

## Part A. PERSONAL INFORMATION

CV date	18/02/2025
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First name	Maria Pau		
Family name	Ginebra Molins		
Gender (*)	Female	Birth date (dd/mm/yyyy)	18/09/1963
Social Security, Passport, ID number	33930751R		
e-mail	Maria.pau.ginebra@upc.edu	URL Web <a href="https://biomaterials.upc.edu/en/staff/prof-maria-pau-ginebra">https://biomaterials.upc.edu/en/staff/prof-maria-pau-ginebra</a>	
Open Research and Contributor ID (ORCID)(*)		0000-0002-4700-5621	

(\*) Mandatory

### A.1. Current position

Position	Full Professor		
Initial date	24/07/2007		
Institution	Universitat Politècnica de Catalunya (UPC)		
Department/Center	Materials Science and Engineering / Barcelona East School of Engineering (EEBE)		
Country	Spain	Teleph. number	+344017706
Key words	Biomaterials, Bioceramics, Calcium phosphates, Biomineralization, Bone regeneration		

### A.2. Previous positions (research activity interruptions, art. 45.2.b))

Period	Position/Institution/Country/Interruption cause
2001-2007	Profesora Titular de Universidad/ Universitat Politècnica de Catalunya/Spain
1997-2001	Profesora Asociada a tiempo completo/Univ. Politècnica de Catalunya/Spain
1993-1996	FPU Predoctoral grant / Universitat Politècnica de Catalunya/Spain

### A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licensed in Physics	Universitat Autònoma de Barcelona/Spain	1986
PhD in Sciences (Physics)	Universitat Politècnica de Catalunya/Spain	1997

## Part B. CV SUMMARY (max. 5000 characters, including spaces)

**Maria-Pau Ginebra** received her BsC Degree in Physical Sciences from the Universitat Autònoma de Barcelona and a Ph.D. from the Universitat Politècnica de Catalunya (UPC). At present she is Full Professor in the Department of Materials Science and Engineering of the UPC. She was Head of Department (2015-2022) and she leads the Biomaterials, Biomechanics and Tissue Engineering Group (<https://biomaterials.upc.edu/en/introduction-objectives>). She is the Scientific Director of the Maria de Maeztu Unit of Excellence at the Barcelona Research Center in Multiscale Science and Engineering (2024-2030) (<https://multiscale.upc.edu/en>). She belongs to the Center for Research in Biomedical Engineering of the UPC (CREB, <https://creb.upc.edu/>) and the Institute of Bioengineering of Catalonia (IBEC). She has made very significant contributions in the development of new biomaterials for bone regeneration and drug delivery, as well in the study of the material-tissue interactions. She leads a team of 51 researchers, with a marked interdisciplinary character. She focuses her attention on the processing and characterization of a new generation of biomimetic calcium phosphates, which mimic the extracellular matrix of bone. She is also

interested in new biofabrication strategies, including scaffolds for bone tissue engineering, bio-inspired substrates and 3D printing of implants for regenerative medicine. She has led numerous projects funded by national and international entities, especially through European projects, including an ERC Advanced Grant, awarded in 2022. She has authored more than 280 research publications (h-index = 75 and more than 20,000 citations in Google Scholar). She has edited 3 books and authored 19 book chapters. She has been visiting lecturer at several foreign universities, such as Dankook University in South Korea and the University of Minnesota, and she has given more than 90 invited lectures at international conferences. She was President of the International Society for Ceramics in Medicine (2013-2014). She serves in the Editorial Board of prestigious scientific journals, such as *Acta Biomaterialia* and *Journal of Tissue Engineering*. She has been granted 5 *sexenios de investigación* and 1 *sexenio de transferencia*.

Mentoring has always been a central part of her academic life. She has supervised 15 postdoctoral fellows and 28 PhD Theses (23 presented and 5 more ongoing), including 2 industrial PhDs. In recognition of the quality of her mentoring activity, in 2019 she received Klaas de Groot Award from the European Society for Biomaterials.

She has received numerous distinctions in recognition of the high level of her research, such as the ICREA Academia Awards that she received in four consecutive editions (2008, 2013, 2018 and 2023) and the Narcís Monutiol Medal (2012), all of them granted by the Generalitat de Catalunya. In 2013 she received the Racquel LeGeros Award by the International Society for Ceramics in Medicine, and in 2024 the National Award of the Spanish Materials Society (SOCIEMAT) and the Spanish Chapter of the American Ceramic Society. In 2020 she was appointed Fellow of the Biomaterials Science and Engineering (FBSE) by the International Union of Societies for Biomaterials Science and Engineering.

She has been very actively engaged in transferring research into the market, being the author of 12 patents, 5 of them licensed to companies and in operation. Based on the IP generated on biomimetic calcium phosphates, in 2013 she founded the Spin-Off Company Mimetis Biomaterials, (<https://www.mimetis.com>) of which she has been President until 2021. During her time at the helm of Mimetis, the company obtained the CE Marking of one product, which was launched in 2016. In 2019, Mimetis Biomaterials obtained funding from EU Horizon 2020 SME Instrument Phase 2 to cover the necessary steps to bring its customized 3D-printed calcium phosphate implant solution to the market, including regulatory clearance, scaling-up the manufacturing process and performing a clinical trial, that is currently ongoing (<https://www.mimetis.com/mimetis-products/>). The acquisition of Mimetis Biomaterial in 2021 by the multinational company Nobel Biocare, a world leader in the dental sector, culminated a process of technology transfer with worldwide impact and ensures the translation to the market of two products conceived and developed by her group. In recognition of her innovation capacity, she was finalist of the EU Prize for Women innovators in 2018.

Prof. Ginebra is President of the Research Evaluation Committee and a member of the Governing Council of the Agency for the Quality of the University System of Catalonia (AQU Catalunya).

## Part C. RELEVANT MERITS (sorted by typology)

### C.1. Most important publications in books and journals with "peer review" and in conferences (selection of 10 publications).

1. L. del-Mazo-Barbara, L. Johansson, F. Tampieri, F. **M.P. Ginebra** (2024). Toughening 3D printed biomimetic hydroxyapatite scaffolds: polycaprolactone-based self-hardening inks. *Acta Biomaterialia* 177 (2024) 506–524
2. M. Bonany, A. J. Pérez-Berná, T. Dučić, E. Pereiro, H. Martín-Gómez, C. Mas-Moruno, S. van Rijt, Z. Zhao, M. Espanol, **M.P. Ginebra** (2022). Hydroxyapatite nanoparticles-cell interaction: New approaches to disclose the fate of membrane-bound and internalised nanoparticles. *Biomaterials Advances* 142, 213148

3. Y. Raymond, E. Thorel, M. Liversain, A. Riveiro, J. Pou, **M.P. Ginebra** (2021). 3D Printing Non-Cylindrical Strands: Morphological and Structural Implications. *Additive Manufacturing* 46, 102129
4. J. Konka, M. Espanol, B.M. Bosch, E. de Oliveira, **M.P. Ginebra** (2021). Maturation of biomimetic hydroxyapatite in physiological fluids: a physicochemical and proteomic study. *Materials Today Bio* 12, 100137
5. O. Hakimi, M. Krallinger, **M.-P. Ginebra** (2020). Time to kick- start text mining for biomaterials. *Nat Rev Mater* 5 ,553–556
6. O. Hakimi, J.L. Gelpi, M. Krallinger, F. Curi, D. Repchevski, **M.P. Ginebra** (2020). The Devices, Experimental Scaffolds and Biomaterials Ontology (DEB): a Tool for Mapping, Annotation and Analysis of Biomaterials Data. *Adv. Funct. Mater.* 30, 1909910
7. A. Barba, Y. Maazouz, A. Diez-Escudero,...,**M.P. Ginebra** (2018). Osteogenesis by foamed and 3D-printed nanostructured calcium phosphate. scaffolds: effect of pore architecture. *Acta Biomaterialia*, 79, 135-147
8. J.M.Sadowska, F. Wei, J. Guo, J. Guillem-Marti, **M.P. Ginebra (CA)**, Y. Xiao (2018). Effect of nano-structural properties of biomimetic hydroxyapatite on osteoimmunomodulation. *Biomaterials* 181, 318-332
9. J.M. Sadowska, J. Guillem-Marti, **M.P. Ginebra** (2018). The influence of physicochemical properties of biomimetic hydroxyapatite on the in vitro behavior of endothelial progenitor cells and their interaction with mesenchymal stem cells. *Adv. Healthc. Mater.*, 8, 1801138
10. A. Barba, A. Diez-Escudero, Y. Maazouz,...,**M.P. Ginebra** (2017). Osteoinduction by foamed and 3D-printed calcium phosphate scaffolds: effect of nanostructure and pore architecture. *ACS Appl. Mater. & Interfaces* 9, 41722–41736

## **C.2. Congress.** (*Selection of 10 invited plenary or keynote conferences*)

1. 31st Conference of the Eur. Soc. for Biomaterials, Porto, Portugal, September 5–9, 2021
2. XVIII Brazil Materials Res. Society Meeting, Balneario Camboriu, Brazil, 22-26 Sept. 2019
3. Klaas de Groot Award Plenary Lecture. Annual Conference of the European Society for Biomaterials, Dresden, Germany, 9-13 Sept. 2019.
4. XVI International Conf. of the European Ceramic Society, Torino, Italy, 17-20 June 2019.
5. Scandinavian Society for Biomaterials Congress, Kirkkonummi, Finland, 12-14 June 2019.
6. ADEA International Women's Leadership Conference VI, Brescia, Italy, 23-25 April 2019
7. European Calcified Tissue Society Meeting, Valencia, Spain, 25-29 May 2018.
8. 28th Annual Conference of the European Society for Biomaterials, Athens, 4-8 Sept. 2017.
9. 28th Annual meeting Int. Soc. for Ceramics in Medicine, Charlotte, USA, 18-21 Oct. 2016.
10. E-MRS Spring Meeting, Lille, France, 2-6 May 2016.

## **C.3. Projects or research lines in which you have participated.** (*Selection 10 projects, PI*)

1. **ERC Advanced Grant:** Bio-inspired AntiMicrobial Bone Bloceramics: Deciphering contact-based biocidal mechanisms (BAMMBI). Project 101055053, 12/2022-12/2027
2. **Spanish Ministry of Science and Innovation:** Nuevas tecnologías para el desarrollo de injertos oseos osteoinductivos y antimicrobianos con altas prestaciones (ENABLE), PID2019-103892RB-I00, 06/2020-06/2023
3. **European Project, H2020:** Coordination and Support Actions HORIZON-CL4-2021-RESILIENCE-01-25. Advanced Database for Biomaterials with Data Analysis and

Visualisation Tools extended by a Marketplace with Digital Advisors (BIOMATDB+), 2022-2025

4. **European Project, H2020:** SME Instrument, Phase 2, ID: 858886. Bone3Dmatch. Patient specific biomimetic materials for bone regeneration (Mimetis Biomaterials)
5. **European Project, H2020:** Marie Curie Action H2020-MSCA-IF-2016. Database of Experimental Biomaterials and their Biological Effect (DEBBIE), 2018-2020.
6. **European Project, H2020:** H2020-SC1-2016-2017- 779322. MAXIBONE: Personalised maxillofacial bone regeneration. 2018-2021. (Mimetis Biomaterials).
7. **Spanish Ministry of Economy and Competitiveness.** MAT2015-65601-R. Print4Life: Novel bioprinting strategies for bone regeneration and cancer therapies. (2016-2020).
8. **Fundació Marató TV3.** Femoral head osteonecrosis treatment with advanced cell therapy and biomaterials in an experimental sheep animal. Coordinator: Màrius Aguirre, Hospital Vall d'Hebron (Barcelona). PI at UPC: Maria Pau Ginebra. (01/2013-12/2015).
9. **European Commission, FP7.** HEALTH-F5-2009-241879. Regenerating bone defects using new biomedical engineering approaches (REBORNE). Coordinator: Pierre Layrolle, INSERM (France). PI at UPC and WP leader: M.P. Ginebra. (01/2010-06/2015).
10. **European Commission, FP7.** NMP.2010.2.3-1-263363. Novel biomimetic strategy for bone regeneration (InnovaBone). Coordinator: Oskar Hoffmann, University of Wien. PI at UPC: M.P. Ginebra. (11/2011-11/2015).

#### **C.4. Participation in technology/knowledge transfer activities and exploitation of results.** *(Selection of 10 contributions)*

1. Founder (2013) and President (2013-2021) of the technology-based Spin Off Company **Mimetis Biomaterials SL**.

##### *Licensed families of patents:*

2. The 'Injectable, self-setting calcium phosphate foam' patent family, with priority date of 2004, granted in Spain (ES2246726B2) and Europe (EP1787626B1), validated in France, Germany, Great Britain, Italy, Netherlands, Poland, Sweden and Switzerland. PCT publication number WO2006030054A1.
3. The 'Inorganic cement for biomedical uses, preparation method thereof and use of same' patent family, with priority date of 2010, granted in Spain (ES2365091B1) and filed in Europe (EP2545944A4) and US (US2013156864A1). PCT publication number WO2011110724 A1).
4. The 'Inorganic, injectable and thermosensitive cement for bone reconstruction: preparation and use' patent family, with priority date of 2015, filed in Spain (ES2553302A1). PCT publication number WO2015169992A1.
5. The 'New single-step manufacturing process for foamed biomaterials' patent with priority date of 2014, filed in Spain (ES2555235A1). PCT application under evaluation.
6. The 'Synthetic Bone Graft' on the 3D printing of synthetic bone graft and hardening processes, filed in Europe in May 2018 (EP18382309.5)

##### *Collaboration agreements with companies:*

7. Galimplant-UPC Chair on bioceramics for bone regeneration (2023-2024)
8. Evaluation of the technical and economical potential of the use of hydroxyapatite type cement as building materials. Sant Gobain Weber. (06/2015-06/2016)
9. Origami, "New method for the high-speed 2D additive fabrication of Bioceramics". AMES S.A. CDTi Project. (04/2013 – 04/2016).
10. Development of biopolymers from swine by-products. Bioibérica S. L (01/2013 - 12/2013).