

Ali Poursamar
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- Education:
- **PhD: Biomedical Engineering (2010 - 2015)**
The University of Northampton, Northampton, UK.,
Dissertation Topic: Developing porous gelatin skin tissue engineering scaffolds via gas foaming for application in chronic wounds management.
 - **MSc.: Biomedical Material Science (2006 - 2009)**
Amirkabir University of Technology (AUT), Tehran, Iran,
Dissertation Topic: Developing ceramic-based porous scaffolds for applications in bone tissue engineering.
 - **BSc.: Material Science and Engineering (2000 - 2005)**
The Azad University, Tehran, Iran.
- Work Experience:
- **Assistant Professor, (Sep 2018 -Present)**
Isfahan University of Medical Sciences, Isfahan, Iran,
 - Additive Manufacturing of tissue engineering scaffolds and bone substitutes,
 - **Co-Founder (Jan 2022 - Present)**
Adli Teb, Isfahan University Technology Park, Isfahan, Iran,
 - Patient-Specific 3D printed Implants
 - **CEO, The Co-Founder (July 2016 -June 2022)**
Abtin Teb Fan-Avar, Pardis Technology Park, Tehran, Iran,
 - Additive Manufacturing of ceramic articles,
 - Raised over 25,000£ funding from Iranian Elite Foundation,
 - **Post-Doctorate Researcher (March 2016 -November 2017)**
Iranian Polymer & Petrochemical Institute, Tehran, Iran,
 - Synthesis and characterization of Acrylate substituted gelatin molecules,
 - Managing over 14000£ project grant budget,
 - **Quality Control and Customer Care Officer (January 2015, March 2016)**
Choc Edge 3D Ltd., Exeter, UK,
 - Compiling technical files for the two most recent products of Choc Edge Ltd,
 - Over 100 hours of thermal modeling and 3D printer parts design and assemblies using Solid Works software package,
 - **Biomaterial and Medical Device Auditor (September 2009 - September 2010)**
Iranian Food and Drug Administration, Iran,
 - Auditing 12 brands of bone powder, collagen membrane, and dental implant by reviewing submitted technical files according to relevant EC directives.

Awards & Grants:	<ul style="list-style-type: none"> Selected from 39 applicants for The Chancellor's Award, University of Northampton, October 2013, Material Science Grant, Armourers & Brasiers' Gauntler Trust, UK, 2013, Lloyd Award, Dr Dorothy Jordan Lloyd Memorial Trust, UK, 2013, Selected from 22 applicants for Postgraduate Research Award, The University of Northampton, 2012, Selected from 110 applicants to attend "Developing Leadership" program and awarded The Institute of Leadership & Management certificate, 2011.
Research Projects:	<ul style="list-style-type: none"> N-Vision Project: 3D mapping of soft tissue collagen fibres, my contributions are acknowledged in <i>The Journal of Microscopy</i>, 251(2013), Page 14. Biocompatibility assay of gelatin scaffold: The collaboration between The University of Northampton and The University of Lisbon. Modern Meadow® Technical Viability Assessment: characterizations of proprietary collagen based product for applications as artificial leather.
Skills & Experiences:	<ul style="list-style-type: none"> Manufacturing Techniques: Gas foaming, Processing / conversion of STL files to G-Code for 3D printing, Solid Work, Python programming. Physical and Mechanical Characterisation Techniques: Thermal Analysis (DSC., DMTA.), UV spectroscopy, Characterisation of tensile and compression strength under uni-axial and cyclic loading, Biocompatibility and Cell Culture Techniques: Fibroblast and osteogenic cell culture, fixation, and SEM characterisation, Cytotoxicity analysis, Microbiology Assays: SDS-PAGE, Ninhydrin amine groups assay, hydroxyproline content assay, collagen content assay.
Workshops & Short Courses:	<ul style="list-style-type: none"> ISO-13485 Medical Device Quality Management Systems, British Standards Institutions (BSI), Manchester, UK, Creating Medical Device Technical File and Design Dossier, British Standards Institutions (BSI), York, UK, "Advances in Tissue Engineering" workshop, Rice University, Texas, USA, Basic Polymer Science & Technology workshop, Sheffield University, UK, Beginning Teaching in Higher Education, University of Northampton, UK.
Patents:	<ul style="list-style-type: none"> Synthesis of PVA-HAp nanocomposite via biomineralization and freeze-thaw method, Iranian patent No. 48373 Synthesis of PVA-HAp-GEL nanocomposite bone tissue engineering scaffold via biomineralization Method, Iranian Patent No. 49311
Conference Presentations:	<ul style="list-style-type: none"> Porous gelatin scaffold mechanical behaviour under cyclic load as function of water content, A. Poursamar, A. Lehner, A.P.M. Antunes, 18th Congress of the European Society of Biomechanics, July, 2012, Portugal, Optimising gas foaming method to obtain highly porous gelatin scaffolds, A. Poursamar, A. Lehner, A.P.M. Antunes, 3rd world Tissue Engineering and Regenerative Medicine, September, 2012, Austria, Effect of freezing and thawing process on betamethasone acetate release from polyvinyl alcohol nano-spheres, S. Bonakdar, A. Poursamar, <i>et al.</i>, 2008 European Materials Research Society Conference, Warsaw, Poland.

Publications:

- Evaluation of the Morphological Effects of HA Nanoparticles on the Rheological Properties and Printability of HA/PCL Nanocomposite Inks, M. Kazemi, M. Mirzadeh, H. Esmaeili, E. Kazemi, M. Rafienia, **A. Poursamar**, 3D Printing and Additive Manufacturing, 2022, Article in Press
- Preparation and characterization of 3D nanocomposite scaffold from bioactive glass/ β -tricalcium phosphate via Robocasting method for bone tissue engineering, MH. Monfared, FE. Ranjbar, M. Torbati, **A. Poursamar**, *et al*, Journal of Non-Crystalline Solids, 593, 2022, 121769
- Antibacterial amorphous magnesium phosphate/graphene oxide for accelerating bone regeneration, F. Pahlevanzadeh, R. Emadi, M. Setayeshmehr, M. Kharaziha, **A. Poursamar**, Biomaterials Advances, 138, 2022, 212856
- An in vitro and in vivo study of PCL/chitosan electrospun mat on polyurethane/propolis foam as a bilayer wound dressing, MS Karizmeh, **SA Poursamar**, *et al*, Biomaterials Advances, 135, 2022, 112667
- Recent trends in three-dimensional bioinks based on alginate for biomedical applications, F. Pahlevanzadeh, H. Mokhtari, H.M. Bakhsheshi-Rad, R. Emadi, M. Kharaziha, A. Valiani, **A. Poursamar**, *et al*, Materials, 13, 2020, 3980.
- Three-Dimensional Printing Constructs Based on the Chitosan for Tissue Regeneration: State of the Art, Developing Directions and Prospect Trends, F. Pahlevanzadeh, R. Emadi, A. Valiani, M. Kharaziha, **A. Poursamar**, *et al*, Materials, 13, 2020, 2663.
- Uniaxially aligned microwire networks for flexible transparent electrodes using a novel electrospinning set-up, AA Yousefi, AR Mohebbi, SF Moghadam, **A. Poursamar**, L Hao, Solar Energy 188, 2019, 1111-7,
- The Effects of Crosslinkers on Physical, Mechanical, and Cytotoxic Properties of Gelatin Sponge Prepared via *in-situ* Gas Foaming Method as a Tissue Engineering Scaffold, **A. Poursamar**, *et al*, *Materials Sci. Eng. C*, 63, 2016, 1-9,
- Potential Application of Gelatin Scaffolds Prepared through *In-situ* Gas Foaming in Skin Tissue Engineering, **A. Poursamar**, *et al*, *Int. J Polym. Mater. & Polym. Biomater.*, 65, 2016, 315-322,
- Gelatin Porous Scaffolds Fabricated Using a Modified Gas Foaming Technique: Characterisation and Cytotoxicity Assessment, **A. Poursamar**, *et al*, *Materials Sci. Eng. C*, 48, 2015, 63-70,
- Coated urinary catheter by PEG/PVA/gentamicin with drug delivery capability against hospital infection, M. Rafienia, B. Zarinmehr, **A. Poursamar**, *et. al*, *Iran Polymer J.*, 22(2), 2012, 75-83,
- Controllable synthesis and characterization of porous polyvinyl alcohol-hydroxyapatite nanocomposite scaffolds via an *in situ* colloidal technique, **A. Poursamar**, *et. al*, *Colloids and Surfaces B*, 84(2), 2011, 310- 316,
- Synthesis and characterization of a laminated hydroxyapatite/gelatin nanocomposite scaffold with controlled pore structure for bone tissue engineering, M. Azami, A. Samadikuchaksaraei, **A. Poursamar**, *Int. J. Artificial Organs*, 33(2), 2010, 86-95,
- Influence of the value of the pH on the preparation of nano-hydroxyapatite - poly vinyl alcohol Composite, **A. Poursamar**, *et al*, *Journal of Ceramic Processing Research*, 10(5), 2009, 679-682,