

SIB2021



Società Italiana Biomateriali



IPCB ISTITUTO PERI  
POLIMERI  
COMPOSITI  
BIOMATERIALI



UNIVERSITÀ  
DEL SALENTO

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University of Salento

*Department of Engineering for Innovation*

### **Maria Grazia Raucci**

*Institute of Polymers,*

*Composites and Biomaterials (IPCB-CNR)*

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**Simone Sprio**

**Livia Visai**

## SCIENTIFIC DESIGNER

**Giacomo Cesaro**

IPCB-CNR

## LOGISTIC & CONNECTIONS

**Marco Friuli**

University of Salento

11 July 2021



Sala Conferenze del Rettorato dell'Università del Salento. Piazza Tancredi, Lecce.

	<b>12:00</b>	Registration
Invited lecture	<b>15:00</b>	<b>Prof. Rui L. Reis</b>
Workshop	<b>15:30</b>	Final Event of the transnational project INCIPIT call M.ERA-NET 2016
	<b>17:30</b>	Coffee break
Keynote Speaker	<b>18:00</b>	<b>Dr. Antonio D'Amore</b>
<b>Oral Session 1</b>	<b>18:25</b>	<b>Cardiac and Nervous Regeneration</b>
	<b>20:00</b>	Premio alla Carriera Prof. Roberto Giardino
	<b>20:30</b>	Welcome party

12 July 2021



Aula A7. Edificio Studium 6, angolo Via San Nicola, Via Valesio, Lecce.  
Complesso Universitario STUDIUM 2000

	<b>8:30</b>	Registration
	<b>9:00</b>	Opening ceremony
Invited lecture	<b>10:00</b>	<b>Prof. Pamela Habibovic</b>
	<b>10:30</b>	Coffee break and Poster session
Keynote Speaker	<b>11:00</b>	<b>Dr. Gianluca Vadalà</b>
<b>Oral Session 2</b>	<b>11:25</b>	<b>Bioactive surface treatments</b>
	<b>13:00</b>	<b>Lunch and Poster session</b>
<b>Workshop</b>	<b>14:30</b>	<b>Dr. Alfredo Ronca - YSF 2021</b>
Invited lecture	<b>14:30</b>	<b>Prof. Maria Rescigno</b>
Keynote Speaker	<b>15:00</b>	<b>Dr. Laura Russo</b>
Keynote Speaker	<b>15:25</b>	<b>Dr. Daniele Valerini</b>
Keynote Speaker	<b>15:50</b>	<b>Dr. Sara Ferraris</b>
Keynote Speaker	<b>16:15</b>	<b>Dr. Lukas Gritsch</b>
<b>Oral Session 3</b>	<b>16:40</b>	<b>Biomaterials with antibacterial properties</b>
<b>Poster Session</b>	<b>18:00</b>	Coffee break
	<b>18:45</b>	Assemblea dei soci SIB
	<b>20:30</b>	Gala dinner

13 July 2021



Aula A7. Edificio Studium 6, angolo Via San Nicola,  
Via Valesio, Lecce.  
Complesso Universitario STUDIUM 2000

	<b>8:30</b>	Registration
Invited lecture	<b>9:00</b>	<b>Prof. Jun WU</b>
<b>Oral Session 4</b>	<b>9:30</b>	<b>Diseases modeling and healing</b>
	<b>11:15</b>	Coffee break and Poster session
Keynote speaker	<b>11:45</b>	<b>Dr. Teresa Pellegrino</b>
<b>Oral Session 5</b>	<b>12:10</b>	<b>Fibrous biomaterials</b>
	<b>13:25</b>	Lunch and Poster session
Keynote speaker	<b>14:30</b>	<b>Prof. Grazia Paola Nicchia</b>
<b>Oral Session 6</b>	<b>14:55</b>	<b>Additive Manufacturing</b>
	<b>16:30</b>	Coffee break and Poster session
<b>Round of table</b>	<b>17:00</b>	<b>Biomaterials: Bench-to-Bedside</b>

14 July 2021



Aula A7. Edificio Studium 6, angolo Via San Nicola,  
Via Valesio, Lecce.  
Complesso Universitario STUDIUM 2000

	<b>8:30</b>	Registration
keynote speaker	<b>9:00</b>	<b>Dr. Cinzia Giannini</b>
<b>Oral Session 7</b>	<b>9:25</b>	<b>Drug Delivery</b>
	<b>11:00</b>	Coffee break and poster session
<b>Oral Session 8</b>	<b>11:30</b>	<b>Bioceramics</b>
<b>Award ceremony</b>	<b>13:15</b>	<b>Closing ceremony and Awards for the best poster and oral presentations</b>

## Places



**11 July 2021** Sala Conferenze del Rettorato dell'Università del Salento. Piazza Tancredi, Lecce.



**12 July 2021** Aula A7. Edificio Studium 6, angolo Via San Nicola, Via Valesio, Lecce.  
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**13 July 2021** Aula A7. Edificio Studium 6, angolo Via San Nicola, Via Valesio, Lecce.  
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## Indications



Poster session (piano -1 Ed. Studium 5)



Coffee break (piano -1 Ed. Studium 5)



Lunch and Poster session ( piano -1 Ed. Studium 5)



Gala dinner: Chiostro del Complesso degli Olivetani (Viale San Nicola), Lecce

## Icon legend



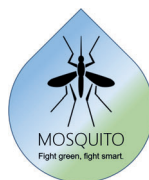
Remote presentation



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## Sponsors



11 July 2021



Sala Conferenze del Rettorato.  
Piazza Tancredi, Lecce.

**12:00 Registration**

**Final Event 15:00 Event of the transnational project INCIPIT**

call M.ERA-NET 2016. "Integrated conductive and micro-nanostructured patches for myocardial regeneration".

Principal Investigator Dr. Caterina Cristallini.

**15:00 Chairs:** Caterina Cristallini, Claudia Giachino

Invited lecture

**Prof. Rui L. Reis**

3B's Research Group,  
University of Minho, Guimaraes, Portugal  
*Innovatory routes for tissue engineering and precision medicine approaches*

**17:30 Coffee break**

Keynote Speaker

**18:00 Dr. Antonio D'Amore**



RIMED Foundation and Pittsburg University  
*Can an engineered biohybrid cardiac patch improve ischemic ventricular wall remodeling?*

**Oral Session 1 18:25 Cardiac and Nervous Regeneration**

**18:25 Casadidio C**, Fang J, Fens MHAM, Censi R, Hennink W, Di Martino P,



Sluijter J, Schiffelers R, Lei Z, Vermonden T.

*Injectable thermosensitive hydrogel for cardiac delivery of biotherapeutics*

**18:40 Marcello E**, Nicoletti L, Paul G, Cassino C, Marchese L, Tonda Turo C, Chiono V.



*Injectable hydrogels for the delivery of miRNA-loaded lipoplexes in cardiac regeneration*

**18:55 Cristallini C, Barbani N, Sergi F**, Bulgheresi C, Parra G, Villano A, Rossin D, Rosso R, Rastaldo R, Giachino C.  
*Production and characterisation of a bioartificial and functionalised cardiac patch prototype*

**19:10 Adamo A**, Bartolacci J G, Traina M G, Wagner W R, D'Amore A  
*Mandrel-less fabrication of biomimetic microfiber wires for soft tissue engineering applications*

**19:25 Vigani B**, Valentino C, Rossi S, Sandri G, Bonferoni MC, Ferrari F.  
*Spermidine as neuroprotective agent and cross-linker for gellan gum nanofibers in the treatment of nervous tissue injuries*



**19:40 Furlani F**, Montanari M, Sangiorgi N, Saracino E, Campodoni E, Sanson A, Benfenati V, Tampieri A, Sandri M.  
*Electroconductive and injectable hydrogels based on gelatin and PEDOT:PSS for nervous tissue regeneration*



**20:00 Premio alla Carriera Prof. Roberto Giardino**

**20:30 Welcome party**

12 July 2021



Aula A7. Edificio Studium 6, angolo Via San Nicola, Via Valesio, Lecce.

**8:30 Registration**

**9:00 Opening ceremony**

Presidente SIB, Magnifico Rettore Università del Salento, Direttori di Dipartimento (DSCTM e DII)

**10:00 Chairs:** Silvia Farè, Ugo D'Amora

Invited lecture



**Prof. Pamela Habibovic** (ESB President)  
MERLN Institute for Technology,  
Maastricht University

*Balancing bioactivity and mechanical properties of calcium phosphate bone graft substitutes*

**10:30 Coffee break and Poster session**

Keynote Speaker

**11:00 Dr. Gianluca Vadalà**

Università Campus Bio-Medico di Roma  
*MSC based Intervertebral disc regeneration: from bench to bedside*

**Oral Session 2 11:25 Bioactive surface treatments**

**11.25 D'Agostino A**, De Piano A, Bono N, Candiani G, De Nardo L, Chiesa R  
*Development and characterization of doped TiO<sub>2</sub> coatings for orthopedic implants*

**11:40 Scalia A**, Cochis A, Rimondini L, Costa P, Perero S, Ferraris S, Spriano S.  
*Innovative ZrO<sub>2</sub>-Ag nanometric layer on titanium alloy*



**11:55 Pavarini M**, Moscatelli M, De Nardo L, Chiesa R.  
*Development of an antibacterial borate-based Plasma Electrolytic Oxidation coating on titanium for bone-contact applications*

**12:10 Stanzione M**, Buonocore GG, Lavorgna M, Marcelloni AM, Amori I, Proietto AR, Chiominto A, Paba E, Mansi A.  
 *Development of nanostructured antibacterial coatings to control bacterial growth on hospital surfaces*

**12:25 Tonda-Turo C**, Licciardello M, Sgarminato V, Marasso S, Ballesio A, Scordo G, Cocuzza M, **Ciardelli G** .  
*Tissue on-chip for modeling in vitro the cancer microenvironment*

**12:40 Sanguedolce M**, Rotella G, Curcio F, Cassano R, Filice L.  
*Surface treatments in chitosan coating of titanium and alumina substrates for biomedical application*

#### **14:30 Workshop YSF 2021**

Innovative Strategies and biomaterials for antibiotic-resistance.

Dr. Alfredo Ronca - YSF Organizer

**14:30 Chairs:** Alessandro Sannino, Alfredo Ronca

Invited lecture



**Prof. Maria Rescigno**

Humanitas University

*The microbiota: a new organ essential for our well-being*

Workshop YSF 2021

**15:00 Dr. Laura Russo**

Università degli Studi di Milano-Bicocca

*Antibacterial and anti-adhesive biomaterials: strategies and applications from Nanomaterials to medical devices*

Workshop YSF 2021

**15:25 Dr. Daniele Valerini**

Italian National Agency for New Technologies, Energy and Sustainable Economic Development, ENEA

*Antimicrobial nanocoatings on biocompatible and eco-friendly materials*

Workshop YSF 2021

**15:50 Dr. Sara Ferraris**



Politecnico di Torino

*Nanoinnovation on titanium surfaces to counteract bacterial adhesion*

**Oral Session 3 16:40 Biomaterials with antibacterial properties**

**16:40 di Gennaro M**, Makvandi P, Della Sala F, Borzacchiello A, Ali GW, Abdel-Fattah WI, Ambrosio L.



*Antibacterial injectable bionanocomposite based on Hyaluronic acid containing green synthesized silver nanoparticles for bone regeneration*

**16:55 Martorana A**, Pitarresi G, Palumbo FS, Fiorica C, Giammona G.



*In-situ synthesis of silver nanoparticles and production of Ag-hyaluronic acid based nanocomposite bioink with potential antibacterial activity*

**17:10 Fiorica C**, Pitarresi G, Palumbo FS, Martorana A, Biscari G, Maida CM, Calà C, Giammona G.



*Photothermal antimicrobial nanocomposite hydrogel based on amine functionalized Gellan Gum and polydopamine*

**17:25 Najmi Z**, Sharifikoloue E, Cochis A, Scalia AC, Aliabadi M, Perero S, Rimondini L.

*Assessment of antifouling and cytotoxicity properties of superhydrophobic Ag-Cu-Zr metallic glass coating*

**17:40** Dapporto M, Carella F, **Tavoni M**, Restivo E, Visai L, Mercatali L, Ibrahim T, Tampieri A, Iafisco M, Sprio S.



*Apatitic bone cements with effective drug release: from antibacterial and antibiofilm ability to anticancer therapy*

**17:55 Rapid fire presentations**

**18:05 Poster session and Coffee Break**

**18:45 Assemblea dei soci SIB**

**20:30 Gala dinner**

Chiostro del Complesso degli

Olivetani (Viale San Nicola), Lecce

13 July 2021



Aula A7. Edificio Studium 6, angolo Via San Nicola,  
Via Valesio, Lecce.

8:30

Registration

9:00

**Chairs:** Luigi Ambrosio, Ines Fasolino

Invited lecture



**Prof. Jun WU**

Shenzhen Second People's Hospital Shenzhen,  
China.

*Artificial vs God-made scaffold for wound covering.*

**Oral Session 4**

9:30

**Diseases modeling and healing**

**9:30 Scalzone A**, Cerqueni G, Wang XN, Dalgarno K, Mattioli-Belmonte M, Ferreira AM, Gentile P.

*A cytokine-induced in vitro model of osteoarthritis pathogenesis*

**9:45 Cerqueni G**, Scalzone A, Wang XN, Di Vincenzo M, Dalgarno K, Ferreira-Duarte AM, Mattioli-Belmonte M, Gentile P.

*Functional in vitro engineered osteochondral tissue for modeling osteoarthritis*

**10:00 Barberi J**, Ferraris S, Mandrile L, Napione L, Piatti R, Rossi AM, Vitale A, Yamaguchi S, Spriano S.



*Investigating protein adsorption on surfaces for biomedical applications: a comparative study on bioactive materials*

**10:15 Pota G**, Cuna A, Vitiello G, Zanfardino A, Di Napoli M, Pezzella A, Luciani G.

*Multifunctional bioinspired melanin-CeO<sub>2</sub> nanostructures for wound healing applications*

**10:30 Pitton M**, Urzì C, Saturnino A, Contessi Negrini N, Farè S.

*Photocrosslinked hyaluronic acid hydrogels for adipose tissue in vitro model*

**10:45 Mauri E**, Gori M, Giannitelli SM, Mozetic P, Merendino N, Gigli G, Rossi F, Trombetta M, Rainer A.

*Nanogel-mediated hydroxytyrosol release as a therapeutic strategy for nonalcoholic fatty liver disease*

**11:00 Borzacchiello A**, di Gennaro M, Makvandi P, Della Sala F, Ali GW, Abdel-Fattah WI, Ambrosio L.



*Hyaluronic acid thermosensitive hydrogels containing green corn silk extract antibacterial nanosilver for wound healing application*

**11:15 Coffee break and poster session**

**11:45 Chairs:** Grazia Paola Nicchia, Maria Grazia Raucci

Keynote Speaker

**Dr. Teresa Pellegrino**

Istituto Italiano di Tecnologia, Genova

*Magnetic nanoparticles and clusters as platforms for combining magnetic hyperthermia with other therapeutic treatments to tackle cancer*

**Oral Session 5 12:10 Fibrous biomaterials**

**12:10 Coletti M**, Haris M.

*A versatile platform for biomaterials characterization: a tool to assess mechanical properties*

**12:25 Bianchi E**, Ruggeri M, Miele D, Rossi S, Bonferoni MC, Sandri G, Ferrari F.

*Electrospun polyurethane scaffolds loaded with Cerium oxide and Chondroitin sulphate for tendon tissue engineering*

**12:40 Ruggeri M**, Bianchi E, Miele D, Rossi S, Bonferoni MC, Boselli C, Icaro Cornaglia A, Sandri G, Ferrari F.

*Maltodextrin-amino acids scaffold in wound healing reparation*

**12:55 Cacciotti I**, D'Avenio G, Grigioni M, Nocca G.



*Sustainable fibrous 18 $\beta$ -glycyrrhetic acid/poly(lactic acid) templates for oral pathologies treatments*

**13:10 La Gatta A**, Aschettino M, Bedini E, Schiraldi C.

*Hyaluronan hydrogels for medical purposes: new insights in the correlation between biopolymer chemical modification parameters and hydrogel biophysical features and their implications in view of application*

**13:25 Lunch and poster session**

**14:30 Chairs:** Simone Sprio, Annalisa La Gatta

Keynote speaker

**Prof. Grazia Paola Nicchia**

Università degli Studi di Bari Aldo Moro

*Aquaporin water channel as novel target for biomaterial design and engineering: implications in health and disease*

**14:55 Miele D**, Musitelli G, Ruggeri M, Bianchi E, Rossi S, Bonferoni MC, Sandri G, Ferrari F.



*Centrifugal spinning: an alternative technology for the production of polydioxanone microfibers*

**15:10 Licini C**, Banche-Niclot F, Montalbano F, Fiorilli S, Mattioli-Belmonte M, Vitale-Brovarone C.

*From human tissue to regenerative approaches: development of 3D printed composite scaffolds mimicking the TGF-  $\beta$ 1 features within the bone*

**15.25 Banche-Niclot F**, Montalbano G, Fiorilli S, Vitale-Brovarone C.  
*PEG-coated mesoporous silicas to release large biomolecule in acidic environment and their use in 3d printed collagen scaffolds*

**15:40 Gatto ML**, Visai L, Bloise N, Fassina L, Galati M, Iuliano L, Mengucci P.  
*Topological, mechanical and biological performances of Ti6Al4V scaffolds for bone tissue regeneration manufactured with reused powders via EBM*

**15.55 Giannitelli SM**, Gori M, Torre M, Mozetic P, Abbruzzese F, Trombetta M, Traversa E, Moroni L, Rainer A.  
*3D bioprinting of a cell-laden thermogel: an effective tool to assess drug-induced hepatotoxic response*

**16:10 Papa V**, Cacciotti I.



*Polymethylmetacrylate 3D printed implants: set-up of the fused deposition process and biomedical applications*

**16:30 Coffee break and poster session**

Round of table

**17:00**

**Biomaterials: Bench-to-Bedside**

Moderator: **Alessandro Sannino.**

**Partecipants:**

Daniele Chiffi, Politecnico di Milano

Luana Pruriti Ciarello, MEDTRONIC

Paolo Netti, IIT Napoli

Gianluca Vadalà, Policlinico Universitario Campus Bio-Medico

Giorgio Sorcini, Studio Sorcini, Regulatory, Roma

Antonio De Vito, Agenzia Regionale Puglia Sviluppo

to

**19:00**

14 July 2021



Aula A7. Edificio Studium 6, angolo Via San Nicola,  
Via Valesio, Lecce.

**8:30 Registration**

**9:00 Chairs:** Christian Demitri, Stefania Scialla

keynote speaker

**Dr. Cinzia Giannini**

Istituto di Cristallografia (IC-CNR) , Bari  
*X-ray Scattering Scanning Microscopies of  
pathologic collagen-based tissues*

**Oral Session 7 9:25 Drug Delivery**

**9:25** Cometa S, Bonifacio MA, Licini C, Pinto L, Baruzzi F, Mattioli-Belmonte M, **De Giglio E.**



*Polysaccharide-based hydrogels for local berberine delivery: an innovative strategy for wound healing*

**9:40 Carella F**, Bugli F, Rossi A, Degli Esposti L, Modica J, Adamiano A, Sanguinetti M, Bragonzi A, Vitali A, Catalucci D, Iafisco M.



*Inhalable colistin-loaded calcium phosphate nanoparticles for the treatment of infections related to cystic fibrosis*

**9:55 Fabozzi A**, Della Sala F, Borzacchiello A, Ambrosio L.



*Non-spherical nanoparticle by microfluidics externally decorated by hyaluronic acid for active targeting drug delivery*

**10:10 Della Sala F**, Silvestri T, Borzacchiello A, Mayol L, Biondi M, Ambrosio L.



*Hyaluronic acid-coated nanoparticles for active tumour targeting: Influence of polysaccharide molecular weight on cell uptake*

**10:25 Gomez d'Ayala G**, Faggio N, Cerruti P, Craig E, Kima PE, Calarco A, Ambrogio V.

*Thermoresponsive copolymers as nanovectors to improve the bioavailability of retrograde inhibitors in the treatment of Leishmania infections*

**10:40 Bonetti L**, Boccali A, Altomare L



*Methylcellulose based biocomposites for bone tissue regeneration*

**11:00 Coffee break and Poster session**

**11:30 Chairs:** Alberto Rainer, Paola Nitti

**Oral Session 8**

**Bioceramics**

**11:30 Reddy AK**, Miola M, Massera J, Cochis A, Rimondini L, Vernè E.  
*Tellurium: a new active element for multifunctional bioactive glasses*

**11:45 Borciani G**, Montalbano G, Vitale Brovarone C, Ciapetti G.  
*Assessment with an indirect co-culture system of human osteoblasts and osteoclasts of nanostructured collagen-based materials for bone tissue engineering approach*

**12:00 Calabrese G**, Conoci S.  
*Nano-functionalized Mg-hydroxyapatite scaffolds improve the antimicrobial property and the bone regeneration*

**12:15 Di Filippo MF**, Giuri D, Tomasini C, Maglio M, Marchiori G, Pagani S, Fini M, Panzavolta S.  
*Calcium phosphate bone cement reinforced with self-assembling fibers*

**12:30 Terrizzi AR**, Kunjalukkal Padmanabhan S, Contaldi V, Rizzo A, Fersini M, Licciulli A  
*Zirconia toughened alumina femoral components developed with ceramic injection molding for Total Knee Replacement*

**12:45 Artusi C**, Campodoni E, Montanari M, Bergamini L, Bassi G, Panseri S, Tampieri A, Sanson A, Sandri M.  
*Ti-doped hydroxyapatite based eco-sustainable physical filter for novel sunscreen formulation*



**Award 13:00 Closing ceremony and Awards for the best oral and poster presentations**

