BACKGROUND

More and more pharmaceutical products are reaching the market as multiparticulate dosage forms, mainly as pellets. The healthcare sector also frequently selects pellets as the optimal marketable form of functional food. As there are quite a number of existing techniques relating to the production of pellets, it is often very difficult for a formulator or marketing manager to make a choice, since every technique claims to be optimal.

This workshop aims to elaborate the advantages and drawbacks of the individual techniques, focusing on the optimal spectrum of each one but also consider the economical and ergonomical aspects of manufacturing processes. On special request of various participants, this workshop has been extended to include lectures on the main excipients for pelletizing and pellet coating, on functional pellet coating, compression of pellets into tablets, capsule filling and the most suitable capsule materials. All speakers are specialized, experienced and renowned experts from science and industry.

WHO SHOULD ATTEND?

Researchers, product developers and production staff from all industrial fields which develop and produce products in pellet form.

PROGRAM

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>12:00</td>
<td>Transfer from hotel to TTC</td>
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<tr>
<td>12:30</td>
<td>Reception and registration</td>
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<tr>
<td>12:50</td>
<td>Introduction Klaus N. Moeller</td>
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<td>13:00</td>
<td><strong>Principles of pellet production &amp; processing: pelletizing, layering and coating.</strong> Introducing the basics of pellet manufacturing focusing on pharmaceutical applications. Giving an insight into theoretical backgrounds, standard manufacturing operations und required equipment and starter materials to create various pellet types and sizes. Florian Priese</td>
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14:00  Identifying new opportunities for products using multiparticulates: Life cycle management, pediatrics, animals health and more. Biopharmaceutical, physiological, economical, safety and intellectual property advantages have created opportunities favoring the use of pellets over monolithic systems. Highlighting how the unique size and modified release properties of pellets can contribute to a superior solution. Florian Priese

15:00  Coffee break

15:30  Innovative starter beads for multiparticulate dosage forms. More and more neutral and functional starter cores are available on the market. Presenting the different products and their characteristics. Philippe Tschopp

16:00  Excipients for pelletizing in fluidized bed processes. Providing an insight into the common excipients for various fluidized bed processes such as granulation and coating focusing on pelletization. Dirk Schmalz

16:45  Advanced continuous fluidized bed technologies for pellets and micro pellets. Presenting various continuous fluidized bed processes. Outlining the opportunities to optimize product quality and reduce manufacturing costs. Norbert Pöllinger

17:30  Transfer to Hotel

19:30  Workshop Dinner

WEDNESDAY, 11 OCTOBER 2017

08:40  Transfer from Hotel to TTC

09:00  From multiparticulates to tablets - overview of possibilities and form adaptations for products and users. Spheres are multiparticulates products but can be easily compressed to obtain single tablets. Providing an overview on their purpose and the advantages for the products and the users. Pascale Gauthier

09:45  Process optimization considering QbD and using DoE - The basis for successful scale-up. Process optimization is a prerequisite for successful scale-up and process validation. Presenting real-life examples: Applying Quality by Design and Design of Experiments. Guido Büch

10:30  Coffee break
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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>11:00</td>
<td><strong>Scale-up of particle coating in the fluidized bed - Understanding the process.</strong> Scale-up is the transfer of a process from lab-scale to manufacturing scale. Presenting the scale-up concept of particle coating using Wurster technology as an example. Explaining the scale-up of the most important process parameters in detail. <strong>Norbert Pöllinger</strong></td>
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<td>11:45</td>
<td>MicroPx technology - how to produce high drug loaded micro pellets. <strong>NN</strong></td>
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<td>12:00</td>
<td><strong>Developing a Pellet Process from Laboratory Scale to Commercial Scale - A Case Study.</strong> Finding the right process technology for the target formulation is a prerequisite for successful process development, scale-up and process validation. Presenting real-life examples of how to apply this approach. <strong>Anne Ettner</strong></td>
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<td>12:45</td>
<td>Lunch</td>
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<td>13:45</td>
<td><strong>Capsule filling techniques.</strong> Outlining the functional principles of capsule filling machines and dosing systems for multiparticulates. Explaining what to consider in terms of critical product parameters and filling performance. Reviewing solutions for 100 percent in-line verification of dosed mass. <strong>Karlheinz Seyfang</strong></td>
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<td>14:30</td>
<td><strong>From micro to commercial scale</strong> - A look at Equipment for the Real World. Discovering the full range of state-of-the-art fluidized bed units (factory tour). <strong>Claudio Cortazzo, Björn Haepp, Karlheinz Seyfang</strong></td>
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<td><strong>Practical Session: The hands-on experience with pellets in GMP and technical lab environments</strong></td>
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<td>15:00</td>
<td><strong>Introduction to the practical part</strong> <strong>Lilia Sprich</strong></td>
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| 15:15 | **Practical part**  
– CPS technology - the new fluidized bed rotor process for direct pelletisation  
– Wurster fluidized bed pellet coating - state-of-the-art applications with an established technology  
– Fluidized bed pellet coating - applying a new tangential spraying technology  
– Capsule filling demonstration **Claudio Cortazzo, Björn Haepp, Karlheinz Seyfang** |
<p>| 17:30 | Transfer to hotel                                                          |
| 19:30 | <strong>Workshop dinner</strong>                                                        |</p>
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<tr>
<td>08:40</td>
<td>Check-out from hotel and transfer to TTC</td>
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<tr>
<td>09:00</td>
<td><strong>Taking a fresh look on multiparticulates in the age of patient centric product design.</strong> Advances in medical and pharmaceutical sciences, demographic changes and the increasing demands in healthcare are challenging, longstanding paradigms in the pharmaceutical industry. Providing a new perspective on innovation through a known formulation approach is food for thought and fresh ideas. <em>Sven Stegemann</em></td>
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<td>09:45</td>
<td><strong>Dripping methods to produce pellets.</strong> Dripping consists in extruding a liquid as droplets and solidifying them. The presentation will review the methods, their advantages and limits, as well as their potential for industrial or biomedical applications. <em>Samira El Mafadi Jian</em></td>
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<td>10:30</td>
<td>Coffee break</td>
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<td>11:00</td>
<td><strong>GMP compliant cleaning of pharmaceutical equipment.</strong> Overviewing procedures, regulations and specific equipment parameters for optimized cleaning with focus on oral solid dosing processes. <em>Jochen Berger</em></td>
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<td>11:45</td>
<td>Summary</td>
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<tr>
<td>12:00</td>
<td>Snack buffet and logout</td>
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<td>12:30</td>
<td>Transfer to Basel, German Railway Station (Badischer Bahnhof), Swiss Railway Station (SBB) and EuroAirport</td>
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**ORGANIZATION & LOCATION**

**TTC - Technology Training Center**
Regina Bernstein / Klaus N. Moeller / Bianca Nowak
Werner-Glatt-Straße 1, 79589 Binzen, Germany
Tel       +49 7621 - 664 308
Fax       +49 7621 - 664 798
Mail      ttc@ttc-binzen.de

For further information and online registration please visit us on:

[www.ttc-binzen.de](http://www.ttc-binzen.de)
SPEAKERS

Jochen Berger  
Ecolab (Schweiz) GmbH, Switzerland

Dr. Guido Büch  
Novartis, Switzerland

Dr. Anne Ettner  
Glatt GmbH, Germany

Dr. Pascale Gauthier  
Université d’Auvergne France, France

Samira El Mafadi Jian  
Novacaps, France

Dr. Norbert Pöllinger  
Glatt GmbH, Germany

Dr. Dirk Schmalz  
Harke Pharma GmbH, Germany

Dr. Karlheinz Seyfang  
Harro Höfliger GmbH, Germany

Lilia Sprich  
Glatt GmbH, Germany

Prof. Dr. Sven Stegemann  
Technische Universität Graz, Austria

Philippe Tschopp  
Glatt GmbH, Germany

MODERATION

Klaus N. Moeller, Technology Training Center

DETAILS

>>> The participation fee is € 1490,– (exclusive of VAT).

>>> This fee includes participation, accompanying course notes, daytime catering and dinner. Any other expenses are to be borne by the attendee.

>>> Free attendance granted to a limited number of students.

>>> Participation is limited. Registrations will be confirmed on a first come first serve basis.

>>> Courses taking place in Germany are subject to Value Added Tax (VAT).

>>> Each participant will receive a certificate of attendance at the end of the course.

>>> Registration deadline: 24 August 2017
REGISTRATION

PELLETS AND MICROPELLETS FOR ORAL MULTIPARTICULATE DOSAGE FORMS
10 – 12 October 2017

Name
Company
Dept.
Function
Address

Phone
Fax
E-mail

☐ Yes, I want to receive information about TTC workshops in future.

Signature

☐ Accommodation required from

Check-in day:
Check-out day: = Nights
(Approx. 79,00 €/night incl. breakfast)