

3rd International Workshop on Crystallization, Filtration and Drying

Venue

**K. Venkataraman Auditorium
University Institute of Chemical Technology,
Matunga (E), Mumbai**

Dates: 21-23 February, 2008

Organised by



World Forum for Crystallization, Filtration and Drying
&

Department of Chemical Engineering,
Institute of Chemical Technology (Formerly UDCT),
Matunga (E), Mumbai - 400 019



Industrial Crystallization

- 1 Crystallization Fundamentals - supersaturation, nucleation and growth mechanism
- 2 Seeding batch crystallization-application to pharmaceutical and specialty chemicals
- 3 Role of Polymorphism in Pharmaceutical industries
- 4 Fundamentals of co-crystallization
- 5 Key issues in the design of continuous crystallizer
- 6 Mixing and scale-up studies in crystallization
- 7 Separation of organic chemicals by Melt Crystallization - Principles, Design, Equipment and Applications.

Speakers

Mike F. Doherty, University of California, Santa Barbara
 Manfred Stepanski, Manager, Design of Fractional Crystallizers, Sulzer Chem Tech, Switzerland
 Ashwini Nangia, Editor, Crystal Growth and Design, American Chemical Society, USA
 Ashwin W. Patwardhan, Institute of Chemical Technology (UIC T), India

Industrial Filtration

- 8 The Solid/Liquid Separation process: overview
- 9 Filter media properties, characteristics and applications
- 10 Nonwoven media – types (e.g. needle-felt, wet laid, spun bond), characteristics and uses. Membranes – types (e.g. polymeric, ceramic and metallic), characteristics, operational properties
- 11 Clarification equipment; sand and DE filters, cartridges and pre-coat filters
- 12 Cake filtration fundamentals (including compressible cakes), laboratory tests and their relevance to process scale filters, importance of correct filter media selection
- 13 Filtering centrifuges and Sedimenting : principles and alternative centrifuge designs (e.g. plough, peeler, pusher and decanter centrifuges)
- 14 Alternative designs of pressure and vacuum filters, effects of filter operating characteristics applications.
- 15 Selection of filtration equipments, approaches to selection and simulation, use of computer software (methodology, selection charts, and data analysis) showing simple and advanced procedures

Speakers

Richard J. Wakeman, President, World Filtration Society , UK
 Tom Ramsey, Managing Director, POREX, USA
 Magan Khakharia, Managing Director, Microfilt (I) Pvt. Ltd., India

Industrial Drying

- 16 Conduction dryers Vs Convective Dryers
- 17 Achieving uniformity of fluidization and batch time reduction in fluidized bed dryers
- 18 Spray drying of speciality and bulk chemicals
- 19 Improvement in the performance and debottlenecking of existing drying systems
- 20 Upcoming drying technologies: Microwave, RF and IR drying, Heat pump drying, Superheated steam drying and Impingement drying
- 21 Powder engineering through improved bulk density and flow properties : case studies through dry and wet granulation.

Speakers

Arun S. Mujumdar, National University of Singapore, Singapore
 Bhaskar N. Thorat, Institute of Chemical Technology, UIC T, India
 Shripad Khatav, S. S. Techno Services(I) Pvt. Ltd., India

About Principal Speakers

Professor Mike Doherty



Professor Mike Doherty is a world known expert in the separation processes, in particular, the crystallization of Organic Materials. The main focus of his research is to study the effect of process design and operation on crystal quality for organic-solids processes. The key measures of quality that are of interests to the global communities are enantiomorph (for chiral mixtures), polymorph, and crystal shape. Crystal shape can have a major impact on processing as well as product quality. Though it is widely known that improved crystal shapes can be achieved by varying the the conditions of crystallization (e.g. choice of solvent, additive, or impurity), there is no systematic method for achieving this.

Professor Doherty and his research group have developed certain techniques to account for solution effects, crystal shape, as well as enantiomorph and polymorph selection in the conceptual design of solids processes. Consultant to Dow Chemicals, Aventis and major bulk and specialty manufacturing companies all over the world.

Professor Richard J. Wakeman



Professor Richard J. Wakeman, Fellow of Royal Academy of Engineering, is one of the most decorated chemical engineer in the world. He is the most sought after consultant in the area of Industrial Filtration. Through consultancies and specialist training courses, he has delivered services to industry in Europe and America. Consultancy work has covered a wide spread of industries and functions including mineral processing, beverage manufacture and quality control, oil exploration, pulp processing and paper manufacture, dyes and chemicals manufacture, equipment design and production, market surveys and taking products to the market. Consulted more than 200 industries and he has authored more than 400 research publications in the area of filtration. He is the director of World Filtration Society since its establishment in 1980.

Professor Arun Mujumdar



Professor Arun Mujumdar, drying guru, is an internationally known personality in the area of heat and mass transfer and in particular drying technology. Honorary Professor at 5 Chinese and 1 Thai University Consulted for over 80+ companies in 4 continents (1980-2000); lectured in 40 +countries. Winner of over a dozen major international awards for outstanding contributions to chemical engineering, heat and mass transfer, novel drying technology developments. Author/co-author of 350+ journal papers, 75+ book chapters, 50+ plenary/keynote lectures at international conferences, author of 2 books, Editor-in-Chief of Drying Technology (1988 onwards); Editor of Handbook of Industrial Drying (CRC Press) Edited 60+ volumes of books in heat and mass transfer, drying of solids ,paper technology Mentored 45+ PhDs (McGill, NUS, HKUST, UDCT, Tianjin & Southern Yangtze Univ.)

3rd International Workshop on Crystallization, Filtration and Drying

Dates: 21-23 February, 2008



K. Venkataraman Auditorium
University Institute of Chemical Technology,
Matunga (E), Mumbai

Registration Form

Prof. Dr. Mr. Ms.

Name

Position

Organization/Institute

Mailing Address

Telephone

Pin/Zip Code

Fax

Email

Webpage

Registration Fees

INR 7500/- for Indian Delegates

USD 300/- for Overseas Delegates

Please find a DD / Cheque* made payable to "WFCFD" at Mumbai branch.

DD/Cheque No

Amount Enclosed

Drawee Bank

Date

Signature

* [For outstation cheques please add Rs. 30/- extra as bank clearing charges.]

Last date for Registration: 15th February, 2008

Please complete and return to:

Professor B.N. Thorat

Department of Chemical Engineering

Institute of Chemical Technology (formerly UDCT),

Matunga (E), Mumbai - 400 019, India

Tel.: 91-22-2414 5616 Ext. 289, 2415 5630, Mobile: 09867825703,

Fax: 91-22-2414 5614, E-mail: thoratbn@gmail.com

Website: <http://www.wfcfd.com>