

NUNO M. NEVES , CEng, MSc, PhD – March 2017

Nuno M. Neves was born in Covilhã, Portugal (PT). At the present he is an Assistant Professor at the Dept. of Polymer Eng. of U. Minho in Portugal, where he is Vice-Director of the *3B's Research Group – Biomaterials, Biodegradables and Biomimetics*. This is a research unit of *Excellence*, directly funded by the Portuguese Foundation for Science and Technology (FCT). The 3B's Research Group integrates the PT Associate Laboratory ICVS/3B's, as homologated by the Portuguese Ministry for Science and High Education, being Nuno M. Neves one of the members of the Board of Directors. Previously, Nuno M. Neves was a Lecturer at the Dept. of Polym. Eng., Univ. Minho. He was Director of the Undergraduate degree on Polymer Eng., and was Director of Graduate Studies (PhD) on Materials Sci. and Eng. at U. Minho. He is currently the ERASMUS (European student/staff mobility scheme) scientific coordinator for Biomedical Engineering. He is currently the Director of the FCT PhD Program in Advanced Therapies for Health (PATH), an international program in collaboration with 10 partners of the Expertissues Network of Excellence selected for funding in the 2013 call and financing a total of 16 scholarships starting between 2015 and 2018 and spanning over 4 years each. The FCT PhD Program in Advanced Therapies for Health (PATH) also was selected for 5 additional scholarships in the 2016 edition by the Norte 2020 program by the regional authorities of the Northern Region of Portugal. He is also the PI of an Integrating Project submitted in collaboration with the Research Institute of the Medical School of the University of Minho (ICVS) and the Iberian Nanotechnology Laboratory (INL) and financed by the Norte 2020 regional program.

Dr. Nuno M. Neves education background includes: (i) BSc in Polymer Engineering, Univ. Minho, (ii) Master degree by research on Polymer Engineering and (iii) PhD on Polymer Science and Engineering, Univ. Minho, Portugal, degree that was prepared in co-operation with the University of Twente, Netherlands. Nuno M. Neves has been involved in biomaterials research since 2002. He has worked several periods abroad at the University of Twente and recently in a sabbatical leave at the University of Tokyo, Japan (at Prof. Kazunori Kataoka's lab). His main area of research is the development of biomaterials from natural origin polymers (starch, chitosan, algae, etc.) that in most cases were originally proposed by the research group for a range of biomedical applications, including bone replacement and fixation, drug delivery devices and tissue engineering scaffolding. The research of the group is mainly focused currently on tissue engineering and regenerative medicine strategies using stem cells and advanced scaffolds, drug delivery systems and medical devices.

He was the Project Leader of the participation of the 3B's Research Group/University of Minho as partner in the GENOSTEM Integrated Project - Adult mesenchymal stem cells engineering for connective tissue disorders. From the bench to the bed side., contract 503161. He was member of the main governing body and leader of two Scientific Research Vectors of the EXPERTISSUES Network of Excellence - Novel Therapeutic Strategies for Tissue Engineering of Bone and Cartilage Using Second Generation Biomimetic Scaffolds, contract NMP3-CT-2004-500283. He is

the PI at the University of Minho of the Horizon 2020 project PILOTS-02-2016 - Antimicrobial FLEXible POLymers for its use in hospital environments - with contract number 721062-2 having the kick-off in January 2017.

He has coordinated various projects funded by the Portuguese Foundation for Science and Technology **MICRO-NANO** - Microfabrication of nanostructured polymer based materials, POCTI 48040/2002, **Naturally Nano** - Electrospinning equipment for the development of biomaterials and nanofibres, POCTI/EME/58982/2004, and **CartiScaff** - Tissue engineering of non-articular cartilage, POCTI/SAU-BMA/58991/2004, **CellStrain** - New bioreactor for the development of improved tissue-like substitutes, POCTI/v.5/A0059/2005, **OsteoGraphy** - 3D patterned co-culture system to develop vascularized engineered bone, PTDC/EME-MFE/108892/2008, **MaxBone** - Maxillofacial Reconstruction using regenerative therapies: from Stem Cells to pre-Clinical Trials, PTDC/SAU-ENB/115179/2009 and **SPARTAN** - Preclinical Validation of a TNF-Capturing Device as Therapeutics of Inflammatory Arthritic Diseases, PTDC/CTM-BIO/4388/2014.

As a result of these and other projects he is supervising or co-supervising the work of more than 20 post-graduation researchers (including Post-docs and PhD students). The researchers have a multidisciplinary background including, Mat. Sci. Eng., Polymer Eng., Chem. Eng., Chemistry, Biological Eng., Biomedical Engineering, Biochemistry, Biology and Applied Biology, Medicine and Dentistry. He is also involved on the Bioengineering program of the Portugal – MIT (Massachusetts Institute of Technology) initiative, lecturing for the biomaterials module and supervising PhD students.

As of January 2017, he is the author of 157 publications listed in the Web of Science (over 100 peer reviewed international papers), with h-factor of 32 and a total number of citations of over 3200 (3500 in Scopus). He is the editor of various books, namely “Electrospinning for Advanced Biomedical Applications and Therapies” published in 2012 by iSmithers Rapra Publications and Biomaterials from Nature for Advanced Devices and Therapies published by Wiley in 2016. As a result of his research activities he was invited and currently serves as Academic Editor of PLoS ONE and the Elsevier journal Regenerative Therapy started in 2015. Nuno M. Neves acts as referee of more than 60 major scientific journals and major international scientific meetings. Furthermore, he is routinely invited to review research grants and research proposals for the European Commission and for various funding agencies namely in Portugal, Argentina, Austria, Czech, France, Georgia, Germany, Netherlands, New Zealand, Singapore, Slovakia, Slovenia and USA and advisory panels of research labs in France and Croatia.

He just finished his term as member of the Council of the European Chapter of the Tissue Engineering and Regenerative Medicine International Society, having served as member of the Nominating Committee of the European Chapter. He is member of the European Society for Artificial Organs (ESAO) and is currently the responsible for the Tissue Engineering Working Group of the ESAO. He was recently elected for the Council of Governors of the European Alliance

for Medical and Biomedical Engineering and Science. He was since its foundation and until 2013 a member of the Governing Board of the Portuguese Society for Stem Cells and Cellular Therapies (SPCE-TC).

Nuno M. Neves was involved in the organising committee, in the international scientific committee or in the organization of symposia sessions in major meetings and workshops including at the World Biomaterials Conference 2008 (Amsterdam, The Netherlands), Tissue Engineering and Regenerative Medicine European Chapter Meeting 2008 (Porto, Portugal), World Tissue Engineering and Regenerative Medicine Conference 2009 (Seoul, South Korea), the Society for Biomaterials Meeting 2011 (Orlando, USA) and the World Tissue Engineering and Regenerative Medicine Meeting 2015 (Boston, USA) and the World Biomaterials Conference 2016 (Montreal, Canada).

Selected recent publications (IF>6)

- Martins M., ..., Neves N.M., Extracellular Vesicles Derived from Osteogenically Induced Human Bone Marrow Mesenchymal Stem Cells Can Modulate Lineage Commitment, *Stem Cell Reports*, 6 (2016) 284-291 (IF:7.0)
- Faia-Torres A.B.,..., Neves, N.M. Osteogenic differentiation of human mesenchymal stem cells in the absence of osteogenic supplements: A surface-roughness gradient study, *Acta Biomaterialia*, 28 (2015) 64-75 (IF:6.0)
- Faia-Torres A.B., ..., Neves, N.M. Regulation of human mesenchymal stem cell osteogenesis by specific surface density of fibronectin: A gradient study, *ACS Applied Materials and Interfaces*, 7 (2015) 2367-2375 (IF:6.7)
- Monteiro, N., ..., Neves, N.M. Antibacterial activity of chitosan nanofiber meshes with liposomes immobilized releasing gentamicin, *Acta Biomaterialia*, 18 (2015) 196-205 (IF:6.0)
- Monteiro N., ..., Neves, N.M., Instructive nanofibrous scaffold comprising runt-related transcription factor 2 gene delivery for bone tissue engineering, *ACS Nano*, 8 (2014) 8082-8094 (IF:12.0)
- Faia-Torres A.B., ..., Neves, N.M., Differential regulation of osteogenic differentiation of stem cells on surface roughness gradients, *Biomaterials*, 35 (2014) 9023-9032 (IF:8,3)
- Coutinho, D.F., ..., Neves, N.M., Microfabricated photocrosslinkable polyelectrolyte-complex of chitosan and methacrylated gellan gum, *Journal of Materials Chemistry*, 22 (2012) 17262-17271 (IF:6.6)
- Martins, A., ..., Neves, N.M., Osteogenic induction of hBMSCs by electrospun scaffolds with dexamethasone release functionality, *Biomaterials*, 31 (2010) 5875-5885 (IF:8.3)
- Coutinho, D.F., Sant, S.V., Shin, H., Oliveira, J.T., Gomes, M.E., Neves, N.M., Khademhosseini, A., Reis, R.L., Modified Gellan Gum hydrogels with tunable physical and mechanical properties, *Biomaterials*, 31 (2010) 7494-7502 (IF:8.3)
- Martins, ..., N. M. Neves, Surface Optimization of Electrospun Polycaprolactone Nanofiber Meshes by Plasma Treatment to Enhance its Biological Performance, *Small*, 10 (2009) 1195-1206 (IF:7.5)