

Program
**of the 36th Annual Meeting &
Symposium of The International
Society for Ceramics in Medicine**

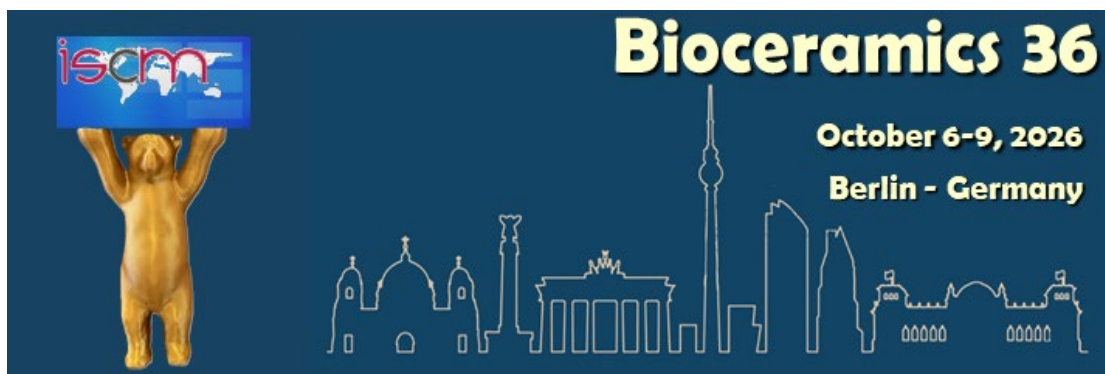
October 6-9, 2026 - Berlin, Germany

Bioceramics 36

Bridging material science,
engineering and
regenerative medicine for
advancing medical care



October 6-9, 2026 | Berlin, Germany



Conference Program Bioceramics 36
Overview (preliminary schedule):
October 6-9, 2026, Berlin - Germany

Tuesday, October 6, 2026

Pre-Conference Tour

11:30 a.m. Optional Dahlem Walking Tour departing from the Harnack House
<https://www.harnackhaus-berlin.mpg.de/4725539/DahlemTour-Flyer.pdf>

Opening Ceremony & Plenary Session I Lisboa I & II 2:00-4:00 p.m.

2:00 p.m. Opening ceremony

2:30 p.m. Plenary lecture I

1. Professor Ahmed El-Ghannam, PhD

Department of Mechanical Engineering and Engineering Science, University of North Carolina, Charlotte, USA

Bioactivity of ceramics and lessons we have learned over the past 55 years

3:15 p.m. Plenary lecture II

2. Distinguished Professor Dietmar W. Hutmacher, PhD, MBA

Institute of Health and Biomedical Innovation (IHBI), Queensland University of Technology, Australia and Max Planck Queensland Center, Brisbane, Australia

How does Hydration alter the Properties of Aliphatic Polyester Composite Scaffolds?
 - Translation of 3D printed Tricalcium Phosphate Aliphatic Polyester Composite Scaffolds for segmental bone defect repair from Fundamental Research to the Clinical Arena -

4:00-4:20 p.m. Coffee Break: Meet & Greet

4:20 p.m. Daniel Staemmler, Elsevier GmbH, Germany

AI in Publishing

4:50-6:05 p.m. Plenary Session II Biomineralization Lisboa I & II

3. 4:50 p.m. Keynote Marc Bohner

RMS Foundation, Bettlach, Switzerland

Fundamental aspects of biomineralization involved in bone tissue formation

4. 5:20 p.m. Keynote Esther Amstad,

Soft Materials Laboratory (SMaL) Institute of materials at EPFL l'École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland

Biomineralization of 3D printed granular hydrogels

5:50.p.m. to 6:05 p.m.

5. Y. Hajji¹, C. Drouet¹, S. Sarda¹, O. Marsan¹, C. Lacaze-Dufaure¹

Numerical model of biomimetic apatites analogous to bone mineral

(¹Univ. Toulouse, Toulouse INP, CNRS, CIRIMAT, Toulouse, France)

7:00-9:00 p.m. Welcome Reception

Villa Clara Cram - deGruyter Foundation

Wednesday, October 7, 2026

Concurrent Session Lisboa I & II	Concurrent Session Lisboa III
<u>Session III 9:00 a.m.-10:30 a.m.</u> <u>Zirconia Ceramics for dental restorations</u>	<u>Session IV 9:00 a.m.-10:30 a.m.</u> <u>Bone grafts & regeneration</u>
<u>9:00 a.m.-9:30 a.m.</u> 6. Keynote Mike Swain <i>Engineering, The University of Sydney, Sydney, Australia)</i> Ceramics: The Tension Between Aesthetics, Mechanical Properties and Biomimetic Guidance	<u>9:00 a.m.-9:30 a.m.</u> 9. Keynote Kunio Ishikawa <i>Department of Biomaterials, Faculty of Dental Science Kyushu,, Fukuoka, Japan</i> Translation of carbonate apatite bone grafts from bench to bedside.
<u>9:30 a.m.-10:00 a.m.</u> 7. Keynote Chris Sorell <i>UNSW Sydney, School of Materials Science and Engineering, Sydney, Australia</i> New Perspectives on TZP Dental Ceramics	<u>9:30 a.m.-9:45 a.m.</u> 10. G. Vecchio ¹ , P. Lagarrigue ^{1, 2} , F. Brouillet ² , V. Poissonnet ³ , A. Dupret-Bories ³ , A. Bethry ¹ , M.-P. Castanie-Cornie ⁴ , C. Combes ² , D. Grossin ² , J. Soulie . ² From the Synthesis of Bioactive Glass Microparticles to Functional Porous Scaffolds: Role of Functionalization and Freeze-Casting on Biological and Mechanical Properties. <i>(¹IBMM, Montpellier, France, ²CIRIMAT, Toulouse, France, ³Department of Otolaryngology and Head & Neck Surgery, Toulouse, France, ⁴Laboratory of Microbiology and Molecular Genetics, Toulouse, France)</i>
	<u>9:45 a.m.-10:00 a.m.</u> 11. E.B. Montufar ¹ , K. Slámečka ¹ , A. Jančík ² , C. Oliver-Urrutia ¹ , L. Drotarová ¹ , L. Žaloudková ¹ On the effects of liquid polarity on the compressive strength of calcium phosphate cements. <i>(¹Central European Institute of Technology - Brno University of Technology, Brno, Czech Republic; ²Faculty of Civil Engineering - Brno University of Technology, Brno, Czech Republic)</i>
<u>10:00 a.m.-10:30 a.m.</u> 8. Keynote Jérôme Chevalier <i>Institut National des Sciences Appliquées de Lyon, France, Lyon, France</i> Robust 3D printed dental restorations: from process optimisation to new materials design	<u>10:00 a.m.-10:15 a.m.</u> 12. R. Fialka ¹ , Z. Varchulová Nováková ² , Z. Chlup ³ , P. Veteška ¹ , Ľ. Danišovič ² , Ľ. Bača ¹ , M. Janek. ¹ Talc-Modified Hydroxyapatite Composites for Biomedical Scaffolds: Effects on Phase Composition, Mechanical Properties, and Cytotoxicity <i>(¹Slovak University of Technology, Department of Inorganic Materials, Faculty of Chemical and Food Technology, Bratislava, Slovakia, ²Comenius University, Institute of Medical Biology, Genetics and Clinical Genetic, Faculty of Medicine, Bratislava, Slovakia, ³Czech Academy of Sciences, Institute of Physics of Materials, Brno, Czech Republic)</i>
	<u>10:15 a.m.-10:30 a.m.</u> 13. R. Jurniac ^{1, 2} , E. Martin ³ , A. Magnaudeix ³ , P. Pascaud-Mathieu ³ , C. Petit ² , N. Douard ¹ , D. Eglin. ¹ In-vitro evaluation of bioresorption of A-type carbonated hydroxyapatites. <i>(¹Mines Saint-Etienne, Univ Jean Monnet, Etablissement Français du Sang, INSERM, U 1059 SAINBIOSE, Saint-Etienne, Franc, ²Mines Saint-Etienne, CNRS, UMR 5307 LGF, Saint-Etienne, France, ³Univ. Limoges, CNRS, IRCER, UMR 7315, Limoges, France)</i>
*the names of the presenting authors are underlined and marked in bold.	
Coffee Break and Posters 10:30 a.m.-11:00 a.m.	

<u>Concurrent Session V</u> <u>11:00 a.m.-12:30 p.m.</u> <u>Controlled release materials</u>	<u>Concurrent Session VI</u> <u>11:00 a.m.-12:30 p.m.</u> <u>Bone grafting cements</u>
<u>11:00 a.m.-11:30 a.m.</u> 14. Keynote Hamed Benghuzzi <i>MAS, Madison, USA</i> Sustained delivery of testosterone (TE) and dihydrotestosterone (DHT) through tricalcium phosphate lysine devices (TCPL)	<u>11:00 a.m.-11:30 a.m.</u> 17. Keynote Christèle COMBES <i>CIRIMAT – ENSIACET, Toulouse, France</i> Calcium pyrophosphate-based bioactive cements for bone tissue applications
<u>11:30 a.m.-12:00 p.m.</u> 15. Keynote Michelle A. Tucci <i>University of Mississippi Medical Center, Dept. of Anesthesiology, Jackson, USA</i> Sustained Tricalcium Phosphate Based Delivery of an NPY-1 Receptor Antagonist Modulates Disc Stress Responses and Preserves Bone and Disc Integrity	<u>11:30 a.m.-12:00 p.m.</u> 18. Keynote Uwe Gbureck <i>Department for Functional Materials in Medicine and Dentistry University of Würzburg, Würzburg, Germany</i> Magnesium Phosphate Minerals and Cements for Bone Replacement in Orthopaedics.
<u>12:00 p.m.-12:30 p.m.</u> 16. Keynote Anna Tampieri <i>Institute of Science, Technology and Sustainability for Ceramics (ISSMC-CNR), Faenza, Italy</i> Bioceramic nanoparticle platforms for cancer treatment	<u>12:00 p.m.-12:15 p.m.</u> 19. F. Tabatabaei Koupaei^{1, 2}, A. Kurtz¹, M.P. Ginebra^{1, 2}, M. Espanol Pons^{1, 2} Flexible Ceramic Scaffolds from Ion-Doped Ultra-Long Hydroxyapatite Nanofibers. (¹Universitat Politècnica de Catalunya, Biomechanics Biomaterials and Tissue Engineering, Department of Materials Science and Engineering & Barcelona Research Centre for Multiscale Science and Engineering, Barcelona, Spain, ²Instituto de Salud Carlos III, Centro de Investigación Biomédica en Red - Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN), Madrid, Spain)
	<u>12:15 p.m.-12:30 p.m.</u> 20. M. Tavoni¹, E. Restivo², H. Inam¹, L. Visai^{2, 3}, A. Tampieri¹, S. Sprio¹ Antibiotic-releasing calcium-phosphate bone cements with magnetic activation tuning the bioactivity. (¹National Research Council of Italy, Institute of Science, Technology and Sustainability for Ceramics, Faenza, Italy, ²University of Pavia, Molecular Medicine Department (DMM), Center for Health Technologies (CHT), UdR INSTM, Pavia, Italy, ³UOR6 Nanotechnology Laboratory, Department of Prevention and Rehabilitation in Occupational Medicine and Specialty Medicine, Pavia, Italy)
Lunch Break 12:30 p.m.–1:45 p.m.	

<u>Concurrent Session VII</u> <u>1.45 p.m.-3.30 p.m.</u> <u>Bioceramics for hip and knee prostheses</u>	<u>Concurrent Session VIII</u> <u>1.45 p.m.-3.30 p.m.</u> <u>Bone grafting materials - novel approaches</u>
<u>1:45 p.m.-2:15 p.m.</u> 21. Keynote Moreica Pabbruwe/Chris Sorrel <i>Health Technology Management Unit, Bioengineering CITRA East Metropolitan Health Service, Perth, Australia</i> Retrieval studies of ceramic components of total hip replacements - from early designs to the most recent ones	<u>1:45 p.m.-2:15 p.m.</u> 26. Keynote Iulian Antoniac <i>Department of Materials Science and Engineering, National University of Science and Technology POLITEHNICA Bucharest, Bucharest, Romania</i> Approaches of integration of bioceramics with biodegradable magnesium alloys for treatment of bone defects
<u>2:15 p.m.-2:45 p.m.</u> 22. Keynote Derek Amantullah <i>Stanford University, Department of Orthopaedic Surgery, Redwood City, USA</i> Host and microbial characteristics associated with recurrent prosthetic joint infections and clinical challenges faced when treating refractory infections	<u>2:15 p.m.-2:45 p.m.</u> 27. Keynote Jānis Ločs <i>Institute of Biomaterials and Bioengineering, Faculty of Natural Sciences and Technology, Riga, Technical University, Riga, Latvia</i> Room/subzero temperature densification of metastable calcium phosphates
<u>2:45 p.m.-3:00 p.m.</u> 23. S. Spange¹, S. Begand¹, K. Hans², C. Ortmann², M. Liebelt², T. Oberbach² Pressure Slip Casting as a Near-Net-Shape Route for Complex Ceramic Knee Implant Geometries. ⁽¹⁾Fraunhofer Gesellschaft - Institut für Keramische Technologien und Systeme, Oxid Ceramics, Hermsdorf, Thuringia, Germany, ⁽²⁾Enovis Surgical - Production Site Mathys Orthopädie GmbH, Mörsdorf, Thuringia, Germany)	<u>2:45 p.m.-3:00 p.m.</u> 28. F. Elharouni^{1, 2}, J. Meder^{1, 3}, N. Döbelin¹, C. Stähli¹, Y. Maazouz¹, M. Bohner¹ Tuning the In Vitro Ionic Microenvironment of Calcium-Deficient Hydroxyapatite Scaffolds by Varying Surface Chemistry. ⁽¹⁾RMS foundation, 2544, Solothurn, Switzerland, ⁽²⁾ETH Zürich, 8092, Zürich, Switzerland, ⁽³⁾FHNW, 5210, Basel-Land, Switzerland)
<u>3:00 p.m.-3:15 p.m.</u> 24. A. Hartmann¹, C. Witt¹, P. Oldorf³, D. Thiele², A. Schulz², M. Liebelt¹, T. Oberbach¹, R. Bader² Reducing friction in ceramic hip resurfacing: laser-induced microstructures and their impact on strength and tribological properties of ATZ ceramics. ⁽¹⁾Enovis - Mathys Orthopädie GmbH, Mörsdorf, Germany ⁽²⁾University Medical Center Rostock, Laboratory for implant technology and biomechanics, Rostock, Germany ⁽³⁾Schweißtechnische Lehr- und Versuchsanstalt Mecklenburg-Vorpommern GmbH, Rostock, Germany)	<u>3:00 p.m.-3:15 p.m.</u> 29. R. Agut López¹, M.P. Ginebra Molins^{1, 2}, M. Espanol Pons^{1, 2} Flexible hydroxyapatite nanofibrous scaffolds with tunable stiffness promote osteogenesis. ⁽¹⁾Universitat Politècnica de Catalunya, Biomechanics Biomaterials and Tissue Engineering, Department of Materials Science and Engineering & Barcelona Research Centre for Multiscale Science and Engineering, Barcelona, Spain, ⁽²⁾Instituto de Salud Carlos III, Centro de Investigación Biomédica en Red - Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN), Madrid, Spain),
<u>3:15 p.m.-3:30 p.m.</u> 25. H. Rothe¹, J. M. Börke^{1, 2}, D. Thiele³, D. Grafahrend⁴, C. Witt⁵, M. Liebelt⁵, B. Kruppke^{1, 6} Ultra-low-friction coatings for ceramic joint implants with large articulation surfaces. ⁽¹⁾Institute for Bioprocessing and Analytical Measurement Techniques e.V., Biomaterials, Heilbad Heiligenstadt, Thuringia, Germany, ⁽²⁾TU Dresden, Faculty of Biology, Dresden, Saxony, Germany, ⁽³⁾University Rostock, Biomechanics and Implant Technology Research Laboratory, Rostock, Mecklenburg-Western Pomerania, Germany, ⁽⁴⁾Freudenberg Medical Hemoteq GmbH, Würselen, North Rhine-Westphalia, Germany, ⁽⁵⁾Enovis - Mathys Orthopädie GmbH, Mörsdorf, Thuringia, Germany, ⁽⁶⁾Friedrich-Schiller-University Jena, Institute for Organic and Macromolecular Chemistry, Jena, Thuringia, Germany)	<u>3:15 p.m.-3:30 p.m.</u> 30. F. Tresoldi¹, R.M. Martín Rodríguez¹, L. Gallego², A.J. Sánchez Herencia¹, B. Ferrari¹, A. Ferrandez Montero¹ Multimaterial cell culture platforms integrating magnetic and electrical cues for advanced in vitro bone tissue models. ⁽¹⁾Institute of Ceramic and Glass (CSIC), Madrid, Spain, ⁽²⁾COLFEED4Print S.L., Madrid, Spain)
Coffee Break and Posters 3:30 p.m.-3:50 p.m.	

<u>Concurrent Session IX</u> 3.50 p.m. - 5.35 p.m. <u>Bioactive systems for Bone Regeneration & Analysis of bioactive ceramic-induced bone formation</u>	<u>Concurrent Session X</u> 3.50 p.m. - 5.35 p.m. <u>Antibacterial Bioceramics</u>
<u>3:50 p.m.-4:20 p.m.</u> 31. Keynote Christophe Drouet <i>Deputy Director of CIRIMAT Institute, University of Toulouse, Toulouse, France</i> Bioactive (nano)particle-based systems for smart biomaterials development.	<u>3:50 p.m.-4:20 p.m.</u> 36. Keynote Simone Sprio <i>CNR, Institute of Science, Technology and Sustainability for Ceramics (ISSMC), Faenza, Italy</i> mouldable, self-consolidating and hybrid bone scaffolds with high regenerative and antibiotic delivery ability.
<u>4:20 p.m.-4:50 p.m.</u> 32. Keynote Alexander Rack <i>European Synchrotron Radiation Facility – ESRF, Grenoble, France</i> Use of synchrotron microtomography for characterizing bioceramic-induced bone regeneration and biomineralization processes	<u>4:20 p.m.-4:35 p.m.</u> 37. S. Jin^{1, 2}, C. Mas-Moruno^{1, 2}, M.P. Ginebra^{1, 2} Peptide-Functionalized Calcium Phosphate Nanotopographies: From 2D Models to 3D-Printed Antimicrobial Scaffolds. <i>(¹Universitat Politècnica de Catalunya, Biomaterials, Biomechanics and Tissue Engineering Group, Department of Materials Science and Engineering and Barcelona Research Centre in Multiscale Science and Engineering, Barcelona, Spain, ²Instituto de Salud Carlos III, Centro de Investigación Biomédica en Red – Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN), Madrid, Spain)</i> <u>4:35 p.m.-4:50 p.m.</u> 38. M. Aizawa^{1, 2}, S. Hoshino¹, M. Takabe¹, M. Mizumoto³, N. Mishiro³, A. Yamada³, T. Yamauchi³, K. Kashiwagi³, Y. Nishikawa³, T. Kasuga⁴ Development of Cotton-Shaped Bone Graft Substitute with Anti-bacterial Properties and Aesthetic Appeal. <i>(¹Meiji University, Department of Applied Chemistry, School of Science and Technology, Kawasaki, Japan, ²Meiji University, International Institute for Materials with Life Functions, Kawasaki, ³ORTHOREBIRTH Co., Ltd., Yokohama, Japan, ⁴Nagoya Institute of Technology, Nagoya, Japan)</i>
<u>4:50 p.m.-5:05 p.m.</u> 34. T. Rack¹, M. Rezk¹, S. Mir¹, R. Fischer², A. Rack², M. Stiller¹, J. Kang¹, W. Xiang¹, G. Chen¹, Y. Zhang¹, C. Knabe¹ In-situ Synchrotron Microtomographic analysis of Bioceramic induced-Regenerated Human Bone under Axial Mechanical Loading. <i>(Dept. of Experimental Orofacial Medicine, Philipps-University Marburg, Marburg, Germany, ²European Synchrotron Radiation Facility – ESRF, Grenoble, France).</i>	<u>4:50 p.m.-5:05 p.m.</u> 40. A. Kondo¹, H. Miyashita², T. Soma², M. Nasu², S. Morikawa², M. Aizawa^{1, 3} Loading of basic fibroblast growth factor on anti-bacterial hydroxyapatite-coated titanium substrates and its biological evaluation. <i>(¹Meiji University, Applied Chemistry Program, Graduate School of Science and Technology, Kawasaki-shi, Japan ²Keio University, Department of Dentistry & Oral Surgery, Keio University School of Medicine, Shinjuku-ku, Japan ³Meiji University, Meiji University International Institute for Materials with Life Functions, Kawasaki-shi, Japan)</i>
<u>5:05 p.m.-5:20 p.m.</u> 35. S. Mir¹, M. Stiller¹, F. Stiller¹, M. Rezk¹, R. Fischer², A. Rack², C. Knabe¹ Volumetric assessment of bone formation 6 months after sinus floor augmentation with TCP bone grafting materials in patients utilizing synchrotron radiation microtomography in comparison to two-dimensional histomorphometry <i>(¹Dept. of Experimental Orofacial Medicine, Philipps-University Marburg, Marburg, Germany, ²European Synchrotron Radiation Facility – ESRF, Grenoble, France).</i>	<u>5:05 p.m.-5:20 p.m.</u> 41. Z. Abbas¹, M. Tavoni¹, A. Diez-Escudero^{2, 3}, M. Saqawa^{1, 4}, A. Tampieri¹, M.-P. Ginebra^{2, 3}, S. Sprio¹ 3D-Printed Tetracycline-Loaded Sr/Mg-Apatite Scaffolds for Simultaneous Infection Control and Bone Regeneration <i>¹Istituto di Scienza, Tecnologia e Sostenibilità per lo sviluppo dei Materiali Ceramici, Faenza, Italy ²Universitat Politècnica de Catalunya (UPC), Department of Materials Science and Engineering & Barcelona Research Center for Multiscale Science and Engineering, Barcelona ³Networking Research Centre of Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN), Instituto de Salud Carlos III, Spain, Barcelona, Spain ⁴Messina University, Chemical, biological, pharmaceutical, and environmental sciences department, Messina, Italy</i>
6:30 p.m.-10:00 p.m. Conference Gala Dinner Harnack House	

Thursday, October 8, 2026

Concurrent Session Lisboa I & II	Concurrent Session Lisboa III
Concurrent Session XI 9.00-10.30 a.m. <u>3D printing of bioceramic scaffolds and tissue engineering</u>	Concurrent Session XII 9.00-10.30 a.m. <u>Dental zirconia Implants and in vitro models for biological evaluation of bioceramics</u>
<u>9:00 a.m.-9:30 a.m.</u> 42. Keynote Min Wang <i>University of Hong Kong, Dept of Engineering, Hong Kong, Hong Kong</i> Computer-aided Design, Computational Simulation and 3D Printing of Bioceramic Scaffolds for Bone Regeneration	<u>9:00 a.m.-9:15 a.m.</u> 46. Y. Mödinger¹ , I. Lackner ¹ , Z. Najmi ² , A. C. Scalia ² , A. Cochis ² , L. Rimondini ² , S. Ferraris ³ , S. Spriano ³ , M. M. Juszczak ¹ , A. A. Porporati ¹ In Vitro Cytocompatibility, Bacteriostatic Activity and Osteogenic Potential of Clinically Relevant Alumina-Toughened Zirconia (ATZ) Surfaces for Dental Implants. <i>(¹CeramTec GmbH, Medical and Scientific Affairs, Plochingen, Baden-Württemberg, Germany, ²Università del Piemonte Orientale, Department of Health Sciences, Novara, Italy, ³Politecnico di Torino, Applied Science and Technology Department, Turin, Italy)</i>
	<u>9:15 a.m.-9:30 a.m.</u> 47. S. Begand¹ , S. Spange ¹ Ceramic Injection Molding (CIM) for Dental Implants. <i>(Fraunhofer IKTS, Hermsdorf, Germany)</i>
<u>9:30 a.m.-10:00 a.m.</u> 43. Keynote Aldo Boccacini <i>Institute of Biomaterials University of Erlangen-Nuremberg, Erlangen-Nuremberg, Germany</i> Bioactive glasses as building blocks for ionic medicine and ion assisted tissue engineering	<u>9:30 a.m.-9:45 a.m.</u> 48. C. Auriol^{1, 2}, C. Petit¹ , C. Meunier ¹ , S. Saunier ¹ , S. Cottrino ² , L. Gremillard ² , J. Chevalier ² Fabrication of zirconia samples from recycled powder: link between grinding of the pre-sintered waste, microstructures and properties of sintered samples. <i>(Mines Saint-Etienne, CNRS, Saint-Etienne, France)</i>
	<u>9:45 a.m.-10:00 a.m.</u> 49. R. Shahmiri¹ , C. Sorrell ¹ . - Unexpected Low-Temperature Diffusion and Ferroelastic Toughening in 3Y-TZP Revealed by Dental Restoration Fabrication. <i>(¹UNSW Sydney, School of Materials Science and Engineering, Sydney, Australia)</i>
<u>10:00 a.m.-10:15 a.m.</u> 44. Y. Zhang¹ , X. Chen ¹ , M. Wang ¹ 4D Printing via Digital Light Processing (DLP) of Shape-morphing Nanocomposite Scaffolds for Bone Tissue Engineering. <i>(The University of Hong Kong, Hong Kong, Hong Kong)</i>	<u>10:00 a.m.-10:15 a.m.</u> 50. J. Cheng¹ , A. Dorner-Reisel ² , T. Wang ³ , E. Freiburger ⁴ , U. Ritter ⁴ , J. Moje ⁵ , M. Zhao ⁶ , P. Scharff ⁴ , Y. Tunc ² , A. H. BinOthman ² , N. A.B. Shamsuddin ² , C. Knabe ¹ , L. Xiang-Tischhauser ¹ Biological characterization of the osteogenic, antibacterial and anti-inflammatory properties of fullerene-modified zirconia and titanium alloy implant surfaces. <i>(¹Dept. of Experimental Orofacial Medicine, Philipps-University Marburg, Marburg, Germany, ²University of Applied Sciences Schmalkalden, Schmalkalden, Germany, ³University of Aeronautics, College of Materials Science & Technology, NanJing, China, ⁴Technical University Ilmenau, Ilmenau, Germany, ⁵Moje Keramik-Implantate GmbH & Co. KG, Petersberg, Germany, ⁶Jiangsu KeRunXi Medical Technology Development Co. Ltd., NanJing, China).</i>
<u>10:15 a.m.-10:30 a.m.</u> 45. H. Zhang¹ , C. Wu ¹ 3D printing of silicate biomaterials for innervated complex tissue regeneration. <i>(Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, China)</i>	<u>10:15 a.m.-10:30 a.m.</u> 51. C. Stähli¹ , M. Böhner ¹ Why chemistry matters in cell culture studies of extracellular Ca ²⁺ and calcium phosphate biomaterials. <i>(RMS Foundation, Bettlach, Switzerland)</i>
Coffee Break and Posters 10:30 a.m.-11:00 a.m.	

<u>Concurrent Session XIII</u> 11.00 a.m.-12.30. p.m. <u>Bone grafting materials and biological matrices for alveolar ridge augmentation</u> <u>11:00 a.m.-11:30 a.m.</u> 52. Keynote Joel Bumgardener <i>Department of Bioengineering, University of Memphis, Memphis, USA</i> Chitosan barrier membranes and their use in combination with dental bone grafting materials for alveolar ridge augmentation	<u>Concurrent Session XIV</u> 11.00 a.m.-12.30. p.m. <u>3D printed scaffolds for bone regeneration</u> <u>11:00 a.m.-11:15 a.m.</u> 56. A. Booker Fritsch¹, S. Tadier¹, A. Montebault², L. Gremillard¹ Optimization of chitosan-calcium phosphate composite inks for the 3D printing of scaffolds for tissue regeneration in the treatment of critical size bone defects. (¹Univ Lyon, INSA Lyon, CNRS UMR5510, Université Claude Bernard Lyon 1, MATEIS, Villeurbanne, France ²Université Claude Bernard Lyon 1, UMR 5223, CNRS, INSA Lyon, Université Jean Monnet, Ingénierie des Matériaux Polymères (IMP), Villeurbanne, France) <u>11:15 a.m.-11:30 a.m.</u> 57. L.C. Gallego Villarejo¹, A. Ferrández-Montero^{1, 2}, S. Wisike^{1, 2}, B. Ferrari^{1, 2}, P. Orterga-Columbrans^{1, 2}, Z. González^{3, 4}, A.J. Sánchez-Herencia^{1, 2} A PLA-Hydroxyapatite Composite Filament for Patient-Specific 3D-Printed Bone Regeneration Implants. (¹COLFEED4Print, Tres Cantos, Spain, ²CSIC, Institute of Ceramic and Glass, Madrid, Spain, ³Universidad de Córdoba (UCO), BioPren Group (RNM940), Chemical Engineering Department, Instituto Químico Para la Energía y el Medioambiente (IQUEMA), Faculty of Science, Córdoba, Spain, ⁴Unidad Asociada CSIC-UCO, Fabricación Aditiva de Materiales Compuestos Basados en Celulosa Funcionalizada, Obtenida de Residuos de Biomasa, Córdoba, Germany)
<u>11:30 a.m.-12:00 p.m.</u> 53. Keynote Yuelian Liu <i>Academic Centre for Dentistry Amsterdam (ACTA), Oral Cell Biology, Amsterdam, Netherlands</i> The challenging journey from laboratory research to patient care.	<u>11:30 a.m.-11:45 a.m.</u> 58. G. Goretti^{1, 2}, S. Larroudé², L. V. Uribe³, P. Vena³, J. Massera², M. Schwentenwein¹ Sintering temperature as a single tuning parameter for hydroxyapatite bone scaffolds produced by vat photopolymerization (¹Lithoz GmbH, Wien, Wien, Austria, ²Tampere University, Faculty of medicine and health technologies, Tampere, Finland, ³Politecnico di Milano, department of chemistry, materials and chemical engineering "Giulio Natta", Milano, Italy) <u>11:45 a.m.-12:00 p.m.</u> 59. G. Schippa¹, A. Bertocco¹, M. Capela², M. P. Seabra², R. C. Pullar¹ Sustainable 3D printed bone scaffolds for biomedical applications obtained from valorised fish industry wastes. (¹Ca' Foscari University of Venice, Department of Molecular Science and Nanosystems (DSMN), Venice, Italy, ²University of Aveiro, Department of Materials and Ceramic Engineering / CICECO - Aveiro Institute of Materials, Aveiro, Portugal)
<u>12:00 p.m.-12:15 p.m.</u> 54. D. V. Yu¹, P. Nie², Infectious Complications Following Lateral Window Sinus Floor Elevation Using BMP-2-Containing Bone Graft Material: A Clinical Observation of Six Consecutive Cases. (¹Shanghai Ninth People's Hospital, 2. Department of Second Dental Center, shanghai, China ²Shanghai Ninth People's Hospital, Department of Oral & Cranio-maxillofacial Surgery, Shanghai, China)	<u>12:00 p.m.-12:15 p.m.</u> 60. A. Tufail^{2, 1}, A. Arooj¹, M. von Stein-Launsitz³, F. Babadjanov³, O. Goerke¹ 3D Printing of Polymer-Free Silicate Composites for Critical-Size Bone Defects: A Structure-Property Relationships Study. (¹Technical University Berlin, Advanced Ceramic Materials, Berlin, Berlin, Germany, ²COMSATS University Islamabad, Lahore Campus, Interdisciplinary Research Centre in Biomedical Materials (IRCBM), Lahore, Pakistan)

<u>12:15 p.m.-12:30 p.m.</u> 55. J. Gómez Morales¹, R. Fernández Penas¹, D. Choquesillo Lazarte¹, P. Álvarez Lloret², J. A. Marchal³, P. A. Baldión⁴ Apatite-Coated Outer Layer Eggshell Membrane Doped with Mg²⁺ and Sr²⁺ for Guided Bone Regeneration: A Comparison with Collagen and Pericardium Membranes. ^{(1)Consejo Superior de Investigaciones Científicas, Laboratorio de Estudios Cristalográficos / Instituto Andaluz de Ciencias de la Tierra, Armilla, Spain} ²Universidad de Oviedo, Departamento de Geología/Facultad de Geología, Oviedo, Spain ³Universidad de Granada, IBIMER/CIBM, Granada, Spain, ⁴Universidad Nacional de Colombia, Departamento de Salud Oral / Facultad de Odontología, Bogotá, Colombia)	³Charité – University Medical Center Berlin, Dept. of Prosthodontics, Geriatric Dentistry and Craniomandibular Disorders, Berlin, Germany <u>12:15 p.m.-12:30 p.m.</u> 61. R. Watanabe¹, Y. Sumasu¹, H. Takahashi¹, T. Kato², A. Seki³ 3D-printed β-TCP scaffolds with unidirectional through-pores induce anisotropic trabecular bone formation. ^{(1)Nakashima Healthforce Co., Ltd., Okayama, Japan} ²Yugyokuen Ceramics Co., Ltd., Tokyo, Japan, ³Clino Corporation, Miyagi, Japan)
Lunch Break 12:30 p.m.-2:p.m.	
<u>Concurrent Session XV</u> 2.00 p.m.-3.00 p.m. Regulatory Aspects	<u>Concurrent Session XVI</u> 2.00 p.m.-3.00 p.m. Processing and synthesis of bioceramics
<u>2:00 p.m.-2:30 p.m.</u> 62. Keynote David Grossin Univ. Toulouse, CIRIMAT, Toulouse, France From Bioceramics Innovation to Clinical Impact: The Role of Materials Science, Additive Manufacturing and Standardization	<u>2:00 p.m.-2:30 p.m.</u> 65. Keynote Marcelo Prado da Silva¹ L. Braga Dantas¹, V. Scarpini Candido¹, M. H. Prado da Silva¹ Military Institute of Engineering, Materials Science and Engineering Graduate Programme, Rio de Janeiro, Brazil Synthesis of hydroxyapatite by an aqueous precipitation method using gypsum as a calcium source
<u>2:30 p.m.-2:45 p.m.</u> 63. L. C. Gallego Villarejo¹, A. Ferrandez-Montero^{1, 2}, B. Ferrari^{1, 2}, P. Ortega-Columbrans^{1, 2}, Z. Gonzalez^{4, 3}, A. J. Sanchez-Herencia^{1, 2}, S. Wisike^{1, 2} Beyond Standard Protocols: A Regulatory Validation Framework for Patient-Specific 3D-Printed Composite Implants. ^{(1)COLFEED4Print, Tres Cantos, Spain, 2CSIC, Institute of Ceramic and Glass, Madrid, Spain, 3Universidad de Córdoba (UCO), BioPren Group (RNM940), Chemical Engineering Department, Instituto Químico Para la Energía y el Medioambiente (IQUEMA), Faculty of Science, Córdoba, Spain, 4Unidad Asociada CSIC-UCO, Fabricación Aditiva de Materiales Compuestos Basados en Celulosa Funcionalizada, Obtenida de Residuos de Biomasa, Córdoba, Spain)}	<u>2:30 p.m.-2:45 p.m.</u> 66. J. Piot^{1, 2}, Y. Maazouz², M. Böhner²Controlled Fabrication of Hydroxyapatite Whiskers Through a Two-Step Hydrothermo-Mechanical Treatment of TCP Precursors with Varying Reactivity. ^(1)University of Bern, Graduate School for Cellular and Biomedical Sciences, Bern, Bern, Switzerland, 2RMS Foundation, Bettlach, Solothurn, Switzerland)
<u>2:45 p.m.-3:00 p.m.</u> 64. C. d'Arros¹, P. Borget¹ Bone formation induced by a characterized biphasic calcium phosphate in an intermuscular mouse model: Toward a standardized evaluation method for regulatory approval. (Advanced Medical Solutions (Nantes), Vigneux de Bretagne, France)	<u>2:45 p.m.-3:00 p.m.</u> 67. C. Ohtsuki¹, S. Ito¹, Y. Matsukawa¹, K. Suzuki¹, T. Miyazaki² Effect of Surface Treatment of Titanium Oxide Fillers on Apatite Formation in Hydrophilic Polymer Composites under Simulated Body Fluid Conditions. ^{(1)Nagoya University, Graduate School of Engineering, Nagoya, Japan, 2Kyushu Institute of Technology, Graduate School of Life Science and Systems Engineering, Kitakyushu, Japan}
Plenary session XVII 3:00-3:30 p.m. (Lisboa I & II) 68. Keynote Paul Zaslansky Material Science in Dentistry - Department for Operative, Preventive and Pediatric Dentistry CC3 – School of Dental Medicine, Charité – University Medical Center, Berlin, Germany Dentin & Enamel from basics to the clinical arena	

3:30 p.m.-4:25 p.m. Poster Session

Presentations:

3:30 p.m. PS-01 80. V. M. Borree^{1, 2}, P. F. Otto¹, T. Renner¹, S. Hölscher-Doht², U. Gbureck¹. Phosphoserine-Based Mineral–Organic Bone Adhesives: Comparison of Magnesium and Calcium Phosphate Cements for Fracture Fixation and Defect Filling.

(¹University Hospital Würzburg, Department for Functional Materials in Medicine and Dentistry, Würzburg, Germany, ²University Hospital Würzburg, Department of Trauma, Hand, Plastic and Reconstructive Surgery, University Hospital of Würzburg, Würzburg, Germany)

3:30 p.m. PS-02 -81. Jaime Gómez Morales. Biofunctional performance of Apatite-Mineralized Collagen-rich Membranes: Mechanical Behavior, Cytocompatibility, and Odontoblast-like Cell Differentiation.

(Consejo Superior de Investigaciones Científicas, Laboratorio de Estudios Cristalográficos/Instituto Andaluz de Ciencias de la Tierra, Armilla, Spain)

3:30 p.m. PS-03 -82. F. Babadjanov¹, A. Arooj², O. Görke², M. von Stein-Lausnitz¹. In vitro storage of dental enamel: The effect of the storage medium on hardness of enamel.

(¹Charité – Universitätsmedizin Berlin, Prosthodontics, Geriatric Dentistry and Craniomandibular Disorders, Berlin, Germany, ²Technische Universität Berlin, Faculty III Process Sciences, Institute of Material Science and Technology, Chair of Advanced Ceramic Materials, Berlin, Germany)

3:30 p.m. PS-04 83. Du Lin. Immunomodulatory multicellular scaffolds for tendon-to-bone regeneration.

(Shanghai institute of ceramics, CAS, China, Shanghai, China)

3:30 p.m. PS-05 84. M. Raz¹, M. Mohammadkhani², F. Fakhari³, G. Bagheri⁴. Effect of Zinc Ion Substitution on the Crystallographic Properties of Calcium Phosphate–Gelatin Biocomposites.

(¹Islamic Azad University, Biomedical engineering, Shahryar, Iran (Islamic Republic of Iran)

²Islamic Azad University, Industrial engineering, Shahryar, Iran (Islamic Republic of Iran)

³Islamic Azad University, Biomedical engineering, Science and Research Branch, Iran (Islamic Republic of Iran)

⁴Islamic Azad University, Pharmaceutical Chemical Engineering, Shahryar, Iran (Islamic Republic of Iran))

3:30 p.m. PS-06. 85.. A. Athanasiadis¹, U. Gbureck¹, T. Jüngst¹. Melt Electrowritten PCL-Magnesium Phosphate Composite Scaffolds with Tuneable Ionic Release Profiles.

(University Hospital Wuerzburg, Department of functional materials for medicine and dentistry, Wuerzburg, Germany)

3:30 p.m. PS-07 86. S. Iwama¹, S. Horikawa¹, H. Kaneko^{2, 3}, M. Aizawa^{2, 3}. Development of a machine learning model capable of simultaneously predicting bone formation and bio resorption, and validation of its accuracy through direct inverse analysis of the model.

(¹Meiji University, Graduate School of Science and Technology, Applied Chemistry Program, Kawasaki, Japan)

²Meiji University, School of Science and Technology, Department of Applied Chemistry, Kawasaki, Japan)

³Meiji University, International Institute for Materials with Life Functions, Kawasaki, Japan)

3:30 p.m. PS-08 87. H. Kono¹, Y. Otsuka¹, Y. Sugiura², M. Itotagawa¹, T. Higashinakao¹, M. Kikuchi¹. AI-driven digital-twin design of multifunctional antibacterial dental zirconia integrating silver doping and lanthanide complexes.

(¹Kagoshima University, Graduate School of Medical and Dental Sciences, Kagoshima, Japan, ²National Institute of Advanced Industrial Science and Technology (AIST), Health and Medical Research Institute, Tsukuba, Japan)

3:30 p.m. PS-09 -88. M. Itotagawa¹, H. Kono¹, Y. Sugiura², Y. Otsuka¹, M. Kikuchi¹, Y. Nishitani¹. Development of antimicrobial zirconia utilizing complex formation between antimicrobial molecules and lanthanides.

(¹Kagoshima university, Graduate School of Medical and Dental Sciences, Kagoshima, Japan, ²National Institute of Advanced Industrial Science and Technology (AIST), Health and Medical Research Institute, Tsukuba, Japan)

3:30 p.m. PS-10 89. K. Sugiura¹, T. Inakubo², M. Aizawa^{1, 3}. Synthesis of Calcium Carbonate Microspheres for Drug Delivery System Via Ultrasonic spray-pyrolysis route and Their Powder Properties Synthesis of Calcium Carbonate Microspheres for Drug Delivery System Via Ultrasonic spray-pyrolysis route and Their Powder Properties.

(¹Meiji University, Graduate School of Science and Technology, Applied Chemistry Program, Kawasaki, Japan,

²Nippon Sheet Glass Co., Ltd., Sagamihara, Japan, ³Meiji University, Meiji University International Institute for Materials with Life Functions, School of Science and Technology, Applied Chemistry, Kawasaki, Japan)

3:30 p.m. PS-11 90. A. Oki¹, M. Aizawa^{1, 3}, T. Osanai², M. Honda^{1, 3}. Development and Functional Evaluation of Antimicrobial Peptide-Releasing Apatite-Based Carriers for the Control of Cyanobacteria.

(¹Meiji University, Graduate School of Science and Engineering, Kawasaki, Japan, ²Meiji University, School of Agriculture, Kawasaki, ³Meiji University, International Institute for Materials with Life Functions, Kawasaki, Japan)

3:30 p.m. PS-12 **91. K. Ishikawa¹**, M. Ando², Y. Ito^{3, 5}, A. Ogura^{4, 6}, T. Kikuchi⁷, M. Aizawa^{8, 9}.

Development of fiber-reinforced plastics with both anti-bacterial properties and aesthetic appeal through simultaneous immobilization of silver and zinc ions using inositol phosphate.

¹Meiji University, Graduate School of Science and Technology, Applied Chemistry Program, Kawasaki, Japan

²Meiji University, Graduate School of Science and Technology, Electrical Engineering Program, Kawasaki, Japan

³Meiji University, Graduate School of Science and Technology, Electrical Engineering Program, Kawasaki, Japan

⁴Meiji University, School of Science and Technology, Department of Electrical Engineering, Kawasaki, Japan

⁵JSPS Research Fellow, Chiyoda-ku, Japan, ⁶Meiji University, Meiji University Renewable Energy Laboratory (MREL), Kawasaki, Japan, ⁷Tetsuo Kikuchi, TOYUGIKEN.CO., LTD., Minamishigara, Japan

⁸Meiji University, Graduate School of Science and Technology, Applied Chemistry, Kawasaki, Japan

⁹Meiji University, Meiji University International Institute for Materials with Life Functions, Kawasaki, Japan)

3:30 p.m. PS-13 **93. P. F. Otto¹**, K.-M. Benus¹, V. M. Borree¹, U. Gbureck¹ Development of a pre-fabricated bone adhesive paste based on magnesium phosphate and -oxide cements.

(University Hospital Würzburg, Department for Functional Materials in Medicine and Dentistry, Würzburg, Germany)

3:30 p.m. PS-14 **93. T. Sivčáková¹**, Z. V. Nováková², L. Buňová³, F. Čácho¹, P. Veteška¹, M. Janek¹, Ľ. Bača¹. Preparation, Characterization and Biological Response of Iron (III) Phosphate.

¹Slovak University of Technology, Department of Inorganic Materials, Bratislava, Slovakia

²Comenius University, Faculty of Medicine, Bratislava, Slovakia, ³FunGlass, Trenčín, Slovakia)

3:30 p.m. PS-15 **94. K. Nakanishi¹**, M. Mutoh¹, T. Nakamura², K. Sumi², Y. Sato¹

Characterization of amorphous alloys fabricated using a 3D printer.

¹Hokkaido University, Department of Orthodontics, Faculty of Dental Medicine, Sapporo, Japan, ²Hokkaido

University, Laboratory of Laboratory Animal Science and Medicine, Department of Applied Veterinary Sciences, Faculty of Veterinary Medicine, Sapporo, Japan)

3:30 p.m. PS-16. **95. I. Corneschi¹**, A. Antoniac¹, C.-M. Cirdei¹, A. Stere¹, D.N. Anusca², I. Antoniac¹.

Degradation evaluation of different antibiotic-loaded bioceramics used as a carrier for local antibiotic delivery in orthopedic (¹Faculty of Material Science and Engineering, National University of Science and Technology Politehnica Bucharest, Bucharest, Romania; ²Faculty of Medicine, University of Medicine and Pharmacy of Craiova, Craiova, Romania)

3:30 p.m. PS-17. **96. L. A.F. Vieira¹**, E. M.B. de Sousa¹. Development and Optimization of Composite Filament Based on Microwave-Synthesized Hydroxyapatite for 3D Printing of Scaffolds.

(¹ Nuclear Technology Development Center, CDTN, SENAN, Belo Horizonte, Brazil)

3:30 p.m. PS-18 **97. A. Arooj¹**, M. von Stein-Launsitz², F. Babadjanov², A. Tufail^{3, 1}, **O. Goerke¹**

Silicate composites and natural enamel – decoding structure-function relationship of two complementary systems by using AI and machine learning.

(¹ Technische Universität Berlin, Advanced Ceramic Materials, Berlin, Berlin, Germany, ²Charité – University Medical Center Berlin, Prosthodontics, Geriatric Dentistry and Craniomandibular Disorders, Berlin, Berlin, Germany,

³COMSATS University Islamabad, Interdisciplinary Research Centre in Biomedical Materials (IRCBM), Lahore, Pakistan)

3:30 p.m. PS-19 **98. U. Szalaj^{1*}**, J. Higuchi¹, O. Sych¹, W. Majewski¹, W. Łojkowski¹. Size-Controlled Nano-Hydroxyapatite for Tailoring the Properties of Sono-Nano-Coated Implant Surfaces

(¹Institute of High Pressure Physics, Polish Academy of Sciences, Laboratory of Nanostructures, Warsaw, Poland)

3:30 p.m. PS-20 **99. L. Touati¹**, J. Meder¹, C. Stähli¹, N. Döbelin¹, M. Böhner¹, Y. Maazouz.¹ From Ionic Microenvironment to Bone Formation for the Prediction of Osteoinductive Bone Graft Substitutes

(¹RMS Foundation, Bettlach, Solothurn, Switzerland)

3:30 p.m. PS-21 **100. , K. Yetis¹**, L. Pana², S. Büyüksungur³, A. Constantina Parau², M. Dinu², C. Vitelaru², A. Vladescu Dragomir², N. Hasirci^{3, 4}, B. Ercan^{1, 3}. Multifunctional Thin-Film Glass Coatings on AZ31B Alloy for Biodegradable Orthopedic Implants

(¹Department of Metallurgical and Materials Engineering, Middle East Technical University (METU), Ankara, Turkey, ²National Institute of Research and Development for Optoelectronics—INOE, Magurele, Romania,

³BIOMATEN, METU CoE in Biomaterials and Tissue Engineering,, Ankara, Turkey,

⁴Department of Chemistry, METU, Ankara, Turkey)

Coffee Break

4:25p.m.-4:45p.m.

<u>Concurrent Session XVIII</u> 4:45 p.m.- 6:00 p.m. <u>Biomimetic design and machine learning</u>	<u>Concurrent Session XIX</u> 4:45 p.m. – 6:00 p.m. <u>Clinical Findings</u>
<u>4:45 p.m.-5:00 p.m.</u> 68. M. Bartosch¹ , J. Liu ¹ , C. V. Ahmetoglu ² , O. Görke ² , F. Schmidt ¹ Toward fatigue resistant glass-ceramics – an approach inspired by corals. (¹ Dept. for Prosthodontics, Geriatric Dentistry and Craniomandibular Disorders, Charité – University Medical Center Berlin, Berlin, Germany, ² Technische Universität Berlin, Advanced Ceramic Materials, Berlin, Germany)	<u>4:45 p.m.-5:15 p.m.</u> 73. Keynote Osamu Suzuki <i>Division of Craniofacial Function Engineering), Tohoku University Graduate School of Dentistry, Sendai, Japan</i> Synthesis, analysis, and clinical approaches of octacalcium phosphate (OCP) bone substitute materials
<u>5:00 p.m.-5:15 p.m.</u> 69. R. Fagotto-Clavijo^{1, 2} , M.-J. Guzman ¹ , A. Diez-Escudero ^{1, 2} , M.-P. Ginebra ^{1, 2} Biomimetic architectural design accelerates in vivo bone formation in DLP-printed reactive calcium phosphate-polymer scaffolds. (¹ Biomaterials, Biomechanics, and Tissue engineering (BBT), Department of Material Science and Engineering, and Barcelona Research Centre in Multiscale Science and Engineering, Universitat Politècnica de Catalunya (UPC), Barcelona, Spain, ² CIBER de Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN), Instituto de Salud Carlos III, Madrid, Spain)	
<u>5:15 p.m.-5:30 p.m.</u> 70. Y. Zhang¹ , M. Wang ¹ Developing Trabecular Bone Structure-like Biomimetic Scaffolds through Machine Learning-based Design, Computational Simulation and 3D Printing. (¹ The University of Hong Kong, Department of Mechanical Engineering, Hong Kong, China)	<u>5:15 p.m.-5:30 p.m.</u> 74. R. Hamai¹ , K. Harada ^{1, 2} , Y. Mori ² , T. Hasegawa ³ , R. Kanabuchi ² , K. Tsuchiya ¹ , N. Amizuka ³ , T. Aizawa ² , O. Suzuki ¹ Effect of adding a collagen mimetic peptide in octacalcium phosphate/gelatin composite on calcification of spheroids in 3D culture of MSC. (¹ Tohoku University, Graduate School of Dentistry, Division of Biomaterials Science and Engineering, Sendai, Japan, ² Tohoku University, Graduate School of Medicine, Department of Orthopaedic Surgery, Sendai, Japan, ³ Hokkaido University, Faculty of Dental Medicine, Ultrastructure of Hard Tissue, Sapporo, Japan)
<u>5:30 p.m.-5:45 p.m.</u> 71. E. Bortel¹ , B. Hesse ¹ , S. Anuth ¹ , J. Wüster ² , S. Nahles ¹ , K. Nelson ² Exploring Bone Remodeling with Synchrotron NanoCT: From Osteocyte Network Integration to Bone Regeneration (¹ Department of Maxillofacial Surgery, Charité University Medical Center Berlin, Germany; ² Department of Oral- and Maxillofacial Surgery, University Medical Center, Faculty of Medicine, University of Freiburg, Germany)	<u>5:30 p.m.-5:45 p.m.</u> 75. M. Kawashita¹ , S. Usuki ² , T. Ogawa ³ , T. Yokoi ¹ , S. Ogura ¹ , M. Hori ¹ , A. Matsumoto ¹ , M. Miyakawa ⁴ , Y. Majima ⁴ Partial Oxidation of Iron Nitride Particles via Low-Temperature Heat Treatment: Effects on Cytotoxicity, Iron Ion Elution, and Heat-Generating Ability under Alternating Magnetic Field. (¹ Institute of Science Tokyo, Institute of Integrated Research, Laboratory for Biomaterials and Bioengineering, Chiyoda-ku, Tokyo, Japan, ² Institute of Science Tokyo, Graduate School of Medical and Dental Sciences, Bunkyo-ku, Tokyo, Japan, ³ Tohoku University, Graduate School of Engineering, Sendai, Miyagi, Japan, ⁴ Institute of Science Tokyo, Institute of Integrated Research, Materials and Structures Laboratory, Yokohama, Kanagawa, Japan)
<u>5:45 p.m.-6:00 p.m.</u> 72. N. Masuyama¹ , S. Iwama ¹ , M. Aizawa ^{1, 2} , H. Kaneko ^{1, 2} Construction and evaluation of <i>in vivo</i> response prediction models based on <i>in vitro</i> indicators for artificial bone materials (Naoki Masuyama (Meiji University, Kawasaki, Japan))	<u>5:45 p.m.-6:00 p.m.</u> 76. M. Rezk¹ , Y. Zhang ¹ , S. Mir ¹ , T. Rack ¹ , R. Fischer ² , A. Rack ² , M. Stiller ¹ , J. Kang ¹ , W. Xiang ¹ , G. Chen ¹ , C. Knabe ¹ Comprehensive evaluation of bioactive ceramic induced bone formation in human biopsies - 6 months after sinus floor augmentation -applying volumetric analysis of cone beam CT-data, hard tissue histologic, immunohistochemical, histomorphometric and synchrotron microtomographical analyses. (Dept of Experimental Orofacial Medicine Philipps-University Marburg, Marburg, Germany, ² European Synchrotron Radiation Facility – ESRF, Grenoble, France).

Friday, October 9, 2026**Plenary Session XX 9:00 a.m.–10:30 a.m. Lisboa I and II**

Plenary session – Clinical applications, challenges and patient-related aspects

9:00 a.m.-9:30 a.m.

77. Keynote Georg Duda, Julius Wolff Institute, Charité University Medical Center Berlin
Biomechanical, biological and patient population-related considerations with regards to using bioceramic scaffolds for load bearing segmental defect repair in combination with adequate osteosynthesis

9:30 a.m.-10:00 a.m.

78. Keynote Carsten Rendenbach, Department of Maxillofacial Surgery, University Medical Center Cologne and Charité University Medical Center Berlin, Germany
Patient specific reconstruction of segmental mandibular defects after tumor ablation

10:00 a.m.-10:20 a.m.

79. Keynote Stefanie Doetz, Clarence Janka, KLS Martin, Tuttlingen, Berlin Office
Individual Patient Solutions for Bone Reconstructive Surgery with Live Planning Session – Workflow, 3D Printing and Technical Implementation"

10:20 a.m.-10:50 a.m.

80. Keynote Michael Stiller, Berlin and Philipps University Marburg, Germany
Clinical aspects -alveolar ridge augmentation and sinus floor augmentation with bioactive bone grafting materials

Break 10:50 a.m.-11:10 a.m.**Plenary Session XXI 11:10 a.m. -12:30 p.m.****Presentation by leaders from industry and academia & Panel discussion**

Translation from laboratory to product – *challenges & regulatory hurdles* Presentation by leaders from industry and academia & Panel discussion

Preliminary list of panel members: Ahmed El-Ghannam, Dietmar Huttmacher, Paul Ducheyne, Kunio Ishikawa, Tobias Wolfram, KLS Martin, Yuelian Liu and others.

12:30 p.m.-1:00 p.m. Closing Ceremony & Awards***From 2:00 p.m.: Optional Post-Conference Tours***

- Dahlem tour 2 p.m.
- KPM tour 4 p.m.
- Spree River Cruise
- Sightseeing tours historic city center & city west