Advanced Analytical Methods for Formulation Development



04 - 05 June 2024 Darmstadt, Germany

Course no. 6992



Research and Development



The course is designed for all formulation and analytical scientists involved in research, development, manufacturing, quality assurance and life-cycle management of originator and generic solid dosage forms. It will be of particular interest to participants who wish to get the most recent insights in the advancements of non-compendial analytical methods, and to increase their knowledge in this highly inter-disciplinary and rapidly advancing field.





Objectives

This two day course will provide a profound overview and the essential knowledge of advanced analytical methods for research and industrial applications. Furthermore, the course will discuss the opportunities and limitations of these methods to understand and empower formulation development. Experts from academia, analytical service and technology providers, and the pharmaceutical industry will share approaches for the characterization of chemical, physical, solid state and structural properties of formulated products and related product performance, as pertaining to their area of daily work and research.

Moderators



Dr. Jan Henrik Finke

Head of Division Pharma and Bio Particle Technology, Institute for Particle Technology and Center of Pharmaceutical Engineering, Braunschweig, Germany



Hon.-Prof. Dr. Michael Juhnke

Senior Principal Scientist, F. Hoffmann-La Roche AG, Basel, Switzerland





Programme

Tuesday, 04 June 2024

09:00 - 18:00 h

Welcome and introduction Dr. Jan Henrik Finke Hon.-Prof. Dr. Michael Juhnke

Characterising Surface Properties of Pharmaceutical Crystalline Solids

Prof. Jerry Heng, Department of Chemical Engineering, Imperical College London, London, United Kingdom

XPS, ToF-SIMS and IGC: Highly Surface-Sensitive Analytical Tools for Solid Products in Pharma Dr. Ralf Dümpelmann, Managing Director, Inolytix AG, Sisseln, Switzerland

Coffee break

Hyperspectral Imaging and Advanced Vibrational Spectroscopy Methods for Formulation Development and Understanding Drug Product Performance Dr. Stephanie Brookes, Associate Principal Scientist, AstraZeneca UK Ltd., Macclesfield, United Kingdom

The Capabilities and Limitations of Nanoindentation Dr. Colin Hare, Senior Lecturer in Chemical Engineering, Newcastle University, Newcastle, United Kingdom

Lunch break

Surface Nanoanalytics using Atomic Force Microscopy: Applications in Solid State Property Analytics for Synthetic Molecules Drug Development Dr. Cédric Cattin, Senior Scientist, F. Hoffmann-La Roche AG, Basel, Switzerland

Textural Characterization of Porous Materials and Powders by Physisorption and Mercury Porosimetry Prof. Matthias Thommes, Department of Chemical and Biological Engineering, Institute of Separation Science & Technology, University of Erlangen-Nuremberg, Erlangen, Germany

Coffee break

Terahertz Porosity Measurements for Immediate Release Tablets: Science, Measurement Options and Process Integration

Prof. Axel Zeitler, Department of Chemical Engineering and Biotechnology, University of Cambridge, Cambridge, United Kingdom

Techniques for Powder Flow Measurement at Low Stresses and High Strain Rates

Dr. Colin Hare, Senior Lecturer in Chemical Engineering, Newcastle University, Newcastle, United Kingdom

Coffee break

Characterisation of Powder Compaction – Relating Deformation to Structures and Properties Dr. Jan Henrik Finke, Head of Division Pharma and Bio Particle Technology, Institute for Particle Technology and Center of Pharmaceutical Engineering, Braunschweig,

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Germany

Solid-State NMR for Characterisation of Drug-Like Molecules and Formulations thereof Dr. Alfred Ross, Senior Principal Scientist, F. Hoffmann-La Roche AG, Basel, Switzerland

Networking dinner







Wednesday, 05 June 2024

08:30 - 16:30 h

Welcome back

Dr. Jan Henrik Finke Hon.-Prof. Dr. Michael Juhnke

Synchrotron X-ray Powder Diffraction – A Powerful Characterization Tool for Pharmaceutical Formulation Development

Dr. Thibaud Stoll, COO, and Dr. Mathilde Reinle-Schmitt, Senior Scientist and Associate Director, Excelsus Structural Solutions (Swiss) AG, Villigen, Switzerland

High-resolution X-ray Tomography: Assessing Solid Dosage Forms in 3D and 4D

Prof. Dr. Matthieu N. Boone, Radiation Physics Research Group – Centre for X-ray Tomography, Ghent University, Ghent, Belgium

Coffee break

Advanced 3D Imaging and Diffraction Applications in Transmission Electron Microscopy to Characterize APIs and Formulation Development

Dr. Stavros Nicolopoulos, CEO, NanoMEGAS SPRL, Brussels, Belgium

Electron Diffraction on Nanoparticles – The Benefits of a Dedicated Device for the Pharma Industry

Dr. Johannes Merkelbach, Application Service Manager, and Danny Stam, Sales Manager, ELDICO Scientific AG, Villigen, Switzerland

The Power of Synchrotron X-ray & Neutron Imaging for Pharmaceutical Applications

Dr. Vlad Novak, Project Manager, ANAXAM, Villingen, Switzerland

Lunch

Analytical Methods for Characterising the Functional Performance of Tablet Formulations

Dr. Jan Lenz, Senior Expert Science & Technology, Novartis Pharma AG, Basel, Switzerland

Absorption-driven Drug Formulation Concepts

Karl Box, CSO - Europe, Pion Inc. (UK) Ltd., Forest Row, United Kingdom

Coffee break

Simulating Gastrointestinal Environments: Unravelling in vivo Drug Release through Dynamic in vitro Dissolution Testing

Prof. Dr. Sandra Klein, Institute of Biopharmaceutics and Pharmaceutical Technology, University of Greifswald, Greifswald, Germany

The Diamod[®], a Dynamic in vitro Gastrointestinal Transfer Model with Physically Interconnected Permeation

Dr. Frédéric Moens, Director of Research and Development, ProDigest BV, Ghent, Belgium

Wrap-up and farewell

Dr. Jan Henrik Finke Hon.-Prof. Dr. Michael Juhnke

The program is subject to change









Registration by email apv@apv-mainz.de



Location		Registration fee		Registration	Hotel reservation
greet hotel Darmstadt Hilpertstr. 27 64295 Darmstadt web www.accor.de mail HB6J0@accor.com phone +49 6151 39765 0		Industry Authority/University Students* (free of VAT according to §	1690 EUR 845 EUR 250 EUR	APV-Geschäftsstelle Kurfürstenstraße 59 55118 Mainz/Germany Phone: 0049 6131 97 69 0 E-mail: apv@apv-mainz.de Web: www.apv-mainz.de	greet hotel Darmstadt Hilpertstr. 27 64295 Darmstadt web www.accor.de mail HB6J0@accor.com phone +49 6151 39765 0
Date Course no.: 6992 from 04 June 2024 to 05 June 2024	09:00 h 16:30 h	 Limited places for full til available; written evidence submitted. 	me students me must be	You will receive a confirmation of your registration with the invoice.	We have blocked a contingent on the special rate of 109.00 € incl. breakfast and VAT. Reservation code: APV The rates are available until 06 May 2024.

Advanced Analytical Methods for Formulation Development, 04 - 05 June 2024, Darmstadt, Germany, Course no. 6992

Registration As soon as you have found a seminar of your interest, it is very easy to register for it via e-mail or online. We will process your registration promptly and certainly are available for any questions that may arise.	Title, first name, last name *			
Registration confirmation After your registration was successfully processed, you will receive a confirmation. Before the event	Company name * Street/no. or P.O. box *			
A few days before the event starts, you will receive important information about the seminar, such as time, date, addresses etc.	Location			
After the event You will receive a certificate confirming your participation. Furthermore, we would like to ask you	Zip-code and city *			
to fill-in our evaluation sheet to make sure we get better every time.	Phone			
Follow-up After the event, we are open to receive any suggestions and critigue that might arise during the seminar and	E-mail-address participant *			
will certainly help you with further questions you may have.	Order no. and/or billing address			
Declaration of consent in respect of data protec- tion				
By registering for this seminar, I agree that the APV uses my data for the purpose of	Pay via invoice			
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