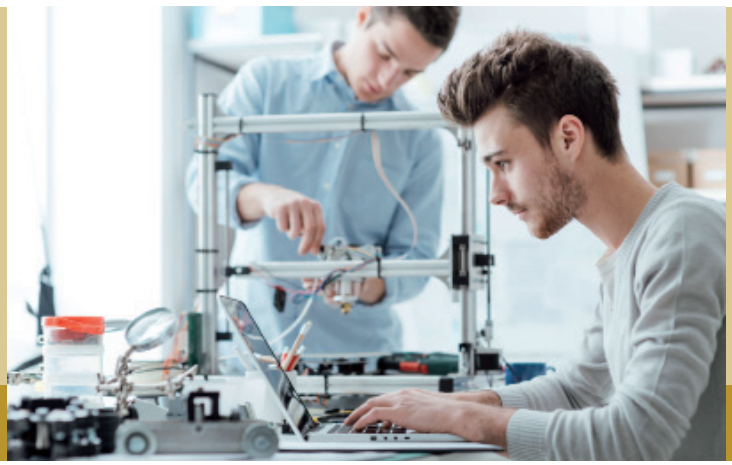
3D Printing in Pharma – 4 years after the first FDA approval: where are we now?



23 to 24 May 2019
Antwerp, Belgium

Course no. 6781

Hot Topics

Target group

This course is organized for scientists and decision makers from industry and academia who are interested in the possibilities and techniques of 3D printing in a pharmaceutical context. 4 years after the first FDA approval of a 3D printed drug, recent scientific advances and developments will be covered and discussed. Furthermore, the course covers topics regarding excipient selection, a first-in-human study, the application of printing technolgies in a hospital setting and regulatory aspects.

APV
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Hot Topics

A seminar organised by the APV focus group Solid dosage forms

Objectives

3D printing holds the promise of tailor made, highly individual dosage forms, implants and even tissues and organs. Within the last years, printing techniques that were deemed non-applicable were demonstrated to be viable options for pharmaceutical 3D printing and the investigation of quality standards is shifting into focus. Yet, only a limited number of 3D printed products and only one 3D printed medicine are commercially available.

Goals of the seminar

In this seminar, leading minds from academia and industry discuss the current state and potential future developments for pharmaceutical 3D printing. Sessions cover the manufacturing of solid dosage forms, the selection of suitable excipients, technical considerations for printers and material considerations for bio-printing. Recent achievements but also limitations of printed drug delivery systems are presented and discussed. The seminar ends with a session by speakers about the application of printing technologies in a hospital setting and regulatory aspects of dosage form printing.

Course leaders

Lieven Baert, PhD

Lieven Baert, Ph.D., M.B.A. Managing Director JALIMA PHARMA. Lieven has studied at the University of Ghent (Belgium) where he has obtained the degrees of Pharmacist, Industrial Pharmacist, Ph.D. in Pharmaceutical Technology and Master in Business and Administration. After a post doc at Merck Canada, Lieven has worked at Janssen Pharmaceutica for more than 10 years, where he held different positions, such as Manager Clinical Supplies, CM&C leader and Director Formulation group. Thereafter Lieven joined the sister company Tibotec where he became Senior Research Fellow / Vice President Early Development and Innovation. In 2007, Lieven was awarded the Johnson & Johnsons Philip B. Hoffman award for Scientists for his innovation work on novel dosage forms for anti-viral drugs. Lieven is inventor on 22 patents and is Flanders District of Creativity Fellow. Lieven started his own company "Jalima Pharma" in 2010.

Peter Hölig, PhD

Peter Hölig, PhD has more than 10 years of experience in the pharmaceutical and chemical industry. At Evonik Nutrition & Care GmbH he is currently responsible for identifying and leading pharmaceutical and medical strategic innovation activities and projects within the Business Line Health Care.
In his previous role at Abbott/AbbVie he was responsible for the formulation and process development - from bench-top up to commercial scale - of commercialized oral and parenteral solid dosage forms including the manufacturing of clinical trial supplies.
He is a pharmacist by training (University of Heidelberg) and received his PhD from the University of Marburg in 2005 (Supervisors: Prof. T. Kissel and Prof. A. Fahr, Thesis: "Generation and Characterization of Immunoliposomes", conducted at vectrontherapeutics AG).
Peter Hölig is the author and co-author of several research papers, patents and conference abstracts.

Julian Quodbach, PhD

Julian Quodbach is a pharmacist by training and started his PhD in 2011 at the Institute of Pharmaceutics and Biopharmaceutics at the University of Düsseldorf under the supervision of Prof. Peter Kleinebudde. He received his PhD in 2014 and began his work as postdoc in the group of Prof. Jörg Breitkreutz. He is supervising several PhD and master students who work on the progression of pharmaceutical 3D printing as well as the use of PAT in granulation processes. In January 2019, he joined the Drug Delivery Group at Uppsala University for a one year postdoc period.

Anne Seidlitz

Anne Seidlitz obtained her license as a pharmacist in 2003. She worked as a team member and later on team leader in the galenics department of the Arzneimittel Werke Altona AG in Hamburg. She returned to Greifswald University and received a Doctor of Natural Sciences in Pharmaceutical Technology in 2009. Since then, she has been working as a postdoctoral fellow in the Biopharmaceutics and Pharmaceutical Technology department of the University of Greifswald. In 2015 she was granted the degree of a habilitated Doctor in the Natural Sciences. Her main research area are dosage form development with a focus on 3d-printed formulations and also parenteral dosage forms including injections and implants with special emphasis on (bio-)relevant dissolution testing.

Programme

Thursday, 23 May 2019, 12:30 - 18:00 h

Welcome and Introduction

Session 1: Solid dosage form manufacturing

Powder bed printing – Using solid binders to simplify formulation development
Julian Quodbach, Institute of Pharmaceutics and Biopharmaceutics, Heinrich Heine University Düsseldorf, Germany

Computer simulation of drug release from multi-compartment 3D printed dosage forms
Frantisek Stepanek, Faculty of Chemical Engineering , University of Prague, Czech Republic

Printing of temperature-sensitive drugs via fused deposition modeling, a case example
Anne Seidlitz, Department of Biopharmaceutics and Pharmaceutical Technology, University of Greifswald, Germany

On Demand manufacturing of oral dosage forms: A focus on multi-material and FDM 3D printing
Mohamed A Alhnan, School of Cancer & Pharmaceutical Sciences, King's College London, United Kingdom

Developing materials for inkjet 3D printed drug delivery and biomedical devices
Yinfeng He, Centre for Additive Manufacturing, University of Nottingham, United Kingdom

Design and development of a 3D printed capsular delivery platform for nutraceutical/ pharmaceutical applications
Alice Melocchi, Co-Founder & Chief Scientific Officer, Multiply Labs, United States; post-doctoral fellow, University of Milan, Italy

Networking dinner

Evening round table discussion after dinner

Programme

Friday, 24 May 2019, 09:00 - 16:30 h

Session 2: Excipients

Excipient selection for fused deposition modeling (FDM) – fundamental material characteristics and functional properties
Christian Mühlenfeld, Technical Leader Pharmaceuticals Europe, Ashland Industries Deutschland GmbH, Germany

Key polymer attributes for 3D printing processes
Andrea Engel, Head of Drug Delivery, Business Line Health Care, Evonik Nutrition & Care GmbH, Germany

AM goes Pharma – considerations for pharmaceutical processing and excipients
Simon Geissler, Director Drug Delivery and Innovation, Merck KGaA, Germany

Session 3: Alternative applications and technologies in healthcare

Improving Technology – Engineering aspects of high quality 3D Printers
Tilmann Spitz, Institute of Product Development and Engineering Design, University of Applied Sciences Cologne, Germany

Selective Laser Sintering (SLS) and Stereolithography (SLA) for pharmaceutical applications
Alvaro Goyanes, Director of Development, FabRx Ltd, United Kingdom

Drug eluting medical devices prepared by 3D-Printing
Jean-Christophe Leroux, Institute of Pharmaceutical Sciences, ETH Zürich, Switzerland

Chemically modified gelatins and other biopolymers for liquid handling and bioprinting
Achim Weber, Group Manager Particle-based Systems and Formulations, Fraunhofer-Institut für Grenzflächen- und Bioverfahrenstechnik IGB, Germany

Session 4: From lab to patients – Regulatory and practical Considerations

2D and 3D Printing – an option for hospital pharmacies?
Stefanie Sauer, University Clinic Heidelberg, Germany

The regulatory perspective: benefits and limits of 3D printed drugs
William Shang, Director Regulatory Affairs Central Europe, Johnson and Johnson, Germany

Pharmaceutical applications of 3D printing: challenges and opportunities
Jae D. Yoo, Senior Vice President & Chief Technology Officer, Aprecia Pharmaceuticals LLC, United States

Wrap up and course closing

Projgramme subject to be changed

Registration by fax +49 6131 97 69 69 or by email apv@apv-mainz.de

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Location

Ramada Plaza Antwerp
Desguinlei 94
2018 Antwerp
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events@ramadaplaza-antwerp.com
ramadaplaza-antwerp.com

Date

Course no.: 6781
from 23 May 2019 12:30 h
to 24 May 2019 16:30 h

Registration fee

Industry	1490	EUR
Authority/University	745	EUR
Students*	178	EUR

(free of VAT according to § 4,22 UStG)

Coffee breaks, luncheon, dinner and electronic proceedings included.

* Limited places for full time students available; written evidence must be submitted.

Registration

APV-Geschäftsstelle
Kurfürstenstraße 59
55118 Mainz/Germany
Phone: 0049 6131 97 69 0
Fax: 0049 6131 97 69 69
E-mail: apv@apv-mainz.de
Web: www.apv-mainz.de

You will receive a confirmation of your registration with the invoice.

Hotelreservation

Ramada Plaza Antwerp
Desguinlei 94
2018 Antwerp
Belgium
phone 0032 3 244 82 61
fax 0032 3 216 47 12

Participants should make their own hotel reservation referring to the APV seminar.
Deadline for special conference rate: 24 April 2019. Special rate: Single room incl. breakfast from 115,00 € per night excl. city tax.

Mainz, November 2018

3D Printing in Pharma, 23 - 24 May 2019, Antwerp, Course no. 6781

Registration
As soon as you have found a seminar of your interest, it is very easy to register for it via fax, e-mail or online. We will process your registration promptly and certainly are available for any questions that may arise.

Registration confirmation
After your registration was successfully processed, you will receive a confirmation.

Before the event
A few days before the event starts, you will receive important information about the seminar, such as time, date, addresses etc.

After the event
You will receive a certificate confirming your participation. Furthermore, we would like to ask you to fill-in our evaluation sheet to make sure we get better every time.

Follow-up
After the event, we are open to receive any suggestions and critique that might arise during the seminar and will certainly help you with further questions you may have.

Declaration of consent in respect of data protection

☐ By registering for this seminar, I agree that the APV uses my data for the purpose of processing the order and provides me with all relevant information.

☐ I also agree that APV may contact me for the purpose of exchanging similar information by email or post.

Your data will not be shared with third parties. You have a right of withdrawal at any time without giving reasons.

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