



SCIENTIFIC
UPDATE

We've got chemistry

2^{1/2}
day
Course

2020

UNDERSTANDING POLYMORPHISM & CRYSTALLISATION ISSUES IN THE PHARMACEUTICAL INDUSTRY

"The crystallization and polymorphism course was great for solidifying concepts and practicing solving real crystallization problems"

Gilead Sciences Inc

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Celebrating 30 years serving
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1989 - 2019

UNDERSTANDING POLYMORPHISM & CRYSTALLISATION ISSUES IN THE PHARMACEUTICAL INDUSTRY

A 2¹/₂ day course

INTRODUCTION

This 2½ day course aims to give chemists and chemical engineers a thorough practical knowledge of crystallisation processes. After an introduction the course will cover crystallisation of compounds (including hydrates and solvates), different methods of crystallisation, polymorphism, salts and co-crystals, crystallisation of chiral compounds and classical resolution, analytical methods for studying the solid state and will finish with some case studies. Real life practical examples will be used throughout the course to exemplify the different aspects of crystallisation and polymorphism. The course will cover all aspects of the subject including crystallization of intermediates as well as final products. In addition, precipitations and amorphous solids will be covered and the differences between amorphous solids and crystalline solids will be discussed.

IN-HOUSE COURSE

For 8+ people contact us to discuss holding this event In-House - sciup@scientificupdate.com

COURSE OUTLINE

Day 1

1. Introduction to crystallisation and Polymorphism
2. Principles of crystallisation
 - > Aims of crystallisation
 - > Solubility, turbidity, supersaturation, and the metastable zone
 - > Nucleation
 - > Crystal growth
3. Methods of crystallization
 - > Cooling crystallisations
 - > Evaporative crystallisations
 - > Anti-solvent crystallisation
 - > Melt crystallisation
4. Crystallisation of chiral compounds/resolution
 - > Crystallisation of chiral compounds
 - > Classical resolution methods
 - > Upgrading ee by crystallisation
5. Crystallisation design/case studies
 - > Designing a crystallisation process
 - > Key parameters
 - > Troubleshooting
 - > Industrial examples

Day 2

6. Polymorphism and Disappearing polymorphs
 - > Polymorphism
 - > Polymorph screening
 - > Characterising polymorphs
 - > Patenting polymorphs
7. Salts and co-crystals
 - > Definitions
 - > Salt formation
 - > The use of co-crystals
8. Solvates and hydrates
 - > Differences between solvates, hydrates and anhydrates/asolvates
 - > Characterisation of solvates and hydrates
9. Amorphous solids
10. Methods of analyzing the solid state
 - > Analytical methods
 - > Infra-red, Raman
 - > XRPD
 - > DSC
11. Patent and Regulatory Issues
 - > Solid form patents and patentability
 - > Expectations of regulatory authorities concerning solid form and solid form change
12. Equipment Considerations and Scale Up
 - > Typical equipment used for crystallisation studies from lab to pilot plant and on to production.
 - > Use of inline analytical tools
 - > Considerations for scale up of crystallisation processes.
13. Case studies/Conclusions
 - > Industrial examples of the development of crystallisation processes

WHO SHOULD ATTEND?

At the end of the course delegates should be better placed to apply scientific principles to the design and development of crystallization processes as well as having a better understanding for problem solving.



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Registration 8.45
Course commences 9.00 Day 1
Course adjourns 1.00 on Day 2

Course fees include a comprehensive course manual, refreshments throughout each day, lunches and one course dinner on the first evening

For all prices and dates please refer to our website



IT'S EASY TO REGISTER ONLINE

COURSE TUTORS



Dr Will Watson



Dr John Studley

Dr Will Watson

Technical Director,
Scientific Update

Will Watson gained his PhD in Organic Chemistry from the University of Leeds in 1980. He joined the BP Research Centre at Sunbury-on-Thames and spent five and a half years working as a research chemist on a variety of topics including catalytic dewaxing, residue upgrading, synthesis of novel oxygenates for use as gasoline supplements, surfactants for use as gasoline detergent additives and non-linear optical compounds.

In 1986 he joined Lancaster Synthesis and during the next 7 years he was responsible for laboratory scale production and process research and development to support Lancaster's catalogue, semi-bulk and custom synthesis businesses. In 1993 he was appointed to the position of Technical Director, responsible for all Production (Laboratory and Pilot Plant scale), Process Research and Development, Engineering and Quality Control.

He helped set up and run the Lancaster Laboratories near Chennai, India and had technical responsibility for the former PCR laboratories at Gainesville, Florida. He joined Scientific Update as Technical Director in May 2000. He is also involved in an advisory capacity in setting up conferences and in the running of the events. He is also active in the consultancy side of the business.

@ will@scientificupdate.com

Dr John Studley

John started his industrial career at Rhone-Poulenc (formerly RTZ chemicals) in Avonmouth- Bristol, working on fluorination technology, before gaining a chemistry degree and organic chemistry PhD at the University of Bath in 1995. He then did postdoctoral research at the University of Sheffield before joining the process chemistry group at Oxford Asymmetry working on route development and optimization, scale-up and custom synthesis.

In 1999 John joined Vertex Pharmaceuticals (Europe) in the discovery chemistry department, spending a number of years working in oncology and inflammation therapeutic areas. He then formed a scale-up group to support synthesis of pre-clinical candidate molecules and intermediates and in 2010 oversaw construction and commissioning of a new kilo lab facility. In 2012 John was appointed to head of process chemistry for Vertex (Europe), overseeing synthesis of compounds for preclinical toxicology assessment, designing safe, scalable synthetic routes and working with external vendors and global CRO's to deliver key intermediates and develop new enabling technologies. He was also responsible for developing chemistry for cGMP synthesis of early phase clinical material.

John recently joined Scientific Update as Scientific Director. He is involved in running training events and advising on scientific content for the conference programme. He also supports the consultancy arm of the business and has a keen interest in scientific writing and communication.

@ johns@scientificupdate.com

REGISTRATION

Use our **fast online booking system by visiting**

www.scientificupdate.com

Alternatively you can mail or fax the attached registration form to:

Scientific Update

Maycroft Place, Stone Cross,

Mayfield, East Sussex, TN20 6EW, UK

Fax Number +44 1435 872734

How to Pay

When you register online, you can have the option to pay via credit card (Amex, MasterCard or Visa). A receipted invoice will be automatically generated once paid and sent via email. Should your company wish to pay by cheque or bank transfer, on booking, bank details will be supplied with an invoice.

Group Discounts

Group discounts are available on two or more attendees - see registration form. This offer only applies if bookings are made simultaneously and from the same billing address.

Confirmation of your registration

These will be sent via email.

Late Applications

For late applications, please register online or fax the completed registration form, including credit card payment information.

Cancellations/Refunds

Should you be unable to attend and cancel in writing no later than 1 month before the start of the course, Scientific Update will refund your registration less £300.00 (or equivalent in €/€) processing fee. Unfortunately refunds are not possible after that date. Substitutions can be made at any time.

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To pay by credit card a secure link will be provided once you receive your booking confirmation email, this will then take you to a secure payment gateway.

*payments via Amex can only be made in US dollars

Currency Payments

If you select to pay in a different currency than the event is advertised in, the amount charged will be based on the exchange rate at the time of preparing the invoice.

Discounts

Complete the details for either two or three delegates and your discount will automatically be applied. This offer only applies where all delegates are booked simultaneously and at the same billing address.

Cancellations

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Data Protection

Scientific Update Ltd is registered under the Data Protection Act 1998. We will store your information securely and only share your contact details with other attendees at this event. If you are happy for your details to be passed to any third parties please tick here:

For full terms of business and payment details please see our website

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