13th International Symposium on Frontiers in Biomedical Polymers

Conference Program

19-23 May, 2019
Puerto de la Cruz, Canary Island (Spain)
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Welcome Message from the FBPS 2019 Chair

Julio San Román del Barrio

Dear Friends and colleagues. The organizing committee of the series Frontiers in Biomedical Polymers constituted by David Kaplan, Claudio Migliaresi, Teruo Okano, Daniel Cohn, Rui Reis and myself, welcome everybody to attend the 13th edition of the International Symposium on Frontiers in Biomedical Polymers, that will be held in Puerto de la Cruz, Tenerife, Canary Islands, the dates 19 – 23 May 2019.

The participation of excellent professionals and experts in the area gives to the symposium a very high quality and the guarantee of the relevant participation with presentation of the most interesting advances in this important field for the development of Regenerative Medicine, Tissue Engineering, Drug Delivery Systems and Controlled Release of bioactive compounds.

We thank the support of International Institutions, European Society for Biomaterials (ESB), European Polymer Federation (EPF), Spanish Royal Society of Chemistry (RSEQ), Network Centre for Biomedical Research (CIBER-BBN), Spanish National Research Council (CSIC), and the pharmaceutical companies ALODIA FARMACEUTICA and ADVENTIA.

We have prepared a very dense and intense program, due to the high participation of researchers of the highest level coming from all over the world. We hope that all of you will actively participate and enjoy not only the scientific papers, but also the opportunity to get in touch with friends in this carefully chosen site that was selected to enjoy the beautiful village of Puerto de la Cruz, and the sea side location of the hotel. We have to acknowledge the efforts of the local organizing committee and the young people of the Group of Biomaterials of the CSIC for their contribution in the organization of the congress and the design of the scientific sessions that we hope will be of interest to all the participants.

You are invited to participate actively in the discussion of the presentations and posters that will be exhibited in the same room of the presentations during the whole symposium.

WELCOME TO FBPS 2019

Julio San Román del Barrio
Chair, FBPS 2019 Spain
Instructions for presenters & moderators

Speakers are kindly requested to hand in their presentation (USB-key) at least two (2) hours before their scheduled presentation time. If your presentation is scheduled early in the morning, you are kindly requested to hand in your presentation the day before.

All versions of MS PowerPoint are accepted. If you are using embedded video clips in your presentation, please remember to submit video files separately. The following audiovisual equipment will be available for all presenters:

- Laptop
- Data video projector (PowerPoint presentations)
- Laser pointer
- Microphones

Oral Presentations

To ensure that all the sessions run smoothly, Oral Presenters are kindly requested to read the following instructions:

- Speakers are requested to be in the session room 10 minutes before the start of the session and introduce themselves to the chairs of the session.
- Each presentation has been assigned 15 minutes, 12 minutes for the presentation and 3 minutes for questions and answers (Oral presentations); 20 minutes, 17 minutes for the presentation and 3 minutes for questions and answers (Keynote presentations) and 30 minutes, 27 minutes for the presentation and 3 minutes for questions and answers (Plenary presentations)
- Please check the schedule carefully for your session time and order of presentations.
- The chairperson will monitor your presentation time-keeping.
- All presentations should be in PowerPoint.
- Please check all your videos run properly with the support team before your presentation.
- Speakers will be provided with a wireless microphone and a laser pointer for use in their presentations.
- Speakers are requested to familiarize themselves with the room prior to the presentation.
**Poster Presentations**

Two designated Poster Areas will be located at session room.

All posters should be formatted vertically, of standard A0 (120cm x 84cm) size. During the conference, poster presenters are responsible for attaching their poster to their assigned poster panel. Pins and tacks will be provided from the Poster Area Helpdesk operating throughout the duration of the conference.

Poster panels will be arranged numerically and organized by thematic area. Posters should be mounted on the appropriately numbered board in the first day of the conference.

Any posters not collected at the end of the conference will be discarded. To allow easier identification of the author, we suggest you include a photograph (ideally cm x 9 cm) on the poster header. It is also a good idea to pin an envelope to the bottom of the board for the receipt of business cards and messages and/or make mini copies of your poster which can be taken away by other delegates.

There will be three official breaks when delegates will be directed to the Poster Areas to view posters. Please ensure that you are present at your poster during these times:

- ✓ Monday, May 20, 15:00-16:00
- ✓ Tuesday, May 21, 15:00-16:00
- ✓ Wednesday, May 22, 15:00-16:00
### PROGRAM OVERVIEW

**Sunday 19th**

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>12:00 – 15:30</td>
<td>Registration open</td>
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<tr>
<td>15:30 - 16:00</td>
<td>Welcome and Opening Remarks</td>
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<tr>
<td>16:00 - 16:30</td>
<td>PL-1</td>
<td>Buddy Ratner</td>
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<tr>
<td>16:30 - 16:50</td>
<td>KN-1</td>
<td>Dirk Grijpma</td>
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<tr>
<td>16:50 - 17:10</td>
<td>KN-2</td>
<td>Manuel Toledano</td>
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<tr>
<td>17:10 - 17:30</td>
<td>KN-3</td>
<td>Elisabeth Engel</td>
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<tr>
<td>17:30 - 17:45</td>
<td>O-1</td>
<td>Emmanuelle Marie</td>
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<tr>
<td>17:45 - 18:00</td>
<td>O-2</td>
<td>Alicia Fernández-Colino</td>
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<tr>
<td>18:00 - 18:15</td>
<td>O-3</td>
<td>Mark Grinstaff</td>
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<tr>
<td>18:15 - 18:30</td>
<td>O-4</td>
<td>Benjamin Nottelet</td>
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<td>18:30 - 18:45</td>
<td>O-5</td>
<td>Tali Tavor Re'em</td>
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<tr>
<td>19:30 - 20:30</td>
<td>Welcome Party</td>
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**Session I**
Chair: Julio San Román
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<tr>
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<tr>
<td>8:30 - 9:00</td>
<td>PL-2</td>
<td>Anthony S. Weiss</td>
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<td>Angel Licea-Claverie</td>
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<td>Nicolas Blanchemain</td>
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<td>9:40 - 10:00</td>
<td>KN-6</td>
<td>Bárbara Pérez-Köhler</td>
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<td>10:00 - 10:15</td>
<td>O-6</td>
<td>Sergio Acosta</td>
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<td>10:15 - 10:30</td>
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<td>Isabelle Texier</td>
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<td>Ana Lopez Periago</td>
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<td>Juan González</td>
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<tr>
<td>11:30-11:50</td>
<td>KN-7</td>
<td>J. Carlos Rodríguez-Cabello</td>
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<td>KN-8</td>
<td>Ana Oliveira</td>
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<td>KN-9</td>
<td>Andreas Lendlein</td>
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<td>María Jesús Vicent</td>
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<td>Bernard Martel</td>
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<td>Matthias Gabriel</td>
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<td>Kazunari Akiyhos</td>
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<td>Manuela E. Gomes</td>
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<td>Jacek Wychowaniec</td>
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<td>Costas Kiparissides</td>
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<td>Malgorzata Wlodarczyk-Biegun</td>
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<td>Hadda Zebiri</td>
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<td>Julieta Paez</td>
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**Session V Chair: Andres García**

**Session VI Chair: Buddy Ratner**

**Session VII Chair: M.Jesús Vicent**

**COFFEE BREAK + POSTERS**

**LUNCH + POSTERS**

**20:00 - 23:00 Conference Dinner**
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<tr>
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<th>Speaker/Title</th>
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<td>Yasuhiko Tabata</td>
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<td>Marcelo Calderón</td>
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<td>F. Javier De la Mata</td>
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<td>Petr Chytil</td>
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<td>Shardul Bhusari</td>
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<td>Diego Velasco</td>
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<td>Samuel Pearson</td>
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<td>11:30 - 11:50</td>
<td>KN-27</td>
<td>Conrado Aparicio</td>
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<td>KN-28</td>
<td>Michel Vert</td>
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<td>Rodrigo Silveira Vieira</td>
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<td>Claudio Migliaresi</td>
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<td>O-34</td>
<td>Eva Espinosa-Cano</td>
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<td>13:05 - 13:20</td>
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<td>Laurent Leclercq</td>
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<td>Petr Humpolicek</td>
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<td>16:00 - 16:30</td>
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<td>David Kaplan</td>
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<td>Roberto Olayo</td>
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<td>Giuseppe Battaglia</td>
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<td>Julio Suay</td>
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<td>Raúl Fontelo Rodríguez</td>
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<td>Beatrice Labat</td>
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<td>Felix Reisbeck</td>
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<td>Inmaculada Aranaz</td>
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<td>8:30 - 9:00</td>
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<td>9:00 - 9:20</td>
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<td>Auxiliadora Prieto Jiménez</td>
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<td>9:20 - 9:40</td>
<td>KN-35</td>
<td>M. Rosa Aguilar</td>
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<td>KN-36</td>
<td>Francisco Goycoolea</td>
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<td>10:00 - 10:15</td>
<td>O-41</td>
<td>María Puertas Bartolomé</td>
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<td>O-42</td>
<td>Anna Herrmann</td>
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<td>O-43</td>
<td>Gloria María Pontes Quero</td>
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<td>Araceli Delgado</td>
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<td>KN-37</td>
<td>Daniel Cohn</td>
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<td>KN-38</td>
<td>Alejandro Sosnik</td>
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<td>Luis Rojo</td>
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<td>O-45</td>
<td>Binh T. Mai</td>
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<td>13:05 - 13:20</td>
<td>O-46</td>
<td>Guzmán Carissimi</td>
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<td>13:40</td>
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DETAILED PROGRAM

Sunday 19th

12:00 – 15:30  Registration open

15:30 – 16:00  Welcome and Opening Remarks
D. Kaplan, C. Migliaresi, D. Cohn, R. Reis, J. San Román

16:00 – 19:00  Session I (Chair: Julio San Román)

16:00 – 16:30  Plenary Lecture
Professor Buddy D. Ratner (University of Washington)
Form, Bumps, Pores, Shapes (FBPS) Control Biocompatibility

16:30 – 17:30  Keynote Lectures (Advanced contributions of polymers and methodologies for Tissue Engineering)
16:30  Dirk Grijpma: Electrically Conducting Poly(trimethylene carbonate) and Reduced Graphene Oxide Composites.
16:50  Manuel Toledano: Effects of polymeric nanostructured membranes on bone healing.
17:10  Elisabeth Engel: Cell derived-Extracellular Matrix Scaffolds with Polylactic Acid Microcarriers for Tissue Engineering and Cell Therapy.
17:30 – 18:45  Oral Presentations

17:30  Emmanuelle Marie: *Mixed Ad Layers of Poly(Lysine)-Based Copolymers to Dynamically Control Cell Adhesion/Migration.*

17:45  Alicia Fernández-Colino: *The Elastin Grafts: biohybrid compliant grafts as off-the-shelf small caliber vascular substitutes.*

18:00  Mark Grinstaff: *Polymers for Cartilage Tissue Supplementation and Lubrication.*

18:15  Benjamin Nottelet: *Controlled anchoring of iron-oxide nanoparticles on polymeric nanofibers: a simple approach towards hybrid and multifunctional scaffolds.*

18:30  Tali Tavor Re' em: *Constructing a Three Dimensional in Vitro Embryo Implantation Model Using Alginate Macroporous Scaffold.*

19:30 – 20:30  Welcome Reception

Garden of the Hotel Sol Costa Atlantis
Monday 20th

8:30 – 11:00  Session II (Chair: Rui Reis)

8:30 – 9:00  Plenary Lecture
Professor Anthony S. Weiss (University of Sydney)
*Synthetic elastin biomaterials*

9:00 – 10:00  Keynote Lectures (Smart Polymers for delivery of drugs and bioactive compounds)

9:00  Angel Licea-Claverie:  *PEGylated pH-responsive nanogels for delivery of chemotherapeutic agents to cancer cell-lines*

9:20  Nicolas Blanchemain:  *Hydrogel and Sponge based on polyelectrolyte complex (Chitosan / Polymer of Cyclodextrins) for application on drug delivery system and tissue engineering*

9:40  Bárbara Pérez-Köhler:  *Bioactive polymeric coatings with antibacterial activity for application in hernia repair mesh*

10:00 – 11:00  Oral Presentations

10:00  Sergio Acosta:  *Advanced antimicrobial recombinant polymers: Insights onto the self-assembly - bactericidal properties relationship*

10:15  Isabelle Texier:  *Localized siRNA delivery by collagen/lipid nanoparticle hybrid scaffolds*

10:30  Ana Lopez Periago:  *Coordination polymers for biomedical applications*

10:45  Juan González:  *Self-assembling ELR nanoparticles as smart drug delivery systems*

11:00 – 11:30  Coffee Break & Posters
11:30 – 13:35  **Session III (Chair: Claudio Migliaresi)**

11:30 – 12:50  **Keynote Lectures (Modification and functionalization of synthetic and natural polymers)**
- **11:30**  
  *J. Carlos Rodríguez-Cabello*: *Dynamic Systems Based on Elastin-Like Recombinamers*
- **11:50**  
  *Ana Oliveira*: *Silk as a Dress Code for Chronic Wound Healing*
- **12:10**  
  *Andreas Lendlein*: *Designing Multifunctionality in Polymers to Create Effects Required in Biomedical Applications*
- **12:30**  
  *María Jesús Vicent*: *Polypeptide-based Conjugates for CNS disorders: Exploring the Intranasal Route of Administration*

12:50 – 13:35  **Oral Presentations**
- **12:50**  
  *Bernard Martel*: *Aryl-sulfonated chitosan: synthesis, characterization, anticoagulant properties and electrospinning*
- **13:05**  
  *Matthias Gabriel*: *Peptide and non-Peptide modified Surfaces specific for the Adhesion and Growth of Valvular Interstitial Cells*
- **13:20**  
  *M. Ali Aboudzadeh*: *Design of gold (Au)/cyclic polymer hybrid materials for biomedical applications*

13:35 – 16:00  **Lunch time & Posters**
16:00 – 19:00  Session IV (Chair: Daniel Cohn)

16:00 – 16:30  Plenary Lecture
Professor Akiyoshi Kazunari (Kyoto University)
*Self-assembly of glyco-based polymers (Nanogels and Vesicles) for Protein Delivery and Immunotherapy*

16:30 – 17:30  Keynote Lectures (Advanced contributions of polymers and methodologies for Tissue Engineering)
16:30  Manuela E. Gomes: Targetting tissue regeneration with the use of Human-based biomaterials and biophysical stimulus
16:50  Martijn van Griensven: Tissue Engineered Enthesis using Biphasic Silk Fibroin Scaffolds
17:10  Matilde Alonso: Kinetic Control of Artificial Extracellular Matrix Remodelling as a Way to Increase the Quality of Regenerated Tissues: Osteochondral lesion regeneration by kinetically controlled protease sensitive E

17:30 – 19:00  Oral Presentations
17:30  Jacek Wychowaniec: 3D Printing of Spatially Patterned Magnetically Responsive Hydrogels
17:45  Costas Kiparissides: Engineering Responsive and Biomimetic Hydrogels for Biomedical Therapeutic and Diagnostic Applications (BIOGEL)
18:00  Malgorzata Wlodarczyk-Biegun: 3D printing of PEG-based hydrogels with dynamic metal coordination crosslinking
18:15  Maria Virginia Rivero Buceta: Antibacterial hydrogels based on bacterial cellulose and PHACOS
18:30  Hadda Zebiri: Design of Biodegradable Anti-Adhesive Membranes in Orthopaedic Surgery
18:45  Julieta Paez: Filling the kinetic gap: a new thiol-X crosslinking chemistry for 3D cell culture hydrogels
Tuesday 21st

8:30 – 11:00  Session V (Chair: Andres García)

8:30 – 9:00  Plenary Lecture
Professor Abhay Pandit (National University of Ireland)
*Redefining Identity of Disease, Tissues and Cells – a Biomaterials Paradigm*

9:00 – 10:00  Keynote Lectures (Advanced contributions of polymers and methodologies for Tissue Engineering)

9:00  João F Mano: *Polysaccharides as building blocks in tissue engineering applications*

9:20  Aránzazu del Campo: *Light-stimulated collagen production: new approaches to reconstruct tissues*

9:40  José Vidal-Gancedo: *Radical Dendrimers. Synthesis, Characterization and Biomedical Applications*

10:00 – 11:00  Oral Presentations

10:00  Husam Younes: *Poly(decanediol-co-tricarballylate) Elastomeric Nano-Fibrous Mesh Fabricated by Photoreactive Electrospinning for Cardiac Tissue Engineering Applications*

10:15  Natalia Davidenko: *Influence of Substrate Stiffness on Cell Response. Focus on Collagen*

10:30  Noo Li Jeon: *High-Throughput 3D Microfluidic Platform for Vascularized Micro Physiological System Applications*

10:45  Ana Mora-Boza: *3D bioprinting of soluble chitosan-lactate conjugate bioinks*

11:00 – 11:30  Coffee Break & Posters
11:30 – 13:35  Session VI (Chair: Buddy Ratner)

11:30 – 12:50  Keynote Lectures (Modification and functionalization of synthetic and natural polymers)
   11:30  Antonio Martínez-Richa: Synthesis of crosslinked poly(ester-urethane)s, with potential uses as scaffolds for tissue engineering
   11:50  Vamsi Yadavalli: Bioinspired materials and strategies for the fabrication of functional devices
   12:10  Antonella Motta: Methods for silk scaffolds fabrication
   12:30  Ugo D’Amora: Chemical Strategies to tailor the properties of hyaluronic acid-based materials

12:50 – 13:35  Oral Presentations
   12:50  Miguel González Pérez: Interface spontaneous membrane formation by two elastin-like recombinamers
   13:05  Verónica Luque-Agudo: Highly Hydrophobic PLA Films and Their Degradation Over Time
   13:20  Helene Van Den Berghe: A New Synthesis Route of Amphiphilic Polyester-g-Oligosaccharide Copolymers for Anticancer Drug Delivery

13:35 – 16:00  Lunch time & Posters
16:00 – 18:30  Session VII (Chair: M. Jesús Vicent)

16:00 – 16:30  Plenary Lecture
Professor Andres J. García (Georgia Institute of Technology)
Biosynthetic Materials for Islet Encapsulation and Transplantation

16:30 – 17:30  Keynote Lectures (Bioactive polymers and microfluidics)
16:30  Thomas Groth: Engineering of bioactive surface coatings and hydrogels with polysaccharides
16:50  Nuno Neves: Functional Nanofibrous Scaffolds Combined with Stem Cells for Advanced Biomedical Devices and Therapies
17:10  Michelle LaPlaca: 3-D Neural Culture System to Study Neuroinflammation and Neurotoxicity

17:30 – 18:30  Oral Presentations
17:30  Judith Feitosa: Injectable Hydrogel based on Chitosan Derivative, Galactomannan and Chitin Whiskers
17:45  Malo Dufay: PP peritoneal meshes covered with PCL nanofibers functionalized by cold plasma with antiadhesive properties
18:00  Leire Ruiz Rubio: Hyaluronic acid/chitosan titanium multilayers with antibacterial properties
18:15  Muhammad Muhammad: Modification and optimization of polysaccharides for hydrogel formation for bone tissue regeneration

20:00 – 23:00  Conference Dinner
Wednesday 22\textsuperscript{nd}

8:30 – 11:00  
**Session VIII (Chair: Thomas Groth)**

8:30 – 9:00  
**Plenary Lecture**
Professor Yasuhiko Tabata (Kyoto University)

*Release Technology of Cell Recruitment Molecules to Induce In Situ Tissue Regeneration Therapy*

9:00 – 10:00  
**Keynote Lectures (Smart Polymers for delivery of drugs and bioactive compounds)**

9:00  
**Sanjukta Deb:** *Antibacterial Systems for Dental Applications*

9:20  
**Marcelo Calderón:** *Rational Design of Responsive Prodrug-based Nanomedicines for Antitumor Therapy*

9:40  
**F. Javier de la Mata:** *Dendritic nanosystems of carbosilane nature as a versatile platform for the treatment of different pathologies*

10:00 – 11:00  
**Oral Presentations**

10:00  
**Petr Chytil:** *Micellar HPMA Polymer-Drug Conjugates for Immunooncotherapy*

10:15  
**Shardul Bhusari:** *Light-responsive drug release from living hydrogels*

10:30  
**Diego Velasco:** *Vinyl-based microfluidic chips for human skin models*

10:45  
**Samuel Pearson:** *Photoresponsive biomaterials for light-triggered angiogenesis*

11:00 – 11:30  
**Coffee Break & Posters**
11:30 – 13:35  **Session IX (Chair: Ana Oliveira)**

11:30 – 12:50  **Keynote Lectures (Others)**
- **11:30**  *Conrado Aparicio*: Oligopeptides and Recombinamers at Surfaces and Interfaces to Address Oral Infections
- **11:50**  *Michel Vert*: Making the literature of lactic acid-based polymers profitable to everyone
- **12:10**  *Rodrigo Silveira Vieira*: In vitro degradability of strontium delivery systems based on oxidized bacterial cellulose and strontium apatite
- **12:30**  *Claudio Migliaresi*: Silks: spider and silkworm, where the differences?

12:50 – 13:35  **Oral Presentations**
- **12:50**  *Eva Espinosa-Cano*: Long-term anti-inflammatory capacity of layer-by-layer coatings embedding naproxen-based polymeric nanoparticles
- **13:05**  *Laurent Leclercq*: Characterization of polyelectrolyte complexes by inline coupling of capillary electrophoresis to Taylor dispersion analysis – Application to polyplexes
- **13:20**  *Petr Humpolicek*: The biocompatibility of electrically conducting polymers

13:35 – 16:00  **Lunch time & Posters**
16:00 – 19:00  Session X (Chair: J. Carlos Rodríguez Cabello)

16:00 – 16:30  **Plenary Lecture**
Professor David Kaplan (Tufts University)
*Silk Protein Modifications for Functional Materials*

16:30 – 17:30  **Keynote Lectures (Advanced contributions of polymers and methodologies for Tissue Engineering)**
- **16:30**  *Roberto Olayo*:  *Plasma Pyrrole Polymers as Implants In Spinal Cord Chronic Injury: MRI Study*
- **16:50**  *Giuseppe Battaglia*:  *The Goldilocks principle applied to nanomedicine design*
- **17:10**  *Julio Suay*:  *Complement proteins regulating macrophage polarisation on biomaterials*

17:30 – 18:30  **Oral Presentations**
- **17:30**  *Raúl Fontelo Rodríguez*:  *Selective block copolymer films with antibacterial and biocompatible properties*
- **17:45**  * Beatrice Labat*:  *Chondroitin Sulfate A-based PEM films: Biomimetic matrices for tissue engineering*
- **18:00**  *Felix Reisbeck*:  *Synthesis of dPG-based Nanogels as Polyvalent Carriers for T Cell Staining*
- **18:15**  *Inmaculada Aranaz*:  *Controlled released of risperidone from β-chitosan hydrogels*
Thursday 23rd

8:30 – 11:00  Session XI (Chair: Martijn van Griensven)

8:30 – 9:00  Plenary Lecture
Professor Joachim Kohn (Rutgers University, USA)
*The Race Towards Bioactive Scaffolds*

9:00 – 10:00  Keynote Lectures (Polymeric biosensors and markers & Modification and functionalization of synthetic and natural polymers)

9:00  Auxiliadora Prieto Jiménez: *Engineering bacteria to produce added value biomaterials from wastes*

9:20  María Rosa Aguilar: *Nanotechnology for the treatment of sensineural hearing loss*

9:40  Francisco Goycoolea: *Chitosan based Nanoformulations for Pharmaceutical and Biomedical Applications*

10:00 – 11:00  Oral Presentations

10:00  María Puertas Bartolomé: *3D printing of a reactive hydrogel loaded with catechol containing nanoparticles*

10:15  Anna Herrmann: *Geometric Separation of Detection Levels by a Bioorthogonal Porous Polymer – Introducing Functionality and Increasing Multiplexicity*

10:30  Gloria María Pontes Quero: *Encapsulation of hydrophobic agents into vitamin E-based polymeric nanoparticles*

10:45  Araceli Delgado: *Bioactive Hydrogels for Bone Regeneration in Osteoporosis*

11:00 – 11:30  Coffee Break & Posters
11:30 – 13:35  **Session XII (Chair: David Kaplan)**

11:30 – 12:50  **Keynote Lectures**  
(Polymer systems for theranostics & Targeting and controlled release of bioactive systems)

11:30  **Daniel Cohn**: 3D printing: From "ink" to medical devices

11:50  **Alejandro Sosnik**: Novel Targeted and Stimuli-Responsive Amphiphilic Nanobiomaterials

12:10  **Gilson Khang**: Novel Collagen from Natural Origin for Organ Regeneration

12:30  **Luis Rojo del Olmo**: Biodegradable composites for musculoskeletal regeneration bearing osteoinductive and antibacterial cations

12:50 – 13:35  **Oral Presentations**

12:50  **Binh T. Mai**: Nanostructures Based on Stimuli-responsive Polymers: Promising Platforms for Controlled Drug Delivery


13:20  **Soyoun Jang**: Adipose derived stromal vascular fraction with Extracellular matrix scaffold synergetic effect on skin regeneration.

13:40  **Closing Session**
**Advanced contributions of polymers and methodologies for Tissue Engineering**

**T1-1** Bohumila Podhorska (Institute of Macromolecular chemistry CAS)

*Macroporous hydrogel scaffolds for stem cells cultivation: Comparison of microscopical methods SEM and LSCM*

**T1-2** Soyoun Jang (Idea Plastic Surgery)

*Adipose derived stormal vascular fraction with Extracellular matrix scaffold synergetic effect on skin regeneration*

**T1-3** Marcelo Salierno (King's College)

*Mechanical confinement to promote direct reprogramming of glial cells into neurons*

**T1-4** Mª Luisa López-Donaire (Instituto Ciencia y Tecnología de Polímeros, ICTP-CSIC)

*Hyaluronic acid -based hydrogel membranes for cartilage regeneration*

**T1-5** Gilson Khang (Chonbuk National University)

*Application of Duck’s Feet-derived Collagen and Gallus Gallus Var. Domesticus-derived Demineralized Bone Powder for Bone Tissue Engineering*

**T1-6** Thomas Groth (*Department Biomedical Materials, Institute of Pharmacy*)

*Free-standing films created by dip coating using Genipin crosslinking for wound dressing applications*
T1-7 Ana Oliveira (Universidade Católica Portuguesa)

*Fast-forming hybrid sericin hydrogel with tissue-inspired multifunctionality*

T1-8 Barbara Pérez-Köhler (University of Alcalá)

*In vivo assessment of an antibacterial carboxymethylcellulose gel loaded with chlorhexidine for the prophylactic coating of hernia repair mesh materials*

T1-9 Sujin Song (Pusan National University)

*Functional Graphene Nanomaterial-Coated Implants to Enhance Osseointegration*

T1-10 Sofia Perea Ruiz (University of Glasgow)

*Bioengineering microenvironments to study vascularization in bone regeneration*

T1-11 Gerardo Asensio Martín (Instituto Ciencia y Tecnología de Polímeros, ICTP-CSIC)

*Biomimetic SrFO/ZnFO-loaded biohybrid scaffolds for osteochondral tissue regeneration*

T1-12 J H Lee (Hannam University)

*In Situ Alginate/Hyaluronic Acid Hydrogel with Ultrasound Stimulation for Effective Bone Regeneration*

T1-13 J H Lee (Hannam University)

*Bone Regeneration by Plasmid DNA-Loaded Polycaprolactone/Hyaluronic Acid Hybrid Microspheres*
T1-14 Salvador David Aznar Cervantes (Instituto Murciano de Investigación y Desarrollo Agrario)

*Influence of different cocoon stifling methods on the properties of silk fibroin biomaterials*

T1-15 Julia Bujan Varela (University of Alcala)

*Preclinical model for bone infected: the use of polylactic-co-glycolic acid microspheres added to fixative cements and its role on bone*

**Smart Polymers for delivery of drugs and bioactive compounds**

T2-1 Kristyna Venclikova (Institute of Macromolecular Chemistry, CAS)

*Paclitaxel-loaded polylactide/polyethylene glycol fibers with long-term antitumor activity as a potential drug carrier for local chemotherapy*

T2-2 Daniela Machova (Institute of Macromolecular chemistry CAS)

*HPMA copolymer-bound ritonavir as nanotherapeutics with suitable properties for advance anticancer therapy*

T2-3 Aaron Sloutski (Hebrew University of Jerusalem, Israel)

*Designing reverse thermo-responsive polymeric nano-shells*

T2-4 Mahfoud BOUSTTA (IBMM- UMR CNRS 5247)

*New UCST-Type Thermoresponsive Hydrogels As Artificial Gelatin*
Semisolid formulation with microparticulate functional ingredients

Novel multifunctional nanoparticles for drug delivery and nanocrystallization

Thermoresponsive polymeric systems studied by NMR Spectroscopy

Synthesis of Sugar and pH-Responsive Triblock Terpolymers Based on Polyesters and Phenylboronic Acid via ROP and Click Chemistry and Controlling their Aqueous Self-Assembly

Simultaneous dual release of hydrophobic drugs from PHBV microparticles/ ?-carrageenan composite hydrogel

Characterization and antioxidant activity of catechol-chitosan/β-Lactoglobulin nanoparticles
T2-11 Stephanie Degoutin (University of Lille)

*Bilayer coating of vascular stent with electrospun bioactive nanofibers for the prevention of restenosis and thrombosis*

T2-12 Miguel Huerta Madroñal (Instituto Ciencia y Tecnología de Polímeros, ICTP-CSIC)

*Polymeric nanoparticulated systems for transdermal drug delivery of hydrophobic drugs*

T2-13 Antonio Abel Lozano-Pérez (Instituto Murciano de Investigación y Desarrollo Agrario y Alimentario)

*Designing New Hybrid CO Releasing Materials based on Silk Fibroin Nanoparticles*

T2-14 Julita Pachla (Warsaw University of Technology)

*Supramolecular structure of antimicrobial polycations with amphiphilic anions*

T2-15 Raquel Osorio (University of Granada)

*A Caenorhabditis elegans model for testing toxicity of zinc and doxycycline loaded polymeric nanoparticles*
**Bioactive polymers and microfluidics**

T4-1  Zdenka Capáková (Tomas Bata University in Zlin)

*Conductive polyaniline/PVA scaffolds: biocompatibility study*

T4-2  Dominika Kozon (Warsaw University of Technology)

*Biological properties of linear polyethyleneimine and its hydrophobic modification*

T4-3  Rafal Kopiasz (Warsaw University of Technology)

*The stability study on antimicrobial polycations containing novel degradable linker.*

**Modification and functionalization of synthetic and natural polymers**

T5-1  Mark Grinstaff (Boston University)

*Synthesis and Biomedical Applications of Poly-amido-saccharides*

T5-2  Claire Desfrançois (CERMAV-CNRS and CEA-Leti)

*Synthesis and characterization of well-defined polyrotaxanes for the design of stretchable gels*

T5-3  Matthias Müller (Freie Universität Berlin)

*Mucin-inspired broad range virus binding inhibitor based on multivalent high molecular weight hyperbranched polyglycerol*
T5-4  Ji-Ung Park (Seoul National University Boramae Hospital)

*Enhanced biocompatibility and reduced capsule formation of silicone surfaces via tantalum ion implantation*

T5-5  Alejandro Borrás Caballero (ICMAB-CSIC)

*Preparation of Graphene Oxide / Polyethyleneimine Composite Aerogels*

T5-6  Mauro Pollini (University of Salento)

*Surface functionalization of polyurethane foams: silver-based antimicrobial treatments on air filtration units for prevention of respiratory diseases*

T5-7  Federica Paladini (University of Salento)

*Silver treated antibacterial compounds for the development of bioactive devices for prevention of respiratory diseases*

T5-8  M. Luisa González-Martín (Universidad de Extremadura)

*Bacterial Response on Thin PLA/Mg Composite Film*

T5-9  Antoniac Lulian (University Politehnica of Bucharest)

*Magnesium powder filled PLA for filament based 3D Printing for medical applications*

T5-10 Gloria Villora (Universidad de Murcia)

*Effects of Silk Degumming in Fibroin Nanoparticle Synthesis*
T5-11 Marcela Martín del Campo (Instituto Ciencia y Tecnología de Polímeros, ICTP-CSIC)

Evaluation of the osteoinductive potential of HDPSCs on membranes of PCL/f-MWCNTs decorated with β-glycerol phosphate for bone regeneration

T5-12 Jong-il CHOI (Chonnam National University)

Degradation of Carboxymethylcellulose by Radiation for Sterilization

Targeting and controlled release of bioactive systems

T7-1 Costas Kiparissides (CERTH/CPERI)

Nose-to-Brain Controlled Drug Delivery from Microparticles Embedded in a Hydrogel Patch

T7-2 Marcela Filipova (Institute of Macromolecular Chemistry CAS)

Oligopeptide-Polymer Conjugates for Image-Guided Surgery Targeted against αVβ3 Integrin

T7-3 Ondrej Lidicky (Institute of Macromolecular Chemistry, Academy of Sciences, Czech Republic)

Personalized nanomedicine for Non-Hodgkin lymphoma treatment
T7-4  Daniel Fernández Villa (Instituto Ciencia y Tecnología de Polímeros, ICTP-CSIC)

*Synthesis and characterization of new methotrexate derivatives containing divalent cations and their evaluation as bioactive compounds for musculoskeletal regeneration*

**Others**

T8-1  Radoslaw Wach (Lodz University of Technology)

*Approach to Sterilization of Implantable Device for Therapeutic Delivery*

T8-2  Crenguta Bacaoanu (Alexandru Ioin Cuza University of Iasi)

*Study of biological fluids adsorption by surgical fibers*

T8-3  Sang-Won Park (Chonnam National University)

*The influence of volume fraction on the microstructure and physical properties of zirconia produced with polymer suspensions by the additive manufacturing*

T8-4  Xun Xu (Helmholtz-Zentrum Geesthacht)

*Edge sharpness of geometric microcavity enhances contractility and osteogenesis of mesenchymal stem cells via ROCK signaling*