Mohammadali Sheikholeslam

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ACADEMIC BACKGROUND

- **Assistant Professor** **(**Sep 2019-Now)
  Department of Biomaterials, Nanotechnology and Tissue engineering,
  School of Advanced Technologies in Medicine,
  Isfahan University of Medical Sciences, Isfahan, Iran

- **Postdoctoral Fellow** **(**Oct 2015-Aug 2019)
  Sunnybrook Research Institute, Ross Tilley Burn Centre, Sunnybrook Hospital
  Department of Surgery, University of Toronto, Canada
  Supervisor: Dr. Marc Jeschke, Dr. Paul Santerre
  Research Objective: **Developing Gel-PU Scaffolds for Skin Regeneration**

- **Ph.D. Chemical Engineering (Nanotechnology)** **(**Sep 2009-May 2015)
  University of Waterloo, Canada
  Supervisors: Dr. Pu Chen, Dr. Mark Pritzker
  Ph.D. Thesis: **Self-assembling Peptide-CNT Dispersions & Hydrogels for Tissue Engineering & Biosensor Applications**
  Dispersing CNTs using peptides, applying them to: modify a biosensor, making hybrid hydrogels as scaffolds for tissue regeneration and providing 3D environment for cancer tumor modeling

- **M.Sc.** Materials Engineering, Materials selection and processing (2005-2008)
  Isfahan University of Technology- Iran
  Supervisors: Dr. Enayati, Dr. Raeissi
  M.Sc. Thesis: **Investigation of Nanocrystalline and Amorphous Co-P Coatings Produced by DC Electrodeposition**

- **B.Sc**. Materials Engineering, Industrial Metallurgy (2000-2005)
  Shahid Chamran University of Ahvaz- Iran

RESEARCH INTERESTS

Tissue Engineering, Organ-On-Chips, Microfluidics, Disease Modeling, Hydrogels & Scaffolds, Nano-biomaterials, Skin Regeneration, Cell and Tumor Microenvironment, AFM

TECHNICAL SKILLS

In vitro & *in vivo* techniques, Animal handling, Soft lithography, AFM, SEM, TEM, Confocal microscopy, Flow Cytometry, FACS, Western Blot, DLS, Fluorescence spectroscopy, UV/Vis. spectrophotometer, FTIR

ENTREPRENEURSHIP

Recipient of Vice President for Science & Technology award for setting up knowledge-based start-ups (Accepted to settle in Isfahan Health Sci. & Tech. Park) (2020, Value:1,500,000,000 Rials)

REFEREED JOURNALS PUBLICATIONS

1. **Sheikholeslam, M.**; Nanda, P.; Pritzker, M.; Chen, P. Immobilization, Direct Electrochemistry and Electrocatalysis of Hemoglobin on Peptide-Carbon Nanotube Modified Electrode, *bioRxiv* preprint doi: https://doi.org/10.1101/2020.06.16.153767

2. **Sheikholeslam, M.**; Wright, M.; Cheng, N.; Oh, H.; Wang, Y.; Datu, A. K.; Santerre, J. Paul; Amini-Nik, S.; Jeschke, M. Electrospun Polyurethane-Gelatin Composite: A New Tissue Engineered Scaffold

for Application in the Skin Regeneration and Repair of Complex Wounds, *ACS Biomaterials Science & Engineering*, 2020, 6, 505-516.
3. Cheng, N.; Jeschke, M.; **Sheikholeslam, M.**; Datu, A.; Oh, H.; Amini-Nik, S. Promotion of Dermal Regeneration using Pullulan/Gelatin Porous Skin Substitute. *Journal of Tissue Engineering and Regenerative Medicine*, 2019, 13(11), 1965-1977.

4. Bakhtyar, N.; Jeschke, M.; Herer, E.; **Sheikholeslam, M.**; Amini-Nik, S. Exosomes from acellular Wharton's jelly of the human umbilical cord promotes skin wound healing. *Stem Cell Research & Therapy*, 2018, 9, 193.

5. **Sheikholeslam, M.**; Wheeler S.; Duke K.; Pritzker, M.; Chen, P. Peptide and Peptide-Carbon Nanotube Hydrogels as Scaffolds for Tissue & 3D Tumor Engineering. *Acta Biomaterialia*, 2018, 69, 107-119.

6. **Sheikholeslam, M.**; Wright, M. E. E., Amini-Nik, S., Jeschke, M. G. Biomaterials for Skin Substitutes. *Advanced Healthcare Materials*, 2018, 7(5), 1700897.

7. **Sheikholeslam, M.**; Pritzker, M.; Chen, P. Hybrid Peptide–Carbon Nanotube Dispersions and Hydrogels. *Carbon,* 2014, 71, 284–293.

8. **Sheikholeslam, M.**; Pritzker, M.; Chen, P. Dispersion of multi-walled carbon nanotubes in water using ionic-complementary peptides. *Langmuir,* 2012, 28, 12550–12556.

9. **Sheikholeslam, M. A.;** Raeissi, K.; Enayati, M. H. Study on Corrosion Behaviour of Nanocrystalline and Amorphous Co-P Electrodeposits, *Transactions of the Institute of Metal Finishing*, 2010, 88(6), 324-329.

10. **Sheikholeslam, M. A.;** Enayati, M. H.; Raeissi, K. Charracterization of Nanocrystalline and Amorphous Cobalt-Phosphorous Electrodeposits, *Materials Letters,* 2008, 62, 3629-3631.

PRESENTATIONS

1) Learn at Lunch, Sunnybrook Research Institute, March 28, 2018
2) Learn n Lunch, Sunnybrook Research Institute, May 1, 2019

INVITED BOOK CHAPTER

1. **Sheikholeslam, M**; Pritzker, M. D.; Chen, P; "*Electrochemical Biosensor for Glycated Hemoglobin (HbA1c)"*, Book Chapter, **Biosensors for Health, Environment and Biosecurity / Book 2,** Intech-Open Access Publisher, Rijeka, Croatia, ISBN 978-953-307-443-6, 28 pages.

REFEREED CONFERENCE PROCEEDINGS

1. **Sheikholeslam, M.** et. al., Developing an Economical Fibrous Gelatin-Polyurethane Scaffold for Skin Regeneration, *Society for Biomaterials*, **Seattle**, WA, USA, April 3-6, 2019. (**Oral**)

3. **Sheikholeslam, M.** et. al., Electrospun Gelatin-Polyurethane Scaffold for Skin Tissue Engineering, *Canadian Burn Conference*, **Toronto**, ON, Canada, October 28-30, 2018. (**Oral**)

4. **Sheikholeslam, M.** et. al.; Composite Gelatin-Polyurethane Electrospun Scaffold for Skin Regeneration, *Skin Research Group Conference 2018*, **Montreal**, QC, Canada, Jun 22-24, 2018. (**Oral**)

5. **Sheikholeslam, M.** et. al.; Engineering and Basic Science Meet Clinic: Dermal Skin Substitute for Burn Patients, *Canadian Connective Tissue Conference 2018*, **Toronto**, ON, Canada, May 23-25, 2018. (**Oral**)

7. **Sheikholeslam, M.** et. al.; Electrospun Polyurethane-Gelatin Scaffolds for Manufacturing Skin Substitute, *ISSCR 2017 Annual Meeting*, **Boston**, MA, USA, Jun 14-17, 2017. (Poster)

8. **Sheikholeslam, M.** et. al.; Electrospun Polyurethane-Gelatin Scaffolds for Skin Substitute, *Canadian Biomaterials Society 2017 Annual Meeting*, **Winnipeg**, MB, Canada, May 24-27, 2017. (**Oral**)

9. **Sheikholeslam, M.** et. al.; Polyurethane-Gelatin Scaffolds for Skin Substitute, *Canadian Connective Tissue Conference 2017*, **Montreal**, QC, Canada, May 17-18, 2017. (**Oral**)
10. **Sheikholeslam, M.**; Wheeler, S.; Duke, K.; Pritzker, M.; Chen, P.; Peptide-Carbon Nanotube Hydrogels as Hybrid Scaffolds for Tissue Engineering, *TERMIS 2014*, **Washington DC**, USA, Dec 12-16, 2014.

AWARDS AND SCHOLARSHIPS

- Summer-by-Design 2-weeks International Workshop on Translating and Commercializing Regenerative Medicine (Medicine-by-Design/ University of Toronto) (2019)
- International Society for Stem Cell Research (ISSCR) 2017 Travel Grant from Medicine-by-Design (University of Toronto) (2017, Value $2000)
- UW Department of Chemical Engineering Scholarship Merit Award (W2015, Value: $1000)
- U of Waterloo International Doctoral Student Award (F2009-S2013, Value: $9660/year)
- U of Waterloo Graduate Research Studentship (F2009-W2015, Value: $21000/year)
- Iran Nanotechnology Initiative Council Scholarship (2008, Value: $2000)

TEACHING EXPERIENCES

- **Nano Engineering Lab 451 (Atomic Force Microscopy)** (F 2011)
  University of Waterloo
- **Chemical Engineering Lab 4 (Electrochemistry)** (W & F 2010, W & F 2012, F 2013)
  University of Waterloo
- **General Chemistry**
  Azad University of Lenjan, Isfahan, Iran (Fall 2008)
- **General Chemistry Lab**
  Azad University of Lenjan, Isfahan, Iran (Fall 2008)

GRANT PROPOSAL

- Contribution to writing a CFI grant in 2019 (contribution to idea); ~ **CAD$ 800,000** (in the Dr. Jeschke lab) (2017)
- Significant contribution to writing a CIHR grant in 2017 (contribution to idea and preliminary results); ~ **CAD$ 750,000** (in the Dr. Jeschke lab) (2017)
- Independently writing a successful NSERC (RTI) Grant proposal for an Atomic Force Microscope (AFM); **CAD$ 150,000** (Under supervision of Dr. Chen). (2012)

SUPERVISION

- I am currently serving as the co-supervisor or consulting supervisor of five MSc, Ph.D. and PDF researchers at Isfahan University of Medical Sciences, University of Isfahan and Iran University of Science and Technology
- I have supervised 5 co-op students during my Ph.D. and postdoc, whose works of three of them are reflected in my papers and their names are appeared as co-author: **S. Wheeler**, **K. Duke** and **P. Nanda**.

MEMBERSHP

- International Society for Stem Cell Research (ISSCR) (2017)
- Canadian Biomaterials Society (2017)
- Tissue Engineering and Regenerative Medicine Society (2014)
- Iran Surface Science & Engineering (2007)

SERVICE

- Reviewer: **ACS NANO, Biomaterials, Acta Biomaterialia, Cell Biology International**, **ACS Applied Materials & Interfaces,** etc.

INDUSTRIAL EXPERIENCES

- **Researcher** in Esfahan's Mobarake Steel Company R&D Unit (10/2007-08/2009)
  - ***A) Corrosion Research Centre:***
  - 1- Investigation of EAF Cooling Panels Failure and Proposing Solutions.
  - ***B) Isfahan Parsayesh Research and Engineering Center (ISST, Isfahan, Iran):***
  - 2- Wear Resistant Ceramic Liners for Using in The Chutes
  - 3- Investigation of Hot Rolling Al-Bronze Slipper Pads Failure Mechanisms and Proposing Solutions.
- **Researcher, Materials Research Core** (07/2007-09/2007)
  Isfahan Science and Technology Town (ISST), Isfahan, Iran)
- **Co-op** (07/2003-09/2003)
  Steel-making Site of Esfahan's Mobarake Steel Company