



# SCIENTIFIC UPDATE

*We've got chemistry*



**Nashville,  
USA**

Hyatt Place  
Downtown

## PRACTICAL CRYSTALLIZATION & POLYMORPHISM

28 FEB - 1 MAR 2019

A 2 day course  
presented by  
**Dr Will Watson**

"Gained very good knowledge about particle crystallization as it is a very important part of chemical industry at scale up stage and it will be helpful to design experiments in such a way."

PI Industries

# PRACTICAL CRYSTALLIZATION & POLYMORPHISM

Multiple  
attendees  
discounts  
**UP TO 15%**  
available

**28 Feb - 1 Mar 2019** Nashville, USA, Hyatt Place Downtown

## INTRODUCTION

This 2-day course aims to give chemists and chemical engineers a thorough practical knowledge of crystallization processes. After an introduction the course will cover crystallization of compounds (including hydrates and solvates), different methods of crystallization, polymorphism, salts and co-crystals, crystallization 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 crystallization 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.

## WHO SHOULD ATTEND?

Discovery chemists, process chemists and chemical engineers who want to learn about practical aspects of crystallization as well as the science and the art of crystallization.

## IN-HOUSE COURSE

For 8+ people contact us to discuss holding this event In-House - [sciup@scientificupdate.com](mailto:sciup@scientificupdate.com)

## COURSE OUTLINE

### DAY 1

#### Introduction to crystallization and Polymorphism Solvates and hydrates

- > Differences between solvates, hydrates and anhydrates/asolvates
- > Characterisation of solvates and hydrates

#### Principles of crystallization

- > Methods of crystallization
- > Cooling crystallizations
- > Evaporative crystallizations
- > Anti-solvent crystallization
- > Melt crystallization

#### Crystallization design/case studies

- > Designing a crystallization process

### DAY 2

#### Polymorphism and Disappearing polymorphs

- > Polymorphism
- > Polymorph screening
- > Characterising polymorphs
- > Patenting polymorphs

#### Salts and co-crystals

- > Salt formation
- > The use of co-crystals
- > Definitions

#### Chiral compounds/resolution

- > Crystallization of chiral compounds
- > Classical resolution methods
- > Upgrading ee by crystallization

#### Methods of analyzing the solid state

- > Analytical methods
- > Infra-red, Raman
- > XRPD
- > DSC

#### Case studies/Conclusions

## VENUE

#### Hyatt Place Nashville Downtown

301 3rd Avenue South, Nashville, Tennessee, USA, 37201

[nashvilledowntown.place.hyatt.com](http://nashvilledowntown.place.hyatt.com)

Rated in the Top 25 of all hotels in Nashville on TripAdvisor and located in a thriving, trendy neighborhood, we offer the Nashville vibe at the Hyatt value. We're one block from the Music City Center Convention Center, within walking distance to Nashville's famous Honky Tonk Row and both Nissan Stadium and Bridgestone Arena are less than a mile away.

Enter our lobby and you'll find cool, local art, including the Johnny Cash print, as well as our bustling Coffee to Cocktails

Bar serving specialty Starbucks® coffee, premium/local beer & wine. Start your day with free breakfast, then enjoy freshly prepared favorites on your time. We offer valet parking and high-floor suites with awesome city views and the Hyatt Plug Panel media center perfect for tech-centric travel.





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**Start** 9.00am - Thursday 28 February

**Finish** 3.30pm - Friday 1 March

**Course dinner** 6.30pm - Thursday 28 February

**Course Fee:** \$1,999

Which includes comprehensive course manual, refreshments throughout the day, lunch and one course dinner.

**Course fee: \$1,999**

## COURSE TUTOR

### 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](mailto:will@scientificupdate.com)

## REGISTRATION

You can either use our fast online booking system or 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 (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 bank details will be supplied with an invoice.

### Bank Transfer or Cheque

Should your company wish to pay by cheque or bank transfer, on booking you can choose between paying in either €, \$ or £. All 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 (or equivalent in €/)\$ processing fee. Unfortunately refunds are not possible after that date. Substitutions can be made at any time.

## At the end of the course, participants will:

Be better placed to apply scientific principles to the design and development of crystallization processes as well as better understanding for problem solving.

The course will be of interest and use to both process development chemists as well as those working in discovery areas, especially when involved in the first scale-up batches.

## CONSULTANCY SOLUTIONS

### OUR EXPERTISE

We are specialists in Industrial Organic Chemistry, solving problems and managing projects in Process Research and Development covering the following industries:

- > **Pharmaceuticals**
- > **Fine Chemicals**
- > **Agrochemicals**
- > **Flavour & Fragrance**
- > **Specialty Chemicals**

### OUR TEAM

You will be assigned one leading consultant but you will benefit from our team with over 100 years collective industrial experience.

### OUR APPROACH

We will sign a CDA and discuss your project by telecom or webinar to assess what benefits we can offer. This initial consultation (up to 4 hours) is free of charge. After which we will offer a detailed proposal with the service we can provide tailored to your individual requirements.

# PRACTICAL CRYSTALLIZATION & POLYMORPHISM



## FAST ONLINE REGISTRATION

Look for the **BOOK NOW** button on the event of your choice  
[www.scientificupdate.com](http://www.scientificupdate.com)

28 Feb - 1 Mar 2019 Nashville, USA

No. of attendees  @ \$1,999

**Special Offer!** Register 2 delegates and receive 5% on 2nd booking  
Register 3 delegates and receive 10% on 3rd booking  
Register 4 or more delegates and receive a 15% discount

### First attendee

Company   
Title (Dr/Prof/Mr/Mrs/Ms)   
First name   
Surname   
Job Title   
Address   
  
  
Post Code / Zip   
Country   
Tel   
Fax   
Email   
Mobile   
Special Diet   
I would like to subscribe to your FREE bi-monthly newsletter  
What's new in Process Chemistry?

### Second attendee **SAVE 5%**

Title (Dr/Prof/Mr/Mrs/Ms)   
First name   
Surname   
Job Title   
Tel   
Fax   
Email   
Special Diet   
I would like to subscribe to your FREE bi-monthly newsletter  
What's new in Process Chemistry?

### Third attendee **SAVE 10%**

Title (Dr/Prof/Mr/Mrs/Ms)   
First name   
Surname   
Job Title   
Tel   
Fax   
Email   
Special Diet   
I would like to subscribe to your FREE bi-monthly newsletter  
What's new in Process Chemistry?

### Invoice Address (if different to delegate address)

Address   
  
  
Post Code / Zip   
Country   
Tel   
Fax

Please invoice my company

Purchase Order:

Promotion Code:

### Payment Methods

Payment will be made by:

Cheque  Bank Transfer  Credit Card

In Currency:

Dollars  GBP\*  or Euros\*

We accept the following credit cards:



Amex\*



Mastercard



Visa

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 GBP, or Euros 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

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 fee less £300 (or equivalent in €/£) processing fee. Unfortunately refunds are not possible within 1 month of the course date. Substitutions can be made at any time.

#### 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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