

Programme

13:00 WELCOME: Prof Tony Moffat, JPAG

PRESENTATIONS (each 15 minutes plus 5 minutes Q&A)

13:05 **Presentation 1:** *Mr Thomas Hibbard - University of Reading*

Solid state modification of ciprofloxacin for high dose dry powder inhalation

13:25 **Presentation 2:** *Ms Rhamiya Mahendran - University of Hertfordshire*

Screening the biological activity of trans-stilbene benzenesulfonamide analogues

13:45 **Presentation 3:** *Miss Yuying Pang - UCL School of Pharmacy*

A Simultaneous X-ray Diffraction-Differential Scanning Calorimetry Study into the Phase Transitions of Mefenamic Acid

14:05 BREAK

14:15 **Presentation 4:** *Mr Anand Vadesa - De Montfort University*

Micro-scale measurements in freeze-drying microscope “ application in lyophilisation formulation development & screening

14:35 **Presentation 5:** *Miss Hui Ying Wong - UCL*

Investigating using differential scanning calorimetry to screen for substandard and falsified (SF) medicines

14:55 **Presentation 6:** *Miss Yixuan Yan - the University of Manchester*

Amphiphilic Drugs: The Î²-Blocker Propranolol and Its Interaction with Model Biomembranes

15:15 **Keynote Presentation:** *Dr Paul Royall, KCL*

Medicines delivery by drone: developing approaches that model the impact of flight on drug stability

15:45 PRIZE WINNERS Announcement, including Geoffrey Phillips Award

16:00 CLOSE

INVITED SHORT PAPERS FOR ORAL PRESENTATION

1: Solid state modification of ciprofloxacin for high dose dry powder inhalation
Mr Thomas Hibbard - University of Reading

2: Screening the biological activity of trans-stilbene benzenesulfonamide analogues
Ms Rhamiya Mahendran - University of Hertfordshire

3: A Simultaneous X-ray Diffraction-Differential Scanning Calorimetry Study into the Phase Transitions of Mefenamic Acid
Miss Yuying Pang - UCL School of Pharmacy

4: Micro-scale measurements in freeze-drying microscope “ application in lyophilisation formulation development & screening
Mr Anand Vadesa - De Montfort University

5: Investigating using differential scanning calorimetry to screen for substandard and falsified (SF) medicines
Miss Hui Ying Wong - UCL

6: Amphiphilic Drugs: The Î²-Blocker Propranolol and Its Interaction with Model Biomembranes

POSTERS

1: Detection of new psychoactive substances impregnated in paper using attenuated total reflectance Fourier transform infrared spectroscopy
Mr Thomas Coombs - Bournemouth University

2: Analysis of latent fingerprint constituents: A systematic review of quantitative studies
Miss Rachel Robson - Bournemouth University

3: Molecular Level Linkage Of Diabetes Mellitus With Coronavirus In Pakistan.
Mr Samreen Riaz - Dept of MMG University of the Punjab, Lahore Pakistan

4: Molecular interaction and complexation of indomethacin with various amino acids
Mr Mohammed Alsalhi - King's College London

5: Ambient Mass Spectrometry Applied to New Psychoactive Substance Analysis
Miss Maria del Mar Boronat - King's College London

6: Drug Delivery Strategies For Conventional And Biological Therapeutics For Inflammatory Bowel Disease
Miss Julie Dababneh - King's College London

7: Computational prediction of xenobiotic respiratory bioavailability in an occupational exposure setting.
Mr Zachary Enlo-Scott - King's College London

8: Use Of Exosomes For Non-Invasive Drug Delivery
Ms Shilpa Lekhraj Peswani Sajnani - King's College London

9: Live-cell ATR-FTIR spectroscopy as a novel bioanalytical tool for diabetes/metabolism research
Mr Anchisa Poonprasartporn - King's College London

10: Towards Understanding and Predicting Autoxidation in Solid Drugs
Mr Jayant Iyer - RCPE GmbH

11: Three-Dimensional Spectroscopic Chemical Imaging of Pharmaceutical Tablets
Miss Hannah Carruthers - University of Strathclyde / Pfizer UK

12: Tramadol Capsule Stability Study under Monitored Dosage System (MDS) Storage Conditions
Miss Zahra Batool - University of Sunderland

Abstracts

Dr Paul Royall - King's College London

Medicines delivery by drone: Developing approaches that model the impact of flight on drug stability

Uncrewed aerial vehicles (UAVs) or drones were originally developed for military and photographic purposes. In recent years however, many innovative projects have investigated whether drones may benefit medicine supply chains and medical logistics. Drones are small, manoeuvrable and may be autonomously operated and therefore may have a role in the delivery of medicines and medical products to geographically challenging locations or when human contact is to be avoided.

Whilst a large amount of research has been dedicated to aeronautical engineering and safety systems, there is a lack of thorough investigation of the impact of flight on the stability of the medicines and the medical products transported.

Dr Royall will review his recent work with Dr Courtney concerning developing new approaches to the testing of drone flown medicines and also modelling the sometimes-extreme environments that medicines may encounter during drone transportation.

The aim of the talk is to inspire earlier career pharmaceutical scientists and post-grad researchers that there are exciting opportunities for analysts by using the recent developments in medicines logistics and drones as an interesting example.



Recent publications from the group: Hii MS, Courtney P, Royall PG. An evaluation of the delivery of medicines using drones. *Drones*. 2019 Sep;3(3):52; Royall PG, Courtney P. Medicine delivery by drone—implications for safety and quality. *European Pharmaceutical Review*. 2019 Oct;24(5):48-51; Beck S, Bui TT, Davies A, Courtney P, Brown A, Geudens J, Royall PG. An evaluation of the drone delivery of adrenaline auto injectors for anaphylaxis: Pharmacists' perceptions acceptance & concerns. *Drones*. 2020 Oct; (4) in press.

Speaker biographical details



Dr Paul Royall - King's College London

Senior Lecturer in Pharmaceutics at King's College London. Dr Paul G. Royall's research focuses on the use of materials science for the development of new dosage forms, especially freeze-dried and amorphous formulations to be administered via the oral route. He has a BSc Hons and a PhD from the University of Kent at Canterbury and served as a committee member for the Thermal Methods Group of the Royal Society of Chemistry.

Delegate information

Registration

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Podium and Poster presenters:

For those selected to make presentations, there is free registration and in addition assistance with travel expenses (up to £75) is available. An e-mail with a access code to be used in registering as a Student Presenter / Abstract Author is sent to authors who have submitted abstracts that have been accepted for presentation.

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- Visionary Keynote presentation from Prof David Cowan OBE FKC FRPharmS FRSB, King's College London
- Presentation from six early career scientists who are looking to win our prestigious Geoffrey Phillips Award
- Posters submitted for online viewing from a group who are out to win our JPAG Pharmaceutical Analysis Awards

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material science, ADME,
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formulation development
etc.

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Advancing the Quality of Medicines through Pharmaceutical Analysis