



**SCIENTIFIC
UPDATE**

We've got chemistry

2^{1/2}
day
Course

2020

**NEW
COURSE**

MODERN SYNTHETIC ORGANIC REACTIONS

Recent Developments and
Industrial Opportunities

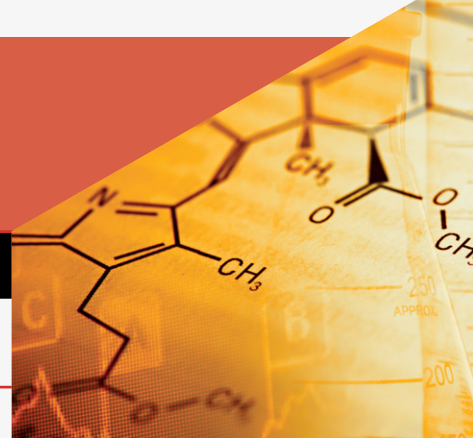
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Celebrating 30 years serving
the global chemistry industry

1989 - 2019

MODERN SYNTHETIC ORGANIC REACTIONS – RECENT DEVELOPMENTS AND INDUSTRIAL

A 2^{1/2} day course



INTRODUCTION

Driven by the increasing complexity of synthetic targets and the need for efficient, selective and environmentally benign synthetic methods, the past decade has seen tremendous innovation and reaction understanding in the field of synthetic organic chemistry.

However, much like the transition of a molecule from discovery to development, the transition and application of new synthetic methodology from a research setting to an industrially relevant context can be challenging. This course is designed to look in detail at essential new synthetic chemistry methodology and its potential application in addressing key challenges in industry. New processes will be presented with case studies and examples. In addition, an understanding of what it takes to transfer technology from an academic to a larger scale industrial context will be discussed.

COURSE OUTLINE

Photoredox

- > Photoinduced electron transfer chemistry
- > Photoredox catalysts- synthesis, properties and tuning
- > Application and scale-up

C-H Functionalisation

- > Aromatic C-H functionalisation
- > Aliphatic C-H functionalisation
- > C-H coupling with halides and pseudohalides
- > C-H – C-H coupling

Hypervalent iodine

- > Oxidation with hypervalent iodine reagents
- > Rearrangements mediated by hypervalent iodine reagents
- > C-C and C-X bond formation mediated by hypervalent reagents

Electrochemistry

- > Synthetic organic electrochemistry
- > Electrochemical redox processes
- > Applications, setup and getting started

Hydrogen Mediated Reactions and Borrowing Hydrogen Chemistry

- > C-C and C-X bond formation via borrowing hydrogen
- > Using alcohols in place of halides and pseudohalides
- > Hydrogen mediated C-C bond formation (Krische chemistry)

Organocatalysis

- > Organocatalysis v's transition metal processes
- > Catalyst classes and reaction examples
- > Asymmetric transformations

Biocatalysis

- > Recent developments in biocatalysis
- > Directed evolution of enzymes
- > "Non-natural" reactions catalysed by modified enzymes

Catalysis with Cheaper Metals

- > Green chemistry and sustainability
- > Base metals in cross coupling, hydrogenation and cyclization chemistry
- > New applications of base metals in industrial organic chemistry

Case studies

- > Industrial examples involving the use of the chemistry discussed during the course

BENEFITS OF ATTENDING

- > A forward-looking review of how new technology and synthetic methods will shape the future of industrial organic synthesis.
- > A comprehensive overview of new synthetic methodology and its potential application in the synthesis of pharmaceuticals, agrochemicals and fine chemicals.
- > Gain a different perspective on solving synthetic challenges in your chemistry.
- > An appreciation of the factors that need to be considered in transferring new synthetic chemistry from an academic to an industrial setting.

IN-HOUSE COURSE

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



SCIENTIFIC UPDATE

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Registration 8.45

Course commences 9.00 Day 1

Course adjourns 1.00 on Day 3

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

Technical Director,
Scientific Update



Dr John Studley

Technical Director,
Scientific Update

You can find the full tutor biographies on our website, tutors will depend on location.

WHO SHOULD ATTEND?

- > Discovery/Synthetic organic chemists
- > Process development chemists
- > Anyone wishing to learn more about essential new synthetic chemistry methodology and its potential application in an industrial setting.
- > Academics who wish to understand how industrial and process chemists view new synthetic chemistry and what can be done at the discovery stage to make the technology scalable.

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.

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.

DON'T MISS OUT - REGISTER TODAY

EVENT: DATES: LOCATION: No. of attendees Price **NEW FAST ONLINE REGISTRATION**

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First attendee

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Title (Dr/Prof/Mr/Mrs/Ms)	<input type="text"/>
First name	<input type="text"/>
Surname	<input type="text"/>
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Address	<input type="text"/>
	<input type="text"/>
Post Code / Zip	<input type="text"/>
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Job Title	<input type="text"/>
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Third attendee

Title (Dr/Prof/Mr/Mrs/Ms)	<input type="text"/>
First name	<input type="text"/>
Surname	<input type="text"/>
Job Title	<input type="text"/>
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Payment Methods

Payment will be made by:

☐ Cheque ☐ Bank Transfer ☐ Credit Card

In Currency:

☐ Euros ☐ GBP ☐ or Dollars

We accept the following credit cards:



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

Please complete this form and fax to +44 (0)1435 872734

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