolphin Hotel, Oceanic 7
3. **Fluidization - Fundamentals and Applications**
   • April 24 • 1:00 PM • Dolphin Hotel, Oceanic 5
4. **Colloids and Dispersions**
   • April 24 • 1:00 PM • Dolphin Hotel, Oceanic 7
5. **Storage and Feeding of Bulk Solids**
   • April 25 • 8:00 AM • Dolphin Hotel, Oceanic 5
6. **Particulate Drug Delivery**
   • April 26 • 8:00 AM • Dolphin Hotel, Oceanic 7
7. **Mixing and Segregation**
   • April 25 • 1:00 PM • Dolphin Hotel, Oceanic 5
8. **Review of Dem and Its Applications**
   • April 26 • 1:00 PM • Dolphin Hotel, Oceanic 7
9. **Pneumatic Conveying and Measurements**
   • April 26 • 8:00 AM • Dolphin Hotel, Oceanic 5
10. **Design and Synthesis of Smart Particles**
    • April 25 • 8:00 AM • Dolphin Hotel, Oceanic 7
11. **Safety Issues in Particle Handling**
    • April 26 • 1:00 PM • Dolphin Hotel, Oceanic 5
12. **Functionalized Nanoparticles**
    • April 25 • 1:00 PM • Dolphin Hotel, Oceanic 7
13. **Environmental Issues of Particulates**
    • April 27 • 8:00 AM • Dolphin Hotel, Oceanic 5
14. **Non-Intrusive Measurement of Industrial Processes**

Monday, April 24

of Lithium Manganese Oxides by a Spray Pyrolysis and Fluidized Bed Hybrid System • 8:20 AM
Mortar Paste Structure Evolution During Ram Extrusion Process: An Experimental Investigation • 8:40 AM
Numerical Analysis of Air-Particles Swirl Flow in a Pipe • 9:00 AM
Characterization of Bauxite-Residue Classified by Wet Cyclone System • 9:20 AM
Comparison of Electrostatic Fine Powder Coating and Coarse Powder Coating by Numerical Simulations • 9:40 AM

Dolphin Hotel, Australia 2

Granule Coating Processes

The Development of New Direct Coloring Technique for Powder Coatings • 8:00 AM
Surface Modification of Silica Particles by Dry-Coating • 8:20 AM
An Investigation into the Effects of Time and Shear Rate on the Spreading of Liquid Binders in a Granular Layering Process • 8:40 AM
Particle Design for Improved Tabletting Characteristic Via Hot Granulation of Drug (Ibuprofen) Particles with Sublimation Tendency • 9:00 AM
Discretization of Temperature and Moisture for Determining Surface Stickiness of Single Droplets during Drying • 9:20 AM
Coating and Granulation of Fine Particles in Fluidized Bed • 9:40 AM

Dolphin Hotel, Oceanic 3

Nanoparticles Processes and Applications

Amine Group (-NH_2) Functionalized Magnetic Nanoparticles by Pulsed Plasma Polymerization • 8:00 AM
Synthesis of Metal Nanoparticles Inside a Porous Support in Fluidized Bed: Application to Supported Catalysts • 8:20 AM
Dispersion of Flame-Synthesized Silica Nanoparticles in an Aqueous Solution • 8:40 AM
Filtration + Magnetic Field = Nanoseparation • 9:00 AM
Coupling Extrusion and Supercritical CO_2: A New Process for a Homogeneous Inclusion of Fragile Molecules in a Polymer Matrix • 9:20 AM
Primary Study of Polystyrene Nanoparticle Application in Rfcc Catalysts • 9:40 AM

Dolphin Hotel, Asia 5

Numerical Simulation of Fluid/Particle Flow Systems - I

A New Approach in Solving Population Balance Equations • 8:00 AM
Capturing Non-Brownian Particle Transport in Simple Periodic Flows • 8:20 AM
Direct Numerical Simulation of Particle-Fluid Flow: the State-of-the-Art • 8:40 AM
Direct Numerical Simulation of Two-Phase Flow • 9:00 AM
Effects of Lubrication and Particle Size Distribution on Fluidization Behavior - a Dem Study • 9:20 AM
Investigation of Layer-Inversion and Mixing in Binary-Solid Liquid-Fluidized Beds Using a Combined Continuum and Discrete Model • 9:40 AM

Dolphin Hotel, Asia 5

Numerical Simulation of Fluid/Particle Flow Systems - II

Proteus - An Efficient Computational Scheme for the Simulation of Dense Particulate Flows • 1:00 PM
Optimum Cell Condition for Fast Contact Detection in the Algorithm of Dem and Its Application to Large-Computing • 1:20 PM
Numerical Simulation of the Transport Volume Expansion Particles in Fluid Flows • 1:40 PM
A study of the Dynamics of Homogeneous and Bubbling Fluidized Beds by means of Computational Fluid Dynamics • 2:00 PM
Modelling of the Boundary Layer in Turbulent Two-Phase-Flows • 2:20 PM

Dolphin Hotel, Oceanic 4

Process Modeling of Bulk Solid Systems in Industrial Applications

Large Scale Dem Computation - Expectations and Recent Results • 8:00 AM
Verified Discrete Element Simulations of Bulk Solids Handling Equipment • 8:20 AM
DEM-CFD Modeling of Solid-Fluid Flows • 8:40 AM
Flowsheet Simulation of Solids Processes • 9:00 AM
The Material Point Modeling of Granular Flow in a Silo • 9:20 AM
A Computational Study of Segregation in Granular Material During Heaping • 9:40 AM

Dolphin Hotel, Australia 3

Structure-Property Relations in Particle Formation Processes - I

Carbon Black / Pp Inter-Penetration Network Thermal-Conducting Composites • 8:00 AM
Microstructure Study of α-Alumina Powder Derived from Aluminum Hydroxide • 8:20 AM
Synthesis of Monodisperse Crosslinked Polystyrene Microspheres • 8:40 AM
Mechanochemical Preparation of Nano-Sized Pharmaceutical Drugs for Application in Cancer Therapy • 9:00 AM
Influence of Mixing Process Characteristics for Aqueous Phase Encapsulation by Silica Nanoparticles • 9:20 AM
The Evolution of Internal Architecture in Particles Produced by Evaporation-Induced Self Assembly within Aerosols • 9:40 AM

Dolphin Hotel, Australia 3

Structure-Property Relations in Particle Formation Processes - II

Agglomerates - Structures and Their Dissolution Behavior • 1:00 PM
Rational Design of Granules: the Evolution of Microstructure in Granulation and Its Effect on Dissolution • 1:20 PM
Experimental Study of Wet Granulation in Fluidized Bed: Impact of the Binder Properties on the Granule Morphology • 1:40 PM
Simulation of Aerosol Synthesis by Simultaneous Coagulation, Sintering and Growth: Structure and Product Property Formation • 2:00 PM
Improvement of Bioavailability of Poorly Water-Soluble Drugs : Prediction of Theoretical Intrinsic Bioavailability • 2:20 PM
Activated and Deactivated Sintering of Hydroxyapatite Sorbent Using Metallic Additives • 2:40 PM

Dolphin Hotel, Northern Hemisphere A - 3

Analysis/Characterization Tutorial

Interactions of Synthetic Additives with Petroleum Aggregates Probed by Small-Angle Neutron Scattering • 8:00 AM
Near-Infrared Modeling of Conjugated Diolefins in Selective Hydrogenation Units • 9:00 AM
Measurements of the Association and Stability of Asphaltenes - a Multidiciplinary Approach • 10:00AM

Dolphin Hotel, Northern Hemisphere A - 1

Bottom of the Barrel Processing

Changes in Asphaltene Structure and Stability During Hydrotreating • 8:00 AM
Coke Quenching in the Delayed Coking Process • 8:45 AM
Stability of Water-in-Crude Oil Emulsions in the Burgan Oilfield • 9:30 AM

Dolphin Hotel, Northern Hemisphere A - 2

Desalting Tutorial

Developing Crude Pre-Treating Programs to Improve Downstream Operations • 8:00 AM
Solids Handling in Crude Oil • 8:40 AM
Controlling Quality Variations in the Feed to Desalters • 9:20 AM

Dolphin Hotel, Southern Hemisphere 2

Ethylene Plant Process Control

Introduction - Opening Remarks • 8:00 AM
Integrated Advanced Process Control and Olefins Production Maximization on Ethylene Plant
Building an Effective Operator Interface for Complex Apc Applications • 8:30 AM
An Operator Advisor/Trainer for Olefin Plant Cold Fractionation • 8:55 AM
A DMCplus Tale of Two C_3 Splitters • 9:35 AM
What Dynamic Simulation Brings to a Process Control Engineer: Applied Case Study to a Propylene/Propane Splitter • 10:00 AM
Use of External Targets to Improve Dmcplus Controller Performance and Long-Term Benefits • 10:25 AM .

Dolphin Hotel, Europe 3

Advances in the Separations and Immobilization of Nuclear Waste

Implications for the Nuclear Power Industry Caused by New Views on Climate Change and Societal Implications Thereof • 8:00 AM
Flammable Gas Generation During Immobilization of Tetraphenylborate in a Cementitious Waste Form • 8:15 AM
Separation of Cesium and Strontium from Spent Lwr Fuel and Immobilization of the Product Using Steam Reforming Technology • 8:30 AM
Development of Waste Acceptance Criteria for Modular Caustic-Side Solvent Extraction Unit • 8:45 AM
Effect of Variation in Modular Caustic-Side Solvent Extraction Unit Parameters on Process Performance • 9:00 AM
Millimeter-Wave High and Low Level Activity Waste Glass Research • 9:15 AM
Treatment of the Sodium Bearing Waste at the Idaho Nuclear Technology and Engineering Center by Steam Reforming • 9:30 AM
On the Development of an Electrical Tomographic System for Monitoring the Performance of a Heavy Metal Precipitation Step during Nuclear Fuel Reprocessing • 9:45 AM
Defense Waste Processing Facility Recycle Stream Evaporation • 10:00 AM
Development of a Rotary Microfilter to Increase Throughput in Solid-Liquid Separation Processes • 10:15 AM
The Archimedes Filter - A Supplemental Pretreatment Solution for Hanford • 10:30 AM
Refinement of the Alkaline/Oxidative Leaching Process to Remove Chromium from Hanford Nuclear Waste • 10:45 AM
Using an Integrated Model for Strategic Planning of Nuclear Waste Salt Processing Program in Savannah River Site • 11:00 AM

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Monday, April 24

Swan Hotel, Lark

Exergy, Cost and Eco-Efficiency Analysis in Micro-Systems

The Impact of Microtechnologies in Chemical and Pharmaceutical Production Processes • 8:00 AM
BASF's Eco-Efficiency Analysis Method - A Tool to Assess Micro-Reactor Technologies • 8:40 AM
Microreactor Technology: A Revolution for the Fine Chemical and Pharmaceutical Industry? • 9:00 AM
Micro Reaction Technology and Molecular Industries - Changing the Paradigm of Plant Engineering Cost Efficiency to Innovation Value Responsiveness • 9:20 AM
Potential Evaluation of Micro Reaction Technology • 9:40 AM
Economic Aspects of Microreactors in Production Scale Use • 10:00 AM
Life Cycle Assessment of Microreaction Technology Versus Conventional Batch Technology • 10:20 AM

Dolphin Hotel, Europe 7

Hydrogen Sensor Development

Fiberoptic Hydrogen Leak Detector • 8:00 AM
Nanocrystalline Doped SnO_2 for Room Temperature Detection of Hydrogen, Recovery, Response, and Sensitivity Improvements • 8:30 AM
Low-Power Detection of Hydrogen Leakage Using a Self-Powered Wireless Hydrogen Sensor Node • 9:00 AM
Optical Hydrogen Sensor for Inert Environments • 9:30 AM
H_2 Detection Via Polarography • 10:00 AM
Development of Hydrogen Detection Instruments at Kennedy Space Center • 10:30 AM

Dolphin Hotel, Oceanic 8

Innovative Environmental Management Procedures Part 1

Innovative Environmental Management Procedures - Introduction • 8:00 AM
Natural Infrastructure Capabilities Requirements Management • 8:20 AM
Innovative Procedures to Accelerate Cleanup • 8:40 AM
Peformance-Based Management and Remediation Process Optimization Technical Regulatory Guidance Development by the Interstate Technology Regulatory Council • 9:00 AM

Dolphin Hotel, Oceanic 8

Innovative Environmental Management Procedures Part II

Performance-Based Management Implementation in South Carolina • 2:00 PM
Exit Strategy and Systematic Planning Within Performance Based Management • 2:20 PM
Implementation of Performance Based Management and Performance Based Contracting • 2:40 PM
Implementation of the Methods Innovation Rule (MIR) as a Major Factor in the RCRA Performance Based Measurement (PBMS) Program • 3:00 PM
Staged Electronic Data Deliverable • 3:20 PM
Uniform Federal Policy for Implementing Environmental Quality Systems • 3:40 PM
Performance Based Management Panel Discussion • 4:00 PM
Dysfunctional Groups Impact on PBM • 4:20 PM
Rapid Site Characterization - Overview • 4:40 PM

Dolphin Hotel, Northern Hemisphere E - 2

LNG I - Plant & Operation

New Advances of LNG in China • 8:00 AM
Integrated Approach for the Design of Refrigeration and Power Systems • 8:20 AM
Processes for High C_2 Recovery from LNG - Part I: Schemes Based on Refluxed Demethanizer • 8:40 AM
Validation of the Air Recirculation CFD Simulations on a Multi-Train LNG Plant • 9:00 AM
Reduction of Flare Loading during a Refrigerant Compressor Blocked Discharge in a LNG C_3/MR Process • 9:20 AM
LNG as a Source of Clean Energy • 9:40 AM

Dolphin Hotel, Northern Hemisphere E - 2

LNG II - Technology & Equipment

LNG-Fired Peak-Shaving Power Plants in China • 2:00 PM
A Flexible LNG Conditioning and NGL Recovery Process in LNG Receiving Terminal • 2:20 PM
Processes for High C2 Recovry from LNG - Part II: Schemes Based on Expander Technology • 2:40 PM
Precooling Concepts for Large Base Load LNG Plants • 3:00 PM
Integrate LNG Terminal with Power Plant to Achieve BTU Control and Efficiency Enhancement • 3:20 PM
Snohvit LNG - Leading LNG Business into a Promising Region • 3:40 PM
LNG Applications of Printed Circuit Heat Exchangers • 4:00 PM

Swan Hotel, Parrott

Micro Technology in Catalyzed Reaction Systems I

An Overview of Microchannel Reactor Technology and Its Applications • 8:00 AM
Biodiesel Synthesis in Multichannel Microreactor • 8:45 AM
Catalyst Uniformity Requirements for Industrial Microchannel Applications • 9:10 AM
Experimental Studies of Nitration of Toluene in a Microchannel Reactor • 9:35 AM
Catalytic Selective Oxidations in Microchannel Reactors • 10:00 AM
Kinetic Investigation of H_2O_2 Synthesis by Controlled H_2/O_2 Reaction in a Microchannel Reactor • 10:25 AM

Swan Hotel, Parrott

Microtechnology in Catalyzed Reaction Systems II

Structured Microreactors for Intensification of Catalytic Process • 2:00 PM
Development of Integrated Ceramic Microreactors for Production of Hydrogen • 2:42 PM
Steam-Reforming of Methanol over Zn-Cr Catalysts in a Microreactor • 3:05 PM
Catalyst Coatings in Ceramic Microreactors for Steam Reforming of Methanol • 3:28 PM
Integrated Micro System for Controlled Delivery of Hydrogen from Metal Ammines • 3:51 PM
Robust Ceramic Sic-Microreactors with Catalytic Coatings • 4:14 PM
Scale-up of Microtechnology for Fuel Processing Applications: Comparison Between Fixed-Bed and Microchannel Reactor Systems • 4:37 PM

Dolphin Hotel, American Seminar Room

Recent Advances in Clean Energy Sources I

Desalination and Water Reuse Technologies in the Petroleum Refining Industry • 8:00 AM
PEM Fuel Cells - Challenge in Science and Technology • 8:20 AM
Sub-Freezing Conditions on a Pem Fuel Cell Performance and Components • 8:40 AM
Nanostructured Polymer Electrolytes • 9:00 AM
Electrochemical Impedance Spectroscopic Studies of Non-Fluorinate Proton Exchange Membranes in Dmfc • 9:20 AM
Photoproduction of Hydrogen from Hydrogen Sulfide Using a Novel Metal Oxide Photocatalyst • 9:40 AM

Dolphin Hotel, American Seminar Room

Recent Advances in Clean Energy Sources II

Down-Hole Combustion Method for Gas Production from Methane Hydrate • 2:00 PM
Evaluation of Process Variables Interaction by Biodiesel Production from Castor Oil Ethanolise • 2:20 PM
Selective Co Oxidation in the Presence of Excess Hydrogen over Promoted Pt Catalyst • 2:40 PM
Selective Catalytic Oxidation of Co in the Presence of Hydrogen over Au/MnO_2-CeO_2 Catalysts • 3:00 PM
Neural Modeling of a Continuous Alcoholic Fermentation Process and Its Optimization by Successive Quadratic Programming • 3:20 PM

Dolphin Hotel, Northern Hemisphere E - 3

Separations Research Programs

Recent Distillation Research at FRI • 8:00 AM •
The University of Texas Separations Research Program • 8:30 AM
Modeling Reboilers with HTRI Technology • 9:00 AM
Optimizing the Performance of High Capacity Corrugated Sheet Structured Packings • 9:30 AM
Optimum Product Yields of Vacuum Distillation Unit from Petroleum Refinery Process • 10:00 AM
Simulation of Ternary Distillation in a Heat Integrated Distillation Column (HIDIC) with a Rate-Based Model • 10:30 AM

Dolphin Hotel, Southern Hemisphere 1

Self Inflicted Contaminants and Fouling

Introductory Speech • 8:30 AM
Hydrate Formation in Ethylene, Acetylene, and Propylene • 8:55 AM
Corrosive Chemicals in Bfw, Defective Analysing Systems and Incomplete Treatment of Steam Systems Resulting Serious Transfer Line Exchanger Failures • 9:20 AM
Methodology for Minimizing Self Inflicted Contaminants in Ethylene Plants • 10:00 AM
Unintended Consequences of Process Additives on Acetylene Converter Performance in a Gas Feed Steam Cracker • 10:25 AM

Dolphin Hotel, Southern Hemisphere 3

Process Safety Requirements and Conducting Business in Foreign Countries

Representative from Sinopec • 10:15 AM
Representative from Braskem, Brazil • 10:35 AM
Senior Group Vice President, Safety and Operations, BP • 10:55 AM
UK Heath and Safety Executive • 11:15 AM

Dolphin Hotel, Oceanic 3

Fluid/Particle Flow Measurements

Improved Resolution of Charge Distribution Around a Rising Bubble in a Two-Dimensional Fluidized Bed • 1:00 PM

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Monday, April 24

Study of the Effect of Flow Intensity and Flow Geometry on the Breakage of Whey Protein Aggregates Using CFD • 1:20 PM
Effect of Milling Media on Kinetics of Stirred Media Milling Process - In-Line Monitoring of Particle Size and Population • 1:40 PM
Particle-Impact Sensor for Determining Mass Flux in a Spouted Bed • 2:00 PM
Studies on Ionic Mass Transfer in Circular Tubes with Tangential Entry of Fluid through Curved Nozzles • 2:20 PM
Some Hydrodynamic Characteristics of Gas Fluidized Beds at High Temperatures • 2:40 PM

Dolphin Hotel, Oceanic 6

Fluid/Particle Systems in Bioprocessing, and Food Processing

Application of Turbulent Taylor-Couette Flow to Study the Shear Strength of Biological Aggregates • 1:00 PM
Model for Assessing Sensitivity of Biologics to Fluid Forces During Formulation and Filling • 1:25 PM
Dispersion and Dissolution: Measurements of Food Powder Mixing by Electrical Resistance Tomography • 1:50 PM
High Selectivity Microporous Silica Membranes for Lactic Acid Dehydration • 2:15 PM
Investigating the Effect of Pipe Diameter Contraction on the Breakage of Whey Protein Aggregates Using CFD • 2:40 PM
Building Structural Model for Biological Aggregate • 3:05 PM

Dolphin Hotel, Oceanic 4

Experimental Studies of Silo Loads and Flows

Flushing Phenomenon due to the Impact Force on the Powder Surface by Free Falling of Particles • 1:00 PM
Pressure Measurements in Full-Scale Steel Silos • 1:20 PM
On the Use of Plate-Type Normal Pressure Cells for Silos • 1:40 PM
Predicting Flow Behavior of Solids after Fifty Years Storage Using Sampling and Flowability Studies • 2:00 PM
The Influence of a Cone-in-Cone Insert on Flow Pattern and Wall Pressure in a Full Scale Silo • 2:20 PM
Digital Particle Image Velocimetry in Flow Measurements • 2:40 PM

Dolphin Hotel, Northern Hemisphere BCD

Hydrogen Topical Plenary

Challenges and Benefits of a Move Towards Hydrogen Fuel • 1:35 PM
An Overview of the Nuclear Hydrogen Initiative • 2:05 PM
Thermochemical Cycles for the Production of Hydrogen from Water Using Nuclear Energy • 2:35 PM
Sustainability Issues Related to the Hydrogen Economy • 3:05 PM

Dolphin Hotel, Southern Hemisphere 3

Cultivating a Global Process Safety Culture

Considerations on Creating a Total Safety Culture in a Latin American Country • 1:45 PM
How to Make Problem Customers an Asset? Process Safety Challenges When Working with Diverse Customers • 2:15 PM
The Next Generation of Chemical Process Safety: a Comparison with the Nuclear Industry • 2:45 PM • Greg Schultz*

Dolphin Hotel, Northern Hemisphere E - 4

Improving Safety Culture

Safety Culture in the CCPS Risk-Based Process Safety Model • 1:55 PM
Safety Climate and Decision Making • 2:20 PM
Maintaining a Healthy Safety Culture • 2:45 PM
Impact of Engineering Ethics on Safety Culture • 4:00 PM

Dolphin Hotel, Southern Hemisphere 4 & 5

Mechanical Integrity

Risk-Based Integrity Modeling of Process Equipment • 2:15 PM
Flexible Storage Phosphor Plate Versus Film-Based Technology for Erosion/Corrosion Profiling • 2:45 PM
Managing on Stream Leak Repairs • 3:15 PM
Beyond Compliance - Taking Your Mechanical Integrity Program to the Next Level • 4:15 PM
Mechanical Integrity Best Practice for Sulfuric Acid Plants • 4:45 PM
An Analysis of the Gas Pipeline Explosion at Ghislenghien, Belgium • 5:15 PM

Dolphin Hotel, Northern Hemisphere A - 1

Advances in Desalting

Parallel Comparison of Two Different Desalting Technologies-a Case Study • 2:00 PM
Bimodal Modulation for Enhanced Desalting • 2:35 PM
New Control Technology for Desalter Optimization • 3:10 PM
Desalter Interface Control and Diagnostics Utilizing Sonar Transducers • 3:45 PM
Removal of Calcium and Other Metal Species Form Crude Oil in the Desalting Process, Part 2 • 4:20 PM

Dolphin Hotel, Northern Hemisphere A - 2

Advances in FCC

Heat of Cracking for Naphtha in Risers of Fcc Units • 2:00 PM
How FCCU Trickle Valves Affect Catalyst Losses • 2:25 PM
Heat Transfer and Heat Removal in Flowing Dense Phase Fluidized Beds • 2:50 PM
Molecular Based Kinetic Modeling of FCC Process • 3:15 PM
Evaluation of the PID Performance for Fcc Units • 3:40 PM
Optimizing FCC: LPG rate and Cat Gasoline Octane Constraints • 4:05 PM

Dolphin Hotel, Northern Hemisphere A - 3

Aromatics

Investigation into a Novel, Green Technology for Aromatic Thiol Production, a Density Functional Theory (DFT) Study • 2:00 PM
Commercialization of a New Ultra High Purity/ High Yield Phenol Process from Sunoco-UOP • 2:25 PM
Production of Metaxylene within the Aromatic Complex • 2:50 PM
Integrating Petrochemical Industry with a Fuel Oriented Refinery • 3:15 PM
Factors That Affect the Quality of the Essential Lemon Oil (Citrus Aurantifolia) During the Distillation • 3:40 PM

Dolphin Hotel, Northern Hemisphere E - 3

Distillation Honors: John Farone

On Trays, Packings, and a Life in Distillation • 2:00 PM
Different Strokes: a Review of the Various Unique Devices Tested at Fractionation Research, Inc • 2:30 PM
Evaluation of Structured Packing Hydraulic Performance Using X-Ray Computed Tomography • 3:00 PM
Pressure Drop of Packed Column Internals • 3:30 PM
Six Sigma Evolutionary Improvement Approach for Distillation Process Optimization • 4:00 PM
Extractive Distillaton: a Process Improvement Project • 4:30 PM

Swan Hotel, Lark

Polymerization in Micro-reactors

Novel Tubing Microreactor for Monitoring Chemical Reactions • 2:02 PM
Amino Acid Polymerization in Micro-Reactor • 2:47 PM
Synthesis of Dendrimers Using Continuous Flow Microreactors • 3:10 PM
NMP Homopolymers and Two-Stages Copolymers Synthesis in Microtube Reactors: Improvement of the Macromolecular Architecture Control • 3:33 PM
A Micro-Reactor for Preparing Uniform Molecularly Imprinted Polymer Beads • 3:56 PM
Synthesis of Monodisperse Polymer Particles by Photopolymerization in Flow Micro-Reactors • 4:19 PM
Synthesis of Polymer Beads Necklaces in a Microfluidic Device • 4:42 PM
Nanoparticle-Doped Polymer Minirods Made by Micro Segmented Flow • 5:05 PM

Swan Hotel, Heron

Microtechnology and Process Analytics

Applying Microreactor Technology in Chemical Product Research and Process Development • 2:00 PM
Characterization of Microchannel Microreactors as Tools for Laboratory Measurements of Reaction Kinetics • 2:40 PM
Analytical Sensors, Instrumentation, and Laboratory Applications of NESSI • 3:00 PM
Online Analysis in Microreaction Technology: Suitable Tools for Process Screening and Optimization • 3:20 PM
Determination of Temperature Profile within Continuous Micromixer-Tube Reactor Used for the Exothermic Additon of Dimethyl Amine to Acrylonitrile • 3:40 PM
On-Line Chemical Process Analytics Using Lab-on-Chip Systems • 4:00 PM
Use of Catalytic Micro-Reactor to Improve Selectivity of Gas Sensors • 4:20 PM

Dolphin Hotel, Southern Hemisphere 2

Plant Safety

Quench Oil Fire in Cracking Furnace • 2:30 PM
Stainless Steel Drum Failure at Olefins Plant • 3:00 PM
The Safe Use of Copper -Containing Catalysts in Ethylene Plants • 3:45 PM
A Six Sigma Approach to Operational Safety Issues Related with Nitrogen Oxides in the Cold Separation Section of Ethylene Units • 4:20 PM

Dolphin Hotel, Southern Hemisphere 1

Self Inflicted Contaminants and Fouling Roundtable Discussion

Fouling Mechanism and Performance Evaluation of a Gasoline Fractionator • 2:55 PM
Optimize Until It Hurts • 3:20 PM

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Monday, April 24

Dolphin Hotel, Southern Hemisphere 3

Synergies between Process Safety and Security

Expanding Known Process Safety and Risk Analysis Concepts to Manage Security Concerns • 4:00 PM
Explosive Dusts, Us Codes and Standards of Safe Management Practices • 4:20 PM

Dolphin Hotel, Oceanic 2

In Situ Particle and Flow Measurements in Concentrated Mixtures

Electrical Capacitance Tomography - the State of the Art • 1:00 PM
Imaging Large Vessels Using Cosmic-Ray Muon Energy-Loss Techniques • 1:20 PM
In-Line Measurement of Nano Particles Using Electroacoustic Spectroscopy Combined with Zeta Potential and Tomographic Techniques for High Concentration Paticle Suspension Systems • 1:40 PM
On-Line Measurement of the Settling Behavior of Concentrated 2-Phase Solid/Liquid Mixtures • 2:00 PM
Three-Dimensional Representations of Powder Mixedness Using a Positron Emission Tracking Technique • 2:20 PM
Tomographic 3-D Mapping and Flow Simulation in Flocculated Materials • 2:40 PM

Dolphin Hotel, Australia 2

Direct Measurement and Simulation of Contact Interactions and Tribology of Particulate Systems

Adhesion, Friction and Wear of Particle Contacts • 1:00 PM
Characterization and Modeling of Multi-Layer Tablet Compaction • 1:20 PM
Contact Mechanics of Single Particle Compression and Bulk Compression of Single Component and Binary Mixtures of Particles • 1:40 PM
Meso-Scale Modelling and Measuring Bulk Cohesion in Surface-Wet Granular Assemblies • 2:00 PM
Micro-Mechanics of Particle Adhesion • 2:20 PM
Specific Effects of the Multivalent Cations on Friction between Silica Surfaces in Electrolyte Solutions • 2:40 PM

Dolphin Hotel, Oceanic 2

On-line and In-line Measurement

Crystal Size and Shape Monitoring Using High-Speed, in-Situ Video Imaging and Model-Based Recognition • 8:00 AM
Experimental Investigation of Change in Chord Length Distribution Measured by Online Backscattering Technique • 8:20 AM
In-Situ Process Monitoring for Plasma Synthesis of Alumina Nanoparticles • 8:40 AM
Non-Invasive Slug Sequence and Flow Stability Monitoring in Pneumatic Conveying • 9:00 AM
Online Particle Size Measurement in a High Pressure Antisolvent Process • 9:20 AM
Particle Velocity and Particle Concentration Determination in Granular Dilute Phase Flow Using a Single Layer of Optical Sensors • 9:40 AM

Dolphin Hotel, Oceanic 1

Particle Size Measurement - I

PSD by Laser Diffraction Spectrometry: Application to Cementitious Powders • 8:00 AM
Graphical Comparison of Image Analysis and Laser Diffraction Particle Size Analysis Data: a Demonstration of the Incorrect Assumptions of Random Particle Orientation and Equivalent Spherical Volume for Acicular Particulates • 8:40 AM
Influence of Detector Geometries of Common Laser Diffractometers on the Particle Size Distribution of Elongated Particles • 9:00 AM
Determination of the Optical Constants of Polydisperse Particulate Systems in the UV-VIS NIR Region • 9:20 AM
Refractive Index Verification via Comparative Wet and Dry Laser Diffraction Measurements • 9:40 AM

Dolphin Hotel, Oceanic 1

Particle Size Measurement - II

Measuring Size Distribution of Organic Crystals of Different Shapes Using Different Technologies • 1:00 PM
Use of Video Enhanced Microscopy for Characterization of Solid-Liquid-Liquid Mixtures • 1:20 PM
Analysis of Methods for Description of Yeast Cell Morphology • 1:40 PM
Determination of Particle Size Distributions Based on Space and Time Resolved Extinction Profiles in Centrifugal Field • 2:00 PM
High Resolution Measurements of Particles Using Aperture Technology • 2:20 PM

Dolphin Hotel, Asia 2

Brian Scarlet Memorial Sessions - I

Brian Scarlett- Myth, Motivator, Mentor, and Man • 8:00 AM
Taking the Standards out of Shape Analysis • 8:20 AM
Characterization of Reference Particles of Transparent Glass by Laser Diffraction Method • 8:40 AM
The Influence of Particle Size Distribution on the Performance of Ceramic Particulate Suspensions • 9:00 AM
From Particle Collectives Characteristics to Cake Permeability: The Use of the Pore-Particle Shape Factor • 9:20 AM
Sampling Errors in Particle Size Analysis •9:40 AM

Dolphin Hotel, Asia 2

Brian Scarlet Memorial Sessions -II

Analysis of Enzyme Dust Formation in Detergent Manufacturing Plants • 1:00 PM
Powder Flow Testing with Biaxial and Triaxial Devices • 1:20 PM
Why Does the World Need a True Triaxial Tester? • 1:40 PM
Dynamic Mechanical Properties of Partially Saturated Granules • 2:00 PM
The Effect of Hydrophobic Surface Modification on Bulk Cohesive Strength • 2:20 PM
Powder Flow: the 4m Business and Systems Approach • 2:40 PM

Tuesday, April 25

Dolphin Hotel, Southern Hemisphere 3

Building on Lessons Learned

Six Sigma Fire & Explosion Reduction Project • 8:00 AM
Tracing Source of Ethylene Oxide Gas House Explosion Using Damage Indicators and Thermal Modeling • 8:30 AM
The Inclusion of Construction Trailers and Modular Buildings in Siting Studies (for CCPS) • 9:00 AM

Dolphin Hotel, Asia 4

Communition, Attrition and Agglomeration in Granular Flows I

Impact of Particles Characteristics and Mixing Conditions on Wheat Flour Agglomeration Behavior • 8:00 AM
Application of X-Ray Tomography to the Description of Single Granules • 8:20 AM
Las Acid Bridges in Detergent Granulation:a Comparison of Adhesion Force and Wetting Behaviour of Different Neutralised States • 8:40 AM
Influence of Liquid Binder Dispersion on Agglomeration in an Intensive Mixer • 9:00 AM
Diagnostic Tools for Stickiness Evaluation • 9:20 AM
Hydrophobic Nucleation in Particle Agglomeration • 9:40 AM

Dolphin Hotel, Asia 4

Communition, Attrition and Agglomeration in Granular Flows II

Experimental Study and DEM Simulation of Granule Breakage by Impact • 1:00 PM
Microdynamics of the Granular Flow in a Grinding Drum under Continuous Operation • 1:20 PM
Attrition of Friable Particles by Impact • 1:40 PM
Development of an Abrasion Tester for Testing Coated Granules • 2:00 PM
Estimation of Specific Rate of Grinding to Optimize the Industrial Batch Ball Mill • 2:20 PM
A Novel Low Density Media Milling Dispersion Process and Scale-up • 2:40 PM

Dolphin Hotel, Asia 3

Engineered Particles or Engineered Nanoparticle Structures - III

Coating on Single Particle Level • 8:00 AM
Single Droplet Drying: Transition from the Effective Diffusion Model to a Modified Receding Interface Model • 8:20 AM
Experimental Study of Coating in a Bottom-Spray Fluidized Bed • 8:40 AM
Tailor-Made Composites by High Pressure Spray Processes • 9:00 AM
Influence of Selected Process and Formulation Variables on Granule Impact Strength, Agglomeration Tendency and Coating Layer Morphology of Sodium Sulphate Cores Coated in Small-Scale Top-Spray Fluidized Bed • 9:20 AM
Ultrafine Powder Coating Technology • 9:40 AM

Dolphin Hotel, Asia 1

Fluid/Particle Systems in Polymer Processing

Aggregation and Breakage of Polystyrene Particles under Turbulent Conditions: Dynamic Experiments • 8:00 AM
Modelling the Ram Extrusion Force of a Frictional Plastic Material • 8:20 AM
Studying the Pulverization Mechanism of Low Density Cross-Linked Natural Rubber • 8:40 AM
Numerical Analysis of Temperature Distributions in a Gas-Phase Polypropylene Reactor with a Single Helical Ribbon Agitator • 9:00 AM
Monitoring Industrial Polymerisation Reactors for Early Detection of Agglomeration • 9:20 AM
The Application of Air Extraction to the Pneumatic Conveying of Polyethylene Pellets • 9:40 AM

Dolphin Hotel, Asia 5

Numerical Simulation of Fluid/Particle Flow Systems - III

DEM Modeling of Hopper Flows: Comparison and Validation of Models and Parameters • 8:00 AM
Fully-3D DEM Fluidization Simulation of a Shallow Fine Powder Bed • 8:20 AM
Convergence Control and Convergence Improvement in Lagrangian Predictions of Particulate Two-Phase Flows • 8:40 AM
Modeling of the Hydrodynamics of Gas-Solid Flows by Improved Finite Volume Based Finite Element Method • 9:00 AM
Issues concerning Simulation of Industrial Particulate Handling and Processing Operations Using the Discrete Element Method • 9:20 AM

Dolphin Hotel, Asia 5

Numerical Simulation of Fluid/Particle Flow Systems - IV

Understanding the Gas Residence Time in a Cyclones • 1:00 PM
Numerical Simulation on Particle Distribution in Cyclone Separators • 1:20 PM
Simulation of Pattern Formation in a Rotating Suspension of Non-Brownian Settling Particles • 1:40 PM
Population Balance Application in Rotating Fluidized Bed Polymerization Reactor • 2:00 PM
Validation of CFD Model for Fluidized Bed over Broad Ranges of Operating • 2:20 PM
Simulations of Spouted Bed Dynamics in the Context of Coating Nuclear Fuel Particles • 2:40 PM

Dolphin Hotel, Asia 1

Numerical Simulation of Fluid/Particle Flow Systems - V

The Influence of Binary Drag Laws on MP-PIC Simulations of Segregation • 4:30 PM
Study the Effect of Particle Collision on Turbulent Prandtl Number in Gas-Solid Flow Using Turbulent Thermo-Mechanical Modeling • 4:50 PM
Numerical Simulation of Complex Fluid-Solid Flows • 5:10 PM
CFD Modelling of Turbulent Fluidization in FCC Unit Strippers • 5:30 PM
The Interaction Between Small Clusters of Cohesive Particles and Laminar Flow: Coupled DEM/CFD Approach • 5:50 PM

Dolphin Hotel, Oceanic 3

Outreach Activities in Particle Technology

Particle Science and Technology Education and Research at IIT Madras: A Synergistic Approach • 8:00 AM
ERPT - Web Tutorials in Particle Technology • 8:20 AM
Swedish Industrial Association for Multiphase Flows - Bringing Together Industry and Academia • 8:40 AM
Using Advances in Communication Tools for the Education of Users of Particle Characterization Instrumentation • 9:00 AM
Case Study of Particle Technology Application in Automotive Industry • 9:20 AM
Awareness of Particle Technology in Industries Through Consultancy and Short Course • 9:40 AM

Dolphin Hotel, Australia 2

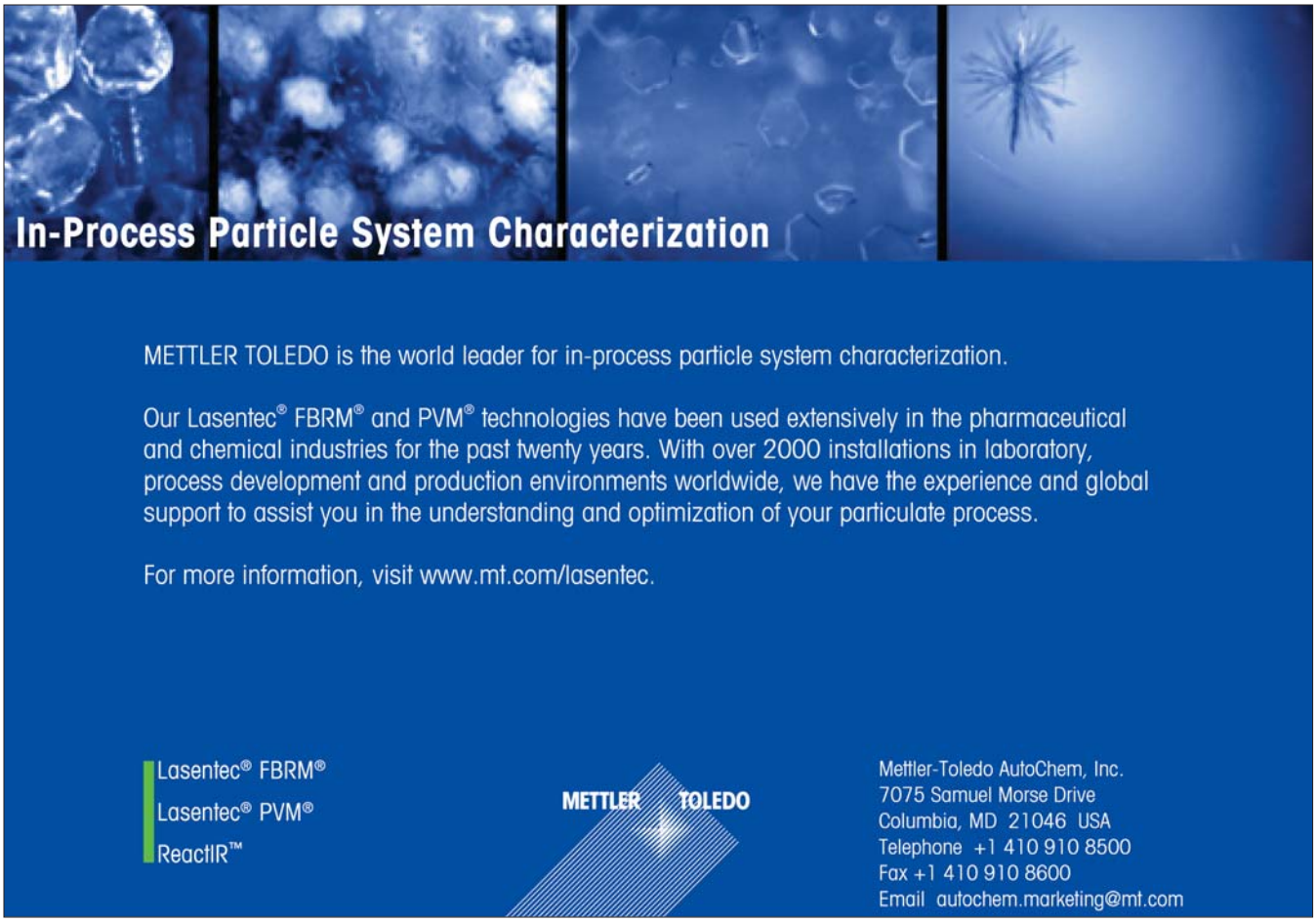
Particle Design Via Self-Assembly - I

Nano-Structured Amphiphile Self-Assembly Phases and Particles: New Urea Surfactants as a Case Study (Invited Talk) • 8:00 AM
Exploiting Self Assembly and Phase Separation to Produce Multiscale Porous Architectures in Particles Made by Aerosol Routes • 8:40 AM
Production of Water-Rich Powder by Assembling Hydrophobic Silica Nanoparticles • 9:00 AM
Colloidal Particles with Directional Interactions • 9:20 AM

Dolphin Hotel, Australia 2

Particle Design Via Self Assembly - II

Design, Control and Direct Visualization of Heterogeneous Structure in Colloidal Aggregates and Gels (Invited Talk) • 1:00 PM
Assembly of Binary Colloidal Particles with



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Tuesday, April 25

Opposite Charge • 1:40 PM
The Engineering of Hollow Nanocrystalline Iron Oxide and Barium Titanate Particles Produced by Aerosol Pyrolysis • 2:00 PM
Colloidal Atoms and Molecules: Fabrication and Engineering Design (Invited Talk) • 2:20 PM

Dolphin Hotel, Oceanic 6

Pneumatic Conveying Systems - I

A Basic Investigation to Pneumatic Conveyance of Solid Particles in Pipes • 8:00 AM
Saltation Length and Velocity of Granules in Air Flow • 8:20 AM
Visual Analysis of Particle Bouncing and Its Effect on Pressure Drop in Dilute Phase Pneumatic Conveying • 8:40 AM
Modelling Solids Friction Factor for Dense-Phase Pneumatic Conveying of Powders • 9:00 AM
Characterizing the Transient Behavior of Fluidized Dense Phase Pneumatic Conveying • 9:20 AM
Recent Developments in Pneumatic Conveying at the Universidad Tecnica Federico Santa Maria • 9:40 AM

Dolphin Hotel, Oceanic 6

Pneumatic Conveying - II

Experimental Analysis of Line Forces in Dense Phase Pneumatic Systems • 1:00 PM
Optimum Conveying Conditions for the Pneumatic Conveying of Polyethylene Pellets and Similar Materials • 1:20 PM
Designing Closed Loop Pneumatic Conveying Systems for Optimum Performance • 1:40 PM
Control of Solids Flow Distribution at a Splitter Junction in a Two-Phase Turbulent Pipe Flow • 2:00 PM
Motion of Large Particles in a Horizontal Pneumatic Pipe • 2:20 PM
Transition Between "Clusters" and "Stratified" Flow Regimes in the Pneumatic Conveying System - Gas Flow Driven Granular Jump • 2:40 PM

Dolphin Hotel, Australia 3

Process Intensification for Particle Technology

Precipitation of Nanostructured & Ultrafine Powders: Process Intensification Using the Segmented Flow Tubular Reactor - Still in Search of the Perfect Powder? • 8:00 AM
Operating Parameters of a Continuous Sonochemical Precipitation Reactor • 8:40 AM
Phillipsite Synthesis from Fly Ash Prepared by Hydrothermal Treatment with Microwave Heating • 9:00 AM
Development of a Novel Platform Technology for Crystallization of Active Pharmaceutical Ingredients • 9:20 AM

Dolphin Hotel, Oceanic 4

Slow-Shearing Moving/Packed Bed Flows I

Flow of Dry, Fine, Non-aerated Powders: A Continuum-Mechanics Approach • 8:00 AM
Plane Shear Flow of Cohesive Granular Materials • 8:25 AM
Granular Fluid Dynamics • 8:50 AM
On the Numerical Calibration of Discrete Element Models for the Simulation of Bulk Solids • 9:15 AM
Influence of Interface Energy of Primary Particles on the Shear Deformation Behaviour of Agglomerate Embedded in a Powder Bed • 9:40 AM

Dolphin Hotel, Oceanic 4

Slow-Shearing Moving/Packed Bed Flows II

Discrete Element Simulations of Floor Pressure in a Granular Material in a Cylindrical Vessel • 1:00 PM
Conduction Heat Transfer and the Flow of Granular Materials due to Shear • 1:20 PM
Measurement of Velocity and Density Profiles within Discharging Conical Hoppers by NMR Imaging • 1:40 PM
Granular Flow through an Orifice - Effect of Granule Size and Shape Distributions • 2:00 PM
Dynamic Mechanisms of a Vibration Bed Under Weakly Excitation • 2:20 PM
Numerical Simulations of Flow Patterns in a Moving Granular Filter Bed with an Asymmetric Louvered-Wall and Obstacles • 2:40 PM

Dolphin Hotel, Northern Hemisphere E - 3

Advances in Distillation Equipment & Applications I

Dividing Wall Column Revamp Optimizes Xylene Production • 8:00 AM
Investigation on a Novel Double-Effective Packing Element • 8:30 AM
Measurement of Packed Column Gas/Liquid Contact Areas for CO_2 Absorption • 9:00 AM
Debottlenecking an Acn Heads & Dry Column with Vg Af (V-Grid Anti-Fouling) Trays • 9:30 AM
Modeling the Minimum Entrainment on Sieve Trays • 10:00 AM

Dolphin Hotel, Northern Hemisphere E - 3

Advances in Distillation Equipment & Applications II

Testing of Mellapakplus M452.Y at Fractionation Research, Inc • 2:00 PM
Foaming Effect on Random Packing Performance • 2:30 PM
New Random Packing Development, Superblend 2-Pac Technology, Goes Beyond Third Generation Random Packing Performance • 3:00 PM
How to Surpass Conventional and High Capacity Structured Packings with Raschig Super-Pak • 3:30 PM
Radioisotope Technology - Benefits & Limitations in Packed Bed Tower Diagnostics • 4:00 PM

Dolphin Hotel, Northern Hemisphere A - 1

Advances in Hydroprocessing I

Impact of Future Fuel and Crude Demand on Refinery Hydprocessing • 8:00 AM
Limiting Factors in Deep Hydrodesulfurization of Diesel • 8:20 AM
Effect of Promoters on Structural and Chemical Properties of Hydrotreating Catalysts • 8:40 AM
Effect of the Oxide Precursors on the Sulfurability of Hydrotreating Como(P) Catalysts • 9:00 AM
Study About Formation Al_2O_3-TiO_2 Nanofibers as Supports for Hydroprocessing Catalysts • 9:20 AM
Unsupported Sulfide and Nitride Catalysts for Hydrotreating: New Preparation Approaches • 9:40 AM

Dolphin Hotel, Northern Hemisphere A - 1

Advances in Hydroprocessing II

Catalyst Selection for Ultra Low Sulfur Diesel Operations: Activity and H_2 Consumption Considerations • 2:00 PM
Comparative Study of Vapor-Liquid Equilibrium during Hydroprocessing of Different Petroleum Feedstocks • 2:30 PM
Value Driven Catalyst Developments in FCC Pretreatment Service • 3:00 PM
Hydrocracking for Clean Fuels Production • 3:30 PM
Low Emission Diesel Production by Upgrading LCO • 4:00 PM
Thermochemistry of Coking in Hydroprocessing Units: Modeling Competitive Naphthalene Saturation and Condensation Reactions • 4:30 PM

Dolphin Hotel, Northern Hemisphere A - 3

Advances in light hydrocarbon processing

Comparision of Existing and Emerging Alkylation Technology • 8:00 AM
AlkyleneTM - Improved Solid Catalyst Alkylation Technology for Clean Fuels • 8:35 AM
Alkyclean® - A Demonstrated New Standard for Alkylation Technology • 9:10 AM
Welded Plate Exchangers: More Than Ever Needed in Catalytic Reforming • 9:45 AM
Platinum Level Effects in C_5/C_6 Isomerization • 10:20 AM

Dolphin Hotel, Europe 2

Enhancing Leadership Impact

Leadership--What's It All about? Can You Do It? • 8:00 AM
You're Only a Leader If Someone Is Following • 8:30 AM
Assessing Leadership • 9:00 AM
Using a Management System Maturity Model to Drive Continual Improvement • 9:30 AM
Enhancing Leadership Impact When Problem Solving • 10:00 AM
Understanding Leadership Challenges in an Aging Organization • 10:30 AM

Dolphin Hotel, Europe 8

Hydrogen as an Energy Carrier: High Volume Production Issues I

Pre-Conceptual Design and Cost Estimate for a Nuclear Hydrogen Production Plant • 8:04 AM
Experimental Studies of the Iodine-Water System for the Sulfur-Iodine Thermochemical Cycle • 8:26 AM
Sulfuric Acid Decomposition Catalysts and Reaction Considerations for Sulfur-Based Thermochemical Water Splitting Cycles • 8:48 AM
Improvement of the Thermal Efficiency of Hydrogen Iodide Concentration in I-S Process by Using Radiation-Induced Polymerized Membrane in Electrodialysis System • 9:10 AM
Development of Separation Processes Based on Membrane Technology for the S-I Thermochemical Cycle • 9:32 AM
Technical Barriers and Opportunities in Nuclear Plant/Hydrogen Plant Connection Technologies • 9:54 AM
Hybrid Sulfur Cycle Flowsheets for Hydrogen Production from Nuclear Energy • 10:16 AM
Solar Production of Hydrogen Using a Cadmium Based Thermochemical Cycle • 10:38 AM

Dolphin Hotel, Europe 8

Hydrogen as an Energy Carrier: High Volume Production Issues II

A Low-Greenhouse-Impact Hydrogen-Based Liquid-Fuels Future • 2:00 PM
Nuclear Hydrogen Initiative Calcium-Bromine Cycle: Determine the Feasibility of Using Cold Plasma Dissociation for H_2 Generation, and Molten-Spray Contactor for $CaBr_2$ Regeneration • 2:20 PM
Testing of the Palladium Membrane Reactor and Potential Applications for Hydrogen Production • 2:40 PM

Preliminary Call for Abstracts

2nd International Conference on Bioengineering and Nanotechnology

September 5 - 7, 2006 ◆ Santa Barbara, California

The Society for Biological Engineering (SBE) invites you to submit your abstract for the 2nd International Conference on Bioengineering and Nanotechnology (ICBN). Be a part of the conference that brings together leading researchers working at the interface of bioengineering and nanotechnology. This is your opportunity to hear the latest advances and explore the enormous potential of these emerging areas which unite engineering, science and medicine.

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- Cell and tissue engineering
- Bio-MEMS and microbioreactors
- Biomimetic and self-assembled materials
- Artificial organs and implants
- Medical devices and microtools
- Nanoparticles, nanocomposites
- Biological and biomedical imaging
- Biomarkers, biosensors and molecular diagnostics
- Nanoporous materials for bio-applications

ABSTRACTS

Delegates are invited to submit abstracts for consideration for oral and poster presentations. Abstracts should be submitted as a Word file attachment via email to ICBN@aiche.org and should be no longer than 300 words. All abstracts should clearly state the title, author's name, affiliation and address.

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WHERE: The University of California in Santa Barbara

ABSTRACT REGISTRATION:

Abstract deadline: April 30, 2006
Abstract acceptance: May 31, 2006
Early registration deadline: June 15, 2006

FOR FURTHER INFORMATION:

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Tuesday, April 25

Logistics Fuel Catalytic Cracking for Hydrogen Generation • 3:00 PM
Dynamic Simulation of Reforming and Regeneration Processes for Fixed-Bed Adsorption-Enhanced Natural Gas Reformer • 3:20 PM
Hydrogen Generation Using Fixed-Bed Adsorption-Enhanced Natural Gas Reformer • 3:40 PM
Analysis of a Novel Process with Integrated CO_2 Capture Using Thermal Energy from a High-Temperature Nuclear Reactor and Coal for the Production of Hydrogen and Electric Power • 4:00 PM
Preliminary Economic Analysis of a Nuclear-Powered Ammonia Plant • 4:20 PM
Aspen Plus Plant Design for the Liquid Hydrogen Production by Steam Reforming of Used Automotive Lubricating Oil • 4:40 PM

Dolphin Hotel, Europe 6

Innovation in Sustainable Processes I

Sustainable Design Conditions in Controlling Wastes • 8:00 AM
1,3 Propanediol: Innovation Leading to a More Sustainable Polymer • 8:25 AM
Development of Arnold M. Leas Fluidized Catalytic Gasification Process • 8:50 AM
A New Fischer-Tropsch Technology for China • 9:15 AM
The Effects of Supercritical Carbon Dioxide on the Zeolite-Based Heterogeneous Friedel-Crafts Acylation of Anisole • 9:40 AM
Sulfide Refinery Waste Treatment • 10:05 AM

Dolphin Hotel, Europe 6

Innovation in Sustainable Processes II

CFD Modeling of Particulate Transport to Design Invert Trap for Sewer Solids Management • 2:00 PM
Simultaneous Multiobjective Chemical Model Fitting of Online Measurements: Calorimetry, Spectroscopy and Gas Uptake • 2:25 PM
Development of Fuzzy Dynamic Models: Application to Polymerization Systems • 2:50 PM
Development of a Dynamic Model for the Production of Impact Modified Styrene/Maleic Anhydride Copolymers • 3:15 PM
Continuous Copolymerization of Vinylidene Fluoride with Hexafluoropropylene in Supercritical Carbon Dioxide • 3:40 PM
Microcellular Foaming for Blends of PP and PES with Different Viscosity and Elasticity • 4:05 PM

Dolphin Hotel, Northern Hemisphere E - 2

LNG III - Environment & Energy

Compressed Natural Gas Engines Exhaust Gas Treatment • 8:00 AM
Versatility of Vacuum Jacketed Pipe in LNG Facilities • 8:20 AM
Processes for High C_2 Recovery from LNG -Part III: Simar Applied to Gas Processing • 8:40 AM
NGL Recovery Process Synergies with the LNG Value Chain • 9:00 AM
Advanced Design of Submerged Combustion Vaporizer for Low Emission Operation • 9:20 AM
Overview of Open Rack Vaporizer and Intermediate Fluid Type Vaporizer, and Possible Impact of the Warming Water to Environment • 9:40 AM
Low Emissions with Advanced Pipeline Gas Heater • 10:00 AM

Dolphin Hotel, Northern Hemisphere E - 2

LNG IV - Control & Simulation

CFD Study on Natural Gas Fluidized Bed Combustors • 2:00 PM
Rasgas Makes Extensive Use of Process Operator Training Simulators in LNG Operations • 2:20 PM
Performance Characteristics of LNG Tandem Expanders • 2:40 PM
Pressure Induced Non-Linear Oscillations in Two-Phase LNG Pipe Flow • 3:00 PM
How Big Is the Area Required for LNG Base Load Plant and Their Design Considerations • 3:20 PM
LNG Rollover: Converting a Safety Problem to Tank Loading Operational Asset • 3:40 PM
A Step Change in LNG Operations through Advanced Process Control • 4:00 PM

Dolphin Hotel, American Seminar Room

Microfluidic Devices for Energy Applications Tutorial

Methanol Powered Microchannel Fuel Processing Systems • 8:00 AM
Comparison of Adiabatic Gas-Liquid Two-Phase Flows in Microchannels and Minichannels • 8:20 AM
Modeling and Evaluation of an Integrated Microfluidic Fuel Processor for Miniature Power Sources • 8:40 AM
Air-Breathing Laminar Flow Fuel Cells Operating in Alkaline or Acidic Media • 9:00 AM
Addressing Critical Issues in Microscale Fuel Processing: Demonstration of an Integrated Silicon Microreactor Based Methanol Steam Reformer • 9:20 AM

Swan Hotel, Macaw 1

Mixing and Heat Exchange in Micro-Reactors

Single and Multiphase Mixing and Contacting in Microreactors • 8:00 AM
Experimental Investigation of Flow Boiling Heat Transfer in a Microchannel by Using Infrared Thermography • 8:40 AM
Numerical and Experimental Study of Mixing Enhancement in Micromixers Using Residence Time Distribution (RTD) • 9:00 AM
Shape Design of a Tubular Microreactor with Desired Product Distribution • 9:20 AM
Behavior of an Instantaneous Liquid-Phase Reaction in a Rectangular Microchannel • 9:40 AM
Optimization of Metallic Microchannel Array Evaporators • 10:00 AM
Understanding Critical Heat Transfer Issues in Thermal Integration of Planar Microreactor Components of a Fuel Processor • 10:20 AM

Swan Hotel, Parrott

Particles, Emulsions and Dispersions I

New Synthetic Method of Organic Pigment Nano Particle by Micro Reactor System • 8:00 AM
Micro-Fluidic Strategies for Synthesis of Nanoparticles • 8:40 AM
Formation of Au/Ag Nanoparticles in a Two Step Micro Flow through Process • 9:00 AM
Preparation of $BaSO_4$ Nanoparticles in a Microchannel Reactor • 9:20 AM
Production Scale Use of Microstructured Devices in Solids Technology • 9:40 AM
Microfluidics and Reactors in Porous Materials • 10:20 AM
Assembling of Nanoparticles Using Ice Crystals • 10:40 AM

Swan Hotel, Parrott

Particles, Emulsions and Dispersions II

Superior Emulsion Formation in Microchannel Architecture • 2:00 PM
Droplet Formation by Collision of Two Aqueous Solutions in an Organic Phase and Application to Ag Particle Formation • 2:40 PM
Direct Nucleation Studies of Colloidal Systems inside Microfluidic Droplets • 3:00 PM
Study of the Phase Transition Behavior of Self-Oscillating Pnipam Particles • 3:20 PM
Miniaturization of Metallic MicroSeparator/ Classifier and Its Application to Emulsion • 3:40 PM
Mixing Enhancement by Internal Circulation Flow Using Liquid-Liquid Slug Flow in Microreactors • 4:00 PM
Microfluidic Networks for Complex Emulsions: From Single Active Elements to Highly Parallelized Systems • 4:20 PM

Dolphin Hotel, Northern Hemisphere A - 4

Petrochemicals from Heavy Oils

Transformation of Heavy Gas Oils Derived from Oil Sands to Petrochemical Feedstock • 8:00 AM
Selective Ring Opening of Diesel Fuels • 8:40 AM
Advanced Technology for Aromatics Saturation • 9:20 AM
Effect of Chlorine, Fluorine and Titania on Surface Structure, Morphology and Hydroprocessing Activity of Ni-Mo Catalysts Supported on Alumina • 10:00 AM

Dolphin Hotel, Europe 1

Pilot Plant Success Stories

Approaches to Pilot Plant Development at DuPont • 8:00 AM
Arizona American Water C/F Process Evaluation - The Significance of Scheduling and Process Variable Selection during Pilot Testing • 8:30 AM
An Industrial Slurry Oxidation Pilot Plant Program • 9:00 AM
A Scale-up Success Story: How a Continuous Stirred Tank Reactor Was Scaled down Uccessfully • 9:30 AM
Scale-up and Evaluation of a Pilot-Scale Electrothermal-Swing Adsorption System for the Capture and Recovery of Organic Vapors from a Painting Facility • 10:00 AM
Control of an Exothermic Reaction under Cryogenic Conditions by Direct Liquid Nitrogen Injection to a Glass on Stainless Steel Vessel • 10:30 AM

Dolphin Hotel, Europe 3

Thermodynamics and Phase Equilibria I

Engineering Diversity through Thermodynamics - the Role of Water Activity in Solid-Liquid Equilibria in a Polymorphic Pharmaceutical System • 8:00 AM
Thermodynamic Modeling and Prediction of Solubility of Organic Molecules and Pharmaceuticals • 8:22 AM
Infinite Dilution Partition Coefficients of Naphthalene and Benzene in the [Bmim][PF_6]-CO_2 System • 8:44 AM
Equilibrium Adsorption of Carbon Dioxide, Methane, and Nitrogen Gases on Argonne Premium Coals and an Activated Carbon at Various Moisture Contents • 9:06 AM
Numerical Aspects of the Saft Equation of State • 9:28 AM

Dolphin Hotel, Europe 3

Thermodynamics and Phase Equilibria II

Determining Parameters of the Lennard-Jones Potential Energy Function for Methane Using the Second Virial Coefficient • 2:00 PM
Using the Solvation Model to Predict the Salt Effect on Vapor-Liquid Equilibrium • 2:22 PM
Stability and Composition of Ceria Nanoparticles from Density Functional Theory Simulations • 2:44 PM

Thermodynamic Characterization of Heavy Paraffin Mixtures to Employ the Soave-Redlich-Kwong Equation of State • 3:06 PM

Dolphin Hotel, Northern Hemisphere A - 2

Upgrading and Processing of Opportunity Crudes I

Producing Synthetic Crude Oil from Heavy Oils: Process Heat Integration • 8:00 AM
Residue Upgrading of Heavy Crudes with Sydec-Sm Delayed Coking: Benefits and Economics • 8:30 AM
Effects of Trace Amount of Noble Metal (Pd/Rh) on the Performance of Co-Clay Catalysts for Heavy Oil Upgrading • 9:00 AM
Salt Hydrolysis in Crude & Bitumen Refining • 9:30 AM
Hydrotreating of Light Cycled Oil Using WNi/Al_2O_3 Catalysts Containing Hydrothermally Treated Zeolite Beta and Chemically Treated Zeolite Y • 10:00 AM
Understanding the Mechanism of Iron Sulfide Induced Fouling in Upgrading • 10:30 AM
Smart, Integrated Approach to Capturing Acid Crude Value • 11:00 AM

Dolphin Hotel, Northern Hemisphere A - 2

Upgrading and Processing of Opportunity Crudes II

Compositional Analysis of Opportunity Materials: Characterization of Heavy Crude Oil and Bitumen by Fourier Transform Ion Cyclotron Resonance Mass Spectrometry • 2:00 PM
The State-of-the-Art of Naphthenic Acid and Sulfidic Corrosion Evaluation and Prediction • 2:30 PM
Crude Oil Corrosivity Measurement Using Radioactive Tracer Technology • 3:00 PM
Effect of Naphthenic Acid Structure on Corrosion • 3:30 PM
Biological Upgrading of Petroleum - Recent Developments and Research Needs • 4:00 PM
Market Developments for Opportunity Crude Processing • 4:30 PM

Dolphin Hotel, Southern Hemisphere 4 & 5

Fire, Explosion and Reactive Hazards

The Dow Chemical Company's Expert System for Fire and Reactivity MSDS Text • 8:10 AM
Explosion Consequences of Low Velocity Releases of Dense Flammable Vapor Inside a Chemical Manufacturing Facility with a Complex Ventilation System • 8:40 AM
Stability of Concentrated Initiator Solutions • 9:10 AM
Prediction of Ddt of Hydrogen Explosions • 10:25 AM
A Flame Speed Correlation for Unconfined Gaseous Explosions • 10:55 AM
Elevated Internal Pressures in Vented Deflagration Tests • 11:25 AM

Dolphin Hotel, Northern Hemisphere E - 4

Risk Assessment

Do You Know Your Engineered Systems? • 8:10 AM
Dust Explosion Consequence Categories for Semi-Quantitative Risk Assessment • 8:35 AM
What Risk Should Public Accept from Lng Facilities? • 9:00 AM
Frequency and Consequence of Rare Events Using Accidents D • 10:15 AM
Utility Failures - Are You Prepared? • 10:50 AM
A Three Level Approach for the Assessment of Domino Effect • 11:25 AM

Dolphin Hotel, Southern Hemisphere 2

Ethylene Plant Safety Tutorial - Autorefrigeration

Workshop on Auto-Refrigeration and Brittle Fracture Analysis • 8:05 AM
Cold Brittle Fracture Potential on Cold Box Outlet Piping •11:05 AM

Dolphin Hotel, Southern Hemisphere 1

Furnace Light Off Operations Roundtable

Furnace Light-off Workshop • 8:35 AM

Dolphin Hotel, Southern Hemisphere 3

Risk Assessment I

Simplify Ehs Decision Making: Risk-Based Decision Support Tools • 10:15 AM
Process Business Risk - A Methodology for Assessing and Mitigating the Financial Impact of Process Plant Accidents • 10:35 AM
Risk Curves: a Comprehensive Program Package for Performing a Quantitative Risk Assessment • 10:55 AM
LOPA Application, Organization and Outcomes in the Food Processing Industry •11:15 AM

Dolphin Hotel, Asia 1

Fluid-Particle Interactions and Inter-Particle Forces in Fine Particle Systems III

Particle-Particle Interaction in Non-Aqueous Liquids - Effect on Processing Properties • 1:00 PM
Molecular Dynamics Simulation of Colloidal Nanoparticle Forces • 1:20 PM
Applying the Quartz Crystal Microbalance Technique to Determine the Stability of Colloidal Suspensions • 1:40 PM
Characterization of Interparticle Forces in Aqueous and Nonaqueous Dispersions Using Multisample Analytical Centrifugation • 2:00 PM
Effect of the Structure Disjoining Pressure on Critical Heat Flux (CHF) of Thermal Nanofluids under Pool Boiling Heat Transfer Conditions • 2:20 PM
Electrostatic and Steric Stabilization of Precipitated Nanoscaled Barium Sulfate • 2:40 PM

Dolphin Hotel, Oceanic 3

Mixing and Segregation - I

Experimental and Numerical Comparative Study of Cohesionless Granular Mixing in a Bin-Blender and a V-Blender • 1:00 PM
Axial Mixing of Granular Material in a Horizontal Rotating Cylinder • 1:20 PM
Local Behavior of Solid Mixing in Bubbling Fluidized Bed • 1:40 PM
Mixing of Granular Materials • 2:00 PM
Mixing of Granular Materials in Non-Circular Geometries • 2:20 PM
Continuous Mixing of Pharmaceutical Powder Mixtures • 2:40 PM

Dolphin Hotel, Asia 3

Modeling of Particle Formation Processes - I

Isothermal Batch Crystallization with C.H. Seeds and Integer Order Kinetics • 1:00 PM
Modeling of Multi-Component Granule Formation in a Wet Granulation Process • 1:20 PM
Breakage Distribution Functions Based on Fracture Mechanics • 1:40 PM
Stochastic Simulation of Agglomeration for Crystallization Processes • 2:00 PM
Stochastic Calculation of Collision Kernels for Brownian Coagulation in Dense Systems • 2:20 PM
Particle Size Distribution of Alumina Trihydrate Precipitated from High Concentrated Sodium Aluminate Solution • 2:40 PM

Dolphin Hotel, Asia 3

Modeling of Particle Formation Processes - II

Predictive Simulation of Nanoparticles-Precipitation in a T-mixer by Coupling Direct Numerical Simulation with Population Balance Equations • 4:30 PM
Polydispersity of Primary Particles in Agglomerates Made by Coagulation and Sintering • 4:50 PM
Numerical Solution of a Two-Dimensional Population Balance Equation for Aggregation • 5:10 PM
Assessment of Gel Formation Conditions in Turbulent Jets • 5:30 PM
A Discrete-Continuous Population Balance Approach for the Nanoparticle Precipitation in Microemulsions • 5:50 PM

Dolphin Hotel, Australia 3

Particle Strength in Particle Formation Processes

The Effect of Binder Ratio on Granule Strength, Dissolution and Structure • 1:00 PM
Effect of Agitation Intensity during the Formation of Whey Protein Aggregates on Breakage Rate Under Subsequent Turbulent Flow Transportation • 1:20 PM
Mechanical Property Measurements of Protein Crystals by Indentation • 1:40 PM
Simulation of Compaction and Shear of Cohesive Powders Including Effects of Interparticle Moments • 2:00 PM.
Stability of Granules Formed by Solid Bridging • 2:20 PM
Structural Relaxation of Powdered Amorphous Food Biomaterials • 2:40 PM

Dolphin Hotel, Southern Hemisphere 3

Process Safety of LNG Production, Transportation and Distribution

The Effects of Uncertainty on Quanitified Risk Assessment for LNG Facilities • 1:45 PM
Lessons Learned from the Application of Risk Management in the Shipment of LNG (for CCPS) • 2:05 PM
LNG Security Vulnerability Assessment • 2:25 PM

Dolphin Hotel, Northern Hemisphere E - 4

Facility Siting Issues

Facility Siting and the BP Texas City Incident, What It Means for Our Industry • 1:55 PM
Lessons Learned Through OSHA's Enforcement of the Facility Siting Provisions in the PSM Standard • 2:20 PM
Facility Siting Following a Merger of Two Large Oil Companies • 2:45 PM
Techniques for Siting New Buildings in Petrochemical Facilities • 4:00 PM
Infrastructure Impacts during Hurricanes Katrina and Rita • 4:30 PM
Facility Siting Database and Analysis • 4:55 PM

Dolphin Hotel, Southern Hemisphere 4 & 5

Hazard Aspects of Combustion Equipment

A Proposed Comprehensive Model for Elevated Flare Flames and Plumes • 1:55 PM
Flare Safety and Reliability Enhanced with New Flare Pilot Systems • 2:25 PM
Proper Flare Safety • 2:55 PM
The Role of Basic Design Data in Preventing Explosions within Fired Equipment: A Case

Tuesday, April 25

Study • 4:10 PM
In-Line Flame Arrester Application Limits and Matrix Concept for Process Plant Safety from Flash Back of Thermal Combustion Units • 4:40 PM
Using LOPA to Verify the Design of a Burner Management System • 5:10 PM

Dolphin Hotel, Northern Hemisphere E - 1

Advanced Gas Conversion and Gasification Processes

ITM Syngas: Ceramic Membrane Technology for Lower Cost Conversion of Natural Gas • 2:00 PM
Metal Promoted Binary Oxides of Ceria and Zirconia for Low Temperature Water-Gas Shift • 2:25 PM
Efficiencies in Small Scale Hydrogen Production by Methane Steam Reforming in High Temperature Catalytic and Low Temperature Plasma Processes • 2:50 PM
Oxidative Coupling of Methane Enhanced by Thermally Optimized Reactors and Intermediate Separation • 3:15 PM
Development and Evaluation of the Gasification Technology as Alternative Power Generation • 3:40 PM
Optimization of Amins Mixture `S Formulation by Neural Networks in Gas Sweeting • 4:05 PM

Dolphin Hotel, American Seminar Room

Combustion - NOx and SOx Control and Modeling

Long-Term Sulfation Behavior of Limestone Sorbents • 2:00 PM
Novel Sorbents for Mercury Capture from Fuel Gas • 2:30 PM
The PCO Process for Photochemical Removal of Mercury from Flue Gas • 3:00 PM
Performance Optimization and Emission Reduction of a Baled Biomass Combustor • 3:30 PM
Modeling and Simulation of Diesel Particulate Filters • 4:00 PM

Dolphin Hotel, Northern Hemisphere A - 3

Energy Conservation

Energy Conservation and Innovation of Basic Chemical Processes • 2:00 PM
Energy Savings for Refinery and Petrochemical Industries • 2:25 PM
Energy Integration - a Fresh Look for a Changed Energy World • 2:50 PM
Combined Energy and Water Analysis for the Oil Sands Industry • 3:15 PM
Enhanced Heat Transfer Technology Application in Crude Units for Saving Energy • 3:40 PM
Extraction of Benzene from Wastewater Using Refinery Liquids by L-L Extraction Instead of Distillation • 4:05 PM
Debottlenecking of Heat Exchanger Networks Using Optimium Pressure Drops • 4:30 PM
Systematic in-Process Modification Approach for Enhanced Waste Energy Recovery in Gas Plants • 4:55 PM

Dolphin Hotel, Southern Hemisphere 2

Environmental

Business Value from Sustainable Development and the Petrochemicals Industry • 2:05 PM
Ethylene MACT • 2:25 PM
Latest Efforts in Using Infrared Technology to Detect VOC Emissions • 2:45 PM
Huntsman VOC Fenceline Monitoring System • 3:20 PM
European Ethylene Producers' Committee Furnace Emissions Survey • 3:40 PM
Cracking Furnace Emissions Survey of North American Ethylene Producers • 4:00 PM

Dolphin Hotel, Southern Hemisphere 1

Ethylene Plant Operations

Ethylene Quench System Fouling • 2:00 PM
Upgrade to a Tail-End Acetylene Converter at BASF Fina Petrochemicals Naphtha Cracker • 2:20 PM
Flare Reduction Strategy at Lyondell Chemical Company's Clinton Plant • 2:40 PM
Smart Pigs Aren't Geniuses • 3:15 PM
Increased Run Length and Furnace Performance with Kubota Metal and Nova Chemicals ANK 400 Anticoking Technology, Data from Current Installations as Well as Technology Improvements for Higher Thermal Stability and Decoking Robustness • 3:35 PM
Furnace Incident during Decoking Operation • 3:55 PM

Dolphin Hotel, Europe 2

Partnerships and Strategic Alliances in Innovation

Open Innovation: Existing Models and Analysis • 2:00 PM
The Pleasure, Pain and Pitfalls of Starting a New Business • 2:30 PM
Integrated Product and Process Design at the University of Florida • 3:00 PM
Increasing the Probability of Success in Collaborative Research: A Procedural Justice Theory Based Approach • 3:30 PM
Protecting Your Intellectual Property in Collaborative Ventures • 4:00 PM
Technical & Operational Excellence Via Partnerships and Alliances While Maintaining Control of Intellectual Property • 4:30 PM

Dolphin Hotel, Europe 1

Successful Debottlenecking and Improvement

Introduction • 2:00 PM
Downscaling for Process Support and Upscaling for Process Development • 2:05 PM
We'll Do a Plant Test, They'Re Easy — Wrong • 2:25 PM
Agglomeration of Pharmaceutical Microparticles, the Origin and Implications • 2:45 PM
Development of a New Gas/Liquid Distributing Tray for Catalytic Reactors Operated in Upward Gas/Liquid Flow • 3:10 PM
Studies on Ionic Mass Transfer with Coaxially Placed String of Spheres as Turbulence Promoter in Fluidized Beds • 3:35 PM
Continuos Polymerization Process : Some Scale-up Issues • 4:00 PM

Dolphin Hotel, Southern Hemisphere 3

International Trends in Process Safety

Differences in European States' Application of the Seveso 2 Directive on Major Accident Hazards • 4:00 PM
International Trends in Process Safety Regulations, Enforcement, Cultural Differences and Process Safety Practices • 4:30 PM
Process Safety Management in India - Current Trends and Issues • 5:00 PM

Dolphin Hotel, Australia 2

Electrostatic Effects in Particle Processing - I

Triboelectrification and Razorbacks: Patterns Produced by Charging Effects in Dry Grains • 4:30 PM
Measurement of Force Curve Due to Electrostatic Charge on a Particle with Atomic Force Microscope • 4:50 PM
Particle Cleaning in the Martian Environment • 5:10 PM
Evaluating the Use of Tribocharging in Electrostatic Beneficiation of Lunar Simulant • 5:30 PM
Electrostatic Screen for Transport of Martian and Lunar Regolith • 5:50 PM

Dolphin Hotel, Asia 5

Dense-Phase Flow Components in Fluid Particle Systems

Relationship Between the Hausner Ratio and Frictional Pressure Losses in Fluidized Dense Phase Pneumatic Conveying • 4:30 PM
Modeling of Dense Particle Flow in the Annulus of Spouted Beds with Draft Tube • 4:50 PM
Investigation of Flow Regimes in a Spout-Fluid Bed with a Draft Tube Using Pressure Fluctuation • 5:10 PM
Calculation of Fundamental Dense Granular Flow • 5:30 PM
Effect of Fine Particles on the Flow of Narrow-Sized Coarse Slurry through 90° Bend • 5:50 PM

Dolphin Hotel, Oceanic 6

Fluid/Particle Reactions in Energy and Environmental Systems

Mechanisms of Limestone Attrition in Fluidized Bed Combustion • 4:30 PM
Research on Biomass Gasification in Circulating Fluidized Bed • 4:50 PM
Comparison of Different Hydrocyclone Arrangements for the Cleaning of Contaminated Soil • 5:10 PM
Silica Gel and Hydroxyapatite Composites with Ormosils for Heavy Metal Removal from Water • 5:30 PM
Heavy Metal Removal from Gas Phase with Hydroxylapatite Sorbent • 5:50 PM

Dolphin Hotel, Asia 4

Nano-Particle & Ultra-Fine Powder Imaging in Process Flows

Probing of Microstructural Evolution of Nano-powder Compacts Using High Resolution X-ray Microtomography • 4:30 PM
Microstructural Investigations of Nano Particle Fluidization in Model 2-D and 3-D Beds Using High Speed X-Ray Imaging and Microtomography • 4:50 PM
Water Resistance of Nano-Particles Water Repellent • 5:10 PM
Determination of Colloid Deposition at Particle-Particle Contacts Using X-Ray Microtomography • 5:30 PM
Real-Time Particle Size and Shape Characterization Using in-Process Video Imaging Process Analytical Technology (PAT) • 5:50 PM

Dolphin Hotel, Oceanic 4

Particle Tracking in Handling & Processing

Particle Tracking Techniques and Their Applications • 4:30 PM
Tracking Pellet Motion in a Wurster Coater Using Positron Emission • 5:00 PM
Experimental Characterization of the Chaotic Dynamics of Cohesionless Particles in a V-Blender Using Radioactive Particle Tracking • 5:20 PM
Dry and Cohesive Powders in Vertical Axis High Shear Mixers Using Positron Emission Particle Tracking (PEPT) • 5:40 PM
Preliminary Tests on Fluid-Dynamic Features and Plastic Separation Feasibility of a Hydraulic

Separator • 6:00 PM
Relationships Between Design of Mixers and Scaling Phenomena in Powder Flow • 6:20 PM

Dolphin Hotel, Australia 3

Processing and Dispersion of Particles into Concentrated Suspensions

Preparation of Stable Nano-Dispersions • 4:30 PM
Changes in the Wettability of Calcium Pyrophosphate Induced by Glow-Discharge Radio Frequency Plasma and Muffle Furnace Heating • 4:50 PM
Aggregation of Concentrated Colloidal Silica Dispersions in a Stirred Tank • 5:10 PM
Effect of Inorganic Surface Treatment on the Dispersability of TiO_2 Pigment • 5:30 PM
The Effect of Glow-Discharge Plasma and Muffle Furnace Heating on the Surface Chemistry of Kaolinite • 5:50 PM

Dolphin Hotel, Asia 2

Characterization of Particles Made by Flame Synthesis

Quantitative Single Particle Mass Spectrometry for Characterization of Nanoparticle Composition and Reactivity • 4:30 PM

Non-Intrusive Dynamics During Spray Flame Synthesis of ZrO_2 • 4:50 PM
The Granulometric Properties of Pyrogenic Silica Suspensions • 5:10 PM
On-the-Fly Length Classification of Carbon Nanotube Aerosols and the Kinetics of Growth • 5:30 PM
In-Situ Saxs Measurement of SiO_2 Nanoparticle Growth in Diffusion Flames • 5:50 PM

Dolphin Hotel, Oceanic 2

Measuring and Modeling the Response of Particle Systems - I

Stick-Slip Mechanism in Powder Flow • 8:00 AM
Penetration and Rebound of Steel Projectile from Aggregated Particles in Random Packing • 8:20 AM
Numerical Modeling of Filling and Discharge Processes in Hoppers of Different Shapes • 8:40 AM
Mechanic Waves in Sand, 3D Simulations • 9:00 AM
Effect of Moisture Induced Capillary Forces on Flow Properties of Thermal Power Station Coal • 9:20 AM
Energy Distribution in the Squeezing of Particles in Concentrated Suspension • 9:40 AM

Dolphin Hotel, Oceanic 2

Measuring and Modeling the Response of Particle Systems - II

Contact Algorithm for Tablet-Shaped Particles and Its Application in Dem Simulation • 1:00 PM
Study on Frictional Property of Powder for Cosmetics • 1:20 PM
The Flow Field in the Mill - A Key Factor for the Prediction of the Comminution Result • 1:40 PM
Three-Dimensional Shape Descriptors and Tomographic Reconstruction Techniques for Granular Materials • 2:00 PM
Imaging Based Size, Gradation and Shape Characterizations of Aggregate Particles Used in Road Pavements • 2:20 PM
Visualization of Shear Motions of Powders in the True Biaxial Shear Tester • 2:40 PM

Dolphin Hotel, Oceanic 1

Caking Phenomena - I

A New Measurement System for Evaluation of Powder Flowability Based on Vibrating Capillary Method • 4:30 PM
Sticky Point Determination in Dairy Powders Using the Particle Gun Technique • 4:45 PM
Development of Novel Stickiness Measurement Devices (Thermal Mechanical Compression and Cyclone Stickiness Tests) for Food Powders • 5:00 PM
Round Robin Tests with the Uniaxial Tester to Predict Caking • 5:15 PM
Caking: Predicting the Bulk Strength of Granular Materials • 5:30 PM

Dolphin Hotel, Oceanic 2

Advances in the Mechanical Testing and Size Measurement of Powders

Mechanical Testing on Small Quantity of Loosely Compacted Cohesive Powders • 4:30 PM
Powder Compaction and Particle Shape • 4:50 PM
Tensile Strength of Cohesive Powders • 5:10 PM
Shape Descriptors for Particle Characterization and Classification Using Imaging and Image Analysis • 5:30 PM
Methods for the Adjustment of an Experimental PSD to a Reference Model and Its Verification • 5:50 PM

Dolphin Hotel, Oceanic 1

Characterization of Single Particle and Bulk Mechanical Properties for Granular Flow Simulations - I

Micromechanics of Particle Adhesion • 8:00 AM
Analysing the Compaction of High-Porosity Microscopic Agglomerates Formed by Random Ballistic Deposition • 8:20 AM
Particle - Structure Interactions for Wall Friction Studies Using Discrete Element Models • 8:40 AM
Qualitative Assessment of the Influence of Coordination Number on Crushing Strength Using DEM • 9:00 AM
A General Approach for the Characterization of Fragmentation Problems • 9:20 AM
Understanding Intra-Mixture Interactions in the Breakage of Dense Particulate Mixtures • 9:40 AM

Dolphin Hotel, Oceanic 1

Characterization of Single Particle and Bulk Mechanical Properties for Granular Flow Simulations - II

Comparison of Ring Shear Cell Simulations in 2D and 3D with Experiments • 1:00 PM
Flow Behavior of Ultrafine Cohesive Powder: A 3D-"View" from Inside • 1:20 PM
Steady State Flow for Cohesive Powders • 1:40 PM
Finite Element Analysis for Incipient Flow of Bulk Solid in a Diamondback Hopper • 2:00 PM
Influence of Single Particle Parameters on Bulk Behavior of Dense Granular Assembly • 2:20 PM
Development of Micromechanical Models for Particulate Media: the Projection Problem in the Transition from Particle to Bulk Mechanical Properties • 2:40 PM

Dolphin Hotel, Asia 2

Brian Scarlet Memorial Sessions - III

Transition from Dilute to Concentrated Conditions • 8:00 AM
Air Current Segregation of Alumina Powder • 8:20 AM
The Effect of Ultrasound on Crystallisation-Precipitation Processes • 8:40 AM
Coal Fly Ash: from Waste to Industrial Product • 9:00 AM

Dolphin Hotel, Asia 2

Brian Scarlet Memorial Sessions - IV

The Electrostatic Force between a Partially Charged Dielectric Particle and a Conducting Plane • 1:00 PM
Electrostatic Charge Transfer Due to Single Impact of Pharmaceutical Powders • 1:20 PM
Application of Observation Techniques in a Model Predictive Control Framework of Fed-Batch Crystallization of Ammonium Sulfate • 1:40 PM
Experimental Study and Modelling of the Effect of Wetting Properties on the Growth Rate and the Efficiency in Fluidized-Bed Coating Process • 2:00 PM
On the Consequences of Non-First-Order Breakage Kinetics in Comminution Processes: Absence of Self-Similar Size Spectra • 2:20 PM
Gas Dispersion of Ultrafine Powders • 2:40 PM

Wednesday, April 26

Dolphin Hotel, Southern Hemisphere 3

Global Approaches to Inherently Safer Technology and Human Factors

Incorporation of Inherent Safety Principles in Process Safety Management • 8:00 AM
Human Factor Considerations for Process Safety in a Global Economy • 8:30 AM
A Multi-Criteria and Fuzzy Logic Based Approach for the Relative Assessment of Chemical Substances Hazards • 9:00 AM

Dolphin Hotel, Asia 4

Dewatering and Drying

Powder Production for Sterile Injectables by a Fluidized Bed Granulator • 8:00 AM
Kinetics of Coal Drying in Bubbling Fluidized Beds • 8:20 AM
Discrete Modeling of Contact Heating of Particles in Rotating Drum • 8:40 AM
Influence of Surface Stickiness of Food Products to Agglomeration in Spray Drying • 9:00 AM
Distributed Product Quality by the Example of Moisture Content of Granular Materials in a Continuous Fluidized Bed Dryer • 9:20 AM
Drying of Crystals at Particle-Scale: Modelling and Tomographic Visualisation • 9:40 AM

Dolphin Hotel, Oceanic 6

Fluid/Particle Systems in Pharmaceutical Industry

Simulation of the Performance of a Dry Powder Inhaler Using Computational Fluid Dynamics • 8:00 AM
Batch Crystallisation of L-Isoleucine Using on-Line Monitoring System • 8:20 AM
The Use of CFD and Population Balance for Anti-Solvent Crystallization Scale-up • 8:40 AM
Control of the Particle Properties of a Drug Substance by Crystallization Engineering and the Effect on Drug Product Formulation • 9:00 AM
Synthesis of Calcium Alginate Gel Beads by Electrodispersion in Vegetable Oil • 9:20 AM
Novel Micro and Nano Fabrication Technology Based on Self-Organization for Biomaterials and Nano-Particles • 9:40 AM

Wednesday, April 26

Dolphin Hotel, Asia 1

Fundamentals of Fluidization and Fluid Particle Systems - I

Modification and Re-Interpretation of Geldart's Classification of Powders • 8:00 AM
Jet Hydrodynamics around Fluidized Bed Spargers • 8:20 AM
An Energy-Based Model of Gas-Solids Transport in a Riser • 8:40 AM
Stress History - A Concept for the Description of the Age-Dependent Attrition of Catalysts in Fluidized Bed Systems • 9:00 AM
Predicting the Particle Mass Flowrate in the Draft Tube of a Draft Tube Spout-Fluid Bed • 9:20 AM
Fine Particle Classification Using Fluidized Beds in Series • 9:40 AM

Dolphin Hotel, Asia 1

Fundamentals of Fluidization and Fluid Particle Systems - II

Fluidization of Coated Cohesive Powders • 1:00 PM
Experimental Observations of Wet Bed Fluidization Hydrodynamics • 1:20 PM
Effect of Fluidizing Gas Humidity on Bubble Behaviors in a Gas-Solid Fluidized Bed under Vibrated Conditions • 1:40 PM
Strange Phenomena and Resonance in Vibrationally Fluidized Beds • 2:00 PM
Vibration Attenuation in a Gas Fluidized Bed of Fine Aeratable FCC Powder • 2:20 PM
Injection of a Liquid Spray into a Gas-Solid Fluidized Bed: Measurement and Modeling of Solids Entrainment into the Spray • 2:40 PM

Dolphin Hotel, Oceanic 3

Mixing and Segregation - II

Simulation of Vibration-Induced Segregation of Equal-Sized Bronze and Glass Spheres • 8:00 AM
Drag Force Model for Fluidized Bed of Binary Mixture of Particles • 8:20 AM
Experimental Verification of Drag Laws for Binary, Gas-Fluidized Systems • 8:40 AM
The Influence of Cohesion on Segregation Mechanisms • 9:00 AM
Continuous Classification of Dissimilar Solids • 9:20 AM
The Fluidization Pattern of Density-Segregating Binary Mixtures • 9:40 AM

Dolphin Hotel, Asia 3

Modeling of Comminution Processes

Interpretation of Breakage Data via Moment Models • 8:00 AM
Modelling and Measurement of Granule Friability • 8:20 AM
Analysis of Single Ball Mill by Distinct Element Method • 8:40 AM
DEM Prediction of Particle Flows and Breakage in Comminution Processes • 9:00 AM
Prediction of Optimum Milling Condition and Power Consumption • 9:20 AM
Application of the Theory of Markov Chains to Model Non-Linear Phenomena in Comminution • 9:40 AM

Dolphin Hotel, Australia 3

Nanoparticle Processes in Emission Control and Clean Energy

Catalytic Performance and Carbon Deposition Behavior of Noble Metals Promoted NiO-MgO Solid Solution in Oxidative Steam Reforming of Methane • 8:00 AM
Developing Situation of TiO_2 Coating for Photocatalytic Application • 8:20 AM
Preparation of the Novel Pore Structure Catalysts • 8:40 AM
Size Distribution Dynamics of Fuel-Borne Catalytic Ceria Nanoparticles • 9:00 AM
Aerosol Spray Pyrolysis Synthesis of Synthesis of Water-Splitting Ferrites for Solar Hydrogen Production • 9:20 AM
Nanostructured Catalysts for Diesel Soot Combustion • 9:40 AM

Dolphin Hotel, Australia 2

Particle Formation and Modification in Two-Phase Systems

Application of Seeding as a Process Actuator in a Model Predictive Control Framework for Fed-Batch Crystallization of Ammonium Sulfate • 8:00 AM
Precipitation of Tailored Crystals in an Ultrasound Levitator • 8:20 AM
Process Function of Stirred Media Milling • 8:40 AM
Process Development of a Media Milling Process for a Nanoparticle Drug Formulation • 9:00 AM
The Effect of Supersaturation on Supercritical Fluid Antisolvent Precipitation of Particles • 9:20 AM
Preparation of Emulsion-Suspension Composite Polymer Particle Via Seed-Coagulation Process • 9:40 AM

Dolphin Hotel, Oceanic 4

Rapid Granular Flows in Chutes, Channels and Feeders

Mixing of Cohesive Particles in a Shear Cell • 8:00 AM
The Unsteady Drag Force on a Cylinder Immersed in a Dilute, Decelerating Granular Flow • 8:20 AM
Drag Correlations for 3-D, Dilute Granular Flow • 8:40 AM
Numerical Simulations of Granular Materials Flow around Obstacles: the Role of the Interstitial Gas • 9:00 AM
Experimental Investigation and Kinetic Theory Based Model of an Annular Granular Shear Flow • 9:20 AM
Time-Dependent and Steady-State Characteristics of Rapid Granular Shear Flows • 9:40 AM

Dolphin Hotel, Northern Hemisphere E - 3

Advances in Distillation Modeling & Processes

Tray Design Techniques at Low Liquid Load Conditions • 8:00 AM
Distillation Column Flooding Predictor • 8:30 AM
Computer-Aided Graphical Tool for Complex Column Design • 9:00 AM
Heat-Integrated Distillation Sequence Synthesis • 9:30 AM
Synthesis and Design of Energy Efficient Distillation • 10:00 AM
How to Decide When and How Much to Use Reactive Distillation: A Case Study on MTBE System • 10:30 AM

Dolphin Hotel, Northern Hemisphere A - 1

Advances in Hydroprocessing III

Meeting the Challenge of Delayed Coker Naphtha Hydroprocessing • 8:00 AM
Developing Knowledge from Spent Hydroprocessing Catalyst Chemical Analysis • 8:30 AM
Recombination: A Complicating Issue in FCC Naphtha Desulfurization • 9:00 AM
A Novel Oxidative Desulfurization (Oxyds) Process for Diesel and VGO • 9:30 AM
Comparison of Renewable Diesel Fuels • 10:00 AM
Mathematical Modeling of a Trickle Bed Bio-Desulfurizer of Hydro-Treated Diesel with Recycle for the Production of ULSD (Ultra-Low Sulfur Diesel) • 10:30 AM

Dolphin Hotel, Europe 6

Business Case & Sustainable Feedstocks

New Views on Climate Change and Societal Implications Thereof • 8:00 AM
Modeling the Combined Effects of Forests and Agriculture on Future Water Availability • 8:40 AM
Pyrolysis Kinetics of Bagasse Fibers • 9:05 AM
Catalytic Conversion of Biomass in Organic Solvents • 9:30 AM
Use of Molecular Sieves to Remove H_2S and CO_2 from Landfill Gas, Producing a High-Energy Content Methane Stream • 9:55 AM
Physical-Mechanical Properties of Panels Manufactured from the Blend of Residues of the Wood, Asparagus and Bagasse of Sugar Cane • 10:20 AM

Dolphin Hotel, Northern Hemisphere A - 1

Control and Optimization in Refining I

Apriori Alarm Management during Project Feed Stage Using the Results from the HAZOP • 2:00 PM
User Approval of Safety Instrumented System Devices • 2:30 PM
Advances in Abnormal Situation Prevention in Refineries and Petrochemical Plants • 3:00 PM
Strategic Proof Testing • 3:30 PM
Fired Heater Safeguarding Survey • 4:00 PM

Dolphin Hotel, Northern Hemisphere A - 2

Control and Optimization in Refining II

New Techniques for Meeting New Product Spec and Products Demand Under Catastrophic Failure through Multi Objective Multi Refinery Optimization • 8:00 AM
Optimization of the Benzine and Diesel Fuels Blending • 8:30 AM
Energy Management • 9:00 AM
Development and Implementation of Process Analytical Toolbox • 9:30 AM
Fault Identification in Black-Box Simulink Models Using Optimisation Methods • 10:00 AM

Dolphin Hotel, Northern Hemisphere A - 2

Control and Optimization in Refining III

A Self-Tuning Regulator for Fluid Catalytic Cracking Units • 2:00 PM
Robust Dynamic Principal Component Analysis for Process Performance Monitoring • 2:30 PM
Wireless Instrumentation Enables New Best Practices in Monitoring and Automation • 3:00 PM
Using Industrial Wireless Sensors to Monitor Safety Showers and Eye-Wash Stations • 3:30 PM
Advanced Control Strategy to a Fermentation Process to Obtain Ethanol • 4:00 PM

Dolphin Hotel, Oceanic 8

Environmental Management Short Courses Part I

Performance Based Management Concepts and Implementation • 8:00 AM
Intergovernmental Data Quality Framework, MIR, UFP • 10:00 AM

Dolphin Hotel, Oceanic 8

Environmental Management Short Courses Part II

RPO Implementation at AFCEE • 2:00 PM

Swan Hotel, Ibis

Fine Chemicals and Pharmaceuticals Production in Micro-Systems

Micro Reaction Technology as a Means of Chemical Process Intensification • 8:00 AM
Chemical Synthesis in Micro Reactors • 8:40 AM
Process Optimization of a Catalyzed Bleach Oxidation for the Production of Functionalized Aldehydes Using Microreaction Technology • 9:00 AM
High-P,T Micro-Reactor Processing for the Aqueous Kolbe-Schmitt Synthesis of Hydroquinone and Phloroglucinol • 9:20 AM
Catalyst-Trap Microreactor for Hydrogenation of a Pharmaceutical Intermediate • 9:40 AM
Kinetic Study of Catalytic Hydrogenation of O-Nitroanisole to O-Anisidine in a Microchannel Reactor • 10:00 AM
Microchemical Engineering - A Powerful Tool for Process Intensification • 10:20 AM
A Novel Microfabricated Device Capable of Continuous-Flow Separations Utilizing Vapor-Liquid Equilibria • 10:40 AM

Dolphin Hotel, Northern Hemisphere E - 1

Fischer-Tropsch and Alternative Syngas Conversion Processes

Overview of Fischer-Tropsch Products and Their Upgrading to Useful Products • 8:00 AM
Fischer-Tropsch Synthesis with Ultrafine Iron-Based Catalyst: Nano-Scale Growth of Particles and Associated Effects on Wax/Catalyst Separation • 8:25 AM
Conversion of Synthesis Gas to Gasoline • 8:50 AM
Enhanced Natural Gas Conversion into Methanol in a Membrane Driven Reactor • 9:15 AM
One-Step Dimethyl Ether Synthesis from Carbon Monoxide-Rich Syngas in a Slurry Reactor • 9:40 AM
RCC Algorithm for Automated Attainable Regions Analysis: Methanol Synthesis • 10:05 AM

Dolphin Hotel, Europe 8

Hydrogen Storage Scenarios for Transportation Applications

Solid-State Hydrogen Storage System Development and Engineering Analysis • 8:04 AM
Vehicular Hydrogen Storage: Goals, Challenges, and Progress • 8:26 AM
Bench Scale Saes St 909 Tests for Methane and Carbon Dioxide Removal from Helium, Hydrogen, and Nitrogen Gas Streams • 8:48 AM
Novel Light Weight Complex Hydrides for Hydrogen Storage • 9:10 AM
Fundamental Structural Properties of Single-Walled Carbon Nanotubes: Reopening the Debate over Hydrogen Storage • 9:32 AM
Safe, Efficient Storage of Hydrogen in Liquid Ammonia and Ammonia-Based Solid Chemicals • 9:54 AM
Emissions from a Hydrogen-Compressed Natural Gas Fueled Ford F-150 • 10:16 AM
Examination of Thermal Performance of Insulation Systems Combining Novel and Conventional Materials for LH_2 Storage • 10:38 AM

Dolphin Hotel, Northern Hemisphere E - 2

LNG V - Cost & Facilities

Understanding Ambient LNG Vaporizers • 8:00 AM
Technical Challenges and Design Features of the Largest LNG Tank in Korea • 8:20 AM
Maintenance and Inspection Methodologies for LNG Liquefaction Plants and Terminals • 8:40 AM
LNG SMART Vaporization Process • 9:00 AM
Optimization of Ambient Air Vaporization Processes • 9:20 AM
Practical Optimization of LNG Terminal Process • 9:40 AM
SCV (Submerged Combustion Vaporizer) with Low Emission - Flameless Burner Technology • 10:00 AM

Dolphin Hotel, Europe 4

Pharmaceutical Water Technology I

Technologies and Design Strategies Used in Successful Real-Time Total Organic Carbon Water Release Systems • 8:00 AM
Microbiology of USP Water Systems • 8:50 AM
Real Time, on- Line Detection and Classification of Microorganisms Using Laser Scattering Technology • 9:40 AM
Clean Steam System Design, Start-up, and Qualification • 10:30 AM

Dolphin Hotel, Europe 4

Pharmaceutical Water Technology II

Operating Parameters for High Purity Water Distribution Systems • 2:00 PM
High Purity Water Storage and Distribution Design • 2:20 PM
Rouging, Passivating and Cleaning of Stainless Steel • 2:40 PM
WFI and USP Purified Water Systems, Case Studies • 3:00 PM

Dolphin Hotel, Europe 3

Prediction and Correlation of Transport Properties

Viscosity and Phase Equilibria Prediction Via a Virial Optimized Site-Site M-6-8 Potential • 8:00 AM
Prediction of Gas Diffusion Layer Transport Properties and Their Effect on the Performance of PEM Fuel Cells • 8:22 AM
Bionanotubes of Escherichia Coli K-12 and Its Application in Facilitated Membrane Transport of Biological Molecules • 8:44 AM
Generalized Svrc-Qspr Predictions of Saturated Liquid and Vapor Viscosities • 9:06 AM

Dolphin Hotel, American Seminar Room

Process Fired Heaters

Kinetic Analysis of Boudouard Reaction and Its Dependence on Porous Structure • 8:00 AM
Two-Phase Pipe Side Process Model for Fired Heaters • 8:30 AM

Dolphin Hotel, Europe 7

Process Intensification I

Studies on Ionic Mass Transfer with Coaxially Placed String of Spheres as Turbulence Promoter in Homogeneous Flow • 8:00 AM
Pulsing to Improve Bubble Column Performance - Low Gas Rates • 8:20 AM
Pulsing to Improve Bubble Column Performance - Jetting Gas Rates • 8:40 AM
Hydrogen Production Using Electrolysis Process Modelling from the Bubble to the Laboratory Electrochemical Cell • 9:00 AM
Process Intensification Using Win Tray Extractors • 9:20 AM
Bubble Size and Gas Holdup in Bubble Columns with Vibrating Internals • 9:40 AM
Scheduling and Optimisation of the Fixed Bed Catalytic Reactors Network • 10:00 AM
Alternative Two-Layer Optimization Approach of a Three Phase Catalytic Slurry Reactor by Evolutionary Optimization with Genetic Algorithms • 10:20 AM
Phenomena-Based Modelling to Encourage Intensive Design: Challenging the Paradigm of Unit Operations • 10:40 AM
A Procedure for Large Scale Process Optimization Based on Genetic Algorithm: Application to Dynamic Model of a Cyclic Alcohol Industrial Reactor • 11:00 AM
Optimization of Large Scale Industrial Process by Genetic Algorithms • 11:20 AM
Evaluation of Genetic Algorithm Coding to Optimization of a Large Scale Dynamic Systems • 11:40 AM

Dolphin Hotel, Europe 7

Process Intensification II

Rapid Thermal Swing Adsorption in Microchannels • 2:00 PM
Design and Experimental Characterization of a New Photocatalytic Reactor for Wastewater Treatment • 2:20 PM
Sensibility Analysis of Genetic Algorithm Operators in the Productivity of a Large Scale Dynamic Process • 2:40 PM

Dolphin Hotel, Europe 5

Sensors- Real Time Sensors for Rapid Detection and Monitoring of Chemical and Biological Agents

Recent Advances in Sensor Technology to Mitigate Terrorist Threats in Potable Water Distribution Systems • 8:00 AM
Effect of Sensing Materials for Detecting Chemicals by QDLTS Method • 8:20 AM
Self-Cleaning Sensors for Removing the Oil Traces from the Carbon Charcoal Filters • 8:40 AM
Mechanical and Electrical Properties of Nanostructured Polymer Systems • 9:00 AM
Hyperspectral Signatures for Differentiating Live from Dead Endospores • 9:20 AM
Detection of Explosives by QDLTS Method • 9:40 AM
Biosensors for Real Time in Situ Monitoring of Munitions • 10:00 AM

Dolphin Hotel, Europe 9

Sustainability and Universities

A Master's Programme in Environmentally Sustainable Process Technology • 8:00 AM
Sustainability Initiatives at Arizona State University • 8:35 AM
Required Course on Sustainability at University of British Columbia • 8:55 AM
An Industrial Perspective on Education in Sustainability • 9:15 AM
Sustainability Activities at Universities • 9:35 AM
Sustainability in Engineering Education at Rowan University • 9:55 AM
Continued Assessment of Green Engineering Pedagogy • 10:15 AM
Sustainabilty in K-12 Active Chemistry Curriculum • 10:35 AM
Youth Council on Sustainable Science and Technology Update • 10:55 AM

Dolphin Hotel, Northern Hemisphere A - 3

Upgrading and Processing of Opportunity Crudes III

Opportunity Crudes - Addressing the Challenges of Mechanical Reliability • 8:00 AM
Crude Oil Management: Reduce Operating Problems While Processing Opportunity Crudes • 8:30 AM

Wednesday, April 26

Metallurgy for Opportunity Crudes • 9:00 AM
The Impact of Hydrogen Sulfide Scavengers on Refinery Operations • 9:30 AM
A Comprehensive Approach to Assessing Opportunity Crudes • 10:00 AM
Refinery Optimum Crude Blending and Operation • 10:30 AM

Dolphin Hotel, Southern Hemisphere 4 & 5

Hazards & Risks Associated With Alternate Energy Systems

The Hazards and Risks of Hydrogen • 8:10 AM
Safety Considerations for Interfacing Hydrogen with the Public for Vehicles • 8:40 AM
Hazards and Hazard Mitigation Techniques for Natural Gas and Hydrogen Refueling Operations • 9:10 AM
LNG and Safety Concerns • 10:25 AM
Risk Analysis of Hydrogen Gas Transmission Using Natural Gas Infrastructure • 10:55 AM
Experimental Study of Accidental Industrial LPG Releases • 11:25 AM

Dolphin Hotel, Northern Hemisphere E - 4

Safety Instrumented Systems and Safety Critical Devices

Risk Abatement Provided by Safety Instrumented Systems May Cause Remote Hazards with Higher Risks • 8:10 AM
Failure Conundrum • 8:35 AM
Using Layer of Protection Analysis to Define Safety Integrity Level Requirements • 9:00 AM
Use of Layer of Protection Analysis (LOPA) to Determine Protective System Requirement • 10:15 AM
Asset Protection, Applying Safety Life Cycle Methods • 10:50 AM
Equipment Safety Manuals - A User's Expectations • 11:25 AM

Dolphin Hotel, Southern Hemisphere 1

Fundamentals and Technology

Magnetic Imaging of Pyrolysis Feedstocks Applied to AGOs • 8:05 AM
CFD Simulations and Rigorous NOx Modeling of Ultra Low NOX Burners in Ethylene Furnaces • 8:30 AM
APU, a Novel Technology for Producing High Purity BTX • 8:55 AM
Ethylene Cracker Capacity Increase and Modernization • 9:35 AM
Production of Ethylene by Oxidative Dehydrogenation in Microchannel Reactors • 10:00 AM
S.R.C. - Super Radiant Coil . the New Frontier for the Steam Cracking Furnaces • 10:25 AM
A Novel Approach to Ethylene Furnace Coil Design • 10:50 AM

Dolphin Hotel, Europe 2

Managers and Their Response to Hse Sustainability

National Footprints - a Significant Resource for Sustainability Decision Tools and Databases • 8:00 AM
Performance Based Ehs Assessment Techniques: Focusing on Behaviors and Ehs Performance-Outcomes • 8:45 AM
BASF and Sustainability in Business Practices • 9:30 AM
Leadership Issues with Implementing a Human Performance Initiative in a Non-Reactor Nuclear Facility • 10:15 AM
Management of New Project Hse Design • 11:00 AM

Dolphin Hotel, Southern Hemisphere 2

Rotating Equipment

Torque Measurement Devices on Large Turbomachinery • 8:30 AM
Equipment Protection & Performance Monitoring Using Bently Nevada System 1 • 9:00 AM
Guidelines for Specifying and Evaluating New and Rerated Multistage Centrifugal Compressors • 9:30 AM
Uprating Steam Turbines to Improve Efficiency, Output and/or Reliability • 10:20 AM
Ethylene Plant Process Gas Compressor Fouling and Fouling Control • 10:50 AM
Mitigation of Fouling in Charge Gas Compressor - an Experimental Study • 11:20 AM

Dolphin Hotel, Southern Hemisphere 3

Risk Assessment II

Layer of Protection Analysis: Selecting Cost Effective Safety Measures • 10:15 AM
Assessing the Inherent Safety of Substances: Precursors or Hazardous Products in the Loss of Control of Chemical Systems • 10:45 AM
Development of Hazardous Material Compatibility Storage Guideline and Tool • 11:15 AM
Impact of Failure Data Especialization in Quantitative Risk Assessment of Process Plants • 11:45 AM

Dolphin Hotel, Asia 4

Compaction and Sintering

Compaction Properties of Pregelatinized Starch (Starch 1500): Self-Lubrication • 1:00 PM
A Novel Experimental Study of Temperature Enhanced Cohesive Interparticle Forces • 1:20 PM
Simulation of Liquid Phase Maldistribution During the Extrusion of Highly Filled Particulate Pastes • 1:40 PM
Instrumented Uniaxial Compaction Experiments on Silicon Nitride Granulates Under Varied Climatic Conditions • 2:00 PM
DEM Simulation of the Compaction of Fine Powders • 2:20 PM
Capping Mechanisms during Pharmaceutical Powder Compaction • 2:40 PM

Dolphin Hotel, Oceanic 3

Development/Application of Course Material in Particle Technology

Teaching Particle and Powder Technology in Chemical Engineering at University College Cork • 1:00 PM
Development and Assessment of a Web-Based Interactive Aerosol Program for Undergraduate Education • 1:20 PM
Determination of the Kinetic Parameters of the Limestone Size Reduction in a Laboratory Ball Mill, Application to the Design of an Industrial Mill • 1:40 PM
Using Aspen Plus Solids-Handling Blocks in Particle Technology Education • 2:00 PM
Solidsim - Teaching the Complexity of Solid Processes • 2:20 PM
Teaching Bulk Solids Handling - Development of Course Material • 2:40 PM

Dolphin Hotel, Australia 2

Extrapolatory Scaling in Particle Processing

Scaling Effect in Dem Simulations of Direct Shear Test • 1:00 PM
The Flowability of Fine Powders in Reduced Gravity Conditions • 1:20 PM
On the Particle Size Scaling and the Behavior of Geomaterials: Experimental and Numerical Findings • 1:40 PM
Engineering Properties of Granular Materials Under Very Low Effective Stresses • 2:00 PM
Properties of Lunar and Other Regoliths, from Comparisons Between Light Scattering Observations and Numerical or Experimental Simulations • 2:20 PM
Modeling, Simulation, and Experiments of Elastic-Quasi-Static Granular Flow in a Compressing Slot • 2:40 PM

Dolphin Hotel, Australia 3

Functional Nanoparticles and Nanocoatings on Particles

Carbon-Embedded or -Supported Pt Nanoparticles Made in Flames • 1:00 PM
Plasma Coating of Submicron Particles and the Fabrication of Core-Shell Nanostructures for Low-K Elecgtronics • 1:20 PM
Individual Nanocoating of Ceramic Nanoparticles Via Atomic Layer Deposition • 1:40 PM
Flame Made Fe-Doped TiO_2 as Visible-Light Activated Photocatalyst • 2:00 PM
Tailoring the Properties of Micro-Particles for Industrial Applications Using Dry Powder Coating • 2:20 PM
Investigation of Chemical Hydrophobization Treatment of Solid Particles Surfaces in Organic Phase and Fluidized Bed • 2:40 PM

Dolphin Hotel, Asia 3

Gas-Phase Nanoparticle Synthesis - I

Theoretical and Experimental Investigations on Sintering Kinetics of Silica Nanoparticles • 1:00 PM
Developing Particle Capabilities for New Applications • 1:20 PM
Thermal and Crystalline Stability of Silica-Tungsta/Titania Particles Made by Flame Spray Pyrolysis • 1:40 PM
Design of a Laser Assisted Aerosol Reactor for Production of Ceramics on Semi-Industrial Scale • 2:00 PM
Gas-Phase Nanoparticle Production, Handling and Separation by Aerodynamic Effects in Supersonic Expansion • 2:20 PM
Nano-Structured Silica Produced by Evaporation-Induced Self Assembly of Aerosols • 2:40 PM

Dolphin Hotel, Asia 3

Gas-Phase Nanoparticle Synthesis - II

Nanoparticle Production in Cold Atmospheric Pressure Plasmas • 4:30 PM
Preparation of Ceramic Nanoparticles Using Hf Plasma and Their Applications • 4:50 PM
Influence of the Quenching Process on Thermal Plasma Synthesis of Engineered Nanoparticles • 5:10 PM
Carbon Nanotubes Production by Means of Thermal Treatment of Polymers in Fluidized Bed Reactors • 5:30 PM
Experimental Research on Flame Synthesis of Carbon Nanotubes and Its Growth Mechanism Analysis • 5:50 PM

Dolphin Hotel, Asia 2

Milling and Blending

The Effect of High Shear Blending on Lactose Alpha-Monohydrate • 1:00 PM
Modeling of Pharmaceutical Milling Operations •1:25 PM
Understanding Critical Parameters in Roller

Compaction Process and Development of a Novel Scaling Method • 1:50 PM
Minimization of Roller Compacted Ribbon Density Gradients through Modified Roll Design • 2:15 PM
Cascading Granular Flow in a Quasi-Two-Dimensional Rotating Drum • 2:40 PM

Dolphin Hotel, Oceanic 4

Poly-Dispersed Granular Systems I: Mixing, Blending, Segregation

Particle Size Segregation in Flexible Intermediate Bulk Containers During Filling, Transport, and Discharge • 1:00 PM
Segregation Model for Percolation Mechanism • 1:20 PM
Couette Flows with a Bimodal Particle Mixture •1:40 PM
Controlling Mixing and Segration in Fine Particle Systems • 2:00 PM
Mixing of Spherical and Non Spherical Particles in a Nauta Mixer • 2:20 PM
Brazil Nut's Effect beyond Spherical Grains: Elongation Matters! • 2:40 PM

Dolphin Hotel, Oceanic 4

Poly-Dispersed Granular Systems II: Mixing, Blending and Segregation

Transversal Dispersion of Granular Material on Vibrating Conveyor • 4:30 PM
Modeling and Scale-up of Tumble Blenders for Highly Segregating Materials • 4:50 PM
Flow Behavior inside a High Shear Mixer • 5:10 PM
Using Unconventional Baffles to Reduce Segregation within Rotating Drums • 5:30 PM
Modeling Granular Segregation during Hopper Discharge Via Discrete Element Methods • 5:50 PM

Dolphin Hotel, Asia 5

Separation Process - I

Structural Analysis and Dewatering Characteristics of Waste Sludge from WWTP MBR • 1:00 PM
Design and Optimization Process of Solvent Extraction in E.W unit of Sarcheshmeh Copper Infactory • 1:20 PM
Sedimentation of Activated Sludge in Secondary Clarifiers • 1:40 PM
Applications of Rice Hull Ash Filter Aids in Bio-Sludge and Oil Sludge Deliquoring • 2:00 PM
Modelling Capillary Pressure Curves by Means of a Distribution Function • 2:20 PM
Traveling Wave Particle Separation in Fluidic Cell • 2:40 PM

Dolphin Hotel, Asia 5

Separation Process - II

Fine Particle Classification with Revised Cyclone • 4:30 PM
Investigations on Agglomeration in Gas Cyclones • 4:50 PM
Preparation and Characterization of Ceramic Gas Filters from Waste Fly Ash • 5:10 PM
Optimization Strategies in Purifying Dispersed Particulate Solids • 5:30 PM
Prediction of Compression-Permeability Characteristics of Solid-Liquid Systems Using Artificial Neural Networks • 5:50 PM

Dolphin Hotel, Oceanic 6

Solid Liquid Separation - I

Support Particles for Magnetic Field Enhanced Separations • 1:00 PM
Size-Selective Magnetophoretic Trapping of Submicrometer, Nonmagnetic Particles Immersed in a Magnetic Nanofluid • 1:20 PM
Magnetic Field Enhanced Press-Filtration • 1:40 PM
Sedimentation Acceleration of Remanent Iron Oxide by Magnetic Flocculation • 2:00 PM
Use of Multisample Analytical Centrifugation for Evaluation of Separation of Fine Particle Slurries in the Centrifugal Field • 2:20 PM
Effects of Filter Aids on Filter Cake Compactibility • 2:40 PM

Dolphin Hotel, Southern Hemisphere 3

CCPS Panel: Lessons Learned from Natural Disasters

Dolphin Hotel, Pacific Hall C

Case Histories and Lessons Learned

A Case Study of a TFE Explosion in a PTFE Manufacturing Facility • 1:55 PM
Flammable Liquid Process Tank Fire • 2:25 PM
Fired Heater Damage Following Outage Due to Management of Change Problems • 2:55 PM
BP Texas City: March 23rd 2005 • 4:10 PM
BP Amoco Texas City Incident • 4:40 PM
The Accident in Bhopal: Observations 20 Years Later • 5:10 PM

Dolphin Hotel, Southern Hemisphere 1

Ethylene Plant Rotating Equipment Roundtable

Dolphin Hotel, Southern Hemisphere 2

Feedstock

Improve Steam Cracking Furnace Productivity and Emissions Control through Filtration and Coalescence • 2:00 PM
Neutralizer Selection for Control of Acid Corrosion in Ethylene Plants • 2:30 PM
Solving Ammonia Problems in Ethylene Plants • 3:20 PM
Primary Fractionator Feedstock Contamination Case History • 3:50 PM

Dolphin Hotel, Europe 9

Business Case for Sustainability

Invited Speaker: Sustainability Challenges and Opportunities at 3M• 2:00 PM
Sustainability Challenges and Opportunities at Shell • 2:20 PM
Sustainability Challenges and Opportunities at BASF • 2:40 PM
Sustainability Challenges and Opportunities at GSK • 3:00 PM

Dolphin Hotel, Northern Hemisphere A - 3

Fouling Mitigation

Petroleum Fouling: Causes, Tools, and Mitigation Methods • 2:00 PM
Newer Techniques to Control Fouling in Crude Pre-Heat Exchangers • 2:35 PM
Improved Crude Unit Design through Experimentation • 3:10 PM
Heat Exchanger Tube Inserts - An Update with New Applications in Crude Distillation Units, Vacuum Applications and Reboilers • 3:45 PM
Heat Exchanger Fouling Monitoring and Cleaning Optimization Using Opticlean • 4:20 PM

Dolphin Hotel, Northern Hemisphere E - 2

LNG VI - Risk & Safety

Safety Management Activities on LNG Industry in Korea • 2:00 PM
LNG Liquefaction Plant Risk Management • 2:20 PM
Risk Comparison of off Shore Vs. Onshore LNG Terminals • 2:40 PM
Details of 35 M Diameter LNG Fire Tests Conducted in Montoir, France in 1987 - Analysis of Fire Spectral and Other Data • 3:00 PM
CFD Modeling Issues regarding LNG Dispersion • 3:20 PM
Uncertainties in Modelling the Physical Behaviour of Large LNG Releases upon Sea-Water • 3:40 PM
Experience with FEM3A • 4:00 PM

Dolphin Hotel, Europe 8

Hydrogen Purification and Fuel Cell Applications

Nanoscale Investigation of Morphologies in Polymer Electrolyte/Pvdf Blend Membranes • 2:05 PM
Membrane Desulfurization of Logistic Fuels for Hydrogen Production for Fuel Cells • 2:30 PM
Hydrocarbon Membranes Composed of Poly(Vinyl Alcohol) Derivatives for the Application of Fuel Cell • 2:55 PM
Development of Dense Cermet Membranes for Hydrogen Separation • 3:20 PM
Performance of Pd-Alloy Membranes for Hydrogen Separation from Mixed Feed Streams Containing 1000 ppm H_2S • 3:45 PM
Hydrogen Purification with Palladium Alloy Membranes • 4:10 PM
Cyanate Ester/Trisilanolphenyl-Poss, Cyanate Ester/Octaaminophenyl-Poss, 1, and Cyanate Ester/Cyanopropylcyclopentyl-Poss, 2 Nanocomposites • 4:35 PM

Dolphin Hotel, Europe 3

Prediction and Correlation of Transport Properties II

Mass Transport at an Electrode during Electrodeposition Process • 2:00 PM
Survival Probability in the Transition and Knudsen Diffusion Regimes in Random Fiber Structures • 2:22 PM
Heat and Mass Transfer in Fluidized Bed Granulation • 2:44 PM
Time Series Modeling Based on Modified Genetic Algorithm for Vapor-Liquid and Vapor-Liquid-Soled Flow Boiling System • 3:06 PM
Manifestation of Acceleration of Heat Flow in Transient Transport Phenomena • 3:28 PM

Dolphin Hotel, American Seminar Room

Simulation of Heat and Mass Transfer Equipment in Process Plants

Performance of a Nonlinear Catalytic Tubular Reactor • 2:00 PM
Development of Different Strategies of Refrigeration for Fixed Bed Catalytic Reactor: Mixed Coolant Flow as Optimal Factor • 2:40 PM
A Thermal Kinetic Model for the Study of Stereolithography Process •3:20 PM
Melting Heat Transfer in Energy Storage • 4:00 PM

Dolphin Hotel, Europe 6

Sustainable Environmental Stewardship

Life Cycle Assessment of Water Usage in Post-Plating Rinse in Electroplating • 2:00 PM
Combined Filtration and Catalytic Combustion of Diesel Particulate: Secondary Nanoparticle Emissions during Trap Regeneration • 2:25 PM
Continuous Cloud Point Extraction for Removal of Aromatic Contaminants from Wastewater in a Multi-Stage Rotating Disc Contactor • 2:50 PM
Vacuum Stripping for Toluene Removal from Nonionic Coacervate Phase Solution • 3:15 PM

Wednesday, April 26

Adsorption of Cobalt on Molecular Sieves • 3:40 PM
Capture of Mercury from Wet Combustion Streams Using a New Powder • 4:05 PM

Dolphin Hotel, Northern Hemisphere E - 1

Synthetic Fuels from Oil Shale, Coal and Natural Gas

Comparison of the Acceptability of Various Oil Shale Processes • 2:00 PM
Overview of Retorting of Eastern Oil Shale • 2:25 PM
An Economic Perspective of above-Ground Oil Shale Retorting R&D Needs • 2:50 PM
R&D Data Gaps Identified for Model Development of Novel in Situ Oil Shale Conversion Process • 3:15 PM
Compact, Mobile Synthetic Fuel Unit • 3:40 PM
Opportunities for Co-Feeding Coal and Natural Gas to a Liquids Plant • 4:05 PM

Dolphin Hotel, Oceanic 6

Circulating Fluidized Bed

Current Status of Chemical-Looping Combustion Technology in Korea • 4:30 PM
Gas-Solid Two-Phase Turbulent Flow in a Circulating Fluidized Bed Riser: an Experimental and Numerical Study • 4:50 PM
Hydrodynamics and Flow Development in Two Circulating Fluidized Bed Risers Using FCC and Sand Particles • 5:10 PM
Solids Dynamics in Gas-Solid Risers Inferred from CARPT Experiments • 5:30 PM
The Role of the Primary Ash PSD on Bed Solids Inventory during Fluidized Bed Combustion of Solid Fuels • 5:50 PM

Dolphin Hotel, Australia 3

Functional Nanoparticles and Nanocoatings on Particles - II

Nanoparticle Applications by Dry Particle Coating Technology • 4:30 PM
The Adsorption and Reaction of a Titanate Coupling Reagent on the Surfaces of Different Nano-Particles in Supercritical CO_2 • 4:50 PM
Sol-Gel Production of ZrO_2 and 8YSZ with a New Organic Precursor • 5:10 PM
Structure Characteristics and Photocatalytic Activity of TiO_2 Thin Films Synthesized from Refluxed Sols (RS) • 5:30 PM
Control Polymorphism, Size and Surface Properties of Particulate Materials • 5:50 PM

Dolphin Hotel, Asia 4

Magnetic Resonance Imaging of Multiphase Particulate Flows

Investigation of the Formation of Jets in a Three-Dimensional Gas-Fluidized Bed Using Magnetic Resonance Imaging • 4:30 PM
MRI Measurement of Particle Velocity Distribution in Hopper Flow • 4:50 PM
MRI Measurement of Axial Segregation in a Rotating Tapered Drum • 5:10 PM
MRI Investigations of Particle Motion within a Three-Dimensional Vibro-Fluidized Granular Bed • 5:30 PM
Application of Magnetic Resonance Imaging Techniques to Particulate Systems • 5:50 PM

Dolphin Hotel, Asia 1

Selected Topics in Fluid-Particle Systems

Spouting Phenomenon of Powder through a Small Orifice at the Bottom of Vessel Using the Fluidization and Aeration • 4:30 PM
High Temperature Crystallization of Micronic Powders by Activated Fluidization Processes • 4:50 PM
Experiences with the "Open Source Model" for Disseminating Information in Computational Gas-Solids Flow • 5:10 PM
Study on the Application of Polystyrene Nanopaticle in the Preparation of Rfcc Catalysts • 5:30 PM
Mixing of Cohesive Material in Low Shear Mixers • 5:50 PM

Dolphin Hotel, Oceanic 2

Computational Process Models - Multi-scale, Real-time, PC-based, Visualizations

Property Predictions for Packed Columns Using Random and Distinct Element Digital Packing Algorithms • 4:30 PM
A Method to Calculate Aerodynamic Diameter of Particles with Fractal Surface • 4:50 PM
High-Speed Image Analysis and Dispersion for Size and Shape Characterisation of Fibres • 5:10 PM
Modeling of Simultaneous Deposition of Powder in Three Parallel-Oriented Cylindrical Dies • 5:30 PM
Development of Nano- and Micro- Particles Optical Characterization • 5:50 PM

April 26, Dolphin Hotel, Oceanic 1

Process Analysis Techniques in the Pharmaceutical Industry

Measurement and Control of High Shear Granulation by Image Processing • 1:00 PM
Effect of Process Variables on Fluid Bed Granulation and Coating - In-Line Monitoring of Granule Size and Population • 1:20 PM
Investigation of Operating Parameters That Affect Coating Uniformity in Pan Coating Devices • 1:40 PM
Scale up of Anti-Solvent Crystallization Using in-Line Tools • 2:00 PM
Information Content Analysis of near Infrared Spectral Data for in-Line Monitoring of Batch Crystallization • 2:20 PM
Determining Particle Size Distribution of Non-Spheres from Chord Length Measurements • 2:40 PM

Dolphin Hotel, Asia 5

Characterization of Nanoparticles and Nanotubes

Real-Time HRTEM of Atomic-Size Metal Nanowires • 8:00 AM
Growth of Nanocrystalline Ceria Studied Using a Usaxs Capillary Flow-Cell • 8:40 AM
Characterization of the Dispersion of Nanoparticles in a Polymer Matrix • 9:00 AM
Influence of Test Conditions on the Quality of PCS Results • 9:20 AM
Characterization of Liquid Nanoparticle Dispersions by Multisample Analytical Centrifugation - Particle Interaction - Colloidal Crystallization • 9:40 AM

Dolphin Hotel, Oceanic 2

Characterization of Bulk Solids for Handling Purposes - I

Powder Characterization as Tool for Successful Process Development • 8:00 AM
Damping of Ultrafine Powders during Vibrations and Shear Flow • 8:20 AM
Influence of Filling Procedure on the Failure Strength of Powders in a Uniaxial Tester • 8:40 AM
Measurement of Mechanical Properties of Fine Powders Using Nanoindentation • 9:00 AM
Investigating the Effects of Surface Properties at Single Particle Level and Storage Condition on Powder Flow Properties Using Atomic Force Microscope (AFM) and Jenike Shear Tester • 9:20 AM
Effect of Fines and Material Micro-Hardness on Unconfined Yield Strength of Powders • 9:40 AM •

Dolphin Hotel, Oceanic 2

Particle Adhesion to Surfaces

On the Adhesion of Nanocontacts: an Atomic Force Microscopy Study • 1:00 PM
Evaluation of the Particle-Particle Interactions of the Toner by Colloid Probe AFM • 1:20 PM
Adhesion Force of Glass Particle on Silica Surface with Periodic Roughness Structure in Humid Atmosphere • 1:40 PM
Experimental and Numerical Estimation on a Dynamic Liquid Bridge Force Adhered to Three Spheres • 2:00 PM
Sticky Behavior Development of Whey Protein Isolate and Lactose Droplets during Convective Drying • 2:20 PM
Comparative Adhesion Force Measurements on Conventional and Novel Nanostructured and Highly Porous Filtration Membranes • 2:40 PM

Dolphin Hotel, Oceanic 1

Soft Particle Characterization in Pharmaceutical and Bio-Material Science

Characterizing the Particle Specificity of Drug Delivery Systems to Melanoma Cells by the Atomic Force Microscope • 8:00 AM
Characterization of Mechanical Proerties of Soft Micro- and Nanoparticles by Analytical Centrifugation • 8:20 AM
Process Control and Characterization of Porous Structure of Pharmaceutical Microparticles Prepared by the W/O/W Double Emulsion Technique • 8:40 AM
Fundamental Insights into Breakage of Organic Molecular Crystals • 9:00 AM
A Novel Method for Measuring Elasticity of Submicron-Sized Liposomes with AFM • 9:20 AM
Interaction between Artificial Mucin Layer and Stimuli-Responsible Nano-Gel Particles for the Oral Peptide Delivery Observed in Simulated Intestinal Solutions by Using Colloid Probe Afm Method • 9:40 AM

Dolphin Hotel, Oceanic 1

Caking Phenomena - II

Influence of Supra-Molecular Structure and Storage Conditions on the Caking of Powders • 4:30 PM
Systems Approach to Solution of Caking Problems • 4:45 PM
Experimental and Theoretical Description of a Solid Bridge Between Double Particle Systems • 5:00 PM
Influence of Formulation upon the Storage Stability of Detergent Powders: Prediction of Sorption Isotherms • 5:15 PM
Temperature Gradient Induced Caking of Pharmaceutical Grade Salt • 5:30 PM

Dolphin Hotel, Asia 2

Recent Developments in Particle Technology: A Global Perspective

Particle Technology in Europe • 8:00 AM
Developments in Particle Technology in Middle East and Africa in Past 10 Years • 8:40 AM
Recent Developments in Particle Technology - a View from the Americas • 9:20 AM

Dolphin Hotel, Australia 3

Control of Particulate Processes

Challenges and Benefits in Controlling Energetic Material Particle Size • 8:00 AM
Rational Design of Pharmaceutical Formulations Prepared by High Shear Wet Granulation: Introduction & Evaluation of the Solid-Liquid-Interaction Classification • 8:20 AM
Experimental and Numerical Analysis of Fe_2O_3-Particle Formation in Spray Roasting Reactors • 8:40 AM
Size Control and Parameter Estimation for Fluidized Bed Reaction • 9:00 AM
Numerical Bifurcation Analysis of the Nonlinear Dynamics in Continuous Fluidized Bed Spray Granulation Systems • 9:20 AM
Optimal Control of Crystal Size and Shape for Batch Cooling Crystallization • 9:40 AM

Dolphin Hotel, Australia 2

Engineered Nanoparticulate Systems for Bio Applications

Nanoencapsulation of Hydrophilic Droplets by the Rapid Expansion of Water-in-Supercritical CO_2 Microemulsion • 8:00 AM
The Effect of Insulin Loaded PLGA Nano-Composites on the Glycaemia of Beagle Dogs • 8:20 AM
Synthesis of Functional Nano-Composite Particles for Bio-separation • 8:40 AM
Gadolinium-Loaded Chitosan Nanoparticles for Cancer Neutron-Capture Therapy: Pharmaceutical Characteristics and in Vitro Antitumor Effect • 9:00 AM
Charaterization of Talc Powders for Therapeutic Particle Design • 9:20 AM
Influence of Shape, Surface Treatment and Mechanical Stretch on Amorphous Silica Nanoparticle Toxicity • 9:40 AM

Dolphin Hotel, Asia 1

Fundamentals of Fluidization and Fluid Particle Systems - III

The Rise of Bubbles and Slugs in Gas-Fluidized Beds Using Ultra-Fast Magnetic Resonance Imaging • 8:00 AM
Multiresolution Analysis of Pressure Fluctuations and Tomography Images in a Gas-Solids Fluidized Bed • 8:20 AM
Granular Temperature in a Gas Fluidised Bed • 8:40 AM
Shape of a Particle Curtain Falling in Stagnant Air • 9:00 AM
The Onset of Bubbling in High Temperature Fluidized Beds • 9:20 AM
Laser Diagnostics of Hydrodynamics and Gas-Mixing Induced by Bubble Bursting • 9:40 AM

Dolphin Hotel, Asia 1

Fundamentals of Fluidization and Fluid Particle Systems - IV

Comparison of Fibre Optical Measurements and Discrete Element Simulations for the Study of Granulation in a Spout Fluidized Bed • 1:00 PM
Theoretical Analysis of Fluidization and Mixing Behaviors in a Rotating Fluidized Bed • 1:20 PM
A Mathematical Model for the Simulation of Binary Gas Fluidized Beds • 1:40 PM
Dependence of Particle Fluctuation Velocity on Gas Flow, Particle Diameter, and Density in Gas Fluidized Beds for Polymer, Glass and Metal Spheres in the Geldart B Fluidization Regime • 2:00 PM
Particle Velocity Fluctuations of Cork Particles in the Riser of a CFB • 2:20 PM
Bubble Size Reduction in Electric Field Optimised Fluidized Beds: Simulations and Experiments • 2:40 PM

Dolphin Hotel, Oceanic 4

Granulation and Encapsulation

How Do Granule Characteristics Change When High Shear Granulators Are Scaled Up? • 8:00 AM
Scale Up and Control of Binder Agglomeration Processes - Batch and Continuous • 8:20 AM
"One-Dimensional" Scale-up of High-Shear Granulators • 8:40 AM
Wet Granule Breakage in High Shear Mixer Granulation • 9:00 AM
The Morphology and Strength of Solidifying Inter-Particle Bridges in a Granule • 9:20 AM
Investigation of a Novel Method to Produce Water-Insoluble Microencapsulated Flavor Granules • 9:40 AM

Dolphin Hotel, Asia 4

Handling of Ultra-Fine Powders and Prevention of Dust Explosions

Development and Design of Handling Technology for Highly Explosible Powders • 8:00 AM
Reducing Dust Emission from Grain Handling

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Thursday, April 27

Ship Loaders • 8:20 AM
Theory and Practice of Dust Collector Protection • 8:40 AM
Prevention of Dryer Fires: Problem Analysis & Application of Results • 9:00 AM
Surfactants: Do They Work for Suppression of Dust in Iron Ore Plants? • 9:20 AM

Dolphin Hotel, Asia 3

Nanoenergetic materials processing

Combustion Synthesis of Porous Materials from Nanocomposite Reactants • 8:00 AM
Comparison of Nanoparticulate Thermite Mixtures Formed by Conventional and Supercritical Fluid Processes • 8:20 AM
The Effects of Aluminum Particle Size on the Thermal Degradation of Aluminum/Polytetrafluoroethylene Mixtures • 8:40 AM
Tuning the Reactivity of Nanoparticles and Nanoparticle Mixtures • 9:00 AM
Challenges in Processing of Aluminum and Metal Oxide Nanopowders in Water • 9:20 AM

Dolphin Hotel, Asia 5

Nanoparticle Transport and Fluidization

Fluidization and Study of the Nanometric Powders Behavior: Numerical Approach to Estimate the Agglomerates Sizes • 8:00 AM
Fluidization of Nano-Sized Particles - Design and Operation Issues • 8:20 AM
Effect of Multi-Stage Agglomerate Structure on the Fluidization Characteristics of Nanoparticles Agglomerates • 8:40 AM
Evaluation of Assisting Methods on the Fluidization of Agglomerates of Nanoparticles by Studying the Adsorption/Desorption Rate of Moisture • 9:00 AM
The Effect of Gas Viscosity on the Agglomerate Particulate Fluidization State of Fine and Ultrafine Particles • 9:20 AM

Dolphin Hotel, Oceanic 3

Selected Papers in Granular Flow and Solids Processing

Stress Distribution underneath Granular Piles Made from Monosized Particles • 8:00 AM
Breakage and Attrition of Sintered Agglomerates • 8:20 AM
Honking and Vibrations during the Discharge of Silos • 8:40 AM
Dust Explosion Scenario Identification for Layer of Protection Analysis (LOPA) • 9:00 AM

Dolphin Hotel, Oceanic 6

Solid/Liquid Separation - II

Fractionation of Bsa and Lysozyme by Two-Sided Dead-End Electrofiltration • 8:00 AM
Permeation of Packed Beds Excited by Electric and Hydraulic Gradients • 8:20 AM
Filtration Characteristics of Mega-Porous and Micro-Porous Colloids • 8:40 AM
Influence of Leaks in Surface Filters on Particulate Emissions • 9:00 AM
Filtration Characteristics of Insoluble and Soluble Colloids • 9:20 AM
Effect of Humidity on Pressure-Drop and Penetration of a Membrane Filter During Loading with Charged and Neutralized Particles • 9:40 AM

Dolphin Hotel, Oceanic 8

Environmental Management Short Courses Part III

Staged Electronic Data Deliverable Short Course • 8:00 AM • Anand Mudambi*

Dolphin Hotel, Oceanic 8

Environmental Management Short Courses Part IV

Rapid Site Characterization • 1:00 PM

Dolphin Hotel, Europe 9

Green Engineering

Sustainability Analysis Applied to Active Pharmaceutical Ingredient Manufacture • 8:00 AM
Development and Testing of a Robust Method for Destruction of Perfluorinated Compounds in Semiconductor Manufacturing • 8:20 AM
Opportunities for Biorenewables in Petroleum Refineries • 8:40 AM
Bioethanol: Synthesis from Biomass and Catalytic Reforming for Hydrogen Production • 9:00 AM

Dolphin Hotel, American Seminar Room

Low Grade Heat Utilization

Hestia Distributed Hydrogen Generator • 8:00 AM
Spiral Flow Heat Exchanger for Heat Recovery from Gases • 8:20 AM
Use of Simulation in Evaluating Energy Saving Opportunities in Process Plants • 8:40 AM
Enhanced Waste Energy Recovery Targeting in Pulp & Paper Plant Using • 9:00 AM
Technology Assessment of Rejecting Process Heat • 9:20 AM

Dolphin Hotel, Europe 8

Past, Present and Future Uses of Absorption and Membrane Processes in Hydrogen Production II

Adsorption and Membrane Processes in Hydrogen Production • 8:00 AM
Chemically Crosslinked Polymer Nanocomposite Membranes for Hydrogen Separation • 8:25 AM
Sorption-Enhanced Reaction Processes: Steam Methane Reforming Combined with in-Situ CO_2 Removal for Increased Hydrogen Production • 8:50 AM
Methanol Steam Reforming and Ethanol Steam Reforming in Membrane Reactors: Experimental Study • 9:15 AM
Use of Room Temperature Ionic Liquids for Carbon Dioxide Separations • 9:40 AM
Gas Separation in Coal Gasification • 10:05 AM

Dolphin Hotel, Europe 7

Process Intensification III

Studies on Ionic Mass and Momentum Transfer with Coaxially Placed Twisted Tape - Disc Assembly as Turbulence Promoter in Circular Conduits • 8:00 AM
Studies on Ionic Mass and Momentum Transfer with Coaxially Placed Twisted Tape - Disc Assembly as a Turbulence Promoters in Circular Conduits • 8:20 AM
Surface Modification of Zn_2SiO_4:Mn^{2+} Phosphors for Enhancing the Discharging Efficiency in Pdp Cell • 8:40 AM
Microchannel Fouling Mitigation: Flow Distribution and Wall Shear Effects • 9:00 AM
Optimization of a Dynamic Model of Fixed Bed Catalytic Reactor Utilizing Genetic Algorithms Technique • 9:20 AM
Selectivity Maximization of Maleic Anhydride Production through Genetic Algorithm Technique • 9:40 AM

Dolphin Hotel, Australia 2

Electrostatic Effects in Particle Processing - II

Electrostatic Charge Generation Due to Shear Deformation of Pharmaceutical Powders • 1:00 PM
A New System for Control of Electrostatic Charge on Particles in Gas-Solids Pipe Flow • 1:20 PM
Insulator - Insulator Contact Charging as a Function of Pressure • 1:40 PM
Electrostatic Charging Phenomenon in Gas-Liquid-Solid Flow Systems • 2:00 PM
LBM Study on Rayleigh Instability of Charged Droplet • 2:20 PM

Dolphin Hotel, Oceanic 4

In-Situ Particle Concentration, Shape, and Size Measurements

The Conductivity • 1:00 PM
Theoretical and Experimental Studies of the Dynamics of Bubbling and Slugging Fluidised Beds • 1:20 PM
Tomographic Approach to Granular Gravitational Flow Dynamics Analysis • 1:40 PM
Velocity Measurements in Opaque Flowing Slurries Using Electrical Impedance Tomography • 2:00 PM
On-Line Particle Size Distribution Analyser • 2:20 PM

Dolphin Hotel, Oceanic 2

Measurements and Analysis of Slightly Consolidated and Fluidized Powders

A Study of the Effect of Fines Size Distribution on the Fluidization and Rheological Behaviour of Alumina Powders • 1:00 PM
Characterization of Fluidization Behavior of Glidant-Added Geldart C Glass Powders • 1:20 PM
The Flowability of Powders and the Affect of Flow Additives • 1:40 PM
Evaltuation of Particle Interaction for a Gas-Solid Suspending System • 2:00 PM
Agglomeration and Rheological Properties of Different Wheat Millings • 2:20 PM

Dolphin Hotel, Australia 3

Nanoseparation

Nanoseparation - from Centrifuges to Filters • 1:00 PM
One-Dimensional and Two-Dimensional Particle Separation. Experiments and Theoretical Models • 1:20 PM
Interface Transport of Nanoparticles - Synthesis of Oil-Based Magnetic Fluids • 1:40 PM
Designing Magnetic Nanoparticles for Bioseparation • 2:00 PM
Cleaning Different Kinds of Filter Media for Applications in the Solid-Liquid-Separation • 2:20 PM

Dolphin Hotel, Asia 3

Selected Topics in Particulate Handling, Processing and Granular Systems

The Importance of Clearance and Bulk Solids Flow Properties in Predicting the Thoughput of a Screw Feeder • 1:00 PM
Continuous Operation of Zig-Zag Blender for Pharmaceutical Applications • 1:20 PM
Particle-in-Cell (Pic) Simulations of Two-Dimensional Granular Flow in Bins • 1:40 PM
The Effect of Particle Shape on Simple Shear Flows • 2:00 PM
The Effect of Particle Shape on Granular Stress • 2:20 PM
Measurement of Gas Velocities in Gas/Solids Flows Using Time-of-Flight Ultrasound • 2:40 PM

Dolphin Hotel, Asia 4

Stochastic Phenomena and Time-Dependent Transient Flows

The Application of Wavelet Transforms to Many-Body Particle Interactions • 1:00 PM
Particle-Pressure Induced Transient Pore Pres-

sure Changes in Oscillated Particle-Fluid Systems • 1:20 PM
Micro- and Macro-Dynamic Analysis of Unsteady State Granular Flow in a Cylindrical Hopper • 1:40 PM
Modelling of Continuous Rotating Drum Mixers for Surface Renewal • 2:00 PM
Impact of Solid Flow on a Granular Bed • 2:20 PM

Dolphin Hotel, Europe 8

Past, Present and Future Uses of Adsorption and Membrane Processes in Hydrogen Production

Chemical Industry Vision 2020 Overview • 2:00 PM
Overview of Hydrogen Production Technologies • 2:15 PM
Purifying Hydrogen with Inorganic Silica Membranes at High Temperatures • 2:40 PM
Fast Cycle Rotary Adsorption Bulk Separator at Low Pressure • 3:05 PM
Hydrogen Production Via Pd-Ag Permeators: Membrane Reactor Design and Process Study • 3:30 PM
High-Pressure CO_2/CH_4 Separation Using Sapo-34 Membranes • 3:55 PM
Novel Thermal Swing Sorption Enhanced Reaction (Tsser) Process Concept for Hydrogen Production • 4:20 PM

Dolphin Hotel, American Seminar Room

Water Reuse Technologies in Industrial Processes - Opportunities and Challenges Tutorial

Dolphin Hotel, Oceanic 2

Measurement and Modeling of Slurry Rheology

Squeeze Flow Rheometry of Paste and Slurry • 8:00 AM
Development of Slurry Characterization Method for Tape Casting • 8:20 AM
Bridging the Gap: Slurry Behaviour from Coarse to Colloid • 8:40 AM
Flow Behavior of Non-Drained Ultrafine Limestone Particle Packings • 9:00 AM
A Model to Determine the Packing Density of Fly Ash Slurries • 9:20 AM
Rheological Properties of Concentrated Suspensions • 9:40 AM

Dolphin Hotel, Oceanic 1

Measurement Methods in Particle Technology - Three-dimensional Techniques

On the ECT Sensor Based Dual Imaging Modality System for Electrical Permittivity and Conductivity Measurements • 8:00 AM
Multiple-Particle Tracking Using the Birmingham Positron Camera • 8:20 AM
Development of an in-Line Stereoscopic Piv System to 3-Component Velocity Measurements with a Single Camera • 8:40 AM
Characterization of Powders • 9:00 AM
Influence of Compaction on the Surface Properties of Alumina (Al_2O_3) Determined by Inverse Gas Chromatography (IGC) • 9:20 AM
Modification of a Button Pressing Machine as an Axial-Loaded Shear Test Apparatus for Shear Strength Measurement of Mineral Filter Cakes • 9:40 AM

Dolphin Hotel, Asia 2

Selected Topics in Particle and Powder Characterization

Particle Size Measurement in Aggregating Colloidal Dispersions: Comparison of Turbidity Spectra and Light Scattering • 1:00 PM
Laser Diffraction Particle Size Measurement and the Influence of Structural Iron Reduction in a Ferruginous Smectite (Swa-1) • 1:20 PM
Particle Shape Characterizing Descriptors Defined in a First Iso Standard • 1:40 PM
A New Microtriaxial Tester for the Characterization of Fine Particulate Systems • 2:00 PM
Effect of Particle Characteristics on Frictional and Compression Properties of Cement Kiln Dust • 2:20 PM

Dolphin Hotel, Asia 2

Recent Developments in Particle Technology: A Global Perspective

Recent Advances in Particle Technology: Australia and New Zealand • 8:00 AM
Recent Development of Powder Technology in Japan • 8:40 AM
Recent Developments in Particle Technology - Asian Perspective • 9:20 AM

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