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Oral presentations

Sunday, 30th August

Hall 2	**Young Scientists Forum Workshop (1)** Organizers: Sandra Van Vlierberghe, Lorenzo Moroni, Giuseppe Cama, Anna Finne Wistrand, Izabela Stancu
13:00	**Creative Thinking – How to Come up with New Ideas** Prof. Abhay Pandit *National University of Ireland, Galway, Ireland*
13:35	**How to Get Money to Work out your Idea** Prof. Fabrizio Barberis *University of Genoa, Italy*
14:10	**You Received Funding – What's Next – How to Survive in Research Land** Prof. Paul Santerre *University of Toronto, Canada*

Hall 2	**Young Scientists Forum Workshop (2)** Organizers: Sandra Van Vlierberghe, Lorenzo Moroni, Giuseppe Cama, Anna Finne Wistrand, Izabela Stancu
15:15	**How to Advance Research Results Towards the Development of a Medical Product** Prof. Joachim Kohn *The New Jersey Center for Biomaterials, United States*
15:50	**R&D in Creation of Bio-Engineering Product; Researcher Responsibility** Lechosław F. Ciupik *LfC-Medical, Poland*
16:25	**Panel Discussion**

Monday, 31st August

Hall 1 — Plenary Lecture 1

9:00 **L1**

Bioactive Materials for the Treatment of Major Injuries: Opportunities and Challenges
Joachim Kohn
The New Jersey Center for Biomaterials, United States

Chairs: Elżbieta Pamuła, *AGH University of Science and Technology, Poland*
Jan Chłopek, *AGH University of Science and Technology, Poland*
Matteo Santin, *University of Brighton, United Kingdom*

Hall 1 — Plenary Lecture 2

9:45 **L2**

Regenerative Transplantation - from Experimental Laboratory to Clinical Applications
Maria Siemionow
University of Illinois at Chicago, Department of Orthopaedics, United States

Chairs: Elżbieta Pamuła, *AGH University of Science and Technology, Poland*
Jan Chłopek, *AGH University of Science and Technology, Poland*
Matteo Santin, *University of Brighton, United Kingdom*

Session 1 Hall 1 — Bone Tissue Engineering 1

Chairs: Despina Deligianni, *University of Patras, Greece*
Zhongwei Gu, *Sichuan University, China*
Gifty Tetteh, *University of Sheffield, United Kingdom* (YSF Chair)

11:00 **1**

Osteocyte Function in Regulating Osteoclast Differentiation on Ceramic Biomaterials
Miho Nakamura, Teuvo Hentunen, Jukka Salonen, Naoko Hori, Kimihiro Yamashita
Tokyo Medical and Dental University, Japan

11:15 **2**

Pannexin 1 and Pannexin 3 Regulated Osteoblastic Differentiation of Human Bone Marrow Mesenchymal Stem Cells in a Three Dimensional Macroporous Scaffold
Julien Guerrero, Hugo Oliveira, Rachida Aid, Reine Bareille, Didier Letourneur, Yong Mao, Joachim Kohn, Joelle Amedee
INSERM U1026, France

11:30 **3**

Hydrolysis of Octacalcium Phosphate Co-Precipitated Gelatin Composite and Osteoblastic Cell Response
Yushi Ezoe, Takahisa Anada, Hajime Yamazaki, Tetsu Takahashi, Osamu Suzuki
Tohoku University, Japan

11:45 **4**

Novel Bioactive Hydrogel-Nanosilica Hybrid Materials as a Potential Injectable Scaffold for Bone Tissue Engineering
Joanna Lewandowska-Łańcucka, Sylwia Fiejdasz, Łucja Rodzik, Marcin Kozieł, Maria Nowakowska
Jagiellonian University, Poland

Session 2 Hall 2

Cartilage Tissue Engineering 1

Chairs: Lucy Di Silvio, *King's College London Guy's Hospital, United Kingdom*
Dietmar Hutmacher, *Queensland University of Technology, Australia*
Christoph Tondera, *Helmholtz-Zentrum Dresden-Rossendorf, Germany* (YSF Chair)

11:00 **5** **Anisotropic Bilayered Alginate Hydrogels with Channel-Like Pores for Osteochondral Regeneration**
Kathleen Schütz, Florian Despang, Giuseppe Filardo, Alice Roffi, Annapaola Parilli, Maria Sartori, Francesca Salamanna, Elizaveta Kon, Michael Gelinsky
TU Dresden, Germany

11:15 **6** **Induction of Mesenchymal Stem Cell Differentiation and Cartilage Formation by Cross-Linker-Free Collagen Microspheres**
Emmanuel Belamie, Marc Mathieu, Sylvain Vigier, Marie-Noëlle Labour, Christian Jorgensen, Danièle Noël
Institut Charles Gerhardt Montpellier, France

11:30 **7** **Biodegradable Glues for Meniscus Repair in a Full-Thickness Explant Model**
Agnieszka Bochynska, Gerjon Hannink, Tony van Tienen, Dirk Grijpma, Pieter Buma
Radboud UMC / University of Twente, Netherlands

11:45 **8** **A Bioactive Bacterial Exopolyaccharide from Deep-Sea Environment: Modification, Characterization and Chondrogenic Potential for Cartilage Regenerative Medicine**
Agata Zykwinska, Nathalie Chopin, Corinne Sinquin, Jacqueline Ratiskol, Jean Le Bideau, Boris Halgand, Claire Vinatier, Jérôme Guicheux, Pierre Weiss, Sylvia Colliec-Jouault
Ifremer, France

Session 3 Hall 3A

Drug Delivery 1

Chairs: Nicholas Peppas, *The University of Texas, United States*
Wojciech Chrzanowski, *The University of Sydney, Australia*
Katarzyna Krukiewicz, *Silesian University of Technology, Poland* (YSF Chair)

11:00 **9** **Functionalized Poly(Vinyl Alcohol) Membranes for the Thermal and Photochemical Nitric Oxide Delivery**
Sarah Lourenço, Marcelo G. de Oliveira
University of Campinas, Brazil

11:15 **10** **Smart Polymer Nanoparticles for Triggered Drug Releases**
Christian Tolle, Jan Riedel, Dagmar Wirth, Henning Menzel
Braunschweig University of Technology, Germany

11:30 **11** **Polymer Coatings with Liposomal Drug Deposits towards Substrate-Mediated Drug Delivery**
Martin E. Lynge, Marie Baekgaard Laursen, Marina Fernandez-Medina, Brigitte Städler
Aarhus University, Denmark

11:45 **12** **PLGA/Calcium Phosphate Composite Nanoparticles as Efficient Carriers of Hydrophilic Drugs (Nucleic Acids, Proteins)**
Jens Nelsen, Gregor Dördelmann, Diana Kozlova, Sarah Karczewski, Rosario Lizio, Silko Grimm, Jessica Mueller-Albers, Shirley Knauer, Matthias Epple
University Duisburg-Essen, Germany

Session 4 Hall 3B — Surface Modification 1

Chairs: Iulian Antoniac, *University Politehnica of Bucharest, Romania*
Veronique Larreta Garde, *University of Cergy Pontoise, France*
Yi-Shiang Huang, *University of Liege, Belgium* (YSF Chair)

11:00	**13**	**Human Bone Marrow Mesenchymal Stem Cells Responses to Titanium Surface Coated with Type I Collagen Using Natural Cross-Linker Genipin** Ying-Sui Sun, Her-Hsiung Huang, Kai-Chun Chang *National Yang-Ming University, Taiwan*
11:15	**14**	**Inspired by Snake - Impulses for Surface Design of Biomaterials, a Biotribological Perspective** Martina Baum, Lars Heepe, Stanislav Gorb *University of Kiel, Germany*
11:30	**15**	**Molecular Weigth of Hyaluronan Immobilized on the Surface of a Porous Asymetric Scaffold Strongly Affects the Behavior of Co-Cultured Mesenchymal Stem Cells and Colorectal Cancer Cells** Elias Al Tawil, Alexandre Monnier, Yusra Kassim, Quang Trong Nguyen, Brigitte Deschrevel *University of Rouen, France*
11:45	**16**	**Topographical and Biochemical Functionalized PEDOT films as Coating Strategies for Improved Neuroelectrode Functionality** Catalina Vallejo-Giraldo, Marc Fernandez-Yague, Abhay Pandit, Eilís Dowd, Manus Jonathan Paul Biggs *National University of Ireland, Galway, Ireland*

Session 5 Hall 4A — Cell Instructive Materials 1

Chairs: Christine Dupont-Gillain, *Université Catholique de Louvain, Belgium*
Satoru Kidoaki, *Kyushu University, Japan*
Beatriz Palla Rubio, *University of The Basque Country (UPV/EHU), Spain* (YSF Chair)

11:00	**17**	**Structural Features of Biomaterials Influence the Paracrine Relationships that Mesenchymal Stem Cells Establish with Osteoblasts and Endothelial Cells** Lara Crespo, Francisco Martín-Saavedra, Laura Saldaña, Enrique Gomez-Barrena, Nuria Vilaboa *Hospital Universitario La Paz-IdiPAZ, Spain*
11:15	**18**	**Strategy for Providing the Preferential Alignment of Osteoblasts and Extracellular Matrix for Bone Replacement** Takayoshi Nakano, Aira Matsugaki, Takuya Ishimoto *Osaka University, Japan*
11:30	**19**	**Injectable and Self-Healing Supramolecular Hydrogel for Tissue Engineering Applications** Damien Dupin, Pablo Casuso, Natividad Díaz, Adrián Pérez-San Vicente, Iraida Loinaz, Ibon Odriozola *IK4-CIDETEC, Spain*
11:45	**20**	**Tailoring of DMTMM Conjugated Ha-Tyr Allows Precise Control of Cellular Environment** Claudia Loebel, Tino Stauber, Matteo D`Este, Mauro Alini, Marcy Zenobi-Wong, David Eglin *AO Research Institute, Switzerland*

Session 6 — Advanced Manufacturing 1
Hall 4B

Chairs: Sandra Van Vlierberghe, *Ghent University, Belgium*
Dimitrios Stamatialis, *University of Twente, Netherlands*
Artur Pinto, *LEPABE and INEB, Portugal* (YSF Chair)

11:00	**21**	**Jet-Sprayed Hybrid Nanofibrillar Matrices with Controlled Deposition and Delivery of Nanoparticles** Nermin Keloglu, Bernard Verrier, Dominique Sigaudo-Roussel, Thomas Trimaille, Jerome Sohier *UMR CNRS 5305, France*
11:15	**22**	**Microstereolithography & Plasma Polymerisation Coating of Nerve Guidance Conduits** James Clarke, Adam Harding, Fiona Boissonade, John Haycock, Frederik Claeyssens *The University of Sheffield, United Kingdom*
11:30	**23**	**Smart Biomaterials from Extruded Biopolymer Nanofibres** Mohammad Raoufi, Neda Aslankoohi, Sarah Young, Joachim P. Spatz, Dorothea Brüggemann *MPI for Intelligent Systems, Germany*
11:45	**24**	**Borophosphate Glasses/Fibers and their In-Vitro Properties** Jonathan Massera, Yaroslav Shpotyuk, Thierry Jouan, Catherine Boussard-Plédel, Bruno Bureau, Laeticia Petit, Miina Ojansivu, Susanna Mietinen *Tampere University of Technology, Finland*

Session 7 — Osteointegration 1
Hall 1

Chairs: Pamela Habibovic, *Maastricht University, Netherlands*
Tomasz Ciach, *Warsaw University of Technology, Poland*
Caitlin Langford, *Monash University, Australia* (YSF Chair)

12:15	**25**	**In Vivo Study on the Biodegradation Behaviouro of Mg-Based Alloys for Orthopaedic Application** Sau Shun Wong, Wing Yuk Ip, Luen Chow Chan, Chi Ping Lai *The University of Hong Kong, Hong Kong*
12:30	**26**	**A Comparative Tribocorrosion Study Between TiN- and DLC- Coated Titanium for Loading Bearing Biomedical Applications** Guohua Zhao, Nuria Espallargas, Ragnhild E. Aune *KTH Royal Institute of Technology, Sweden*
12:45	**27**	**In vitro Biological Studies of Porous Titanium Obtained by Two Different Powder Metallurgy (PM) Techniques: Loose Sintering and Space Holder** Juan Pavón, Ana Civantos, Viviana Ramos, Jose A Rodriguez, Yadir Torres, Jose Lopez-Lacomba *University of Antioquia, Colombia*
13:00	**28**	**"Bridging of Spine" – Comparison of Titanium and Dynamic Polymer Stabilization** Lechosław Ciupik, Agnieszka Kierzkowska, Jacek Sterna, Edward Słoński, Monika Cieślik-Górna *Institute of Bioengineering and Medical Technologies, Poland*

Session 8 Hall 2

Neural Regeneration 1

Chairs: Yuichi Ohya, *Kansai University, Japan*
Michael Doser, *Institute for Textile Research and Process Engineering, Germany*
Chaoyu Liu, *The University of Hong Kong, Hong Kong* (YSF Chair)

12:15 **29** **Interfacing 3D Graphene Oxide Scaffolds with the Injured Rat Spinal Cord**
Ankor González-Mayorga, Elisa López-Dolado, Jorge E. Collazos-Castro, María Luisa Ferrer, Francisco del Monte, María Concepción Gutiérrez, María Concepción Serrano
Hospital Nacional de Parapléjicos, Spain

12:30 **30** **Dual Peptide Functionalised Intraluminal Collagen Fibre Conduits Regulates Neurite Outgrowth of Primary Neurons**
Sahana Ganesh, William Daly, Abhay Pandit
National University of Ireland, Galway, Ireland

12:45 **31** **Characterization of Polyurethane/Polylactide Blends in Terms of their Applicability as Biomaterials Supporting Nerve Regeneration**
Jadwiga Laska, Paulina Bednarz, Anna Lis, Jakub Grzesiak, Krzysztof Marycz, Dariusz Szarek
AGH University of Science and Technology, Poland

13:00 **32** **Spinal Cord Injury Recovery of Rhesus Monkey Implanted with PPy/I Plasma Polymer**
Axayacatl Morales-Guadarrama, Hermelinda Salgado-Ceballos, Israel Grijalva, Juan Morales-Corona, Camilo Rios, Guillermo J. Cruz, Araceli Diaz-Ruiz, Maria-Guadalupe Olayo, Laura Alvarez-Mejia, Rodrigo Mondragón-Lozano, Alejandra Ibáñez-Contreras, Braulio Hernández-Godínez, Omar Fabela-Sánchez, Stephanie Sánchez-Torres, Roberto Olayo
Instituto Nacional de Investigaciones Nucleares, Mexico

Session 9 Hall 3A

Drug Delivery 2

Chairs: Anna Karewicz, *Jagiellonian University, Poland*
David Grainger, *University of Utah, United States*
Maria Rosa Aguilar, *Spanish National Research Council, Spain* (YSF Chair)

12:15 **33** **Cell Membrane Capsules for Encapsulation of Chemotherapeutic and Cancer Cell Targeting *in Vivo***
Zhengwei Mao, Yuanhong Zhang, Lihua Peng, Jianqing Gao
Zhejiang Univeristy, China

12:30 **34** **Electrospun Triclosan-Loaded Chitosan Nanofibres for Potential Drug Delivery Application**
Safa Ouerghemmi, Stéphanie Degoutin, Nicolas Tabary, Frédéric Cazaux, Ludovic Janus, Nicolas Blanchemain, Bernard Martel
UMET, France

12:45 **35** **Dual Release and Antibacterial Effects of Chlorhexidine and Silver Released from Electrospun Chitosan/Poly(Ethylene Oxide) Nanofibres**
Jiankang Song, Stefan S. Remmers, Carla J.M. Bartels, Jinlong Shao, Eva Kolwijck, Sander C.G. Leeuwenburgh, John A. Jansen, Fang Yang
Radboud University Medical Centre, Netherlands

13:00 **36** **Collagen/Hyaluronic Acid-Based Hydrogels for Brain Applications: the Role of Hyaluronic Acid Molecular Weight**
Marta Tunesi, Armando Chierchia, Luca Barbieri, Teresa Russo, Lucia Boeri, Annalisa Grimaldi, Roberto De Santis, Luigi Ambrosio, Antonio Gloria, Diego Albani, Carmen Giordano
National Research Council, Italy

Session 10 Hall 3B — Surface Modification 2

Chairs: Triantafillos Papadopoulos, *University of Athens, Greece*
Stanisław Błażewicz, *AGH University of Science and Technology, Poland*
Elena Diana Giol, *Ghent University, Belgium* (YSF Chair)

12:15	**37**	**Endothelialisation of Titanium Dioxide Coated Gas Exchange Membranes for the Development of a Bioartificial Lung** Michael Pflaum, Marina Kauffeldt, Bettina Wiegmann, Sabrina Schmeckebier, Daniele Dipresa, Sotirios Korossis, Jochen Schein, Axel Haverich *Hannover Medical School, Germany*
12:30	**38**	**Orthopaedic Bio-activation of PEEK using Plasma Immersion Ion Implantation** Edgar Wakelin, Giselle Yeo, Alexey Kondyurin, Michael Davies, David McKenzie, Anthony Weiss, Marcela Bilek *University of Sydney, Australia*
12:45	**39**	**Alginate Hydrogels, Coated with Calcium Phosphate Nanoparticles by an Electrophoretic Deposition Method** Sabrina Daumann, Katrin Wallat, Michael Gepp, Ronan Le Harzic, Heiko Zimmermann, Frank Stracke, Matthias Epple *University of Duisburg-Essen, Germany*
13:00	**40**	**Calcium- and Phosphorus-Rich Oxide Coatings on Tantalum Obtained by Plasma Electrolytic Oxidation** Maciej Sowa, Maja Woszczak, Grzegorz Dercz, Andrey I. Kukharenko, Danila M. Korotin, Ernst Z. Kurmaev, Seif O. Cholakh, Wojciech Simka, Marcin Basiaga *Silesian University of Technology, Poland*

Session 11 Hall 4A — Cell Instructive Materials 2

Chairs: Sander Leeuwenburgh, *Radboudumc Biomaterials, Netherlands*
Rachel Williams, *University of Liverpool, United Kingdom*
Anna Diez-Escudero, *Technical University of Catalonia (UPC), Spain* (YSF Chair)

12:15	**41**	**Human E-Cadherin Fusion Protein Matrix Improving the Proliferation and Hepatic Differentiation of Human Mesenchymal Stem Cells** Jun Yang, Jinbin Xu, Yan Zhang, Toshihiro Akaike *Nankai University, China*
12:30	**42**	**Silk-Collagen Inspired Artificial Proteins for 3D Cell Culture Study** Małgorzata Włodarczyk-Biegun, Kambiz Farbod, Marc Werten, Frits de Wolf, Jeroen van den Beucken, Sander Leeuwenburgh, Marleen Kamperman, Martien Cohen Stuart *Wageningen UR, Netherlands*
12:45	**43**	**Fluorescent Hydrogel for Improved Traceability of Biomedical Devices In Vivo** Arturo Ibáñez-Fonseca, Francisco Javier Arias, José Carlos Rodríguez-Cabello *Bioforge Group, Universidad de Valladolid, Spain*
13:00	**44**	**Self-Gelling Elastin and Silk-Elastin Recombinamers for Ophthalmic Applications** Alicia Fernández-Colino, Daniela Quinteros, José Bermúdez, Santiago De Palma, José Carlos Rodríguez-Cabello, Francisco Javier Arias *University of Valladolid, Spain*

Session 12 — Cell Encapsulation and Delivery 1

Hall 4B

Chairs: Pedro Granja, *University of Porto, Portugal*
Elżbieta Pamuła, *AGH University of Science and Technology, Poland*
Juhi Samal, *National University of Ireland, Galway, Ireland* (YSF Chair)

12:15	**45**	**A Functional Macromolecular Gradient Hydrogel System as a Platform to Model Tissue-to-Tissue Interfaces** Diana Pereira, Joaquim Oliveira, Rui Reis, Abhay Pandit *3B's Research Group, Portugal*
12:30	**46**	**Cell-Laden Microparticles for Microtissue Assembling: a Bottom-Up Approach for Bone Tissue Engineering** Irene Cano-Torres, Riccardo Levato, Miguel A. Mateos-Timoneda, Elisabeth Engel *Institute for Bioengineering of Catalonia, Spain*
12:45	**47**	**Enhanced β-cell Pancreatic Islet Formation Using Carboxybetaine-Functionalised Chitosan Nanobeads** Mark Best, Valeria Perugini, Gary Phillips, Anna Guildford, Adrian Bone, Wendy MacFarlane, Matteo Santin *University of Brighton, United Kingdom*
13:00	**48**	**Assessing the Potential of Fucoidan-Based Microparticles for Biomedical Application** Lara L. Reys, Simone S. Silva, Nuno Oliveira, Diana Soares da Costa, João F. Mano, Tiago H. Silva, Rui L. Reis *3B´s Research Group, Portugal*

Hall 1 — Plenary Lecture 3

14:45	**L3**	***In Vitro* Models & Nanobiointerfaces: a Multidisciplinary Challenge** C. James Kirkpatrick *Institute of Pathology, University Medical Center, Johannes Gutenberg University of Mainz, Germany*

Chairs: Michael Doser, *Institute for Textile Research and Process Engineering, Germany*
Pedro Granja, *University of Porto, Portugal*

Hall 1 — Special Fellows Session "Biomaterials Education is not Ready for the Challenges of the Future"

Chair: Joachim Kohn, *The New Jersey Center for Biomaterials, United States*

16:00 **Speakers:**
Kristi S. Anseth, *University of Colorado, United States*
David W. Grainger, *University of Utah, United States*
Dietmar Hutmacher, *Queensland University of Technology, Brisbane, Australia*
Lynne C. Jones, *Johns Hopkins University, United States*
Laura Poole-Warren, *University of New South Wales, Sydney, Australia*
Elizabeth Tanner, *University of Glasgow, Scotland, United Kingdom*

Session 13
Hall 2

Bioactive Materials

Chairs: Guy Daculsi, *INSERM LIOAD UMR 791, France*
Hasan Uludag, *University of Alberta, Canada*
Andrada Serafim, *University Politehnica of Bucharest*, Romania (YSF Chair)

16:00	**49**	**Influence of Calcium Salt Addition on Bioactive Glass Nanospheres** Kai Zheng, Qiang Chen, Nicola Taccardi, V. R. Reddy Marthala, Martin Hartmann, Aldo Boccaccini *Uniersity of Erlangen-Nuremberg, Germany*
16:15	**50**	**Bioactive Ti Metal Able to Release Ga Ions: Preparation by Chemical and Heat Treatments** Seiji Yamaguchi, Shekhar Nath, Yoko Sugawara, Tomiharu Matsushita, Tadashi Kokubo *Chubu University, Japan*
16:30	**51**	**High Strength β-TCP-Fe-Ag Nanocomposites and Porous Scaffolds for Bone Repair** Elazar Gutmanas, Sanyaja Kumar Swain, Irena Gotman *Technion, Israel*
16:45	**52**	**Tailoring the Bioactivity of Mesoporous Bioglasses: the Role of the Structure Directing Agents** Natividad Gómez-Cerezo, Isabel Izquierdo-Barba, Daniel Arcos, María Vallet-Regí *Universidad Complutense de Madrid, Spain*
17:00	**53**	**Novel Bioactive Glass Composites for Soft Tissue Applications** Owen Clarkin, Dermot F. Brougham, Bing Wu, Catríona Lally *Dublin City University, Ireland*
17:15	**54**	**Thermal and In Vitro Properties of SrO and ZnO Containing Bioactive Glasses** Johan Sangder, Susanne Fagerlund, Leena Hupa *Åbo Akademi University, Finland*
17:30	**55**	**Bioresorbable Chitosan- Bioglass Nanocomposite Scaffolds for Drug Delivery Applications** Emad El-Meliegy, Sara Ali *National Research Centre, Egypt*

Session 14
Hall 3A

Stem Cells 1

Chairs: Maria Siemionow, *University of Illinois at Chicago, United States*
Joaquim Miguel Oliveira, *3B's Research Group - University of Minho, Portugal*
Minkle Jain, *Japan Advanced Institute of Science and Technology, Japan* (YSF Chair)

16:00	**56**	**Generation of Limbal Epithelial Cell Progenitors by Two Methods: by Differentiation form iPS Cells and by Direct Trans-differentiation form Human Dermal Fibroblasts** Artur Cieślar-Pobude, Viktoria Knoflach, Saeid Ghavami, Marek Łos *Linköping University, Sweden*
16:15	**57**	**A Multifactorial Approach Towards Enhanced Extracellular Matrix Deposition and Maintenance of Mesenchymal Stem Cell Phenotype Using Macromolecular Crowding and Low Oxygen Tension** Diana Gaspar, Daniela Cigognini, Pramod Kumar, Abhigyan Satyam, Senthil Alagesan, Clara Sanz-Noguéz, Matthew Griffin, Timothy O'Brien, Abhay Pandit, Dimitrios Zeugolis *National University of Ireland, Galway, Ireland*
16:30	**58**	**Cryptic Cell Cycle Stasis of Human Pluripotent Stem Cells Revealed by Culture in a Biocompatible Thermoresponsive Copolymer Gel** Irene Canton, Nicholas J. Warren, Richard Weightman, Andrew Wood, Harry Moore, Steve P. Armes *University of Sheffield, United Kingdom*
16:45	**59**	**Co-Transplantation of VEGF-Transfected Adipose Derived Stromal Cells to Enhance Bone Regeneration and Neovascularization from Bone Marrow Stromal Cells** Mi Lan Kang, Ji Eun Kim, Gun-Il Im *Dongguk University Ilsan Hospital, Republic of Korea*
17:00	**60**	**Effect of Mechanical Stimulation on Osteogenesis of Self-Assembled Collagen-Cell Seeded Microspheres** Maryam Shariatzadeh, Cecile Perrault, Damien Lacroix *University of Sheffield, United Kingdom*
17:15	**61**	**5-Azacytidine Mediated hMSC Behaviour On Electrospun Scaffolds to Induce Myogenesis** Ines Fasolino, Vincenzo Guarino, Valentina Cirillo, Marica Marrese, Luigi Ambrosio *Institute of Polymers, Composites and Biomaterials, CNR, Italy*
17:30	**62**	**Microvesicles Derived from Stem Cells as a Novel Effective Tool for Transferring of Bioactive Molecules to Mature Primary Cells - Future Implications for Tissue Regeneration** Sylwia Bobis-Wozowicz, Katarzyna Kmiotek, Malgorzata Sekula, Sylwia Kedracka-Krok, Elzbieta Kamycka, Urszula Jankowska, Jacek Kolcz, Dariusz Boruczkowski, Buddhadeb Dawn, Zbigniew Madeja, Ewa Zuba-Surma *Jagiellonian University, Poland*

Session 15
Hall 3B

Antimicrobial Surfaces and Materials 1

Chairs: Dieter Scharnweber, *Technische Universität* Dresden, Germany
Mirosława El Fray, *West Pomeranian University of Technology, Poland*
Hanna Tiainen, *University of Oslo, Norway* (YSF Chair)

16:00	**K1**	**Keynote** **Antimicrobial Effects of Biomaterials: Silver Ions** Matthias Epple, Svitlana Chernousova, Kateryna Loza, Oleg Prymak, Maria A. Surmeneva, Roman Surmenev *University of Duisburg-Essen, Germany*
16:30	**63**	**Influences of the pH on the Adsorption Properties of an Antimicrobial Peptide on Titanium Surfaces** Yendry Corrales-Ureña, Linda Wittig, Matheus Vieira Nascimento, Juliano Faccioni, Paulo Lisboa-Filho, Klaus Rischka *São Paulo State University (UNESP), Brazil*
16:45	**64**	**Titanium Modified with Silver Nanoparticles for Oral Implantology** Rafał Pokrowiecki, Barbara Szaraniec, Tomasz Zaręba, Tomasz Szponder, Krzysztof Pałka, Jan Chłopek, Stefan Tyski *Jagiellonian Medical University, Poland*
17:00	**65**	**Bio-Inspired Antimicrobial Surfaces for Titanium Implant** Ting Dju, Terje Sjöström, Leanne Fisher, Angela Nobbs, Howrad Jenkinson, Max Ryadnov, Monica Tsimbouri, Matt Dalby, Bo Su *University of Bristol, United Kingdom*
17:15	**66**	**Antimicrobial Titanium Surfaces** Zuzanna Trzcińska, Fabien Brouillet, David Grossin, Cedric Charvilat, Anna Peacock, Artemis Stamboulis *University of Birmingham, United Kingdom*
17:30	**67**	**Novel Biosensor for Detecting and Preventing Periodontal Disease** M. Hoyos-Nogués, S. Brosel-Oliu, N. Abramova, A. Bratov, C. Mas-Moruno, F.J. Gil *Technical University of Catalonia, Spain*

Session 16
Hall 4A

Gene Delivery

Chairs: Neil Cameron, *Monash University, Australia*
Henning Menzel, *University of Technology Braunschweig, Germany*
Bernhard Neuhaus, *Universität Duisburg-Essen, Germany* (YSF Chair)

16:00	**K2**	**Keynote** **Bioinspired Design of Dynamic Macromolecular for Gene Delivery** Zhongwei Gu *Sichuan University, China*
16:30	**68**	**Biostable Gold-Installed Nanocomplexes as siRNA Carriers for Improved In Vivo Tumor Targeting** Roun Heo, Jueun Jeon, Jae Hyung Park *Sungkyunkwan University, Korea*
16:45	**69**	**ELR Devices for Breast Cancer Gene Delivery** Maria Jesus Piña, Alessandra Girotti, Mercedes Santos, Jose Carlos Rodríguez-Cabello, Francisco Javier Arias *Universidad Valladolid, Spain*
17:00	**70**	**Ion-Doped Hydroxyapatite Nanoparticles as Potential Vectors in Gene Therapy** Zhitong Zhao, Montserrat Espanol, Maria-Pau Ginebra *Universitat Politècnica de Catalunya, Spain*
17:15	**71**	**Tuning Transfection Efficiency by Modulating the Biodegradation Rate of Trimethyl Chitosan Nanoparticles** Carla Gomes, Aida Varela-Moreira, Maria Gomez-Lazaro, Pedro Moreno, Ana Pêgo *INEB - Instituto Engenharia Biomédica, Portugal*
17:30	**72**	**Cell-Penetrating Peptide Mediated Gene Delivery via Polymeric Microneedles; A Platform for DNA Vaccination** Helen McCarthy, Ahlam Ali, Joanne McCaffrey, John McBride, Adrien Kissenpfennig, Ryan Donnelly *Queen's University Belfast, United Kingdom*

Session 17
Hall 4B

Biointerfaces 1

Chairs: Dimitrios Zeugolis, *National University of Ireland, Galway, Ireland*
Krzysztof Szczubiałka, *Jagiellonian University, Poland*
Rongquan Duan, *University of Twente, Netherlands* (YSF Chair)

16:00	**K3**	**Keynote** **Manipulation of Cell Mechanotaxis by Designing Curvature of the Elasticity Boundary on Hydrogel Matrix** Satoru Kidoaki, Ayaka Ueki *Kyushu University, Japan*
16:30	**73**	**Nanotemplated and Fibronectin Based-Polyelectrolytes Films as Bioactive Delivery Systems** Adeline Gand, Coline Chat, Mathilde Hindie, Paul Van Tassel, Emmanuel Pauthe *University of Cergy-Pontoise, France*
16:45	**74**	**Mapping Interactions between MMP1 and Collagen Substrate: from Crystal Structure to Molecular Dynamics with Meta-Dynamics** Anthony Nash, Laurent Bozec, Helen Birch, Nora de Leeuw *University College London, United Kingdom*
17:00	**75**	**Protein-Adsorption and Blood-Interaction Studies on Nanotopography Gradients** Rebecca Huber, Katharina Maniura, Nicholas Spencer *ETH Zürich/ EMPA St.Gallen, Switzerland*
17:15	**76**	**Heterogeneous Polymer Surfaces with Organized Collagen Layers Influence Preosteoblasts Behavior** Emilienne Zuyderhoff, Christine Dupont-Gillain *Université Catholique de Louvain, Belgium*
17:30	**77**	**Nanoroughness and Oxygen Functional Groups on Parylene C Coating: Towards Anti-Infective and Biocompatible Implants Surface** Monika Gołda-Cępa, Monika Brzychczy-Wloch, Minna Hakkarainen, Klas Engvall, Andrzej Kotarba *Jagiellonian University, Poland*

Tuesday, 1st September

Hall 1 — Plenary Lecture 4

9:00 **L4** **Medical Translational Research: A Different Route to Fundamental Research**
Geoff Richards
AO Research Institute Davos, Switzerland

Chairs: Joelle Amedee, *INSERM, U1026, France*
Marc Bohner, *RMS Foundation, Switzerland*

Hall 1 — Translational Research Symposium (1)

Organizers: Yves Bayon, Marc Bohner, David Eglin, Geoff Richards, Dimitrios Zeugolis

10:00 **TRS1** **Clinical Needs Based Biomaterial Strategy: Reducing the Risk that Innovation is "Lost in Translation" in Products for Poor Quality Bone**
Philip Procter
Medical Device Industry Consultant, France

10:20 **TRS2** **Best Practice for Registration Trials of Biodegradable Implants**
Nils Reimers
Manager R&D, Global Funding & Reimbursement, Stryker Trauma & Extremities, Germany

10:40 **TRS3** **New Concept of Hybrid Polymer Composites for Implant Applications**
Xiang Zhang
Lucideon Ltd., Royal Society Industry Fellow at University of Cambridge, United Kingdom

TRS4 **Novel Biodegradable and Biocompatible Polymers for Medical Applications**
Ipsita Roy
University of Westminster, London, United Kingdom

Session 18 — Hall 2 — Smart Biomaterials 1

Chairs: Che Connon, *Newcastle University, United Kingdom*
Pedro Granja, *INEB - University of Porto, Portugal*
Giuseppe Cama, *University of Ghent, Belgium* (YSF Chair)

10:00 **78** **Overcoming Transport Limitation in 3D Cell Culture by Using a New Class of Oxygen Delivery Systems**
Antonio Paciello, Giuseppe Amalfitano, Alessandro Garziano, Francesco Urciuolo, Paolo Antonio Netti
Istituto Italiano di Tecnologia, Italy

10:15 **79** **Tunable Biodegradable Polyurethane with Thermal Activation Cues at Human Body Temperature**
Maziar Matloubigharagozloo, V. Prasad Shastri
Hermann Staudinger Institute of Macromolecular Chemistry, Germany

10:30 **80** **Mixed Matrix Membranes for Removal of Protein-Bound Toxins from Human Plasma**
Esmee van Geffen, Denys Pavlenko, Karin Gerritsen, Dimitrios Stamatialis
University of Twente, Netherlands

10:45 **81** **Glucose Delivery System Based-Hydrogel Composite Scaffold for Enhancing MSC Survival**
Julie Boisselier, Joseph Paquet, Laurent Bidault, Michael Deschepper, Elodie Lefebvre, Charline Gossart, Julie Dubois, Adeline Gand, Delphine Logeart-Avramaglou, Veronique Larreta Garde, Emmanuel Pauthe, Hervé Petite
University of Cergy-Pontoise, France

Session 19 — Hall 3A

Wound Healing 1

Chairs: Julio San Roman, *Institute of Polymer Science and Technology, CSIC, Spain*
Miriam V. Flores-Merino, *Autonomous University of The State of Mexico, Mexico*
Peter Duckworth, *University of Bristol, United Kingdom* (YSF Chair)

10:00	**82**	**In Situ Skin Regeneration by the Gene-Activated Materials** Lie Ma, Luyan Li, Xing Liu, Rui Guo, Changyou Gao *Zhejiang University, China*
10:15	**83**	**Modulation of Inflammatory Macrophage Activation by StarPEG–Heparin Based Hydrogels to Improve Impaired Wound Healing** Nadine Lohmann, Wandel Elke, Inka Forstreuter, Lucas Schirmer, Uwe Freudenberg, Cartsen Werner, Jan Simon, Sandra Franz *University Leipzig, Germany*
10:30	**84**	**Nano-Microfibrous Scaffold for Burn-Wound Healing** Pallabi Pal, Pavan Srivas, Prabhash Dadhich, Bodhisatwa Das, Santanu Dhara, Arun Achar *Indian Institute of Technology, India*
10:45	**85**	**Expression Pattern of Tissue Transglutaminase in the Response to Gelatin based Hydrogels *In Vitro* and *In Vivo*** Sandra Ullm, Christoph Tondera, Robert Wodtke, Tim Gebauer, Axel Neffe, Andreas Lendlein, Reik Löser, Jens Pietzsch *Helmholtz-Zentrum Dresden-Rossendorf, Germany*

Session 20 — Hall 3B

Surface Modification 3

Chairs: Håvard Haugen, *University of Oslo, Norway*
Véronique Migonney, *Université Paris 13, France*
Catalina Vallejo Giraldo, *National University of Ireland, Galway, Ireland* (YSF Chair)

10:00	**86**	**Functionalization of Scaffold Surfaces: Role of Ce Valence States of Cerium Oxide Nanoparticles in Control of Cell Proliferation** Tamaki Naganuma *National Institute for Materials Science (NIMS), Japan*
10:15	**87**	**Antibacterial Jet Bioactive Surfaces** Irina Sukhorukova, Alexander Sheveyko, Philipp Kiryukhantsev-Korneev, Natalya Gloushankova, Sergey Ignatov, Dmitry Shtansky *National University of Science and Technology, Russian Federation*
10:30	**88**	**Differential Response of Human Bone Marrow Cells on Aligned vs Randomly Oriented Carbon Nanotubes** Anthoula Kroustalli, Despina Deligianni *University of Patras, Greece*
10:45	**89**	**Bioinspired Thin Films Materials for Direct Blood Contact** Klaudia Trembecka-Wojciga, Roman Major, Juergen M. Lackner, Hanna Plutecka, Boguslaw Major *Institute of Metallurgy and Materials Science PAS, Poland*

Session 21 Hall 4A — Cartilage Tissue Engineering 2

Chairs: Michael Gelinsky, *Technische Universität Dresden, Germany*
Yasuhiko Tabata, *Kyoto University, Japan*
Judith Hahner, *Leibniz-Institute für Polymerforschung Dresden, Germany* (YSF Chair)

10:00	**90**	**Mechanical & Degradation Characterisation of AZ31 Magnesium (Mg) for Use in Paediatric Tracheal Stents** Isaiah Adekanmbi, K. Elizabeth Tanner, Haytham Kubba, Helen Lu *Glasgow University, United Kingdom*
10:15	**91**	**Superior Lubrication Ability of Artificial Hydrogel Cartilage** Teruo Murakami, Seido Yarimitsu, Kazuhiro Nakashima, Tetsuo Yamaguchi, Yoshinori Sawae, Nobuo Sakai, Atsushi Suzuki *Kyushu University, Japan*
10:30	**92**	**Sr- and Zn-Substituted Calcium Phosphates-Based Composites for Osteochondral Tissue Engineering Scaffolding** Sandra Pina, Joaquim M. Oliveira, Rui L. Reis *University of Minho, Portugal*
10:45	**93**	**Si-HPMC and Si-Chitosan Hydrogel for Cartilage Tissue Engineering** Gildas Réthoré, Cécile Boyer, Amadou Touré, Fabienne Jordana, Olivier Gauthier, Jérôme Guicheux, Pierre Weiss *LIOAD - Université de Nantes, France*

Session 22 Hall 4B — Cell Encapsulation and Delivery 2

Chairs: Mariacristina Tanzi, *Politecnico di Milano, Italy*
Roman Major, *Institute of Metallurgy and Materials Science PAS, Poland*
Solène Passemard, *Ecole Polytechnique Fédérale de Lausanne, Switzerland* (YSF Chair)

10:00	**94**	**Response of Human Macrophages to Cytokine Induction under Three-Dimensional (3D) Artificial Extracellular Matrix (ECM) Mimicking Conditions** Marta Evangelista, Alexandru Gudima, Vladimir Riabov, Martin Pravda, Julia Kzhyshkowska, Nihal Engin Vrana *PROTIP MEDICAL, France*
10:15	**95**	**2D Cell Monolayer and 3D Cell Construct Cryopreservation by Slow Vitrification** Kazuaki Matsumura, Keiko Kawamoto, Suong-Hyu Hyon *Japan Advanced Instutite of Science and Technology, Japan*
10:30	**96**	**Interaction of Sub-Compartmentalized Microreactors with Hepatocytes** Yan Zhang, Brigitte Städler *Aarhus University, Denmark*
10:45	**97**	**Macrophage-Laden 3D Fibrin Gels: Effect of Fibrinogen Concentration on Inflammation** Katharina Maniura, Arie Bruinink, Vera Malheiro *EMPA, Switzerland*

Hall 1 — Translational Research Symposium (2)

Organizers: Yves Bayon, Marc Bohner, David Eglin, Geoff Richards, Dimitrios Zeugolis

11:30	**TRS5**	**Insights into Collaboration and Innovation for Early Stage Medical Device Development** Jan Weber *Sr Research Fellow, Corporate Research, Boston Scientific Corporation, United States*
12:00	**TRS6**	**From Biomaterials Supplier to Device Development Partner – Supporting Medical Device Companies in de-Risking Medical Products** Jend Thies *Director Science and Innovation, DSM Biomedical, Netherlands*
12:30	**TRS7**	**Next Generation of Fibers for Medical Devices: Biopolymers and Functionalized Coatings** Herbert De Breuck *Manager R&D, Luxilon, Wijnegem, Belgium*

Session 23 — Bone Tissue Engineering 2

Hall 2

Chairs: Pamela Habibovic, *Maastricht University, Netherlands*
William Wagner, *University of Pittsburgh McGowan, United States*
Christy Thomas, *University of Westminster, United Kingdom* (YSF Chair)

11:30	**K4**	**Keynote** **Dual Release of a Macrophages Recruitment Agent and Growth Factor for Bone Regeneration** Yang-hee Kim, Yasuhiko Tabata *Institute for Frontier Medical Sciences, Kyoto University, Japan*
12:00	**98**	**Fabrication and Characterization of Clinoptilolite/PCL-PEG-PCL Composite Scaffolds for Bone Tissue Engineering** Ahmet Engin Pazarçeviren, Ayşen Tezcaner, Özge Erdemli *Middle East Technical University, Turkey*
12:15	**99**	**Osteoinductive Dental Ring for Vertical Bone Regeneration with Simultaneous Introduction of Dental Implants** Anna Chróścicka, Piotr Wychowański, Ewa Jankowska-Steifer, Marek Kujawa, Małgorzata Lewandowska-Szumieł *Medical University of Warsaw, Poland*
12:30	**100**	**Novel N-(2-Carboxybenzyl)Chitosan Bionanocomposites for Tissue Scaffolding Applications** Maria Nerantzaki, Zoi Terzopoulou, Maria Anastasopoulou, Michalis Karakassides, Iro Koliakou, Aldo Boccaccini, Dimitrios Bikiaris *Aristotle University of Thessaloniki, Greece*
12:45	**101**	**BMP-2 stimulation Affects Structure and Mechanical Properties of Newly Synthesized ECM In Vitro** Erik Brauer, Aaron Herrera, Petra Knaus, Georg Duda, Ansgar Petersen *Julius Wolff Institute, Germany*

Session 24
Hall 3A

Stem Cells 2

Chairs: Josep A. Planell, *Universitat Oberta de Catalunya, Spain*
Ewa Zuba-Surma, *Jagiellonian University, Poland*
Maryam Shariatzadeh, *University of Sheffield, United Kingdom* (YSF Chair)

11:30	**102**	**Aging Reduces Osteogenic and Increases Adipogenic Potential of Mesenchymal Stem Cells Grown on Titanium** Rodrigo Abuna, Camila Stringhetta-Garcia, Rita Dornelles, Adalberto Rosa, Marcio Beloti *University of Sao Paulo, Brazil*
11:45	**103**	**Controlled Release of Amorphous Calcium Phosphate from Titania Nanostructures Induces Osteoblastic Differentiation in Human Mesenchymal Stem Cells** Robert McLister, Mura McCafferty, George Burke, Brian J. Meenan *Ulster University, United Kingdom*
12:00	**104**	**Chondrogenesis of Umbilical Cord Mesenchymal Stem Cells in a Porous Asymetric Scaffold of Poly(Lactic Acid) Functionalized with Hyaluronan: Deposition of a Hyaline Cartilaginous Matrix** Elias Al Tawil, Alexandre Monnier, Quang Trong Nguyen, Jean-Pierre Vannier, Brigitte Deschrevel *University of Rouen, France*
12:15	**105**	**Characterization of In Vitro-Spheroids from Human Mesenchymal Stem Cells under Osteogenic and Adipogenic Differentiation** Geneviève Schmid, Heike Paape, Ellen Schmuhl, Stefanie Adam, Nicole Herzmann, Juliane Meyer, Achim Salamon, Susanne Meyer, Kirsten Peters *Rostock University Medical Center, Germany*
12:30	**106**	**Investigation of the Effect of Different Velocities and Surface Treatments on hMSCs Seeding Efficiency and Mechanical Characterization of 3D Insert PCL Scaffolds Undergoing Compression Loading** Marzia Brunelli, Cecile M. Perrault, Damien Lacroix *University of Sheffield, United Kingdom*
12:45	**107**	**Osteogenic Effects of Short, Steady Media Perfusion in hBMSC 3D Cultures Depend on Cell Culture and Cell Differentiation Stage and a Scaffold Type** Joanna Filipowska, Justyna Pawlik, Katarzyna Cholewa-Kowalska, Maria Laczka, Anna M. Osyczka *Jagiellonian University, Poland*

Session 25
Hall 3B

Surface Modification 4

Chairs: Christine Dupont-Gillain, *Université Catholique de Louvain, Belgium*
Dorota Bociąga, *Lodz University of Technology, Poland,*
Luis Rojo, *King's College London, United Kingdom* (YSF Chair)

11:30	**K5**	**Keynote** **Contributions of Adhesive Proteins to the Cell Response to Bioactive Polymers and Surfaces** Helena Felgueiras, Meg Evans, Véronique Migonney *Université Paris 13, France*
12:00	**108**	**Prebiotic Chemistry Inspired Coatings for Biomedical Applications** Helmut Thissen, Mario Salwiczek, Christopher D. Easton, Aylin Koegler, Richard A. Evans *CSIRO Manufacturing Flagship, Australia*
12:15	**109**	**Grafting of Bioactive Molecules on PET to Recruit Endothelials Progenitors Cells and Enhance Adhesion of Endothelial Cells** Caroline Royer, Laurent Plawinski, Gaétan Laroche, Marie-Christine Durrieu *Hôpital Saint-François d'Assise, France*
12:30	**110**	**Functionalization of Biomedical Surfaces by Peptide Aptamers** Gabriela Melo Rodriguez, James Bowen, Artemis Stamboulis *University of Birmingham, United Kingdom*
12:45	**111**	**Nanoporous Anodic Titanium Dioxide Layers as Scaffolds for Cell Growth** Magdalena Jarosz, Anna Pawlik, Justyna Syguła-Cholewińska, Tomasz Sawoszczuk, Danuta Jarocha, Marcin Majka, Grzegorz D. Sulka, Marian Jaskuła *Jagiellonian University, Poland*

Session 26
Hall 4A

Cell Instructive Materials 3

Chairs: John Jansen, *Radboud University, Netherlands*
Timothy Douglas, *Ghent University, Belgium*
Jennifer Ashworth, *University of Cambridge, United Kingdom* (YSF Chair)

11:30	**K6**	**Keynote** **Glycosaminoglycan Derivatives – Promising Candidates for the Design of Functional Biomaterials** Dieter Scharnweber, Linda Hübner, Sandra Rother, Ute Hempel, Ulf Anderegg, Sergey A. Samsonov, M. Teresa Pisabarro, Lorenz Hofbauer, Matthias Schnabelrauch, Sandra Franz, Jan C. Simon, Vera Hintze *TU Dresden, Germany*
12:00	**112**	**Glycosaminoglycan Mimicking Surfaces Trigger Distinct Response of Stem Cells via Fibronectin Adsorption** Ana Rodrigues Araujo, D. Soares da Costa, S. Amorim, RL Reis, RA Pires, I. Pashkuleva *3B's Research Group, Portugal*
12:15	**113**	**Collagen-GAGs Based Interpenetrating Polymer Networks (IPNs) as Tissue Engineered Heart Valve (TEHV)** Rabia Nazir, Arne Bruyneel, Carolyn Carr, Jan Czernuszka *Oxford University, United Kingdom*
12:30	**114**	**Biofunctional Microassemblies Based on Renewable Resources - Microfluidic Generation and Release Applications** Mélanie Marquis, Agata Zykwinska, Corinne Sinquin, Jacqueline Ratiskol, Stéphane Cuenot, Bernard Cathala, Denis Renard, Sylvia Colliec-Jouault *INRA, France*
12:45	**115**	**Glycosaminoglycans as Biomaterials, Drugs and Pathogens** Kamil Kamiński, Bartłomiej Kałaska, Anna Mikulska, Joanna Filipowska, Anna Osyczka, Shin-Ichi Yusa, Małgorzata Kajta, Andrzej Mogielnicki, Maria Nowakowska, Krzysztof Szczubiałka *Jagiellonian University, Poland*

Hall 4B

Surface Charge for Biomaterial Characterization

Sponsored by: Anton Paar

11:30	**SCh1**	**Zeta Potential for Biomaterial Surface Characterization** Christine Körner, Thomas Luxbacher *Anton Paar GmbH, Graz, Austria*
12:15	**SCh2**	**TiO_2-Coated Ti-Alloys for Body Implants & Surface Charge: Expectations on the Bio-Response** Martina Lorenzetti, Mukta Kulkarni, Aleš Iglič, Thomas Luxbacher, Spomenka Kobe, Saša Novak *Jožef Stefan Institute, Ljubljana, Slovenia*

Hall 1 — Plenary Lecture 5

15:30	**L5**	**Vascularization in Tissue Engineering: Alternative Foreign Body Responses** Michael V. Sefton *Institute of Biomaterials and Biomedical Engineering, University of Toronto, Canada*

Chairs: Abhay Pandit, *National University of Ireland, Galway, Ireland*
Małgorzata Lewandowska-Szumieł, *Medical University of Warsaw, Poland*

Hall 1 — Translational Research Symposium (3)

Organizers: Yves Bayon, Marc Bohner, David Eglin, Geoff Richards, Dimitrios Zeugolis

16:45	**116**	**FTIR Microscopy Contribution for Comprehension of Poly-L-Lactic Acid (PLA) Degradation Mechanisms** Yves Bayon, Antoine Alves, Carol Grossiord, Céline Brunon *NAMSA, Chasse/Rhône, France*
17:00	**117**	**Possible Approach to Improve Systemic Gene Delivery to Tumour Using Polyplex Nanoparticles** Mikhail Durymanov, Alexei Yarutkin, Andrey Rosenkranz, Alexander Sobolev *Institute of Gene Biology of the RAS, Russia*
17:15	**118**	**Endothelialization of Polyurethanes: Immobilization of REDV Peptide** Beata Butruk-Raszeja, Magdalena Dresler, Aleksandra Kuźmińska, Tomasz Ciach *Warsaw University of Technology, Poland*
17:30	**119**	**Helicobacter pylori-Binding Small Chitosan Microparticles that Penetrate Gastric Mucosa** Patrícia C. Henriques, Paula Sampaio, Maria Lázaro, André Maia, António Gouveia, José Manuel Lopes, Ana Magalhães, Celso A. Reis, M. Cristina L. Martins, Paulo Costa, Inês C. Gonçalves *Universidade do Porto, Portugal*
17:45	**120**	**Leaving Cells Out in the Cold: Hydrogel Encapsulation for the Improved Hypothermic Preservation of Stem Cells** Stephen Swioklo, Che Connon *Newcastle University, United Kingdom*
18:00	**121**	**Antibacterial Coatings on Titanium Surfaces: a Comparison Study Between In Vitro Single-Species and Multispecies Biofilm** Maria Godoy-Gallardo, Zhejun Wang,Ya Shen, José M. Manero, F. Javier Gil, Carlos Mas-Morun, Daniel Rodriguez, Markus Haapasalo *Technical University of Catalonia, Spain*
18:15	**122**	**The Proangiogenic Potential of a Novel Poly(lactic) Based Composite Membrane for Guided Bone Regeneration** Hugo Oliveira, Nadège Sachot, Sylvain Catros, Sylvie Rey, Joan Martí, Oscar Castano, Joëlle Amedee, Elisabeth Engel *Institute for Bioengineering of Catalonia (IBEC), Spain*

Session 27
Hall 2

Bone Tissue Engineering 3

Chairs: Joelle Amedee, *INSERM, U1026, France*
Małgorzata Lewandowska-Szumieł, *Medical University of Warsaw, Poland*
Claudia Loebel, *AO Research Institute Davos, Switzerland* (YSF Chair)

16:45	**K7**	**Keynote** **Hydrogels and Scaffolds of Natural Origin as Support for Stem Cells in the Regeneration of Different Tissues** Rui Reis *3B's Research Group - University of Minho, Portugal*
17:15	**123**	**Organic and Inorganic Bioactive Signals to Prepare Biomimetic Chitosan Based Scaffolds for Bone Tissue Regeneration** Maria Grazia Raucci, Daniela Giugliano, Antonella Giuri, Vincenzo De Benedictis, Christian Demitri, Alessandro Sannino, Luigi Ambrosio *National Research Council of Italy, Italy*
17:30	**124**	**Polyvinyl Alcohol/Alginate Dual Network Hydrogels for Tissue Engineering** Shathani Nkhwa, Sanjukta Deb *King's College London Dental Institute, United Kingdom*
17:45	**125**	**Analysis of Integrin-Binding Dependent Cell Attachment on Collagen-Based Scaffolds** Carlos Schuster, Richard Farndale, Samir Hamaia, Serena Best, Ruth Cameron, Natalia Davidenko *Cambridge University, United Kingdom*
18:00	**126**	**A Novel Biological Polyester Based Wet Spun Scaffold for Bone Tissue Engineering** Ayse Selcen Alagoz, Jose Carlos Rodriguez-Cabello, Nesrin Hasirci, Vasif Hasirci *BIOMATEN METU Center of Excellence in Biomaterials and Tissue Engineering, Turkey*
18:15	**127**	**Resorption of Calcium Phosphate Bone Substitutes: an In Vitro Study** Marta Gallo, Solène Tadier, Sylvain Meille, Marc Bohner, Aldo Boccaccini, Rainer Detsch, Jérôme Chevalier *INSA, France*

Session 28
Hall 3A

Angio- and Vasculogenesis

Chairs: Abhay Pandit, *National University of Ireland, Galway, Ireland*
Michael Sefton, *University of Toronto, Canada*
Sonia Zia, *Hannover Medical School, Germany* (YSF Chair)

16:45	**128**	**Induction of Endothelial Cell Sprouting by Poly (ε-Lysine) Dendron Tethered with an Angiopoietin-1-mimicking Peptide** Maria Elena Verdenelli, Steven Meikle, Gary Phillips, Matteo Santin *University of Brighton, United Kingdom*
17:00	**129**	**Sustained Release of Adipose-Derived Stem Cells by Thermosensitive Chitosan-Gelatin Hydrogel for Therapeutic Angiogenesis** Nai-Chen Cheng, Tai-Horng Young *National Taiwan University Hospital, Taiwan*
17:15	**130**	**Cobalt Doped Proangiogenic Hydroxyapatite for Bone Tissue Engineering Application** Senthilguru Kulanthaivel, Krishna Pramanik, Indranil Banerjee *National Institute of Technology, India*
17:30	**131**	**Development of a Synthetic Pseudovascular Network to Investigate Neovascularisation for Tissue Engineering Applications** Lindsey Dew, Ilida Ortega, Adam Kelly, Frederik Claeyssens, Sheila MacNeil *University of Sheffield, United Kingdom*
17:45	**132**	**Angiogenic Response on Chitosan-Graft-Poly (ε-Caprolactone) Copolymer in vitro, enhanced by Wharton's Jelly-derived Mesenchymal Stromal Cells** Evi Mygdali, Maria Kaliva, Maria Vamvakaki, Charalampos Pontikoglou, Maria Chatzinikolaidou *University of Crete, Greece*
18:00	**133**	**Vasculogenesis and Accelerated Healing through the Emergent Design of an Hierarchically Structured Scaffold** Julian F Dye, Giuseppe Scionti, Elizabeth A Wahl, Tomas Egana, Maroun Khoury *Dept LHCS, The Open University, United Kingdom*
18:15	**134**	**Repair of "Burr Holes" Using Chitosan-Siloxane Porous Hybrids** Yuki Shirosaki, Motomasa Furuse, Takuji Asano, Yoshihiko Kinoshita, Toshiki Miyazaki, Satoshi Hayakawa, Akiyoshi Osaka, Toshihiko Kuroiwa *Kyushu Institute of Technology, Japan*

Session 29
Hall 3B

Antimicrobial Surfaces and Materials 2

Chairs: Matthias Epple, *University of Duisburg-Essen, Germany*
Barbara Szaraniec, *AGH University of Science and Technology, Poland*
Riccardo Levato, *Insitute for Bioengineering of Catalonia (IBEC), Spain* (YSF Chair)

16:45	**135**	**A Nanocomposite Wound Dressing with Potential to Sustain Active Chlorhexidine on a Wound Bed** Peter Duckworth, Sarah Maddocks, Gareth Robinson, Sameer Rahatekar, Michele Barbour *University of Bristol, United Kingdom*
17:00	**136**	**Enrichment of Enzymatically Mineralized Gellan Gum Hydrogels with Polyphenol-Rich Ecklonia Cava Extract Seanol® to Endow Antibacterial Properties** Timothy Douglas, Gilles Brackman, Katarzyna Reczynska, Agnieszka Dokupil, Krzysztof Pietryga, Peter Dubruel, Tom Coenye, Elzbieta Pamula *Ghent University, Belgium*
17:15	**137**	**Development of an Antibacterial Hybrid Sponge (Chitosan/Hydroxyapatite) for Bone Regeneration** Claudia Flores, Jean Christophe Hornez, Feng Chai, Gwenael Raoul, Nicolas Tabary, Fréderic Cazaux, Joel Ferri, Hartmunt F. Hildebrand, Bernard Martel, Nicolas Blanchemain *University of Lille, France*
17:30	**138**	**Antimicrobial Properties of a Novel Hydrogel Bandage Lens Material** Andrew Gallagher, Mal Horsburgh, Jamal Alorabi, Don Wellings, Rachel Williams *University of Liverpool, United Kingdom*
17:45	**139**	**Ephemeral Biogels to Control Anti-Biofilm Agent Delivery** Véronique Larreta Garde, Elodie Lefebvre, Damien Seyer *University of Cergy Pontoise, France*
18:00	**140**	**Broad-Spectrum Antimicrobial Polycarbonate Hydrogels for Wound Dressing Applications** Haritz Sardon, Ana Pascual, Jeremy Tan, James Hedrick, Yi YanYAng *University of the Basque Country, Spain*
18:15	**141**	**Injectable Gellan Gum-Based Nanoparticle-Loaded System for the Local Delivery of Vancomycin in Osteomeylitis Treatment** Urszula Posadowska, Monika Brzychczy-Włoch, Elżbieta Pamuła *AGH University of Science and Technology, Poland*

Session 30
Hall 4A

Bioimaging and Biosensing

Chairs: Didier Letourneur, *Inserm U1148 Cardiovascular Bioengineering, France*
Tomasz Ciach, *Warsaw University of Technology, Poland*
Magdalena Ziabka, *AGH University of Science and Technology, Poland* (YSF Chair)

16:45	**K8**	**Keynote** **Bionano Characterization - Beyond Imaging with Scanning Probe Microscopy** Wojciech Chrzanowski *The University of Sydney, Australia*
17:15	**142**	**Long-Term and Bioinert Labeling of Mesenchymal Stem Cells with Polymeric-Gd Conjugates and MRI Monitoring of the Cell Behaviour in Ischemic Rats** Tetsuji Yamaoka, Yoichi Tachibana *National Cerebral and Cardiovascular Center Research Institute, Japan*
17:30	**143**	**Nile Blue-Based Nano-Sized pH Sensors for Simultaneous Far-Red and Near-Infrared Live** Jeppe Madsen, Irene Canton, Nicholas J. Warren, Efrosyni Themistou, Adam Blanazs, Burcin Ustbas, Xiaohe Tian, Russell Pearson, Giuseppe Battaglia, Andrew L. Lewis, Steven P. Armes *University of Sheffield, United Kingdom*
17:45	**144**	**Phenotypic and Functional Sensing of Cell Microvesicles Using an Immobilized Chemosensor** Catherine Belle, Sylvain Nlate, Marie-Christine Durrieu, Eduardo Angles-Cano, Laurent Plawinski UMR 5248, CNRS, Bordeaux University*, France*
18:00	**145**	**Mass Transport Study with Fluorescent Dextran Molecules in Gellan Gum Hydrogel** Ana M. Soto, Janne Koivisto, Jenny E. Parraga, Jari Hyttinen, Minna Kellomäki, Edite Figueiras *University of Tampere, Finland*
18:15	**146**	**The Effect of Biomolecular Interaction and Chondrocyte Adhesion to Surface Grafted Hyaluronan Layers** Erik Nilebäck, Noomi Altgärde, Angelika Kunze, Lars Enochson, Laura de Battice, Iva Pashkuleva, Jana Becher, Stephanie Möller, Matthias Schnabelrauch, Rui L. Reis, Anders Lindahl, Sofia Svedhem *Biolin Scientific, Sweden*

Session 31
Hall 4B

Biointerfaces 2

Chairs: Yannis Missirlis, *University of Patras, Greece*
Alina Sionkowska, *Nicolaus Copernicus University, Poland*
Judit Buxadera Palomero, *Technical University of Catalonia, Spain* (YSF Chair)

16:45	**147**	**Surface Topography: Is It Clinically Relevant?** Andrew English, Ayesha Azeem, Manus Biggs, Abhay Pandit, Dimitrios Zeugolis *National University of Ireland, Galway, Ireland*
17:00	**148**	**Cell-Material Interaction Enhanced by Hybrid Covalent Coated Nanofibers** Joan Marti, Nadege Sachot, Oscar Castano, Miguel Mateos-Timoneda, Aldrik Velders, Malgorzata Lewandoska, Josep A. Planell, Elisabeth Engel *Istitute for Bioengineering of Catalonia (IBEC), Spain*
17:15	**149**	**Fibronectin Based Thin Films: Description of a Novel Growth Mechanism and Influence on Cell Behavior** Adeline Gand, Coline Chat, Alysée Barraux, Guy Ladam, Paul R Van Tassel, Emmanuel Pauthe *University of Cergy-Pontoise, France*
17:30	**150**	**Primary Macrophage Phenotype Control by IL-4 Releasing, Self-Crosslinking PLL/HA-Aldehyde Derivative Multilayer Coatings** Helena Knopf-Marques, Sonali Singh, Lucie Wolfowa, Vladimir Velebny, Pierre Schaaf, Amir Ghaemmaghami, Nihal Engin Vrana, Philippe Lavalle *INSERM, France*
17:45	**151**	**Biointerfaces through Continuous Electrojet-Writing** Zhaoying Li, Yan Yan Shery Huang, Xia Li *University of Cambridge, United Kingdom*
18:00	**152**	**Bioactive Helical Nanomaterials and their Influence on Stem Cell Differentiation** Gregor Kemper, Laurent Plawinski, Emilie Pouget, Shawn Wettig, Reiko Oda, Marie-Christine Durrieu *CBMN UMR 5248, CNRS, Bordeaux University, France*
18:15	**153**	**Case Study of a Retrieved Trans-Femoral Bone Anchored Amputation Prosthesis** Anders Palmquist, Sara Windahl, Birgitta Norlindh, Rickard Brånemark, Peter Thomsen *University of Gothenburg, Sweden*

Wednesday, 2nd September

Hall 1 — Plenary Lecture 6

8:30 **L6** **Targeted Chemo- and Molecular-Therapy by Self-Assembled Supramolecular Nanosystems**
Kazunori Kataoka
Department of Materials Engineering, University of Tokyo, Japan

Chairs: Maria Siemionow, *University of Illinois at Chicago, United States*
Michael Sefton, *University of Toronto, Canada*

Session 32 — Cancer Therapy
Hall 1

Chairs: Kazunori Kataoka, *University of Tokyo, Japan*
Hasan Uludag, *University of Alberta, Canada*
Joana Silva-Correia, *3B´s Research Group, University of Minho, Portugal* (YSF Chair)

9:30 **154** **Multitargeting Theranostic Nanoparticles for the Treatment of HER2-Positive Breast Cancer**
Raquel Palao-Suay, Maria Rosa Aguilar, Francisco Parra-Ruiz, Susan N. Thomas, Nathan Rohner, Samarendra Maji, Richard Hoogenboom, Julio San Roman
ICTP-CSIC, Spain

9:45 **155** **ROS-Generating Titanium Oxide-Based Nanoparticles for Non-Invasive Cancer Surgery**
Dong Gil You, V.G. Deepagan, Wooram Um, Sangmin Jeon, Ich Chan Kwon, Kwangmeyung Kim, Jae Hyung Park
Sungkyunkwan University, Korea

10:00 **156** **Investigation of Dendrimer-Based Nanoparticles Cellular Uptake and Cell Tracking in a Semi-Automated Microfluidic Platform**
Mariana Carvalho, Fátima Maia, Rui Reis, Miguel Oliveira
3B's Research Group, Portugal

10:15 **157** **Effects of SPION Loaded Hyaluronan Polymeric Micelles on Gene Expression in Normal and Cancer Cells**
Kristina Nešporová, Vojtěch Pavlík, Daniela Šmejkalová, Vladimír Velebný
Contipro Biotech, Czech Republic

10:30 **158** **Molecular Weight of Surface Immobilized Hyaluronic Acid Influences CD44-Mediated Adhesion of Gastric Cancer Cells**
Sara Amorim, Diana Soares da Costa, Daniela Freitas, Ana Magalhães, Celso Reis, Rui Reis, Iva Pashkuleva, Ricardo Pires
3B's Research Group - University of Minho, Portugal

10:45 **159** **Novel Halogenated Phthalocyanines as Photosensitizers for Photodynamic Therapy for Cancer**
Łukasz Łapok, Arkadiusz Gut, Małgorzata Cyza, Mariusz Kępczyński, Dorota Jamróz, Grzegorz Szewczyk, Tadeusz Sarna, Alexandr Gorski, Jędrzej Solarski, Tadeusz Waluk, Maria Nowakowska
Jagiellonian University, Poland

Session 33 Hall 2

Soft Tissue Engineering

Chairs: Julia Babensee, *Georgia Institute of Technology, United States*
Lorenzo Moroni, *Maastricht University, Netherlands*
Andrew Gallagher, *University of Liverpool, United Kingdom* (YSF Chair)

9:30	**160**	**The Role of Electrical Stimulation in Tendon Maintenance and Repair: Electrospun PVDF-TrFE/ Boron Nitride Nanotubes as Bioactive Scaffold for Promoting Tendon Regeneration** Marc Fernandez, Gemma Orpella, Ghazal Tadayyon, Matteo Palma, Abhay Pandit, Dimitrios Zeugolis, Manus Biggs *National University of Ireland, Galway, Ireland*
9:45	**161**	**Patterned Thermoresponsive pNIPAM-pHEMA Hydrogels for Corneal Repair** Cemile Bektas, Vasif Hasirci *Middle East Technical University, Turkey*
10:00	**162**	**Macromolecular Crowding in Corneal Fibroblasts Culture Accelerates the Production of Extracellular Matrix-rich Supramolecular Assemblies** Pramod Kumar, Abhigyan Satyam, Kyriakos Spanoudes, Abhay Pandit, Dimitrios Zeugolis *National University of Ireland, Galway, Ireland*
10:15	**163**	**Elaboration and Evaluation of Alginate Foam Scaffolds for Soft Tissue Engineering** Raya Bushkalova, Caroline Ceccaldi, Christophe Tenailleau, Benjamin Duployer, Philippe Bourin, Daniel Cussac, Angelo Parini, Brigitte Sallerin, Sophie Girod-Fullana *INSERM UMR 1048, France*
10:30	**164**	**Polyhydroxyalkanoates, a Family of Natural Polymers and Their Application in Cardiac Tissue Engineering** Ipsita Roy, Andrea Bagdadi, Prachi Dubey, Ranjana Rai, Jonathan Knowles, Aldo R. Boccaccini, Mohan Edirisinghe, Sian Harding *University of Westminster, United Kingdom*
10:45	**165**	**Fabrication of a Biosynthetic Hydrogel Scaffold for Skin Repair** Mario Flores-Reyes, Jaime Flores-Estrada, Ma. Victoria Dominguez-García, Miriam V. Flores-Merino *Research Center in Medical Sciences, Uaem, Mexico*

Session 34 Hall 3A

Cardiovascular Applications 1

Chairs: Ana Paula Pego, *INEB - Instituto de Engenharia Biomédica, Portugl*
Mirosława El Fray, *West Pomeranian University of Technology, Poland*
Lindsey Dew, *University of Sheffield, United Kingdom* (YSF Chair)

9:30	**K9**	**Keynote** **Endothelial Cells on Biofunctionalized Polymeric Materials for Vascular Tissue Engineering** Lucie Bacakova, Jaroslav Chlupac, Elena Filova, Jana Musilkova, Katarina Novotna, Tomas Riedel, Vladimir Proks, Ilya Kotelnikov, Ognen Pop-Georgievski, Eduard Brynda, Frantisek Rypacek, Laurence Bordenave *Academy of Sciences of the Czech Republic, Czech Republic*
10:00	**166**	**Evaluation of a Pro-Healing Polydopamine-Coated Stent on In-Stent Restenosis Using a Rat Model** Adrien Hertault, Blandine Maurel, Feng Chai, Mickael Maton, Joël Lyskawa, Jonathan Sobocinski, Stephan Haulon, Nicolas Blanchemain *INSERM U1008, Research Group on Biomaterials, France*
10:15	**167**	**Anti-Thrombogenic Effects Of Bioactive CoCr Surfaces for Cardiovascular Applications** Maria Isabel Castellanos, Jordi Guillem-Martí, Carlos Mas-Moruno, Maribel Díaz-Ricart, Ginés Escolar, Francisco Javier Gil, José María Manero, Marta Pegueroles *Technical University of Catalonia (UPC), Spain*
10:30	**168**	**Improving the Biocompatibility of Intravascular Devices** Guillaume Le Saux, Laurent Plawinski, Sylvain Nlate, Marie-Christine Durrieu *CBMN, France*
10:45	**169**	**Nanomaterials for Cardiovascular Applications: Quo Vadimus?** Iwona Cicha, Christoph D. Garlichs, Christoph Alexiou *University Hospital Erlangen, Germany*

Session 35
Hall 3B

Antimicrobial Surfaces and Materials 3

Chairs: Nicolas Blanchemain, *Université de Lille, France*
Fabricio Barberis, *Universita' di Genova, Italy*
Zuzanna Trzcińska, *University of Birmingham, United Kingdom* (YSF Chair)

9:30	**170**	**High Throughput Methods for the Discovery of Materials that Resist Bacterial Adhesion** Andrew Hook *University of Nottingham, United Kingdom*
9:45	**171**	**Physicochemical Properties and Cell-Biological Action of Alloyed Silver-Gold Nanoparticles** Oleg Prymak, Simon Ristig, Svitlana Chernousova, Wolfgang Meyer-Zaika, Matthias Epple *University of Duisburg-Essen, Germany*
10:00	**172**	**Enzymatic Disassembly of Biofilm Extracellular Matrix by Smart Nanoparticles to Eradicate Bacterial Infections** Riccardo Levato, Aida Baelo, Esther Julian, Joan Gavalda, Elisabeth Engel, Eduard Torrents, Miguel Angel Mateos-Timoneda, Anna Crespo *Institute for Bioengineering of Catalonia, Spain*
10:15	**173**	**Anti-Helicobacter Pylori Activity of Nanoparticles Loaded with a Polyunsaturated Fatty Acid** Catarina L. Seabra, Cláudia Nunes, Marta Correia, José C. Machado, Celso A. Reis, Inês C. Gonçalves, Salette Reis, M. Cristina L. Martins *Universidade do Porto, Portugal*
10:30	**174**	**Antifouling Coatings as a Platform for Antimicrobial Peptide Immobilization** Judit Buxadera-Palomero, Patricia Carrasco, Cristina Canal, Carles Mas-Moruno, F. Xavier Gil, Daniel Rodríguez *Technical University of Catalonia, Spain*
10:45	**175**	**Modified PVC Urinary Catheters to Prevent Bacterial Adhesion** Luisa Islas, Guillermina Burillo, Carmen Alvarez-Lorenzo, Angel Concheiro *Universidad Nacional Autonoma de Mexico, Mexico*

Session 36
Hall 4A

Advanced Manufacturing 2

Chairs: Roberto De Santis, *National Research Council of Italy, Italy*
Karol Gryń, *AGH University of Science and Technology, Poland*
Robin Rajan, *Japan Advanced Institute of Science and Technology, Japan* (YSF Chair)

9:30	**K10**	**Keynote** **3D Printing of Crosslinkable Gelatins: Overcoming the Mechanical Boundaries** Jasper Van Hoorick, Heidi Declercq, Maria Cornelissen, Hugo Thienpont, Aleksandr Ovsianikov, Peter Dubruel, Sandra Van Vlierberghe *Ghent University, Belgium*
10:00	**176**	**3D Bioprinting of Functional Fibrin-Based Skin Equivalents** Nieves Cubo, Marta García, Diego Velasco, Juan Cañizo, Jose Luis Jorcano *Universidad Carlos III, Spain*
10:15	**177**	**A New Laser-Based Approach for Native Silk Structuring** Anastasia Brif, Chris Holland, Frederik Claeyssens *University of Sheffield, United Kingdom*
10:30	**178**	**Development of Porous PLLA Micro-Cylinders for Tissue Engineering Applications** Antonio Castro, John Jansen, Jeroen van den Beucken, Fang Yang *RadboudUMC, Netherlands*
10:45	**179**	**Cell Proliferation Controlled by Selective Laser Melting (SLM) Process Parameters** Bartłomiej Wysocki, Joanna Idaszek, Wojciech Święszkowski, Krzysztof Kurzydłowski *Warsaw University of Technology, Poland*

Hall 4B

Science for Industry (1)
Bioresorbable Materials for Medical Applications

Organizers: Xiang Zhang, Ipsita Roy, Kadem Al-Lamee, Stuart Maclachlan, Maria Joao Barros, Nial Bullett, Mark Taylor

9:30	**Welcome and Introduction** Xiang Zhang, Ipsita Roy
9:50	**Commercial Needs for Bioresorbable Materials, Transfer from Laboratory and Barriers and Gaps in the Technology** Kadem Al-Lamee *Arterius Limited, United Kingdom*
10:15	**Production and Evaluation Platforms for Preclinical Assessment of Novel Biomaterials for Non-Healing Bone Lesions** Oskar Hoffmann *University of Vienna, Austria*
10:40	**Bioresorbable Systems: Polymers and Metals** Ipsita Roy *University of Westminster, United Kingdom*

Session 37
Hall 1

Drug Delivery 3

Chairs: Wojciech Chrzanowski, *The University of Sydney, Australia*
Izabela-Cristina Stancu, *University Politehnica Bucharest, Romania*
Martin Lynge, *Aarhus University, Denmark* (YSF Chair)

11:30	**K11**	**Keynote** **Polypeptide Nanoparticles for Ocular Drug Delivery** Neil Cameron *Monash University, Australia*
12:00	**180**	**Micro and Nano Hydrogel Carrier Systems for Controlled Drug Delivery of Therapeutic Proteins** Henning Menzel, Andreas Bertz, Nils Poth, Wibke Dempwolf, Jan-Erik Ehlers, Karl-Heinz Gericke, Peter P. Müller, Gerhard Gross, Stefanie Wöhl-Bruhn, Heike Bunjes *University of Technology, Germany*
12:15	**181**	**Peptide Binding Dendrimer Decorated Injectable Hyaluronan Hydrogels Modulate the Controlled Release of BMP-2 and TGF-β1** Ryan Seelbach, Peter Fransen, Miriam Royo, Fernando Albericio, Mauro Alini, Alvaro Mata, David Eglin *AO Research Institute Davos, Switzerland*
12:30	**182**	**Co-Deliver of Glucagon-Like Peptide-1 and Dipeptidyl Peptidase 4 Inhibitor for Treatment of Type 2 Diabetes** Francisca Araújo, Neha Shrestha, Mohammad-Ali Shahbazi, Dongfei Liu, Bárbara Herranz-Blanco, Ermei Mäkilä, Jarno Salonen, Jouni Hirvonen, Pedro L. Granja, Bruno Sarmento, Hélder A. Santos *INEB, Portugal*
12:45	**183**	**Controlled Release of Platinum-Bisphosphonate Complexes from Injectable Calcium Phosphate Cements for Treatment of Bone Tumors** Kemal Sariibrahimoglu, Kambiz Farbod, Astghik Hayrapetyan, Jan N. W. Hakvoort, Michele Iafisco, Nicola Margiotta, Joop G. C. Wolke, Jeroen J. J. P. van den Beucken, John A. Jansen, Sander C. G. Leeuwenburgh *Radboud University Medical Center, Netherlands*

Session 38
Hall 2

Composite Scaffolds

Chairs: Luigi Ambrosio, *National Research Council, Italy*
Ki Dong Park, *Ajou University, Korea*
Sungho Lee, *Nagoya Institute of Technology, Japan* (YSF Chair)

11:30	**184**	**Structurally-Graded Collagen Biomaterials for Osteotendinous Repair** Laura Mozdzen, William Grier, Ashley Moy, Steven Caliari, Brendan Harley *University of Illinois, United States*
11:45	**185**	**Biomineralized Cellulose-PEGDA Scaffolds for Bone Tissue Regeneration** Christian Demitri, Maria Grazia Raucci, Antonella Giuri, Vincenzo Maria De Benedictis, Daniela Giugliano, Alessandro Sannino, Luigi Ambrosio *University of Salento, Italy*
12:00	**186**	**Preparation and Characterization of Silicone Elastomer Composites for Biomedical Prosthetic Applications** Petroula Tarantili *National Technical Uniersity of Athens, Greece*
12:15	**187**	**High-Resolution Synchrotron X-Ray Analysis of Bioglass-Enriched Hydrogels** Svetlana Gorodzha, Timothy Douglas, Sangram Samal, Katarzyna Cholewa-Kowalska, Kevin Braeckmans, Andre Skirtach, Venera Weinhardt, Tilo Baumbach, Maria Surmeneva, Roman Surmenev *National Research Tomsk Polytechnic University, Russian Federation*
12:30	**188**	**Computational and Experimental Study of the Degradation Behaviour of $CaCO_3$-PLGA Composites** Ismael Moreno Gomez, Xiang Zhang, Serena Best, Ruth Cameron *University of Cambridge, United Kingdom*
12:45	**189**	**Development of Nanostructured Composites Based on ε-Polylysine and Apatite** Kristine Salma-Ancane, Liga Stipniece, Inga Narkevica *Rudolfs Cimdins Riga Biomaterials Innovation and Development Centre, Latvia*

Session 39
Hall 3A

Cardiovascular Applications 2

Chairs: Elisabeth Engel, *Institut for Bioengineering of Catalonia, Spain*
Paul Santerre, *University of Toronto, Canada*
Agnieszka Piegat, *West Pomeranian University of Technology, Poland* (YSF Chair)

11:30	**190**	**Chitosan Based Hydrogels for Vascular Applications: In Vitro and In Vivo Hemocompatibility Evaluation** Audrey Aussel, Xavier Berard, Sandro Cornet, Vincenzo Brizzi, Marlène Durand, Alexandra Montembault, Laurent David, Rachida Aid, Didier Letourneur, Laurence Bordenave *INSERM U1026, France*
11:45	**191**	**Enriched Decellularized Matrices for Tissue Engineering: Effects of Des-Acyl Ghrelin on Vascular Cells** Francesca Boccafoschi, Margherita Botta, Luca Fusaro, Martina Ramella, Francesco Copes, Mario Cannas *University of Piemonte Orientale, Italy*
12:00	**192**	**Biomimetic Strategy to Improve Haemo- and Biocompatibility of PET** E. Diana Giol, Ronald Unger, Sandra van Vlierberghe, C. James Kirkpatrick, Peter Dubruel *Ghent University, Belgium*
12:15	**193**	**Synthesis of Porous Polyhydroxyalkanote (PHA) Fibres by Pressurized Gyration Process and their Evaluation as Tissue Engineering Scaffolds** Pooja Basnett, Suntharavathanan Mahalingam, Barbara Lukasiewicz, Sian Harding, Mohan Edirisinghe, Ipsita Roy *University of Westminster, United Kingdom*
12:30	**194**	**Enhanced Interfacial Strength of Surgical Sealants Composed of Hydrophobically Modified, Cod-Derived Gelatins with Different Hydrocarbon Chain Length** Ryo Mizuta, Temmei Ito, Keiko Yoshizawa, Toshimasa Akiyama, Katsuhiro Kamiya, Tetsushi Taguchi *National Institute for Materials Science, Japan*
12:45	**195**	**Athrombogenic Diffusive Layers as the Biomaterial for Blood Contact Applications in the Dynamic High Shear Stresses Conditions** Małgorzata Gonsior, Tadeusz Wierzchoń, Roman Kustosz, Maciej Darłak, Magdalena Kościelniak-Ziemniak *Foundation for Cardiac Surgery Development, Poland*

Session 40
Hall 3B

Neural Regeneration 2

Chairs: Michael Doser, *Institute for Textile Research and Process Engineering, Germany*
Leonora Buzanska, *Mossakowski Medical Research Centre PAS, Poland*
Sahana Ganesh, *National University of Ireland, Galway, Ireland* (YSF Chair)

11:30	**K12**	**Keynote** **Tissue-Engineered Electrodes for Neural and Cardiovascular Applications** Laura Poole-Warren, Josef Goding, Ulises Aregueta-Robles, Alexander Patton, Penny Martens, Rylie Green *University of New South Wales, Sydney, Australia*
12:00	**196**	**Delivery of Neurotrophic Factors to the Brain Using Fibrin-Based Hollow Microsphere Reservoirs** Juhi Samal, Deirdre Hoban, Carol Naughton, Ruth Concannon, Eilis Dowd, Abhay Pandit *National University of Ireland, Galway, Ireland*
12:15	**197**	**Amine-Functionalized Oligomer-Cross-Linked Gelatin-Based Conduits for Nerve Regeneration** Caroline Kohn, Julia M. Mehnert, Christian Kascholke, Michaela Schulz-Siegmund, Matthias Brandenburger, Michael C. Hacker *University of Leipzig, Germany*
12:30	**198**	**A Dual-Layered Microfluidic System for the Controlled In Situ Delivery of Anti-inflammatory Factors in Chronic Neural Implants** Laura Frey, Su Ryon Shin, Kevin O'Kelly, Ali Khademhosseini *Harvard Medical School, United States*
12:45	**199**	**Schwann Cell Behavior in Degradable PVA-Tyramine Hydrogels** Ulises Aregueta Robles, Khoon Lim, Penny Martens, Laura Poole-Warren, Nigel Lovell, Rylie Green *University of New South Wales, Sydney, Australia*

Session 41
Hall 4A

Cell Instructive Materials 4

Chairs: Guy Daculsi, *INSERM LIOAD UMR 791, France*
Maria Chatzinikolaidou, *University of Crete, Greece*
Ana Rita Rodrigues Araújo, *3B's Research Group - University of Minho, Portugal* (YSF Chair)

11:30	**K13**	**Keynote** **Bio-Fabrication and Physiological Self-Release of Tissue Equivalents Using Smart Peptide Amphiphile Templates** Che Connon, Ricardo Gouveia, Valeria Castelletto, Ian Hamely *Newcastle University, United Kingdom*
12:00	**200**	**Cellular Alignment in Response to Direct Laser Interference Patterning on Polyurethane Surfaces** Lucas Cortella, Denise Langheinrich, Idágene Cestari, Andrés Lasagni, Ismar Cestari *University of São Paulo, Brazil*
12:15	**201**	**Correlation of Mechanical Properties of Bio-Imitating Coatings with the Life Processes of Human Cells** Roman Major, Juergen M. Lackner *Institute of Metallurgy and Materials Science PAS, Poland*
12:30	**202**	**Effect of Osteogenic Growth of Adipose Derived Stem Cells And Human Osteoblasts on the Mechanical Properties of Protein Based Films with Microchannels** Esen Sayin, Rosti Hama Rashid, Ahmed Elsheikh, José Carlos Rodríguez-Cabello, Erkan Türker Baran, Vasif Hasirci *Center of Excellence in Biomaterials and Tissue Engineering, Turkey*
12:45	**203**	**Vasculogenesis by a Maleimide Cross-Linked PEG Hydrogel Containing Calcium Phosphate Glass Particles** Claudia Navarro, Jessica Weaver, Óscar Castaño, Amy Clark, Jose Garcia, Soledad Pérez-Amodio, Dennis Zhou, Douglas Clift, Andres J. García, Elisabeth Engel *Institute for Bioengineering of Catalonia, Spain*

Hall 4B

Science for Industry (2)
Bioresorbable Materials for Medical Applications

Organizers: Xiang Zhang, Ipsita Roy, Kadem Al-Lamee, Stuart Maclachlan, Maria Joao Barros, Nial Bullett, Mark Taylor

11:30	**Bioresorbable Systems: The Role of Inorganic Fillers in Composites** Aldo R. Boccaccini *University of Erlangen-Nuremberg, Germany*
11:50	**Bioresorbable Systems: The Role of Surface Functionalisation** Iban Quintana *IK4-TEKNIKER Ultra - Precision Processes Unit, Spain*
12:10	**Bioresorbable Systems: The Role of Modelling and Simulation in Performance Assessment of Bio-Structures and Implants** Atul Bhaskar *University of Southampton, United Kingdom*
12:30	**Bioresorbable Systems: The Role of Preclinical Testing** Gianluca Giavaresi *Istituto Ortopedico Rizzoli, Italy*
12:50	**Bioresorbable Systems: Discussion**

Hall 1 — Plenary Lecture 7

15:30	**L7**	**Cell-Made or Man-Made Materials for Bone Reconstruction?** Małgorzata Lewandowska-Szumieł *Center for Biostructure Research, Medical University of Warsaw, Poland*

Chairs: Kazunori Kataoka, *University of Tokyo, Japan*
Peter Dubruel, *Ghent University, Belgium*

Session 42 — Hall 1 — Bone Tissue Engineering 4

Chairs: Michael Gelinsky, *Technische Universität Dresden, Germany*
Peter Dubruel, *Ghent University, Belgium*
Marianne Sommer, *ETH Zurich Complex Materials, Switzerland* (YSF Chair)

16:45	**204**	**Ectopic Bone Formation by Commercial Calcium Phosphate Bone Graft Substitutes** Rongquan Duan, Davide Barbieri, Xiaoman Luo, Joost de Bruijn, Huipin Yuan *Xpand Biotechnology BV, Netherlands*
17:00	**205**	**In Vivo and In Vitro Characterization of Porous Polyurethane-Hydroxyapatite Scaffolds as a Bone Substitute** Gifty Tetteh, Maksym Pogorielov, Ihtesham U. Rehman, Gwendolen C. Reilly *University of Sheffield, United Kingdom*
17:15	**206**	**Preparation and Bioactivity of Nanocomposite Scaffolds Based on Biodegradable Polyurethane Foams and Bioactive Glass Nanoparticles** Cristian Covarrubias, Amaru Aguero, Monserrat Cádiz, Mario Díaz, Mehrdad Yazdani-Pedram, Juan Pablo Rodriguez, Carla Urrra, Juan Cahuich, Juan M. Cervantes *University of Chile, Chile*
17:30	**207**	**Influence of Hydroxyapatite on Degradation Behaviour of PLA Fibres Scaffold** Nancy Vargas-Becerril, Lucia Téllez-Jurado, Octavio Álvarez-Fregoso, Manuel Hipólito-García, Luis María Rodríguez-Lorenzo, José Arturo Fernández-Pedrero, Marco Antonio Álvarez-Pérez *Autonome National University of Mexico, Mexico*

Session 43
Hall 2

Cellular Response

Chairs: Ana Paula Pego, *INEB - Instituto de Engenharia Biomédica, Portugal*
Lucy Di Silvio, *King's College London Guy's Hospital, United Kingdom*
Małgorzata Krok-Borkowicz, *AGH University of Science and Technology, Poland* (YSF Chair)

16:45	**208**	**Biomaterial Systems for Delivery or Education of Immunosupressive Dendritic Cells to Ameliorate Multiple Sclerosis in a Murine Model** Aline Thomas, Sangeetha Srinivasan, Jennifer Blanchfield, Aaron M. Rosado, Andres Garcia, Brian Evavold, Julia Babensee *Georgia Institute of Technology, United States*
17:00	**209**	**Microdialysis and Proteomics – New Approaches to Analyse the Early Stages of Fracture Repair in Bone Defects** Yvonne Förster, Johannes Schmidt, Sven Baumann, Ute Hempel, Martin von Bergen, Stefan Kalkhof, Stefan Rammelt *Technische Universität Dresden, Germany*
17:15	**210**	**Cellular Recognition of Collagen Based Scaffolds** Daniel Bax, Natalia Davidenko, Richard Farndale, Ruth Cameron, Serena Best *University of Cambridge, United Kingdom*
17:30	**211**	**Multicellular Spheroids and 3D Scaffold Cultures Up-Regulate Different Events in Osteogenic Differentiation of Adipose-Derived Mesenchymal Stem Cells** Sławomir Rumiński, Adam Zalewski, Małgorzata Lewandowska-Szumieł *Medical University of Warsaw, Poland*

Session 44
Hall 3A

Wound Healing 2

Chairs: Antonio Merolli, *The Catholic University Gemelli Medical School, Italy*
Marc Bohner, *RMS Foundation, Switzerland*
Patrycja Domalik-Pyzik, *AGH University of Science and Technology, Poland* (YSF Chair)

16:45	**212**	**Balancing Fibroblast Differentiation in a Biomimetic Wound Healing Model** Jiranuwat Sapudom, Michael Ansorge, Marina Chkolnikov, Katja Franke, Ulf Anderegg, Tilo Pompe *Universität Leipzig, Germany*
17:00	**213**	**New Bilayered Biodegradable Polymeric Systems. A Feasible Approach for Skin Lesions** Noemi Santurce, Álvaro González-Gómez, Raul Rosales, Marcela Martin del Campo-Fierro, Blanca Vazquez, Julio San Roman *Institute of Polymers CSIC and CIBER-BBN, Spain*
17:15	**214**	**Fluorescent Activated Cell Sorting (FACS) as a Tool to Quantify the Immune Cell Response to Intramuscular Implanted Materials in Rats** Tanja Schmidt, Zienab Kronbach, Marie Heinze, Susann Krummsdorf, Marcel Geilling, Frank Witte *Berlin-Brandenburg Center For Regenerative Medicine, Germany*
17:30	**215**	**Endogenous Human Dermal Equivalent in Vitro Model to Study Wound Healing Process** Bernadette Lombardi, Costantino Casale, Giorgia Imparato, Francesco Urciuolo, Paolo Netti *Istituto Italiano di Tecnologia, Italy*

Session 45
Hall 3B

Bone Cements

Chairs: Heinz Redl, *Ludwig Boltzmann Institute for Experimental and Clinical Traumatology, Austria*
Zbigniew Jaegermann, *Institute of Ceramics and Building Materials*, Poland
Anton Goncharenko, *V.N. Karazin Kharkiv National University, Ukraine* (YSF Chair)

16:45	**216**	**Modification of Calcium Phosphate Bone Cements with Biologically Active Metal Ions: In Vitro and In Vivo Characterization** Anja Lode, Anne Bernhardt, Barbe Rentsch, Claudia Rentsch, Martha Geffers, Mandy Quade, Stefan Rammelt, Uwe Gbureck, Michael Gelinsky *Technische Universität Dresden, Germany*
17:00	**217**	**Development of Novel Implants with Embedded Therapeutics** Sophie Cox, Hany Hassanin, Moataz Attallah, Duncan Shepherd, Owen Addison, Uwe Gbureck, Liam Grover *University of Birmingham, United Kingdom*
17:15	**218**	**The Influence of Phase Change Materials Based on Poly(Ethylene Glycol) on the Properties of Acrylic Bone Cements** Kinga Pielichowska, Katarzyna Filipek *AGH University of Science and Technology, Poland*
17:30	**219**	**Marine Collagen Reinforcement of Calcium Phosphate Bone Cements: A Biological Assessment** Iwan Palmer, John Nelson, Wolfgang Schatton, Nicholas Dunne, Fraser Buchanan, Susan Clarke *Queen's University, United Kingdom*

Session 46
Hall 4A

Nanoparticles

Chairs: Josep A. Planell, *Universitat Oberta de Catalunya, Spain*
Aneta Frączek-Szczypta, *AGH University of Science and Technology*, Poland
Hyeyoun Chang, *Korea University of Science and Technology, Korea* (YSF Chair)

16:45	**220**	**Cellular Uptake and Degradation of Poly(Lactide-co-Glycolide) Nanoparticles and its Influences on Cell Functions** Dahai Yu, Pengfei Jiang, Zhengwei Mao, Changyou Gao *Zhejiang University, China*
17:00	**221**	**Evaluation of Biological Effects of Nanomaterials on Human Cell Line, EA.hy926** Małgorzata Siatkowska, Tomasz Wasiak, Paulina Sokołowska, Joanna Rywaniak, Katarzyna Działoszyńska, Sylwia Kotarba, Kinga Kądzioła, Nina Bartoszek, Marta Kamińska, Agnieszka Kołodziejczyk, Piotr Komorowski, Krzysztof Makowski, Bogdan Walkowiak *Lodz University of Technology, Poland*
17:15	**222**	**Gellan-Gum Coated Gold Nanorods as Intracellular Drug Release System for Osteogenic differentiation** Stephanie Vial, Silvia Vieira, Fatima Maia, Mariana Carvalho, Rui Reis, Pedro Granja, Joaquim Oliveira *3Bs Research Group, Portugal*
17:30	**223**	**On the Influence of Various Physiochemical Properties of the CNTs Layers on the Cell's Reaction In Vitro** Aleksandra Benko, Elżbieta Menaszek, Marek Nocuń, Marta Błażewicz, Aneta Frączek-Szczypta *AGH University of Science and Technology, Poland*

Hall 4B

Science for Industry (3)
Bioresorbable Materials for Medical Applications

Organizers: Xiang Zhang, Ipsita Roy, Kadem Al-Lamee, Stuart Maclachlan, Maria Joao Barros, Nial Bullett, Mark Taylor

16:45	**Welcome back and overview of morning's proceedings** Xiang Zhang, Ipsita Roy
16:55	**Research into Bioresorbable Systems** Elena Boccardi, *University of Erlangen-Nuremberg, Germany* Zein Azhari, *Cambridge University, United Kingdom*
17:15	**Panel discussion and overview of proceedings with speakers from the Bioresorbable System Session**

Thursday, 3rd September

Hall 1 — Plenary Lecture 8

9:00	**L8**	**Biological-Basis for Designing Biomaterials for the Injured and Degenerated Host - Examples in the Neural Space** Abhay Pandit *Network of Excellence for Functional Biomaterials, National University of Ireland, Galway, Ireland* **Chairs:** Laura Poole-Warren, *University of New South Wales, Sydney, Australia* Jadwiga Laska, *AGH University of Science and Technology, Poland*

Session 47 — Neural Regeneration 3
Hall 1

Chairs: Jadwiga Laska, *AGH University of Science and Technology, Poland*
Serena Best, *University of Cambridge, United Kingdom*
Caroline Kohn, *Universität Leipzig, Germany* (YSF Chair)

10:00	**224**	**Novel Collagen Type I-Hyaluronic Acid Bi-Phasic Conduit for Peripheral Nerve Repair: an In Vivo Study** Tijna Alekseeva, Phoebe E. Roche, Amos Matsiko, Amro Widaa, William A. Lackington, Alan Ryan, Alan J. Hibbitts, Garry Duffy, Fergal J. O'Brien *Royal College of Surgeons in Ireland, Ireland*
10:15	**225**	**Sustained Biochemical Signalling and Contact Guidance Provided by Electrospun Bicomponent Scaffolds for Enhancing Nerve Regeneration** Chaoyu Liu, Min Wang *The University of Hong Kong, Hong Kong*
10:30	**226**	**The "Micro" and "Macro"- Scale Approach in Building Up Neural Stem Cell Microenvironments for Developmental and Toxicity Studies** Leonora Buzanska, Marzena Zychowicz, Krystyna Pietrucha, Martyna Podobinska, Jose Luis Gerardo Nava, Gary Brook *Mossakowski Medical Research Centre PAS, Poland*
10:45	**227**	**Pre-Clinical Investigation of a Novel Biodegradable Polymer Based Medical Device for Peripheral Nerve Regeneration** Atefeh Mobasseri, Giorgio Terenghi, Adam Reid, Julie Gough, David Richards *University of Manchester, United Kingdom*

Session 48
Hall 2

Bone Tissue Engineering 5

Chairs: Aldo Boccaccini, *University of Erlangen-Nuremberg, Germany*
Rui Reis, *3B's Research Group - University of Minho, Portugal*
Thomas Paterson, *University of Sheffield, United Kingdom* (YSF Chair)

10:00	**228**	**Decrease of MRI Artifact in Spinal Instruments of Zirconium Alloy** Takao Hanawa, Naoyuki Nomura, Maki Ashida, Yusuke Tsutsumi, Hisashi Doi, Peng Chen, Manabu Itoh *Tokyo Medical and Dental University, Japan*
10:15	**229**	**Investigation of Degradation Behavior and Corrosion of Magnesium Alloys for Orthopedic Implants** Iulian Antoniac, Ana Blajan, Aurora Antoniac *University Politehnica of Bucharest, Romania*
10:30	**230**	**Polyurethane-Ceramic Matrices as Orbital Implants** Semih Sahan, Pezhman Hosseinian, Deniz Ozdil, Mustafa Turk, Halil Murat Aydin *Hacettepe University, Turkey*
10:45	**231**	**Bioresorbable Multifunctional Composite Devices – Practical Aspects of Miniplates for Osteosynthesis** Karol Gryń, Barbara Szaraniec, Maja Kuś, Kamil Dudziński, Jan Chłopek *AGH University of Science and Technology*, Poland

Session 49
Hall 3A

Clinical Trials

Chairs: Dimosthenis Mavrilas, *University of Patras, Greece*
Ryszard Uklejewski, *Casimir the Great University, Poland*
Shahram Ghanaati, *Medical Center of the Goethe University Frankfurt, Germany* (YSF Chair)

10:00	**232**	**Clinically Used Dextran Coated Iron Oxide Nanoparticles and Their Induced Macrophage Autophagy** Rongrong Jin, Jiuju Du, James Anderson, Hua Ai *Sichuan University, China*
10:15	**233**	**Radiodensitometric Assessment Long Time after Dental Periimplantitis Defect Filled with "Pure" Synthetic HAp Bioceramics** Vadims Klimecs, Girts Salms, Andrejs Skagers, Aleksandrs Grishulonoks, Laura Neimane, Liga Berzina-Cimdina, *Institute of Stomatology, Latvia*
10:30	**234**	**Debris of a Carbon-Fibre-Reinforced Polymers (CFRP) Wrist Plate Led to a Destruent Synovitis in Human** Antonio Merolli, Lorenzo Rocchi, Alessandro Morini, Luigi Mingarelli, Paolo Scialabba D'Amico, Francesco Fanfani *The Catholic University of Rome, Italy*
10:45	**235**	**Clinical Performance of Moldable Bioceramic for Bone Regeneration in Maxillofacial Surgery** Guy Daculsi, Thomas Miramond, Pascal Borget, Elodie Seris *Inserm UMRS 791 Lioad, France*

Session 50
Hall 3B

Antimicrobial Surfaces and Materials 4

Chairs: Pentti Tengvall, *University of Gothenburg, Sweden*
Lukasz Major, *Institute of Metallurgy and Materials Science PAS, Poland*
Bora Onat, *Middle East Technical University, Turkey* (YSF Chair)

10:00	**236**	**Antibacterial Effect of Bioactive Starch-Based Scaffolds Functionalized with Silanol Groups** Ana Rodrigues, Albina Franco, Fernando Rodrigues, António Castro, Isabel Leonor, Rui Reis *3Bs Research Group, Portugal*
10:15	**237**	**Bioactive Orthopaedic Devices Preventing Biofilm Formation and Local Infection** Loïc Pichavant, Hélène Carrié, Laurent Plawinski, Jocelyne Caillon, Gilles Amador, Valérie Héroguez, Marie-Christine Durrieu *Université Bordeaux, France*
10:30	**238**	**Anti-Bacterial Borosilicate Glass Formulations for Bone Tissue Engineering Applications** João S. Fernandes, Margarida Martins, Nuno N. Neves, Ricardo A. Pires, Rui L. Reis *3Bs Research Group, Portugal*
10:45	**239**	**Alginate/Chitosan-Based Materials with Bioactive Functionalities** Agnieszka Kyzioł, Anna Regiel-Futyra, Aleksandra Mazgała, Justyna Michna, Małgorzata Kus-Liśkiewicz, Silvia Irusta *Jagiellonian Univeristy, Poland*

Session 51
Hall 4A

Biomimetic Materials

Chairs: Sanjukta Deb, *King's College, United Kingdom*
Anna Ślósarczyk, *AGH University of Science and Technology, Poland*
Nina Henry, *INSERM, France* (YSF Chair)

10:00	**240**	**First Principles Modelling to Establish the Thermodynamically Most Favourable Form and Position of Silicon in Bone Mineral** Helen Chappell, Ravin Jugdaohsingh, Jonathan Powell *MRC Human Nutrition Research, United Kingdom*
10:15	**241**	**Modification of Living Diatom,Thalassiosira Weissflogii by Calcium Precursor as a Sacrificial Template for Development of Next Generation of Structural Biomaterials** Asrizal Abdul Rahman, Syed Ansar Md. Tofail, Abhay Pandit *National University of Ireland, Galway, Ireland*
10:30	**242**	**Fabrication and Histological Evaluation of Carbonate Apatite Coated Calcite** Kunio Ishikawa, Kanji Tsuru, Masako Kobayashi, Youji Miyamoto *Kyushu University, Japan*
10:45	**243**	**Crystallization and Thermal Evolution of Pyrophosphate Polymorphs and Prospective Biomaterials with a Metastable α1-Calcium Pyrophosphate from Amorphous Calcium Phosphates with an Initial CaP Ratio of 1:1** Zoltan Zyman, Matthias Epple, Anton Goncharenko, Dmytro Rokhmistrov *V.N. Karazin Kharkiv National University, Ukraine*

Session 52
Hall 4B

Osteointegration 2

Chairs: Jerome Guicheux, *INSERM U791 LIOAD, France*
Helmut Thissen, *CSIRO Manufacturing Flagship, Australia*
Monika Gołda-Cępa, *Jagiellonian University, Poland* (YSF Chair)

10:15 **244** **Functionally Graded Hybrid Scaffolds for Osteo-Chondral Defect Repair: Scaffold Design**
Serena Bertoldi, Masoumeh Meskinfam, Paola Petrini, Alessandro Cerri, Nicolò Albanese, MariaCristina Tanzi, Silvia Farè
Politecnico di Milano, Italy

10:30 **245** **Formation of Hybrid Materials Based on Calcium Phosphate Deposit on Carbon Fiber Scaffold**
Quentin Picard, Lise Guichaoua, Sandrine Delpeux, Nathalie Rochet, Jérôme Chancolon, Franck Fayon, Fabienne Warmont, Sylvie Bonnamy
Université d'Orléans, France

11:00 **246** **Emulsion Templating: a Versatile Route to the Preparation of Biodegradable and Biocompatible Scaffolds for Tissue Engineering**
Caitlin Langford, David Johnson, Neil Cameron
Monash University, Australia

11:15 **247** **Cross-Linked, Macroporous Hybrid Glass Implants of Defined Architecture for Bone Regeneration**
Stephan Hendrikx, Christian Kascholke, Tobias Flath, Christian Raeck, Mathias Gressenbuch, Peter Schulze, Michael C. Hacker, Michaela Schulz-Siegmund
Universität Leipzig, Germany

Session 53
Hall 1

Advanced Manufacturing 3

Chairs: Jérôme Sohier, *CNRS Institute of Biology and Chemistry of Proteins, France*
Tomasz Goryczka, *University of Silesia, Poland*
Barbara Lukasiewicz, *University of Westminster, United Kingdom* (YSF Chair)

11:30 **K14** **Keynote**
3D Fiber Deposition and Stereolithography Techniques for the Design of Multifunctional Nanocomposite Magnetic Scaffolds
Roberto De Santis, Ugo D'Amora, Teresa Russo, Alfredo Ronca, Antonio Gloria, Luigi Ambrosio
IPCB-CNR Institute of Polymers, Composites and Biomaterials – Naples, Italy

12:00 **248** **Tailoring Porosity from the Nano- to the Macroscale of Low-Temperature Consolidated Robocasted Scaffolds**
Edgar B. Montufar, Yassine Maazouz, Borja Gonzalez, Ladislav Celko, Jozef Kaiser, Maria-Pau Ginebra
Technical University of Catalonia, Spain

12:15 **249** **Development of Bioactive and Antimicrobial 3D Plotted PCL Scaffolds for Bone Tissue Engineering**
Giuseppe Cama, Myriam Gomez Tardajos, Peter Dubruel
Ghent University, Belgium

12:30 **250** **Two-Photon Polymerization of Ormocomp® 3D Structures Doped with Piezoelectric Barium Titanate Nanoparticles**
Attilio Marino, Jonathan Barsotti, Massimiliano Labardi, Barbara Mazzolai, Virgilio Mattoli, Gianni Ciofani
Italian Insitute of Technology, Italy

12:45 **251** **Additive Manufacturing of Poly-High Internal Phase Emulsion Scaffolds with Tuneable Mechanical Properties for Bone Tissue Engineering**
Robert Owen, Colin Sherborne, Gwendolen Reilly, Frederik Claeyssens
The University of Sheffield, United Kingdom

Session 54
Hall 2

Bone Tissue Engineering 6

Chairs: Elizabeth Tanner, *University of Glasgow School of Engineering, United Kingdom*
Serena Best, *University of Cambridge*, *United Kingdom*
Anna Donesz-Sikorska, *Wrocław University of Technology, Poland* (YSF Chair)

11:30	**K15**	**Keynote** **Polymer Brush-Assisted Fabrication of Protein Gradients Inside of 3D Microporous Scaffolds** Andrea Di Luca, Michel Klein Gunnewiek, Hermen Bollemaat, Clemens van Blitterswijk, Julius Vancso, Edmondo Benetti, Lorenzo Moroni *University of Maastricht, Netherlands*
12:00	**252**	**Osteogenic Potential of Self-Assembling Bioceramic Nanoparticles** Michelle O'Doherty, Sreekanth Pentlavalli, Philip Chambers, Marine Chalanqui, Helen McCarthy, Nicholas Dunne *Queen's University Belfast, United Kingdom*
12:15	**253**	**Results of Pilot Experimental Studies in 10 Animals on Prototype of the Multispiked Connecting Scaffold with Thermo-Electrochemically Ca-P Modified Surface for Non-Cemented Biofixation of RA Endoprostheses** Ryszard Uklejewski, Piotr Rogala, Mariusz Winiecki, Wanda Stryła *Casimir the Great University, Poland*
12:30	**254**	**Analysis of Osteoinductive Properties of Combinations of Macroporous Ceramic (MBCP+™), Simvastatin, rhBMP-2, and BMSC in a Femoral Critical Size Induced Membrane Model in Rats** Erwan de Mones, Silke Schlaubitz, Reine Bareille, Lionel Couraud, Jean-Christophe Fricain *INSERM U1026, France*
12:45	**255**	**The Influence of Calcium Phosphate Microparticle Incorporation in Highly Orientated Macroporous Collagen Scaffolds on the Mechanism of Bone Defect Healing** Ansgar Petersen, Hans Leemhuis, Andreas Hoess, Agnes Ellinghaus, Berthold Nies, Ingo Heschel, Georg N. Duda *Charité – Universitätsmedizin Berlin, Germany*

Session 55
Hall 3A

Cardiovascular Applications 3

Chairs: Lucie Bacakova, *Academy of Sciences of the Czech Republic, Czech Republic*
Kinga Pielichowska, *AGH University of Science and Technology, Poland*
Claudia Navarro, *Institute for Bioengineering of Catalonia, Spain* (YSF Chair)

11:30	**K16**	**Keynote** **Elastomeric Materials of Enhanced Mechanical Performance for Implantable Artificial Heart** Agnieszka Piegat, Mirosława El Fray *West Pomeranian University of Technology, Szczecin, Poland*
12:00	**256**	**Preparation of a Small Diameter Decellularized Blood Vessel Covered with SPU Fibers by Electrospinning** Tsuyoshi Kimura, Hiroko Morita, Pingli Wu, Naoko Nakamura, Kwangwoo Nam, Toshiya Fujisato, Akio Kishida *Tokyo Medical and Dental University, Japan*
12:15	**257**	**Blend Electrospinning of Biodegradable Chitosan/Polycaprolactone Fibers as a Process to Create Scaffolds for Cardiovascular Tissue Engineering** Alexandros Repanas, Birgit Glasmacher, Alexandra Theodoropoulou, Dimosthenis Mavrilas *University of Patras, Greece*
12:30	**258**	**Designing Novel Polymeric Endovascular Devices** Daniel Cohn, Randa Abbas, Fany Widlan, Matthew Zarek, Ram Malal, Allan Bloom *The Hebrew University of Jerusalem, Israel*
12:45	**259**	**Mechanical Characterization of Small Diameter Grafts Made of Segmented Polyurethanes Based on Alkaline Aminoacids** Omar Castillo-Cruz, Francis Aviles, Rossana F. Vargas-Coronado, Jose Manuel Cervantes-Uc, Juan Valerio Cauich-Rodriguez, Lerma Hannaiy Chan-Chan *Centro de Investigación Científica de Yucatán, Mérida, Yucatán, Mexico*

Session 56
Hall 3B

Surface Modification 5

Chairs: Kunio Ishikawa, *Kyushu University, Japan*
Tomasz Moskalewicz, *AGH University of Science and Technology, Poland*
Aleksandra Benko, *AGH University of Science and Technology, Poland* (YSF Chair)

11:30	**260**	**Patterning of Neuron Adhesion and Differentiation on Diamond-Like Carbon by Pulsed Laser Ablation** James Dugan, Frederik Claeyssens *University of Sheffield, United Kingdom*
11:45	**261**	**Electrochemically Assisted Deposition of Strontium Modified Magnesium Phosphate on Titanium Surfaces** Markus Meininger, Julia Zerweck, Cornelia Wolf-Brandstetter, Uwe Gbureck, Jürgen Groll, Claus Moseke *University of Würzburg, Germany*
12:00	**262**	**Hydrothermally-Treated Nano-Crystalline TiO_2 Coatings Boost the "Race for the Surface" Towards Osteogenesis rather than Bacterial Adhesion** Martina Lorenzetti, Iztok Dogša, David Stopar, Katrin Susanne Lips, Reinhard Schnettler, Mitjan Kalin, Spomenka Kobe, Saša Novak *Jožef Stefan Institute, Slovenia*
12:15	**263**	**Covalent Attached Fibronectin Fragment-PLDLLA Nanofibers on Titanium for Guiding Osteoblast Behaviour** Jordi Guillem-Marti, Gerard Boix-Lemonche, Dencho Gugutkov, George Altankov, Francisco Javier Gil, Jose Maria Manero *Technical University of Catalonia (UPC), Spain*
12:30	**264**	**Morphometric Examination of Local Tissue Reactions following Implantation of Ti_6Al_4V Plates Coated with Anti-Adhesive Plasma-Fluorocarbon-Polymer Films in Rats** Andreas Hoene, Birgit Finke, Holger Testrich, Silke Lucke, Uwe Walschus, Karsten Schröder, Jürgen Meichsner, Maciej Patrzyk, Michael Schlosser *University Medical Center Greifswald, Germany*
12:45	**265**	**Evaluation of Biological Response of Implants Modified by Carbon Coatings with Si (Si-DLC)** Dorota Bociąga, Jacek Grabarczyk, Joanna Piasecka-Zelga, Jan Skowroński, Piotr Niedzielski *Lodz University of Technology, Poland*

Session 57
Hall 4A

Smart Biomaterials 2

Chairs: Manus Biggs, *National University of Ireland, Galway, Ireland*
Helen Chappell, *MRC Human Nutrition Research Biominerals Research, United Kingdom*
Valentina Bonfrate, *University of Salento, Italy* (YSF Chair)

11:30	**266**	**Biodegradable Semiconductor Hydrogels for the Photothermal Control of Growth Factor Bioavailability** Francisco Martín-Saavedra, Martín Prieto, Manuel Arruebo, Jesús Santamaría, Nuria Vilaboa *La Paz University Hospital-IdiPAZ, Spain*
11:45	**267**	**Nanoporous Bead and Monolith Adsorbents for Haemoperfusion Applications** Yishan Zheng, Susan Sandeman, Ganesh Ingavle, Carol Howell, Sandeep Kumar, Matthew Pope, Michal Kowalski, Kolitha Basnayake, Steve Tennsion, Sergey Mikhalovsky *University of Brighton, United Kingdom*
12:00	**268**	**Biodegradable Temperature-Responsive Injectable Polymer Formulation Convenient at Clinical Scene** Yuichi Ohya, Yasuyuki Yoshida, Akihiro Takahashi, Akinori Kuzuya *Kansai University, Japan*
12:15	**269**	**Mechanical and Cytotoxic Evaluation of a Novel Hydrogel with Potential to Deliver Bioceramic Nanoparticles** Sreekanth Pentlavalli, Michelle O'Doherty, Philip Chambers, Marine Chalanqui, Helen McCarthy, Nicholas Dunne *Queen's University, United Kingdom*
12:30	**270**	**Thermally Modulated Mesenchymal Stem Cell Separation Using Thermoresponsive Cationic Copolymer Brush** Kenichi Nagase, Yuri Hatakeyama, Tatsuya Shimizu, Katsuhisa Matsuura, Masayuki Yamato, Naoya Takeda, Teruo Okano *Tokyo Women's Medical University, Japan*
12:45	**271**	**Biopolymer Mediated Uptake of Sugar Molecules for Cell Preservation and Therapy** Rongjun Chen, Andrew Lynch, Liwei Wu, Zhenlu Hu, Nigel Slater *Imperial College London, United Kingdom*

Session 58
Hall 4B

Drug Delivery 4

Chairs: David Eglin, *AO Research Institute Davos, Switzerland*
Henning Menzel, *University of Technology Braunschweig, Germany*
Jiankang Song, *Radboud University, Netherlands* (YSF Chair)

11:30 **272** **Lipid Nanoparticles Loaded into Biopolymer-Based Hydrogels; Materials for Controlled Rate of Drug Delivery**
Lisa Racine, Rachel Auzély-Velty, Isabelle Texier
Université Grenoble Alpes, CEA/DTBS, France

11:45 **273** **Selective In Vitro Anticancer Effect of Hyaluronan Polymeric Micelles Loaded with SPIONs**
Daniela Smejkalova, Kristina Nesporova, Gloria Huerta-Angeles, Jakub Syrovatka, Andrea Galisova, Daniel Jirak, Vladimir Velebny
Contipro Pharma, Czech Republic

12:00 **274** **Injectable Hydrogel Based on a Novel Amphiphilic Hyaluronic Acid Derivative for Controlled Drug Release**
Assunta Borzacchiello, Luisa Russo, Fabio Salvatore Palumbo, Stefano Agnello, Giovanna Pitarresi, Gaetano Giammona, Luigi Ambrosio
Institute for Composite and Biomedical Materials IMCB-CNR, Italy

12:15 **275** **Polysaccharide-Based Nanomicrosystems for Controlled Delivery of Anti-Inflammatory Agents**
Anna Karewicz, Agnieszka Rojewska, Marta Baster, Elena Iruin Amatriain, Michał Rączy, Maria Nowakowska
Jagiellonian University, Poland

12:30 **276** **Combination of Different BMP2- Peptide Release Mechanisms from Natural Polymeric Systems**
Daniela Giugliano, Maria Grazia Raucci, Luigi Ovaleo Pandolfo, Alessandra Sorinte, Luigi Ambrosio
Institute of Polymers, Composites and Biomaterials – National Research Council of Italy, Italy

12:45 **277** **Mesoporous Bioactive Glass/CaP Bone Cement Composites for the Delivery of the Growth Factor BDNF**
Matthias Schumacher, Katrin S. Lips, Michael Gelinsky
Technische Universität Dresden, Germany

Rapid Fire Presentations (1)

Monday, 31st August (start at 13:30)

278	**Development of Novel Bioresorbable Iron-silver Materials and their in vitro Degradation Behavior** Sanjaya K. Swain, David Starosvetsky, Irena Gotman, Elazar Y. Gutmanas *Israel*
279	**Dissolution Behaviours of MgO-P_2O_5-TiO_2/Nb_2O_5 Glasses in MgO-rich Region** Sungho Lee, Hirotaka Maeda, Akiko Obata, Kyosuke Ueda, Takayuki Narushima, Toshihiro Kasuga *Japan*
280	**Development of Structurally Analogous Cryoprotective Synthetic Polyampholytes and Elucidation of Mechanism** Robin Rajan, Kazuaki Matsumura *Japan*
281	**Shear- Thinning Soft Bionanocomposites Based on Laponite and Poly-L-Lysine for Cell Delivery Purposes** Minkle Jain, Kazuaki Matsumura *Japan*
282	**Viscoelastic Behaviour of Embroidered Scaffolds for the Tissue Engineering of Ligaments** Judith Hahner, Claudia Hinüber, Annette Breier, Gert Heinrich *Germany*
283	**Exploring the Limits of Scaffold Interconnectivity for Cell Type Specific Invasion** Jennifer Ashworth, Marco Mehr, Paul Buxton, Serena Best, Ruth Cameron *United Kingdom*
284	**The Impact of Thrombocytes on the Cell Proliferation within the 3D Scaffolds** Kateřina Pilařová, Věra Jenčová, Jana Horáková, Jakub Erben, Jiří Chvojka, David Lukáš *Czech Republic*
285	**Development of a Valved Conduit for Venal Reconstruction** Sonia Zia, Lucrezia Morticelli, Karsten Grote, Igor Tudorache, Sergei Cebotari, Andres Hilfiker, Birgit Glasmacher, Axel Haverich, Sotirios Korossis *Germany*
286	**Biocompatible Collagen Paramagnetic Scaffold for Controlled Drug Release** Valentina Bonfrate, Simona Bettini, Luca Salvatore, Marta Madaghiele, Ludovico Valli, Gabriele Giancane, Alessandro Sannino *Italy*
287	**Uptake of Nanoparticles by Macrophage Cell Line Predicts In Vivo Clearance by Reticuloendothelial System** Hyeyoun Chang, Ick Chan Kwon, Kwangmeyung Kim *Republic of Korea*
288	**Development of Novel Biomaterials, Natural Polymers, Polyhydroxyalkanoates (PHAs), for Biomedical Applications** Barbara Lukasiewicz, Pooja Basnett, Ipsita Roy *United Kingdom*
289	**Does Ascorbic Acid Modified Polyurethanes May be Suitable Candidates for Soft Tissue Engineering?** Iga Gubanska, Justyna Kucinska-Lipka, Marta Pokrywczynska, Tomasz Drewa, Helena Janik *Poland*
290	**Thermal Crystallization and Phase Evolution in the Amorphous Calcium Phosphate Powders with a Ca/P Ratio of 1:1** Anton Goncharenko, Matthias Epple, Zoltan Zyman, Dmytro Rokhmistrov *Ukraine*

Rapid Fire Presentations (2)

Tuesday, 1st September (start at 13:30)

291	**Methodological Evaluation of Quantitative *in Vivo* MRI Volume Measurements of Hydrogels by *ex Vivo* CT Imaging** Christoph Tondera, Sandra Ullm, Sebastian Meister, Tim P. Gebauer, Axel T. Neffe, Andreas Lendlein, Jens Pietzsch *Germany*
292	**Intraocular Lenses with Surfaces Functionalized by Biomolecules in Relation with Lens Epithelial Cell Adhesion** Yi-Shiang Huang, Virginie Bertrand, Dimitriya Bozukova, Christophe Pagnoulle, Edwin De Pauw, Marie-Claire De Pauw-Gillet, Marie-Christine Durrieu *Belgium*
293	**Introducing Controlled Nano-Roughness in 3D Silk Fibroin Scaffolds for Bone Tissue Engineering** Marianne R. Sommer, Ralph Müller, Sandra Hofmann, André R. Studart *Switzerland*
294	**Effect of Calcium Phosphate Ceramic Substrate Geometry on Cell Organization and Behaviour** A. Hayrapetyan, E.R. Urquia Edreira, J.G.C. Wolke, J.A. Jansen, J.J.J.P. van den Beucken *Netherlands*
295	**Novel Approach Towards Osseointegration: Surface Functionalization on Zirconia** Carlos Caravaca, Liu Shi, Sandra Balvay, Pascaline Rivory, Emmanuelle Laurenceau, Yann Chevolot, Daniel Hartmann, Laurent Gremillard, Jérôme Chevalier *France*
296	**Novel Enzymatically Cross-linked Silk Fibroin Hydrogel with Potential Applications as Suppressor of Angiogenesis and Tumor Progression** Viviana Ribeiro, Joana Silva-Correia, Vera Miranda-Gonçalves, Le-Ping Yan, Ana L. Oliveira, Rui M. Reis, Rui L. Reis, Joaquim M. Oliveira *Portugal*
297	**Electrophoretic Deposition of Composite Coatings Based on ZnO Nanoparticles on Ti6Al7Nb Alloy** Joanna Karbowniczek, Luis Cordero-Arias, Aleksandra Czyrska-Filemonowicz, Aldo R. Boccaccini *Poland*
298	**Bioactivation of SiO_2 Sol-gel Coatings as a Modification Method of Metallic Implants** Anna Donesz-Sikorska, Justyna Krzak, Jerzy Kaleta, Małgorzata Krok-Borkowicz, Elżbieta Pamuła *Poland*
299	**Multimodal Image Registration for Assessment of Bone Formation in Porous Metal Implants** Hua Geng, Taek Bo Kim, Aine Devlin, Naomi Todd, Kamel Madi, Julian R. Jones, Christopher Mitchell, Chris Sutcilffe, Sarah Cartmell, Peter D. Lee *United Kingdom*
300	**Injectable Hydroxyapatite Enriched Hyaluronate Gels for Versatile Tissue Engineering Applications** Cecilia De León, Elvira Estella, L. Téllez-Jurado, M.A. Álvarez-Pérez, Julio San Román, Luis M. Rodriguez-Lorenzo *Spain*
301	**Bone Induction by Surface Modified Calcium Phosphate Ceramics** Rongquan Duan, Davide Barbieri, Xiaoman Luo, Florence de Groot, Huipin Yuan, Joost D. de Bruijn *Netherlands*
302	**Optical Coherence Tomography as a Complementary Method to X-ray Computed Tomography in Dental Diagnosis** Marcin Strąkowski, Milena Supernak-Marczewska, Paulina Strąkowska, Ewa Kowalska, Maciej Kraszewski, Małgorzata Ryniec-Wilczyńska, Michał Trojanowski, Violetta Szycik *Poland*
303	**Molecular Basis of the Gp36 MPER Fusogenic Activity** Anna Maria D'Ursi, Agostino Bruno, Mario Scrima, Manuela Grimaldi, Grazia Della Sala, Vittorio Limongelli *Italy*

Rapid Fire Presentations (3)

Wednesday, 2nd September (start at 13:30)

304	**Engineering PEGylated Alginate Hydrogels for Cell Microencapsulation** Solène Passemard, François Noverraz, Virginia Crivelli, Redouan Mahou, Françoise Borcard, Sandrine Gerber-Lemaire, Christine Wandrey *Switzerland*
305	**Study of Biodegradation Impact on PLA/Graphene-Nanoplatelets Biocomposites Mechanical and Biological Properties** Artur M. Pinto, Carolina Gonçalves, Inês C. Gonçalves, Fernão D. Magalhães *Portugal*
306	**Osteoinductive and Antibacterial Coatings for Dental Implants** Beatriz Palla, Francisco Javier Romero, Mar Fernández, Julio Suay, Mariló Gurruchaga, Isabel Goñi *Spain*
307	**On-Demand Release of Dexamethasone from Conjugated Polymer Matrix** Katarzyna Krukiewicz, Artur P. Herman, Sławomir Boncel, Jerzy K. Żak *Poland*
308	**Mesoporous Silica Nanofibers as Drug Delivery Systems for Intervertebral Disc Regenerative Medicine: Analysis of Protein-Silica Interactions** Nina Henry, Johann Clouet, Catherine Le Visage, Eric Gautron, Bernard Humbert, Jérôme Guicheux, Jean Le Bideau *France*
309	**Regulation of Inflammatory Gene Expression by Functionalized Calcium Phosphate Nanoparticles with Different Delivery Strategies to the Gut** Bernhard Neuhaus, Annika Frede, Astrid Westendorf, Matthias Epple *Germany*
310	**How the Interfacial Shear Strength in PLGA Fibre-Reinforced Brushite Cements Affects the Composites Mechanical Properties** Stefan Maenz, Max Hennig, Mike Mühlstädt, Elke Kunisch, Raimund W. Kinne, Frank Plöger, Jörg Bossert, Klaus D. Jandt *Germany*
311	**Heparinization of Calcium Phosphates: Towards Enhancing Biological Performance** Anna Díez-Escudero, Montserrat Espanol, Maria-Pau Ginebra *Spain*
312	**Intercellular Delivery of Self-Assembling Osteogenic Nanoparticles: Fate and Effect** Philip Chambers, Sreekanth Pentlavalli, Michelle O'Doherty, Marine Chalanqui, Helen O. McCarthy, Nicholas Dunne *Northern Ireland*
313	**Porous Particles as Cell Delivery Vehicles for Bone Tissue Engineering** Thomas Paterson, James Dugan, Colin Sherborne, Chia-Cheng Chen, Nicola Green, Gwendolen Reilly, Frederik Claeyssens *United Kingdom*
314	**Biodegradable SCL-PHA Composite Scaffolds for Bone Tissue Engineering** Christy Thomas, Aldo. R. Boccaccini, Ipsita Roy *United Kingdom*
315	**Multifunctional Anti-Adhesive Films Prepared by Layer-by-Layer Formation of Zwitterionic Micelles** Bora Onat, Vural Bütün, Sreeparna Banerjee, İrem Erel-Göktepe *Turkey*

Poster Presentations

316	**Production of Spray Dried Calcium Phosphate-Gelatin Composite and The Impact of Cross-linking Agent on Composite Structure and Bioactivity in Simulated Body Fluid** Tugba Basargan Ozsagiroglu, Gülhayat Nasun Saygili *Turkey*
317	**Preparation of Polycaprolactone-Polyethylene Glycol-Casein Bioblends using Spray Dryer** Erhan Ozsagiroglu, Yuksel Avcibasi Guvenilir *Turkey*
318	**3D-Powder-Printing of Strontium Modified Magnesium Phosphate Cements for Bone Augmentation** Emilie März, Claus Moseke, Uwe Gbureck, Jürgen Groll, Elke Vorndran *Germany*
319	**Selection and Optimization of Hydroxyapatite and Chlorapatite Powders for 3D-printing** Zeinab Salary, Parastoo Parastoo Jamshidi, Zuzanna Trzcińska, David Grossin, Ghislaine Bertrand, Olivier Marsan, Cédric Charvillat, Imane Demnati, Moataz Moataz Attallah, Artemis Stamboulis *United Kingdom*
320	**Zirconia-Ceria Hydroxide Sol-Gel Synthesis: Colloid Processing and Powders Preparation for Potential Biomedical Application** Damian Nakonieczny, Zbigniew Paszenda, Tomasz Radko *Poland*
321	**Influence of the Colloid System pH for the Phase Composition and Morphology of Cerium Oxide Doped Zirconia Powders – Properties Evaluation** Damian Nakonieczny, Zbigniew Paszenda, Sabina Drewniak, Tomasz Radko *Poland*
322	**Synthesis of MTA Powder by Spray-Pyrolysis** Jeong-Cheol Lee, Seung-Hoon Um, Bong Kyu Choi, Sang-Hoon Rhee *Republic of Korea*
323	**Direct Fabrication of Porous Titanium Implant via 3D Printing** Pavan Kumar Srivas, Kausik Kapat, Prabhash Dadhich, Pallabi Pal Pal, Bodhisatwa Das, Santanu Dhara *India*
324	**Preparation of Electroconductive Titania Scaffolds for Bone Tissue Regeneration** Inga Narkevica, Jurijs Ozolins *Latvia*
325	**A Novel Model of Nonalcoholic Fatty Liver Disease in a 3D Liver-on-Chip Device** Manuele Gori, Maria Chiara Simonelli, Luca Businaro, Marcella Trombetta, Alberto Rainer *Italy*
326	**Stainless Steels Alloyed with Molybden for Medical Applications** Victor Geanta, Ionelia Voiculescu *Romania*
327	**New Titanium Alloys for Medical Applications** Ionelia Voiculescu, Victor Geanta *Romania*
328	**A Novel Pluronic/Alginate Scaffold for 3D Liver Cell Culture** Manuele Gori, Sara Maria Giannitelli, Pamela Mozetic, Marcella Trombetta, Alberto Rainer *Italy*
329	**As-cast Biodegradable MgCa Alloys –Structure, Mechanical and Corrosion Properties** Sonia Boczkal, Michał Karaś, Anna Kozik, Dawid Kapinos, Marzena Lech-Grega *Poland*
330	**Bone Tissue Engineering Using Combined Additive Manufacturing and Microtomography with FEM Verification** Jakub Kamiński, Maciej Śniechowski, Sebastian Wroński, Janusz Malinowski, Jacek Tarasiuk *Poland*

331 **Investigating Neovascularization in Rat Decellularized Intestine - an in vitro Platform for Studying Angiogenesis**
Lindsey Dew, Giulia Gigliobianco, Chuh Chong, Sheila MacNeil
United Kingdom

332 **Development of a Bioengineered Vascular Niche for the Treatment of Type 1 Diabetes Mellitus**
Valeria Perugini, Mark Best, Anna Guildford, Gary Phillips, Wendy Macfarlane, Adrian Bone, Matteo Santin
United Kingdom

333 **Capture Antibodies to Biofunctionalize Vascular Prosthesis**
Sven Liebler, Fritz Grunert, John Thompson, Burkhard Schlosshauer
Germany

334 **Utilization of Biocompatible and Biodegradable Polymers in Stem Cell Research and Biomedical Applications**
Malgorzata Sekula, Patrycja Domalik-Pyzik, Anna Morawska-Chochół, Jakub Czuchnowski, Zbigniew Madeja, Ewa Zuba-Surma, Jan Chłopek
Poland

335 **High Throughput Materials Discovery of Polymers Resistant to Staphylococcus Epidermidis**
Andrew Hook
United Kingdom

336 **Fabrication of Antibacterial Multi-function Materials on Bioactive Micro Arc Oxidized TiO_2**
Tzer-Min Lee, Yu-Pu Chu, Yen-Ting Liu
Taiwan, Province of China

337 **Silver-Containing Bioceramics Based on Hydroxyapatite**
Zoltan Zyman, Mykola Tkachenko, Tatiana Babkina
Ukraine

338 **Antimicrobial and Toxicological Studies of Novel Chlorhexidine-Hexametaphosphate Nanoparticles for Coating Central Venous Catheters**
Helena Grady, Sarah Maddocks, Margaret Saunders, Andrew Collins, Michele Barbour
United Kingdom

339 **Anti-Biofilm Effects of Poly-epsilon-Lysine Dendrons and their Interactions with Bacterial Membranes**
Orode Aniejurengho, Mariagemiliana Dessi, Steve Meikle, Matteo Santin
United Kingdom

340 **Influence of Silver Additive on the Physicochemical Properties of the New Cement Type Biomaterials**
Dominika Siek, Joanna Czechowska, Aneta Zima, Anna Ślósarczyk
Poland

341 **In vitro Studies of Antibacterial Activity of Sol-Gel Bioglasses Containing Mg, Sr and Au**
Lidia Ciołek, Andrzej Olszyna, Ewa Zaczyńska, Anna Czarny
Poland

342 **Bone Allograft with Antibacterial Coating for Therapeutic Application**
István Hornyák, Edit Madácsi, Pálma Kalugyer, Zsombor Lacza
Austria

343 **Antimicrobial Efficiency and Bacterial Damage on Copper Surfaces**
Claudia Hahn, Michael Hans, Frank Muecklich, Ralf Moeller, Reinhard Wirth, Guenther Reitz, Petra Rettberg
Germany

344 **Antibacterial Sol-Gel Coating of Ceramic TiO_2 Scaffolds for Bone Regeneration**
David Wiedmer, Cedric Bossard, Hanna Tiainen, Håvard Haugen
Norway

345 **Metallic Copper as an Antimicrobial Agent for Infection Prevention**
Michael Hans, Claudia Hahn, Marc Solioz, Ralf Möller, Frank Muecklich
Germany

346 **Interaction and Miscibility of Biodegradable Polymers with Biologically Active Molecules**
Eva Sanchez-Rexach, Inger Martínez de Arenaza, Emilio Meaurio, Jose-Ramon Sarasua
Spain

347 **Bactericidal Behaviour of a New Biodegradable and Biocompatible PLDA/Mg Composite**
Miguel Ángel Pacha-Olivenza, Juan Pablo Fernández-Hernán, Amparo María Gallardo-Moreno, José Luis González-Carrasco, Sandra Carolina Cifuentes, María Luisa González-Martín
Spain

348 **Development and in vitro Testing of Gelatin-Based Antibacterial Burn Wound Dressings**
Birgit Stubbe, Sandra Van Vlierberghe, Gilles Brackman, Mohaddeseh Amiri Aref, Henk Hoeksema, Stan Monstrey, Frank Vanhaecke, Piet Van Espen, Karolien Dewael, Tom Coenye, Peter Dubruel
Belgium

349 **Improvement of the Antibacterial Properties of Hydroxyapatite Coatings**
Alina Vladescu, Mariana Braic, Mihaela Badea, Adrian Kiss, Viorel Braic
Romania

350 **A 17-mer Membrane-Active MSI-78 Derivative with Improved Selectivity Towards Bacterial Cells**
Claudia Monteiro, Marina Pinheiro, Mariana Fernandes, Sílvia Maia, Catarina L. Seabra, Frederico Ferreira-da-Silva, Salette Reis, Paula Gomes, M. Cristina L. Martins
Portugal

351 **Comparative Study of the Bactericidal and Chemical Properties of Oxidized Regenerated Cellulose and Oxidized Cellulose Topical Absorbable Hemostats**
Douglas B Johns, Shubhangi Bhende, Sheri Baker, Benjamin D Fitz, Stephen Rothenburger
United States

352 **Biological Response To Titanium-Silver Alloys Produced by Powder Metallurgy**
Barbara Szaraniec, Elżbieta Menaszek, Tomasz Goryczka, Rafał Pokrowiecki, Tomasz Zaręba
Poland

353 **Silver and Gold Nanoparticle-Based Composites with Chitosan as Efficient and Biocompatible Materials for Antimicrobial Therapy**
Anna Regiel-Futyra, Małgorzata Kus-Liśkiewicz, Victor Sebastian, Silvia Irusta, Manuel Arruebo, Agnieszka Kyzioł, Grażyna Stochel
Poland

354 **Facile Biosynthesis of Silver Nanoparticles Using Tilia Tomentosa Leaf Extract: its Characterization and Antimicrobial Activity**
Fatih Duman, Murat Kaya, Ismail Ocsoy, Fatma Ozturk Kup, Fatih Dogan Koca
Turkey

355 **Mg Ions Effect on Staphylococcus epidermidis Strain**
Jesús Rodríguez-Sánchez, Miguel Ángel Pacha-Olivenza, María Luisa González-Martín
Spain

356 **Thin Film as an Enzyme Release System for Antimicrobial Applications**
Andreza Ribeiro, Michaela Müller
Germany

357 **Bacteria, Biofilms and Mass Spectroscopy: Following the Bacteria's Footprints**
E. Peter Magennis, Andrew Hook, Paul Williams, David Barrett, Morgan Alexander
United Kingdom

358 **Bacteria-Instructed Synthesis of Polymers for Self-Selective Microbial Binding and Labelling**
E. Peter Magennis, Francisco Fernandez-Trillo, Cheng Sui, Sebastian Spain, David Bradshaw, David Churchley, Giuseppe Mantovani, Klaus Winzer, Cameron Alexander
United Kingdom

359 **Microbial Adhesion On Nanostructured Biomaterials Surfaces**
Carolin Dewald, Claudia Lüdecke, Martin Roth, Jörg Bossert, Klaus Jandt
Germany

360 **Design of Ag@SiO_2 Nanorattles for Antimicrobial Implant Coatings**
Sarah-Luise Abram, Katharina Fromm
Switzerland

361 **Synthesis of Poly(N-Isoproprylacrylamide)-Silver Nanocomposite for Biomedical Applications**
Milene Tan, Katharina Fromm
Switzerland

362	**Multilayer Coating of a Nonwoven Polyester Textile for Antibacterial Wound Dressing** François Aubert-Viard, Oumaïra Rahmouni, Adeline Martin, Feng Chai, Nicolas Tabary, Christel Neut, Bernard Martel, Nicolas Blanchemain *France*
363	**PVCL-based Nanogels as Multi-Drug Delivery System for Hybrid Imaging** Andrea Götz, Wa'el Rawashdeh, Andrij Pich, Fabian Kiessling *Germany*
364	**MP-SPR New Characterization Method for Interactions and Ultrathin Films** Niko Granqvist, Annika Jokinen, Willem Albers, Janusz Sadowski *Finland*
365	**Quantitative Characterization of Adhesion and Mechanics of Single Cells and Their Interactions with Biomaterials by AFM** Torsten Müller, Dimitar Stamov, Jörg Barner, Anne Hermsdörfer, Carmen Pettersson, Torsten Jähnke *Germany*
366	**Modular Polymeric Substrate System for Printable Biosensors** Peter Sobolewski, Agata Goszczyńska, Agata Niemczyk, Ewa Mijowska, Jacek Podolski, Mirosława El Fray *Poland*
367	**Investigative Method for Clarifying the Allergizing Effect of Substance in Antigen Presentation** Melinda Szalóki, Laura Kustos, Csaba Hegedűs *Hungary*
368	**Nanoparticles Sensing on Endothelial Cells by Means of Atomic Force Microscopy and Nanoindentation with an AFM Tip** Agnieszka Kołodziejczyk, Sylwia Kotarba, Kinga Kądzioła, Nina Bartoszek, Małgorzata Siatkowska, Paulina Sokołowska, Tomasz Wasiak, Joanna Rywaniak, Katarzyna Działoszyńska, Marta Kamińska, Piotr Komorowski, Krzysztof Makowski, Bogdan Walkowiak *Poland*
369	**Nanomagnetite Composite Implants in Magnetic Resonance Imaging** Katarzyna Nowicka, Anna Krak, Henryk Figiel, Krzysztof Turek *Poland*
370	**Rotational Dual-Chamber Bioreactor Designed for Tissue Engineered Interfaces** Raphaël F. Canadas, Alexandra P. Marques, Joaquim M. Oliveira, Rui L. Reis *Portugal*
371	**Nanocrystalline Hydroxyapatite Effects on M1 and M2 Macrophage Populations** Javier Linares, Ana Belén Fernández, María José Feito, María Concepción Matesanz, Sandra Sánchez-Salcedo, Daniel Arcos, María Vallet-Regí, José María Rojo, María Teresa Portolés *Spain*
372	**Probing Endothelial Cell Behaviour on Extracellular Matrix Mimetic Supported Lipid Bilayers** Gulistan Kocer, Pascal Jonkheijm *Netherlands*
373	**Magnesium Implant Degradation Influenced by Blood and Cells** Nezha Ahmad Agha, Frank Feyerabend, Boriana Mihailova, Hans-Peter Wendel, Daniel Laipple, Regine Willumeit-Römer *Germany*
374	**Surface-Dependent Mechanical Stability of Adsorbed Human Plasma Fibronectin on Ti6Al4V** Virginia Vadillo-Rodríguez, Jose M. Bruque, Amparo M. Gallardo-Moreno, M. Luisa González-Martín *Spain*
375	**Electrophoretic Deposition of Free Standing Collagen Films** David Barrett, Terance Hart, Serena Best, Ruth Cameron *United Kingdom*
376	**Determination of Foreign Body Giant Cells after Implantation of Different Biodegradable Materials into Rats** Silke Lucke, Uwe Walschus, Andreas Hoene, Jens-Wolfgang Pissarek, Matthias Schnabelrauch, Birgit Finke, Karsten Schröder, Maciej Patrzyk, Michael Schlosser *Germany*

377	**Long Term Stability of Proteins in Contact with Solid Surfaces** Tongtong Huang, Karine Anselme, Segolene Sarrailh, Arnaud Ponche *France*
378	**The Bone-Implant Interface – Are Osteocytes at the Implant Surface Responsible for Mechanical Load Transfer?** Furqan Ali Shah, Xiaoyue Wang, Peter Thomsen, Kathryn Grandfield, Anders Palmquist *Sweden*
379	**The Distribution of Apatite Nanoparticles Decide the Biological Interaction of Gelatin-Alginate Hydrogels** Sergiu Cecoltan, Daniela-Geta Petre, Catalin Tucureanu, Aurora Salageanu, Eugeniu Vasile, Mircea Istodorescu, Dan Laptoiu, Rodica Marinescu, Marius Petrutescu, Izabela-Cristina Stancu *Romania*
380	**A Porous Membrane to Reconstitute Tissue-Tissue Interfaces in a Biomechanical Environment in vitro** Ina Prade, Kristin Trommer, Michael Meyer *Germany*
381	**Strontium Folate, a New Alternative for the Treatment of Osteoporosis and Other Bone Diseases** Luis Rojo, Sofia Radley-Searle, Cristina Abradelo, Sanjukta Deb, Julio San Roman *United Kingdom*
382	**The Use of Microporous Hydroxyapatite Material in Regenerative Treatment of Periodontal Tissues in Dogs** Izabella Polkowska, Anna Ślósarczyk, Aleksandra Sobczyńska-Rak, Magdalena Gołyńska, Tomasz Szponder, Beata Żylińska *Poland*
383	**Bone Substitute from Mineralized Phosphate Prestructured Gelatine – Cell Culture and Mechanical Characterization** Benjamin Kruppke, Christiane Heinemann, Jana Farack, Hartmut Worch, Thomas Hanke *Germany*
384	**Innovative Bioresorbable Intramedullary Nail for Fixation of Long Bone Fractures, Preliminary Research** Jarosław Deszczyński, Tomasz Ciach, Łukasz Nagraba, Tomasz Mitek, Artur Stolarczyk *Poland*
385	**Biomimetic Composites of Chitosan Mineralized with $CaCO_3$ for Bone Regeneration** Timothy Douglas, Sangram Keshari Samal, David Schaubroeck, Kevin Braeckmans, Andre Skirtach *Belgium*
386	**Development of Boron Doped Hydroxyapatite by Biomimetic Method** Ekin Ozge Tuncay, Tolga Tugrul Demirtas, Menemse Gumusderelioglu *Turkey*
387	**Intra-molecular Glucosepane Cross-linking of Type I Collagen, Determination of the Site Specificity and its Effect on the Biological and Mechanical Function** Thomas Collier, Anthony Nash, Laurent Bozec, Helen Birch, Nora de Leeuw *United Kingdom*
388	**PBSu-based Composite Scaffolds Containing Micro-Bioactive Glass and Nano-Hydroxyapatite for Bone Reconstruction** Maria Nearantzaki, Ioanna Koumentakou, Iro Koliakou, Evangelia Siska, Martha Kaloyanni, Dimitrios Bikiaris *Greece*
389	**Microfluidics in Biomaterials For Bone Tissue Engineering Applications** Eleftheria Babaliari, George Petekidis, Maria Chatzinikolaidou *Greece*
390	**Porosity Determination in Pure and Hydroxyapatite Reinforced Calcium Phosphate Cements Using µCT Images** Triantafillos Papadopoulos, Efstathia Tsetsenekou, Stamatia Rokidi, Nikolaos Bouropoulos *Greece*
391	**Effect of Powder/Liquid Ratio on the Strength of Mechano-Chemically Modified β-tricalcium Phosphate Cement** Yumika Ida, Ji-Young Bae, Kazumitsu Sekine, Fumiaki Kawano, Kenichi Hamada *Japan*

392	**A Dual Crosslinking Strategy for Reinforcing Gelatine-Methacrylamide Hydrogels for Cartilage Repair** Ferry Melchels, Kaj Blokland, Riccardo Levato, Jos Malda *Spain*
393	**Design and Characterization of a Composite Material Based on Sr(II)-Loaded Clay Nanotubes Included within a Biopolymer Matrix** Stefano Del Buffa, Massimo Bonini, Francesca Ridi, Mirko Severi, Paola Losi, Silvia Volpi, Tamer Al Kayal, Giorgio Soldani, Piero Baglioni *Italy*
394	**Assessment of Magnesium Biodegradability by Micro-CT Platform** Ivana Ročňáková, Edgar B. Montufar, Miroslava Horynová, Tomáš Zikmund, Karel Novotny, Ladislav Celko, Lenka Klakurkova, Jozef Kaiser *Czech Republic*
395	**In-vitro Evaluation of Bioactivity of Chemically Treated Titanium Metals in the Presence of Proteins** Weitian Zhao, Jacques Lemaître, Paul Bowen *Switzerland*
396	**Artificial Extracellular Matrices with Sulfated Glycosaminoglycans Promote the Osteogenic Differentiation of Osteoblast Precursor Cells** Sarah Vogel, Ute Hempel, Stephanie Möller, Matthias Schnabelrauch, Vera Hintze, Dieter Scharnweber *Germany*
397	**In situ Setting Calcium Magnesium Phosphate Bone Cements as Drug Carrier System** Andreas Hoess, Anna Schmidt, Theresa Christel, Berthold Niess, Jürgen Groll, Uwe Gbureck, Elke Vorndran *Germany*
398	**$MgCO_3$ and $(Mg/Ca)CO_3$ Microparticles for Bone Regeneration: Synthesis, Characterization and Applications** Katarzyna Reczyńska, Timothy E.L. Douglas, Agata Łapa, Krzysztof Pietryga, Andre G. Skirtach, Elżbieta Pamuła *Poland*
399	**Mechanical and Biological Characterization of Brushite/PCL Scaffolds** Alberto Lagazzo, Claudia Fabbi, Giuseppe Cama, Fabrizio Barberis, Marco Capurro *Italy*
400	**Brushite-Aminoacid Composite Materials: Properties and Interactions at a Molecular Level** Alberto Lagazzo, Fabrizio Barberis, Elisabetta Finocchio *Italy*
401	**In vitro Performance of Biomimetic Hydroxyapatite: Unravelling the Effect of Ionic Exchange** Joanna Maria Sadowska, Jordi Guillem Marti, Maria Pau Ginebra Molins *Spain*
402	**Collagen Gel in Hip Cartilage Repair, the in vivo Preliminary Study** Anna Bajek, Joanna Skopińska-Wiśniewska, Aldona Rynkiewicz, Arkadiusz Jundziłł, Magdalena Bodnar, Andrzej Marszałek, Tomasz Drewa *Poland*
403	**Osteointegration of a Macroporous Cement Designed to Repair Large Cancellous Bone Defects** Bruno Cimatti, Wendell Barboza, Marcelo Nogueira-Barbosa, Edgard Engel *Brazil*
404	**In vitro Cytotoxicity and in vivo Acute Toxicity of Porous Cements Based on Polymethilmethacrilate and Castor Oil Polyurethane** Mariana Santos, Bruno Cimatti, Maria Sol Brassesco, Laura Okano, Edgard Engel *Brazil*
405	**Phosphate-Hydroxyapatite Cements: Mechanical Stress Analysis and Osteoblastic Induction** Toshimi Kano, Stamatia Rokidi, Eumorphia Remboutsika, Dionysios Mouzakis, Stefanos Zaoutsos, Nikolaos Bouropoulos, Eleni Douni *Greece*
406	**Functionalized Polymeric Composite Nano-Fibrous Scaffold for Bone Tissue Engineering** Prabhash Dadhich, Bodhisatwa Das, Pavan Srivas, Pallabi Pal, Joy Dutta, Sabyasachi Ray, Santanu Dhara *India*

407 **Biodegradable Mg-Alloys with Ultra-Fine Grain Structure for Orthopaedic Applications**
Eva Jablonská, Peter Minárik, Jan Lipov, Tomáš Ruml
Czech Republic

408 **Cytocompatibility of Novel PLDA/Mg Composites as Biodegradable Implants for Bone Repair**
Sandra Cifuentes, Fatima Bensiamar, Tim Osswald, José Luis González-Carrasco, Eduardo García-Cimbrelo, Nuria Vilaboa, Laura Saldaña
Spain

409 **Local Recovery of Bone Tissue in Osteoporotic Rabbit Hip after Implantation of HAP/TCP Bioceramic Granules**
Ilze Salma, Sandris Petronis, Mara Pilmane, Andrejs Skagers, Vita Zalite, Janis Locs
Latvia

410 **Multinucleated Giant Cell Formation in Different Xenogeneic Bone Substitute Materials, Preclinical and Clinical Studies**
Jonas Lorenz, Mike Barbeck, Charles J. Kirkpatrick, Robert Sader, Shahram Ghanaati
Germany

411 **Mechanical and in vitro Properties of Stereocomplex Polylactide Coatings on Porous Bioactive Glass Scaffolds for Bone Regeneration**
Peter Uppstu, Simon Engblom, Saara Inkinen, Leena Hupa, Carl-Eric Wilén
Finland

412 **The Osteogenic Effect of Alginate Nanoparticles Contained Bone Morphogenetic Proteins-2 on Bone Marrow Stromal Cells**
Ho Yun Chung, Hyun Ju Lim, Jae Bong Kim, Eun Jung Oh, Tae Jung Kim, Jin Hyun Choi
Republic of Korea

413 **Space-Maker Membrane Modified with Ceramic Nanoparticles**
Ewa Stodolak-Zych, Katarzyna Medrela
Poland

414 **Evaluation of the Biofuncionality of Internal Fixation Plates for Small Animals**
Barbara Szaraniec, Karol Gryń, Tomasz Szponder, Aleksandra Wąsik
Poland

415 **The Influence of Poly(Ethylene Glycol) with Different Molecular Weight on the Properties of Acrylic Bone Cements**
Klaudia Król, Kinga Pielichowska
Poland

416 **Optimizing Tibial Fractures Treatment With Carbon-Plate Fixator – CARBOELASTOFIX**
Maciej Ambroziak, Jan Chłopek, Anna Morawska-Chochół, Wojciech Żakiewicz
Poland

417 **The Influence of Chain Extender on Properties of Polyurethane-Based Composites as Potential Injectable Bone Substitutes**
Piotr Szczepańczyk, Kinga Pielichowska, Jan Chłopek
Poland

418 **Human Amniotic Membrane for Bone Regeneration of Calvaria Defects in Mice**
Mathilde Fénelon, Claudine Boiziau, Reine Bareille, Olivier Chassande, Sylvie Rey, Hélène Boeuf, Florelle Gindraux, Zoran Ivanovic, Jean-Christophe Fricain
France

419 **The Influence of Synthesis Environment on Thermal Properties Of Chitosan-Based Nanocomposites**
Krzysztof Pazdan, Kinga Pielichowska, Jan Chłopek
Poland

420 **Why Incorporation of Poly(Ethylene Glycol) into Polyurethane Chain is an Attractive Way to Improve its Physicochemical Properties for Bone Regeneration?**
Michalina Marzec, Justyna Kucinska-Lipka, Helena Janik
Poland

421 **Construction of a Funtional Bone Implant to Direct the Biomineralization Process**
Inas Ozcan, Kursad Kazmanlı, Fatma Nese Kok
Turkey

422	**Mechanically Robust and Sterilizable, Biosignalling Surfaces for Metallic and Polymer Orthopedic Implants** Marcela Bilek, Wojciech Chrzanowski, Edgar Wakelin, Giselle Yeo, Alexey Kondyurin, David McKenzie, Anthony Weiss *Australia*
423	**Exploring Osteoclastogenesis in a Co-Culture System** Sabine Schulze, Peter Dieter, Ute Hempel *Germany*
424	**Chondrogenic Differentiation of Mesenchymal Stem Cells Derived from Osteoarthritic Patients on Pure or Chitosan-Coated Poly(L-Lactic Acid) Scaffolds** Joana Magalhães, Cristina Álvarez-Martínez, Elena F. Burguera, Cristina Ruiz-Romero, José Luís Goméz-Ribelles, Francisco J. Blanco *Spain*
425	**Resorbable Scaffolds with Sodium Alendronate Loaded Microparticles for the Treatment of Bone Tissue Defects** Małgorzata Krok-Borkowicz, Urszula Posadowska, Karolina Tos, Elżbieta Pamuła *Poland*
426	**Composition Structure Relationships in the Anomaly Range of a Tertiary Borate Glass** Kathleen MacDonald, Margaret Hansen, Daniel Boyd *Canada*
427	**Artificial Bones for Laboratory Tests on Dentistry Devices** Elisa Rossi, Alberto Lagazzo, Fabrizio Barberis *Italy*
428	**Alginate-Based Magnetic Electrospun Matrixes for Potential Hyperthermia Treatment** Yen-Hsuan Chen, Wan-Ju Chang, Tzer-Min Lee, Chi-Hui Cheng, Jui-Che Lin *Taiwan, Province of China*
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