

Automated Synthesis Forum

AZ Macclesfield 29th-30th October 2018

Monday, 29th October

9:45 Registration and refreshments

10:10 Introduction and security video

10:20 *Introductory talk*
TBC, AstraZeneca, UK

Session 1: Flow Chemistry

Session chairs: **Jason Tierney**, Charles River, UK and
Gemma Turner, Concept Life Sciences, UK

10:30 Plenary: *Flow chemistry as a tool for API synthesis*
C Oliver Kappe, University of Graz, Austria

11:30 *New techniques in flow and their applications to synthesis*
Marcus Baumann, University College Dublin

11:50 *Current developments in continuous flow chemistry*
Ricardo Labes, University of Cambridge, UK

12:10 *Why choosing flow was right for Lanabecestat*
Anne O’Kearney-McMullan, AstraZeneca, UK

12:30 Lunch and exhibition

Session 2: New Technologies 1

Session chairs: **Melanie Bayford**, Domainex, UK and
Steve Brough, Key Organics, UK

2:00 *Capsule chemistry at the touch of a button*
Benedikt Wanner, Synple Chem, Switzerland

2:20 *Biocatalysis and other processes in rotating bed reactors – from screening to production*
Emil Byström, Spinchem AB, Sweden

2:40 *One process from milligrams to kilograms: efficient drug substance development enabled by continuous manufacturing technology*
Matthew Bio, Snapdragon Chemistry Inc, USA

3:00 Refreshments and exhibition

Session 3: Photochemistry / Electrochemistry

Session chairs: **Paul Turner**, AstraZeneca, UK and
John Taylor, CRUK Beatson Institute, UK

3:20 *Electrochemical activation of small organic molecules using electrasyn – a safe, green, cheap and efficient method to generate highly reactive intermediates*
Kevin Lam, University of Greenwich, UK

3.40 *ElectraSyn 2.0: industrial user perspective*
Steve Durrant, Vertex, UK

3.55 *Penn OC photoreactor user perspectives*
Ryan Greenwood, AstraZeneca, UK

- 4:10 *Use of the EvoluChem Photoredox box duo at Domainex*
Martin Fisher, Domainex, UK
- 4.25 *Advances and opportunities in flow electrochemistry*
Thomas Wirth, University of Cardiff, UK
- 4:45 *Development of a commercial photochemical reactor system for HTS, batch and flow scale up designed for process chemists*
Holly Bonfield, GlaxoSmithKline, UK
- 5.30 **Transport to conference dinner at Shrigley Hall Hotel**

Tuesday, 30th October

Session 1: Small Scale Reaction Screening

Session chairs: **David Pearce**, Syngenta, UK, and
Tobias Möchel, Sygnature Discovery, UK

- 9:00 *Mechanochemistry as an emerging tool for molecular synthesis: what can it offer?*
Duncan Browne, University of Cardiff, UK
- 9:30 *High throughput experimentation in flow: from screening to compound production*
Joe Tucker, Pfizer, USA
- 10:00 *One apprentice with a pipette: transforming process development at AZ, through manual and automated solubility measurement*
Holly Carter, AstraZeneca, UK and
Simon Yates, AstraZeneca, UK
- 10:20 *Automated reaction screening from μ l to ml enabled by SWILE*
Steffen Eller, Chemspeed Technologies AG, Switzerland
- 10:40 **Refreshments and exhibition**

Session 2a: Post Synthesis Process Improvements (part1)

Session chairs: **Jenny Kingston**, Astra Zeneca, UK and
Batool Ahmed Omer, GlaxoSmithKline, UK

- 11:00 *Self service SFC (S3): giving scientists a tool for the fully automated purification of isomeric mixtures in OA mode*
Aránzazu Sonia Marín, Lilly, Spain
- 11:25 *Microscale drug development*
Alexander Marziale, Novartis, Switzerland and
Cara Brocklehurst, Novartis, Switzerland
- 12:00 **Lunch and exhibition**

Session 2b: Post Synthesis Process Improvements (part2)

Session chairs: **Jenny Kingston**, Astra Zeneca, UK and
Batool Ahmed Omer, GlaxoSmithKline, UK

- 1:00 *A fully automated platform for thin layer chromatography*
Sergey Zalesskiy, University of Glasgow
- 1:20 *Use of qNMR to improve design-make-test cycle efficiencies*
Nichola Davies, AstraZeneca, UK

Session 3: New Technologies 2

Session chairs: **Andrew Ledgard**, Eli Lilly and Co Ltd, UK, and
Maninder Panesar, Vertex Pharmaceuticals (Europe) Ltd, UK

- 1:40 *Advanced flow processes employing additive manufacturing*
Victor Sans Sangorrin, University of Nottingham, UK
- 2:05 *Using AI assisted automation to accelerate medicinal chemistry*
Mikhail Kabeshov, BenevolentAI, UK
- 2:25 *3D-printing in batch and flow reactions: updates and user experiences*
Steve Hilton, University College London, UK
- 2:40 *3D printed reagent-impregnated stirrer bars – a collection of user perspectives*
Maninder Panesar, Vertex Pharmaceuticals (Europe) Ltd, UK
- 3:00 **Close of meeting and transport to Shrigley Hall Hotel**