



October 4, 2021

13:30 – 16:45 Continuous Manufacturing & Real-Time Quality Sensing

Day I: Session chair:
Prof Thomas de Beer (Ghent University, Belgium)

13:30 - 14:00 Poster presenters available at the chat.

14:00 - 14:05 **Welcome to the meeting and Day 1**
Jukka Rantanen, Staffan Folestad

14:05 - 14:30 **From Product Understanding to Real-time Quality Sensing of Pharmaceutical Tablets**
Dr Daniel Markl, (University of Strathclyde, UK)

14:30 - 14:40 **Discussion**

14:40 - 15:05 **Product temperature control via thermal imaging during continuous freeze-drying of pharmaceutical unit doses**
Dr Pieter-Jan Van Bockstal, (RheaVita, Belgium)

15:05 - 15:15 **Discussion**

15:15 - 15:25 **Optical Coherence Tomography (OCT) for Real-Time Monitoring of Coating Process Dynamics & Product Quality**
Dr. Sandra Stranzinger, (Research Center Pharmaceutical Engineering GmbH, Austria)

15:25 - 15:35 **Determination and understanding of lead-lag between in-line NIR tablet press feed frame and off-line NIR tablet measurements**
Michiel Peeters, (Ghent University, Belgium)

15:35 - 15:45 **Coffee and tea break**

Real-Life Continuous Tablet Manufacturing - Case Examples & Virtual Tours

Moderator, Prof Thomas de Beer (Ghent University, Belgium)

15:45 - 16:00 **Virtual Tour 1: Continuous Tablet Manufacturing Plant – Opportunities and Implementation Challenges**
Assoc Dir/CoE Lead Kristina Roos-Rydell and Dr Håkan Wikström, (AstraZeneca Gothenburg)

16:00 - 16:15 **Virtual Tour 2: Review of 5 years Commercial Continuous Manufacturing at TEVA**
Wayne Sinclair, (TEVA)

16:15 - 16:30 **Virtual Tour 3: Demonstration of the GEA intensified Continuous Tablet Coating process for R&D, Clinical and Full Scale Manufacturing**
Sales Mgr Troels Pedersen, (GEA)

16:30 - 16:45 **Roundtable discussion – Real-Life Continuous Manufacturing**
Prof Thomas de Beer (Ghent University, Belgium) and all speakers

16:45 Closure of day 1



October 5, 2021

13:30 – 16:45 Design & Manufacturing of Complex Bio Products & Vaccines

Day II:

Session chair:
Jarkko Ketolainen, University of Eastern Finland

13:30 - 14:00 Poster presenters available at the chat.

14:00 - 14:05 Welcome to the meeting and Day 2

Jarkko Ketolainen, UEF

14:05 - 14:30 COVID-19 Vaccine Design and Manufacturing Aspects

Prof Camilla Foged (University of Copenhagen, Denmark)

14:30 - 14:35 Discussion

14:35 - 15:00 Use of near infrared camera for At-Line analysis of moisture content in vaccine cakes after freeze-drying

André Kapitan (GSK Vaccines, Belgium)

15:00 - 15:05 Discussion

15:05 - 15:30 Next Generation Manufacturing at Biogen – PAT as an Enabler for Enhanced Process Control in Commercial Antibody Manufacture

Dr Oliver Steinhof (Biogen, Switzerland)

15:30 - 15:35 Discussion

15:35 - 15:45 Aqueous heat method for the preparation of polymer-grafted liposomes: evaluation of their characteristics and toxicity in vitro

Dr. Natassa Pippa, (National and Kapodistrian University of Athens, Greece)

15:45 – 15:50 Coffee and tea break

15:50 - 16:00 Systematic Approach for Modelling and Control of Continuous Pharmaceutical Processes

Dr. Jacob Rehr, (RCPE GmbH Graz, Austria)

16:00 – 16:20 Roundtable discussion – Manufacturing of Complex Bio Products & Vaccines

16:20 - 16:45 Poster session

QUIZ - interactive mingling - posters

16:45 Closure of day 2



October 6, 2021

13:30 – 16:45 Futuristic Product Manufacturing & Additive Manufacturing

Day III:

Session chair:
Jukka Rantanen, University of Copenhagen (UCPH)

13:30 - 14:00 Poster presenters available at the chat.

14:00 - 14:05 **Welcome to the meeting and Day 3**
Jukka Rantanen, UCPH

14:05 - 14:30 **A 10th Anniversary Foresight on Manufacturing Innovation – Putting PAT in Perspective**
Prof Staffan Folestad, (AstraZeneca, Sweden)

14:30 - 14:40 **Discussion**

14:40 – 15:05 **Future Manufacturing of Pharmaceuticals**
Prof Frantisek Stepanek, (University of Chemistry and Technology, Prague, Czechia)

15:05 – 15:15 **Discussion**

15:15 - 15:25 **Opening up the pharmaceutical formulation space for Additive Manufacturing**
Dr. Elke Prasad, (University of Strathclyde Glasgow, UK)

15:25 - 15:35 **Design of 3D-printed tablets for personalized medicine and their dissolution behaviour: solving the forward and inverse problems**
Dr. Zdenek Grof, (University of Chemistry and Technology Prague, Czechia)

15:35 - 15:45 **Coffee and tea break**

15:45 - 15:55 **Near-Infrared Hyperspectral Imaging as a Monitoring Tool for On-Demand Manufacturing of Inkjet-Printed Formulations**
Dr. Sandra Stranzinger, (Research Center Pharmaceutical Engineering GmbH, Austria)

15:55 - 16:05 **Preparation and characterization of resveratrol nanosuspension loaded orodispersible films**
Dr. Samet Özdemir, (Istanbul Health and Technology University, Turkey)

16:05 - 16:20 **Virtual Tour AM:** Host, Prof Anette Larsson (Chalmers University of Technology/Nordic PoP)

16:20 – 16:35 **Roundtable discussion – DAY 3**
Jukka Rantanen, UCPH and all speakers

16:35 - 16:45 **Closing Remarks for the EUPAT10**



List of Posters

Eduardo Díaz-Torres, (University of La Laguna, Spain), "Pressure under control in semi-solid extrusion 3D printing technology using an instrumented plunger"

Elizaveta Mutylo, (University of Chemistry and Technology, Prague), "Mini-tablets for the easier oral administration of bisoprolol fumarate"

Ondrej Rychecky, (University of Chemistry and Technology Prague, Czechia), "DOil marbles with abiraterone acetate: in vivo testing and manufacturing"

Mikkel Herzberg, (University of Copenhagen, Denmark), "Effect of pH on mobility at molecular crystal surfaces"

Brian Kerins, (University College Cork, UK), "Continuous feeding a cohesive excipient: Feeding mesoporous silica using a loss-in-weight feeder"

Yingya Wang, (University of Copenhagen, Denmark), "Application of powder-bed 3D printing for designing a fast disintegrating solid product"

Ilari Ahola, (University of Copenhagen, Denmark), "Development of non-destructive methods for the quantification of printable pharmaceuticals"

João Basso, (University of Coimbra, Portugal), "Expediting Disulfiram Assays through a Systematic Analytical Quality by Design Approach"

Jenna Lyytikäinen, (University of Eastern Finland, Finland), "Process parameter optimization of a continuous direct compression process"

Georgios Eleftheriadis, (Aristotle University of Thessaloniki, Greece), "Pharmaceutical Product Design via 3D printing"

Bence Sipos, (University of Szeged, Hungary), "QbD-based risk assessment on nasally administered polymeric micelles containing Meloxicam"

Zsófia Németh, (University of Szeged, Hungary), "Updated Risk Assessment-based liposome design & development"