13th WFCFD

International Workshop on Crystallization, Filteration & Drying

February 21-22-23, 2019

@ K. V. Auditorium

Institute of Chemical Technology (Formerly UDCT)
Matunga East, Mumbai 400 019, Maharashtra, INDIA.

Organized By

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World Forum for Crystallization, Filtration and Drying
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INTRODUCTION TO THE SPEAKERS

Professor Dr.-ing Joachim Ulrich

Prof. Dr.-Ing. Joachim Ulrich is Head of Thermal Separation processes and Dean of Centre of Engineering Science at Martin Luther University Halle-Wittenberg. He is also Pro-Vice-Chancellor for research for Martin Luther University. His main research areas are concerned with thermal separation techniques, particularly on crystallization from solution and melt. He is Topic Editor for the Journal of Crystal Growth & Design since 2000. He served as Chairman of the European Federation of Chemical Engineering, Working Party on Crystallization from 2001 to 2008. He was also Chairman of the board of the Luckner Foundation, Halle. There are so far 80 PhD theses and more than 600 papers, books, book contributions, refereed congress contributions and patents to his credit.

Professor Zoltan K. Nagy

Zoltan K. Nagy is a Professor of Chemical Engineering at Purdue University and also holds a research professor position at Loughborough University, UK. At Purdue Dr. Nagy is co-founding member of the Center of Particulate Products and Processes (CP3), the Designer Particulate Products preeminent team and the Purdue Process Safety and Assurance Center. Dr Nagy has 20 years of experience in advanced process control, process analytical technologies, crystallization modeling and control approaches and advanced control of particulate systems. Dr Nagy is elected member of the Steering Committee of the American Association for Crystallization Technologies, the Crystallization Working Party of the European Federation of Chemical Engineers. He published over 180 peer review journal, 250 conference papers, 3 patents and co-founded 2 start-up companies. He is a recipient of the prestigious European Research Council Fellowship (2011), for the project “CrySys- Crystallisation Systems Engineering- Towards a next generation of intelligent crystallization systems.”

Dr. Thomas Vetter

Dr. Thomas Vetter is a young and dynamic Senior Lecturer at the School of Chemical Engineering and Analytical Sciences. His research interests lie in the design of combined reaction/crystallization systems with the ultimate goal of obtaining an intensified and globally optimal process that outperforms the individually optimized unit operations. He holds a Bachelor's degree in Chemical Engineering and a Master's degree in Chemical and Bioengineering from ETH Zurich. He then proceeded to investigate the interaction of additive molecules with pharmaceutical crystals during his PhD research in the research group of Prof. Marco Mazzotti (ETH Zurich) which he completed in September 2012. Between then and joining the University of Manchester he held a position as postdoctoral research associate at Eli Lilly and Company (Indianapolis, IN, USA) and at UC Santa Barbara in Prof. Michael F. Doherty's research group (Santa Barbara CA, USA), where he investigated novel continuous crystallization concepts. He has received 2014 EFCE Excellence in Crystallization Award, and was recently awarded a research fellowship by the Royal Academy of Engineering.

Dr. Dirk Verdoes

Dr. Dirk Verdoes is an eminent industry expert in the field of crystallization and solid-liquid separation methods. He is closely involved in several feasibility studies, pilot scale testing programs and crystallization projects. The industrial purification of chemicals through e.g. distillation requires large amounts of energy and/or solvents. An alternative method, developed by under his stewardship at TNO in the Netherlands, consists of melt crystallisation in combination with the Hydraulic Wash Column and delivers products with purity up to 99.9% in one step and a reduction in energy consumption from 20% up to 90% compared to distillation. SoliQz B.V. has been established to commercialise the Hydraulic wash column for a broad range solid/liquid separation application. This is done in close co-operation with Armstrong-Chemtec who brings their proven continuous crystallisation process and over 50 years of experience in designing and building of process equipment for the chemicals industry.

Dr. Carmen Guguta

The process of crystallization involving the basics of nucleation and crystal growth, solubility and super-solubility curve determination are key to the success of various products, be it is, pharmaceuticals, food, personal care ingredients, dye molecules, or agrochemicals. Dr. Carmen has 15 years of experience in pharmaceutical development cycle, from discovery to formulation, covering small molecules, drug substance and drug product. With deep experience in solid state chemistry, she has previously worked with Avantium and Crystallics, contract research organizations. She holds a Ph.D. degree in Pharmaceutical Solid State chemistry from Radboud University Nijmegen, The Netherlands. Currently, Dr. Carmen Guguta is the product manager of Technobis Crystallization Systems.

Prof. Harald Anlauf

Dr.-Ing. Harold Anlauf, Karlsruhe Institute of Technology, is a well known chemical engineer and widely acclaimed exponent of chemical engineering and in particular “Industrial Filtration”. He is presently the academic Director of Instiute for Mechanical Process Engineering and Mechanics (MVM), Karlsruhe Institute of Technology (KIT), Germany. He was the Chairman of World Filtration Congress 2008, Leipzig, Germany. His area of research for last 30 years has been in Mechanical solid-liquid-separation, filtration, sedimentation, centrifugation, filter aids, filter media etc. Professor Anlauf has been the torch bearer at KIT in the promotion of Entrepreneurship and the formation of new companies and lead the innovation to success, a true legacy embodiment in KIT's mission.

Shri. Pramod Khosla

Shri. Pramod Khosla, is CEO of Khosla Profil Pvt. Ltd. He started the company in the year of 1979. Under his extreme guidance and excellent leadership skills, company has achieved tremendous growth and has consistently been serving their clients with the best. Company is India's only composite manufacturing plant having state-of-the-art manufacturing facilities right from Fiber to Made-ups, also outfitted with highly advanced and modern machineries like Twisting, warping, weaving, checking, processing, coating, thermosetting, calendaring, automated cutting and stitching facilities.

Dr. Frans Velterop

Dr. Frans Velterop is the Chief Executive Office at Pervatech BV & Principal at Cobra Technologies BV Ceramic Discs. He has completed his graduation in Membrane technology from University of Twente. He specialises in producing ceramic and polymeric membrane technology for pervaporation and vapour permeation.

Professor Andreas Bueck

Professor Andreas Bueck is a Professor of Particle Technology at Friedrich-Alexander University, Erlangen-Nuremberg, Germany. He is the Head, Solids Processing Group (SPG) and an exponent in the area of Fluid Bed Processing involving both Drying as well as Granulation Technology. The Solids Processing Group also offers a variety of services to industry, especially in the areas of process design, optimisation, and consulting/troubleshooting. His research team is involved in the development of new and optimisation of existing processes, Product design by Spray Drying Technology, Dynamic analysis, optimisation and control of particulate processes, Numerical methods for efficient simulation of particulate processes. He has over 300 published articles to his credit and a prolific researcher and the most sought after Industrial Consultant.

Dr. Vaibhav Tidke

Dr. Vaibhav Tidke is Founder and CEO of S4S Technologies and DesiVDesi Foods. He received B. Chem, M. Chem., Ph.D. degrees from ICT, Mumbai. Under his leadership, S4S has developed and commercialized range of patented food dehydration technologies for farmers and industry. With his dynamic leadership, S4S brought together range of private, government and agri value chain members under single umbrella and nurtured high level entrepreneurship at S4S Technologies. He is the active consultant in food and renewable energy and supports start-ups in numerous ways.

Mr. Urban Stricker

Dipl.-Ing. Urban Stricker studied Polymer and Organic Chemistry at the TU Erlangen-Nuremberg. He joined TU-Berlin as assistant of Prof. Dr. Helmut Käufer from 1988-1992 and became a lecturer for plastics at the TFH-Berlin. From 1993-2013, he was founder, shareholder, CEO and CTO with ÖKUTEC Engineering GmbH, 42INVENTIONS GmbH, SALYP n.v., rollAprint and IRD-Patent GbR of Germany and Belgium. Since 2013, he is located at the city of Aachen-Germany. Among others he co-operates with Litel Infrared Pvt. Ltd. of Pune and ICT, Mumbai. He holds several awards for inventions and product developments.

Professor B. N. Thorat

Prof. Bhaskar N. Thorat, has recently taken up charge of ICT's greenfield initiative of setting of a world class satellite centre at Bhubaneswar. He is the founder Director of ICT-IOC Odisha Campus with an Entrepreneur mindset. He and his research students have several start-ups to their credit and has a mission to produce over 100 Entrepreneurs in coming years. Professor Thorat has to his credit several international awards including two Bill and Melinda Gates Foundation's top prize of USD 2,00,000 besides Michael Dell's Social Innovation Award of USD 60,000. Professor Thorat credits all these awards to the innovative students of ICT. The notable entrepreneurial students of Professor Thorat who contributed immensely to the Indian society are Vaibhav Tidke, Tushar Gaware, Ganesh Bhere, Nupur Nagwekar, Dilip Jadhav and several others. After successfully completing his foray with Wadhwani Foundation's NEN program on Entrepreneurship, he is on the move to create more start-ups with the help of budding entrepreneurs. He believes that there is much more in store for social entrepreneurship and plenty of space is available to be occupied.

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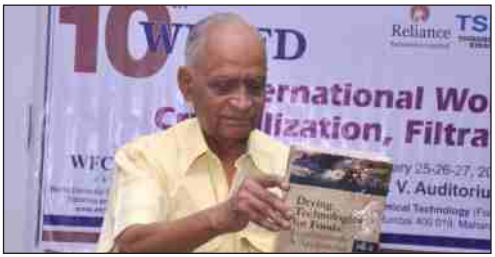
Name of the Speaker & Affiliation	Proposed topic of Presentation
	INDUSTRIAL CRYSTALLIZATION
Professor Dr.-ing Joachim Ulrich Martin-Luther-Universität Halle-Wittenberg, Germany	● Fundamentals of crystallization, Growth, Nucleation and supersaturation ● Melt Crystallization: State of the art and new developments ● Crystal Engineering: Influence of solvents, additives and Impurities ● Crystallization of Proteins
Professor Zoltan Nagy Purdue University, USA	● Quality-by-control (QbC) approaches in batch and continuous crystallization process development ● Modeling, optimization and control of integrated crystallization and wet-milling systems ● Novel process intensification approaches in crystallization systems
Dr. Thomas Vetter University of Manchester, United Kingdom	● Polymorphism in Pharmaceutical Industry: Solid Form and Drug Development ● Filterability prediction of crystals based on particle size and shape distribution data ● Regions of attainable particle sizes in continuous and batch crystallization processes
Dr. Dirk Verdoes Chief Technology Officer, SoliQz, The Netherlands **Athina Pantelidou**, SoliQz, The Netherlands	● Suspension Melt Crystallization for the purification of chemicals ● Filtration and Product Washing in Hydraulic Wash Column to get your product as pure as the crystals
Dr. (Ms) Carmen Guguta Technobis Crystallization Systems, The Netherlands	● Crystallization Basics: Effective Way of Determination of Solubility and Metastable Zone Width (MSZW) ● Latest Developments in Cocrystallization
	INDUSTRIAL FILTRATION
Prof.-Dr.-ing Harald Anlauf KarlsruherInstitutfürTechnologie (KIT), Karlsruhe, Germany	● Industrial Filtration: Principles and Processes of Solid-Liquid Separation ● Fundamentals and Applications of Sedimentation, Decantation and Centrifugation ● Theory and practice of Micro, Ultra and Nanofiltration: Depth and Crossflow Filtration ● Cake Filtration in Chemical and Allied Industries: Process Design and Equipment Selection
Shri. Pramod Khosla, MD, KhoslaProfil	● Role of Fabric in Filterability of cake: Woven, Non-woven, Monofilament, Multifilament and Composite Type
Dr. Franc Velterop Pervatech, The Netherlands	● Fundamentals of Pervaporation Membranes and Processes ● A Case Study of IPA-Water separation
Dr. Ulhas Kharul, NCL, Pune	● Fundamentals of Membrane Distillation and Forward Osmosis
	INDUSTRIAL DRYING
Professor Dr.-Ing Andreas Bueck Friedrich-Alexander University Erlangen-Nuremberg, Germany	● Basics of Spray Drying Process: Control and Applications ● Fluidized Spray Bed Drying from Concept to commissioning ● Fundamentals of Granulations of Pharmaceuticals Products ● New Drying Technologies with Control Mechanism.
Professor B. N. Thorat, ICT, Mumbai	● New Theories for discerning Drying Kinetics- Applications in Dryer Design
Dr. Parag Sutar, NIT, Rourkela	● Microwave and Infra-Red energy based hybrid Dryer for commercial use
Vaibhav Tidke CEO, Science for Society	● Innovative and Efficient Dryer Design: Conduction Dryer, SmartDry (Controlled Temp and Humidity) and ● FrostDry (Freeze Drying)
Mr. Urban Stricker Inventor of Industrial Infra-Red Dryer, Germany	● Infra-Red Drying of Chemicals, Polymers and Other Products-An Emerging Trend
Marcel Wettring ALLGAIER Process Technology GmbH	● Drying of Industrial Waste Sludge with ALLGAIER CD Dryer
Mr. Dilip Patkar, IDEX India Pvt. Ltd.	● Milling Technology for Particle Size Reduction

Memories

Prof. A. S. Mujumdar and Mr. Satoshi Suwa, TSK,
at 10th WFCFD, 2016



Prof. M. M. Sharma inaugrating the book Drying Technologies
for Foods Part II at 10th WFCFD, 2016

Prof. G. D. Yadav addressing the participants
at 9th WFCFD, 2015

Bokela Filtration Unit Demo at 8th WFCFD, 2014

Participants asking queries to the Speakers
at 10th WFCFD, 2016

Prof. Joachim Ulrich explaining Melt layer Crystallization
at 10th WFCFD, 2016

Prof. Michael Doherty interacting with participants
at 10th WFCFD, 2016

Speakers and Organizing Team at 10th WFCFD, 2016

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Prof. ☐ Dr. ☐ Mr. ☐ Ms. ☐

REGISTRATION FORM

Name _____

Position _____

Organization/Institute _____

Mailing Address _____

_____

_____

Telephone/ Mobile _____

Email _____

Registration Fees:

Indian Delegates: INR 18,000/- **Overseas Delegates: US $ 350/-**

Please find a DD/ Cheque in Favor of "WFCFD" payable at Mumbai

DD/Cheque No. _____ **Date** _____

Drawee Bank _____

Last Date for Registration 15th February 2019
for online registration, visit: www.wfcfd.org

Please Complete above form and Return to,

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