RSC Biomaterials Chemistry Group 19th Annual Meeting
8th – 10th January 2025
Burlington House, Piccadilly, London

Sponsors

Programme

Wednesday, January 8th, 2025

13:00 Arrival, Registration, Posters setup, Coffee/Tea

Session 1 Chair: Prof C. Sammon (Sheffield Hallam University)

13:55 Welcome and housekeeping

14:00 Prof S. Perrier (University of Warwick)
Title: *Nanostructured Materials for Bioapplications*

14:30 Charles Brooker (University of Leeds)
Title: *Mechanical and suture-holding properties of a UV-cured atelocollagen membrane for guided bone regeneration*

14:45 Triona Kirabo (University of Reading)
Title: *Amphoteric copolymers as new pharmaceutical biomaterials: synthesis, characterisation and toxicological studies*

15:00 Nicola Kelly (University of Liverpool)
Title: *Novel Electrospun Materials for the Advancement of Lateral Flow Diagnostics*

15:15 Jake Edmans (University of Sheffield)
Title: *Bead-on-string electrospinning for the encapsulation of protein-loaded copolymer vesicles within poly(ethylene oxide) fibres*

15:30 Qixun Chu (University of Manchester)
Title: *Designing the self-assembling peptide - biopolymer bioinks for 3D bio-printing applications*

15:45 Coffee/Tea break

Session 2 Chair: Dr M Elsawy (University of Manchester)

16:15 Dr A. Pinna (University of Surrey)
Title: *Silica mesoporous nanostar and their interaction with biological environment*

16:45 Dimitrios Kontziampasis (University of Leeds)
Title: *Advanced plasma surface engineering for cardiac cell manipulation*

17:00 Chantelle Spiteri (King's College London)
Title: *Spatially-resolved transfection by porous silicon-mediated optoporation*

17:15 Selase Torkornoo (Max Planck Institute for Sustainable Materials)

Title: *Unveiling nanometric phase formation and oxidation achieved by powder metallurgy processing routes of Zn-Mg-(Ag) alloys for bioresorbable implants*

17:30 Reshma McMullan (Ulster University)
Title: *3D Printing of Polyaryletherketone (PAEK)/Apatite composites for lattice structures for Orthopaedic Implants*

17:45 Carlos Neri (Queen Mary University of London)
Title: *Design of Hierarchical Block-Copolymer Brushes for Enhanced siRNA Delivery*

18:00 Poster session & Drink Reception

Thursday, January 9th, 2025

Session 3 Chair: Dr A Boyd. (University of Belfast)

09:00 Dr J. Borges (University of Aveiro)
Title: *Leveraging supramolecular polymeric biomaterials for regenerative medicine strategies*

09:30 Ian Hamley (University of Reading)
Title: *Lysine-Rich Lipopeptides: Biosurfactants and Bioactive and Model Colloidal Systems*

09:45 Nastaran Zoghi (University of Manchester)
Title: *Influence of End-Residue on the Properties of Self-Assembled β-Sheet-Forming-Peptide Hydrogels*

10:00 Roberto Di Pasquale (University of Surrey)
Title: *3D printing of hybrid polyphosphate coacervate gels for bone scaffolds manufacturing*

10:15 Himanshi Mishra (Renovos)
Title: *RENOVITE®: A Novel Injectable Clinical-Grade Nanoclay for Targeted Biomedical Applications*

10:30 Hilal Mete Gunaydin (University of Birmingham)
Title: *The development of ionotropically gelled alginate to mimic the mechanical properties of skin*

10:45 Coffee/Tea break

Session 4 Chair: Dr D. Carta (University of Surrey)

11:15 Dr G. Mantovani (University of Nottingham)
Title: *Glycan polymers and beyond*

11:45 Georgios Mikalef (University of Birmingham)
Title: *Characterisation of an Electroactive hydrogel actuator and its biomedical applications*

12:00 Alexander Robson (University of Sheffield)
Title: *A cold atmospheric plasma-composite hydrogel delivery system for anti-cancer drugs*

12:15 Moira Lorenzo Lopez (University of Liverpool)
Title: *Nanoparticle label-free tracking technique as an indirect hydrogel characterization platform*

12:30 Stefano Pretto (University of Manchester)
Title: *Self-Assembling Peptide Hydrogels: Moving towards Sustainable 3D Liver Models in Drug Discovery*

12:45 Alexandros Magiakos (University of Warwick)
Title: *A tuneable hydrogel platform based on platinum-containing polymeric arsenicals*

13:00 Buffet lunch

Session 5 Chair: Dr S Deb. (King's College London)

14:00 Dr D. Al-Sulaiman (KAUST University)
Title: *Smart Polymeric Microneedles for Non-invasive Transdermal Drug Delivery and Electrochemical Biosensing*

14:30 Rafeullah Amiri (University of Nottingham)
Title: *Enzyme Responsive Hydrogels For Personalised Drug Delivery*

14:45 Ningjia Sun (King's college London)
Title: *Nanoneedle-Based Electroporation for Efficient Manufacturing of Human Primary Chimeric Antigen Receptor Regulatory T-Cells*

15:00 Chenlei Gu (King's College London)
Title: *Nanoneedle biopsy for nondestructive temporal lipidomics of tissue*

15:15 Daniel Yanes (University of Nottingham)
Title: *Identification of key drivers of liposome drug release*

15:30 Poster session & Coffee/Tea break
Best poster prize judging

Session 6 Chair: Dr M. Zelzer (University of Nottingham)

17:00 Dr M. Elsawy (University of Manchester)
Title: Simple & Smart: Minimalistic Design Approach for the Development of Peptide Nanomaterials

17:30 RSC Biomat Chem Group AGM
All welcome

18:30 Conference dinner Burlington House
Sit-down dinner

Friday, January 10th, 2025

Session 7 Chair: Prof P. Roach (University of Loughborough)

09:00 Prof R. D'Sa (University of Liverpool)
Title: *Infection Wars: A New Hope*

09:30 Lena Dalal (University of Warwick)

Title: *Design and evaluation of cationic antimicrobial polyacrylamides*

09:45 Maddie Berrow (University of Nottingham)
Title: *Chlorhexidine Digluconate Epoxy Resin: A Durable and Potent Antimicrobial Coating to Eliminate Microbial Contamination and Disease Transmission*

10:00 Lauren Churchill (University of Manchester)
Title: *Design of peptide hydrogels for ocular drug delivery*

10:15 Thomas Robinson (University of Birmingham)
Title: *Function and Delivery of Antifibrotic Polysaccharides*

10:30 Vahid Heravi Shargh (University of Liverpool)
Title: *NO-releasing liposomal formulations for the treatment of respiratory infections*

10:45 Coffee/Tea break

Session 8 Chair: Prof C. Sammon (Sheffield Hallam University)

11:15 Prof T. Georgiou (Imperial College)
Title: *Tuning the gelation temperature of injectable thermogels*

11:45 Runxin Xu (Imperial College London)
Title: Development of Enzyme-responsive Nanogels for Treating Inflammatory Diseases

12:00 Rupali Dabas (Imperial College London)
Title: *Redox-responsive nanogels facilitate in vitro and in vivo RNA delivery*

12:15 Sofia Patri (Imperial College London)
Title: *Magnetic nanogels for combined hyperthermia and chemotherapy of prostate cancer*

12:30 Imogen Walker (University of Liverpool)
Title: *Development of Inhaled Therapeutic Polymeric Nanoparticles for the Treatment of Respiratory Infections*

12:45 Prizes announcement and concluding remarks

13:00 Lunch, poster dismount and departure

Poster contributions:

N°	**Presenter / *Institution***	**Title**
1	Abdelrhman Moustafa *De Montfort University*	Co-assembled peptide emulgels: Promising adjuvanted vehicles for nasal delivery of influenza subunit vaccine
2	Aaron Lee *Imperial College London*	Design of a conducting self-assembling peptide hydrogel material for spinal cord injury repair
3	Dinara Satmbekova *University of Reading*	Synthesis of antimicrobial polymeric ionenes and their evaluation in Galleria mellonella in vivo model
4	Alfred Corrigan *University of Manchester*	Reversibly adhesive thermo-responsive peptide hydrogels for localised drug delivery
5	Jon Gorman *University of Leeds*	Smart wound dressings with on-demand antimicrobial therapeutics

6	Stefana Duca *University of Nottingham*	Cell penetrating peptides for enhanced intranasal drug delivery
7	Lineta Stonkute *University of Glasgow*	Multicomponent supramolecular hydrogels for nerve repair
8	Cadhan O'Garra *University of Liverpool*	Fabrication of Antibacterial NO Releasing Cellulose Acetate Nanofibers for Wound Healing Applications
9	Eleanor Yates *University of Sheffield*	Plasma activated hydrogel release of Polymyxin B for wound disinfection
10	Yasmeen Ezzeldeen *British University in Egypt*	Advances Towards Industrial-Scale Manufacturing of Eco-Friendly Nano-Pharmaceuticals
11	Zizheng Ge *Imperial College London*	pH-Responsive Virus-shaped Mesoporous Silica Nanoparticles for Extra-Pulmonary Tuberculosis treatment
12	Monica Montesi *ISSMC NRCI*	Biomimetic 3D In Vitro Models of Osteosarcoma: A Novel Hydrogel-Scaffold System for Enhanced Therapeutic Research
13	Silvia Panseri *ISSMC NRCI*	Enhancing excellence for the development of advanced predictive and therapeutic models for osteosarcoma
14	Sara Ali Hosseinzadeh *University of Manchester*	Development of Peptide-Chitosan Hydrogel Composites for Wound Healing Applications
15	Ayimuhan *University of Manchester*	Design of PVA hydrogels with self-assembled peptide for drug delivery applications
16	Niall Mahon *University of Manchester*	New Approaches in the Production of Textured, Cultured Meat
17	Kornkanok Wejchapan *University of Bristol*	Oxygen-modulated biomimetic 'breathing' tissue from photo-crosslinked protocells
18	Rebekah Kay *University of Manchester*	Engineering bio/material inks for bioprinting of multicellular and mechanically tuneable hydrogels
19	Yi-Tung Lu *University of Manchester*	Sustained growth factor delivery from bioactive PNIPAM-grafted-chitosan/heparin multilayers as a tool to promote cell behaviours
20	Juliette Sarciron *University of Nottingham*	Liquid crystal formation in oligonucleotide solutions and characterisation of their molecular structure
21	Genevieve Schleyer *University of Liverpool*	Quantifying the Effect of Cell Layers on Nanoparticle Diffusion in Experimental Models
22	Ryan Meechan *University of Birmingham*	The Development of High Strength Vascular Adhesives
23	Arjan Sall *University of Birmingham*	A thermo-responsive shape memory polymer for the delivery of an implantable hypertension sensor
24	Ji Song *University of Warwick*	Cationic Polymers for Gene Delivery in Colorectal Cancer: Impact of Protonation Behaviour and DNA Complexation
25	Lewis O'Shaughnessy *University of Nottingham*	Exploiting multicomponent reactions to synthesise biologically compatible polycations for non-viral gene delivery
26	Cliona Ni Chochlain *Imperial College London*	Development of theranostic gold nanoparticle encapsulated systems: aqueous synthesis and characterization of gadolinium-tethered nanogels

27	Ruslan Mohamed *University of Nottingham*	Rational polymer design for microarray transdermal delivery
28	Mariam Mammen *Nottingham Trent University*	Vaterite CaCO3 Crystals as a Versatile Platform for Drug Delivery into Cells