



UNIVERSITY OF
LIVERPOOL

LIVERPOOL



UK Society for Biomaterials (UKSB)

Annual Conference Programme 2024

10th – 12th June 2024

**Co-hosted by the Faculty of Science and
Engineering and Faculty of Health and Life Sciences**

Event sponsors:



UKSB Speakers Programme 2024

Day 1 - Monday 10th June

12:00- 14:00 Registration and poster set up

12:30 Lunch

13:45 Welcome

14:00 Session 1 **Drug Delivery**

Time	Presentation
14:00-14:30	Invited Talk - Prof Raechelle D'Sa, University of Liverpool Infection Wars: A New Hope
14:30-14:45	M Elwasy, University of Manchester (Talk 1) Multicomponent peptide nanofibrous systems for the controlled delivery and augmentation of cytotoxic activity of anti-cancer drugs
14:45-15:00	K Novakovic, University of Newcastle (Talk 2) Microneedle technology for ultra-long and tuneable release of actives
15:00-15:15	Y Acar, University of Loughborough (Talk 3) Surface modifications for the development of drug eluting small diameter stents
15:15-15:30	A Basalo Martinez, Imperial College London (Talk 4) Screening Poly(Beta-Amino ester) nanoparticles for mRNA delivery to primary human dermal cells for local therapeutic lymph angiogenesis
15:30-15:35	UKSB Sponsor Talk – Park Systems

15:35 Break

16:00-17:30 Session 2 **Hydrogels**

Time	Presentation
16:00-16:30	Invited Talk - Dr Linna Zhou, University of Oxford Building 3D Human Tissue Models for Disease and Repair
16:30-16:45	A Atwal, Keele University (Talk 5) A novel granular hydrogel system for cartilage repair
16:45-17:00	R Xie, University of Liverpool (Talk 6) Harnessing remote controlled forces to advance biofabrication
17:00-17:15	D Bax, University of Cambridge (Talk 7) Directing respiratory organoid development via tailored 3D environments
17:15-17:30	Y Pi, Imperial College London (Talk 8) Injectable aminoxy-functionalised biomaterials to reduce cardiac fibrosis
17:30-17:35	UKSB Sponsor Talk – Fluidnatek

17:35-19:00 Poster session

Day 2 - Tuesday 11th June

09:00 -10:30 Session 3 **Antimicrobial and Wound Repair**

Time	Presentation
09:00-09:30	Invited Talk - Dr James Henstock, Northumbria University BioFutures: New Frontiers for Biomaterials Research in Cellular Agriculture and Bioreactor Design
09:30-09:45	A Dundas, University of Nottingham (Talk 9) Next generation bio-instructive polymer microparticles for wound care
09:45-10:00	M Dallos Ortega, University of Liverpool (Talk 10) 3D printing of drug loaded constructs for antibacterial and analgesic dental applications
10:00-10:15	M Loughton, University of Hull (Talk 11) Viscoelastically Active Sutures & Structure: mono vs. multifilament
10:15-10:30	O Hussain, University of Sheffield (Talk 12) Antimicrobial glasses for potential use in High performance composites for clinical applications
10:30-10:35	UKSB Sponsor Talk – Harvard Biosciences

10:35-11:00 Break

11:00-12:30 Session 4 **In silico**

Time	Presentation
11:00-11:30	Invited Talk - Dr Wahbi El-Bouhri, University of Liverpool Digital Twins: A 'Hallucination' or Clinical Reality
11:30-11:45	F Eroglu, University of Manchester (Talk 13) Engineering a physiologically relevant scaffold and scaffold-free bone model for investigating breast cancer metastasis to bone
11:45-12:00	Y Hu, Imperial College London (Talk 14) Mechanically Tuneable Bi-Fabricated Lymphatic Vessel Construct
12:00-12:15	D L 'Abbate, University of Liverpool (Talk 15) Finite element modelling to evaluate the effects of injection parameters on bleb shape
12:15-12:30	K Jaworska, University of Huddersfield (Talk 16) Development of a 3D bioengineered glioblastoma model to evaluate cell migration
12:30-12:35	UKSB Sponsor Talk - Nikon

12:30-13:30 Lunch and posters

13:30-15:00 Session 5 Antimicrobial and Wound Repair

Time	Presentation
13:30-14:00	Presidents Prize - Prof Dame Molly Stevens, University of Oxford Designing and Translating Nanomaterials for Healthcare
14:00-14:15	C O 'Garra, University of Liverpool (Talk 17) Fabrication of antibacterial NO releasing Cellulose Acetate nanofibers for wound healing applications
14:15-14:30	A Morgan, University of Sheffield (Talk 18) Manufacture of a synthetic bilayer featuring rete ridges for skin regeneration

14:30-14:45	N Contessi Negrini, Imperial College London (Talk 19) Handheld bioprinting of exosome-laden click hydrogels for wound healing
14:45-15:00	C Hill, University of Hull (Talk 20) Response of wounds care devices to physiological dynamic testing

15:00-15:30 Break

15:30-17:00 Session 6 **Bone**

Time	Presentation
15:30-16:00	Alan Wilson Prize - Prof Will Palin, University of Birmingham From Light Curing to Curing with Light
16:00-16:15	A Arjuna, University of Nottingham (Talk 21) Porous samarium-Doped Phosphate Glass Microspheres as Brachytherapy materials to Treat Spinal Metastases
16:15-16:30	I Albu, University of Manchester (Talk 22) Biofabrication of a 3D bone tissue analogue with immunomodulatory factors to induce neovascularization and osteogenesis
16:30-16:45	S Tiplady, Queens University Belfast (Talk 23) Evaluating the effect of strontium doping on polymer ceramic scaffolds in an osteoporotic co-culture study
16:45-17:00	F Hasson, Ulster University (Talk 24) PEKK-Hydroxyapatite Composites for Patient Matched 3D Printed Medical Implants

Conference Dinner **Liver Building**

Day 3 - Wednesday 12th June

09:30-10:30 Session 7 **Larry Hench Young Investigator Award and Rapid Fire**

Time	Presentation
09:30-09:35	B De Vega, University College London (RF1) Enhancing Bone Defect Reconstruction: 3D Printing Bone Scaffolds with Biodegradable Polymers-Ceramics Composite
09:35-09:40	E Briggs, University of Manchester (RF2) Direct Current Electrical Stimulation Enhances Cell Viability and Osteogenic Differentiation of Mesenchymal Stem cells in 2D and 3D Conditions
09:40-09:45	T Zhao, Imperial College London (RF3) Dental Regenerative Adhesive Using Gelatin-Methacryloyl/Bioactive Glass
09:45-09:50	M Lu, University of Sheffield (RF4) Mimicking the tendon-to-bone interface via the fabrication of chemically and mechanically graded electrospun scaffolds
09:50-09:55	N Kelly, University of Liverpool (RF5) Optimising membrane design for diagnostic applications.
09:55-10:00	K Ganabandy, Imperial College London (RF6) Enzyme-responsive hydrogels as skeletal muscle implants
10:00-10:05	B Steel, University of Cambridge (RF7) Functionalisation and Crosslinking of Collagen for Peripheral Nerve Regeneration
10:05-10:10	R Correia, Imperial College London (RF8)

	Design and optimisation of a handheld bioprinting device for bioorthogonally crosslinked hydrogels
10:10-10:15	A Taylor, University of Birmingham (RF9) Bio-responsive composite fluid gels for the advancement of wound healing.
10:15-10:20	E Amadi, University of Sheffield (RF10) 3D Printed Bacterial Cellulose Based Hydrogel Patches for Wound Healing
10:20-10:25	C Barbut, University of Manchester (RF11) Development of dermal matrix with revascularization properties to advance the integration of skin substitutes
10:25-10:30	J Hollett, University of Liverpool (RF12) Optimising initial cell attachment onto melt-electrowritten scaffolds
10:30-11:00	Larry Hench Young Investigator Award – Dr Sam Moxon, University of Birmingham Engineering of Complex Biological Systems via Advanced Manufacturing Technologies

11:00-11:30 Break

11:30 – 13:30 Session 8 **General**

Time	Presentation
11:30-11:45	M Lorenzo Lopez, University of Liverpool (Talk 25) Nanoparticles diffusion in hydrogels as in vitro vitreous substitutes
11:45-12:00	M Gunen, University of Sheffield (Talk 26) Design and fabrication of a smart biomaterial device with artificial microenvironments for aiding corneal healing
12:00-12:15	G Schleyer, University of Liverpool (Talk 27) Quantifying the influence of protein interactions on nanoparticle diffusion in the presence of cells
12:15-12:30	C S Taylor, University of Sheffield (Talk 28) Manufacturing Core sheath fibres for nerve tissue engineering Applications
12:30-12:45	J Burns, Queens University Belfast (Talk 29) Assessment of intermittent urinary catheter performance through an ex vivo porcine urethral model
12:45-13:00	E Croft, University of Liverpool (Talk 30) Concepts of Radiochemistry: A Material Tracking Tool Within Biological Tissues
13:00-13:15	V Khutoryanskiy, Reading University (Talk 31) Exploring Mucoadhesive and toxicological properties of polyampholytes
13:15-13:30	V Citro, University of Keele (Talk 32) Mesoporous silica nanoparticles, electrospun in PCL fibres, bio-mechanical platform for MSCS tenogenic differentiation

13:30-13:45 Closing remarks and prizes

Lunch (grab bags) and leave