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Areas of research interests

- Tissue Engineering (bone, cartilage, dental, cardiovascular, skin)
- Investigation of biomaterials structure/properties effect on biological responses: *In vitro* and *in vivo* biocompatibility evaluation of biomaterials, 3D scaffolds and nanoparticles
- Investigation of the osteoinductive potential of implantable biomaterials and drugs
- Development of osteoinductive and osteoconductive biomaterials and scaffolds
- Biomechanical characterization of tissues and scaffolds
- 3D printing, bioprinting, and electrospinning as processing technologies for scaffold fabrication
- Functionalization of biomaterials with growth factors
- Adsorption and desorption studies of proteins and growth factors on biomaterials surfaces

Education

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| 2004 | PhD (Dr. rer. nat.) in Institute of Physiological Chemistry, Faculty of Medicine, University of Duisburg-Essen, Germany, Dissertation title: 'Immobilization and release kinetics of recombinant human bone morphogenetic protein 2 (rhBMP-2) from metal implant surfaces in biologically active form' under the supervision of Prof. Dr. Herbert P. Jennissen |
| 1997 | Degree in Chemistry (Dipl.-Chem.), University of Essen, Germany Diploma thesis title: 'Synthesis and modification of the mesoporous phase MCM-41' under the supervision of Prof. Dr. Günter Schön |

Employment

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| Since June 2024 | Professor Department of Materials Science and Engineering, University of Crete, Greece |
| 2018 - 2024 | Associate Professor Department of Materials Science and Engineering, University of Crete, Greece |
| 2010 - 2018 | Assistant Professor (tenured since 2014) Department of Materials Science and Engineering, University of Crete, Greece |
| 2007 - 2010 | Visiting Professor Department of Materials Science and Engineering, University of Crete, Greece |

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| 2006 - 2008 | Research Fellow of the European Commission competitiveness program 'ENTER' in the field of biomolecule-interface interaction for long term drug delivery of biocompatible bone implants by means of biosensors Laboratory of Biosensors of Prof. Electra Gizeli, Institute of Molecular Biology and Biotechnology (IMBB), Foundation for Research and Technology Hellas (FORTH), Greece |
| 2004 - 2006 | Postdoctoral Research Associate in the field of bioactive bone implants and interface biochemistry Institute of Physiological Chemistry, Faculty of Medicine, University of Essen, Germany |
| 2003 - 2004 | Research Associate in collaborative projects between the University of Essen and industrial partners in the field of development of bioactive dental and bone implants Institute of Physiological Chemistry, Faculty of Medicine, University of Essen, Germany |

Recent publications in peer-review journals (since 2020)

1. Zuzanna Pawlak-Likus, Daniel K Baines, Nikoleta N. Tavernaraki, Varvara Platania, Maria Chatzinikolaidou, Patrycja Domalik-Pyzik, and Timothy E.L. Douglas (2025) Whey protein isolate hydrogels with heparin and tinzaparin for vascular tissue engineering, *Biomaterials Advances*, under review
2. Elisa Batoni, Nikoleta Natalia Tavernaraki, Varvara Platania, Carmelo De Maria, Maria Chatzinikolaidou, Giovanni Vozzi (2025) 3D printed osteoporotic bone model validated in dynamic culture, *Bio-Design and Manufacturing*, under review
3. Konstantinos Loukelis, Georgia-Ioanna Kontogianni, Dimitris Vlassopoulos, Maria Chatzinikolaidou (2025) Extrusion-based 3D bioprinting of gellan gum/poly(vinyl alcohol)/nano-hydroxyapatite bioinks promote bone regeneration, *Biofabrication*, under review
4. Varvara Platania, Nikoleta Natalia Tavernaraki, Kalliopi Alpantaki, Nikoleta Triantopoulou, Helen Papadaki, Marina Vidaki, Maria Chatzinikolaidou (2025) 3D bioprinted vascularized bone graft: A holistic approach for mechano-activated bone regeneration, *Advanced Functional Materials*, under review
5. Varvara Platania, Nikoleta Natalia Tavernaraki, Ioanna Gontika, Eirini Fragiadaki, Kalliopi Alpantaki, Nikoleta Triantopoulou, Iliana Petridi, Gavrielle Untracht, Peter Andersen, Marina Vidaki, Helen A. Papadaki, Maria Chatzinikolaidou (2025) 3D bioprinted vascular-like structures functionalized with platelet rich plasma promote angiogenic differentiation, *Advanced Healthcare Materials*, under review
6. Daniel K. Baines, Varvara Platania, Nikoleta N. Tavernaraki, Karen Wright, Maria Chatzinikolaidou, Timothy E. L. Douglas (2025) Whey protein isolate hydrogels containing Cannabidiol and Cannabigerol support the proliferation of pre-osteoblasts, *Gels*, under review
7. Georgia-Ioanna Kontogianni, Konstantinos Loukelis, Amedeo Franco Bonatti, Elisa Batoni, Raasti Naseem, Carmelo De Maria, Giovanni Vozzi, Kenneth Dalgarno, Heungsoo Shin, Chiara Vitale-Brovarone, Maria Chatzinikolaidou (2025) A mechanically stimulated, growth factor-free co-culture in 3D printed composite scaffolds promotes osteogenic and anti-osteoclastogenic activity and M2 macrophage polarization, *Biomaterials Research*, under review
8. Konstantinos Loukelis, Vasileios Tsampallas, Maria Kaliva, Maria Vamvakaki, Maria Chatzinikolaidou (2025) Synthesis of N, N,O and O-carboxymethyl chitosan derivatives of controllable substitution degrees and their utilization as electrospun scaffolds for bone tissue engineering, *Carbohydrate Polymers*, 348, 122775, <https://doi.org/10.1016/j.carbpol.2024.122775>
9. Stavros X. Drakopoulos, Konstantinos Loukelis, Marios E. Triantafyllou-Rundell, Constantinos C. Stoumpos, Maria Chatzinikolaidou, Georgios C. Psarras (2024) Epoxy/clay nanodielectrics: From relaxation dynamics to capacitive energy storage, *Advanced Composites and Hybrid Materials*, 7(4), 118, <https://doi.org/10.1007/s42114-024-00924-4>
10. Felix J. Geissel, Varvara Platania, Vasiliki Tsikourkitoudi, Justina Venckute Larsson, Thomas Thersleff, Maria Chatzinikolaidou, Georgios A. Sotiriou (2024) Silver/gold nanoalloy implant coatings with antibiofilm activity via a pH-triggered silver ion release, *Chemical Communications*, DOI: 10.1039/d4cc01168f
11. Chrysoula Argyrou, Eftychios Papagrigrakis, Dimitrios Tzefronis, Vaia Pliaka, Christos Fotis, Spyros Kamariotis, Maria Chatzinikolaidou, Konstantinos Tsiamtouris, Elias Vasileiadis, Leonidas Alexopoulos, George A. Macheras (2024) Multiplex cytokine analysis for the identification of novel potential synovial fluid

biomarkers for periprosthetic joint infections, *Injury* (55) 111659, <https://doi.org/10.1016/j.injury.2024.111659>

12. Y. Kirmanidou, M. Chatzinikolaidou, K. Michalakis, A. Tsouknidas (2024) Clinical translation of polycaprolactone-based tissue engineering scaffolds, fabricated via additive manufacturing: A review of their craniofacial applications, *Biomaterials advances*, 213902, <https://doi.org/10.1016/j.bioadv.2024.213902>
13. Georgia-loanna Kontogianni, Amedeo Franco Bonatti, Carmelo De Maria, Raasti Naseem, Catarina Coelho, Kalliopi Alpantaki, Aristeia Batsali, Charalampos Pontikoglou, Giovanni Vozi, Kenneth Dalgarno, Paulo Quadros, Chiara Vitale-Brovarone, Maria Chatzinikolaidou (2024) Cell instructive behaviour of composite scaffolds in a co-culture of human mesenchymal stem cells and peripheral blood mononuclear cells, *Journal of Functional Biomaterials*, 15, 116. <https://doi.org/10.3390/jfb15050116>
14. Konstantinos Loukelis, Nikos Koutsomarkos, Antonios Mikos, Maria Chatzinikolaidou (2024) Advances in 3D bioprinting for regenerative medicine applications, *Regenerative Biomaterials*, DOI: 10.1093/rb/rbae033, <https://doi.org/10.1093/rb/rbae033>
15. Konstantinos Loukelis, Danai Papadogianni, Jann Eike Kruse, Maria Chatzinikolaidou (2024) The effects of gellan gum concentration on electrospinning and degradation of flexible, crosslinker-free scaffolds for bone tissue engineering, *Carbohydrate Polymer Technologies and Applications* 7, 100454, <https://doi.org/10.1016/j.carpta.2024.100454>
16. Chrysanthi-Pinelopi Apostolidou, Chrysoula Kokotidou, Varvara Platania, Vasilis Nikolaou, Georgios Landrou, Emmanouil Nikoloudakis, Georgios Charalambidis, Maria Chatzinikolaidou, Athanassios G. Coutsolelos, and Anna Mitraki (2024) Antimicrobial Potency of Fmoc-Phe-Phe Dipeptide Hydrogels with encapsulated Porphyrin Chromophores is a Promising Alternative in Antimicrobial Resistance, *Biomolecules* 14(2), 226. <https://doi.org/10.3390/biom14020226>
17. Anna Papaioannou, Evangelia Vasilaki, Konstantinos Loukelis, Danai Papadogianni, Maria Chatzinikolaidou, Maria Vamvakaki (2024) Bioactive and biomimetic 3D scaffolds for bone tissue engineering using graphitic carbon nitride as a sustainable visible light photoinitiator, *Biomaterials Advances*, 213737 DOI: 10.1016/j.bioadv.2023.213737
18. Daniel K. Baines, Varvara Platania, Nikoleta Natalia Tavernaraki, Mattia Parati, Karen Wright, Izabela Radecka, Maria Chatzinikolaidou, Timothy E. L. Douglas (2024) The enrichment of whey protein isolate hydrogels with Poly- γ -glutamic acid promotes the proliferation and osteogenic differentiation of pre-osteoblasts *Gels*, 10(1), 18, <https://doi.org/10.3390/gels10010018>
19. Aikaterini Gialouri, Sofia Falia Saravanou, Konstantinos Loukelis, Maria Chatzinikolaidou, George Pasparakis and Nikolaos Bouropoulos (2023) Thermoresponsive Alginate-graft-pNIPAM/Methyl cellulose 3D printed scaffolds promote osteogenesis in vitro, *Gels* 9(12), 984, <https://doi.org/10.3390/gels9120984>
20. Georgia-loanna Kontogianni, Catarina Coelho, Paulo Quadros, Chiara Vitale Brovarone, Maria Chatzinikolaidou (2023) Osteogenic potential of strontium-substituted nano-hydroxyapatite for bone regeneration, *Nanomaterials*, 13, 1881, <https://doi.org/10.3390/nano13121881>
21. Georgia-loanna Kontogianni, Konstantinos Loukelis, Amedeo Franco Bonatti, Elisa Batoni, Carmelo De Maria, Raasti Naseem, Giovanni Vozi, Kenneth Dalgarno, Nicholas Dunne, Chiara Vitale-Brovarone, Maria Chatzinikolaidou (2023) Effect of Uniaxial Compression Frequency on Osteogenic Cell Responses in Dynamic 3D Cultures, *Bioengineering*, 10, 532, <https://doi.org/10.3390/bioengineering10050532>
22. Konstantinos Loukelis, Foteini Machla, Athina Bakopoulou, Maria Chatzinikolaidou (2023) Kappa-carrageenan/chitosan/gelatin scaffolds provide a biomimetic microenvironment for dentin-pulp regeneration, *Int. J. Mol. Sci.* 24, 6465, <https://doi.org/10.3390/ijms24076465>
23. Subrata Mondal, David B. MacManus, Amedeo F. Bonatti, Carmelo De Maria, Kenny Dalgarno, Maria Chatzinikolaidou, Aurora De Acutis, Giovanni Vozi, Chiara Vitale-Brovarone, Sonia L. Fiorilli, Nicholas Dunne (2023) A computational analysis of a novel therapeutic approach combining tissue engineering scaffolds and fracture fixation devices for the treatment of osteoporotic fractures: Effects of physiological loading, interface conditions, and fracture fixation materials, *Medical Engineering & Physics*, 103967, <https://doi.org/10.1016/j.medengphy.2023.103967>
24. Georgia-loanna Kontogianni, Amedeo Franco Bonatti, Carmelo De Maria, Raasti Naseem, Catarina Coelho, Giovanni Vozi, Kenneth Dalgarno, Paulo Quadros, Chiara Vitale-Brovarone, Maria Chatzinikolaidou (2023) Promotion of in vitro osteogenic activity by melt extrusion-based PLLA/PCL/PHBV scaffolds enriched with

- nano-hydroxyapatite and strontium substituted nano-hydroxyapatite, *Polymers*, 15, 1052, <https://doi.org/10.3390/polym15041052>
25. Priyanka Sahariah, Georgia-Ioanna Kontogianni, Effie Scoulica, Olafur E. Sigurjonsson, Maria Chatzinikolaidou (2023) Structure-Activity relationship for Antibacterial Chitosan carrying Cationic and Hydrophobic moieties, *Carbohydrate Polymers* 312, 120796, <https://doi.org/10.1016/j.carbpol.2023.120796>
 26. Elena Pulidori, Simone Micalizzi, Nikos Koutsomarkos, Emilia Bramanti, Maria Rosaria Tinè, Giovanni Vozi, Carmelo De Maria, Maria Chatzinikolaidou, Celia Duce (2023) Analysis of gelatin secondary structure in gelatin/keratin-based biomaterials, *Journal of Molecular Structure* 1279, 134984, <https://doi.org/10.1016/j.molstruc.2023.134984>
 27. Machla F, Sokolova V, Platania V, Prymak O, Kostka K, Kruse B, Pasadaki S, Agrymakis M, Alpantaki K, Vidaki M, Chatzinikolaidou M, Epple M, Bakopoulou A (2023) Dentin-pulp complex tissue engineering by pDMP1/pBMP2-conjugated calcium phosphate nanoparticles on human treated dentin scaffolds, *Acta Biomaterialia*, 159, 156-172, <https://doi.org/10.1016/j.actbio.2023.01.044>
 28. Konstantinos Loukelis, Zina A. Helal, Antonios G. Mikos, Maria Chatzinikolaidou (2023) Nanocomposite bioprinting for tissue engineering applications, *Gels*, 9(2), 103, DOI: 10.3390/gels9020103, <https://doi.org/10.3390/gels9020103>
 29. Katerina Petropoulou, Varvara Platania, Maria Chatzinikolaidou, Anna Mitraki (2022) A doubly Fmoc-protected aspartic acid self-assembles into hydrogels suitable for bone tissue engineering, *Materials*, 15(24), 8928, <https://doi.org/10.3390/ma15248928>
 30. Felix J. Geissel, Varvara Platania, Niccolò de Berardinis, Vitalii Shtender, Charlotte Skjöldebrand, Georgios N. Belibasakis, Cecilia Persson, Gry Hulsart-Billström, Maria Chatzinikolaidou, Georgios A. Sotiriou (2022) Nanostructured Ag-Bioglass Implant Coatings with Antibacterial and Osteogenic Activity, *Advanced Materials Interfaces* 2201980, DOI: 10.1002/admi.202201980
 31. Oscar Francesconi, Francisco Corzana, Georgia-Ioanna Kontogianni, Giorgio Pesciullesi, Roberta Gualdani, Claudiu T. Supuran, Andrea Angeli, Rafaela-Maria Kavasi, Maria Chatzinikolaidou, Cristina Nativi (2022) Lipoyl-Based Antagonists of Transient Receptor Potential Cation A (TRPA1) Downregulate Osteosarcoma Cell Migration and Expression of Pro-Inflammatory Cytokines, *ACS Pharmacology and Translational Science*, 5(11), 1119-1127, <https://doi.org/10.1021/acsptsci.2c00114>
 32. Konstantinos Loukelis, Danai Papadogianni, Maria Chatzinikolaidou (2022) Kappa-carrageenan/chitosan/gelatin scaffolds enriched with potassium chloride for bone tissue engineering, *International Journal of Biological Macromolecules*, 209, 1720-1730, <https://doi.org/10.1016/j.ijbiomac.2022.04.129>
 33. Foteini Machla, Ioannis Angelopoulos, Matthias Epple, Maria Chatzinikolaidou, Athina Bakopoulou (2022) Biomolecule-Mediated Therapeutics of the Dentin-Pulp Complex: A systematic review, *Biomolecules*, 12, 285, <https://doi.org/10.3390/biom12020285>
 34. Felix J. Geissel, Varvara Platania, Alexander Gogos, Inge K. Herrmann, Georgios N. Belibasakis, Maria Chatzinikolaidou, Georgios A. Sotiriou (2022) Antibiofilm activity of nanosilver coatings against *Staphylococcus aureus*, *Journal of Colloid and Interface Science* 608, 3141-3150, <https://doi.org/10.1016/j.jcis.2021.11.038>
 35. Varvara Platania, Alexandra Kaldeli Kerou, Theodora Karamanidou, Maria Kouki, Alexandros Tsouknidas, Maria Chatzinikolaidou (2022) Antibacterial effect of colloidal suspensions varying in silver nanoparticles and ions concentrations, *Nanomaterials* 12(1), 31, <https://doi.org/10.3390/nano12010031>
 36. Maria Fermani, Varvara Platania, Rafaela-Maria Kavasi, Christina Karavasili, Paola Zgouro, Dimitrios Fatouros, Maria Chatzinikolaidou, Nikolaos Bouropoulos (2021) 3D printed scaffolds from alginate/methyl cellulose/trimethyl chitosan/silicate glasses for bone tissue engineering, *Applied Sciences* 11, 8677, <https://doi.org/10.3390/app11188677>
 37. Varvara Platania, Timothy E.L. Douglas, Mikhajlo Zubko, Danny Ward, Krzysztof Pietryga, Maria Chatzinikolaidou (2021) Phloroglucinol-enhanced whey protein isolate hydrogels with antimicrobial activity for tissue engineering, *Materials Science & Engineering C* 129, 112412, <https://doi.org/10.1016/j.msec.2021.112412>

38. Theodore Manouras, Varvara Platania, Anthie Georgopoulou, Maria Chatzinikolaidou, Maria Vamvakaki (2021), Responsive Quaternized PDMAEMA Copolymers with Antimicrobial Action, *Polymers*, 13, 3051, <https://doi.org/10.3390/polym13183051>
39. Stella Mountaki, Maria Kaliva, Konstantinos Loukelis, Maria Chatzinikolaidou, Maria Vamvakaki (2021), Responsive polyesters with alkene and carboxylic acid side-groups for tissue engineering applications, *Polymers*, <https://doi.org/10.3390/polym13101636>
40. Kavasi R-M, Coelho C, Platania V, Quadros P, Chatzinikolaidou M (2021) *In vitro* biocompatibility assessment of nano-hydroxyapatite, *Nanomaterials* 11, 1152, <https://doi.org/10.3390/nano11051152>
41. Hadjicharalambous C, Alpantaki K, Chatzinikolaidou M. (2021) Effects of NSAIDs on pre-osteoblasts viability and osteogenic differentiation, *Experimental and Therapeutic Medicine* 22, 740, DOI: 10.3892/etm.2021.10172
42. Lavikainen J, Dauletbekova M, Toleutay G, Kaliva M, Chatzinikolaidou M, Kudaibergenov SE, Tenkovtsev A, Khutoryanskiy VV, Vamvakaki M, Aseyev V. (2021) Poly(2-ethyl-2-oxazoline) grafted gellan gum for potential application in transmucosal drug delivery, *Polym Adv Technol*. 32, 2770–2780, DOI: 10.1002/pat.5298
43. Hadjichristou C, Papachristou E, Vereroudakis E, Chatzinikolaidou M, About I, Koidis P, Bakopoulou A (2021) Biocompatibility assessment of resin-based cements on vascularized dentin/pulp tissue-engineered analogues, *Dental Materials* 37, 5, 914-927, DOI: 10.1016/j.dental.2021.02.019
44. Prymak O, Vagiaki L, Buyakov A, Kulkov S, Epple M, Chatzinikolaidou M (2021) Porous zirconia/magnesia ceramics support osteogenic activity in vitro, *Materials* 14, 4, 1049, 1-18, doi.org/10.3390/ma14041049
45. Vagropoulou G, Trentsiou M, Georgopoulou A, Papachristou E, Prymak O, Kritis A, Epple M, Chatzinikolaidou M, Bakopoulou A, Koidis P (2021) Hybrid chitosan/gelatin/nanohydroxyapatite scaffolds promote odontogenic differentiation of dental pulp stem cells and *in vitro* biomineralization, *Dental Materials* 37, 1, 23-36, <https://doi.org/10.1016/j.dental.2020.09.021>
46. Maria Chatzinikolaidou and Dimitrios I. Zeugolis (2020) Editorial: Highlights from TERMIS EU 2019, *Frontiers in Bioengineering and Biotechnology*, 8, doi: 10.3389/fbioe.2020.604661 [Editorial]
47. Papadogiannis F, Batsali A, Klontzas M, Karabela M, Georgopoulou A, Mantalaris A, Zafeiropoulos N, Chatzinikolaidou M, Pontikoglou C (2020) Osteogenic differentiation of bone marrow mesenchymal stem cells on chitosan/gelatin scaffolds: Gene expression profile and mechanical analysis, *Biomedical Materials* 15, 6, 064101, <https://doi.org/10.1088/1748-605X/aba325>
48. K. Parkatzidis, M. Chatzinikolaidou, E. Koufakis, M. Kaliva, M. Farsari, M. Vamvakaki (2020) Multi-photon polymerization of bio-inspired, thymol-functionalized hybrid materials with biocompatible and antimicrobial activity, *Polymer Chemistry*, 2020, 11, 2, 4078-4083, DOI: 10.1039/d0py00281j, **selected Front Cover by the Editors of *Polymer Chemistry* of the 25 July 2020 issue**
49. Kaliva M, Georgopoulou A, Chatzinikolaidou M and Vamvakaki M. (2020) Biodegradable chitosan graft poly(L-lactide) copolymers for bone tissue engineering, *Polymers* 12, 2, 316, DOI:10.3390/polym12020316
50. Parkatzidis K, Chatzinikolaidou M, Kaliva M, Bakopoulou A, Farsari M, Vamvakaki M (2019) Multiphoton 3D Printing of Biopolymer-Based Hydrogels *ACS Biomaterials Science and Eng.* 5, 11, 6161-6170, <https://doi.org/10.1021/acsbomaterials.9b01300>
51. Bakopoulou A, Georgopoulou A, Grivas I, Bekiari C, Prymak O, Loza K, Epple M, Papadopoulos GC, Koidis P, Chatzinikolaidou M. (2019) Dental pulp stem cells in chitosan/gelatin scaffolds for enhanced orofacial bone regeneration, *Dental Materials* 35, 2, 310-327, DOI: 10.1016/j.dental.2018.11.025

Book chapters

1. Kaliva M, Kavasi R-M, Chatzinikolaidou M, Vamvakaki M. (2021) 'Polysaccharides and Applications in Regenerative Medicine' in *Comprehensive Glycoscience* 2nd edition, Elsevier, volume 4, pages 1-33, <https://doi.org/10.1016/B978-0-12-819475-1.00037-7>
2. Chatzinikolaidou M. (2017) Scientific advisor of the Greek Edition (chapters 8, 9 and 10) of the book 'Biomaterials: The Intersection of Biology and Materials Science' by J. S. Temenoff and A. G. Mikos, Utopia Publishing
3. Kaliva M., Chatzinikolaidou M., Vamvakaki M. (2017) Applications of Multifunctional Smart Materials for Tissue Engineering, Royal Society of Chemistry, DOI:10.1039/9781788010542-00001

4. Buescher, R., Jennissen, H.P., Chatzinikolaidou, M., Fischer, A. (2001) Characterization of Wet-Chemically Nanostructured Stainless Steel Surfaces. *Mat. Res. Soc. Symp. Proc.* Vol. 676, pp.Y3.14.1-Y3.14.6. In: *Synthesis, Functional Properties and Application of Nanostructures.* (H.W Hahn, R. Tannenbaum, D.L Feldheim, C.P Kubiak, R.W Siegel, eds). MRS (Materials Research Society), Publications Warrendale, Pennsylvania, USA

Patents

1. Jennissen, H. P., M., Chatzinikolaidou, M., (2008) "Method for producing a product having a polymer matrix, implants made thereof and use thereof" Patent WO2008074845 A2 (2008), European Patent EP2104520 (2010), United States Patent and Trademark Office Granted Patent US8900633 (2014)
2. Jennissen, H. P.; Chatzinikolaidou, M.; Rumpf, H. (MorphoPlant GmbH) (2008) "Bioactive implant and method of use" United States Patent and Trademark Office Pre-Granted Publication US20080260799, United States Patent and Trademark Office Granted Patent (2015) US9095640
3. Jennissen, H. P., Laub, M., Chatzinikolaidou, M., Zurlinden, K. (2008) "Process for the immobilization of proteins on an implant" European Patent Application EP1880739
4. Jennissen, H. P., Chatzinikolaidou, M., Rumpf, H. M. (2002) 'Method for Producing Bioactive Implant Surfaces' Patent Cooperation Treaty Application WO0209788, European Patent Application (2003) EP1305058, United States Patent and Trademark Office Pre-Granted Publication US20040109937

Selected invited talks in international conferences and workshops (since 2020)

1. M. Chatzinikolaidou (2025), 3D bioprinting of biofunctional grafts, TERMIS-EU, 20-23 May 2025, Freiburg, Germany
2. M. Chatzinikolaidou (2024), 3D Bioprinting of biomaterials with cells: a versatile technology for tissue and organ regeneration, 17th conference of the Hellenic Society for Spine Surgery, October 31-November 2, 2024, Athens
3. M. Chatzinikolaidou (2024), Bioprinted vascularized bone grafts using responsive biomaterials and dynamic cultures, European Society for Biomaterials (ESB)-China Symposium, 15-18 September 2024, Nuremberg, Germany
4. M. Chatzinikolaidou (2024), 3D bioprinting for bone and vascular tissue engineering, 31st Annual Advances in Tissue Engineering Short Course at Rice University, August 14-17, 2024, Rice University, Houston, TX
5. M. Chatzinikolaidou (2024), 3D bioprinting of biomaterials for regenerative medicine applications, International Association of Dental Research-European Division (IADR-CED) Summer School on 'Advanced Tissue Engineering & Imaging Techniques', 8-12 July 2024, Thessaloniki, Greece
6. M. Chatzinikolaidou (2024), 3D bioprinting of natural and synthetic polymers for vascularized bone tissue engineering, 5th International Conference on Biomedical Polymers & Polymeric Biomaterials (ICBPPB), 7-9 July 2024 in Donghua University, Shanghai, China
7. M. Chatzinikolaidou (2024), A fascinating journey of Biomaterials for Tissue Engineering, invited keynote in the special session 'Women in Biomaterials Science', 12th World Biomaterials Congress (WBC 2024), 26-31 May 2024, Daegu, Republic of Korea
8. M. Chatzinikolaidou (2023), 3D bioprinted hydrogels for tissue engineering and regenerative medicine, 14th Hellenic Polymer Society International Conference, 22-25 November 2023, Thessaloniki, Greece
9. M. Chatzinikolaidou (2023), Regeneration of bone using advanced biomaterials and 3D printing technologies, 27th Annual Conference on Biomedical Science and Technology Biomed2023-TR, 20-22 October 2023, Izmir, Turkey
10. M. Chatzinikolaidou (2023), Biofunctionalized 3D bioprinted vascular-like structures: an advanced approach to promote endothelial tissue regeneration, 31st Annual Conference of the European Orthopedic Research Society (EORS), 27-29 September 2023, Porto, Portugal
11. M. Chatzinikolaidou (2023), Biomaterials in Regenerative Medicine, 1st Panhellenic conference of physical sciences in health, 22-23 September 2023, Athens, Greece

12. M. Chatzinikolaidou (2023) 3D dynamic cultures in bone tissue engineering: mimicking the in vivo situation, 20th International Conference on Nanoscience & Nanotechnologies NN21, 4-7 July 2023, Thessaloniki, Greece
13. M. Chatzinikolaidou (2023), Functional composite scaffolds with inorganic osteoinductive compounds for bone tissue regeneration, 16th International Symposium on Applied Bioinorganic Chemistry (16-ISABC), 11-14 June 2023, Ioannina, Greece
14. M. Chatzinikolaidou (2023), Advances in bone tissue engineering: dynamic co-culture systems, BIOMAT Sheffield symposium, 27 March 2023, Sheffield, UK
15. M. Chatzinikolaidou (2022), Advances in biomaterials, cells and technologies in bone tissue engineering, 12th Conference of the Hellenic Society for Biomaterials, 15-17 December 2022, Athens, Greece
16. M. Chatzinikolaidou (2022) Biomaterials for bone regeneration, Venizelion Hospital Seminars in the Clinic for Orthopedics and Trauma, 5 October 2022, Heraklion
17. M. Chatzinikolaidou (2022) Biomaterial matrices in bone tissue engineering, Plenary lecture at the Annual Meeting of the German Society for Biomaterials (DGBM), 15–17 September 2022, Essen, Germany
18. M. Chatzinikolaidou (2022), Fellows in Biomaterials Science and Engineering (FBSE) Debate: "The house believes that in the next decade it will be possible to print fully functional tissues and organs - An opposition", 32nd Conference of the European Society for Biomaterials ESB 2022, 4-8 September 2022, Bordeaux, France
19. M. Chatzinikolaidou (2022) Regenerative Medicine: what you need to know about Biomaterials, 5th Conference of the Hellenic Society of Gene Therapy and Regenerative Medicine, 27-29 May 2022, Thessaloniki, Greece
20. M. Chatzinikolaidou (2022) Polymeric scaffolds under dynamic conditions promote osteogenic differentiation of pre-osteoblasts, 7th International Conference on Tissue Engineering in conjunction with the 5th International Conference on Regenerative Biomedical Materials, 26-31 May 2022, Ioannina, Greece
21. M. Chatzinikolaidou (2021) Advances in biomaterials for bone tissue engineering, 35th Panhellenic Conference on Solid State Physics and Materials Science (26-29 September 2021, Athens, Greece)
22. M. Chatzinikolaidou (2021) Multifunctional biomaterials for bone regeneration: new trends in manufacturing and validation, 29th Annual Meeting of the European Orthopaedic Research Society (EORS) (15-17 September 2021, Rome, Italy)
23. M. Chatzinikolaidou (2021) Biological evaluation of nano-hydroxyapatite for bone regeneration Workshop 3, NanoMedicine (18th International Conference on Nanoscience & Nanotechnologies NN21, 6-9 July 2021, Thessaloniki, Greece)
24. M. Bousnaki, A. Bakopoulou, A. Georgopoulou, E. Vereroudakis, M. Chatzinikolaidou (2020) Dynamic cultures of dental stem cells within chitosan/gelatin scaffolds promote fibrochondrogenic differentiation (Crete-Israel Soft Matter Meeting, 25-27 February 2020, Ben Gurion University, Israel)

Awards and fellowships (since 2020)

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| 2024 | Included in the World's Top 2% Scientists List Based on Stanford and Elsevier Data, https://topresearcherslist.com/Home/Search? |
| 2024 | Elected Fellow of the International Academy of Medical and Biological Engineering (IAMBE), Class 2024 |
| 2024 | Elected Steering Committee member of the International College of Fellows of Biomaterials Science and Engineering (ICF-BSE) (term 2024-2028) |
| 2023 | Elected European Orthopaedic Research Society (EORS) Ambassador for Greece |
| 2023 | Awarded International Fellow of Tissue Engineering and Regenerative Medicine (FTERM). The honorary status of FTERM recognizes individuals that have made outstanding contributions to the field of tissue engineering and regenerative medicine with outputs of clear professional excellence |

- 2022 Included in the World's Top 2% Scientists List Based on Stanford and Elsevier Data, <https://topresearcherslist.com/Home/Search?>
- 2020 Awarded Fellow in Biomaterials Science and Engineering (FBSE), International Union of Societies for Biomaterials Science and Engineering (IUS-BSE); The honorary status of FBSE recognizes excellence in professional standing and high achievements in the field of biomaterials science and engineering

Teaching

- Since 2023 Lectures on "Biomaterials and three-dimensional models for tissues and organs", as part of the course "Biology and applications of regenerative medicine", Undergraduate Program, School of Medicine, University of Athens, Greece
- Since 2020 Lectures on "Tissue engineering and Regenerative Medicine", International Joint Postgraduate Program "Biomedical bioengineering", University of Crete, Technical University of Crete, FORTH, Heraklion, Greece
- Since 2020 Lectures on "Introduction in tissue engineering", Postgraduate Program "Biomedical bioengineering", University of Western Macedonia, Greece
- Since 2019 Lectures on "Tissue engineering and regenerative medicine/dentistry", Postgraduate Program "Dental and craniofacial bioengineering & applied biomaterials", Aristotle University of Thessaloniki, Greece
- 2016-2017 & 2022-2023 Lectures on "Biochemistry and Molecular Biology", undergraduate program, Department of Materials Science and Technology, University of Crete, Greece
- Since 2014 Lectures on "Molecular Cell Biochemistry", undergraduate program, Department of Materials Science and Technology, University of Crete, Greece
- 2013-2014 Lectures on "General Chemistry", undergraduate program, Department of Materials Science and Technology, University of Crete, Greece
- 2012-2014 Lectures on "Introduction in Biomedical Engineering", undergraduate program, Department of Materials Science and Technology, University of Crete, Greece
- Since 2011 Lectures on "Biomaterials-scaffolds and stem cell applications", Master's Program "Molecular Basis of Human Disease", School of Medicine, University of Crete, Greece
- Since 2011 Lectures on "Bone and cartilage tissue engineering" and "Cell adhesion", Master's Program Department of Materials Science and Technology, University of Crete, Greece
- 2008-2012 Lectures on "Tissue engineering and applications", undergraduate program, Department of Materials Science and Technology, University of Crete, Greece
- Since 2007 Lectures on "Biological materials and composite biomaterials", undergraduate program, Department of Materials Science and Technology, University of Crete, Greece
- 2004 - 2006 Seminar lectures on "Bioenergetics" in Institute of Physiological Chemistry, Division of Biochemical Endocrinology, Faculty of Medicine, University of Essen, Germany

Member of scientific societies

- European Society for Biomaterials, ESB
- Tissue Engineering & Regenerative Medicine International Society, TERMIS
- European Orthopaedic Research Society, EORS (ambassador for Greece)
- International Society for Biofabrication (ISBF)
- Materials Research Society (MRS)
- Hellenic Society for Biomaterials (vice president of the Council 2015-2018), HSB
- Hellenic Society of Gene Therapy and Regenerative Medicine
- Hellenic Polymer Society