Tissue & Cell Engineering Society Conference

June 18-20th 2025

DRAFT AGENDA

Welcome from the Conference Chair

Dear delegates,

It is my great pleasure to be chairing **TCES 2025**, and on behalf of the local organizing committee, I take this opportunity to warmly welcome you all to the city of Bristol this June. We have chosen to host this meeting in the **City Hall**, a Bristol landmark at the bottom of the historic Park Street, sitting adjacent to the beautiful College Green and Bristol Cathedral. We hope that this setting provides an inspiring backdrop for three exciting days of science!

I would like to extend our heartfelt thanks to our distinguished keynote speakers, Professor **Marcy Zenobi Wong**, Professor **Alvaro Mata**, Professor **Vivian Li**, and Professor **Massimo Caputo**. They each bring a wealth of experience across our four themes: enabling technologies, advanced biomaterials, *in vitro* modelling, and clinical tissue engineering, and we are looking forward to hearing their latest discoveries! This year, we have also invited a previous recipient of the TCES Robert Brown Award, Dr **Sam Moxon**, who will deliver a keynote talk on his journey in academia and industry. We hope that this will complement our meet-the-mentor initiative to provide guidance to our large network of early career researchers. We were delighted to see a large number of abstracts submitted by the tissue and cell engineering community – thank you to the **TCES Committee** and our **Scientific Advisory Board** for judging. We are very much looking forward to seeing all of this science on display in the form of podium talks and poster presentations.

Conferences are not all about the science though! We have made sure to build in plenty of breakout time to refuel with caffeine and snacks, and speak with other delegates. Please do also take this opportunity to engage with our sponsors and exhibitors, without whom the conference would not be possible. Last but not least, we have lined up two big networking events: an open drinks reception and DJ set at **Illuminati** on the 18th June and a ticketed dinner and social at the **Bristol Hotel** on the 19th June.

Looking forward to meeting you on the 18th June!

Dr James Armstrong

TCES 2025 Conference Chair

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BIOFABRICATION

Wednesday 18th June

12:00 – 13:30	Lunch, Registration & Poster Set Up in the **City Hall Foyer** and **Queen Elizabeth II Conference Hall**	
SESSION 1: ENABLING TECHNOLOGIES - QUEEN ELIZABETH II CONFERENCE HALL Chairs: James Armstrong, Farnaz Ghorbani		
13:30 – 13:36	**James Armstrong** University of Bristol **Sarah Cartmell** University of Manchester	Opening Remarks
13:36 – 14:18	**Marcy Zenobi-Wong** ETH Zürich	*Keynote Talk*: Engineering tissues with architected scaffolds
14:18 – 14:30	**Emma Jackson** University of Glasgow	Magnetic hydrogels for bone tissue engineering
14:30 – 14:42	**Emily Atkinson** University College London	An immunomodulatory encapsulation system promotes the survival of hiPSC-derived dopaminergic neurons against T cell-mediated death
14:42 – 14:48	**Rania Deranieh** Bright Biotech	*Sponsor Talk*: Bright Biotech
14:48 – 15:00	**Ioanna Rigou** University of Glasgow	Nanovibrational control for chondrogenic differentiation
15:00 – 16:00	Refreshments & Posters in the **City Hall Foyer** and **Queen Elizabeth II Conference Hall**	
SESSION 2: ENABLING TECHNOLOGIES - QUEEN ELIZABETH II CONFERENCE HALL Chairs: Fengyuan Liu, Farnaz Ghorbani		
16:00 – 16:12	**Mallica Pandya** University College London	Engineering shape changing light-activated tissues
16:12 – 16:24	**Sam Shorthouse** University of Bristol	Development of an automated workflow for the characterization and ranking of neural organoid morphology
16:24 – 16:30	**Matthew Reynolds** Thermo Fisher Scientific	*Sponsor Talk*: Thermo Fisher Scientific
16:30 – 16:42	**Zahra Kafrashian** Leibniz INM	Light-guided drug delivery: multimaterial waveguide biofabrication for remote bacteria activation
16:42 – 16:54	**Tiangyang Liu** University College London	Development of lipid nanoparticles to deliver mRNA into Schwann cells to facilitate nerve regeneration
16:54 – 17:00	**Darren Heywood** Promega	*Sponsor Talk*: Promega
17:00 – 17:12	**Jinju Chen** Loughborough University	Computational tissue engineering to predict cell-biomaterials interactions
17:12 – 17:30	**Holly Gregory** University College London	*Robert Brown Award Shortlist*: Delivery of small molecules and growth factors from microparticles and nanofibrous scaffolds for nervous system repair
17:30 – 19:00	Drinks Reception & Meet the Mentor Event at **Illuminati**	
19:00 – 23:59	DJ Set and Dancefloor at **Illuminati**	

Thursday 19th June - Morning

SESSION 3: ADVANCED BIOMATERIALS - QUEEN ELIZABETH II CONFERENCE HALL Chairs: Fengyuan Liu, Mina Aleemardani		
09:00 – 09:42	**Sam Moxon** Aegis FibreTech LTD	*Keynote Talk*: From lab to launch: a journey from academia to advanced materials entrepreneurship
09:42 – 09:54	**Laura Sabio** University of Glasgow	Probiotic-based living materials with inducible antioxidant properties
09:54 – 10:00	**Shaun Ryder** Merck Life Science	*Sponsor Talk*: Merck Life Science
10:00 – 10:12	**Mingjing Zhang** University College London	Systematic characterization of GPTMS-crosslinked chitosan, collagen, and hybrid scaffolds for cartilage tissue engineering
10:12 – 10:18	**Rowan Taylor** Nikon Healthcare UK	*Sponsor Talk*: Nikon Healthcare UK
10:18 – 10:30	**Robert Owen** University of Nottingham	Harnessing geometry to drive tissue formation in three-dimensions
10:30 – 11:10	Refreshments & Posters in the **City Hall Foyer** and **Queen Elizabeth II Conference Hall**	
SESSION 4: ADVANCED BIOMATERIALS - QUEEN ELIZABETH II CONFERENCE HALL Chairs: Wael Kafienah, Mina Aleemardani		
11:10 – 11:22	**Nazia Mehrban** University of Bath	Smart integrative biomaterials: from regenerative medicine to device envelopes
11:22 – 11:34	**Merve Demir** University of Nottingham	The re-creation of the intestinal epithelium using induced pluripotent stem cell derived progenitors and 3D bioprinting
11:34 – 11:46	**Eonan Pringle** University of Glasgow	Bioprintable PEG norbornene hydrogels for cartilage tissue engineering
11:46 – 11:58	**Anabela Moreira** University College London	Engineering 3D cellular hydrogels to model dopaminergic neurodegeneration in Parkinson's disease
11:58 – 12:10	**Shirin Nour** University of Melbourne	The interplay between surface morphology and nanoscale ligand clustering for developing *in vitro* skeletal muscle tissue models and forming neuromuscular junctions
12:10 – 12:40	**Annual General Meeting**	Including details of the TCES 2026 Conference
12:40 – 13:50	Lunch & Posters in the **City Hall Foyer** and **Queen Elizabeth II Conference Hall**	

Thursday 19th June - Afternoon

SESSION 5: ADVANCED BIOMATERIALS - QUEEN ELIZABETH II CONFERENCE HALL Chairs: Wael Kafienah, Zhipeng Deng		
13:50 – 14:32	**Alvaro Mata** University of Nottingham	*Keynote Talk*: Tissue engineering with bioinspired and biocooperative strategies
14:32 – 14:44	**Kozim Midkhatov** University of Manchester	Engineered topographically textured micromaterials modulate doxorubicin response in 3D osteosarcoma models: a design of experiments approach
14:44 – 14:56	**Ayda Farhoudi** University of Melbourne	Determining the geometric factors governing the growth of mesenchymal cells into a 3D structure
14:56 – 15:08	**Fatmah Ghuloum** University of Manchester	Mechanobiological insights into hedgehog signalling-mediated osteogenesis on engineered 3D topographies: a transcriptomic analysis and translational application
15:08 – 15:20	**Andrew Johnston** University of Edinburgh	Influence of shear stress on vascular cell types on electrospun scaffolds featuring modified fiber topography via a 3D printed bioreactor
15:20 – 16:00	Refreshments & Posters in the **City Hall Foyer** and **Queen Elizabeth II Conference Hall**	
SESSION 6: *IN VITRO* MODELS - QUEEN ELIZABETH II CONFERENCE HALL Chairs: Deepali Pal, Norah-Jane Prendergast		
16:00 – 16:12	**Sneha Ravi** University of Edinburgh	Development of a novel ureter model to investigate urinary tract infections
16:12 – 16:24	**Eve Tipple** University of Manchester	Development of *in vitro* bladder cancer models to investigate the effects of hypoxia on the tumour microenvironment
16:24 – 16:36	**Emmanouela Mitta** University College London	A systematic comparative evaluation of the therapeutic efficiency of novel proton beam and conventional photon radiotherapy on advanced multicellular 3D models of pancreatic cancer
16:36 – 16:48	**Erly Raras Savitri** University of Bristol	Generation of human iPSC-derived lung organoid as a model for SARS-CoV-2 infection
16:48 – 17:00	**Kenza Sackho** University of Surrey	Development and characterization of a 3D epicardial cardiac model
17:00 – 17:12	**Rebecca Downs-Ford** University of Manchester	3D bioprinting of bilayered skin models using dextran-based hydrogels
17:12 – 17:24	**Meghna Suvarna** University of Sheffield	Development of an in vitro 3D bone-muscle co-culture model using emulsion-templated microporous scaffolds
17:24 – 17:36	**Hannah Donnelly** University of Glasgow	Bioengineered niches that recreate physiological bone marrow extracellular matrix organization to support long-term hematopoietic stem cells, model CAR T cell therapy, and support cancer remodeling
17:36 – 18:00	Delegate photograph on **College Green** outside the City Hall, then short walk to the **Bristol Hotel**	
18:00 – 23:59	Formal dinner and social event at **The Bristol Hotel**	

Friday 20th June

09:00 – 09:30	Refreshments & Posters in the **City Hall Foyer** and **Queen Elizabeth II Conference Hall**	
SESSION 7: CLINICAL TISSUE ENGINEERING - QUEEN ELIZABETH II CONFERENCE HALL Chairs: Deepali Pal, Srividya Sundararajan		
09:30 – 10:12	**Vivian Li** Francis Crick Institute	*Keynote Talk*: Engineering intestinal mucosal grafts for transplantation and modelling
10:12 – 10:24	**Caitlin Ryan** University of Sheffield	A single-layered angiogenic periosteum substitute to improve delayed bone healing
10:24 – 10:36	**Olivia Camilleri** University of Bristol	High-concentration collagen granular hydrogels as an injectable biomaterial for bone regeneration
10:36 – 10:48	**Michalis Palamas** University of Nottingham	Gene therapy via haemostatic and tissue restorative wound packing for accelerated healing of soft tissue
10:48 – 11:00	**Justine Clarke** University of Glasgow	Engineering the next generation of biologically active vascular grafts
11:00 – 11:12	**Rosanna Hood** University of Sheffield	Decalcifying and antibacterial bilayer grafts for vascular tissue engineering
11:12 – 12:00	Brunch & Posters in the **City Hall Foyer** and **Queen Elizabeth II Conference Hall**	
SESSION 8: CLINICAL TISSUE ENGINEERING - QUEEN ELIZABETH II CONFERENCE HALL Chairs: James Armstrong, Farnaz Ghorbani		
12:00 – 12:42	**Massimo Caputo** University of Bristol	*Keynote Talk*: The clinical need for tissue engineering research in congenital heart disease
12:42 – 13:10	**James Armstrong** University of Bristol **Sarah Cartmell** University of Manchester	Prizes & Closing Remarks

Poster Group 1: 18-19th June

	An Nisaa Nurzak University of Nottingham	Designing glucose-responsive non-viral gene therapies for diabetes: a novel approach to insulin regulation and production
	Udipt Ranjan Das University of Glasgow	Nanovibrational stimulation of mesenchymal stromal cell osteogenesis – investigating the relationship between osteogenesis and inflammation
	Adel Alshammari Cardiff University	Evaluating the antimicrobial, mechanical and physiochemical properties of drug-loaded liposomes in resin-based composite
	Nan Tao University College London	Mechanical stimulation study of 3D printed porous structure on the osseointegration of mandibular prosthesis
	David Chau University College London	Immortality in a bag: a cold chain-free, animal material-free, and DMSO-free alternative to enhanced cell storage and delivery
	Lucy Wilkinson University of Bath	Lupin protein isolates in serum free media development for cultivated meat
	Alexandra Medeea Nagy University of Manchester	Capacitive electric stimulation enhances the osteogenic potential of periodontal ligament stem cells
	Michelle Li University of Southampton	Measurement of ultrasound-responsive microbubble perfusion during non-union bone fracture healing
	Finlay Thomas University of Southampton	Ultrasound-responsive microbubbles for delivery of Wnt protein for bone healing
	Balint Macsuga University of Manchester	Evaluation of electrostimulation-mediated bone healing using an in vitro model
	Dariusz Kosk University of Southampton	Perfusion chamber for the investigation of microbubble response to ultrasound and localised drug delivery in bone fractures
	Emily Atkinson University College London	Linear peptide mimetics of glial cell line-derived neurotrophic factor (GDNF) activate PI3K signalling and have applications in regenerative medicine
	Thomas Green Cardiff University	Orthopaedic consideration of the influence of laser surface texturing on functional surface properties of bulk metallic glass
	Farnaz Ghorbani University of Bristol	GelMA–polydopamine bioinks with enhanced printability and mineralization for bone tissue engineering
	Louis Johnson University of Sheffield	An emulsion electrospun nanofibrous scaffold with glial cell line-derived neurotrophic factor for nerve regeneration
	Caroline Taylor University of Leeds	Versatile twin layer macromolecular fibres for advanced tissue engineering applications
	Yanni Lu Cardiff University	Effect of titanium alloy Ti-6Al-4V surface topography on human neutrophil morphological responses
	Samantha Heslop University of Manchester	The development of a ‘functionalised tendon repair augmentation device’ using electrospun polycaprolactone
	Matthew Maple Nottingham Trent University	Effect of laser ablation and nanoparticle deposition on the biocompatibility of PEEK
	Woming Gao University of Sheffield	Enhanced strength, biocompatibility, and printability for artificial bone tissue materials: nano-scale investigation into citric acid carbon dots (CA CDs)/polymerized trimethylolpropane triacrylate (PTMPTA) composites
	Chrisdina Sari University College London	Fibre-reinforced hydrogel: novel composite biomaterials for dental implant
	Zeming Cheng University of Sheffield	Berberine-loaded PHA electrospun films as potential bone tissue engineering scaffolds
	Norshazliza Ab Ghani University of Malaya	Next-Gen 3D biocomposite scaffolds: fucoidan-infused PLGA/nCS for bone tissue engineering

Poster Group 2: 19-20th June

	Hussain Jaffery University of Glasgow	An axis of Wnt and proinflammatory signals underlies mechanically driven osteogenesis
	Genevieve Schleyer University of Liverpool	Characterising the effects of protein interactions on nanoparticle diffusion in complex in vitro environments
	Lidija Gradisnik University of Maribor	Isolation and characterisation of human nucleus pulposus, annulus fibrosus and cartilage endplate cells for *in vitro* cell models
	Tomaz Velnar UMC Ljubljana	Neurosurgical approaches for harvesting intervertebral disc tissue for cell culture
	Ilyas Khan Swansea University	The formation of Benninghoff's arcades in immature articular cartilage occurs through reconfiguration of the existing collagen fibril network
	Zhaoqiang Zhang University of Manchester	Enhancing osteoclastic differentiation of human monocyte cell line THP1 for in vitro bone resorption modeling
	Celia Ribes Balanza University of Glasgow	Bioengineered 3D hydrogels to model the human bone marrow leukemic niche
	Priyanka Gupta University of Roehampton	Evaluating the relevance of dynamic flow on the drug response of a biomimetic advanced model of pancreatic cancer
	Sanaa Alhazaimeh University of Leeds	Understanding the mechanism of pathology induced by type 2 diabetes on stem cells regeneration ability
	Rachel Wandless University College London	Investigating the migratory capacity of SHED cells in different mechanical environments
	Norah-Jane Prendergast University of Bristol	Impact of matrix viscosity on astrocyte reactivity in 3D tissue models
	Antonios Giannopoulos Loughborough University	Impact of tissue architecture on corneal myofibroblasts behaviour in fibrin hydrogels
	Hannah Donnelly University of Glasgow	Bioengineered 3D models of lymph node stroma to understand the biomechanics of immune ageing
	Kubra Yigit University of Edinburgh	Investigating fiber diameter impact for N-acetylcysteine-loaded polycaprolactone scaffolds on oxidative stress induced-osteoarthritis
	Dewi Jones University of Edinburgh	A technique for expanding in vitro biomimicking 3D cultures for regenerative medicine applications
	Jeyapriya Thimukonda Jegadeesan University of Manchester	Exploring the influence of charge and stiffness on osteosarcoma cell behaviour in tuneable peptigel systems
	Prarthana Mistry University of Sheffield	Development of PolyHIPE Scaffolds as an intervention for medication-related osteonecrosis of jaw
	Mina Aleemardani University of Bristol	Polyphenolic granular hydrogels with enhanced shear mechanics
	Nevena Slavova University of Sheffield	Tissue engineered blood vessels
	Zhipeng Deng University of Bristol	Coagulative granular hydrogels for endogenous tissue repair
	Peter Goulding University of Sheffield	Developing functionalised electrospun scaffolds to exploit neural–stromal interactions in wound healing
	Elliot Amadi University of Sheffield	3D printed bacterial cellulose/alginate hydrogel scaffolds, for potential use in chronic wound therapy
	Simin Ni University College London	Evaluating the cartilage regeneration after stem cell therapy through MRI segmentation for predicting clinical outcomes
	Srividya Sundararajan University of Bristol	Patient-derived ovarian cancer organoids to inform chemotherapy

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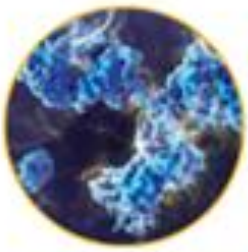

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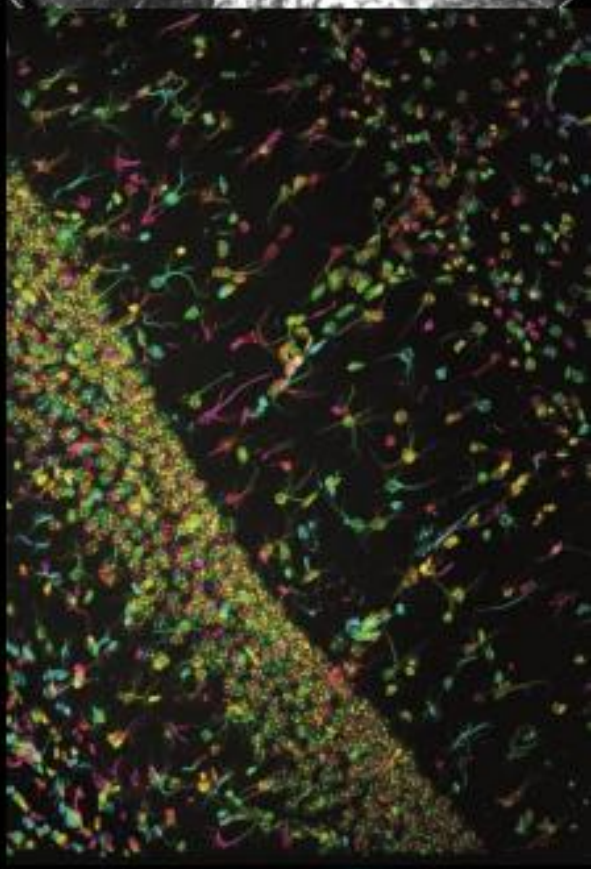

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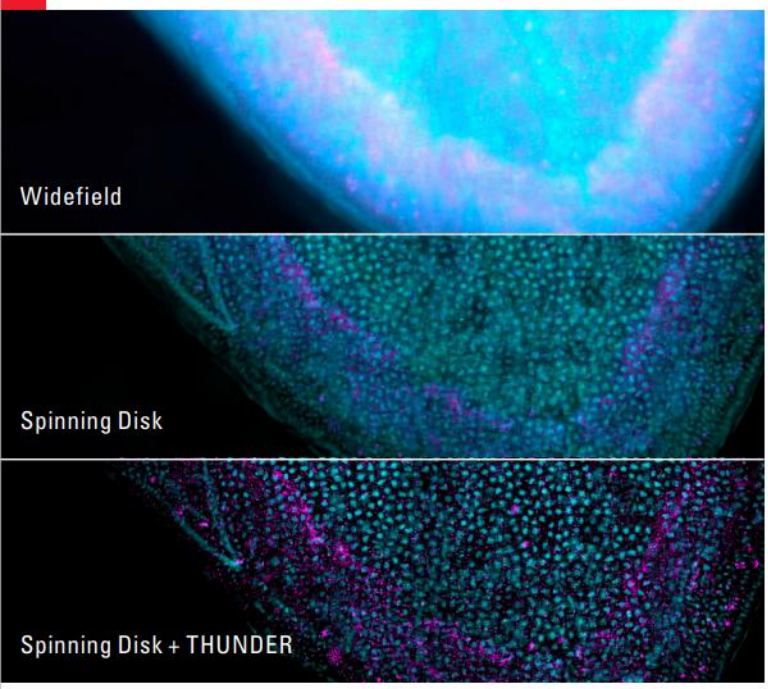

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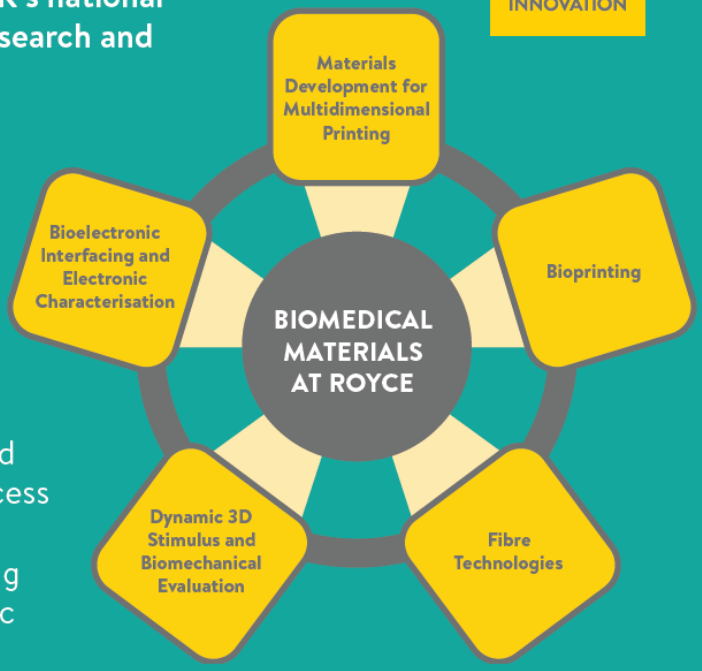

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