

Wednesday 11th September

10.00 Registration, exhibition, poster viewing and welcome refreshments

11.00-13.00 - Plenary session S1 LECTURE THEATRE 11_0003 Stockwell St Bldg

- 11.00 **Welcome**
Dr Mark McAllister, APS Chair
- 11.15 **Opening plenary**
Professor Cameron Alexander, CChem, FRSC, FHEA, FIMMM, Science Chair – UK PharmSci 2019, Professor of Polymer Therapeutics, Royal Society Wolfson Research Merit Fellow, University of Nottingham
- 12.00 **Plenary Lecture: Smart cancer nanomedicine**
Professor Twan Lammers, Head of Department Nanomedicine and Theranostics, RWTH Aachen University

13.00 Lunch, exhibition and poster viewing

UNDERCROFT

14.00-15.30 - Parallel sessions S1.2

S1.2A: Medicinal chemistry

Chair: Professor Helen Osborn, Professor of Biomedical Chemistry, University of Reading

QA063 / Council Room
Queen Anne Court Building

Dr Allan Jordan, Director of Oncology Drug Discovery, Sygnature Discovery
Re-thinking oncology drug discovery - where are we heading next?

Dr Zoe Waller, Senior Lecturer in Chemical Biology, School of Pharmacy, University of East Anglia
Adventures with four-stranded DNA

Podium presentations:
Bruce Alexander, Principal Lecturer in Physical Chemistry, University of Greenwich
Enhancing the solubility of econazole salts through inclusion complex formation

Florence Osuagwu, MPharm Student, Keele University
Novel calix [4] resorcinarene nanocarriers for enhanced drug solubilisation: Synthesis of octaamino-substituted resorcinarenes

S1.2B: Material science challenges with biologics

Chair: Dr Philipp Seib, Senior Lecturer in Cellular Pharmaceutics, University of Strathclyde

LT QA080
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Professor Fergal O'Brien, Professor of Bioengineering and Regenerative Medicine Royal College of Surgeons in Ireland
3D Biomaterial scaffold-based delivery platforms for enhanced tissue repair

Dave Parmley, Senior Research Engineer, Centre for Process Innovation
Materials science challenges when developing an oral mAb product. Centre for process innovation

Podium presentations:
Dr Silvia Sonzini, Senior Scientist, AstraZeneca
Sizing at the nanoscale: an orthogonal approach

Juan Domínguez Robles, School of Pharmacy, Queen's University Belfast
Lignin-PLA composites for additive manufacturing applications: A potential material for healthcare applications

S1.2C: Skin Forum

Chair: Dr Majella Lane, Senior Lecturer, Pharmaceutics, University College London

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Dr David Scurr, Senior Research Fellow, University of Nottingham
Novel Insights into skin biology and permeation of actives using ToF-SIMS and 3D OrbiSIMS

Dr Bruno Sil dos Santos, Lecturer in Pharmaceutical Science and Pharmacology, School of Human Sciences, London Metropolitan University
Crossing old barriers and printing new ones: Skin, nails and additive manufacturing

Podium presentations:
Heba Abdelwahab, PhD Student, School of Pharmacy, QUB
Novel microneedles array design and nanocapsules; A promising drug delivery system to improve the intradermal delivery and photodynamic activity of hypericin to skin melanoma cancer

Emma McAlister, Research Fellow, Queen's University Belfast
The use of directly compressed tablets combined with novel hydrogel-forming microneedles for the transdermal delivery of a low molecular

15.30 Refreshments, exhibition and poster viewing

16:00-17:30 - Parallel sessions S1.3

S1.3A: Drugs from natural sources

Chair: Professor Michael Heinrich, UCL School of Pharmacy, University London and Dr Sukvinder K Bhamra, University of Kent

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Professor Dr Thomas Efferth, Editor-in-Chief, Phytomedicine. Chair, Department of Pharmaceutical Biology Institute of Pharmacy and Biochemistry, Johannes Gutenberg University
Systems biology of natural products for cancer therapy

Professor Julie Hawkins, Professor of Plant Systematics and Evolution, School of Biological Sciences, University of Reading

Taxonomy, phylogeny and DNA barcoding strategies for herbal medicines

Podium presentations:

Taherali Farhan, UCL School of Pharmacy

Local colonic application of monoclonal antibodies – does mucus hinder their permeation?

Idowu Eniafe Fadayomi, PhD Student, Keele University

Characterization of anti-ovarian cancer diterpenoids in *Justicia insularis* and their roles in apoptosis

S1.3B: Diversity in amorphous materials covering co-crystals, nano formulations and co-amorphous systems

Chair: Dr Sheng Qi, Reader, University of East Anglia

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Dr Kristof Kimpe, Principal Scientist, Johnson and Johnson

Formulate me tinder – tackling formulation design @ Janssen

Professor Yaroslav Khimyak, Professor in NMR Spectroscopy, School of Pharmacy, University of East Anglia

Molecular level understanding of pharmaceutical materials: from encapsulated solids to soft matter

Podium presentations:

Michael Devlin, PhD researcher, University of Strathclyde

Structure and transformations in amorphous paracetamol

Dr Steven Ross, University of Greenwich
Coprocessing of pharmaceutical cocrystals for high quality and enhanced physicochemical stability

S1.3C: ATMPs -what's next in the pipeline and what are the manufacturing challenges?

Chair: Dr Andreea Iftimia-Mander, Innovation Lead - Enabling Programmes, UK Research and Innovation

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Dr Fungayi Chidothe MD, Head of Strategy and Planning, Cell and Gene Therapy Catapult

A leader in innovation: The UK's ATMP ecosystem

Angela Osborne, Managing Director, ATMP Manufacturing Community

ATMP Manufacturing Community

Podium presentation:

Dr Pratik Gurnani, Research Fellow, University of Nottingham

Using hydrophobicity to tune the hydrolysis rate of charge switchable non-viral polymeric gene delivery vectors

17:30-18:00 - Parallel sessions S1.4

S1.4A: Exhibitor presentations

Chair: Professor Trevor M Jones CBE FMedSci

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Dr Mridul Majumder, BPharm Founder & Director, M2M Pharmaceuticals Ltd
M2M Pharmaceuticals Ltd: Our Journey So Far...

Dr Simon Roberts, Account Manager (Pharmaceuticals, UK & Ireland), Ashland Specialties UK Ltd

Aquarius Genesis – an ultra-high speed, high gloss film coating system in continuous and batch processes

S1.4B: Exhibitor presentations

Chair: Jo Craig, SVP CMC, NeRRe & KaNDy Therapeutics

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Dr Nachal Subramanian, Sales Executive -Benelux
Dynamic Vapour Sorption technology for pharmaceutical applications

David Evans, Technical Product Manager, Genvolt Ltd

Powering nano technology

S1.4C: The innovation landscape for medicines manufacturing

Chair: Dr Marcel Kuiper, Knowledge Transfer Manager Health, Knowledge Transfer Network Ltd

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Dr Andreea Iftimia-Mander, BChemE MScMChemE PhD, Innovation Lead - Enabling Programmes, UK Research and Innovation

UKRI and ISCF landscape

18.00 Posters and networking

19.00 PharmSci 2019 BBQ, poster prizes and networking event

Thursday 12th September

08.30 Registration, exhibition, poster viewing and welcome refreshments		
09.00-11.00 Plenary session S2.1. LECTURE THEATRE 11_0003 Stockwell St Bldg		
09.00	The potential of 3D printing in the development and manufacture of medicines and its impact upon pharmacy <i>Professor Clive Roberts, Professor of Pharmaceutical Nanotechnology, Head of School of Pharmacy, University of Nottingham</i>	
10.00	The role of health economics in the development, evaluation and commissioning of new technologies <i>Professor Rachel Elliott, Professor of Health Economics, Deputy Centre Lead, Manchester Centre for Health</i>	
11.00 Refreshments, exhibition and poster viewing UNDERCROFT		
11.30-13.00 - Parallel sessions S2.2		
S2.2A: Smarter medicines by design 1 - United Kingdom & Ireland Controlled Release Society (UKICRS) <i>Chair: Dr Zahra Rattray, Chancellor's Fellow and Lecturer, Strathclyde Institute of Pharmacy and Biomedical Sciences</i> LT QA080 Queen Anne Court Building <i>Dr Maria J. Vicent, PhD, Polymer Therapeutics Lab, Centro de Investigación príncipe Felipe, Spain</i> Polypeptide-based conjugates as versatile therapeutics <i>Dr Asha Kumari Patel, Lecturer in Cell & Gene Therapy, Imperial College London</i> Developing inhaled mRNA therapeutics for lung disease Podium presentations: <i>Dr Thais Abelha, Research Fellow, University of Nottingham</i> Nanoparticle uptake screening in different human cell lines: effect of nanoparticle size, PEG length and cell type <i>Dr Asma Patel, Senior Director Development, Quotient Sciences</i> Clinical optimisation of modified-release CNS products using formulation design space strategies	S2.2B: Biopharmaceutics Next generation delivery systems for the delivery of complex molecules <i>Chair: Dr Mark McAllister, APS Chair</i> LT QA065 Queen Anne Court Building <i>Professor Randy Mrsny, Professor of Epithelial Cell Biology, Department of Pharmacy and Pharmacology, University of Bath</i> Update on oral delivery of therapeutic proteins and peptides <i>Dr Vipul Yadav, Director of Research, Intract Pharma Ltd</i> Converting injectable antibodies into safe and simple oral pills? Podium presentations: <i>Professor Andrew Lewis, VP R&D, Biocompatibles UK Ltd</i> Unlocking the DEBIRI paradox <i>Dr Robert Cavanagh, Post-Doctoral Research Fellow, University of Nottingham</i> Screening of mixed co-poly(ester-carbonate) PEG-based nanoparticles for breast cancer therapy: an in vitro and biodistribution based approach	S2.2C: Diagnostics for detection of microorganisms <i>Chair: Professor Martin Snowden, Pro Vice Chancellor, University of Greenwich</i> QA063 / Council Room Queen Anne Court Building <i>Dr Ashraf Ismail, Associate Professor, Food Science and Agricultural Chemistry, McGill University, Canada</i> Microbial identification and typing by Fourier Transform Infrared (FTIR) and NMR whole-organism fingerprinting techniques <i>Dr Alexander Edwards, Associate Professor of Biomedical Technology, Reading School of Pharmacy</i> Tiny test tubes for rapid antibiotic susceptibility testing: Low-cost smartphone analytical microbiology using microcapillary film Podium presentations: <i>Dr Keng Wooi Ng, Lecturer, Newcastle University</i> Gel-based, 3D visual and colorimetric detection of a skin cancer biomarker using immunodiagnostic microneedles <i>Dr Dharaminder Singh, Senior Bioengineer, CNBio</i> A microfluidic addition and removal device for the investigation of the PK/PD/efficacy relationship of PI3K inhibitors in vitro

13.00 Lunch, exhibition and poster viewing

UNDERCROFT

13.00 APS Annual General Meeting

QA080, Queen Anne Court Building

14.00-15.30 - Parallel sessions S2.3

S2.3A: Smarter medicines by design 2 - United Kingdom & Ireland Controlled Release Society (UKICRS)

Chair: *Dr Maria Marlow, University of Nottingham*

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Queen Anne Court Building

Dr Enrico Ferrari, Senior Lecturer, University of Lincoln

Design of nanomedicines by smart decoration of gold nanoparticles

Professor Manuel Salmeron-Sanchez, FRSE, Chair of Biomedical Engineering, Head of Division of Biomedical Engineering, School of Engineering, University of Glasgow

Advanced biomaterials for engineered in vitro tissue models

Podium presentations:

Andi Dian Permana, PhD Student, School of Pharmacy, Queens University Belfast

Enhanced intradermal delivery of ivermectin using the combination of nanosuspensions and dissolving microneedles as a therapy for lymphatic filariasis

Giuseppe Uras, PhD student, University of Nottingham - School of Pharmacy

Newly synthesized AChE inhibitor with dual binding site reduces the β -amyloid aggregation in a Drosophila Alzheimer's Disease model

S2.3B: New Scientist Focus Group

Chair: *David Streather, AstraZeneca*

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Dr Asma Buanz, Lecturer in Pharmaceutical Engineering, UCL School of Pharmacy

Pushing the boundaries to make better medicines

Jean Philippe Ganay, Senior Associate Scientist, Pfizer

A day in the life of a formulation scientist

Dr Farnaz Esmaeili, Senior Scientist, CGT department, GSK

Journey of a pharmaceutical scientist to serve the patients

Podium presentations:

Elliott Higgin, Postgraduate Research Student, King's College London

Design and generation of new absorption enabling peptides for oral delivery of biologics

Sarah J Trenfield, PhD Researcher, UCL School of Pharmacy

Track-and-Trace: Novel anti-counterfeit measures for 3D printed medicines using smart material Inks

S2.3C: 3D printing

Chair: *Professor Dennis Douroumi, Professor in Pharmaceutical Technology and Process Engineering, Director of Centre for Innovation in Process Engineering and Research (CIPER)*

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Professor Jukka Rantanen, Professor of Pharmaceutical Technology and Engineering, Department of Pharmacy, University of Copenhagen, Denmark

Printing of information-rich pharmaceuticals

Dr Sheng Qi, Reader, University of East Anglia

A toolkit for the rational formulation development of 3D printed pharmaceutical solid dosage forms

Podium presentations:

Sarah J Trenfield

Automated therapy preparation using 3D printing of isoleucine formulations for treatment of MSUD: first single-centre, prospective, crossover study

Sophia Nikoleta Economidou, Medway School of Pharmacy, University of Kent

3D printed microneedles combined with a microelectromechanical system (MEMS) for transdermal drug delivery

15.30 Refreshments, exhibition and poster viewing

16.00-17.15 – Parallel sessions S2.4

S2.4A: New Scientist Focus Group

Career options in the pharmaceutical industry and networking skills

Chair: *Dr Matt Reason, Materials Technical Lead, GSK*

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Dr Bruce Alexander, Principal Lecturer, Physical Chemistry, University of Greenwich & Dr Yvonne Pendry, Postgraduate Progression Coordinator, Employability & Careers Service, University of Greenwich

Career options in the pharmaceutical industry and networking skills

S2.4B: Review session: Antibody-drug conjugates

Chair: *Jo Craig, SVP CMC, NeRRe & KaNDy Therapeutics*

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Dr Mark Frigerio, Vice President, Design and Development, Abzena

An overview of the ADC design and development landscape

S2.4C: Review session: Immunotherapy

Chair: *Professor Bill Dawson, Consultant, Bionet*

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Professor Robin Shattock, Chair in Mucosal Infection and Immunity, Faculty of Medicine, Department of Medicine, Imperial College London

Emerging technologies for vaccines and biotherapeutics

17.15-18.00 - Plenary S2.5.

LECTURE THEATRE 11_0003 Stockwell St Bldg

17.15

Debate on open access

What do we want from publishing – Open Access and beyond....

*David Jones, Pro-Vice-Chancellor for Education and Students at Queen's University Belfast
Anne Marie Pordon, Publisher Pharmacology and Pharmaceutical Sciences, Elsevier*

19.00

APS Black-Tie dinner

THE PAINTED HALL

Programme

Friday 13th September

08.30 Registration, exhibition, poster viewing and welcome refreshments

09.00-11.00 - Plenary session S3.1 LECTURE THEATRE 11_0003 Stockwell St Bldg

- 09.00 **Innovative Science Award Plenary Lecture (sponsored by GSK)**
Professor Abdul Basit, Pharmaceuticals, University College London, School of Pharmacy
Lost in translation
- 09.50 **Emerging Scientist Award Plenary Lecture (sponsored by Pfizer)**
Dr Clare Hoskins, Senior Lecturer in Pharmaceuticals, Keele University
Nano-assassins for pancreatic cancer therapy
- 10.40 **Closing address**
Professor Cameron Alexander, CChem, FRSC, FHEA, FIMMM, Science Chair – UK PharmSci 2019, Professor of Polymer Therapeutics, Royal Society Wolfson Research Merit Fellow, University of Nottingham
Dr Mark McAllister, APS Chair
Professor Martin Snowden, University of Greenwich

11.00 Refreshments, exhibition and poster viewing

11.30-13.00 - Parallel sessions S3.2

S3.2A: Nanomedicines Focus Group Pharmaceutical sciences in a changing world with the sub themes of sustainability and diversity

Chair: *Dr Philipp Seib, Senior Lecturer, Strathclyde Institute of Pharmacy and Biomedical Sciences*

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Professor Hélder A. Santos, Associate Professor, Nanomedicines and Biomedical Engineering, University of Helsinki, Finland

Multifunctional nanomedicines for cancer and cardiovascular diseases

Dr Floriane Séquier, Team Leader, Global Product Development, AstraZeneca

Progressing the development of AZD2811 nanoparticles for intravenous administration

Podium presentations:

Az Alldien Natfji, PhD Student, School of Pharmacy, University of Reading

Polymer-drug conjugates as non-prodrug systems, a strategy offering peripheral localisation of drugs and retained biological activity

Dr Cynthia Bosquillon, University of Nottingham

Evaluation of lysosomal sequestration in bronchial epithelial cells as a mechanism of drug retention in the lungs

S3.2B: Process engineering and product formulation

Manufacturing Classification System (MCS) recent developments

Chairs: *Neil Dawson, Pfizer R&D & Dr Kendal Pitt, Senior Technical Director, Pharma Supply Chain, GSK*

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Neil Dawson, Pfizer R&D & Dr Kendal Pitt, Senior Technical Director, Pharma Supply Chain, GSK

MCS Recent developments and publications

Audience Interaction and Discussion
MCS future opportunities

Podium presentations:

Hetvi Triboandas, PhD student, De Montfort University

Continuous manufacture and monitoring of itraconazole amorphous solid dispersions by hot melt extrusion using in-line UV-Vis spectroscopy

Gillian Berrie, PhD Student, University of Strathclyde

Manufacture of fully synthetic liposomes using microfluidics

S3.2C: Biotherapeutics, vaccines and parenterals

Chair: *Dr Rachel Knott, Reader School of Pharmacy and Life Sciences, Robert Gordon University*

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Dr Jonathan Bones, Principal Investigator, National Institute for Bioprocessing Research and Training

Multi-attribute testing for biotherapeutics

Dr Ian Anderson, Senior Manager (Analytical Sciences), Allergan Biologics Ltd (R&D), Estuary Banks

Analytical challenges of using adeno-associated virus as a delivery system for gene therapy

Podium presentations:

Dr Joshua Boateng, University of Greenwich at Medway

Development and characterization of protein loaded biomaterial based composite dressings for the treatment of chronic wounds

Dr Nathalie Lavignac, Lecturer, Medway School of Pharmacy

Poly(amidoamine)/protein conjugates

13.00 Lunch, exhibition and poster viewing, prizes and close of conference: