

João F. Mano - SHORT CV

João F. Mano, PhD in Chemistry (1996, Technical Univ. Lisbon), D.Sc. in Tissue Engineering Regenerative Medicine and Stem Cells (2012, Univ. Minho), is a full professor at the Department of Chemistry of the University of Aveiro (Portugal). During his career he has been teaching courses related to biomaterials science and technology, tissue engineering and physical chemistry of polymers and materials, in both undergraduate and graduate levels. He is the director of both Master and Doctoral Degrees in Biotechnology at the Univ. of Aveiro. He has also an appointment as Invited Professor (classe exceptionnelle, since 2014) at University of Lorraine (France), and Visiting Professor in KAIST (South Korea) - 2019.

He belongs to the associate laboratory CICECO – Aveiro Institute of Materials where he is coordinating the *research line on sustainability* and where he is directing the *COMPASS Research Group*, founded in April 2016. His current research interests include the use of biomaterials and cells towards the development of transdisciplinary concepts especially aimed at being used in regenerative and personalised medicine. In particular, biomimetic and nano/micro-technology approaches have been applied to natural-derived biomaterials and surfaces in order to obtain biomedical devices with improved structural and (multi-)functional properties, or in the engineering of microenvironments to control cell behaviour and organization, to be used in therapies or in drug screening.

João F. Mano is author of 670 original research or review papers in international journals (28200+ citations, $h=85$ – Web of Science) and 40+ book chapters. João F. Mano co-edited 9 special issues in international journals and 5 books. João F. Mano has been invited to review manuscripts from 300+ different international journals and to routinely evaluate projects from numerous private and state funding agencies from 18 different countries. He is the LS9 panel chair for the peer review ERC Advanced Grants. João F. Mano supervised or co-supervised 57 MSc, 24 PhD students, and 40+ post-doctoral fellows. He filed 6 patents as senior inventor. João F. Mano is the co-founder (2018) and chairman of METATISSUE, a company developing human-derived hydrogels for 3D cells culture (4 prizes and owner of two patents).

He is the Editor-in-Chief of *Materials Today Bio* (Elsevier). He has been also part of a series of scientific societies and editorial boards of 12 international journals. He has been coordinating or involved in many national and European research projects and participated in the organization of scientific events in the area of polymer/materials science and biomaterials/tissue engineering.

Professor João F. Mano has been member of scientific committees, organizing committees, referee and chairman in different international meetings. He was invited to present more than 100 invited/keynote/plenary talks in international conferences including EUROMAT, ESTAC, TERMIS (EU and AP chapters and World conferences), BIOMED, FBPS, NANOMED, COLAOB, ESB, SFB, World Biomaterials Conference, E-MRS, ESAO, EPF, ACS, CBECIMAT, NICE, Inter. HYMA, APME, APCChE, PPM, EPNOE, SELECTBIO.

João F. Mano has received different honours and awards: (i) fellow of the IUPAC (International Union of Pure and Applied Chemistry) since 2004; (ii) the Stimulus to Excellence Award by the Portuguese Minister for Science and Technology in 2005; (iii) the Materials Science and Technology Prize, attributed by the Federation of European Materials Societies (FEMS) in 2007 (iv) UNESCO Chair on Biomaterials attributed in 2008 from the University of Havana (Cuba); (v) the major BES innovation award in 2010 (at that time, one of the most recognised innovation prize in Portugal); (vi) recipient an Advanced Grant from the European Research Council (ERC-AdG), in 2015; (vii) received the title of Professor@Lorraine from the University of Lorraine, France, in 2018; (viii) recipient a Proof of Concept Grant from the European Research Council (ERC-PoC), in 2018; (ix) received the title of Doctor Honoris Causa, given by University of Lorraine, in 2019; (x) awarded with a Gutenberg Chair, supported by the Great East Region of France, in 2020; (xi) recipient a second ERC-AdG, in 2020; (xii) recipient a second ERC-PoC, in 2020; (xiii) elected fellow of the European Academy of Sciences; (xiv) Bluepharma I University of Coimbra Innovation Award 2019; (xv) Inducted Fellow Biomaterials Science and Engineering (FBSE) in 2020; (xvi) Researcher Award University of Aveiro 2020 (first edition).

Aveiro, 27 February 2021





Aveiro, 27.02.2021

Dear Members of the ESB Council,

I had the pleasure to be asked to write some sentences on my general achievements to expose arguments to be a candidate for the prestigious Council of the *European Biomaterials Society*.

I had a prolific scientific experience of 25 years in the general field of Biomaterials, where I believe I am now internationally recognized as a pioneer in the development of several unconventional polymeric-based biomaterials to be employed in biomedicine, including: (i) **smart systems** (e.g. injectable gels, stimuli-responsive surfaces, patterned surfaces and bioinstructive particles, shape memory systems); (ii) **biomimetic approaches** (e.g. surfaces with extreme wettability, sustainable sources of materials and "green" processes, biomimetic macromolecules, bio-inspired materials with improved mechanical properties, mussel- and bee- inspired adhesives and fixation surfaces, supramolecular systems, osteoconductive materials based on nature-inspired biomineralization); (iii) **nanobiomaterials** (e.g. nanoparticles for controlled drug release and for cell engineering, nanostructured coatings, bioactive nanocomposites) and (iv) **bottom-up approaches in Tissue Engineering** (e.g. new bioprinting procedures and materials, microgels and capsules as basic units). I established by myself innovative and creative combinations of different above-mentioned approaches to produce entirely new transdisciplinary concepts able to change the research status of the fields. I consider that such contributions are not merely incremental improvements on the existing knowledge but rather ground-breaking progresses in the area of biomaterials for tissue engineering or drug-delivery and also in the general areas of biomimetic materials and surfaces, soft-matter, stimuli-responsive polymers, unusual physicochemical characterization and nanobiomaterials (engineered from 0D to 3D). My work involved often well-designed chemical modifications of natural-based polymers or the synthesis of bio-inspired systems to be used in different biomedical applications, and to my knowledge such scientific aspects are not yet fully represented by the members of the council of ESB. I have been quite active in the biomaterials community in Europe, participating in numerous networks, dissemination actions (including the organization of international conferences and symposia), evaluation boards of distinct European agencies (including being the chair of the LS9 panel for ERC Advanced grants evaluations) and funded European projects. I attended numerous ESB conferences since 1999, including with the presentation of keynote lectures. I had the honor to have been the 2020 laureate for the George Winter Award and I will present the corresponding plenary lecture in the ESB 2021 conference, in Porto. I have the privilege to have close interactions with the best European scientists with effective collaborations in projects, exchange of students and joint publications. This network, together with my scientific achievements and recognitions could be valuable for the Society, to which I am committed to increase its prestige and influence in the biomaterials community.

João F. Mano (CEng, PhD, DSc)