

# Tissue Engineering and Regenerative Medicine International Society (TERMIS) European Chapter Conference 2022

## Tuesday, 28 June 2022

### Opening Session - Room: S1 (28 Jun 2022, 09:00 - 10:30)

| time  | [id] title  | presenter         |
|-------|---|-------------------|
| 09:00 | Welcome speeches (30 minutes)   |                   |
| 09:30 | Performance Art (15 minutes)  |                   |
| 09:45 | [1049] The evolution of reconstructive surgery – team experience of Department of Oncological and Reconstructive Surgery National Research Institute of Oncology (45 minutes) | MACIEJEWSKI, Adam |

### Coffee break & poster (10:30 - 11:00)

### S01 3D in vitro tissue-engineered cancer/disease models – Session I - Room: S1 (28 Jun 2022, 11:00 - 12:30)

-Conveners: Anna-Dimitra Kataki; Silvia Farè

| time  | [id] title   | presenter             |
|-------|--|-----------------------|
| 11:00 | [918] Bioengineered platform to study immune-cancer cell interactions ex vivo (20 minutes)   | VARGHESE, Shyni       |
| 11:20 | [27] Modelling breast-to-bone metastatic mechanisms via microfluidic biofabrication (10 minutes)   | CIDONIO, Gianluca     |
| 11:30 | [3] Induction of branching morphogenesis in cholangiocarcinoma organoids in vitro improves similarity with the original tumor for enhanced personalized medicine applications (10 minutes) | VAN TIENDEREN, Gilles |
| 11:40 | [4] A TUMOUR MICROENVIRONMENT MODEL FOR PANCREATIC CANCER (10 minutes)   | KAST, Verena          |
| 11:50 | [5] An In vitro Vascularised Liver Organotypic Model for the Testing of Nanomedicines (10 minutes)   | SANTIN, Matteo        |
| 12:00 | [19] A Systematic Comparative Assessment of the Response of Ovarian Cancer Cells to Cisplatin in 3D Models of Various Structural and Biochemical Configurations (10 minutes)               | KATAKI, Anna-Dimitra  |
| 12:10 | [24] HARNESSING PREDICTIVE TOXICOLOGY WITH A MINIATURIZED MODULAR GASTROINTESTINAL PLATFORM (10 minutes)   | NETO, Mafalda D.      |
| 12:20 | [1] Collagen-nanocellulose forms a matrix of controllable stiffness to mimic the pancreatic tumour microenvironment (10 minutes)   | CURVELLO, Rodrigo     |

### S49 Novel strategies to assess cellular response to biomaterials - Room: S3 B (28 Jun 2022, 11:00 - 12:30)

-Conveners: Carmelo De Maria; Julieta I. Paez

| time  | [id] title   | presenter         |
|-------|--|-------------------|
| 11:00 | [961] Quantum Sensing for measuring free radical generation in living cells (20 minutes)                             | SCHIRHAGL, Romana |
| 11:20 | [323] A NEW SEMI-ORTHOTOPIC BONE DEFECT MODEL FOR CELL AND BIOMATERIAL TESTING IN REGENERATIVE MEDICINE (10 minutes) | FARRELL, Eric     |

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|-------|--|-----------------------|
| 11:30 | [325] Mechanotransduction and reshaping at the nuclear envelope: investigating the Lamin A/C-SUN1 interaction (10 minutes)                                       | DONNALOJA, Francesca  |
| 11:40 | [327] IMMUNE PERFUSION IN CUSTOM BIOREACTORS FOR THE STUDY OF THE EXTRACELLULAR MATRIX-IMMUNE CELL CROSSTALK IN LIVER FIBROSIS (10 minutes)                      | URBANI, Luca          |
| 11:50 | [328] GRAPHENE OXIDE PROMOTES EPITHELIAL MESENCHYMAL TRANSITION IN OVINE AMNIOTIC EPITHELIAL STEM CELLS AFFECTING THEIR IMMUNOMODULATORY PROPERTIES (10 minutes) | CITERONI, Maria Rita  |
| 12:00 | [330] PARTICLE SIZE IN FREE-PACKED GRANULAR SYSTEMS INFLUENCE CELL RESPONSE (10 minutes)   | CUNHA, Ana F.         |
| 12:10 | [332] ELECTROACTIVE MATERIALS GOVERN CELL BEHAVIOR THROUGH THEIR EFFECT ON PROTEIN DEPOSITION (10 minutes)   | MARTIN-IGLESIAS, Sara |
| 12:20 | [333] EVALUATION OF TISSUE INTEGRATION AND ANGIOGENESIS OF 3D PRINTED POROUS SCAFFOLDS USING A NON-DESTRUCTIVE MICROCT APPROACH (10 minutes)                     | DIAZ-GOMEZ, Luis      |

**S07-1 Advances in cardiac tissue engineering: in vitro platforms and in vivo regeneration - Room: S3 A (28 Jun 2022,**

**11:00 - 12:30)**

**-Conveners: Valeria Chiono; Michael Monaghan**

| time  | [id] title   | presenter             |
|-------|--|-----------------------|
| 11:00 | [947] Lessons learned on how (not to) build a heart (20 minutes)   | PASQUALINI, Francesco |
| 11:20 | [950] MECHANICAL AND TOPOLOGICAL CUES TO ENHANCE DE NOVO EXTRACELLULAR MATRIX ELABORATION IN ELASTOMERIC SCAFFOLD MODELS. (20 minutes)                             | D'AMORE, Antonio      |
| 11:40 | [95] Convergency of dual extrusion bioprinting and melt electrowriting allows for vascularized cardiac patch fabrication (10 minutes)                              | AINSWORTH, Madison J. |
| 11:50 | [92] Allogeneic stem cells and immunomodulatory biomaterials for cardiac tissue engineering (10 minutes)   | DHINGRA, Sanjiv       |
| 12:00 | [96] A Micro-Precision Electro Array ( $\mu$ PEA) platform integrated within a mechanically active heart-on-chip for modelling Dilated Cardiomyopathy (10 minutes) | LOZANO-JUAN, Ferran   |
| 12:10 | [101] CARDIAC TISSUE-LIKE 3D MICROENVIRONMENT ENHANCES THE DIRECT REPROGRAMMING PATH OF HUMAN FIBROBLASTS INTO INDUCED CARDIOMYOCYTES BY MICRORNAs (10 minutes)    | PAOLETTI, Camilla     |
| 12:20 | [102] TISSUE ENGINEERED CARDIAC PATCHES FOR THE TREATMENT OF POST-MI HEART FAILURE USING NATURAL POLYMERS AND HUMAN IPSC-DERIVED CELLS (10 minutes)                | FRICKER, Annabelle    |

**S08 Antimicrobial biomaterials for bone regeneration - Room: S4 A (28 Jun 2022, 11:00 - 12:30)**

**-Conveners: Fergal O'Brien; Joanna Sadowska**

| time  | [id] title   | presenter        |
|-------|--|------------------|
| 11:00 | [917] Bioactive glass based approaches for antibacterial bone regeneration (20 minutes)  | BOCCACCINI, Aldo |
| 11:20 | [106] POLYHYDROXYALKANOATE/BIOACTIVE GLASS COMPOSITE SCAFFOLDS WITH ANTIMICROBIAL PROPERTIES FOR BONE TISSUE ENGINEERING APPLICATIONS (10 minutes) | MELE, Andrea     |

/ Programme

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|-------|---|------------------------|
| 11:30 | [105] Alpha Tocopherol, Alpha-tocopheryl Posphate and GN-2-Npm9, molecules for the modification of chemically treated Ti6Al4V alloy surfaces for antibacterial and anti-inflammatory purposes. (10 minutes) | GAMNA, Francesca       |
| 11:40 | [108] BIOACTIVE GLASSES WITH ANTIBACTERIAL PROPERTIES FOR BONE TISSUE REGENERATION (10 minutes)   | ARANGO-OSPINA, Marcela |
| 11:50 | [110] Drop on demand: A new method to develop antimicrobial coatings on medical implants (10 minutes)   | MARTINEZ PEREZ, David  |
| 12:00 | [541] DEVELOPMENT OF MULTIFUNCTIONAL HYALURONIC ACID HYDROGELS WITH ANTIBACTERIAL, ANTI-INFLAMMATORY AND NUCLEIC ACID DELIVERY PROPERTIES (10 minutes)  | GRIBOVA, Varvara       |
| 12:10 | [828] Effect of gallium doped hydroxyapatite on P. aeruginosa bacteria growth (10 minutes)  | MOSINA, Marika         |
| 12:20 | [819] 3D PRINTED SCAFFOLDS WITH NON-ANTIBIOTIC ANTIMICROBIAL-DOPED HYDROXYAPATITE FOR INHIBITING S. AUREUS GROWTH IN VITRO AND SUPPORTING BONE REGENERATION IN VIVO (10 minutes)                            | GENOUD, Katelyn        |

### **S13-1 Biofunctionalized surfaces for cellular and tissue engineering - Room: S2 (28 Jun 2022, 11:00 - 12:30)**

-Conveners: Rui L. Reis

| time  | [id] title  | presenter              |
|-------|---|------------------------|
| 11:00 | [922] BIOMIMETIC SURFACE COATINGS AND HYDROGELS FOR TISSUE ENGINEERING APPLICATIONS (20 minutes)  | GROTH, Thomas          |
| 11:20 | [967] Surface Functionalised Biomaterials and Nanostructures for Advanced Therapies (20 minutes)  | NEVES, Nuno            |
| 11:40 | [31] INTRODUCING CONTINUOUS MATERIAL GRADIENTS IN OSTEOCHONDRAL CONSTRUCTS VIA A NOVEL EXTRUSION-BASED 3D PRINT HEAD (10 minutes)                 | BEEREN, Ivo            |
| 11:50 | [22] High-content image-based profiling for evaluating the effect of peptide coating effect on medical devices (10 minutes)                       | SUGIYAMA, Ayato        |
| 12:00 | [166] bFGF-functionalized polyisocyanopeptide hydrogel for tissue regeneration of the pelvic floor (10 minutes)                                   | VAN VELTHOVEN, M.J.J.  |
| 12:10 | [176] Developing brain-targeting liposomes to deliver mesenchymal stem cells secretome for Parkinson's Disease Regenerative Medicine (10 minutes) | BARATA-ANTUNES, Sandra |
| 12:20 | [171] Guided cartilage formation: covalent growth factor immobilization on melt electrowritten microfiber scaffolds (10 minutes)                  | AINSWORTH, Madison J.  |

### **Lunch break (12:30 - 13:30)**

### **S02 3D in vitro tissue-engineered cancer/disease models – Session II - Room: S1 (28 Jun 2022, 13:30 - 15:00)**

-Conveners: Serena Danti; Rui L. Reis

| time  | [id] title   | presenter         |
|-------|--|-------------------|
| 13:30 | [955] Mimicking the tumor stroma-induced vasculature collapse in 3D pancreatic tumor model (20 minutes)                                | PRAKASH, Jai      |
| 13:50 | [2] BOTTOMS-UP BIO-PRINTING OF CELLULARIZED POROUS MICRO-SCAFFOLDS TO ENHANCE CELL PROLIFERATION, VIABILITY AND MIGRATION (10 minutes) | ROUSSELLE, Adrien |
| 14:00 | [8] Post-printing structure formation in bioprinted tissue constructs that mimic the tumor microenvironment (10 minutes)               | NEAGU, Adrian     |

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|-------|--|---------------------------|
| 14:10 | [10] Bioreactor dynamic organotypic culture of primary liver cancer as a personalised immunocompetent drug screening platform for immuno-oncology (10 minutes) | URBANI, Luca              |
| 14:20 | [11] Development of a bioprinted breast cancer model using decellularized mammary glands (10 minutes)  | BLANCO-FERNANDEZ, Barbara |
| 14:30 | [12] INVESTIGATION OF BREAST CANCER EPITHELIAL-MESENCHYMAL TRANSITION USING 3D COLLAGEN-BASED MODELS (10 minutes)  | SAINSBURY, Elizabeth      |
| 14:40 | [46] ENGINEERING BIOMIMETIC HUMAN LUNG TUMOR MODELS (10 minutes)   | OZTURK, Ece               |
| 14:50 | [51] THE BIOMECHANICAL SIGNATURES OF 3D IN VITRO TUMOUR MODELS (10 minutes)  | MICALET, Auxtine          |

**S09 Biobanking - indispensable support for the development of regenerative medicine - Room: S4 B (28 Jun 2022, 13:30 - 15:00)**

-Conveners: Anna Chróścicka; Maria Chatzinikolaidou

| time  | [id] title  | presenter                       |
|-------|---|---------------------------------|
| 13:30 | [925] Can biofabrication technologies help to facilitate biobanking of tissue engineered products? (20 minutes)   | MORONI, Lorenzo                 |
| 13:50 | [972] TISSUE ENGINEERING AND BIOBANKING - A POSSIBLE FORCE-JOINING ALLIANCE IN APPLIED SCIENCES (20 minutes)  | LEWANDOWSKA-SZUMIEL, Malgorzata |
| 14:10 | [112] Are there any differences between biobanking and banking of tissues and cells for clinical use? (10 minutes)  | KAMIŃSKI, Artur                 |
| 14:20 | [278] Bone-forming capacity and immunogenicity of engineered and decellularized human cartilage grafts (10 minutes)   | PRITHIVIRAJ, Sujeethkumar       |
| 14:30 | [284] LIPID-POLYMER NANOCARRIERS FOR CARTILAGE REGENERATION (10 minutes)  | WYTRWAL-SARNA, Magdalena        |
| 14:40 | [288] The effect of Auxetic metamaterial scaffolds in osteogenic differentiation of Mesenchymal Stem Cells (10 minutes)                                     | FLAMOURAKIS, George             |
| 14:50 | [864] CRYOPRESERVED ADIPOSE TISSUE-DERIVED STROMAL VASCULAR FRACTION FOR THE GROWTH FACTOR-FREE VASCULARIZATION OF BLUE SHARK COLLAGEN SPONGES (10 minutes) | FREITAS RIBEIRO, Sara           |

**S19 Biomimetic Approaches to Cardiovascular Regeneration: how and why? - Room: S4 A (28 Jun 2022, 13:30 - 15:00)**

-Conveners: Petra Mela; Elena De-Juan-Pardo

| time  | [id] title  | presenter        |
|-------|---|------------------|
| 13:30 | [921] Biomimetic approaches to heart valve engineering: ready to tell you how and at work to tell why. (20 minutes) | D'AMORE, Antonio |
| 13:50 | [241] MELT ELECTROWRITING FOR TUNING THE PROPERTIES OF IMPLANT SURFACES (10 minutes)                                | BURKHARDT, Sarah |
| 14:00 | [244] MELT-ELECTROWRITTEN HIGHLY TUNABLE ANISOTROPIC SCAFFOLDS FOR CARDIOVASCULAR TISSUE ENGINEERING (10 minutes)   | MUELLER, Kilian  |
| 14:10 | [249] Layered vascular grafts - mechanical properties and hemocompatibility (10 minutes)                            | ŁOPIANIAK, Iwona |

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|-------|---|-------------------------|
| 14:20 | [253] MESO-SCALE PATTERNED COLLECTING TARGET TO INDUCE LOCAL ANISOTROPY AND CURVILINEAR FIBER ORIENTATION IN ELECTRO-DEPOSITED, MICRO-FIBER BASED MITRAL VALVE SCAFFOLDS (10 minutes) | TERRANOVA, Pietro       |
| 14:30 | [255] 3D PRINTING AND MULTILAYERED ELECTROSPINNING - A NOVEL METHOD TO PRODUCE BIOMIMICKING HEART VALVES (10 minutes)   | BISCHOF, Lara           |
| 14:40 | [258] DEVELOPMENT OF A BIO-INSPIRED SCAFFOLD FOR SMALL Ø VASCULAR REGENERATION (10 minutes)   | FEDERICI, Angelica S.   |
| 14:50 | [35] Development of an advanced tissue-engineering system through novel 3D printing fabrication methods (10 minutes)  | IGLESIAS-GARCÍA, Olalla |

### **S17 Biomaterials, Stem Cells and Ostogenesis, Immunogenicity and Biocompatibility - Room: S3 B (28 Jun 2022,**

**13:30 - 15:00)**

**-Conveners: Aleksandra Klimczak**

| time  | [id] title  | presenter              |
|-------|---|------------------------|
| 13:30 | [990] From Geometrical Patterns to Bioinspired Topographies: Nanofibrillar Microbundles Induce Strong Topological Modulation of Primary Human Immune Cells (20 minutes)   | GROLL, Jürgen          |
| 13:50 | [280] Cell Membrane Camouflage Mesoporous Bioactive Glass Nanoparticles embedding Glucose Oxidase for Targeted Enhanced Tumor Therapy (10 minutes)  | SUI, Baiyan            |
| 14:00 | [281] COMBINING BIOPRINTING AND MELT-ELECTROWRITING TECHNIQUES IN A MULTI-MATERIAL APPROACH FOR THE REPLACEMENT OF THE TEMPOROMANDIBULAR JOINT (10 minutes)   | CAIADO DECARLI, Monize |
| 14:10 | [282] PREDICTION OF IN VITRO SCAFFOLD LIFETIME THROUGH THERMALLY-ACCELERATED AGEING AND FTIR SPECTROSCOPY (10 minutes)  | ROHMAN, Geraldine      |
| 14:20 | [283] VORONOI DESIGN OF ADDITIVELY MANUFACTURED 3D-PRINTED PCL-HA SCAFFOLDS: COMPREHENSIVE IN VITRO AND IN VIVO CHARACTERIZATION (10 minutes)   | LAUBACH, Markus        |
| 14:30 | [287] Harnessing the immunomodulation potential of nanoclay – an analysis of macrophage response (10 minutes)   | KIM, Yang-hee          |
| 14:40 | [289] Effects of subtoxic concentrations of various metal ions on mesenchymal stem/stromal cells (10 minutes)   | HAHN, Olga             |
| 14:50 | [151] INDUCED MESENCHYMAL STEM CELLS AS A SECRETOME SOURCE FOR CNS REGENERATIVE THERAPIES: SIMILAR SECRETORY PROFILE BUT DECREASED REPLICATIVE SENESCENCE COMPARED TO BONE MARROW MESENCHYMAL STEM CELLS (10 minutes) | SANTOS, Diogo J.       |

### **S16-1 Biomaterials from nature based on extracellular matrices: engineering, repopulation and regenerative potential -**

**Room: S2 (28 Jun 2022, 13:30 - 15:00)**

**-Conveners: Sylvia Nürnberger; Andrea Barbero**

| time  | [id] title  | presenter       |
|-------|---|-----------------|
| 13:30 | [938] Extracellular Matrix Derived Scaffolds for Cartilage and Osteochondral Defect Repair (20 minutes)       | KELLY, Daniel   |
| 13:50 | [160] CHARACTERIZING IN VIVO DEFORMATION DYNAMICS IN ORGAN SCAFFOLDS USING INTRAVITAL MICROSCOPY (10 minutes) | CORRIDON, Peter |

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|-------|---|------------------|
| 14:00 | [161] Development and characterisation of a novel 3D bioprinted biomimetic collagen and hyaluronic acid scaffold for the repair of cartilage defects (10 minutes) | O'SHEA, Donagh   |
| 14:10 | [251] Decellularised pleural membranes in pulmonary regenerative medicine (10 minutes)  | VIKRANTH, Trisha |
| 14:20 | [254] Designing a Peptide Hydrogel for Early Detection of Cancer (10 minutes)   | MAHON, Niall     |
| 14:30 | [257] Collagen/Pristine Graphene as an Electroconductive Interface Material for Neuronal Medical Device Applications (10 minutes)                                 | MAUGHAN, Jack    |
| 14:40 | [272] NOVEL HYPOXIA MIMICKING PEG-BASED NANO-BIOINK FOR CARTILAGE REGENERATION APPLICATION (10 minutes)   | RAVI, Subhashini |
| 14:50 | [170] A scaffold-free graft for large critical size bone defect: preclinical evidence to clinical proof of concept (10 minutes)                                   | THEYS, Nicolas   |

**S06 Advanced Biotechnology and Biofabrication approaches for soft tissue engineering and in vitro models: the ENLIGHT and BIRDIE perspective - Room: S3 A (28 Jun 2022, 13:30 - 15:00)**

-Conveners: Riccardo Levato; Carlos Mota

| time  | [id] title  | presenter                 |
|-------|---|---------------------------|
| 13:30 | [986] Dynamic hydrogels for biofabrication (20 minutes)   | BAKER, Matthew            |
| 13:50 | [85] BIOPRINTING ON-CHIP MICROPHYSIOLOGICAL MODELS OF HUMANIZED KIDNEY TUBULOINTERSTITIUM (BIRDIE) (10 minutes)                   | MOTA, Carlos              |
| 14:00 | [72] Optically-tuned bioresins for the ultra-fast volumetric bioprinting of hepatic organoid-laden biofactories (10 minutes)      | NUNEZ BERNAL, Paulina     |
| 14:10 | [75] DEVELOPMENT OF CONDUCTIVE STIMULI-RESPONSIVE FIBROUS HYDROGELS FOR NEURAL INTERFACES (10 minutes)                            | ZARGARIAN, Seyed Shahrooz |
| 14:20 | [77] 3D BIOPRINTED CONSTRUCTS TO GENERATE MATURE ORGANOID FROM IPSC-DERIVED RENAL PROGENITORS (10 minutes)                        | ADDARIO, Gabriele         |
| 14:30 | [82] A biofabrication technology for generating multiscale channels in hydrogels for complex 3D in vitro co-cultures (10 minutes) | SEIJAS-GAMARDO, Adrián    |
| 14:40 | [83] Multimaterial complex tissue models via suspension media-enhanced volumetric bioprinting (10 minutes)                        | RIBEZZI, Davide           |
| 14:50 | [71] KIDNEY-ON-A-CHIP - INTEGRATING GLOMERULAR FILTRATION AND TUBULAR REABSORPTION MODELS (10 minutes)                            | JÄSCHKE, Michelle         |

**S25+S64 Cellular senescence in tissue damage and regeneration + Understanding and preventing early inflammatory events that lead to development of osteoarthritis - Room: S4 C (28 Jun 2022, 13:30 - 15:00)**

-Conveners: Mikolaj Odrodnik; Markus Schosserer; Melanie Hart

| time  | [id] title   | presenter       |
|-------|--|-----------------|
| 13:30 | [927] Cellular senescence during aging and chronic diseases: mechanisms and therapeutic opportunities (20 minutes)   | JURK, Diana     |
| 13:50 | [977] How to leverage cellular senescence for regeneration: a story of three salamanders (20 minutes)  | YUN, Maximina   |
| 14:10 | [202] Characterization of cellular senescence in development, ageing and wounding of mouse skin by creation and exploration of the largest sc-RNA-seq database of murine skin cells (10 minutes) | ROZMARIC, Tomaz |

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|-------|---|--|
| 14:20 | [203] CELLULAR SENESENCE IMPAIRS CHONDROGENIC DIFFERENTIATION OF MSCS VIA TGFB SIGNALING INTERFERENCE (10 minutes)  | NARCISI, Roberto                         |
| 14:30 | [299] A QUANTITATIVE TACK ON THE NANO CONSTRUCT FOR THE MODULATION OF INFLAMMATORY CYTOKINES IN BURN SCARS (10 minutes)   | PANNEERSELVAM<br>MANIMEGALAI, Nivethitha |
| 14:40 | [599] A COMPARTMENTALIZED JOINT-ON-CHIP MODEL TO UNRAVEL THE ROLE OF CARTILAGE AND SYNOVIUM IN OSTEOARTHRITIS PATHOGENESIS (10 minutes)   | PALMA, Cecilia                           |
| 14:50 | [601] Combination of IL-1 $\beta$ and IL-17A synergistically induce an early inflammatory and degenerative expression profile in healthy chondrocytes and synovial fibroblasts (10 minutes) | HART, Melanie                            |

**Coffee break & poster (15:00 - 15:30)****S07-2 Advances in cardiac tissue engineering: in vitro platforms and in vivo regeneration - Room: S3 A (28 Jun 2022, 15:30 - 17:00)**

-Conveners: Valeria Chiono; Michael Monaghan

| time  | [id] title   | presenter            |
|-------|--|----------------------|
| 15:30 | [989] Effectiveness of human iPSC-derived cardiomyocytes, but not stromal cells ("MSC"), for heart repair (20 minutes)                         | DULAK, Józef         |
| 15:50 | [98] Injectable hydrogel for microRNA release in cardiac regenerative medicine (10 minutes)  | NICOLETTI, Letizia   |
| 16:00 | [99] BIOFABRICATION OF SCAFFOLD-FREE 3D CELLULAR STRUCTURES USING MAGNETIC LEVITATIONAL ASSEMBLY TO STUDY CARDIAC TOXICITY (10 minutes)        | ONBAS, Rabia         |
| 16:10 | [97] AN INDUCED PLURIPOTENT STEM CELL-BASED MODEL TO STUDY THE MECHANOBIOLOGY OF MYOCARDIAL FIBROSIS (10 minutes)                              | NIRO, Francesco      |
| 16:20 | [86] ELECTROCONDUCTIVE SCAFFOLDS FOR IN VITRO CARDIAC MODELS (10 minutes)  | SOLAZZO, Matteo      |
| 16:30 | [87] Harnessing the Potential of Immune Cells to Promote Cardiac Repair Following Myocardial Infarction (10 minutes)                           | ALSHOUBAKI, Yasmin   |
| 16:40 | [250] Design and fabrication of advanced thick human cardiac engineered tissues (10 minutes)   | MAZO-VEGA, Manuel M. |
| 16:50 | [978] BIOMECHANICALLY STIMULATED 3D ENDOTHELIAL GUT-ON-CHIP PLATFORM TO STUDY INTESTINE MICROBIOME AND IMMUNE SYSTEM INTERACTIONS (10 minutes) | KUGIEJKO, Karol      |

**S16-2 Biomaterials from nature based on extracellular matrices: engineering, repopulation and regenerative potential -****Room: S2 (28 Jun 2022, 15:30 - 17:00)**

-Conveners: Andrea Barbero; Sylvia Nürnberger

| time  | [id] title  | presenter          |
|-------|---|--------------------|
| 15:30 | [715] Whey Protein isolate: a multifunctional dairy-derived biomaterial (20 minutes)  | DOUGLAS, Timothy   |
| 15:50 | [159] HYDROLYTIC DEGRADATION CHARACTERIZATION OF 3D PRINTED POLYESTER SCAFFOLDS UNDER STATIC CONDITIONS AND FLOW PERFUSION (10 minutes) | ALAMÁN-DÍEZ, Pilar |

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| 16:00 | [263] FIBRIN-BASED HYDROGELS WITH TUNEABLE MECHANICAL PROPERTIES (10 minutes)  | AL ENEZY-ULBRICH, Miriam Aischa |
| 16:10 | [267] IMPROVED CELLULAR INFILTRATION BY GLYCOSAMINOGLYCANS REMOVAL AND ALTERED STIFFNESS - A STUDY ON AURICULAR CARTILAGE SCAFFOLDS. (10 minutes)                                    | CASADO LOSADA, Isabel           |
| 16:20 | [269] THE PREPARATION AND CHARACTERISATION OF POLY(3-HYDROXYBUTYRATE-co-4-HYDROXYBUTYRATE) [P(3HB-co-4HB)] BASED BIOCOMPOSITE FOR TRANSLATIONAL BIOMEDICAL APPLICATIONS (10 minutes) | ALIAA, Nik                      |
| 16:30 | [279] HUMAN EPIDERMAL SKIN EQUIVALENTS (10 minutes)  | BOYADJIEV, Alexander            |
| 16:40 | [268] PRODUCTION OF HIGHLY ANGIOGENIC HYDROGELS FROM THE EXTRACELLULAR MATRIX OF CULTURED STROMAL VASCULAR FRACTION OF ADIPOSE TISSUE (10 minutes)                                   | VILAÇA-FARIA, Helena            |
| 16:50 | [80] HOW NATURAL BIOMATERIAL CONSISTENCY LEADS TO PREDICTABILITY AND TUNABILITY (10 minutes)   | ZEGWAART, Jan-Philip            |

### **S15-1 Biologically inspired and Engineered disease models - Room: S1 (28 Jun 2022, 15:30 - 17:00)**

-Conveners: Andrew Daly

| time  | [id] title   | presenter                     |
|-------|--|-------------------------------|
| 15:30 | [1047] Humanized platforms by convergence of biomaterials, cells and microtechnologies (20 minutes)  | YESIL-CELIK TAS, Ozlem        |
| 15:50 | [41] Tuning macrophage polarization to model myocardial infarction in the generation of functional cardiac organoids (10 minutes)                  | SUKU, Meenakshi               |
| 16:00 | [132] RECONSTRUCTION OF FUNCTIONAL GRADIENTS USING MELT ELECTROWRITING (10 minutes)  | WŁODARCZYK-BIEGUN, Małgorzata |
| 16:10 | [135] Tissue engineering a humanized rat model for osteosarcoma research (10 minutes)  | HUTMACHER, Dietmar W.         |
| 16:20 | [141] ELECTROSPUN PATCH DELIVERY OF ANTI-TNF $\alpha$ F(ab) ANTIBODY FRAGMENT FOR THE TREATMENT OF ORAL MUCOSAL INFLAMMATORY DISEASES (10 minutes) | EDMANS, Jake                  |
| 16:30 | [153] DOX-LOADED MPEG NANOPARTICLES AS A PROMISING TREATMENT IN A HUMANIZED MOUSE MODEL FOR BREAST CANCER BONE METASTASIS (10 minutes)             | FRANKENBACH, Tina             |
| 16:40 | [158] A 3D IN VITRO MODELS OF IMPAIRED OSTEOCYTES ACTIVITY UNDER EXPOSURE TO INDOXYL SULFATE (10 minutes)  | MIHĂILĂ, Silvia Maria         |
| 16:50 | [42] GLYCOTRIPEPTIDES SHOWCASE THE EFFECT OF GLYCOSYLATION ON PROTEIN AGGREGATION (10 minutes)   | BRITO, Alexandra              |

### **S22 Bringing together state-of-the-art quantitative biology and machine learning-based modeling for controlling and predicting cell and cell population phenotype in the context of regenerative medicine - Room: S4 C (28 Jun 2022, 15:30 - 17:00)**

-Conveners: Yuto Takemoto; Bernd Rolauffs

| time  | [id] title   | presenter         |
|-------|--|-------------------|
| 15:30 | [941] Image-based label-free analysis for quantitative and real-time understanding of cellular status (20 minutes) | KATO, Ryuji       |
| 15:50 | [915] Basics of Cellular and Subcellular Mechanobiology (20 minutes)   | SCHLUNCK, Günther |



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|-------|---|------------------|
| 16:10 | [221] CHONDROCYTE PROLIFERATION IS INFLUENCED MORE BY F-ACTIN DENSITY AND THE MACROSCOPIC TISSUE DISEASE STATE THAN BY CELL SHAPE OR MICROPATTERN GEOMETRY (10 minutes)   | ROLAUFFS, Bernd  |
| 16:20 | [228] Morphology-based detection of senescence in expanded mesenchymal stem cells (10 minutes)  | TAKEMOTO, Yuto   |
| 16:30 | [230] Using a machine learning-supported approach for assessing and predicting the susceptibility of articular cartilage to mechanical trauma-induced changes in cellularity (10 minutes)                       | SELIG, Mischa    |
| 16:40 | [231] PREDICTION OF M1, M2A AND M2C MACROPHAGE PHENOTYPES AND THEIR IL-10 PRODUCTION POTENTIAL BASED ON SINGLE CELL MORPHOLOGY AND PROTEIN INTENSITY USING A NOVEL MACHINE-LEARNING BASED APPROACH (10 minutes) | POEHLMAN, Logan  |
| 16:50 | [16] PREDICTION OF MEDICAL DEVICE COATING PROPERTIES VIA MACHINE LEARNING (10 minutes)  | GRIBOVA, Varvara |

**S04 3D Writing Within Suspension Media for Tissue Engineering and In Vitro Modeling - Room: S4 B (28 Jun 2022, 15:30 - 17:00)**

-Conveners: Rui M. A. Domingues; Manuela E. Gomes

| time  | [id] title  | presenter              |
|-------|---|------------------------|
| 15:30 | [923] Bioprinting high cell-density tissue models through spheroid fusion in self-healing hydrogels (20 minutes)                                    | DALY, Andrew           |
| 15:50 | [54] 3D printed anisotropic and porous dense collagen hydrogels to model skeletal muscle extracellular matrix (10 minutes)                          | CAMMAN, Marie          |
| 16:00 | [55] CHEMICALLY FUNCTIONALIZABLE AND MECHANICALLY TUNABLE BIOMATERIAL FOR EMBEDDED 3D BIOPRINTING (10 minutes)                                      | BECKER, Malin Lea      |
| 16:10 | [57] An open source extrusion bioprinter based on the E3D motion system and tool changer to enable FRESH and multimaterial bioprinting (10 minutes) | STELZL, Christina      |
| 16:20 | [157] High resolution light-based 3D printing of cell-laden bio constructs (10 minutes)   | MADRID-WOLFF, Jorge    |
| 16:30 | [56] Magnetically-Assisted 3D Bioprinting of Tissue Engineered Tendons (10 minutes)   | PARDO MONTERO, Alberto |
| 16:40 | [858] Development of bioprinted osteochondral tissue: an in-vitro model for drug discovery (10 minutes)   | JAHANGIR, Shahrbanoo   |

**S03+S33 3D printing of bionic organs – how far are we from clinical application? + From Bench-to-Bedside: Translating 3D Printing Applications in Tissue Engineering and Regenerative Medicine - Room: S3 B (28 Jun 2022, 15:30 - 17:00)**

-Conveners: Marta Klak; Jakub Rybka; Lukasz Witek; James E. Smay

| time  | [id] title   | presenter             |
|-------|--|-----------------------|
| 15:30 | [910] 3D-bioprinted bionic pancreas as an innovative method of treating and preventing diabetes – how far we are from clinical application? (20 minutes) | WSZOŁA, Michał        |
| 15:50 | [34] Tissue Engineered Scaffolds For Tracheal Regeneration: A seeding approach in a multi-layered 3D printed scaffold (10 minutes)                       | SORIANO, Luis         |
| 16:00 | [29] Bone Regenerative Capacity of 3D Printed Bioactive Ceramic Scaffolds Coated with Bioactive Molecule: Dipyridamole (10 minutes)                      | WITEK, Lukasz         |
| 16:10 | [32] SCAFFOLD GUIDED BONE TISSUE ENGINEERING FOR THE ASSESSMENT OF BONE DEFECT RECONSTRUCTION – PRE-CLINICAL AND CLINICAL TRIALS (10 minutes)            | MEDEIROS SAVI, Flavia |

|       |   |                       |
|-------|---|-----------------------|
| 16:20 | [30] SELF-ASSEMBLING PEPTIDE HYDROGELS AS BIOINKS FOR 3D BIOPRINTING APPLICATIONS (10 minutes)                          | GINJAUME, Albert      |
| 16:30 | [44] BIODEGRADABLE AND BIOACTIVE PERSONALIZED IMPLANT FOR GUIDED BONE REGENERATION (10 minutes)                         | REY-VIÑOLAS, Sergi    |
| 16:40 | [38] BONE REGENERATION EXPLOITING CORTICOPERIOSTEAL TISSUE TRANSFER FOR SCAFFOLD-GUIDED BONE REGENERATION (10 minutes)  | HUTMACHER, Dietmar W. |
| 16:50 | [59] Meniscus regeneration of the future. From the slaughterhouse, through cell culture to 3D bioprinting. (10 minutes) | RYBKA, Jakub          |

**S68 Human brain organoids versus assembloids approach for neurodevelopmental studies - Room: S4 A (28 Jun 2022, 15:30 - 17:00)**

-Conveners: Arti Ahluwalia; Leonora Bużańska

| time  | [id] title  | presenter          |
|-------|---|--------------------|
| 15:30 | [932] Development of the integrated human brain organoids (20 minutes)  | PARK, In-Hyun      |
| 15:50 | [942] In vitro modeling of human brain region interactions (20 minutes)   | REUMANN, Daniel    |
| 16:10 | [899] ADVANCED IN SILICO METHODS FOR ORGANOID AND ASSEMBLOID DESIGN (10 minutes)  | MAGLIARO, Chiara   |
| 16:20 | [315] PHYSIOLOGICAL NORMOXIA INFLUENCE NEURAL CELL FATE THROUGH CHANGES OF MITOCHONDRIAL DYNAMICS AND GLYCOLYSIS/OXPHOS SWITCH IN HUMAN BRAIN ORGANOID MODEL (10 minutes) | LIPUT, Michal      |
| 16:30 | [937] Establishing tools to study the emergence of cellular diversity in the human brain (20 minutes)   | NOWAKOWSKI, Tomasz |
| 16:50 | Round Table Discussion (10 minutes)   |                    |

**Coffee break & poster (17:00 - 17:30)**

**Awards Session - Room: S1 (28 Jun 2022, 17:30 - 19:00)**

**General Assembly - Room: S1 (28 Jun 2022, 19:00 - 20:00)**

**Welcome reception (20:00 - 22:00)**

# Wednesday, 29 June 2022

## **P1 Plenary Session: Gerjo van Osch (plenary lecture) Cartilage regeneration: the challenges of regenerating a “simple” non-vascularised tissue - Room: S1 (29 Jun 2022, 09:00 - 10:00)**

-Conveners: Geoff Richards

| time  | [id] title   | presenter       |
|-------|--|-----------------|
| 09:00 | [992] Cartilage regeneration: the challenges of regenerating a “simple” non-vascularised tissue (1 hour) | VAN OSCH, Gerjo |

## **Debate 1: Regeneration of human joints (Prof. Alicia El Haj, Prof. Fergal O'Brien, Prof. Geoff Richards, Prof. Gerjo van Osch) - Room: S1 (29 Jun 2022, 10:00 - 10:30)**

-Conveners: Martin Stoddart

| time  | [id] title   | presenter   |
|-------|--|---|
| 10:00 | [1050] Debate: Regeneration of human joints (30 minutes) | EL HAJ, Alicia<br>O'BRIEN, Fergal<br>RICHARDS, Geoff<br>VAN OSCH, Gerjo |

## **Coffee break & poster (10:30 - 11:00)**

## **S10-1 Biofabricated Tissues and Organs for Clinical Impact - Room: S1 (29 Jun 2022, 11:00 - 12:30)**

-Conveners: Andrew Daly; Laura De Laporte

| time  | [id] title  | presenter                |
|-------|---|--------------------------|
| 11:00 | [920] Biofabricated Articular and Cardiac Tissues for Clinical Impact (20 minutes)  | MALDA, Jos               |
| 11:20 | [121] PHYSIOMIMETIC CULTURE OF MESENCHYMAL STROMAL CELLS AFFECTS MACROPHAGE ACTIVITY IN A PARACRINE MANNER (10 minutes)                     | FALCONES, Bryan          |
| 11:30 | [125] Engineered and decellularized human cartilage grafts instruct full regeneration of critical-sized femoral defects (10 minutes)        | GARCIA GARCIA, Alejandro |
| 11:40 | [126] A WOVEN VASCULAR GRAFT PRODUCED FROM YARN OF HUMAN AMNIOTIC MEMBRANE (10 minutes)   | L'HEUREUX, Nicolas       |
| 11:50 | [119] Philosophy of science, a tool to face engineered liver challenges (10 minutes)  | GUILLET, Manon           |
| 12:00 | [127] TOWARDS FABRICATION OF A TRIPLE CULTURE LIVER SINUSOID MODEL UTILIZING 3D CORE-SHELL BIOPRINTING (10 minutes)                         | LODE, Anja               |
| 12:10 | [118] LIVER MATRIX AND PERFUSION BIOREACTOR CULTURE PROMOTE AMNION EPITHELIAL CELL DIFFERENTIATION INTO FUNCTIONAL HEPATOCYTES (10 minutes) | CAMPINOTI, Sara          |
| 12:20 | [215] A modular bioreactor for dynamic culturing of human multilayer tissues structures (10 minutes)  | GASPERINI, Luca          |

## **S12 Biofabrication with light-based technologies and high-definition printing - Room: S3 B (29 Jun 2022, 11:00 - 12:30)**

-Conveners: Tiziano Serra; Marcy Zenobi-Wong

| time | [id] title | presenter |
|------|------------|-----------|
|------|------------|-----------|

|       |  |                           |
|-------|--|---------------------------|
| 11:00 | [949] Light-driven technologies to steer the functionality of volumetric engineered tissues and organoids (20 minutes)             | LEVATO, Riccardo          |
| 11:20 | [988] LASER-BASED HIGH-RESOLUTION 3D PRINTING AND BIOPRINTING FOR TISSUE ENGINEERING (20 minutes)                                  | OVSIAKOV, Aleksandr       |
| 11:40 | [155] HARNESSING MICROFLUIDIC BIOPRINTING TO FABRICATE GRADIENT-LIKE POROUS 3D CONSTRUCTS VIA EMULSION INK DEPOSITION (10 minutes) | MARCOTULLI, Martina       |
| 11:50 | [163] BOTTOM-UP TISSUE ENGINEERING BASED ON MICROSCAFFOLDS PRODUCED BY HIGH-RESOLUTION 3D PRINTING (10 minutes)                    | KOPINSKI-GRÜNWARD, Oliver |
| 12:00 | [165] DEFINED-GEOMETRY MICROPARTICLES PRODUCED BY TWO-PHOTON POLYMERISATION FOR SKELETAL APPLICATIONS (10 minutes)                 | OWEN, Robert              |
| 12:10 | [164] Microfluidics-assisted bioprinting of double-emulsion droplets (10 minutes)  | TERRAZAS MALLEA, Ronald   |
| 12:20 | [162] EFFECT OF LIGHT STIMULI IN VOLUMETRIC BIOPRINTING ON CELL FUNCTIONALITY AT SINGLE CELL LEVEL (10 minutes)                    | GUEYE, Marième            |

#### **S48 Next Generation Biomaterials of Stem Cell Culture and Differentiation for Stem Cell Therapy - Room: S4 A (29**

**Jun 2022, 11:00 - 12:30)**

**-Conveners: Joanna Idaszek; Akon Higuchi**

| time  | [id] title  | presenter            |
|-------|---|----------------------|
| 11:00 | [954] MICROPATTERNED SURFACES FOR CONTROLLING STEM CELLS MORPHOLOGY AND FUNCTIONS (20 minutes)  | CHEN, Guoping        |
| 11:20 | [320] HYALURONIC ACID BASED NEXT-GENERATION BIOINK FOR 3D BIOPRINTING OF A HUMAN STEM CELL DERIVED CORNEAL STROMA EQUIVALENT AND A 3D CORNEA TISSUE MODEL WITH INNERVATION (10 minutes) | MÖRÖ, Anni           |
| 11:30 | [316] DEVELOPMENT OF AN IPSC LOADED BIOMIMETIC SCAFFOLD SYSTEM FOR SPINAL CORD APPLICATIONS (10 minutes)  | O' CONNOR, Cian      |
| 11:40 | [314] ROAD TO UNIVERSAL ORGANS: DECELLULARIZED LIVER REPOPULATION WITH HLA I-II KNOCKOUT HEPATOCYTES IN A DYNAMIC BIOREACTOR CULTURE (10 minutes)                                       | CACIOLLI, Lorenzo    |
| 11:50 | [322] MULTIFUNCTIONAL 3D BIOPRINTING FOR TISSUE INTERFACES (10 minutes)   | ŞENTÜRK, Efsun       |
| 12:00 | [145] LUNG TISSUE TYPE SELECTED AMNIOTIC FLUID DERIVED MESENCHYMAL STEM CELLS FOR TREATMENT OF BLEOMYCIN INDUCED PULMONARY FIBROSIS IN A RAT MODEL (10 minutes)                         | TALTS, Jan           |
| 12:10 | [156] Interplay between adipose-derived stem cells and inflammatory mediators: impact on neurite outgrowth and vascular morphogenesis (10 minutes)                                      | L. AFONSO, João      |
| 12:20 | [146] TOWARDS APPLICATION OF CELL THERAPY USING hiPSC-DERIVED MSCs AS A STABLE 'OFF-THE-SHELF' CELL SOURCE (10 minutes)   | RAMOS, Yolande F. M. |

#### **S28 Emerging and future technologies for peripheral nerve regeneration - Room: S4 C (29 Jun 2022, 11:00 - 12:30)**

**-Conveners: Srinivas Madduri**

| time | [id] title | presenter |
|------|------------|-----------|
|------|------------|-----------|

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|-------|---|------------------------|
| 11:00 | [974] Unveiling the Multiple Roles of Stem Cells Secretome in Nerve Regeneration (20 minutes)   | SALGADO, Antonio       |
| 11:20 | [997] Novel bioengineering approach for enhancing the nerve tissue regeneration process (20 minutes)  | MADDURI, Srinivas      |
| 11:40 | [191] THREE-DIMENSIONAL SCAFFOLDS BY MULTI-PHOTON POLYMERIZATION AS A CO-CULTURE SYSTEM FOR TISSUE REGENERATION (10 minutes)  | KORDAS, Antonis        |
| 11:50 | [192] An advanced nerve guidance conduit for repairing large peripheral nerve defects (10 minutes)  | KOCI, Zuzana           |
| 12:00 | [194] ALIGNED AND CONDUCTIVE 3D COLLAGEN/PPY SCAFFOLDS FOR PERIPHERAL NERVE TISSUE ENGINEERING (10 minutes)   | TRUEMAN, Ryan          |
| 12:10 | [25] EXTRACELLULAR VESICLES IN PERIPHERAL NERVE REGENERATION: EXTRACELLULAR VESICLES DERIVED FROM ADIPOSE STEM CELLS INCREASE SCHWANN CELL PROLIFERATION FOLLOWING INTERNALIZATION (10 minutes) | HAERTINGER, Maximilian |

### **S62 Tissue regeneration by integration of bioinspired materials - Room: S4 B (29 Jun 2022, 11:00 - 12:30)**

-Conveners: Sandra Van Vlierbergh; Heungsoo Shin

| time  | [id] title  | presenter                      |
|-------|---|--------------------------------|
| 11:00 | [1001] TBA (20 minutes)   | RODRÍGUEZ-CABELLO, José Carlos |
| 11:20 | [582] The Controlled Delivery of Proteoglycan-4 in a Scaffold-Based System for Cartilage Repair Applications (10 minutes)   | MATHESON, Austyn               |
| 11:30 | [576] Hybrid 3D-printed hydrogel scaffolds for liver tissue engineering (10 minutes)  | CARPENTIER, Nathan             |
| 11:40 | [572] Combining proteolytic sequences, VEGF-mimetic peptide and laminin-derived peptide within Elastin-Like Recombinamer scaffolds for the spatiotemporal direction of angiogenesis and neurogenesis (10 minutes) | GONZÁLEZ-PÉREZ, Fernando       |
| 11:50 | [584] TIME COURSE OF ECTOPIC BONE FORMATION IN RATS INDUCED BY rhBMP6 WITHIN AUTOLOGOUS BLOOD COAGULUM WITH CALCIUM PHOSPHATE CERAMIC PARTICLES (10 minutes)  | STOKOVIC, Nikola               |
| 12:00 | [586] Prognostic evaluation of the use of three-dimensional (3D) scaffolds on chronic skin lesions using new biomedical imaging technologies. (10 minutes)  | CAVALLINI, Chiara              |
| 12:10 | [84] HEPARAN SULPHATE ANALOGUE HYDROGELS AS A PLATFORM FOR KIDNEY ORGANOID MATURATION (10 minutes)  | MOTA, Carlos                   |
| 12:20 | [574] DIRECTING STEM CELL COMMITMENT IN 3D BIOINSPIRED HYDROGELS BY GROWTH FACTOR SEQUESTRATION USING MOLECULARLY IMPRINTED NANOPARTICLES (10 minutes)  | TEIXEIRA, Simão P. B.          |

### **S43-1 Multifunctional biomaterials supporting bone regeneration - Room: S2 (29 Jun 2022, 11:00 - 12:30)**

-Conveners: Timothy Douglas; Elżbieta Pamuła

| time  | [id] title   | presenter            |
|-------|--|----------------------|
| 11:00 | [929] Current status and future prospects of genome-scale metabolic modeling to optimize the use of mesenchymal stem cells in regenerative medicine (20 minutes) | SIGURJÓNSSON, Olafur |
| 11:20 | [226] OSTEOINDUCTIVE INJECTABLE CALCIUM PHOSPHATE BIOACTIVATED BY PHOSPHOSERINE DENDRONS (20 minutes)  | GRAZIA RAUCCI, Maria |

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|-------|---|-------------------------|
| 11:40 | [218] MECHANICAL STIMULATION PROMOTES THE OSTEOGENIC RESPONSE OF PRE-OSTEOBLASTS ON POLYMERIC SCAFFOLDS (10 minutes)  | CHATZINIKOLAIDOU, Maria |
| 11:50 | [212] Biofabrication of the vascularised osteogenic niche (10 minutes)  | PARMENTIER, Laurens     |
| 12:00 | [224] Calcium phosphate based biomaterials influence on cell metabolism (10 minutes)  | FAN, Jingzhi            |
| 12:10 | [229] Evaluation of $\beta$ tricalcium phosphate and poly(3-hydroxybutyrate) -based scaffolds for bone tissue regeneration (10 minutes)   | SKIBIŃSKI, Szymon       |
| 12:20 | [225] OSTEOGENIC ACTIVITY OF ADDITIVE MANUFACTURED TITANIUM ALLOY-CALCIUM PHOSPHATE CERAMIC SCAFFOLDS FOR CRANIOPLASTY IN VITRO AND IN A LARGE ANIMAL CALVARIAL DEFECT MODEL (10 minutes) | KOPER, David            |

### **S13-2 Biofunctionalized surfaces for cellular and tissue engineering - Room: S3 A (29 Jun 2022, 11:00 - 12:30)**

-Conveners: Rui L. Reis

| time  | [id] title  | presenter                             |
|-------|---|---------------------------------------|
| 11:00 | [177] ELECTROACTIVE POLYCAPROLACTONE-GRAPHENE NANOCOMPOSITES COMBINED WITH ZINC IONS TRIGGER MYOGENIC DIFFERENTIATION (10 minutes)                                      | APARICIO COLLADO, Jose Luis           |
| 11:10 | [169] Probing T Cell Mechanosensitivity using Artificial Antigen-Presenting Cells (10 minutes)  | ALATOOM, Aseel                        |
| 11:20 | [26] Cell-selective adhesion short peptides for enhancing cell culture on scaffold (10 minutes)   | FUJIMOTO, Akiyo                       |
| 11:30 | [167] ANTIBACTERIAL ALBUMIN-TANNIC ACID COATINGS FOR SCAFFOLD-GUIDED BREAST RECONSTRUCTION (10 minutes)   | COMETTA, Silvia                       |
| 11:40 | [172] POLY(ARGININE) AND HYALURONIC ACID FILM: A MULTIFUNCTIONAL COATING FOR SCAFFOLDS AND INVASIVE MEDICAL DEVICES: THE CASE OF CAVI-T INTRANASAL BALLOON (10 minutes) | CALLIGARO, Cynthia                    |
| 11:50 | [174] Innovative Hydrogel to Overcome the Glioblastoma Therapy Deadlock (10 minutes)  | SUSANA COSTA MACHADO FERREIRA, Helena |
| 12:00 | [33] BUILDING BARRIERS: ENGINEERING A NOVEL IN VITRO MODEL OF THE BLOOD-BRAIN BARRIER (10 minutes)  | SCHOFIELD, Christina                  |
| 12:10 | [18] Novel Elastomer Surface Modification Technique for Corneal Limbal Epithelial Stem Cell Investigation (10 minutes)  | DIMMOCK, Ryan                         |

### **Lunch & Meet the Mentor (12:30 - 13:30)**

### **S30 European regional platforms for TERM - Update - Room: S4 C (29 Jun 2022, 13:30 - 15:00)**

-Conveners: Gerjo van Osch; Heinz Redl

| time  | [id] title  | presenter       |
|-------|---|-----------------|
| 13:30 | [1007] Belgium Example - Gent Platform Advanced Therapies and Tissue Engineering (10 minutes) | AMONS, Gudrun   |
| 13:40 | [1008] UK Example - Regenerative Medicine Platform UKRMP II (10 minutes)                      | OREFFO, Richard |
| 13:50 | [185] REGENERATIVE MEDICINE AND TECHNOLOGY – A NEW BACHELOR PROGRAM (10 minutes)              | BAUER, Jurica   |
| 14:00 | [1009] Netherland Example - RegMedXB (10 minutes)   | MULDER, Bernard |

|       |   |               |
|-------|---|---------------|
| 14:10 | [1010] Ireland Example - CURAM-A National Center for Research in Medical Devices (10 minutes) | PANDIT, Abhay |
| 14:20 | [1011] Austrian Example - Austrian Cluster for Tissue Regeneration (10 minutes)               | REDL, Heinz   |
| 14:30 | Round table discussion (30 minutes)   |               |

### **S43-2 Multifunctional biomaterials supporting bone regeneration - Room: S2 (29 Jun 2022, 13:30 - 15:00)**

-Conveners: Elżbieta Pamuła; Timothy Douglas

| time  | [id] title  | presenter             |
|-------|---|-----------------------|
| 13:30 | [207] CONTROLLED DELIVERY OF EPIGENETICALLY ACTIVATED EXTRACELLULAR VESICLES FROM A GELMA/NANOCLAY HYDROGEL FOR BONE REGENERATION (10 minutes)                                  | MAN, Kenny            |
| 13:40 | [208] BONE REGENERATION OF A CRITICAL-SIZED DEFECT IN SHEEP WITH A 3D PRINTED SCAFFOLD COATED WITH A BIOMETIC FILM CONTAINING LOW-DOSE OF BMP-2 (10 minutes)                    | SCHOFFIT, Sarah       |
| 13:50 | [210] New surface functionalities from grafting natural biomolecules to titanium alloys (10 minutes)  | GAMNA, Francesca      |
| 14:00 | [211] ENGINEERING OF A BRIDGE PROTEIN TO IMPROVE THE DELIVERY OF BMP-2 FROM COLLAGEN SPONGE AND ENHANCE BONE REGENERATION FOR SPINAL FUSION (10 minutes)                        | BRIQUEZ, Priscilla    |
| 14:10 | [222] PCL reinforced collagen scaffolds for endochondral healing of bone defects (10 minutes)   | LEEMHUIS, Hans        |
| 14:20 | [235] MICROSTRUCTURE EFFECT ON BONE FORMATION OF A FUNCTIONALLY GRADED SCAFFOLD USING A MECHANOSTAT-BASED MODEL (10 minutes)  | ALIPOUR GHASSABI, Ata |
| 14:30 | [238] EFFECT OF 3D SCAFFOLD MORPHOLOGY ON BONE TISSUE REGENERATION BASED ON A MULTI-PHYSICS FEM MODEL (10 minutes)  | OZTURK, Sezen         |
| 14:40 | [173] DELIVERY OF MESENCHYMAL STROMAL CELLS USING COLLAGEN MEMBRANES EMBEDDED IN LEGO®-INSPIRED MULTICOMPONENT SCAFFOLDS FOR PERSONALISED MANDIBULAR DEFECT REPAIR (10 minutes) | PHELIPE HATT, Luan    |
| 14:50 | [223] Composite Biomaterial-Ink with Hyaluronan, Collagen and Calcium Phosphate Particles for Delivery of Chemically Modified RNA to promote Bone Regeneration (10 minutes)     | VAN DER HEIDE, Daphne |

### **S24 Cell-rich constructs for tissue engineering - Room: S1 (29 Jun 2022, 13:30 - 15:00)**

-Conveners: Christina Schofield; Manuel Salmeron-Sanchez

| time  | [id] title   | presenter                    |
|-------|--|------------------------------|
| 13:30 | [996] High cells/biomaterials ratio approaches in tissue engineering (20 minutes)  | MANO, João                   |
| 13:50 | [205] PAPILLARY AND RETICULAR FIBROBLASTS GENERATE DISTINCT MICROENVIRONMENTS THAT DIFFERENTIALLY IMPACT ANGIOGENESIS (10 minutes)                 | MULLER, Laurent              |
| 14:00 | [206] AN IN VITRO IMMUNOCOMPETENT HUMAN TISSUE-ENGINEERED MODEL OF ATOPIC DERMATITIS FOR DRUG TESTING (10 minutes)                                 | BARRAGAN VAZQUEZ, Inmaculada |
| 14:10 | [213] IS MORE ALWAYS BETTER? MODULATING HUMAN ADIPOSE DERIVED STROMAL CELLS CHONDROGENESIS TO ACHIEVE OPTIMAL BONE REMODELING IN VIVO (10 minutes) | CHAABAN, Mansoor             |

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|-------|--|----------------------|
| 14:20 | [216] LAMINARAN/PLATELET LYSATE-BASED HYDROGELS: TOO GOOD TO BE TRUE (10 minutes)  | ZARGARZADEH, Mehrzad |
| 14:30 | [219] Perfusion Flow on urogenital epithelial cells for urethral tissue engineering purposes (10 minutes)                                      | DE GRAAF, Petra      |
| 14:40 | [220] INTERLEUKIN 1 BETA MODULATES THE EQUINE TENOCYTE TRANSCRIPTOME IN 3D CULTURE BY ENHANCING NF-KB SIGNALLING (10 minutes)                  | BEAUMONT, Ross       |
| 14:50 | [426] Optimisation of bioprocessing conditions for an implantable myoblast-microcarrier combination for treatment of incontinence (10 minutes) | CARTAXO, Ana Luísa   |

### **S37 Human Organoids for Musculoskeletal Tissues - Room: S4 A (29 Jun 2022, 13:30 - 15:00)**

-Conveners: Debby Gawlitta; Xiao-hua Qin

| time  | [id] title  | presenter        |
|-------|---|------------------|
| 13:30 | [934] Engineering Grafts for Joint Regeneration using Phenotypically Distinct Cartilaginous Microtissues (20 minutes)   | KELLY, Daniel    |
| 13:50 | [965] Structural support for human cartilage organoids (20 minutes)   | MALDA, Jos       |
| 14:10 | [76] Microengineered 3D Bone Cell Models via Image-guided Two-photon Subtractive Lithography (10 minutes)   | QIN, Xiao-hua    |
| 14:20 | [501] Increased cell density increases mineral formation rates and stiffness in 3D bioprinted patient-derived bone organoids using dynamic loading (10 minutes) | DE LEEUW, Anke   |
| 14:30 | [556] Directing human mesenchymal stem cells differentiation towards hypertrophic chondrocytes using fiber-reinforced bone dECM hydrogel scaffolds (10 minutes) | IDASZEK, Joanna  |
| 14:40 | [387] THE INTERPLAY BETWEEN IMMUNE RESPONSE AND BONE FORMATION FROM DEVITALIZED ALLOGENEIC CELLS (10 minutes)   | DE SILVA, Leanne |
| 14:50 | [499] TOWARDS BONE-REMODELING-ON-A-CHIP: FORMATION OF 3D BONE-LIKE TISSUES (10 minutes)   | VIS, Michelle    |

### **S31 Extracellular vesicles – next generation tool for diagnostics and regenerative medicine - Room: S3 A (29 Jun 2022, 13:30 - 15:00)**

-Conveners: Ewa Zuba-Surma; Barbara Łukomska

| time  | [id] title  | presenter        |
|-------|---|------------------|
| 13:30 | [1004] UNSOLVED MYSTERIES AND CURRENT OPPORTUNITIES IN EXTRACELLULAR VESICLES (20 minutes)  | WITWER, Kenneth  |
| 13:50 | [952] MESENCHYMAL STEM CELL-DERIVED EXTRACELLULAR VESICLES AND THEIR FUNCTIONAL HETEROGENEITY (20 minutes)  | GIEBEL, Bernd    |
| 14:10 | [23] EXTRACELLULAR BIOADDITIVES-ADJUVANTED INJECTABLE HYDROGEL SUPPORTS NEOANGIOGENESIS AND DAMPENS ADVERSE CARDIAC REMODELLING (10 minutes)                                  | MAIULLARI, Fabio |
| 14:20 | [183] EXTRACELLULAR VESICLES FROM HUMAN IPS CELLS ENHANCE RECONSTITUTION CAPACITY OF CORD BLOOD-DERIVED HEMATOPOIETIC STEM AND PROGENITOR CELLS (10 minutes)                  | KARNAS, Elżbieta |
| 14:30 | [14] INTRA-TRACHEAL INJECTION OF HUMAN EXTRACELLULAR VESICLES BLOCKS FIBROSIS AND REGENERATES EPITHELIAL LUNG CELLS IN A RAT MODEL OF BRONCHOPULMONARY DYSPLASIA (10 minutes) | MAGAROTTO, Fabio |



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|-------|---|--------------------|
| 14:40 | [17] DEVELOPMENT OF BIOINSPIRED PROTEOLIPOSOMES AND CELL-DERIVED NANOVESICLES AS OSTEOGENIC SYNTHETIC EXTRACELLULAR VESICLES FOR BONE REGENERATION (10 minutes) | BRUNET, Mathieu Y. |
| 14:50 | [179] SECRETOME OF ADIPOSE TISSUE DERIVED STEM CELLS AND ELECTRICAL EPIDURAL STIMULATION PROMOTES FUNCTIONAL GAINS IN SPINAL CORD INJURY CONTEXT (10 minutes)   | RIBEIRO, Jorge     |

### **S38 Injectable biomaterials for cell-instructive matrix cues - Room: S3 B (29 Jun 2022, 13:30 - 15:00)**

-Conveners: Mirosława El Fray

| time  | [id] title   | presenter             |
|-------|--|-----------------------|
| 13:30 | [935] ENGINEERING INJECTABLE THERAPEUTIC BIOMATERIALS FOR MUSCO-SKELETAL TISSUE REPAIR/REGENERATION (20 minutes)                     | AMBROSIO, Luigi       |
| 13:50 | [1013] In situ assembling biohybrid polymer hydrogels to modulate cell-instructive matrix cues (20 minutes)                          | WERNER, Carsten       |
| 14:10 | [78] FIREFLY-INSPIRED BIOMATERIALS AS TUNABLE, TRIGGERABLE, AND CELL-INSTRUCTIVE MATRICES FOR 3D CELL ENCAPSULATION (10 minutes)     | PAEZ, Julieta         |
| 14:20 | [79] Engineering Cell-Instructive Microenvironments Using Injectable, Topographically-Textured Polymeric Matrices (10 minutes)       | AMER, Mahetab         |
| 14:30 | [89] DEVELOPMENT OF IN SITU CROSSLINKABLE BIORESPONSIVE ALGINATE HYDROGELS (10 minutes)  | V. MAGALHÃES, Mariana |
| 14:40 | [895] Injectable nanofibrous microscaffolds for cell and drug delivery (10 minutes)  | NAKIELSKI, Pawel      |
| 14:50 | [510] Clickable amphiphile alginate produces dynamic 3D cell microenvironments with microstructured hydrophobic domains (10 minutes) | NEVES, Mariana I.     |

### **S20 Biomimetic in vitro models for bone regeneration and cancer pathologies - Room: S4 B (29 Jun 2022, 13:30 - 15:00)**

-Conveners: Silvia Farè; Gabriela Graziani

| time  | [id] title  | presenter           |
|-------|---|---------------------|
| 13:30 | [933] Engineering 3D Human Multicellular Bone Models as Anti-metastatic Drug Screening Platforms (20 minutes)     | MORETTI, Matteo     |
| 13:50 | [943] In vitro testing of bone biomaterials - opportunities and challenges (20 minutes)                           | STODDART, Martin    |
| 14:10 | [237] IN VITRO BONE MARROW NICHE FOR METASTASIS ASSAY (10 minutes)  | WENTA, Tomasz       |
| 14:20 | [233] Bridging the gap between the immune response and mineralization during fracture healing (10 minutes)        | LACKINGTON, William |
| 14:30 | [236] Biogenic and biomimetic nanocoatings for bone modelling and regeneration (10 minutes)                       | GRAZIANI, Gabriela  |
| 14:40 | [234] Algorithmic Engineering enabling Organotypical Print Templates at Scale (10 minutes)                        | ERBEN, Amelie       |
| 14:50 | [7] Biofabrication of tumor models that mimic the tumor microenvironment using extrusion bioprinting (10 minutes) | ARJOCA, Stelian     |

### **Coffee break & poster (15:00 - 15:30)**

**S47 New insights underlying mesenchymal stem cell-mediated bone regeneration - Room: S2 (29 Jun 2022, 15:30 -****17:00)****-Conveners: Kamal Mustafa; Cecilie Gjerde**

| time  | [id] title   | presenter                   |
|-------|--|-----------------------------|
| 15:30 | [309] STEM CELLS IN BONE REGENERATION, A RANDOMIZED CLINICAL TRIAL (20 minutes)  | GJERDE, Cecilie             |
| 15:50 | [307] Bone-Marrow Mesenchymal Stem/Stromal Cells Have Enhanced Vasculogenic Potency Over Adipose Stem/Stromal Cells in Perfused In Vitro Cultures (20 minutes)                                   | MIETTINEN, Susanna          |
| 16:10 | [939] Extracellular Vesicles Secreted by Osteogenic-Differentiated Mesenchymal Stem Cells Promote Bone Formation In Rat Calvarial Defect (10 minutes)  | MUSTAFA, Kamal              |
| 16:20 | [310] DEVELOPMENT OF ANGIOGENIC BIOINK FOR VASCULARIZED BONE TISSUE ENGINEERING (10 minutes)   | KORKEAMÄKI, Jannika         |
| 16:30 | [308] MACROPHAGE MEDIATED IMMUNOMODULATION BY EXTRACELLULAR VESICLES DERIVED FROM MESENCHYMAL STROMAL CELLS COMBINED WITH BIPHASIC CALCIUM PHOSPHATE GRANULES FOR BONE REGENERATION (10 minutes) | RANA, Neha                  |
| 16:40 | [300] THE INFERIOR IN VIVO OSTEOGENICITY OF HUMAN MSC FROM ADIPOSE TISSUE COMPARED TO BONE MARROW IS CORRELATED WITH HIGHER IMMUNE RESPONSE WITHIN TISSUE ENGINEERED CONSTRUCTS (10 minutes)     | LOGEART-AVRAMOGLU, Delphine |
| 16:50 | [305] Fluid-flow mediated cytoskeletal adaptation regulates the growth and fate of bone marrow mesenchymal stem cells (10 minutes)   | YAMADA, Shuntaro            |

**S41 Mesenchymal Stem / Stromal Cells - from basic research through clinical studies to registered products - Room: S3****A (29 Jun 2022, 15:30 - 17:00)****-Conveners: Marcin Majka; Ewa Zuba-Surma**

| time  | [id] title   | presenter           |
|-------|--|---------------------|
| 15:30 | [1000] MSC THERAPY: CLINICAL EVIDENCE AND SCIENTIFIC PROGRESS (20 minutes)   | DAWN, Buddhadeb     |
| 15:50 | [999] CONTROLLED DRUG RELEASE FOR TREATING SCI: TARGETING NEUROBIOLOGY MECHANISM IDENTIFIED BY STEM CELL-BASED MULTIMODAL APPROACHES (20 minutes)  | TENG, Tang D.       |
| 16:10 | [981] SURVIVING MESENCHYMAL STEM/STROMAL CELLS UPON INTRA-ARTICULAR DELIVERY IN AN OSTEOARTHRITIC JOINT EXPRESS A NEW CHONDROPROGENITOR GENE BMP/RETINOIC ACID-INDUCIBLE NEURAL-SPECIFIC PROTEIN 3 (BRINP3) (10 minutes) | IVANOVSKA, Ana      |
| 16:20 | [195] EFFECT OF DIFFERENT LIGHT WAVELENGTHS ON ADIPOSE TISSUE-DERIVED MESENCHYMAL STEM/STROMAL CELLS (10 minutes)  | SRIDHARAN, Kaarthik |
| 16:30 | [193] MULTIPLE WHARTON JELLY MESENCHYMAL STEM CELLS-DERIVED HE-ATMP TRANSPLANTATIONS OVERCOMES DRUG-RESISTANT EPILEPSY IN CHILDREN (10 minutes)  | MILCZAREK, Olga     |
| 16:40 | [190] CHAOTIC PRINTING OF HYDROGEL CARRIERS FOR MESENCHYMAL STEM CELL PROLIFERATION (10 minutes)   | DEAN, David         |
| 16:50 | [168] TAKING A STEP AHEAD: ENDOCHONDRAL BONE REGENERATION OF A CRITICAL SIZE DEFECT IN A LARGE ANIMAL MODEL (10 minutes)   | STAUBLI, Flurina    |

**S11 Biofabrication using extrinsic fields - Room: S3 B (29 Jun 2022, 15:30 - 17:00)****-Conveners: Tiziano Serra**

| time  | [id] title  | presenter            |
|-------|---|----------------------|
| 15:30 | [973] Ultrasound-based assembly of tissues and biomaterials (20 minutes)  | ARMSTRONG, James     |
| 15:50 | [152] HIGH-RESOLUTION TWO-PHOTON POLYMERIZATION OF ENGINEERED CELL MICROENVIRONMENTS FOR FUNDAMENTAL NEURO-MECHANOBIOLOGY AND BRAIN CANCER PROTON RADIOTHERAPY (20 minutes) | ACCARDO, Angelo      |
| 16:10 | [130] 4D BIOFABRICATION OF NERVE GUIDE CONDUITS USING RESPONSIVE MATERIALS (10 minutes)   | TIWARI, Neha         |
| 16:20 | [147] ENGINEERING DORSAL ROOT GANGLION MULTICELLULAR SYSTEM TOWARDS IN VIVO CROSS EXCITATION FUNCTION (10 minutes)  | MA, Junxuan          |
| 16:30 | [149] CONTROLLING THE SHAPE OF MICROCAPILLARY NETWORKS IN 3D IN VITRO MODELS THROUGH SOUND PATTERNING (10 minutes)  | DI MARZIO, Nicola    |
| 16:40 | [150] EFFECT OF SECOND STAGE HEATER ON MEW PROCESSING PARAMETERS (10 minutes)   | CHANDRAKAR, Amit     |
| 16:50 | [842] Cell density matters: Local cell density enhancement by sound to increase the therapeutic efficacy in regenerative medicine (10 minutes)                              | GÉRALDINE GUEX, Anne |

**S27+S56 Combined therapies for severely infected wounds accompanied with both heavy soft and hard tissue losses +****Skin wound healing in 2022: where basic science meets clinical needs - Room: S4 B (29 Jun 2022, 15:30 - 17:00)****-Conveners: Farzaneh Moghtader; Alexandra P. Marques**

| time  | [id] title  | presenter              |
|-------|---|------------------------|
| 15:30 | [1006] TBA (20 minutes)   | TÉOT, Luc              |
| 15:50 | [998] Multifunctional Bio-hybrids Composed of Gelatin Microspheres Carrying Bacteriophages and/or bFGF and Their Aggregates with Mesenchymal Stem Cells (20 minutes)                          | MOGHTADER, Farzaneh    |
| 16:10 | [513] 3D in vitro M2 macrophage model to mimic modulation of tissue repair (10 minutes)   | SAPUDOM, Jiranuwat     |
| 16:20 | [514] IN VITRO COMPARISON OF SELF-ASSEMBLED AND PLASMA-BASED TISSUE ENGINEERED SKIN SUBSTITUTES: TWO DIFFERENT MANUFACTURING PROCESSES FOR THE TREATMENT OF SEVERE BURN PATIENTS (10 minutes) | SIERRA-SÁNCHEZ, Álvaro |
| 16:30 | [517] Intradermal adipocytes differentiation and lipid metabolism are regulated through epidermal transcription factor Foxn1 (10 minutes)   | WALENDZIK, Katarzyna   |
| 16:40 | [511] Dense Collagen/PLGA Composite Hydrogels Generated by In Situ Nanoprecipitation as Novel Medicated Wound Dressings: In Vitro and In Vivo Evaluation (10 minutes)                         | HELARY, Christophe     |
| 16:50 | [520] HATMSC SECRETED FACTORS IN THE HYDROGEL AS A POTENTIAL TREATMENT FOR CHRONIC WOUNDS—IN VITRO STUDY (10 minutes)   | KRASKIEWICZ, Honorata  |

**S15-2 Biologically inspired and Engineered disease models - Room: S1 (29 Jun 2022, 15:30 - 17:00)****-Conveners: Y. Shrike Zhang**

| time  | [id] title   | presenter         |
|-------|--|-------------------|
| 15:30 | [139] INVESTIGATING THE EFFECT OF APOLIPOPROTEIN E4 ON PERICYTE CONTRACTION (10 minutes) | POLLERES, Marlene |

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|       |  |                        |
|-------|--|------------------------|
| 15:40 | [131] INACTIVATED SARS-COV-2 VIRAL PARTICLES PROMOTE CILIATION IN TISSUE-ENGINEERED 3D AIRWAY TRI-CULTURES (10 minutes)  | GONZALEZ-RUBIO, Julian |
| 15:50 | [43] A TISSUE ENGINEERING MODEL OF CRANIOSYNOSTOSIS TO IDENTIFY NEW THERAPEUTIC TARGETS THAT ACCELERATE BONE HEALING IN ADULTS (10 minutes)                                    | MEYER, Mariangela      |
| 16:00 | [137] Towards the development of multiaxial loading bioreactor for intervertebral disc studies: validation of an ex vivo organ model and customized sample holder (10 minutes) | ŠEĆEROVIĆ, Amra        |
| 16:10 | [47] Culture of cancer spheroids and evaluation of anti-cancer drugs in 3D-printed miniaturized continuous stirred tank reactors (mCSTRs) (10 minutes)                         | ALVAREZ, Mario         |
| 16:20 | [15] COLLAGEN-BASED 3D CO-CULTURE MODEL TO INVESTIGATE THE MULTIPLE MYELOMA MICROENVIRONMENT IN BONE MARROW (10 minutes)   | HERRMANN, Marietta     |
| 16:30 | [21] PRECLINICAL 3D BIOPRINTED MODEL OF OVARIAN CANCER TUMOR MICROENVIRONMENT TO TEST miRNA-BASED PERSONALIZED THERAPIES (10 minutes)  | SCOGNAMIGLIO, Chiara   |
| 16:40 | [45] A BIOPRINTED RHABDOMYOSARCOMA MODEL WITH MACROMOLECULAR CROWDING TO STIMULATE EXTRACELLULAR MATRIX PROTEIN DEPOSITION (10 minutes)  | D'AGOSTINO, Stefania   |
| 16:50 | [6] Biological and Mechanical Unique Extracellular Matrix Among Different Subtypes of Dystrophic Epidermolysis Bullosa (10 minutes)  | MALTA, Mariana D.      |

**S23+S31+S32 Can we bioengineer tissues using artificial cells? + Extracellular vesicles – next generation tool for diagnostics and regenerative medicine + Extracellular vesicles for soft tissue repair - Room: S4 A (29 Jun 2022, 15:30 - 17:00)**

-Conveners: Anne Des Rieux; Barbara Łukomska; Catherine Le Visage; Ewa Zuba-Surma; Paula Vena

| time  | [id] title  | presenter                |
|-------|---|--------------------------|
| 15:30 | [914] Artificial cells with communicative features, toward hybrid organoids (20 minutes)                        | VAN HEST, Jan            |
| 15:50 | [940] First steps toward bioprinting artificial cells (20 minutes)  | DUARTE CAMPOS, Daniela   |
| 16:10 | [20] Tenocyte conditioned media and its potential applications for immunomodulation. (10 minutes)               | BYRNE, Amy               |
| 16:20 | [182] MATRIX-BOUND NANOESICLES AS SELECTIVE MODULATORS OF THE IMMUNE RESPONSE (10 minutes)                      | CAPELLA-MONSONIS, Hector |
| 16:30 | [181] Matrix Bound Nanovesicles as an Immunomodulatory Therapy for Rheumatoid Arthritis (10 minutes)            | CRUM, Raphael            |
| 16:40 | [184] ELUCIDATING THE BIOGENESIS OF MATRIX-BOUND NANOESICLES (10 minutes)                                       | DEWEY, Marley            |
| 16:50 | [28] PLATELET-DERIVED EXTRACELLULAR VESICLES SHOW THERAPEUTIC EFFECTS ON A 3D TENDON DISEASE MODEL (10 minutes) | GRAÇA, Ana Luísa         |

**Coffee break & poster (17:00 - 17:30)**

**P2 Plenary Session: Ali Khademhosseini (plenary lecture) - Engineering in Precision Medicine - Room: S1 (29 Jun 2022, 17:30 - 18:30)**

-Conveners: Jos Malda

| time  | [id] title                                       | presenter          |
|-------|--|--------------------|
| 17:30 | [993] Engineering in Precision Medicine (1 hour) | KHADEMHOSEINI, Ali |

**SYIS Career Panel - Room: S2 (29 Jun 2022, 18:30 - 19:30)**

**SYIS Night (20:00 - 22:00)**

**Thursday, 30 June 2022****P3 Plenary Session: Shulamit Levenberg (plenary lecture) - Bioprinting 3D vascularized tissue flaps - Room: S1 (30 Jun 2022, 09:00 - 10:00)**

-Conveners: Lorenzo Moroni

| time  | [id] title  | presenter           |
|-------|---|---------------------|
| 09:00 | [994] Bioprinting 3D vascularized tissue flaps (1 hour) | LEVENBERG, Shulamit |

**Debate 2: Beyond the promise of Biofabrication: what needs to be done to bring biofabricated substitutes to the clinic? (Prof. Jürgen Groll, Prof. Daniel J Kelly, Prof. Shulamit Levenberg, Prof. Marcy Zenobi-Wong) - Room: S1 (30 Jun 2022, 10:00 - 10:30)**

-Conveners: Lorenzo Moroni

| time  | [id] title  | presenter   |
|-------|---|---|
| 10:00 | [1051] Beyond the promise of Biofabrication: what needs to be done to bring biofabricated substitutes to the clinic? (30 minutes) | GROLL, Jürgen<br>KELLY, Daniel<br>LEVENBERG, Shulamit<br>ZENOBİ-WONG, Marcy |

**Coffee break & poster (10:30 - 11:00)****S66 Wanted: Dead or Alive? Quantitative microscopy of spheroid and organoid tissues - Room: S4 C (30 Jun 2022, 11:00 - 12:30)**

-Conveners: Ruslan I. Dmitriev; Michael Monaghan

| time  | [id] title   | presenter         |
|-------|--|-------------------|
| 11:00 | [1057] Intravital multiphoton and higher harmonic generation microscopy for visualizing cellular processes in cancer and tissue engineering (20 minutes) | WEIGELIN, Bettina |
| 11:20 | [889] Non-Invasive classification of macrophage polarisation by 2P-FLIM and machine learning (20 minutes)  | MONAGHAN, Michael |
| 11:40 | [888] MONITORING OF LIVE SPHEROID OXYGENATION USING FLUORESCENCE MICROSCOPY AND NANOSENSORS (20 minutes)   | OKKELMAN, Irina   |
| 12:00 | [890] INTEGRATED IMAGING AND MODELLING OF ORGANOID AND SPHEROID MORPHOMETRY USING SMART ALGORITHMS (20 minutes)  | AHLUWALIA, Arti   |
| 12:20 | [49] EMT transcriptional response are triggered in response to laser photoablation in 3D models of melanoma (10 minutes)                                 | RODRIGUES, Daniel |

**S10-2 Biofabricated Tissues and Organs for Clinical Impact - Room: S1 (30 Jun 2022, 11:00 - 12:30)**

-Conveners: Laura De Laporte

| time  | [id] title  | presenter            |
|-------|---|----------------------|
| 11:00 | [114] Weaving a compliant Tissue-Engineered Vascular Graft from Cell-Assembled extracellular Matrix yarn (10 minutes)   | ROUDIER, Gaëtan      |
| 11:10 | [123] Exploring shape versatility on all-aqueous processing for cell encapsulation (10 minutes)   | OLIVEIRA, Mariana B. |
| 11:20 | [124] Microfluidic production of immunoprotective enzymatically crosslinked polyethylene glycol-tyramine microgels for beta-cell replacement therapies (10 minutes) | ARAÚJO-GOMES, Nuno   |

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|       |   |                                    |
|-------|---|------------------------------------|
| 11:30 | [115] Tissue Engineered Graft from human Adipose-derived Stem Cells for Phalanx Construction in Children with Symbrachydactyly (10 minutes) | MOYA, Adrien                       |
| 11:40 | [120] An innovative in vitro gut-on-a-chip model to investigate intestinal microbiota impact on brain functionality (10 minutes)            | DONNALOJA, Francesca               |
| 11:50 | [116] Axially vascularized mandibular regeneration, a journey of thousand miles to improve patients' smiles (10 minutes)                    | EWEIDA, Ahmad                      |
| 12:00 | [117] Engineering the Bioartificial Filtration Unit in a Kidney using Polyhydroxyalkanoates (10 minutes)                                    | SYED MOHAMED, Syed Mohammad Daniel |
| 12:10 | [273] TOWARDS THE DEVELOPMENT OF A GELMA-BASED ORGANOTYPIC HUMAN SKIN MODEL USING A CUSTOM-MADE BIOREACTOR (10 minutes)                     | ELTAYARI, Zahara                   |
| 12:20 | [859] Laser-based subtractive manufacturing for tissue engineering (10 minutes)   | CRUZ-MOREIRA, Daniela              |

### **S05 Additive manufacturing in tissue repair: current status and obstacles toward a daily clinical practice - Room: S3 A**

**(30 Jun 2022, 11:00 - 12:30)**

**-Conveners: Veronika Hruschka; Mohammad Alkhraisat**

| time  | [id] title  | presenter             |
|-------|---|-----------------------|
| 11:00 | [916] Between risk, privacy and magic: regulatory and reimbursement of individual regenerative implants (20 minutes)                    | SEITZ, Daniel         |
| 11:20 | [951] Medical additive manufacturing: Is it ready for broad clinical use? (20 minutes)  | MOSCATO, Francesco    |
| 11:40 | [60] 3D BIOPRINTING OF STRUCTURALLY ORGANIZED MENISCUS TISSUE (10 minutes)  | BARCELÓ, Xavier       |
| 11:50 | [62] COMPUTATIONAL MODELLING OF MECHANICAL PROPERTIES OF THE SCAFFOLDS PRODUCED BY MELT ELECTROWRITING (10 minutes)                     | ZIELINSKI, Piotr      |
| 12:00 | [64] Development of an Electroconductive, 3D-Printed Scaffold Designed to Promote Axonal Regrowth After Spinal Cord Injury (10 minutes) | LEAHY, Liam M.        |
| 12:10 | [67] Multi-material 3D printing of ceramics for fabricating bi-phasic implants (10 minutes)   | SCHWENTENWEIN, Martin |
| 12:20 | [69] DESIGN AND EVALUATION OF LATTICE-STRUCTURED MENISCAL IMPLANTS (10 minutes)   | TUPE, Disha           |

### **S39 Injectable composite hydrogels as scaffolds and drug delivery systems for tissue engineering - Room: S2 (30 Jun 2022, 11:00 - 12:30)**

**-Conveners: Beata Niemczyk-Soczynska; Pawel Sajkiewicz**

| time  | [id] title  | presenter                 |
|-------|---|---------------------------|
| 11:00 | [107] INJECTABLE AND PHOTOCURABLE AMPHIPHILIC HYBRID NETWORKS: SYNTHESIS APPROACH USING NON-TOXIC CATALYSTS (20 minutes)            | EL FRAY, Mirosława        |
| 11:20 | [90] INJECTABLE THERMOSENSITIVE METHYLCELLULOSE/AGAROSE HYDROGEL AS SMART SCAFFOLD FOR TISSUE ENGINEERING APPLICATIONS (10 minutes) | NIEMCZYK-SOCZYNSKA, Beata |
| 11:30 | [91] ENZYME-CONTROLLED, NUTRITIVE HYDROGEL FOR MESENCHYMAL STROMAL CELL SURVIVAL AND PARACRINE FUNCTIONS (10 minutes)               | WOSINSKI, Pauline         |

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|       |  |                                       |
|-------|--|---------------------------------------|
| 11:40 | [113] ASSESSING EFFICACY OF REGENERATIVE THERAPIES FOR ISCHAEMIC STROKE - A NOVEL APPROACH FOR MORE MEANINGFUL OUTCOMES IN PRECLINICAL MODELS (10 minutes) | SAVA, Roxana                          |
| 11:50 | [129] Designing bioinspired medical adhesives from marine biopolymers and Tannic acid (10 minutes)   | SACRAMENTO, Margarida                 |
| 12:00 | [111] Drug-loaded Alginate microspheres for breast cancer treatment (10 minutes)   | PITTON, Matteo                        |
| 12:10 | [104] Advanced stem cell therapy for neurodegenerative diseases (10 minutes)   | SUSANA COSTA MACHADO FERREIRA, Helena |
| 12:20 | [94] HA and PRP combinations as "off the shelf" device for clinical applications (10 minutes)  | NARDINI, Marta                        |

### **S60 Tissue engineering and regenerative medicine in Czech Republic - Room: S4 B (30 Jun 2022, 11:00 - 12:30)**

-Conveners: Ales Hampl; Giancarlo Forte

| time  | [id] title  | presenter          |
|-------|---|--------------------|
| 11:00 | [1048] The molecular basis of pathological mechanosensing in the failing heart (20 minutes)                             | FORTE, Giancarlo   |
| 11:20 | [544] Unveiling the molecular basis of pathological mechanosensing to counteract diseases (15 minutes)                  | VINARSKY, Vladimir |
| 11:35 | [554] AAV-mediated gene therapy for axon regeneration after spinal cord injury. (15 minutes)                            | JENDELOVA, Pavla   |
| 11:50 | [549] Generation and Characterization of Human iPSC-derived Cardiac Organoids for Translational Medicine (15 minutes)   | ERGIR, Ece         |
| 12:05 | [553] Electrospun silica nanofibres as multifunctional substrate for drug delivery and tissue regeneration (15 minutes) | RYSOVÁ, Miroslava  |

### **S55 REMODELING the Future: next generation of organoid models for biomedicine - Room: S4 A (30 Jun 2022, 11:00 - 12:30)**

-Conveners: Silvia Maria Mihăilă; Marta Alves Da Silva

| time  | [id] title   | presenter             |
|-------|--|-----------------------|
| 11:00 | [919] Bioengineering vascularized microtissues (20 minutes)  | BARRIAS, Cristina     |
| 11:20 | [1005] TBA (20 minutes)  | RANGA, Adrian         |
| 11:40 | [506] Combining cholangiocarcinoma organoids and decellularized liver scaffolds unveils microenvironment-dependent extracellular matrix remodeling (10 minutes)  | VAN TIENDEREN, Gilles |
| 11:50 | [509] Microengineered System to Generate the Functional Inner Ear Organoids with Enhanced Uniformity and Maturity (10 minutes)   | PARK, Sunho           |
| 12:00 | [508] Synthetic supramolecular hydrogels for the 3D culture of kidney epithelial cells and intestinal organoids (10 minutes)   | RIJNS, Laura          |
| 12:10 | [504] Bile duct on a chip: engineering a microfluidic platform for studying biliary epithelium in a dish (10 minutes)  | WILLEMSE, Jorke       |
| 12:20 | [502] Differentially expressed microRNAs during endochondral differentiation of human bone marrow derived mesenchymal stromal cells to identify possible biomarkers for non-union fractures (10 minutes) | BREULMANN, Franziska  |

### **S52 Perspectives For Future Innovation in Tendon repair (P4 FIT) - Room: S3 B (30 Jun 2022, 11:00 - 12:30)**



-Conveners: **Giovanna Della Porta ; Nicholas Forsyth**

| time  | [id] title  | presenter                   |
|-------|---|-----------------------------|
| 11:00 | [913] Advances in bioactive materials for tendon repair (20 minutes)                                | BOCCACCINI, Aldo            |
| 11:20 | [936] Epithelial-to-mesenchymal transition for tendon regenerative medicine strategies (20 minutes) | BARBONI, Barbara            |
| 11:40 | [1060] New tools in tendon tissue engineering (20 minutes)  | GOMES, Manuela E.           |
| 12:00 | [470] MiRNAs As Potential Regulators Of Enthesis Healing In A Rodent Injury Model (10 minutes)      | PENICHE SILVA, Carlos Julio |
| 12:10 | [61] MULTIMATERIAL AND MULTISCALE SCAFFOLD FOR TENDON/LIGAMENT REGENERATION (10 minutes)            | MICALIZZI, Simone           |
| 12:20 | [617] Development of lipid-polymer hybrid nanoparticles for tendon regeneration (10 minutes)        | LÓPEZ CERDÁ, Sandra         |

**Lunch & Meet the Mentor (12:30 - 13:30)****S53 Prospects and Challenges in Biological Therapies for Tendon Regeneration - Room: S4 B (30 Jun 2022, 13:30 - 15:00)**-Conveners: **Dimitrios I. Zeugolis; Manuela E. Gomes**

| time  | [id] title  | presenter             |
|-------|---|-----------------------|
| 13:30 | [976] What influences tendon biology? (20 minutes)  | WILDEMANN, Britt      |
| 13:50 | [944] Inflammation – a Core Feature of Tendinopathies (20 minutes)  | TRAWEGER, Andreas     |
| 14:10 | [472] INVESTIGATING INFLAMMATION IN TENDINOPATHY: HOW CAN STEM CELLS HELP US? (10 minutes)  | SMITH, Emily          |
| 14:20 | [493] MAGNETIC NANOPARTICLE-MEDIATED ORIENTATION OF COLLAGEN HYDROGELS FOR IN VITRO MODELLING AND REGENERATIVE THERAPIES (10 minutes) | WRIGHT, Abigail       |
| 14:30 | [495] Pro-resolving mediators in rotator cuff tendinopathy: how is the bursa involved? (10 minutes)                                   | KLATTE-SCHULZ, Franka |
| 14:40 | [81] HUMAN 3D TENDON-ON-CHIP MODEL TO INTERROGATE THE MULTICELLULAR CROSSTALK IN TENDINOPATHY (10 minutes)                            | BAKHT, Syeda Mahwish  |

**S57 Supramolecular synthetic scaffolds: from concept to design and application - Room: S2 (30 Jun 2022, 13:30 - 15:00)**-Conveners: **Alberto Saiani; Dammy Olayanju**

| time  | [id] title   | presenter             |
|-------|--|-----------------------|
| 13:30 | [963] Supramolecular biomaterials for engineering the cell-material interface – from design to screening (20 minutes)  | DANKERS, Patricia     |
| 13:50 | [958] Novel insights into the origin of my-fibroblasts using iPSC derived kidney organoids maintained in user defined self-assembling peptide hydrogels (20 minutes) | CREAN, John           |
| 14:10 | [536] IMPROVED GUANOSINE-BASED BIOINKS FOR SOFT TISSUE RECONSTRUCTIONS (10 minutes)  | GODOY GALLARDO, Maria |
| 14:20 | [539] Where are all the electrospun medical devices? – Case studies of product development from an industry perspective (10 minutes)                                 | DUCKWORTH, John       |
| 14:30 | [534] DEVELOPMENT OF MULTIFUNCTIONAL ANTIMICROBIAL SUPRAMOLECULAR BIOMATERIALS (10 minutes)  | RIOOL, Martijn        |

/ Programme

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|-------|--|-----------------------|
| 14:40 | [533] TISSUE ENGINEERING THE OESOPHAGUS: PROOF-OF-CONCEPT (10 minutes)   | RAI, Nischal          |
| 14:50 | [527] DESIGN OF 3D PRINTABLE SUPRAMOLECULAR SELF-ASSEMBLING $\beta$ -SHEET PEPTIDE-HYALURONIC ACID HYDROGELS WITH IMMUNOMODULATORY PROPERTIES (10 minutes) | WYCHOWANIEC, Jacek K. |

**S26 Combined Korea-EU Symposium: "Bone from fat: Two distinct 17-18 year journeys in bone regeneration with adipose stromal/stem cells" - Room: S4 C (30 Jun 2022, 13:30 - 15:00)**

-Conveners: Gunil Im

| time  | [id] title   | presenter             |
|-------|--|-----------------------|
| 13:30 | [924] Bone from fat: Two distinct 17-18 year journeys in bone regeneration with adipose stromal/stem cells (20 minutes)  | IM, Gunil             |
| 13:50 | [912] Adipose-derived cells for bone regeneration: Bone (pre)fabrication, developmental engineering and vascularization strategies (20 minutes)                          | SCHERBERICH, Arnaud   |
| 14:10 | [199] ADIPOSE TISSUE-DERIVED STROMAL VASCULAR FRACTION SHOWS SUPERIOR OSTEOGENIC DIFFERENTIATION COMPARED TO DONOR-MATCHED MESENCHYMAL STROMAL CELLS (10 minutes)        | HUSCH, Johanna        |
| 14:20 | [302] Influence of Dexamethasone on the Interaction Between Glucocorticoid Receptor and SOX9: a Molecular Dynamics Study (10 minutes)                                    | STOJCESKI, Filip      |
| 14:30 | [296] NMR-BASED METABOLOMIC ANALYSIS OF ENDO- AND EXOMETABOLOME ADAPTATIONS THROUGHOUT OSTEOGENIC DIFFERENTIATION OF ADIPOSE-DERIVED MESENCHYMAL STEM CELLS (10 minutes) | BISPO, Daniela S. C.  |
| 14:40 | [298] UNVEILING LIPID METABOLISM UNDERLYING AGING AND OSTEOGENESIS OF MESENCHYMAL STEM CELLS THROUGH <sup>1</sup> H-NMR METABOLOMICS (10 minutes)                        | JESUS, Catarina S. H. |
| 14:50 | [36] CONVERGENCE OF SCAFFOLD-GUIDED BONE REGENERATION PRINCIPLES AND MICROVASCULAR TISSUE TRANSFER SURGERY (10 minutes)  | HUTMACHER, Dietmar W. |

**S65-1 Vascularization for Tissue Engineering and Regenerative Medicine - Room: S1 (30 Jun 2022, 13:30 - 15:00)**

-Conveners: Zygmunt Pojda

| time  | [id] title   | presenter         |
|-------|--|-------------------|
| 13:30 | [971] Therapeutic vascularization in regenerative medicine (20 minutes)  | BANFI, Andrea     |
| 13:50 | [876] ENGINEERING HIGH DENSITY CAPILLARY-LIKE NETWORKS USING MICROPOROUS ANNEALED PARTICLE TISSUES (10 minutes)  | SCHOT, Maik       |
| 14:00 | [806] SEMAPHORIN3A COUPLES OSTEOGENESIS AND ANGIOGENESIS IN TISSUE-ENGINEERED OSTEOGENIC GRAFTS (10 minutes)   | GROSSO, Andrea    |
| 14:10 | [809] A BIOARTIFICIAL FIBRIN-BASED VASCULAR PROSTHESIS WITH A PRE-VASCULARIZED TUNICA ADVENTITIA (10 minutes)  | ZIPPUSCH, Sarah   |
| 14:20 | [843] LARGE SCALE FIBRIN-BASED TISSUE CONSTRUCTS SHOW CAPILLARIZATION UPON PERFUSION (10 minutes)  | ZIPPUSCH, Sarah   |
| 14:30 | [878] RESET ENDOTHELIAL CELLS PROMOTE FETAL HEPATOCYTE MATURATION IN A 3D ORGANOTYPIC ENVIRONMENT (10 minutes)   | CACIOLLI, Lorenzo |
| 14:40 | [884] THE USE OF HUMAN SKELETAL MUSCLE MICROVASCULAR ENDOTHELIAL CELLS IN SKELETAL MUSCLE TISSUE ENGINEERING: FROM CELL ISOLATION TO IN VITRO PRE-VASCULARIZATION (10 minutes) | WÜST, Rebecca     |

|       |   |                 |
|-------|---|-----------------|
| 14:50 | [887] CELL SHEET-BASED SKIN SUBSTITUTE TO MODULATE VASCULATURE AND INVESTIGATE WOUND-HEALING ASSOCIATED ANGIOGENESIS (10 minutes) | MULLER, Laurent |
|-------|---|-----------------|

**S67 We've got your back: the challenges and success of advanced regenerative treatments for intervertebral disc regeneration - Room: S4 A (30 Jun 2022, 13:30 - 15:00)**

-Conveners: Marianna Tryfonidou; Lizette Utomo

| time  | [id] title   | presenter            |
|-------|--|----------------------|
| 13:30 | [911] A biomimetic approach to regenerate a functional NP tissue in the degenerating intervertebral disc. (20 minutes)   | ITO, Keita           |
| 13:50 | [931] Development of advanced regenerative approaches for disc degeneration - consideration of the degenerate niche (20 minutes)   | LE MAITRE, Christine |
| 14:10 | [894] TARGETED PROTEOMIC ANALYSIS TO EXPLORE THE ANTI-INFLAMMATORY EFFECTS OF NOTOCHORDAL-CELL DERIVED MATRIX (10 minutes)   | LAAGLAND, Lisanne    |
| 14:20 | [893] MODIC CHANGES CORRELATE WITH ENDPLATE AND VERTEBRAL BONE PATHOLOGIES IN DOGS (10 minutes)  | BACH, Frances        |
| 14:30 | [892] Directed differentiation of induced pluripotent stem cells to notochordal-like cells by combinatorial transcription factors activation (10 minutes)  | TONG, Xiaole         |
| 14:40 | [891] Tuning the Physical Properties of Collagen/Hyaluronan Hydrogels to favor Mesenchymal Stem Cells Differentiation into NP Cells: A Step forwards Intervertebral Disc Regeneration (10 minutes) | HELARY, Christophe   |
| 14:50 | [896] Proteomic characterisation of foetal notochordal cells to inform intervertebral disc development and stem cell differentiation (10 minutes)  | RICHARDSON, Stephen  |

**S63 Towards automated technologies for organoid-based tissue biomanufacturing - Room: S3 B (30 Jun 2022, 13:30 - 15:00)**

-Conveners: Ioannis Papantoniou

| time  | [id] title   | presenter               |
|-------|--|-------------------------|
| 13:30 | [960] Predictive analysis of cardiac microtissue manufacturing by monitoring metabolic CQAs (20 minutes)   | PALECEK, Sean           |
| 13:50 | [1003] The role of automated bioprocessing within ATMP development and production (20 minutes)   | DELAHAYE, Michael       |
| 14:10 | [589] AUTOMATED MANUFACTURING OF MICROTISSUE BASED OSTEOCHONDRAL IMPLANTS: THE »JOINTPROMISE« PLATFORM (10 minutes)                              | KRIEGER, Judith         |
| 14:20 | [591] CARTILAGINOUS MICROTISSUES MERGED WITH TAILORED MELT ELECTROWRITTEN MESHES RESULT IN BONE FORMING BIOHYBRIDS (10 minutes)                  | NILSSON HALL, Gabriella |
| 14:30 | [595] Laser Assisted Bioprinting for spheroid-based tissue manufacturing (10 minutes)  | GUILLEMOT, Fabien       |
| 14:40 | [588] DEVELOPMENT OF A ROBOTICS-DRIVEN BIOMANUFACTURING PROCESS FOR CARTILAGINOUS SPHEROIDS (10 minutes)   | DECOENE, Isaak          |
| 14:50 | [596] Stirred culture promotes chondrogenic hypertrophy of cartilaginous microtissues through exposure to intermittent shear stress (10 minutes) | LOVERDOU, Niki          |

**S59+S18 The role of multifunctional nanomaterials in new tissue regeneration strategies + Biomedical applications of****MXene based next generation nanomaterials - Room: S3 A (30 Jun 2022, 13:30 - 15:00)****-Conveners: Aleksandra Benko; Lucia Gemma Delogu; Sanjiv Dhingra**

| time  | [id] title  | presenter                  |
|-------|---|----------------------------|
| 13:30 | [957] Nanomedicine: Having External Control of Tissue Engineered Materials After Implantation (20 minutes)                                    | WEBSTER, Thomas            |
| 13:50 | [968] The role of multifunctional nanomaterials in new tissue regeneration strategies (20 minutes)  | REILLY, Gwendolen          |
| 14:10 | [543] Carbon nanotubes as effective modulators of cellular reactions in various tissue regeneration strategies (10 minutes)                   | BENKO, Aleksandra          |
| 14:20 | [537] SPATIALLY RESOLVED MONITORING OF IN VITRO AND IN VIVO DEGRADATION IN CARDIOVASCULAR IN SITU TISSUE ENGINEERING (10 minutes)             | MARZI, Julia               |
| 14:30 | [274] SMART TANTALUM CARBIDE MXENE QUANTUM DOTS FOR TREATMENT OF ALLOGRAFT VASCULOPATHY (10 minutes)  | YAN, Weiang                |
| 14:40 | [265] AEROSOL-JET PRINTING ENABLES HIGH-RESOLUTION Ti3C2 MXENE PRINTED ELECTRODES ON A PTFE STRUCTURE FOR NEURAL STIMULATION (10 minutes)     | GUTIERREZ GONZALEZ, Javier |
| 14:50 | [454] THE IMPACT OF PRIMARY AND SECONDARY FIBERS MORPHOLOGY ON REGENERATIVE AND OPTICAL PROPERTIES OF ELECTROSPUN CORNEA IMPLANT (10 minutes) | KURPANIK, Roksana          |

**Coffee break & poster (15:00 - 15:30)****S58 TERMIS-EU SYIS and yESAO joint symposium - Room: S4 C (30 Jun 2022, 15:30 - 17:00)****-Conveners: Yi-tung Lu; Zuzana Koci; Lisanne Laagland**

| time  | [id] title  | presenter                  |
|-------|---|----------------------------|
| 15:30 | [1058] Deciphering endochondral ossification to engineer bone: new opportunities for tissue regeneration and disease modelling (20 minutes)                             | LOLLI, Andrea              |
| 15:50 | [1059] Engineering bioactive surface coatings for programming cell behavior towards osteogenic differentiation (20 minutes)   | GROTH, Thomas              |
| 16:10 | [705] Nanoengineered Mechanically Robust Bioactive Particles Disseminated in Chitosan/Collagen Matrix for Osteoporotic Bone Treatment (10 minutes)                      | KAUR, Kulwinder            |
| 16:20 | [392] The differential response of human macrophages to 3D printed titanium antibacterial implants does not affect the osteogenic differentiation of hMSCs (10 minutes) | GARMENDIA URDALLETA, Amaia |

**S45 Nature bioinspired biomaterials and strategies for TERM - Room: S3 A (30 Jun 2022, 15:30 - 17:00)****-Conveners: Thomas Groth; Nuno Neves**

| time  | [id] title  | presenter       |
|-------|---|-----------------|
| 15:30 | [1002] TBA (20 minutes)   | REIS, Rui       |
| 15:50 | [262] CONDUCTIVE HYDROGEL NANOCOMPOSITE-BASED NEURAL INTERFACE FOR IN VIVO RECORDING OF BRAIN CORTEX SIGNALS (10 minutes) | RINOLDI, Chiara |
| 16:00 | [264] Bio-engineering of a Xenogeneic Vascularized Endocrine Pancreas (VEP) for Type 1 Diabetes (10 minutes)              | CITRO, Antonio  |

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|-------|--|---------------------|
| 16:10 | [285] 4D bioprinting of a dynamic multi-material scaffold for in vitro modeling of neural tube development (10 minutes)  | DE MARIA, Carmelo   |
| 16:20 | [286] Electrospinning and Metal Stents – A Good Fit? (10 minutes)  | KANARI, Konstantina |
| 16:30 | [290] From protein-based liquified microcapsules to bone tissue micro-units (10 minutes)   | R. PINHO, Ana       |
| 16:40 | [291] Curvature-driven cell suturing controls cell organization and tissue formation inside porous biomaterials (10 minutes)                                     | HERRERA, Aaron      |
| 16:50 | [874] ENGINEERING FUNCTIONAL MICROVASCULARIZED SKELETAL MUSCLE TISSUE EQUIVALENTS VIA MICROFLUIDIC-ASSISTED 3D WET-SPINNING AND MICROVASCULAR SEEDS (10 minutes) | PRESUTTI, Dario     |

**S21+S44 Biophysical Therapies - External energy to push internal regeneration + Nano Magnetic platforms - an attractive opportunity for advancing TERM products to the clinic - Room: S4 B (30 Jun 2022, 15:30 - 17:00)**

-Conveners: Paul Slezak; Peter Dungal; Alicia El Haj; Luminita Labusca

| time  | [id] title  | presenter              |
|-------|---|------------------------|
| 15:30 | [948] Leveraging Physical Limitations to Expand Shockwave Therapy to Novel Indications (20 minutes)   | SLEZAK, Cyrill         |
| 15:50 | [232] ANTIMICROBIAL EFFECTS OF BLUE LIGHT AND RESISTANCE DEVELOPMENT (10 minutes)   | METZGER, Magdalena     |
| 16:00 | [240] HUMAN MESENCHYMAL STEM CELLS AND NANOMAGNETIC MATERIALS FOR REGENERATIVE MEDICINE (10 minutes)  | LABUSCA, Luminita      |
| 16:10 | [256] A SIMPLIFIED PROTOCOL FOR PREPARATION OF CELL BASED BIOLOGICAL SAMPLES FOR OBSERVING NANOMATERIAL SURFACE ADHERENCE USING SCANNING ELECTRON MICROSCOPY IMAGING (10 minutes) | MINUTI, Anca           |
| 16:20 | [259] Magnetic Nanocarpet based Non-invasive Modulation of Mechanosensitive Ion-channels for Enhanced Osteogenesis (10 minutes)   | RAJAN UNNITHAN, Afeesh |
| 16:30 | [246] Modulating macrophage phenotypes via immune-switch magnetic nanoparticles (10 minutes)  | ALMEIDA, Ana F.        |
| 16:40 | [252] Magnetically miRNA-based guidance of macrophage functions (10 minutes)  | ALMEIDA, Ana F.        |

**S40 Injectable scaffolds in tissue engineering - Room: S2 (30 Jun 2022, 15:30 - 17:00)**

-Conveners: Qian Xu; Wenxin Wang

| time  | [id] title  | presenter                |
|-------|---|--------------------------|
| 15:30 | [985] Scaffolds for the Delivery of Gene Therapeutics for Enhanced Tissue Repair (20 minutes)   | O'BRIEN, Fergal          |
| 15:50 | [945] Injectable hydrogels for joint regeneration (20 minutes)  | LE VISAGE, Catherine     |
| 16:10 | [133] LOW-INTENSITY PULSED ULTRASOUND DIRECT CHONDROGENIC DIFFERENTIATION OF ADIPOSE-STROMAL CELLS IN 3D PIEZOELECTRIC HYDROGELS (10 minutes) | MANFERDINI, Cristina     |
| 16:20 | [134] Characterization and molecular imaging of a biohybrid tissue engineered vascular graft (10 minutes)                                     | RANJAN MOHAPATRA, Saurav |
| 16:30 | [136] Designing injectable peptide-based hydrogels for TERM applications (10 minutes)   | SAIANI, Alberto          |

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|-------|---|------------------------|
| 16:40 | [138] LIVER-SPECIFIC LIGAND-CONJUGATED MICROPARTICLES FOR TARGETED ISLET TRANSPLANTATION (10 minutes)                                       | LEE, I-ning            |
| 16:50 | [140] An Injectable Hydrogel from a Hydrophobically Modified Collagen for the Encapsulation and Delivery of Fetal Cardiac MSCs (10 minutes) | JAMADI KHIABANI, Mahsa |

#### **S42 Microphysiological models as powerful preclinical tools - Room: S3 B (30 Jun 2022, 15:30 - 17:00)**

-Conveners: Ozlem Yesil-Celiktas

| time  | [id] title   | presenter              |
|-------|--|------------------------|
| 15:30 | [953] Microengineering 3D perfusion networks for human liver tissue models (20 minutes)  | LARSEN, Niels B.       |
| 15:50 | [930] Design and Fabrication of an organ-on-a-chip technology as a physiologically relevant in vitro model of the outer Blood-Retinal Barrier (20 minutes) | VOZZI, Giovanni        |
| 16:10 | [197] A GUT-BRAIN AXIS PLATFORM TO MODEL BRAIN FLUIDS CLEARANCE IN NEUROINFLAMMATION (10 minutes)  | PEROTTONI, Simone      |
| 16:20 | [198] PRELIMINARY DEVELOPMENT OF AN IN VITRO 3D IPSC-BASED LIVER MODEL TO EXPLOIT AN INNOVATIVE LIVER-ON-A-CHIP DEVICE (10 minutes)                        | FANIZZA, Francesca     |
| 16:30 | [200] A MICROFLUIDIC PLATFORM TO INVESTIGATE THE CROSS-TALK BETWEEN IMMUNE CELLS IN RHEUMATOID ARTHRITIS (10 minutes)                                      | PALMA, Cecilia         |
| 16:40 | [201] A tunable lung physiometric stretch system evaluated with precision cut lungs slices and recellularized human lung scaffolds (10 minutes)            | IBÁÑEZ-FONSECA, Arturo |
| 16:50 | [204] Spatio-temporal emergence of multicellular engineered structures as preclinical models (10 minutes)  | YESIL-CELIK TAS, Ozlem |

#### **S65-2 Vascularization for Tissue Engineering and Regenerative Medicine - Room: S1 (30 Jun 2022, 15:30 - 17:00)**

-Conveners: Arnaud Scherberich

| time  | [id] title   | presenter              |
|-------|--|------------------------|
| 15:30 | [849] Pro-angiogenic hydrogels from cell-degradable and photo-curable alginate (10 minutes)  | FERNÁNDEZ-PÉREZ, Julia |
| 15:40 | [857] THERAPEUTIC EVALUATION OF $\alpha$ 2-ANTIPLASMIN AS A HUMAN-DERIVED SUBSTITUTE TO THE FIBRINOLYSIS INHIBITOR APROTININ IN SURGERY AND REGENERATIVE MEDICINE (10 minutes) | BRIQUEZ, Priscilla     |
| 15:50 | [846] Blood vessel detection algorithm for tissue engineering and quantitative histology (10 minutes)  | ADAMO, Arianna         |
| 16:00 | [810] Homing of bone marrow mononuclear cells to axially vascularized tissue engineering constructs (10 minutes)   | EWEIDA, Ahmad          |
| 16:10 | [811] THE IMPACT OF ENDOTHELIAL CELL YAP/TAZ ON NEO-ANGIOGENESIS IN BONE HEALING (10 minutes)  | MEHL, Julia            |
| 16:20 | [803] HUMAN IPSC BLOOD VESSEL ORGANOID AS A SOURCE OF FLOW-ADAPTIVE VASCULAR CELLS FOR TISSUE ENGINEERING OF PERFUSED MACROVASCULAR GRAFTS. (10 minutes)                       | MEIJER, Elana          |
| 16:30 | [812] THE EFFECT OF CARTILAGE MATURATION AND MINERALISATION ON ANGIOGENESIS DURING ENDOCHONDRAL OSSIFICATION (10 minutes)  | JI, Encheng            |

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|-------|--|-------------------|
| 16:40 | [872] Towards tissue-specific vascularization of bio-engineered skeletal muscle constructs using autologous skeletal muscle microvascular endothelial cells (10 minutes) | TERRIE, Lianne    |
| 16:50 | [805] GLUCOSE ENHANCES TRANSPLANTED MESENCHYMAL STROMAL CELLS FUNCTIONS PERTINENT TO ANGIOGENESIS (10 minutes)   | WOSINSKI, Pauline |

**S51+S29 Perspectives and Challenges in Bioengineering Dynamic Hydrogels for Regenerative Medicine + Engineered viscoelasticity in cell and tissue engineering - Room: S4 A (30 Jun 2022, 15:30 - 17:00)**

-Conveners: Jacek K. Wychowaniec; Aline F. Miller ; João Mano

| time  | [id] title   | presenter           |
|-------|--|---------------------|
| 15:30 | [991] Dynamic hydrogel design for spatiotemporal control of morphogenesis (20 minutes)   | BROGUIERE, Nicolas  |
| 15:50 | [1054] Hydrogels that talk to cells when lighted (20 minutes)  | DEL CAMPO, Aranzazu |
| 16:10 | [466] 4D Bioprinting of Self-Bending Scaffolds for Articular Cartilage Tissue Engineering Applications (10 minutes)                          | DÍAZ-PAYNO, P.J.    |
| 16:20 | [467] CLICKABLE DYNAMIC BIOINKS (10 minutes)   | TOURNIER, Pierre    |
| 16:30 | [187] WET-SPUN CORE-SHELL HYDROGEL FIBERS FOR MICROVASCULAR TISSUE ENGINEERING (10 minutes)  | PARADISO, Alessia   |
| 16:40 | [186] MICROFLUIDIC SPINNING OF HYDROGEL-BASED CORE-SHELL MICROFIBERS FOR THE FABRICATION OF MYOTENDINOUS TISSUE-LIKE CONSTRUCTS (10 minutes) | VOLPI, Marina       |
| 16:50 | [538] Glycopeptide-based supramolecular hydrogels induce differentiation of stem cells into neural lineages (10 minutes)                     | CASTRO, Vânia I. B. |

**Coffee break & poster (17:00 - 17:30)**

**FTERM Panel Discussion - Room: S1 (30 Jun 2022, 17:30 - 18:30)**

**SYIS Green lab Panel Discussion - Room: S2 (30 Jun 2022, 18:30 - 19:30)**

**TERMIS Dinner (20:00 - 22:00)**

# Friday, 1 July 2022

## **P4 Plenary Session: Dietmar W. Hutmacher (plenary lecture): Commentatio historica et philologica - Perspectives and Challenges in Regenerative Medicine - Room: S1 (1 Jul 2022, 09:00 - 10:00)**

-Conveners: Manuela E. Gomes

| time  | [id] title   | presenter             |
|-------|--|-----------------------|
| 09:00 | [995] Commentatio historica et philologica - Perspectives and Challenges in Regenerative Medicine (1 hour) | HUTMACHER, Dietmar W. |

## **Debate 3: Perspectives and Challenges of Tissue engineering and Regenerative Medicine (Prof. Dietmar Hutmacher, Prof. Malgorzata Lewandowska-Szumiel, Prof. Rui L. Reis) - Room: S1 (1 Jul 2022, 10:00 - 10:30)**

-Conveners: Manuela E. Gomes

| time  | [id] title  | presenter  |
|-------|---|--|
| 10:00 | [1052] Perspectives and Challenges of Tissue engineering and Regenerative Medicine (30 minutes) | HUTMACHER, Dietmar W.<br>REIS, Rui L.<br>LEWANDOWSKA-SZUMIEL, Malgorzata |

## **Coffee break (10:30 - 11:00)**

## **S34 Advanced therapy approaches in tissue engineering - Room: S4 A (1 Jul 2022, 11:00 - 12:30)**

-Conveners: Irene Lara-Saez; Wenxin Wang

| time  | [id] title   | presenter                  |
|-------|--|----------------------------|
| 11:00 | [984] Non-viral gene delivery platform for topically treating rare genodermatoses (20 minutes)   | WANG, Wenxin               |
| 11:20 | [50] Development of collagen-nanohydroxyapatite scaffold platform for dual-delivery of a microRNA-26a mimic and micoroRNA-133a inhibitor for treatment of large volume bone defects (10 minutes)                                   | SADOWSKA, Joanna           |
| 11:30 | [63] CYSTIC FIBROSIS: REGENERATING LUNG EPITHELIAL CELLS FUNCTION WITH NON-VIRAL GENE THERAPY (10 minutes)   | MANZANARES SANDOVAL, Dario |
| 11:40 | [68] NANOPARTICLE-MEDIATED SELECTIVE SFRP-1 SILENCING ENHANCES BONE DENSITY IN VIVO IN OSTEOPOROTIC MICE BY THE STIMULATION OF THE CANONICAL WNT/ $\beta$ -CATENIN PATHWAY (10 minutes)  | DIAZ-RODRIGUEZ, Patricia   |
| 11:50 | [73] MicroRNAs and their role in multiple trauma: profiling local and systemic expression levels (10 minutes)  | VAN GRIENSVEN, Martijn     |
| 12:00 | [178] Identification of the best manufacturing condition for clinical grade extracellular vesicles (EVs) secreted by induced pluripotent stem cell-derived mesenchymal stem cells for the treatment of osteoarthritis (10 minutes) | GENTILI, Chiara            |
| 12:10 | [547] A 3D model for the survival niche of human long-lived bone marrow plasma cells (10 minutes)  | UYAR-AYDIN, Zehra          |
| 12:20 | [483] OPTIMISING MRNA DELIVERY TO MESENCHYMAL STEM CELLS FOR TISSUE ENGINEERING APPLICATIONS (10 minutes)  | MCCORMICK, Katie           |

## **S50 One health, one medicine: What Veterinary regenerative medicine can teach us - Room: S3 B (1 Jul 2022, 11:00 - 12:30)**

-Conveners: Iris Gerner; Debbie Guest



| time  | [id] title   | presenter            |
|-------|--|----------------------|
| 11:00 | [969] THE UTILTY OF EQUINE PLURIPOTENT STEM CELLS FOR THERAPEUTIC USE AND DISEASE MODELLING (20 minutes)   | GUEST, Debbie        |
| 11:20 | [464] Synovial membrane-derived mesenchymal progenitor cells from osteoarthritic joints in dogs possess lower chondrogenic-, and higher osteogenic capacity compared to normal joints (10 minutes) | TEUNISSEN, Michelle  |
| 11:30 | [598] The cross-talk between the synovial membrane and cartilage in the distracted canine knee joint (10 minutes)  | TEUNISSEN, Michelle  |
| 11:40 | [897] Sheep cells as a suitable in vitro tool to evaluate intervertebral disc biotherapies (10 minutes)  | HUMBERT, Paul        |
| 11:50 | [154] Phenotypic Characterization of Adipose-Derived MSC based on their Phospholipid Profiles (10 minutes)   | BURK, Janina         |
| 12:00 | [607] HOW DO INFLAMMATION, DIFFERENTIATION, AND MHC COMPATIBILITY AFFECT THE IMMUNOGENICITY AND IMMUNOMODULATORY POTENTIAL OF EQUINE MESENCHYMAL STEM CELLS (MSCs)? (10 minutes)                   | CEQUIER SOLER, Alina |
| 12:10 | [606] EVs in equine regenerative medicine – challenges and potential therapeutic implications. (10 minutes)  | GERNER, Iris         |
| 12:20 | [626] Induction of the senescence phenotype in equine tendon derived cells by dexamethasone (10 minutes)   | SMITH, Roger K.W.    |

#### **S46 New developments of regenerative and tissue modeling products - Room: S1 (1 Jul 2022, 11:00 - 12:30)**

-Conveners: Xanthippi Chatzistavrou; Faleh Marino

| time  | [id] title   | presenter                  |
|-------|--|----------------------------|
| 11:00 | [987] Vat-Polymerization Bioprinting for Tissue Fabrication (20 minutes)   | ZHANG, Yu Shrike           |
| 11:20 | [1014] Leveraging advances in biomaterials and tissue engineering for reparative, regenerative and tissue modelling solutions (20 minutes) | ASHAMMAKHI, Nureddin       |
| 11:40 | [293] A VOCAL WORKOUT: NOVEL BIOREACTOR FOR THE IN VITRO CULTURE OF VOCAL FOLD REPLACEMENT TISSUES (10 minutes)                            | LUENGEN, Anja E.           |
| 11:50 | [295] THE COMMITMENT PROFILES OF HEMATOPOIETIC AND MESENCHYMAL STROMAL PRECURSORS IN EX VIVO HEMATOPOIETIC MICRO-TISSUES (10 minutes)      | BURAVKOVA, Ludmila         |
| 12:00 | [297] Can oral mucosa be used in primary hypospadias surgery in prepubertal boys? (10 minutes)   | DE GRAAF, Petra            |
| 12:10 | [301] BIOENGINEERING A NOVEL UV-INDUCED SKIN MODEL TO MIMIC THE EFFECT OF ENVIRONMENTAL STRESSORS EXPOSURE ON SKIN HEALTH (10 minutes)     | DE LOS SANTOS GOMEZ, Paola |
| 12:20 | [292] NEW HYBRID HYDROGELS FOR APPLICATIONS AS BIOINKS IN 3D PRINTING IMPLANTS (10 minutes)  | CHATZISTAVROU, Xanthippi   |

#### **S54+S14 Regulation of cell phenotype in osteochondral tissues: towards RNA therapy for bone and cartilage repair +**

#### **Biological testing of 3D-printed biomaterials – towards updated norms - Room: S2 (1 Jul 2022, 11:00 - 12:30)**

-Conveners: Eric Farrell; Andrea Lolli; Veronika Hruschka; Daniel Seitz

| time  | [id] title  | presenter                  |
|-------|---|----------------------------|
| 11:00 | [926] Cartilage and bone regulation by microRNAs (20 minutes)           | YOUNG, David               |
| 11:20 | [956] mRNA therapeutics for musculoskeletal tissue healing (20 minutes) | ROSADO BALMAYOR, Elizabeth |

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|-------|---|----------------------------|
| 11:40 | [959] Placing a medical devise in the market: a focus perspective on the biological characterization of a medical device (20 minutes) | ALKHRAISAT, Mohammad       |
| 12:00 | [329] CHROMATIN COMPACTION DECREASES CELL ADHESION STRENGTH: AN ANALYSIS BY FLUIDIC FORCE MICROSCOPY (10 minutes)                     | BUISSON, Julie             |
| 12:10 | [500] Improving chondrogenic potential of mesenchymal stromal cells by siRNA delivery in hydrogels. (10 minutes)                      | DELLA BELLA, Elena         |
| 12:20 | [37] 3D Printing Of Sol-Gel Silica-Based Hybrids For Bone Regeneration (10 minutes)   | RODRIGUEZ-GONZALEZ, Raquel |

### **S35+S36 Giving meaning to early tissue damage responses in regeneration + Glycomodulation Approaches in Tissue**

#### **Engineering - Room: S3 A (1 Jul 2022, 11:00 - 12:30)**

-Conveners: Johannes Grillari; Heinz Redl; Laura Russo; Abhay Pandit

| time  | [id] title  | presenter                  |
|-------|---|----------------------------|
| 11:00 | [970] The Zone of Tissue Activation Delineates Immediate and Long-Term Response of Skin to Wounding and Associates with Markers of Senescence and Regeneration (20 minutes) | OGRODNIK, Mikolaj          |
| 11:20 | [1012] Endogenous Bioelectric controls of growth and form (20 minutes)  | MICHAEL, Levin             |
| 11:40 | [975] Using Supramolecular Biomaterials to Interrogate and Manipulate Galectin-Glycan Interactions (20 minutes)   | HUDALLA, Greg              |
| 12:00 | [70] ENHANCING TISSUE REGENERATION BY DELIVERING AN ENGINEERED TREG-DERIVED FACTOR (10 minutes)   | PIOTTO, Celeste            |
| 12:10 | [74] ELASTIN-LIKE-RECOMBINAMER CRYOGEL WITH RECOMBINANT GLYCOSAMINOGLYCANS AS A MODULAR PLATFORM FOR REGENERATION (10 minutes)  | SÖDERLUND, Zackarias       |
| 12:20 | [791] Guided bone regeneration in osteoporosis by plant-derived nanoparticles (10 minutes)  | GURZAWSKA-COMIS, Katarzyna |

### **S61 Tissue Engineering in Microgravity for Health in Space and on Earth - Room: S4 B (1 Jul 2022, 11:00 - 12:30)**

-Conveners: Jeremy Teo

| time  | [id] title   | presenter      |
|-------|--|----------------|
| 11:00 | [557] Tissue Density Diminishes the Effects of Simulated Microgravity on Dendritic Cell Immune Potency in vitro (10 minutes)                   | TEO, Jeremy    |
| 11:10 | [662] 3D microenvironment maintains the transcriptome profile of T cells but not B cells in simulated microgravity (10 minutes)                | ELGINDI, Mei   |
| 11:20 | [664] Studies of cellular differentiation in simulated microgravity reveal an important role for $\beta$ -actin in mechanosensing (10 minutes) | SAPKOTA, Oscar |

### **Closing Session and Awards - Room: S1 (1 Jul 2022, 12:30 - 13:30)**