Overview
Powder properties have a major impact on formulation, development and manufacturing of Oral Solid Dosage forms. They also play an important role in meeting the requirements of Quality by Design for OSDs.

In this course we examine powder properties and their role in these important processes, so that attendees can understand:
- The influence of drug substance properties on formulation development
- how and why particular tablet components are selected and what impact they have on powder properties and tablet behaviour
- Manufacturing method selection and the importance of powder flow
- Mechanisms of powder mixing and segregation
- Powder properties, Critical Quality and Material Attributes, and the Product Control Strategy
- Effects of blending behaviour and scale on Critical Process Parameters
- The relationship between input material properties and tablet properties

Proper integration of these elements is essential to achieve “Quality by Design” because data from each phase is used to control the next step in the development process. By achieving proper integration based on sound scientific principles based on powder technology, many development and production problems can be avoided, and formulation robustness can be improved. The course includes case studies of tablet formulation development and a detailed step by step analysis of all elements of the tablet manufacturing process.

By the end of the course the attendees will be able to recognise key powder properties which affect process performance, and make improved judgements about how to improve processes.
PROGRAMME

Day 1 – Morning
- Introductions. Outline of course content
- What are powders?
- Powder characterisation – Particle size, powder flow
- Specific surface area, porosity

Lunch

Day 1 – Afternoon
- Powder mixing and blend uniformity testing
- Blend uniformity measurement
- Segregation. What is it and how to prevent it

Day 2 – Morning
- Review
- Process compatibility testing
- Electrostatics and powder behaviour
- Effect of moisture on the properties of theophylline
- Tablets and what goes into them

Lunch

Day 2 – Afternoon
- Compaction properties of powders
- Tablet manufacturing process selection
- Manufacturing Control of Tablets
- Review and workshop.

Day 3 – Morning
Theme - Putting the theory into practice
Review of Days 2 & 3 learning points

Impact of material properties on bulk powder behaviour
- Flow
- Bulk density
- Compressibility
- Particle size and shape

Wet Granulation and drying practical
Dry Granulation practical
Lubrication and compression practical
Practical - Direct compression products
Impact of excipient selection, grades, and processing on critical tablet quality attributes
- Compressibility
- Friability
- Disintegration

Direct compression practical
Impact of excipient selection, grades, and processing on critical tablet quality attributes
- Compressibility
- Friability
- Disintegration
- Lubrication
Course Speaker:

Dr Michael Gamlen

Michael is Managing Director of Gamleting Tableting Ltd. Dr Michael Gamlen has over 30 years experience of tablet development. Awarded a First Class Honours degree in Pharmacy, specialising in Pharmaceutical Engineering, he studied for a PhD at Nottingham University. He was Head of Tablet Development at the The Wellcome Foundation for 15 years, and has since worked for Vanguard Medica Ltd and as a consultant. He specialises in managing product development, formulation, tablet and process development studies.

Michael has been teaching professional tabletting courses for many years and his courses are highly rated, exceeding the expectation of the participants in many cases.

Upcoming Courses 2020

<table>
<thead>
<tr>
<th>Course</th>
<th>Date/Time</th>
<th>Format</th>
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<tbody>
<tr>
<td>Powder Technology for Pharmaceutical Development and Manufacturing</td>
<td>23, 24 &amp; 25 September 2020</td>
<td>ZOOM Webinar</td>
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<tr>
<td><strong>Pharmaceutical Dissolution Testing</strong></td>
<td>13 &amp; 14 October 2020</td>
<td>ZOOM Webinar</td>
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<tr>
<td><strong>Dissolution and the assessment of bioavailability/bioequivalence</strong></td>
<td>15 October 2020 (3.5 hours)</td>
<td>ZOOM Webinar</td>
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<tr>
<td><strong>QbD and Lifecycle Management of Analytical Methods</strong></td>
<td>4 &amp; 5 November 2020</td>
<td>ZOOM Webinar</td>
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<tr>
<td><strong>Stability Testing in Pharmaceutical Development and Manufacture</strong></td>
<td>November 2020</td>
<td>ZOOM Webinar</td>
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<tr>
<td><strong>HPLC Analytical Method Development and Validation</strong></td>
<td>9 &amp; 10 November 2020</td>
<td>ZOOM Webinar</td>
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<td><strong>Development of Stability-Indicating HPLC Methods</strong></td>
<td>11 November 2020</td>
<td>ZOOM Webinar</td>
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<tr>
<td><strong>HPLC Troubleshooting</strong></td>
<td>November 2020</td>
<td>ZOOM Webinar</td>
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<tr>
<td><strong>Pharmacokinetics in Drug Development - an integrated approach</strong></td>
<td>23 &amp; 24 November 2020</td>
<td>ZOOM Webinar</td>
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<tr>
<td><strong>Pharmaceutical Packaging – an introductory course</strong></td>
<td>30 November &amp; 1 December 2020</td>
<td>ZOOM Webinar</td>
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<td><strong>Hands-on Tablet Development including the principles of pre-formulation, formulation and process development</strong></td>
<td>2, 3 &amp; 4 December 2020</td>
<td>ZOOM Webinar</td>
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<tr>
<td><strong>GMP Auditor Training for Quality Systems</strong></td>
<td>tbc November 2020</td>
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Online Registration is available on our website:

www.pharma-training-courses.com
REGISTRATION DETAILS:  ZOOM Webinar

Powder Technology for Pharmaceutical Development and Manufacturing:
Remember to book early—numbers are limited

23, 24 & 25 September 2020

Early-bird fee: 3 day online course £1083.00 (+ VAT if applicable, see notes on VAT) 
if booked and paid by 13 August 2020

Full Fee: 3 day online course £1200.00 (+ VAT if applicable, see notes on VAT)

VAT NOTES:

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Contact Judy Callanan to discuss a bulk booking
Phone: ++44 20 8133 2605 Email: info@pharma-training-courses.com

Methods of Payment available:

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☐ Bank transfer ☐ Credit/Debit Card

Please register online at: www.pharma-training-courses.com

Course fee includes all course material, refreshments and lunch, accommodation is not included, details of nearby hotels are available on our website.

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