

# SIB2024: PROGRAM AT A GLANCE



|       | MONDAY 8 <sup>TH</sup> JULY           |       | TUESDAY 9 <sup>TH</sup> JULY        |       | WEDNESDAY 10 <sup>TH</sup> JULY     |
|-------|---------------------------------------|-------|-------------------------------------|-------|-------------------------------------|
|       |                                       | 08:00 | Registration                        | 08:30 | Registration                        |
|       |                                       | 08:30 | Plenary Lecture: F. Taraballi (USA) | 09:00 | Plenary Lecture: E. Kon (ITALY)     |
|       |                                       | 09:00 | Invited Lecture: G. Ciardelli       | 09:30 | Invited Lecture: S. Conoci          |
|       |                                       | 09:20 | M. Pollini                          | 09:50 | A. Ungolo                           |
|       |                                       | 09:30 | D. Rossino                          | 10:00 | S. Villani                          |
|       |                                       | 09:40 | L. Degli Esposti                    | 10:10 | M. Di Foggia                        |
|       |                                       | 09:50 | D. Testore                          | 10:20 | A. D'Agostino                       |
|       |                                       | 10:00 | C. Trouki                           | 10:30 | V. Patamia                          |
| 12:00 | Registration                          | 10:10 | C. Fusacchia                        | 10:40 | G. Borciani                         |
|       |                                       | 10:20 | Coffee Break & Poster Session       | 10:50 | Coffee Break & Poster Session       |
| 13:30 | Conference Opening and Welcome        | 10:50 | Invited Lecture: M. Ruggeri         | 11:20 | Invited Lecture: G. Ciofani         |
| 13:45 | Plenary Lecture: M-P. Ginebra (SPAIN) | 11:10 | F. Tivano                           | 11:40 | H. Inam                             |
| 14:15 | Invited Lecture: M. Tavoni            | 11:20 | G. Ciarleglio                       | 11:50 | L. Russo                            |
| 14:35 | E. Mazzoni                            | 11:30 | S. Pionato                          | 12:00 | A. Rossi                            |
| 14:45 | A. Bucciarelli                        | 11:40 | F. Paladini                         | 12:10 | M. Spedicati                        |
| 14:55 | M. I. Vargas Ovalle                   | 11:50 | E. De Giglio                        | 12:20 | M. Pavarini                         |
| 15:05 | G. P. Stola                           | 12:00 | G. Astolfi                          | 12:30 | Fire Poster Presentations (P12-P17) |
| 15:15 | S. Pagani                             | 12:15 | Lunch                               | 12:50 | Best Oral and Poster Session        |
| 15:25 | M. Iafisco                            | 13:45 | Invited Lecture: M. Montesi         | 13:15 | Final Remarks                       |
| 15:35 | F. Pupilli                            | 14:05 | F. P. Quartulli                     | 13:30 | End of the Conference               |
| 15:45 | M. Sestini                            | 14:15 | M. Lucariello                       |       |                                     |
| 16:00 | Coffee Break & Poster Session         | 14:25 | G. Bassi                            | 15:00 | Guided visits to MIC                |
| 16:30 | Invited Lecture: J. Barberi           | 14:35 | S. Farè                             |       |                                     |
| 16:50 | M. L. Rubicondo                       | 14:45 | C. Mattioda                         |       |                                     |
| 17:00 | C. Rizzo                              | 14:55 | C. Casadidio                        |       |                                     |
| 17:10 | R. Pappalardo                         | 15:05 | C. Traldi                           |       |                                     |
| 17:20 | R. Pellegrino                         | 15:15 | G. Ruocco                           |       |                                     |
| 17:30 | A. Adamiano                           | 15:25 | M. Bortolameazzi                    |       |                                     |
| 17:40 | S. Gandolfi                           | 15:35 | G. Calabrese                        |       |                                     |
| 17:50 | L. Cafuero                            | 15:45 | Coffee Break & Poster Session       |       |                                     |
| 18:00 | E. Menna                              | 16:15 | Invited Lecture: E. Lenzi           |       |                                     |
| 18:10 | F. Mancini                            | 16:35 | L. Cavazza                          |       |                                     |
| 18:20 | D. Pollutri                           | 16:45 | G. D'Atri                           |       |                                     |
| 18:30 | Fire Poster Presentations (P01-P06)   | 16:55 | F. Busto                            |       |                                     |
| 19:00 | Welcome Aperitif                      | 17:05 | R. Gabrieli                         |       |                                     |
|       |                                       | 17:15 | L. V. Bauso                         |       |                                     |
|       |                                       | 17:25 | Fire Poster Presentations (P07-P11) |       |                                     |
|       |                                       | 17:45 | Assembly of the SIB Community       |       |                                     |
|       |                                       | 20:00 | Gala Dinner                         |       |                                     |

## LIST OF ORAL COMMUNICATIONS

08<sup>th</sup> JULY 2024

### SESSION 1 – Chairs: A. Tampieri & R. Censi

- 13:45 **Plenary Lecture: Maria-Pau Ginebra** - Biomimetic calcium phosphates: bridging nature and technology in bone regeneration
- 14:15 **Invited lecture: Marta Tavoni** - Magnetic bone cement: new 4D injectable biomaterials for bone regeneration
- 14:35 Elisa Mazzoni - Injectable nanostructured strontium-doped calcium phosphate scaffolds as a chemioterapic drug delivery for osteosarcoma treatments
- 14:45 Alessio Bucciarelli - Methacrylate silk fibroin sponges as candidates for bone tissues
- 14:55 Maria Isabela Vargas Ovalle - Chitosan Acrylate Scaffolds for Periodontal Regeneration
- 15:05 Giovanni Paolo Stola - Alginate and Gelatin-based hydrogels for 3D bioprinting of skeletal muscle tissue
- 15:15 Stefania Pagani - Manganese and Cobalt substituted  $\beta$ -Tricalcium Phosphates friends or foes of bone cells
- 15:25 Michele Iafisco - Bioinspired oriented calcium phosphate nanocrystals arrays with bactericidal and osteogenic properties
- 15:35 Federico Pupilli - Enhancing Biocompatibility Investigating the Influence of Mg Doping on Hydrothermally Synthesized Bone-Like Apatite Nanoparticles
- 15:45 Matteo Sestini - In silico Methodology for Predicting Elastic Mechanical Properties of 3D-printed PLA Scaffolds
- 16:00 **Coffee break and Poster Session**

### SESSION 2 – Chairs: E. De Giglio & C. Demitri

- 16:30 **Invited lecture: Jacopo Barberi** - The REBORN multifunctional patch pioneering cardiac recovery with electrospun piezoelectric fibers and local drug delivery
- 16:50 Maria Lucia Rubicondo - Design and optimization of nano-formulations for a novel colchicine derivative
- 17:00 Chiara Rizzo - Cellulose-Based Hydrogels for Treating GI Disorders Balancing Industrial and Therapeutic Needs
- 17:10 Roberta Pappalardo - Schiff-base hydrogels with tunable mesh size relying on ad hoc customized polyurethanes for drug delivery and tissue engineering
- 17:20 Rebecca Pellegrino - Development of an Innovative Electrospun PVA-based Bacteriological Swab Tip
- 17:30 Alessio Adamiano - Calcium Phosphate: Addressing Nanotechnology Challenges in Agriculture with Biomaterials
- 17:40 Sara Gandolfi - Simultaneous extraction of calcium phosphates and collagen from fishbones for cosmetic applications
- 17:50 Luca Cafuero - Oleogel as novel eco-friendly thermoplastic-like material
- 18:00 Enzo Menna - Carbon nanostructure derivatives as fillers in composite scaffolds
- 18:10 Federica Mancini - Fluorescent Carbon Dots from Food Industry By-Products
- 18:20 Daniela Pollutri - Ethylene-Methyl Acrylate (EMA) copolymer characterization as non-cellular corneal substitute in Endothelial Keratoplasty (EK)
- 18:30 **Fire poster presentations: Posters P01 – P06**
- 19:00 **Welcome Aperitif**

09<sup>th</sup> JULY 2024



### SESSION 3 – Chairs: M. Iafisco & L. Degli Esposti

- 08:30 **Plenary Lecture: Francesca Taraballi** - Engineering Immunotuning Materials for Enhanced Tissue Healing: Innovations and Applications in Translational Medicine
- 09:00 **Invited lecture - Gianluca Ciardelli**: Engineering 3D environments for cardiac tissue model
- 09:20 Mauro Pollini - Silver-treated antibacterial sutures for prevention of infections in cardiac surgery
- 09:30 Dawid Rossino - Evaluation of Ethylene Oxide Sterilization Effects on Multifunctional Microstructured Patches for Myocardial Infarction
- 09:40 Lorenzo Degli Esposti - Calcium Phosphate Nanoparticles as siRNAs Delivery Vectors for Treatment of Cardiovascular Diseases
- 09:50 Daniele Testore - Bio-orthogonally double cross-linked alginate-gelatin hydrogels with tunable viscoelasticity for cardiac tissue engineering
- 10:00 Cheherazade Trouki - Development and Characterization of Multilayered Patches for Treating Acute and Chronic Myocardial Infarction
- 10:10 Camilla Fusacchia - Calcium phosphates nanoparticles as therapeutic system for the cardio-enriched delivery of peptides
- 10:20 **Coffee break and Poster Session**

### SESSION 4 – Chairs: M.G. Raucci & G. Ciardelli

- 10:50 **Invited lecture - Marco Ruggeri**: Bioactive inorganics-doped biomimetic microparticles for wound healing and infection control
- 11:10 Francesca Tivano - Green anti-oxidant drug delivery system based on bacterial cellulose for wound healing applications
- 11:20 Gianluca Ciarleglio - Nanofiber-based wound dressings for bioactive healing applications
- 11:30 Sara Pionato - Exudates absorbing and alkaline-responsive bioartificial hydrogels ad-hoc designed for chronic wounds treatment
- 11:40 Federica Paladini - Silk fibroin as a regenerative biomaterial for the treatment of skin graft donor site
- 11:50 Elvira De Giglio - Biosynthesised silver nanoparticles from Uva ursi as innovative strategy in the therapy of acne and oral herpes
- 12:00 Gloria Astolfi - Aliphatic copolyesters delivery systems for ocular surface and cornea disease treatments
- 12:15 **Lunch**

### SESSION 5 – Chairs: S. Panseri & S. Farè

- 13:45 **Invited lecture - Monica Montesi**: Designing a new 3D Osteosarcoma Scaffold-Based Model with Enriched Cancer Stem Cells Advancing into Tumour Engineering
- 14:05 Francesca Pia Quartulli - Chitosan is a natural biomaterial able to favor 3D follicular selfassembly of adult male rat, thyroid stem cells in primary culture: innovations from the Horizon 2020 European SCREENED project.
- 14:15 Miriam Lucariello - The effect of structure on the anticancer activity of black phosphorus against prostate cancer
- 14:25 Giada Bassi - 3D Tumour Engineered Models of Osteosarcoma Stem Cells Niche- In vitro and In vivo Drug Resistance evaluation
- 14:35 Silvia Farè - Development of blends for Chronic Lymphatic Leukemia in vitro
- 14:45 Carlotta Mattioda - Development of a vascularized in vitro skin model mimicking metastatic melanoma

- 14:55 Cristina Casadidio - Viscoelastic injectable hydrogel loaded with hydrophobic and hydrophilic drugs for combinatorial cancer therapy
- 15:05 Cecilia Traldi - 3D Bioprinted neural construct for in vitro modelling of the central nervous system
- 15:15 Geraldina Ruocco - Engineered fiber-based anisotropic microenvironments for 2D and 3D in vitro models of skeletal muscle tissues
- 15:25 Matteo Bortolameazzi - Aligned Electroconductive Nanofibrous Mats for Peripheral Nervous System Cell Culturing
- 15:35 Giovanna Calabrese - Osteogenic differentiation of hADMSCs on methacrylated gellan gum (GG-MA) scaffold for bone tissue regenerations
- 15:45 **Coffee break and Poster Session**

## SESSION 6 – Chairs: S. Sprio & M. Dapporto

- 16:15 **Invited lecture: Enrico Lenzi** - Ultrasound counteracts inflammation by promoting the chondrogenic differentiation of mesenchymal stromal cells in 3D piezoelectric hydrogel
- 16:35 Luca Cavazza - New topographies and biochemical surface modifications for bone tissue regeneration and implant osseointegration
- 16:45 Giovanni D'Atri - 3D Injectable or Bioprinted Hydrogels For Cartilage Tissue Engineering
- 16:55 Francesco Busto - Modulation of pro-inflammatory pathways of cartilage tissue by Gellan gum scaffolds loaded with Boswellia serrata extract
- 17:05 Roberta Gabrieli - Vat photopolymerization and characterization of porous bioactive glass scaffold for bone applications
- 17:15 Luana Vittoria Bauso - In vitro osteoblastic differentiation of human adipose-derived mesenchymal stem cells on P3HT thin polymer film
- 17:25 **Fire Poster presentations: Posters P07 – P11**
- 17:45 **Assembly of the SIB Community**
- 20:00 **Gala Dinner**

**10<sup>th</sup> JULY 2024**

## SESSION 7 – Chairs: L. Visai & M. Mattioli-Belmonte

- 09:00 **Plenary Lecture: Elizaveta Kon** - Biomaterials Applied to Knee Osteochondral Reconstruction
- 09:30 **Invited lecture: Sabrina Conoci** - Antibacterial effect of Ag Nanoparticles-Graphene Oxide in Ti coated osteointegrating implant
- 09:50 Amedeo Ungolo - SrHA and thymol nanoparticles doped multifunctional surfaces as antimicrobial coatings of medical devices
- 10:00 Stefania Villani - Enhancing antibacterial efficacy against Pseudomonas aeruginosa with green silver nanoparticles in chitosan thin films
- 10:10 Michele Di Foggia - Grafting as a strategy to improve the biocompatibility and bioactivity of silk-fibroin-derived biomaterials
- 10:20 Agnese D'Agostino - Surface functionalization of clear aligners with transparent antimicrobial coating
- 10:30 Vincenzo Patamia - Bio-Based Materials for Combating Bacterial Infections
- 10:40 Giorgia Borciani - Collagen-based 3D printed scaffolds enriched with bioactive and biomimetic elements for bone tissue engineering: biological assessment using a bone cells co-culture system
- 10:50 **Coffee break and Poster Session**

## SESSION 8 – Chairs: M. Tavoni & C. Cristallini

- 11:20 **Invited lecture: Gianni Ciofani** - Modulation of the brain cancer microenvironment through piezoelectric nanoparticles
- 11:40 Hina Inam - Superparamagnetic CaP phase as a novel nanoplatform for mRNA delivery
- 11:50 Laura Russo - AI-guided generation of glycosylated inks for the development of 3D bioprinted colon cancer models
- 12:00 Arianna Rossi - Injectable magnetically responsive hydrogels a tool for aligned tissue regeneration
- 12:10 Matteo Spedicati - 3D Aligned Microfibrous Scaffold for Skeletal Muscle Modeling
- 12:20 Matteo Pavarini - Development of piezoelectric Ba-doped PEO coatings for enhanced bone regeneration
- 12:30 **Fire Poster presentations:** Posters P12-P17
- 12:50 **Best Oral and Poster Session**
- 13:15 **Final Remarks**
- 13:30 **End of the Conference**
- 15:00 **Guided visits to MIC**

## LIST OF POSTER COMMUNICATIONS

- P01 – **Cristina Casadidio** - Exploring the Potential of PLGA Nanoparticles Loaded with Carvacrol Against Inflammation
- P02 - **Elisa Restivo** - Promising biocompatible single-phase silver substituted hydroxyapatite as antibacterial medical device
- P03 - **Giorgia Borciani** - Development and evaluation of silk fibroin methacrylate (SilMA)- based biomaterials for human acetabular labrum regeneration
- P04 – **Maria Rosa Iaquinta** - Effects of ion-doped sintered hydroxyapatite scaffolds on mesenchymal stem cell proliferation and differentiation
- P05 – **Miriam Lucariello** - Injectable Graphene Oxide-Hydroxyapatite Nanocomposites for enhanced bone tissue regeneration
- P06 - **Elvira De Giglio** - Cryoprotected Solid Lipid Nanoparticles containing Dopamine and Grape Seed Extract\_investigations on formulations addressed to nasal powders
- P07 - **Monica Mattioli-Belmonte** - Tuning the physical properties of pectin-gelatin scaffolds exploiting graphene
- P08 – **Francesca Liguori** - Imidazolium Salts-Functionalized PLGA Nanoparticles: A Promising Platform for Gene Delivery
- P09 - **Silvia Marino** - Hydroxyapatite-Ampicillin Composites for Targeted Antibiotic
- P10 - **Lorenzo Apolloni** - Exploratory Assessment of novel fluorinated star PLA: Preliminary Insights in In Vitro Cancer Cell Cultures
- P11 - **Mohamed Saqawa** - Hybrid Hydrogel-Hydroxyapatite-Based 3D In Vitro Osteosarcoma Model Advancing in Drug Screening and Therapeutic Development
- P12 – **Giada Bassi** - Enhancing Excellence for the Development of 3D Advanced Predictive Models of Osteosarcoma for the Investigation of Therapeutic Mechanisms
- P13 - **Maria Isabela Vargas Ovalle** - Effect of the dessication protocol on the porous structure of decellularized plant-based matrices
- P14 – **Stefania Villani** - Optimization of the biological properties of ethylcellulose-based oleogels for biomedical applications
- P15 - **Daniela Lamanna** – Innovative carbon fiber reinforced composites for osteosynthesis in vitro study
- P16 – **Dawid Rossino** - New wide-range-application polymer nanocomposites for emerging infectious diseases
- P17 - **Noemi Ravaglia** - Enhancing Cancer Imaging and Therapy with Peptide PET Tracers targeting C-Met

---

*Annual Meeting of the  
Italian Society for Biomaterials*

**Programme**

Faenza, 8-10 July 2024

