





Tuesday, 28 March 2023

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Time	HALL A Exchange Theatre	HALL B Charter 4	HALL C Exchange 9	HALL D Exchange 11	HALL E Exchange 10
09:30 - 11:00	<p>Opening Ceremony and Plenary Lecture 1</p> <p>Nanoscale materials for control of mesenchymal stromal cell phenotype, <i>Matthew Dalby, UK</i></p>				
11:00 - 11:30	Coffee Break				
11:30 - 13:00	<p>S1 Advances in biomaterials research</p> <p>Design of a composite wound dressing: combining an electrospun fleece with a free-standing multilayer film, <i>Thomas Groth, Germany</i></p> <p>Sustainable biomaterials of bacterial origin and their use in Biomedical applications, <i>Ipsita Roy, UK</i></p> <p>Fibrin and silk fibroin as complementary materials of biocomposites for tissue engineering, <i>Ikrum El Maachi, Germany</i></p> <p>Growth Factor delivery through electrospun microfibres for tendon regeneration, <i>Vera Citra, Germany</i></p> <p>Proteomic analysis of doped sol-gel coatings: correlation between <i>in vitro</i> and <i>in vivo</i> biological responses, <i>Julio Suay, Spain</i></p> <p>Cell guiding fibroin/chitosan films made by endotoxin removal from chitosan produces biocompatible chitosan-genipin hydrogels, <i>Emma Jackson, Sophie Reay, UK</i></p> <p>Cell guiding fibroin/chitosan films made by atmospheric plasma deposition, <i>David Maniglio, Italy</i></p> <p>Therapeutically targeting cell function using organosolv lignin – an abundant and emerging sustainable biomass source of raw material for tissue engineering strategies, <i>Melanie L Hart, Germany</i></p>	<p>S2 Advances in orthopaedic tissue engineering</p> <p>Nanoclay gels for the delivery of regenerative microenvironments, <i>Jonathan Dawson, UK</i></p> <p>Extracellular vesicles for bone repair/regeneration: modulating the cross-talk between immune cells and Mesenchymal Stem/Stromal Cells, <i>Susana G Santos, Portugal</i></p> <p>Uniaxial compression promotes osteogenic response of hBM-MSCs and suppresses osteoclastogenic response of hPBMCs in co-culture within composite scaffolds, <i>Maria Chatziniokolaidou, Greece</i></p> <p>Bone cell regulation of osteoclastogenesis is dependent on the stage of lineage commitment and mechanical environment, <i>Mimma Maggio, Ireland</i></p> <p>Non-invasive monitoring of mesenchymal stem cells osteodifferentiation by untargeted NMR exometabolomics, <i>Daniela S C Bispo, Portugal</i></p> <p>Posterolateral spinal fusion in sheep induced by rhBMP6 in autologous blood coagulum with synthetic ceramics, <i>Nikola Stokovic, Croatia</i></p> <p>Biofabrication of clinically relevant osteochondral implants, <i>Mylene De Ruijter, Netherlands</i></p> <p>Human engineered and decellularized cartilage grafts steer bone regeneration in critical-sized orthotopic defect in immunocompetent models, <i>Alejandra Garcia Garcia, Sweden</i></p>	<p>S3 3D tissue-engineered cancer models in vitro 1</p> <p><i>Chairs: Rui Reis, Portugal</i></p> <p>On-chip capturing time and space evolution of tumor stroma as a tool for assessing cancer progression and defining therapy, <i>Paolo Netti, Italy</i></p> <p>Engineering biomimetic tissue models to study the tumour-stroma interface, <i>Umberto Cheema, UK</i></p> <p>Mimicking the tumor stroma interaction to evaluate targeted therapeutics, <i>Jai Prakash, Netherlands</i></p> <p>Towards a physiologically relevant lung in vitro model for early cancer biomarkers, <i>Emmanouela Mitta, UK</i></p> <p>Investigating the determinants of breast cancer dormancy in bone, <i>Evrin Ceren Kabak, Switzerland</i></p> <p>Analyse the effects of glycosaminoglycans on prostate cancer cells using collagen-based scaffolds, <i>Nezar Kamal, Ireland</i></p> <p>Bioengineering approaches to recapitulate the alternative vasculature in neuroblastoma, <i>Aranzazu Villasante, Spain</i></p>	<p>S4 Tissue and Cell Engineering Society Session 1: Emerging themes in tissue-specific regeneration</p> <p><i>Chairs: Sarah Cartmell, UK & James Phillips, UK</i></p> <p>Harnessing the chorioallantoic membrane assay and the ex vivo organotypic culture models for bone repair, <i>Richard Orejfo, UK</i></p> <p>Liver-specific Ligand-conjugated microparticles for targeted hepatocyte transplantation, <i>I Ning Lee, UK</i></p> <p>Tissue repair with multimaterial biomedical devices fabricated from sustainable biopolymers, <i>David Alexander Gregory, UK</i></p> <p>Rapid formation of endothelial cell nerve repair constructs for nerve tissue engineering, <i>Poppy O. Smith, UK</i></p> <p>Characterising notochordal and progenitor cell sub-populations within the human nucleus pulposus, <i>Andra Maria Ionescu, UK</i></p> <p>Direct contact-mediated non-viral gene therapy using thermo-sensitive hydrogel-coated dressings, <i>James E Dixon, UK</i></p> <p>The effect of macrophage-mediated phagocytosis of nanoclay particles on macrophage phenotype and inflammatory function, <i>Yang-Hee Kim, UK</i></p> <p>The characterisation and antimicrobial activity of Ag-nanoparticle-incorporated eggshell membrane for dermal applications, <i>David Y Chau, UK</i></p>	<p>S5 Human bone marrow tissue modeling and engineering</p> <p><i>Chairs: Andres Garcia-Garcia, Switzerland & Steven Dupard, Sweden</i></p> <p>Humanised BM scaffold: versatile system to study cross-talk between haematopoietic stem/progenitor cells and the niche during normal and leukemic development, <i>Dominique Bonnet, UK</i></p> <p>Induced pluripotent stem cell-derived hematopoietic stem cell niches as standardized 3D model for human hematopoiesis, <i>Evelia Plantier, Switzerland</i></p> <p>Mimicking the human vascular stem cell niche - development of different <i>in vitro</i> models, <i>Sophia Meermeyer, Germany</i></p> <p>Reconstruction of the erythroblastic microenvironment in a macroporous 3D hydrogel based bone marrow analog, <i>Timna Claire Bergmann, Germany</i></p> <p>Engineering a standardized human hematopoietic niche using a dedicated mesenchymal line and a 3D-printed bioreactor system, <i>Steven Julien Dupard, Sweden</i></p> <p>Breast-to-bone in vitro model: effect of breast tissue stiffness on invasion, <i>Annalisa Tirella, Italy</i></p> <p>Expansion culture of bone marrow-derived mesenchymal stem cells in the micro-scaffold Nichoid to treat pediatric lung disease, <i>Stephana Carelli, Italy</i></p>
13:00 - 14:00	Lunch Break with Posters				
13:10 - 13:55	<p>CELLINK Industry Symposium: Combining bioprinting, microfabrication and biomaterials to create advanced 3D models <i>Pierre-Alexandre Laurent, France</i></p> 				
14:00 - 15:00	TERMIS General Assembly				

15:00 - 16:30	<p>S6 Biomaterial-based delivery strategies in orthopaedics <i>Chair: Andrea Lolli, Netherlands</i></p> <p>Scaffold based delivery of gene therapeutics for enhanced musculoskeletal repair, <i>Fergal O'Brien, Ireland</i></p> <p>Layer-by-layer assembly of ECM based biological macromolecules onto Ti alloy for tackling related bone implant infections, <i>Piergiorgio Gentile, UK</i></p> <p>Hydrogel delivery of Liposomal-Vancomycin and DNase I to eradicate fracture-related methicillin-resistant staphylococcus aureus infection and support osteoporotic fracture healing, <i>Ronald Man Yeung Wong, China</i></p> <p>Development of a dual-delivery scaffold system containing antibiotic-free antimicrobial nanoparticles and osteogenic nucleic acids for the treatment and regeneration of infected bone tissue, <i>Joanna M Sadowska, Ireland</i></p> <p>Tissue engineered periosteum for efficient delivery of rhBMP-2 and bone regeneration, <i>Froilan Granero Malto, Spain</i></p> <p>Cisplatin release from orthopedic biomaterials to minimize local recurrence of bone tumors after resection, <i>Zhule Wang, Netherlands</i></p> <p>Investigation of biomimetic materials "In Vitro" and "In Vivo" for engineering bone tissue, <i>Karen Marshall, UK</i></p> <p>Gelatin and VEGF incorporation in PVA-Tyramine hydrogels as strategy to enhance vascular infiltration and treat avascular necrosis, <i>Alessia Longoni, New Zealand</i></p>	<p>S7 Skin in a dish: from development to translational research <i>Chair: Alexandra P Marques, Portugal</i></p> <p>Inflammation and regeneration in skin models for burn wounds, <i>Bouke Boekema, Netherlands</i></p> <p>An innovative 3D bioengineered model as a tool to elucidate the role of human dermal ECM and immune cells in wound healing and scar formation processes, <i>Roberta Passariello, Italy</i></p> <p>The hurdles of collagen shrinkage: A promising GeIMA-based organotypic skin approach, <i>Zahara Eltayari, Portugal</i></p> <p>Bioengineered human skin model to study multiple aging-related phenomena in vitro, <i>Francesco Galardo, Italy</i></p> <p>Mechanically tuneable, suspended layer additive manufactured 3D-printed cell-laden pectin matrices with PODS* microcrystal biochemical functionalisation for skin modelling, <i>Aleksandar P. Atanasov, UK</i></p> <p>Reducing wound infection with novel antimicrobial treatments in human ex vivo and porcine in vivo wound models, <i>Zeljana Sotra, Sweden</i></p> <p>Various skin test systems and their applications: From epidermis to full thickness skin to hiPSC derived skin organoids <i>Dieter Gronenberg, Germany</i></p> <p>Assessment of the impact of antibiotics against <i>Pseudomonas aeruginosa</i> on human skin cell lines and bioengineered autologous skin substitutes: an in vitro study, <i>Maria I. Quiñones Vico, Spain</i></p>	<p>S8 Current research on in vitro microenvironments</p> <p>Advanced micromaterials and modular bio-inks for multicellular tissue engineering, <i>Jeroen Leijten, Netherlands</i></p> <p>Towards the engineered chondron: Pericellular matrix synthesis by articular cartilage chondrocytes and chondroprogenitors in agarose microgels, <i>Marloes Van Mourik, Netherlands</i></p> <p>Bicompartmental culture system hosting different substrates to enhance the biominerality of in vitro barrier models, <i>Alessandra Maria Anna Rando, Italy</i></p> <p>Enhancing neuronal cell network organization and activity using NOA81 and PDMS nanogrooves, <i>Rahman Sabahi Kavlani, Netherlands</i></p> <p>3D bioprinted cancer model for in vitro drug testing, <i>Dongwei Wu, Germany</i></p> <p>3D-printed cell culture system as an in vitro platform for non-small cell lung cancer (NSCLC) modeling, <i>Désirée Baroufjaldi, Italy</i></p> <p>Influence of cell viability assay on cellular metabolomics, <i>Jingzhi Fan, Latvia</i></p> <p>Understanding the behaviour of Notochordal cells in healthy and degenerated disc environment and their anti-catabolic properties on degenerated Nucleus pulposus cells, <i>Christine Le Maître, UK</i></p>	<p>S9 Respiratory tissue engineering and regeneration <i>Chairs: Anja Lena Thiebess, Germany & Julian Gonzalez-Rubio, Germany</i></p> <p>Respiratory tissue engineering and regeneration, <i>Ger Curley, Ireland</i></p> <p>The pro-repair effects of tissue-derived extracellular vesicles are modified with ageing, <i>Sally Yunsun Kim, UK</i></p> <p>Bioassembling macro-Scale, lumenized airway tubes via multi-organoid patterning and fusion, <i>Shery Huang, UK</i></p> <p>Elastin-like hydrogels promote a physiological-like interaction with human primary lung fibroblasts, <i>Arturo Ibáñez Fonseca, Sweden</i></p> <p>Engineered in vitro models to mimic the human alveolar barrier through biomaterials and advanced systems, <i>Michele Licciardello, Italy</i></p> <p>Novel organoid model of distal lung based on primary human cells to study mechanisms of lung diseases and responses to treatment, <i>Anna Krasnodembskaya, UK</i></p> <p>Human lung organoids predict response to carbon-based nanomaterials and model pulmonary fibrosis, <i>Rahaf Issa, UK</i></p> <p>Aerosolization of endothelial cells for application in biohybrid oxygenators, <i>Maria Cheremkhina, Germany</i></p>	<p>S10 Biomaterial approaches serving sustainable tissue engineering <i>Chairs: Nicholas Dunne, Ireland & Cristina Barrias, Portugal</i></p> <p>Cell instructive polymer biomaterials, <i>Morgan Alexander, UK</i></p> <p>Development of a bio-inspired off-the-shelf small diameter vascular graft, <i>David A. Hoey, Ireland</i></p> <p>Exogenous lactate improves cardiac function of living myocardial slices, <i>Marina Cler, Spain</i></p> <p>Seamless multi-channel peripheral nerve guidance conduits made from aligned conductive silk nanofibres, <i>Diego Torres Ulloa, UK</i></p> <p>Elastin-like hydrogels for tissue regeneration and healing, <i>Amir M Ghaemmaghami, UK</i></p> <p>Development of a bioartificial glomerulus filtration barrier using a medium chain length Polyhydroxyalkanoate, a sustainable and highly biocompatible polymer, <i>Syed Mohammad Daniel Syed Mohamed, UK</i></p> <p>3D-printed bioinspired bilayer composite scaffold embedding antibacterial nanofibrous microstructures for promoting diabetic wound healing, <i>Hoda M. Eltaber, UK</i></p> <p>Development of a biomimetic scaffold for delivery of iPSC glial progenitors for spinal cord applications, <i>Cian O'Connor, Ireland</i></p>
Coffee Break					
17:00 - 18:30	<p>S11 Advances in direct digital biofabrication</p> <p>In situ bioprinting: is the future of biofabrication inside the human body? <i>Giovanni Vozzi, Italy</i></p> <p>Rotational internal flow layer engineering (RIFLE): A new biofabrication technology for microscale stratified tissue assembly, <i>Ian Holland, UK</i></p> <p>Advanced next-gen microcarriers for effective and efficient cultivation of induced pluripotent Stem Cells (iPSCs), <i>Luanda Lins, Netherlands</i></p> <p>Biofabrication of bioceramic scaffolds with different hollow strut geometries, <i>Shunmin Pang, Germany</i></p> <p>Biofabrication of microtissue-derived constructs for articular cartilage repair, <i>Gabriel Soares Kronenberger, Ireland</i></p> <p>Scalable microfluidic biofabrication of a modular, immunoprotected and microporous mini-pancreas for type 1 diabetes treatment, <i>Malik Schot, Netherlands</i></p> <p>Bioprinting of human dermal microtissues precursors as building blocks for an endogenous in vitro dermis equivalent, <i>Annachiara Scalzone, Italy</i></p> <p>Biofabrication of biomimetic meniscal grafts via the controlled deposition of meniscus progenitor cells within wedged-shaped melt electrowritten scaffolds, <i>Xavier Barceló Gallostra, Ireland</i></p>	<p>S12 Frontiers in biomaterials research</p> <p>Aptamer based growth factor patterning for vascularized tissues, <i>Jeroen Rouwkema, Netherlands</i></p> <p>3D printing of PCL-MgFe2O4 composite scaffolds for enhanced bone regeneration and hyperthermia treatment, <i>Susheem Kanwar, United Arab Emirates</i></p> <p>A multimaterial and multifunctional patch for the repair of spinal cord injury, <i>Daniela Silva, Portugal</i></p> <p>Encapsulated vaterite-calcite CaCO3 particles loaded with bioactive cations with sustained release promoting osteogenesis and angiogenesis in vivo, <i>Lu Fan, Germany</i></p> <p>Exploring angiogenic properties of bioactive glasses from the SiO2-CaO-Na2O system, <i>Martyna Nikody, Netherlands</i></p> <p>A decellularized dermal matrix scaffold suitable for cardiac tissue engineering is remodeled by resident human cardiac progenitor cells in vitro, <i>Immacolata Belviso, Italy</i></p> <p>Synthesis and characterization of novel selanated hydrogels for tissue engineering and 3D bioprinting, <i>Maria Pérez Araluca, Spain</i></p> <p>Recombinant spider silk for cardiovascular applications: Biodegradable, drug eluting, and endothelial cell-specific materials, <i>Kai Mayer, Australia</i></p>	<p>S13 Stem cell applications in TERM</p> <p>Modelling endochondral ossification in vitro and in vivo, relevance for multiple diseases, <i>Eric Farrell, Netherlands</i></p> <p>Upscaling manufacturing of human induced pluripotent-derived mesenchymal stromal cells in a 1-l bioreactor system, <i>Jason Hunt, Ireland</i></p> <p>Searching for donor-independent metabolic markers by NMR metabolomics, <i>Ana M Gil, Portugal</i></p> <p>When stochasticity meets precision: Using single cell genomics to refine cell therapies in bone and cartilage repair, <i>Matthew Seah, UK</i></p> <p>Optogenetic control of BMP signalling to drive human pluripotent stem cell chondrogenesis, <i>Paul Alexander Humphreys, UK</i></p> <p>Harnessing cell-material interactions to control stem cell secretion for osteoarthritis treatment, <i>Vincent Delplace, France</i></p> <p>Towards creating a holistic urinary tract for regenerative medicine, <i>Parisa Ranjbar, UK</i></p> <p>Paracrine functionalities of hiMSCs cultured in clinical grade system: in vitro biological validation of hiMSC-derived EVs for the treatment of osteoarthritis, <i>Chiara Gentili, Italy</i></p>	<p>S14 Integrative multiscale modelling approaches to tissue engineering <i>Chairs: Paula Pascoal-Faria, Portugal & Nuno Alves, Portugal</i></p> <p>Stimuli optimization for Bioscaffolds: from numerical modelling to in vitro tests, <i>Paula Pascoal-Faria, Portugal</i></p> <p>Generation of 3D models of vascularized tissue in a millifluidic optically-accessible bioreactor, <i>Chiara Martinelli, Italy</i></p> <p>Investigation of the mechanobiological regulation of bone regeneration within scaffolds in large bone defects comorbid with Type 2 Diabetes, <i>Mahdi Jaber, Germany</i></p> <p>A validation method of the FE model for the design of bone tissue engineering scaffolds, <i>Pasquale Posabella, Poland</i></p> <p>A shareable and replicable design for a perfusion bioreactor: decisions on 3D printing supported by a numerical modelling framework, <i>João Almeida Meneses, Portugal</i></p> <p>Computer-aided scaffold design optimization towards enhanced bone regeneration, <i>Sara Checa, Germany</i></p> <p>High-resolution gyroid bone scaffold manufactured via digital light processing 3D printing, <i>Fiona Verisqa, UK</i></p> <p>Microfluidic 3D biofabrication for the patterning of hierarchical gradient constructs, <i>Gianluca Cidonio, Italy</i></p>	<p>S15 Bioengineering in ophthalmology <i>Chairs: Mark Ahearne, Ireland & Julia Fernández Pérez, Netherlands</i></p> <p>Peptide hydrogels for ophthalmic tissue engineering, <i>Rachel Williams, UK</i></p> <p>Corneas – Regenerating the window of the eye, <i>Anita Ghag, UK</i></p> <p>Optic nerve neuroprotection and axon regeneration using matrix-bound nanovesicles and Fluvastatin in glaucoma and optic nerve trauma models, <i>Marley J Dewey, USA</i></p> <p>On-chip platform for derivation of ocular cells from hiPSCs, <i>Ganze Koçak, Turkey</i></p> <p>High-throughput repurposing of discarded abattoir waste: simultaneous opportunities for tissue engineering, regenerative medicine, and circular economic sustainability, <i>Peter R Corridon, United Arab Emirates</i></p> <p>Automated bio-fabrication of in vitro models of Glaucoma for high throughput testing, <i>Hannah C Lamont, UK</i></p> <p>Moving bio-fabrication towards the clinic – Precise Bio's corneal implant, <i>Michal Marcus, Israel</i></p>
Welcome Drinks Reception and Poster Session 1 Exchange Hall					


Wednesday, 29 March 2023

Time	HALL A Exchange Theatre	HALL B Charter 4	HALL C Exchange 9	HALL D Exchange 11	HALL E Exchange 10
08:30 - 09:15	<p>Plenary Lecture 2</p> <p>The adaptive immune system and senescence in regenerative medicine, <i>Jennifer H. Elisseff, USA</i></p>				
09:15 - 10:00	<p>SVIS Career Panel</p>			<p>Tissue and Cell Engineering Society AGM</p>	
10:00 - 11:30	<p>S16 Latest developments in 3D tissue engineered cancer models</p> <p>Spatiotemporal mapping of the role of the interactions of pancreatic cancer cells with the stroma/matrix on the response/resistance to therapies in advanced 3D cancer models, <i>Eirini Velliou, UK</i></p> <p>3D tissue-engineered in vitro models for the investigation of breast cancer progression, <i>Elizabeth Sainsbury, Ireland</i></p> <p>The Nichoid Micro Scaffold as a Tool for Repurposing "Migrastatic" Drugs Exploiting Synthetic Lethality, <i>Carolina Testa, Italy</i></p> <p>Biofabrication of a 3D-Malignant Melanoma in vitro model: One step closer to personalized cancer treatments, <i>Julia López De Andrés, Spain</i></p> <p>Decellularized patient-derived pancreatic ductal adenocarcinoma xenografts for tumour physico-chemical characterization, <i>Elena Garcia Gareta, Spain</i></p> <p>Development of in vitro models to assess glioblastoma multiforme migration using 3D bioprinting technology, <i>Kayley Jaworska, UK</i></p> <p>A 3D tissue-engineered osteosarcoma model based on macroporous composite alginate scaffolds and perfusion, <i>Bojana Obradovic, Serbia</i></p> <p>In vitro 3D osteosarcoma models of CSC-niche: optimization of serial sarcospheres and scaffold-based seeding as cancer-specific instructive microenvironment, <i>Giada Bassi, Italy</i></p>	<p>S17 Wanted: Dead or Alive? Quantitative microscopy of single-cell, spheroid and organoid tissues <i>Chairs: Michael Monaghan, Ireland & Ruslan Dmitriev, Belgium</i></p> <p>Fluorescence Lifetime Imaging Microscopy (FLIM) to study niche-specific regions and metabolism in epithelial organoids, <i>Ruslan Dmitriev, Belgium</i></p> <p>Non-invasive classification of macrophage polarisation by 2P-FLIM and machine learning, <i>Michael Monaghan, Ireland</i></p> <p>Raman microscopy and Raman imaging for cell and tissue state assessment, <i>Katja Schenke-Layland, Germany</i></p> <p>Development of a hydrogel-based microfluidic model of the lymph node, <i>Corrado Mazzaglia, UK</i></p> <p>Long-lasting anastomosis on-a-chip: endogenous extracellular matrix as a key element for modelling stable and perfusable vascular network through a microfluidic device, <i>Francesco Del Giudice, Italy</i></p> <p>A bone-on-chip as a 3D in vitro platform to assess the effect of stem cell age on tissue quality and test medicines, <i>Elisa Reine Budyn, France</i></p>	<p>S18 Vascularization for tissue engineering and regenerative medicine <i>Chairs: Andrea Banfi, Switzerland & Arnaud Scherberich, Switzerland</i></p> <p>Engineering models for blood vessel formation and regeneration, <i>Martin Ehrbar, Switzerland</i></p> <p>Cardiac regeneration in a complex disease model of myocardial infarction in rats with type 2 diabetes, <i>Sara Nunes Vasconcelos, Canada</i></p> <p>Perfusible vascularized stroma on-chip for growing 3D organotypic structures, <i>Iasmine Diniz Orge, Portugal</i></p> <p>Semaphorin3A promotes the rapid assembly and long-term persistence of human SVF-derived vascular networks in engineered grafts, <i>Andrea Banfi, Switzerland</i></p> <p>Endothelial-cell sprouting assay with multiple interacting seeds as a platform to study angiogenesis, <i>Katarzyna Rójek, Poland</i></p> <p>Differential behaviour of mesenchymal stromal cells and pericytes in vascularization and angiogenesis in vitro, <i>Julian Gonzalez-Rubio, Germany</i></p> <p>In vitro co-culture of tissue-engineered mineralised cartilage and vessel networks to model endochondral ossification, <i>Encheng Ji, Netherlands</i></p> <p>Controlled metabolite release for tissue survival and integration in anoxia, <i>Melvin Gurian, Netherlands</i></p>	<p>S19 Gene therapy approaches in tissue regeneration <i>Chairs: Wenxin Wang, Ireland & Irene Lara-Saez, Ireland</i></p> <p>Non-viral gene delivery platform for tissue regeneration, <i>Wenxin Wang, Ireland</i></p> <p>Scaffold-mediated delivery of small-interfering RNA to promote neuronal regrowth by silencing the expression of growth inhibitory molecules as a novel treatment for spinal cord injury, <i>Tara Mc Guire, Ireland</i></p> <p>Non-viral gene editing therapy for recessive dystrophic epidermolysis bullosa: CRISPR/Cas9 Mediated COL7A1 Exon 80 excision, <i>Xianqing Wang, Ireland</i></p> <p>Gene-activated surface coatings to control stem cell differentiation to osteogenic lineage, <i>Thomas Groth, Germany</i></p> <p>3D-printed microRNA-loaded hydrogel scaffolds towards effective neural tissue regeneration and functional recovery following spinal cord injury, <i>Kieran Lau, Singapore</i></p> <p>Cystic fibrosis: lung function regeneration with non-viral gene therapy, <i>Dario Manzaneres Sandoval, Ireland</i></p> <p>First step towards curing early onset genetic urinary bladder disease, <i>Filipa M. Lopes, UK</i></p> <p>The development of non-viral gene editing strategies to permanently correct ATM loss in the brain for A-T therapy, <i>Anya Frieda Snary, UK</i></p>	<p>S20 Biofabrication in space <i>Chairs: Christiane Hahn, Netherlands & Marco Domingos, UK</i></p> <p>3D bioprinting in space - opportunities and challenges, <i>Michael Gelinsky, Germany</i></p> <p>Influence of long-term storage of cell-laden alginate-methylcellulose based bioinks on printability as well as cell viability and function, <i>Johannes Windisch, Germany</i></p> <p>Diffusion Packing: The mechanism behind embedded 3D printing of dilute cell and particle suspensions into dense tissue structures, <i>Vasileios D Trkalitis, Netherlands</i></p> <p>A 7 Degree of Freedom robot for volumetric biomimetic scaffold fabrication and tissue engineering, <i>Vivek Cherian David, Netherlands</i></p> <p>Optimise hydrogels for bioprinting with machine learning, <i>Alexander David Stokes, UK</i></p> <p>Aqueous two-phase enabled low viscosity 3D (LoV3D) bioprinting of living matter, <i>Molin Becker, Netherlands</i></p> <p>Guiding cells with light: Patterning of cell-laden hydrogels using multi-photon lithography, <i>Simon Sayer, Austria</i></p> <p>Enabling strategies for printing human photopolymerizable blood components with low viscosity and high fluidity, <i>Monize Caiado Decarli, Netherlands</i></p>
11:30 - 12:00	Coffee Break with Posters				
12:00 - 13:30	<p>S21 TERM solutions to cardiac disease</p> <p>The different layers of mechanosensing in the failing heart, <i>Giancarlo Forte, Czech</i></p> <p>Protein-based hydrogel tissue adhesives for failing hearts, <i>Nicola Contessi Negrini, UK</i></p> <p>Rapamycin prevents early post operative failure of Tissue Engineered Vascular Grafts, <i>Anudard Ulzibayar, USA</i></p> <p>Unveiling the function of the mechanosensor YAP in the activation of cardiac fibroblasts, <i>Daniel Sousa, Czech</i></p> <p>Engineering of Bacterial Cellulose-Based (BC) vascular graft for Coronary Artery Bypass Grafting (CABG), <i>Deborah Fusco, Switzerland</i></p> <p>RNA binding protein hnRNP is a mechanosensitive component of RNA homeostasis apparatus in the failing heart, <i>Giancarlo Forte, Czech</i></p> <p>Reactive jet impingement (REJI) 3D bioprinting for cardiac tissue cultures, <i>Babis Tzivelekis, UK</i></p> <p>Electroactive microenvironments for cardiac tissue regeneration, <i>Rafaela M. Meira, Portugal</i></p>	<p>S22 The macrophage as a target in biomaterial-based tissue regeneration strategies <i>Chairs: Jonathan Dawson UK & Yasuhiko Tabata, Japan & Yanghee Kim, Japan</i></p> <p>Design2Heal: A journey from macro to microstructural design criteria for efficient topographic immunomodulation, <i>Jürgen Groll, Germany</i></p> <p>Biomaterials technology to modify macrophages polarization for tissue regeneration, <i>Yasuhiko Tabata, Japan</i></p> <p>Targeting mechanosignaling to modulate the immune environment for bone repair, <i>Stéphane Petrossk, Ireland</i></p> <p>Immunomodulation in tissue engineering application: the role of extracellular vesicles from diabetic adipose derived-stem cells, <i>Miya Kang, USA</i></p> <p>Immunomodulatory effect of Matrix Bound Nanovesicles (MBV) upon myeloid precursor cells, <i>Hector Capella Manonnis, USA</i></p> <p>Cellular Interactions at the decellularised scaffold:tissue interface in an ex-vivo Organ culture model, <i>Helen Berry, UK</i></p> <p>Extracellular matrix production by primary human adipose-derived vascular smooth muscle-like cells interacting with monocytes on a nanofibrous polyurethane scaffold, <i>Katya D'Costa, Canada</i></p>	<p>S23 Emerging Technologies</p> <p>Defect-free graphene enhances enzyme delivery to fibroblasts derived from the patients with lysosomal disorders, <i>Sandra Vranic, UK</i></p> <p>Encapsulation and sustained release of functionally engineered extracellular vesicles in peptide based hydrogel, <i>Chunchieh Huang, USA</i></p> <p>Nitric Oxide (NO) loaded gelatin nanoparticles as antimicrobial therapeutics for the treatment of respiratory infections, <i>Erin Myles, UK</i></p> <p>Wireless electrostimulation for cancer treatment: an integrated nanoparticle/coaxial fiber mesh platform, <i>Leonor Resina, Portugal</i></p> <p>Click chemistry improves the stability of dECM hydrogels and provides an angiogenic environment for vocal fold regeneration, <i>Mika Brown, Canada</i></p> <p>Microfluidic encapsulation of Human Bone Mesenchymal Stromal Cells (hBMSCs) in microgels for cartilage regeneration, <i>Thuy Phuong Thi Nguyen, Australia</i></p> <p>Osteoniche-on-a-3D printed chip for determining metastatic invasion of patient-derived cancer cells, <i>Sukanya V S, India</i></p> <p>Electrically conductive biomaterials for controlling stem cell fate, <i>Amy Gelmi, Australia</i></p>	<p>S24 Tissue and Cell Engineering Society Session 2: Manipulating the stroma in tissue engineering  <i>Chairs: Nicholas Forsyth, UK & Lisa Jane White, UK</i></p> <p>Harnessing the regenerative capacity of dentine-pulp complex: bioactives, biomaterials and stem cells, <i>Alistair Sloan, Australia</i></p> <p>Use of pectin for the spray delivery of mesenchymal stromal cells for treating brain injury, <i>Ami Nash, UK</i></p> <p>The effects of ST2 mesenchymal stem/stromal cell secretomes on the growth and differentiation of E14TG2a embryonic stem cells during early development, <i>Jide Olanipekun, UK</i></p> <p>A 3D in-vitro model of macrophages in the subcutaneous tissue for bioavailability assessment, <i>Asme Boussahel, UK</i></p> <p>Understanding the mechanisms of action of collagen-based wound Dressings To Promote Healing, <i>Davide Vincenzo Verdolino, UK</i></p> <p>Hydrophilic coated mucous penetrating nanoparticles for non-viral intestinal gene delivery, <i>Alaa Elamin Ibrahim Elnima, UK</i></p> <p>The use of computer vision for object detection in high throughput biomaterial discovery, <i>Robert Owen, UK</i></p> <p>Three-dimensional in vitro spheroid-based lymphangiogenesis model using click-crosslinked gelatin hydrogels, <i>Dana E Al Ansari, UK</i></p>	<p>S25 Biomaterials and cells for intervertebral disc regeneration <i>Chairs: Gantenbein Benjamin, Switzerland & Craft Shaun Andreas, Switzerland</i></p> <p>IVD regenerative medicine: moving from animal models to clinical trials, <i>Catherine Le Visage, France</i></p> <p>Differentiation of human induced pluripotent stem cells towards notochordal-like cells: the role of tissue source, <i>Lisanne T. Laagland, Netherlands</i></p> <p>Combining physical properties of collagen/hyaluronan hydrogels and chemical stimulation with growth factors promotes mesenchymal stem cells differentiation into NP cells, <i>Christophe Helary, France</i></p> <p>3D Bioprinting whole intervertebral discs to understand development & inform regenerative therapies, <i>Matthew J. Kibble, UK</i></p> <p>Screening of regenerative microRNAs in the nucleus pulposus of the intervertebral disc using cell penetrating peptide delivery, <i>Tara Ni Néill, Ireland</i></p> <p>Phenotypic maturation of hiPSC-derived notochordal cells using covalent hydrogel and 3D culture, <i>Anne Camus, France</i></p> <p>Bulk RNA next generation sequencing of native donor-matched Human Tie2+ Progenitors versus Tie2- Cells, <i>Benjamin Gantenbein, Switzerland</i></p> <p>Sulfated hydrogels as primary intervertebral disc cell culture systems, <i>Paola Bermudez Lekerika, Switzerland</i></p>

13:30 - 14:30		Lunch with Posters & SYIS Meet-the-Mentor			
13:40 – 14:25	<p>BRUKER Industry Symposium</p> <p>Importance of nanomechanics in life science research</p>  <p>Patterns in nanoscale molecular heterogeneity drive functional cellular plasticity, in the tissue microenvironment, Lewis Francis, UK Atomic force microscopy to study desmosomal cadherin single molecule interactions, Franziska Vielmuth, Germany</p>				
14:30 - 16:00	<p>S26 Structural hydrogels for tissue engineering</p> <p>Chair: Catherine Le Visage, France</p> <p>Design of biopolymer-based hydrogels with improved structural and functional properties for TERM applications, João F. Mano, Portugal</p> <p>Bioinspired hydrogels promote tenogenic stem cell commitment by synergistic control over topographical cues and growth factor signaling, Rui M. A. Domingues, Portugal</p> <p>Cell-scale pores in microporous annealed particle (MAP) hydrogel implants promote regeneration in volumetric muscle loss injuries, Areli Rodriguez, USA</p> <p>Mimicking cell-matrix crosstalk: bioinspired gelatin hydrogels functionalized with monomeric fibronectin as a liver <i>in vitro</i> model, Estela Sanchez Gonzalez, Spain</p> <p>High throughput platform for understanding macromolecular interactions with collagen and hyaluronic acid, Paulina M. Babiak, USA</p> <p>Stimuli-responsive cell-adhesive micromaterials for steering stem cell fate within 3D living composite tissues, Niels Willemen, Netherlands</p> <p>Highly tunable polysaccharide-based hydrogels to recreate cell microenvironments, Julia Fernández Pérez, Netherlands</p>	<p>S27 Advanced medical imaging for tissue engineering applications</p> <p>Chairs: Naomi Matsuura, Canada & Marco Domingos, UK</p> <p>Probing the scales of bioengineering and tissue regeneration with molecular imaging, Adam Shuhendler, Canada</p> <p>Using Biofabrication Approaches to Spatio-Temporally Control Physical Cues in Engineered Constructs, Khoon Lim, Australia</p> <p>Monitoring of biohybrid tissue-engineered vascular prosthesis remodeling by hybrid 1H/19F MRI, Elena Rama, Germany</p> <p>A miniaturised imaging window to guide and image foreign body reactions in vivo, Claudio Conci, Italy</p> <p>A new quantifiable approach in longitudinal intravital 3D microscopy reveals a response to injury feedback system between glomerulus and its renin cell niche, Patrick Arndt, Germany</p> <p>Advanced models for the study of meniscal tissue structure, Melania Maglio, Italy</p> <p>Construction and characterization of a multi-modal imageable biohybrid tissue-engineered heart valve, Saurav Ranjan Mohapatra, Germany</p>	<p>S28 Mechanotherapies: How mechanobiology can inform approaches for regenerative medicine</p> <p>Chairs: David Hoey, Ireland & Arlyng Gonzalez Vazquez, Ireland</p> <p>Mechanoregulation of Cell Niches in Health and Disease, Viola Vogel, Switzerland</p> <p>Regulating MSC fate under complex mechanical load, Martin Stoddart, Switzerland</p> <p>Remote mechano-activation of T cell receptors for cell therapies, Alicia el Haj, UK</p> <p>Understanding how mechanical forces shape the hypertrophic niche by exploiting a developmental engineering model of endochondral ossification, Swati Midha, UK</p> <p>Acidic pH inhibits the stiffness response of human bone-marrow mesenchymal stem cells (BM-MSCs), Yusuf Hakan Usta, UK</p> <p>Conservation of mechanosignaling gene circuits across multiple chronic diseases, Xinren Yu, Germany</p>	<p>S29 Complex wound signalling and novel therapies</p> <p>From simple cuts to blast wounds; How to restore the matrix, Jason Wong, UK</p> <p>Analysis of human fibroblast and keratinocyte secreted factors through conditioned media assays and proteomics, Elvira Lindholm, Sweden</p> <p>Transplantation of autologous CFSE-labeled fibroblasts on gelatin microcarriers in a porcine wound-healing model, Shora Zamani, Sweden</p> <p>Polydopamine functionalized hydrogel with nitric oxide release and photothermal effects for bacteria-infected wound healing, Jing Yang, China</p> <p>Integrative tissue and plasma proteomics revealed liquid biopsy-accessible indicative biomarkers for impaired bone fracture healing in type 2 diabetes mellitus, Stefan Kalkhof, Germany</p> <p>Hierarchically patterned silk fibroin porous scaffold transpires as a potential deep cutaneous healing implant by providing cues to fibroblast Snsors and offering controlled and replenishable ampicillin delivery, Anurup Mukhopadhyay, India</p> <p>Investigating the antimicrobial effects of metal-doped bioactive glass fibres on chronic wound biofilms, Sandeep Shirgill, UK</p> <p>Quaternized chitosan/graphene oxide/collagen scaffolds with efficient hemostatic and antibacterial properties for infected wound healing, Keqiang Hu, China</p>	<p>S30 Israel guest nation session</p>  <p>Chairs: Shulamit Levenberg, Israel & Tali Tavor Re'em, Israel</p> <p>Bioprinting 3D vascularized tissue flaps, Shulamit Levenberg, Israel</p> <p>Magnetic nano-hybrid to accelerate nerve growth, Dekel Rosenfeld, Israel</p> <p>Semiconducting nanomaterials for multiscale bio-modulation, Meanhem Rotenberg, Israel</p> <p>Methacrylated Fibrinogen (FibMA) hydrogels for biomedical applications, Haneen Simaan Yameen, Israel</p> <p>Gynaecological engineered tissue models for improved ovarian cancer research and embryo implantation simulation, Tali Tavor Re'em, Israel</p>
16:00 - 16:30	Coffee Break				

16:30 - 18:00	<p>S31 Advances in direct digital bioprinting</p> <p>Design of 3D scaffolds with intrinsic and controllable mechanical instructions to steer tissue regeneration, <i>Lorenzo Moroni, Netherlands</i></p> <p>A bioprinted spinal cord model for monitoring cell responses to particles and ions released from spinal implants, <i>Estefania Echeverri, Sweden</i></p> <p>3D printing microfibre scaffoldings for cell alignment and in situ sensing, <i>Yaqi Sheng, UK</i></p> <p>Construction of a biodegradable bioartificial pancreas to treat Type 1 Diabetes, <i>Jonathan David Hinchliffe, UK</i></p> <p>Nerve regeneration by Bio 3D nerve conduit using a bio-3D printer for peripheral nerve injury, <i>Ryosuke Ikeguchi, Japan</i></p> <p>Autologous transplantation of bioprinted articular cartilage in a rabbit model, <i>Nicole Rotter, Germany</i></p> <p>Tomographic volumetric bioprinting of 3D pancreatic cancer models, <i>Viola Spaminato, Italy</i></p> <p>Drop-on-demand micropatterning of novel amphiphilic peptide I3K on regenerated silk fibroin substrates to guide and promote adhesion and proliferation of neuronal cells, <i>Ana Jimenez-Franco, UK</i></p>	<p>S32 TE & RM approaches in extracellular matrix ageing Chairs: <i>Lisa Jane White, UK & Elizabeth Laird, UK</i></p> <p>Extracellular matrix remodelling in the aorta with age and pathology, <i>Riaz Akhtar, UK</i></p> <p>High-throughput quantification of single cell matrix deposition using Extracellular Protein Identification Cytometry (EPIC), <i>Marieke Meteling, Netherlands</i></p> <p>Time-of-day secretome profiling reveals rhythmic ECM secretion and altered circadian ECM remodelling during skeletal muscle ageing, <i>Vanja Pekovic Vaughan, UK</i></p> <p>A 3D in vitro bone model with primary human osteocytes and osteoclasts, simultaneously differentiated in a triple culture with osteoblasts, <i>Katharina Wirsig, Germany</i></p> <p>Harnessing stem cell response to viscoelasticity, <i>Eonan William Pringle, UK</i></p> <p>Decellularised cell derived matrix enables to study the extracellular matrix 3D remodelling in liver fibrosis and to evaluate therapy response, <i>Lai Wei, UK</i></p> <p>Acellular liver resembled a new liver tissue after transplantation in G-CSF-treated cirrhotic rats, <i>Marlon Lemos Dias, Brazil</i></p> <p>In vitro modelling of osteoarthritis as platform for testing mimo-based therapeutic polyplexes, <i>Annachiara Scalzone, Italy</i></p>	<p>S33 Immunity, infection and inflammation (good, the bad, and the ugly)</p> <p>Therapeutically targeting cell morphology and phenotype of cells isolated from a highly inflamed environment using organosolv lignin – an abundant and emerging sustainable biomass source of raw material for tissue engineering strategies, <i>Melanie Hart, Germany</i></p> <p>Noiceptive sensory neurons promote tissue healing via modulating neutrophil and macrophage activity, <i>Yen-Zhen Lu, Australia</i></p> <p>Bioengineered spider silk immobilized on a nanofibrous mesh inhibit bacteria adherence and anticipate new prospects for abdominal muscle tissue repair, <i>Marta R Casanova, Portugal</i></p> <p>Harnessing the power of regulatory T cells to promote immune-mediated bone regeneration in vivo, <i>Salwa Suliman, Norway</i></p> <p>Regulatory T-cell based therapy to promote repair and regeneration in multiple tissues, <i>Mikael M Martino, Australia</i></p> <p>Monocyte-derived macrophages and dermal fibroblasts-derived ECM making small talk, <i>Sara Chaves, Portugal</i></p> <p>Magnetic mesoporous silica nanoparticles for Combined Antibiofilm Therapy, <i>Montserrat Collina, Spain</i></p> <p>Fast acting nitric oxide releasing polymer coatings to protect against viral and bacterial infection, <i>Raechelle D'Sa, UK</i></p>	<p>S34 Sustainable biomaterials in orthopaedic tissue engineering Chairs: <i>Ipsita Roy, UK & Andrea Mele, UK</i></p> <p>Sustainable polymer based composites in bone tissue engineering, <i>Serena Danti, Italy</i></p> <p>3D bioprinting of a hypoxia-gradient for generating heterogenous cartilage scaffolds, <i>Esma Bahar Tankus, Switzerland</i></p> <p>Influence of calcium phosphate particle incorporation approach on the calcium phosphate/hyaluronic acid composite hydrogel properties, <i>Dagnija Loca, Latvia</i></p> <p>UV-crosslinked human plateletlysate - a new generation of hydrogels for bone regeneration, <i>Anna Schmidbauer, Austria</i></p> <p>GreenBone - advanced approaches in bone regeneration with immune-instructive biomaterials, <i>Katarzyna Gurzowska Comis, UK</i></p> <p>Smart biomimetic scaffold fostering a combined activation of teno-differentiation and immunomodulation, <i>Mohammad El Khatib, Italy</i></p> <p>Development of a custom-made 3D-printed bone substitute for critical-size bone defect repair, <i>Hanan Abdusalam Abukhzaam, UK</i></p> <p>Scale-Up of octacalcium phosphate via hydrolysis route: Effect on physico-chemical characteristics and in-vitro cytocompatibility with bone marrow-derived mesenchymal stem cells, <i>Ilijana Kovilija, Latvia</i></p>	<p>S35 Veterinary regenerative medicine Chairs: <i>Iris Gerner, Austria & Cristina Esteves, UK</i></p> <p>Exploiting microvesicle small non-coding RNA and protein cargo in osteoarthritis for early diagnosis and treatment, <i>Mandy J Peffers, UK</i></p> <p>Determining the function of genes associated with the genetic risk of catastrophic fracture in Thoroughbred racehorses, <i>Debbie Guest, UK</i></p> <p>Cellular density and mechanical stimulation affects morphology of encapsulated equine tendon and endothelial cells in modified gelatin, <i>Marguerite Meeremans, Belgium</i></p> <p>Mesenchymal stem/stromal cells as novel tools for combating antimicrobial resistance, <i>Amira Aburza, UK</i></p> <p>A Murine articular progenitor cell implantation and tracking model reveals that implanted cells recapitulate endochondral ossification, <i>Raquel Ruiz Hernandez, Spain</i></p> <p>Resveratrol and resveralogues suppress the damaging phenotype of senescent equine tenocytes, <i>Neda Heidari, UK</i></p> <p>Comprehensive understanding of sheep as model organism: A tissue proteome atlas and a tissue eicosanoid atlas, <i>Iris Gerner, Austria</i></p> <p>Umbilical cord MSC treated osteoarthritic sheep display reduced radiographic changes: Proteomic biomarker profiling of synovial fluids implicate an immunomodulatory mechanism, <i>Karina Wright, UK</i></p>
18:00 - 19:00	<p>TERMIS Award Lectures Chairs: <i>Gerjo van Osch, Netherlands & Abhay Pandit, Ireland</i></p> <p>2023 Robert Brown Early Career Principal Investigator Award, <i>Michael Monaghan, Ireland</i></p> <p>2023 TERMIS EU Mid Term Career Award, <i>Daniel J Kelly, Ireland</i></p> <p>2023 TERMIS EU Career Achievement Award, <i>Maura Alini, Switzerland</i></p>				
19:30 - 23:00	<p>SYIS Evening Event Foundry Project</p>				

Thursday, 30 March 2023

Thursday, 30 March 2023					
Time	HALL A Exchange Theatre	HALL B Charter 4	HALL C Exchange 9	HALL D Exchange 11	HALL E Exchange 10
08:30 - 09:15	Plenary Lecture 3 Mechanobiology of extracellular matrix and of immune cells, <i>Viola Vogel, Switzerland</i>				
09:15 - 10:45	S36 Organoids and multicellular aggregates in biofabrication Chairs: <i>Lorenzo Maroni, Netherlands & Tiziano Serra, Switzerland</i> Hydrogel-based architectures for complex organoid 3D culture via volumetric bioprinting, <i>Riccardo Levato, Netherlands</i> In vitro large animal disc nerve ingrowth model assembled using hydrodynamic forces, <i>Junxuan Ma, Switzerland</i> Fabricating 3D osteo-inductive construct through hydrodynamic forces, <i>Riccardo Tognato, Switzerland</i> Development of a physiologically relevant human small intestine model, <i>Melis Asai, Netherlands</i> Mass production of functional human cardioids using in-air generated thin-shelled microcapsules, <i>Jeroen Leijten, Netherlands</i> 3D spheroids co-culture of human adipose stem/stromal cells and endothelial cells for bone tissue engineering optimization, <i>Leandro Santos Baptista, Brazil</i> A novel 3D-bioprinted patient-specific biomimetic bone organoid to model osteogenesis imperfecta, <i>Anke De Leeuw, Switzerland</i> Directing the fusion, growth and remodeling of cellular microtissues to engineer anisotropic soft tissues, <i>Francesca Diletta Spagnuolo, Ireland</i>	S37 New frontiers in advanced approaches for cardiac regenerative medicine Chairs: <i>Valeria Chiono, Italy & Michael Monaghan, Ireland</i> Novel biologics for cardiac regeneration and repair, <i>Maura Giacca, UK</i> MXene as frontiers biomaterials for cardiac regenerative medicine, <i>Sanjiv Dhingra, Canada</i> Bioengineering strategies to enhance the efficacy of cardiac direct reprogramming approach, <i>Camilla Paoletti, Italy</i> Injectable self-healing hydrogel delivering microRNAs-loaded nanocarriers as a promising advanced therapy for cardiac regeneration, <i>Valeria Chiono, Italy</i> Preservation and vascularization of cardiac extracellular matrix to promote cardiac repair after acute myocardial infarction, <i>Jianjun Guan, USA</i> A superior extracellular matrix binding motif to considerably enhance the regenerative activity and safety of therapeutic proteins, <i>Yasmin Khalid Alshoubaki, Australia</i> Functional cardiac organoids modeling the inflammatory environment of myocardial infarction, <i>Meenakshi Suku, Ireland</i>	S38 Stimuli-responsive materials for tissue regeneration Chair: <i>Leonardo Ricotti, Italy</i> On-demand responsive polymers for tissue stimulation/regeneration and sustained drug delivery, <i>David Kaplan, USA</i> Dose-controlled ultrasound and piezoelectric nanomaterials for cell and tissue engineering, <i>Leonardo Ricotti, Italy</i> Engineering nano Ag-decorated graphene oxide/gelatin methacryloyl photothermal Platforms to combat bacterial infection and prompt wound healing, <i>Zhiwei Sun, China</i> Magneto-responsive fibre-based anisotropic hydrogel for spinal cord regeneration, <i>Joana P. M. Sousa, Portugal</i> Development of an injectable contactless gellan gum-based hydrogel for regenerative medicine, <i>Arianna Rossi, Italy</i> Design of magnetically-assisted cell sheet constructs to study hypoxia and inflammatory cues in tendon inflammation, <i>Adriana Vinhas, Portugal</i> A multi-responsive chitosan-based self-crosslinked hydrogel for controlled drug delivery, <i>Xiaoyu Wang, Ireland</i>	S39 Regenerative medicine in surgery Chairs: <i>Adam Reid, UK & Jason Wong, UK</i> My journey with lipogems: From discovery to market impact, <i>Carlo Tremolada, Italy</i> How the history of reconstructive microsurgery advises on how to bring regenerative & tissue engineered therapies into clinical practice, <i>Andrew Hart, UK</i> Autologous epithelial cell sheet with dedicated device for intractable esophageal stricture, <i>Nabuo Kanai, Japan</i> The use of self-assembling peptide hydrogels to deliver cellular therapies for peripheral nerve reconstruction, <i>Liam Anthony Mc Morrow, UK</i> Development and first use of a biological woven vascular graft as an arteriovenous shunt in sheep, <i>GalTan Roudier, France</i> Biomaterial-specific regulation of early vascular graft healing, <i>Sabrina Rohringer, Austria</i> Development of a biomimetic multi-layered functionalised antimicrobial scaffold for advanced wound healing, <i>Matthew McGrath, Ireland</i>	Starting up a TERM company: Challenges and Experiences Chair: <i>Alicia El Haj, UK</i> Turning molecules into medicines: translation through commercialisation, <i>Catherine O'Neill, UK</i> From cellular senescence to 'young' companies, <i>Johannes Grillari, Austria</i> From company founder to successful trade sale, <i>Anthony S. Weiss, Australia</i> Panel discussion
10:45 - 11:15	Coffee Break with Posters				
11:15 - 12:45	S40 Where tissue engineering and regenerative medicine meet light Chairs: <i>Khoon Lim, Australia & Sandra Van Vlierberghe, Belgium</i> Functional tissue constructs shaping 3D light fields via volumetric bioprinting, <i>Riccardo Levato, Netherlands</i> Engineering hydrogel structures through lithography-based biofabrication approaches, <i>Jason Burdick, USA</i> An implantable microscope objective-on-a-chip for multiphoton imaging in vivo, <i>Alessandra Nardini, Italy</i> Volumetric bioprinting for spatial patterning of biomolecules and biofunctionalization of thiol-ene, gelatin-based constructs in tomographic biofabrication, <i>Paulina Nunez Bernal, Netherlands</i> Skin biofabrication using tissue units and 3D-bioprinting, <i>Rozalin Shamasha, Sweden</i> Visible light-mediated photo-crosslinking of sugar beet pectin for 3D bioprinting, <i>Wildan Mubarak, Japan</i> Developing biodegradable polymer resins for additive manufacturing via a novel synthesis method, <i>Boyang Liu, UK</i>	S41 Fundamentals of and clinical perspectives on biophysical stimulation of cells on implantable biomaterials Chairs: <i>Bikramjit Basu, India & Sarah Cartmell & Sahba Mobini, Spain</i> Biophysical stimulation of stem cells on biomaterials and in biomicrofluidic device: in vitro and in silico studies, <i>Bikramjit Basu, India</i> Regulation and characterisation of cellular responses to material-based biophysical stimulations, <i>Ying Yang, UK</i> In vitro electrical stimulation: understanding electrochemical aspects, <i>Sahba Mobini, Spain</i> Low-intensity pulsed ultrasound stimulation modulates neurotrophic factor secretion and inflammation in Schwann cells, <i>Francesco Iacopani, Italy</i> Mechanical stimulation of bone cells enhances the angiogenic potential of the secretome and secreted extracellular vesicles, <i>Carolina Sousa Martins, Ireland</i> 3D printed gyroid scaffolds to control mechanical activation of latent TGF-β1 under compression and shear, <i>Laura Mecchi, Switzerland</i>	S42 Biomaterials driven regeneration: novel strategies for endogenous regeneration Chairs: <i>Elisabeth Engel, Spain & Sergi Rey, Spain</i> Artificial extracellular matrix scaffolds of mobile molecules enhance neural maturation and regeneration after spinal cord injury, <i>Zaida Álvarez Pinto, Spain</i> Platelet-derived extracellular vesicles promote stem cells tenogenic commitment in a bioengineered tendon 3D model, <i>Manuel Gomez Florit, Spain</i> Antibiotic and ion delivery from silica microspheres-based scaffolds for bone regeneration, <i>Marina Perpiñán Blasco, Spain</i> Composite graded melt electrowritten scaffolds for regeneration of the periodontal ligament-to-bone interface, <i>Miguel Castillo, Netherlands</i> Qjai essential oils-loaded graphene oxide-gelatin methacryloyl membrane for diabetic wound healing, <i>Na Meng, China</i> Patient specific reconstruction of cleft palate deformities in dog patients with innovative 3D-printed organo-mineral cements, <i>Baptiste Charbonnier, France</i> Heparin-guided binding of VEGF to supramolecular biomaterial surfaces to create dual-functionalized hemocompatible devices, <i>Dina M. Ibrahim, Netherlands</i> Structurally patterned materials offer multiple options for guided cell behavior, <i>Claudia Andrea Garrido, Germany</i>	 S43 Tissue and Cell Engineering Society Session 3: Robert Brown early stage investigator session Chairs: <i>Nick Evans, UK & Hoda Eltaher, UK</i> Harnessing material induced cell interactions to develop cost effective regenerative medicine solutions: The journey from bench to body.....and beyond! <i>Judith Curran, UK</i> Chemotherapeutic screening on a scaffold based dynamic (In Vitro) multicellular models pancreatic cancer, <i>Priyanka Gupta, UK</i> A 3D bioprinted biphasic model of the intervertebral disc with regional cell morphology and collagen alignment, <i>Samuel Robert Maxon, UK</i> Bio-fabricated Heart-in-a-dish models for transplantation and drug development, <i>Aishah Nasir, UK</i> Developing 3D peripheral nerve injury models for long term analysis of materials, <i>Caroline S. Taylor, UK</i>	Clinical translation of TERM: Considerations and Solutions Chair: <i>Hadi Mirmalek-Sani, UK</i> How have they worked with a therapy developer to overcome a challenge for translation/commercialisation, <i>Ann Kramer, UK</i> Improving the commercial viability of a novel cell therapy in orthopaedics, <i>Laura Beswick, UK</i> Panel discussion
12:45 - 13:45	Lunch & SYIS Meet-the-Mentor				

13:45 - 15:15	<p>S44 Frontiers in biofabrication Chairs: <i>Marco Domingos, UK & Shelley Rawson, UK</i></p> <p>Pushing boundaries of biofabrication from the bottom-up, Alvaro Mata, UK Unearthing biofabrication: Automated research and manufacturing capabilities in space, Shelby Giza, USA Light-based vat-polymerization bioprinting towards tissue fabrication, Shrike Zhang, USA Fibers and Gels: Simple elements for complex solutions, Paul Wieringa, Netherlands</p>	<p>S45 Using external fields for tissue engineering Chairs: <i>James Armstrong, UK & Amy Gelmi, Australia</i></p> <p>Shaped ultrasound fields for the rapid assembly of cells in 3D, Peer Fischer, Germany</p> <p>Directed differentiation of human iPSCs into mesenchymal lineages by optogenetic control of TGF-β signaling, Josephine Y Wu, Ireland Melt electrowriting of magneto-active fiber scaffolds for skeletal muscle cell stimulation in vitro, Gerardo Cedillo Servin, Netherlands A novel platform for 3D electrical stimulation of GBM-based scaffolds for neural tissue engineering, Patricia Alexandra Martins, Portugal Photo-switchable bio-interfaces for dynamic cell cultures, Francesca Mauro, Italy electrical stimulation positively interferes on induced pluripotent stem cell neural differentiation at different stages, Fábio Filipe Ferreira Garrudo, Portugal The High C. Collagen deposition under combined vibrational and tensile load in adipose-derived mesenchymal stromal cells for vocal fold tissue engineering, Anja Elisabeth Luengen, Germany Investigation of periodontal ligament stem cells exposed to controlled mechanical and electrical stimulations in view of periodontal ligament tissue engineering, Beatrice Masante, Italy</p>	<p>S46 Non-conventional 3D fabrication of cellularised biomimetic structures Chairs: <i>Chiara Tonda-Turo, Italy & Tiziano Serro, Switzerland</i></p> <p>Volumetric bioprinting: A new tool for producing artificial tissue models, Christophe Moser, Switzerland Biomaterials and bioinks tailoring in non-conventional additive manufacturing, Gianluca Ciardelli, Italy</p> <p>High cell density gel co-cultures and cell-fibre-gel composites via reactive jet impingement bioprinting, Kenneth Dalgarno, UK Acoustic patterning of microcapillary networks for 3D vascularized in vitro models, Nicola Di Marzio, Switzerland Pancreatic ECM-based microencapsulation as an insulin delivery system for diabetes therapy, Michal Skitel Moshe, Israel An engineered "in vitro" osteochondral tool to study osteoarthritis, Giorgia Cerqueni, Italy Impact of micro- and macro-mechanical environment in human cardiomyocyte biology using next-generation sequencing, Olalla Iglesias, Spain</p>	<p>S47 Bridging the gaps in surgical translation</p> <p>Fibrin conduit nerve gap reconstruction, Daniel Kalbermatten, Switzerland</p> <p>Tracheal engineering to the reconstruction of the larynx, Christelle Bertsch, France Novel hybrid tissue engineering vascular graft for surgical bypass grafting: hierarchical cellularization to mimic native arteries, Michele Carrabba, UK Evaluation of a tissue engineered nerve conduit for peripheral nerve regeneration of a rabbit fibular nerve defect, Alexane Thibodeau, Canada Injectable polyisocyanide-gel for pelvic floor surgery: connective tissue regeneration in an in vivo abdominal wound model, Aksel Nils Gudde, Netherlands Tissue-engineered interfaces to enhance the biointegration of neural implants, Marjolaine Boulingre, UK Single-cell RNA sequencing of renal glomerular and tubular interstitial endothelium during vascular specific injury and regeneration, Jan Sradnick, Germany Supplementation of autologous fat grafts with lipospiirate derived stem cells for the treatment of facial contour deformities, Azra Mehmood, Pakistan</p>	<p>"How to start a biotech start-up" seminar organized by SYIS-EU</p>
15:15 - 17:00	Coffee Break with Posters Session 2				
17:00 - 18:30	<p>FTerm Induction / Open discussion on their academic journeys Chair: <i>R. Geoff Richards, Switzerland</i> <i>(open to all TERMIS EU participants)</i></p>				
19:30 - 00:00	Networking Dinner Escape to Freight Island				

Friday, 31 March 2023

Time	HALL A Exchange Theatre	HALL B Charter 4	HALL C Exchange 9	HALL D Exchange 11	HALL E Exchange 10
08:30 - 09:15	<p>Plenary Lecture 4</p> <p>Regenerative engineering: Convergence addressing grand challenges, <i>Cato T. Laurencin, USA</i></p>				
09:15 - 10:45	<p>S48 Advances in mechanobiology</p> <p>Mechanobiology in cellular senescence and ageing, <i>Joe Swift, UK</i></p> <p>Cyclic straining of in vitro tissue-engineered 3D models: Investigating the effect on the extracellular matrix, <i>Melissa J. J. van Velthoven, Netherlands</i></p> <p>Cell's sense of slope, <i>Crescenzo Frascogna, Italy</i></p> <p>Mammary epithelial organoids cultured in a self-assembling peptide hydrogel exhibit stiffness-induced remodeling, <i>Alberto Saiani, UK</i></p> <p>The role of GPR-161 in osteocyte mechanotransduction and osteoclastogenic paracrine signalling, <i>Morgan Cobban, Ireland</i></p> <p>Closed-loop biaxial cell stretching system for controlling cell mechano-transduction processes, <i>Luigi Cimaldi, Italy</i></p> <p>Effects of different mechanical stimuli on engineered cardiac tissues, <i>Antonio Sileo, Switzerland</i></p> <p>A cell compression tool to assess the response of tumor spheroids to compression in bioprinted hydrogels, <i>Marie Moulin, Sweden</i></p>	<p>S49 Frontiers in bioreactors and in vitro models</p> <p>3D Magnetic stimulation as: an effective strategy to modulate the biomechanical environment for tendon regeneration and for providing in vitro models of diseases and healthy tissue, <i>Manuela Gomes, Portugal</i></p> <p>Development of an ex vivo liver perfusion model for research purposes, <i>Alicia Ruppelt, Netherlands</i></p> <p>Introducing osteoclasts in in vitro models of marrow stromal cells-derived mineralised cartilage in the context of endochondral ossification, <i>Amaia Garmendia Urdaleta, Netherlands</i></p> <p>Multiphysics three-dimensional model of a bioengineered haematopoietic platform for platelet production, <i>Alberto Bocconi, Italy</i></p> <p>Protease-sensitive alginate hydrogel-based 3D matrices via SPAAC chemistry, <i>Mariana Varejão Magalhães, Portugal</i></p> <p>Training-on-a-Chip: a multi-organ device to study the effect of muscle exercise on insulin secretion "in vitro", <i>Javier Ramon, Spain</i></p> <p>Engineering of functionally active human myotubes and myobundles in vitro, <i>Simon I Dreher, Germany</i></p> <p>Engineering characterisation of vertical-wheel™ bioreactors for human pluripotent stem cell expansion and cardiac differentiation, <i>Diogo E.S. Nogueira, Portugal</i></p>	<p>S50 Latest advances in ATMPs, cell and gene therapies</p> <p>Beyond COVID-19 Vaccination: Transcript therapy for Tissue Healing in 2023, <i>Elizabeth Rosada Balmayor, Germany</i></p> <p>Development of a new microencapsulated system for immunisation of insulin-producing cells, <i>Alexandra Kashina, Russia</i></p> <p>Development of an in vitro platform to detect tumorigenic events in human Haematopoietic Stem Cells (hHSCs), <i>Paolo Ritter, Italy</i></p> <p>Adipose stem cells with enhanced neurotrophic properties and different cell delivery strategies for peripheral nerve regeneration, <i>Srinivas Madduri, Switzerland</i></p> <p>Cellularized scaffolds of PLA-PEG, alginate, and human chondrocytes for a personalized auricle reconstruction, <i>Emma Muinos Lopez, Spain</i></p> <p>Investigating the regenerative potential of porcine mesenchymal cells versus myoblasts in a large animal model of stress urinary incontinence, <i>Jasmin Knoll, Germany</i></p> <p>Open digital platform for managing the preclinical translation process of ATMPs and biomaterials, <i>Rik Eshuis, Netherlands</i></p> <p>Making a long story short: brief priming strategies for marrow stromal cell-mediated endochondral bone formation, <i>Andrea Lalli, Netherlands</i></p>	<p>S51 Tissue and Cell Engineering Society Session 4: Drug delivery systems and in vitro models for tissue repair and regeneration</p> <p>Chairs: Vanessa Hearnden, UK & Mahetab Amer, UK</p> <p>Shape Matters: influencing mammalian cell behaviour through macroscale geometry, <i>Felicity Rose, UK</i></p> <p>Alginate dialdehyde-gelatin/polydopamine scaffolds coated with β-lactoglobulin permit subchondral bone regeneration, <i>Farnaz Ghorbani, Germany</i></p> <p>BMP2-incorporated peptide-based bioinks for promoting osteogenic differentiation, <i>Albert Ginjaume, UK</i></p> <p>Comparative analysis of umbilical cord mesenchymal stromal cells versus their extracellular vesicles for the treatment of inflammatory arthritis, <i>Oksana Kehoe, UK</i></p> <p>Novel strategy to improve mucus penetration of GAG-binding enhanced transduction (GET) gene delivery nanoparticles for inhaled gene therapy of cystic fibrosis, <i>Hoda M. Eltaher, UK</i></p> <p>A novel injectable hydrogel-based drug delivery system for the repair of cartilage defects, <i>Arjan Atwal, UK</i></p> <p>A multi-material multicellular 3D in vitro model for bone-tendon-muscle interface regeneration, <i>Yvonne Reinwald, Taiwan</i></p> <p>Comparative bio-assembly of bone cell spheroids in suspension media and pillar array scaffolds, <i>Vinothini Prabhakaran, UK</i></p>	<p>S52 Facilitating new developments of tissue engineering and regenerative medicine strategies by using artificial intelligence</p> <p>Chairs: Bernd Rolauffs, Germany & Ryuji Kato, Japan</p> <p>Risks and benefits of introducing AI in Regenerative Medicine – How to bridge wet and dry approaches, <i>Ryuji Kato, Japan</i></p> <p>Machine learning for analyzing complex biological questions: applications, experimental set-up, data structure, and algorithms, <i>Bernd Rolauffs, Germany</i></p> <p>AI-supported morphological classification of cell dedifferentiation in a bovine chondrocyte monolayer culture, <i>Mischa Selig, Germany</i></p> <p>Image-based cellular state monitoring for biopharmaceutical production cells, <i>Takumi Hisada, Japan</i></p> <p>High-throughput rational design of artificial tissue moulds using a biophysical in-silico model and machine learning, <i>James Peter Hague, UK</i></p> <p>Automated biofabrication of multicellular human tendon microphysiological systems within a biomimetic fibrillar support platform, <i>Rosa F. Monteiro, Portugal</i></p> <p>Human three-dimensional multicellular liver platform for drug screening, <i>Ainhoa Ferret Miñano, Spain</i></p>
10:45 - 11:15	Coffee Break with Posters				
11:15 - 12:45	<p>S53 3D tissue-engineered cancer models in vitro 2</p> <p>Chairs: Rui Reis, Portugal</p> <p>New approaches for the development of 3D tissue-engineered in-vitro cancer models, <i>Rui Reis, Portugal</i></p> <p>Single-cell bioprinting and calcified organs-on-a-chip to understand cancer-cell communication and metastasis, <i>Luia Bertassoni, USA</i></p> <p>Collagen-based scaffolds as models for breast and prostate cancer tumours and bone metastasis, <i>Caroline Curtin, Ireland</i></p> <p>3D micro scaffolds as a frontier tool to model the EMT phenotype in cancer cells, <i>Emanuela Jachetti, Italy</i></p> <p>CombiCHEM: screening for effective combinations of anti-cancer drugs, <i>Christina Steltz, Sweden</i></p> <p>Bioengineered in vitro 3D model of lung cancer tumor microenvironment with tunable extracellular matrix to investigate the pre-metastatic niche formation in distant organs, <i>Vera Lucia Almeida, Ireland</i></p> <p>Assemblioid-based 3D melanoma models, <i>Rogério P. Pirraco, Portugal</i></p>	<p>S54 Spatial organization of the process of wound healing</p> <p>Chairs: Johannes Grillari, Austria & Heinz Redl, Austria</p> <p>The p-rp56-zone delineates wounding response and the healing process, <i>Mikolaj Ogradnik, Austria</i></p> <p>Human skin equivalents with perfusable hierarchical vasculature, <i>Barbara Bachmann, Austria</i></p> <p>Development of a perfusable vascularized in vitro skin model from hiPSC derived skin organoids for disease modelling and infection studies, <i>Amelie Reigl, Germany</i></p> <p>Towards the role of cellular senescence on cell mechanics and ECM formation, <i>Erik Brauer, Germany</i></p> <p>Chromatin modulation in macrophages as a therapeutic strategy to regulate inflammatory genes in diabetic impaired wound healing, <i>Kimberly Mace, UK</i></p> <p>Dermal extracellular matrix extracts for wound healing: a pleiotropic trigger, <i>Daniel P. Reis, Portugal</i></p> <p>Functionalisation of a collagen-based scaffold for nucleic acid delivery in wound healing applications, <i>Juan C. Palomeque Chávez, Ireland</i></p> <p>How can we administer mesenchymal stem/stromal cell secretomes for skin wound healing? <i>Harish Ghalsas, UK</i></p>	<p>S55 Advances in cartilage engineering</p> <p>Osteochondral defects: a clinical challenge for tissue engineers, <i>Jerome Guicheux, France</i></p> <p>A nanopatterned silk-based composite with sustained release of kartogenin for tissue engineering of articular cartilage superficial zone, <i>Dorsa Dehghanbanani, Hong Kong</i></p> <p>Osteochondral scaffold innovation for repair of large osteochondral defects: from bench to bedside, <i>Chaoyang Liu, UK</i></p> <p>An innovative miR-221 inhibitor to enhance cartilage defect repair, <i>Claudio Intini, Ireland</i></p> <p>Modeling cartilage pathology in Mucopolysaccharidosis VI using iPSCs reveals early dysregulation of chondrogenic and metabolic gene expression, <i>Mike Broeders, Netherlands</i></p> <p>Sustained release of locally delivered celecoxib provides pain relief for osteoarthritis: a proof of concept in dog patients, <i>Lizette Utomo, Netherlands</i></p> <p>Perichondrocytes of microtia patients as a cell source for cell-based tissue engineering of a human auricle, <i>Johann Kern, Germany</i></p> <p>Thumb osteoarthritis: Stem cell activation, niche augmentation and tissue regeneration, <i>Matthew Philip Murphy, UK</i></p>	<p>S56 Smart-materials for tissue regeneration</p> <p>Chair: Sandra Camarero Espinosa, Spain</p> <p>Controlling multicellular organization by sound, <i>Tiziano Serra, Switzerland</i></p> <p>Harnessing ultrasound fields for tissue assembly, <i>James Armstrong, UK</i></p> <p>4D printed scaffolds for tissue regeneration, <i>Sandra Camarero Espinosa, Spain</i></p> <p>The effects of low-magnitude pulsed hydrostatic pressure on mesenchymal stem cell motility and ERK-signalling, <i>James R Henstock, UK</i></p> <p>Role of static and dynamic mechanical loading on cell fate and behaviour, <i>Stefania Saporito, Italy</i></p> <p>Anodized dental implants: Custom nanotopographies towards tailored bioactivity, <i>Karan Gulati, Australia</i></p>	<p>S57 Novel approaches to targeted therapeutic delivery</p> <p>Microtissue-based delivery systems for therapeutic vascularization, <i>Cristina Barrias, Portugal</i></p> <p>Biodegradable and electrically responsive polymer hydrogel as a drug delivery system to manage ureteral stent-associated pain, <i>Beatriz Domingues, Portugal</i></p> <p>Modular modification of lipid nanoparticles with bioengineered proteins for selective cardiac homing, <i>Raquel Cruz Samperio, UK</i></p> <p>Transfer tattoo-like cell delivery platform using flexible thin-film transfer, <i>Ju An Park, UK</i></p> <p>Chitosan-coated nano-liposomes as carriers for docetaxel chemotherapy delivery, <i>Christian R. Moya Garcia, Canada</i></p> <p>Polyethyleneimine-decorated gold nanoparticles for simultaneous gold release and enhanced beating properties of hiPSC-derived cardiomyocytes in 3D engineered cardiac tissues, <i>Kaveh Roshanbinfar, Germany</i></p> <p>Hyaluronan functionalized pH-responsive calcium carbonate nanoparticles for local treatment of breast cancer, <i>Rui R. Costa, Portugal</i></p> <p>Formulation and characterization of hydrogels composed of LXAA-loaded (nano)emulsions: impact of the vector used, <i>Léna Guyon, France</i></p>
12:45 - 13:30	Closing and Awards Ceremony				

Legend:

Plenary Sessions	SYIS Activities	Society Meetings
Parallel Sessions	Industry Symposia & Industry Day Sessions	Social Events