

BENTOLHODA HADAVI MOGHADAM

Ph.D.

EDUCATION:

Postdoc: Nanotechnology, Sharif university of technology (Iran), 2019

Ph.D.: Textile Engineering, (Textile Chemistry & Fiber Science), University of Guilan (Iran)/ Sharif university of technology, 2013-2018.

M.Sc.: Textile Engineering, (Nanofiber structure engineering), Amirkabir University of Technology (Iran), 2009-2011.

B.Sc.: Textile Engineering, (Textile Chemistry & Fiber Science), University of Guilan (Iran), 2005-2009.

PROFESSIONAL HONORS:

- **Best Student's Book Award**, 23rd Student's Book Year Festival, 2016.
- **Best Poster Award**, 12th Scientific Student Conference on Materials and Metallurgy Engineering, 2015.
- **Ph.D. Research Grants**, awarded by Iran Nanotechnology Initiative Council (INIC), 2014.
- **Fully Funded PhD Scholarship**, Ministry of Science and Technology of Iran scholarship for PhD degree, 2012-2016.
- **First Ranked** among all Ph.D. students of Textile Engineering, University of Guilan, 2014
- **M.Sc. Research Grants**, awarded by Iran Nanotechnology Initiative Council (INIC), 2011.

PUBLICATIONS:

I. Published paper in ISI-indexed journals:

- **Hadavi Moghadam, bentolhoda**; Hasanzadeh, Mahdi; Simchi, Abdolreza, "Self-Powered Wearable Piezoelectric Sensors Based on Polymer Nanofibrous Composites Containing Metal-Organic Frameworks for Biomedical Pulse Monitoring", *ACS Applied Nano Materials*, under revision, 2020.
- Hossein Shahriyari Far, Mahdi Hasanzadeh*, Mohammad Shabani Nashtaei, Mahboubeh Rabbani, Aminoddin Haji, **Bentolhoda Hadavi Moghadam**, PPI-Dendrimer Functionalized Magnetic Metal Organic Framework (Fe₃O₄@UiO-66@PPI) with High Adsorption Capacity toward the Sustainable Wastewater Treatment, *ACS Applied Materials & Interfaces*, Vol. 0, pp. 000, 2020.
- **B. Hadavi Moghadam**, S. Kasaei and A.K. Haghi*, "Surface Roughness of Electrospun Nanofibrous Mats by a Novel Image Processing Technique", *Surface Review and Letters*, (2019) 1830005 (10 pages).
- **B. Hadavi Moghadam**, S. Kasaei and A.K. Haghi*, "A Novel User-Friendly Image Analysis Technique for Determination of Nanofiber Mats Thickness", *Nano*, Vol. 12, No. 11 (2017) 1750130 (9 pages).
- **B. Hadavi Moghadam**, A.K. Haghi, S. Kasaei, and M. Hasanzadeh*, "Computational Based Approach for Predicting Porosity of Electrospun Nanofiber Mat Using Response Surface Methodology and Artificial Neural Network", *Journal of Macromolecular Science, Part B: Physics*, Vol. 54, pp. 1404–1425, 2015.
- Mahdi Hasanzadeh, Vahid Mottaghitlab, Reza Ansari, **Bentolhoda Hadavi Moghadam**, and Akbar Khodaparast Haghi*, "Issues in Production of Carbon Nanotubes and Related Nanocomposites: A Comprehensive Review", *Cellulose Chemistry and Technology*, Vol. 49 (3-4), pp. 237-257, 2015.
- Mahdi Hasanzadeh*, Tahereh Moieni, **Bentolhoda Hadavi Moghadam**, 'Modification of PET fabrics by hyperbranched polymer: A comparative study of artificial neural networks (ANN) and statistical approach', *Journal of Polymer Engineering*, Vol. 33, pp. 445-452, 2013.

- Mahdi Hasanzadeh*, Tahereh Moieni, **Bentolhoda Hadavi Moghadam**, ‘Synthesis and characterization of an amine terminated AB₂-type hyperbranched polymer and its application in dyeing of poly(ethylene terephthalate) fabric with acid dye’, *Advances in Polymer Technology*, Vol. 32, pp. 792-799, 2013.
- M. Hasanzadeh, **B. Hadavi Moghadam**, M.H. Moghadam Abatari, and A.K. Haghi*, ‘On the production optimization of polyacrylonitrile electrospun nanofiber’, *Bulgarian Chemical Communications*, Vol. 45, pp. 178-190, 2013.
- **B. Hadavi Moghadam**, M. Hasanzadeh, A.K. Haghi*, ‘On the contact angle of electrospun polyacrylonitrile nanofiber mat’, *Bulgarian Chemical Communications*, Vol. 45, pp. 169-177, 2013.
- **Bentolhoda Hadavi Moghadam**, Mahdi Hasanzadeh* ‘Predicting Contact Angle of Electrospun Polyacrylonitrile Nanofiber Mat by Artificial Neural Networks and Statistical Techniques’, *Advances in Polymer Technology*, Vol.32, pp. 956-964, 2013.

II. Published paper in non-ISI-indexed journals (ISC):

- **B. Hadavi Moghadam**, S. Kasaei, A. K. Haghi, “An Efficient 3D Data Analysis Method for Surface Roughness Measurement of Nanofibrous Mat”, *Polymers Research Journal*, Vol. 10, Issue. 3, 2016.
- **B. Hadavi Moghadam**, S. Kasaei, A. K. Haghi, “Structure analysis of electrospun nanofibrous membranes: A detailed review”, *Polymers Research Journal*, Vol. 10, Issue. 3, 2016.
- M. Hasanzadeh*, **B. Hadavi Moghadam**, “Recent advances in application of metal-organic frameworks (MOFs) in textiles- A review”, *Polymers Research Journal*, Vol. 7, No. 2, pp. 000, 2013.
- M. Hasanzadeh*, **B. Hadavi Moghadam**, “Electrospun Nanofibrous Membranes as Potential Adsorbents for Textile Dye Removal- A review”, *Journal of Chemical Health Risks*, Vol. 3, No. 2, pp. 15-26, 2013.
- Mahdi Hasanzadeh*, **Bentolhoda Hadavi Moghadam**, “Applying neural network model in modification of poly(ethylene terephthalate) fabrics by hyperbranched polymer”, *Polymers Research Journal*, Vol. 6, No. 4, pp. 329-335, 2012.

III. Conferences:

- **B. Hadavi Moghadam**, M. Hasanzadeh, A. Simchi, “Enhanced Piezoelectricity of Poly (vinylidene fluoride) Nanofibers by Metal-Organic Framework for Wearable Electronic Devices”, *8th International Conference on Nanostructures (ICNS8)*, Tehran, Iran, 20-22 April 2020.
- **B. Hadavi Moghadama***, S. Kasaeib, A. K. Haghi, “Thickness Estimation of Nanofiber Mats based on 3D Reconstruction”, *6th International Conference on Nanoscience and Nanotechnology (ICNN 2016)*, Tehran, Iran, 2016.
- M. Hasanzadeh*, **B. Hadavi Moghadam**, T. Moieni, and A. K. Haghi, “Study on Properties of PET Fibers Modified by Dendritic Polymer”, *National Conference on Nanotechnology and Green Chemistry (NCNG)*, Tehran, Iran, 2013.
- **11 national conference papers** (in Persian)

IV. Published Books:

- A.K. Haghi, E. Ktodzinska, M. Hasanzadeh, **B. Hadavi Moghadam**, ‘Polymer Nanocomposites Research’, *Institute for Engineering of Polymer Materials and Dyes*, Poland, 2014.
- S. A. Mousavi Shoushtari, M. Hasanzadeh, K. Nasouri, **B. Hadavi Moghadam**, “Approach on the principles and technology of producing nanofibrous structures”, *Sharif University of Technology Press*, Iran, 2014 (in Persian).

V. Published Book Chapters:

- **B. Hadavi Moghadam**, S. Kasaei and A.K. Haghi*, '*Research Progress for Three-Dimensional Reconstruction of Nanofibrous Membranes from Two-Dimensional Scanning Electron Microscope Images*', Edited By Francisco Torrens, A. K. Haghi, Tanmoy Chakraborty, Chemical Nanoscience and Nanotechnology, 2019.
- **B. Hadavi Moghadam**, S. Kasaei and A.K. Haghi*, '*3D Image Processing in Structural Characterization of Electrospun Nanofibrous Membranes: Integrating Theory and Technique*', Edited By A. K. Haghi, Praveen K.M., Sabu Thomas, Engineered Carbon Nanotubes and Nanofibrous Materials, 2018.
- **B. Hadavi Moghadam**, A. K. Haghi, '*New Insights in Nanoporous Membrane Science*', 6th chapter, in: Mechanical and Physico-Chemical Characteristics of Modified Materials”, Edited by Seghir Maamir, PhD A. K. Haghi, PhD, Apple Academic Press, 2015.
- **B. Hadavi Moghadam**, A. K. Haghi, '*3D Reconstruction from Two Views of Single 2D Image and Its Applications in Pore Analysis of Nanofibrous Membrane*', 11th chapter, in: “Analysis and Performance of Engineering Material”, Edited by Gennady E. Zaikov, DSc, Apple Academic Press, 2015.
- **Bentolhoda Hadavi Moghadam**, Mahdi Hasanzadeh, '*A Study on Influence of Electrospinning Parameters on the Contact Angle of the Electrospun Pan Nanofiber Mat Using Response Surface Methodology (Rsm) and Artificial Neural Network (Ann)*', 14th chapter, in: “Materials Science of Polymers (Plastics, Rubber, Blends, and Composites)”, Edited by A.K. Haghi, Eduardo A. Castro, S. Thomas, P.M. Sivakumar, Andrew G. Mercader, Apple Academic Press, 2015.
- Mahdi Hasanzadeh, **Bentolhoda Hadavi Moghadam**, '*Structure, Properties and Application of Dendritic Macromolecules in Various Fields: Molecular Simulation Techniques in Hyperbranched Polymer and Dendrimers*', 13th chapter, in: “Materials Science of Polymers (Plastics, Rubber, Blends, and Composites)”, Edited by A.K. Haghi, Eduardo A. Castro, S. Thomas, P.M. Sivakumar, Andrew G. Mercader, Apple Academic Press, 2015.
- M. Hasanzadeh, V. Mottaghitalab, R. Ansari, **B. Hadavi Moghadam**, A. K. Haghi, '*A Detailed Review on Production of Electrospun CNT-Polymer Composite Nanofibers*', 23th chapter, in: “Nanostructures, Nanomaterials, and Nanotechnologies to Nanoindustry”, Edited by V. I. Kodolov, G. E. Zaikov, A. K. Haghi, Apple Academic Press, 2014.
- Mahdi Hasanzadeh, **Bentolhoda Hadavi Moghadam**, '*Dendritic Architectures: Molecular Simulation Methodologies and Computational Approaches*', 15th chapter, in: “Engineering of Polymers and Chemical Complexity Volume 2 (New Approaches, Limitations, and Control)”, Edited by W. W. Frocke, H. J. Radusch, Apple Academic Press, 2014.
- **B. Hadavi Moghadam**, M. Hasanzadeh, '*Comparison of ANN with RSM in Predicting Contact Angle of Electrospun Polyacrylonitrile Nanofiber Mat*', 10th chapter, in: “Engineering of Polymers and Chemical Complexity Volume 2 (New Approaches, Limitations, and Control)”, Edited by W. W. Frocke, H. J. Radusch, Apple Academic Press, 2014.
- Mahdi Hasanzadeh, **Bentolhoda Hadavi Moghadam**, Mohammad Hasanzadeh Moghadam Abatari, '*A New Approach for Optimization of Electrospun Pan Nanofiber Diameter and Contact Angle*', 9th chapter, in: “Engineering of Polymers and Chemical Complexity Volume 2 (New Approaches, Limitations, and Control)”, Edited by W. W. Frocke, H. J. Radusch, Apple Academic Press, 2014.
- M. Hasanzadeh, **B. Hadavi Moghadam**, '*New Issues on Application of Metal-Organic Frameworks (MOFs) on Textiles*', 8th chapter, in: “Engineering of Polymers and Chemical Complexity Volume 2 (New Approaches, Limitations, and Control)”, Edited by W. W. Frocke, H. J. Radusch, Apple Academic Press, 2014.
- M. Hasanzadeh, **B. Hadavi Moghadam**, '*Multi-Scale Modeling and Simulation of Dendritic Architectures: New Horizons*', 2th chapter, in: “Engineering of Polymers and Chemical Complexity Volume 2 (New Approaches, Limitations, and Control)”, Edited by W. W. Frocke, H. J. Radusch, Apple Academic Press, 2014.

- M. Hasanzadeh, **B. Hadavi Moghadam**, '*Synthesis, Structural Properties, Development and Applications of Metal-Organic Frameworks In Textile*', 10th chapter, in: Key Elements in Polymers for Engineers and Chemists, From Data to Applications, Edited by Editors: Alexandr A. Berlin, Viktor F. Kablov, Andrey A. Pimerzin, Simon S. Zlotsky, Apple Academic Press, 2014.
- **B. Hadavi Moghadam**, V. Mottaghitalab, M. Hasanzadeh, and A. K. Haghi, '*A Detailed Review on Pore Structure Analysis of Electrospun Porous Membranes*', 2th chapter, in: Key Elements in Polymers for Engineers and Chemists, From Data to Applications, Edited by Editors: Alexandr A. Berlin, Viktor F. Kablov, Andrey A. Pimerzin, Simon S. Zlotsky, Apple Academic Press, 2014.
- **Bentolhoda Hadavi Moghadam**, Mahdi Hasanzadeh, '*Progress in Pore Structure Analysis of Porous Membranes*', 32th chapter, in: Key Engineering Materials, Volume I: Current State-of-the-Art on Novel Materials, Edited by D. Balkšse, D. Horak, L. oltŽs, Apple Academic Press, 2013.
- M. Hasanzadeh, **B. Hadavi Moghadam**, '*Applications of Metal-Organic Frameworks in Textiles*', 10th Chapter, in: Polymer Products and Chemical Processes Techniques, Analysis, and Applications, Edited by Richard A. Pethrick, Eli M. Pearce, Gennady E. Zaikov, Apple Academic Press, 2013.
- M. Hasanzadeh, **B. Hadavi Moghadam**, '*Recent advances in application of metal-organic frameworks (MOFs) in textiles*', 41th Chapter, in: Chemistry and Physics of Modern Materials: Processing, Production and Applications, Edited by J. N. Aneli, A. Jimenez, S. Kubica, Apple Academic Press, 2013.
- A. K. Haghi*, V. Mottaghitalab, M. Hasanzadeh, and **B. H. Moghadam**, '*Green Nanofibers*', 7th Chapter, in: Foundations of High Performance Polymers: Properties, Performance and Applications, Edited by A. Hamrang, Bob A. Howell, Apple Academic Press, 2013.
- M. Hasanzadeh, **B. Hadavi Moghadam**, M. H. Moghadam Abatari, and A. K. Haghi, '*New Developments in the Optimization of Electrospinning Process*', 14th Chapter, in: Nanopolymers and Modern Materials: Preparation, Properties and Applications, Edited by Oleg V. Stoyanov, A. K. Haghi, Gennady E. Zaikov, Apple Academic Press, 2013.
- **B. Hadavi Moghadam**, M. Hasanzadeh, and A. K. Haghi, '*Some Aspects of Electrospinning Parameters*', 13th Chapter, in: Nanopolymers and Modern Materials: Preparation, Properties and Applications, Edited by Oleg V. Stoyanov, A. K. Haghi, Gennady E. Zaikov, Apple Academic Press, 2013.
- M. Hasanzadeh, T. Moieni, and **B. Hadavi Moghadam**, '*Development of new dendritic nanostructure in modification of poly(ethylene terephthalate) fabrics for improving dyeability of acid dyes*', 6th Chapter, in: Research Progress in Nanoscience and Nanotechnology, Edited by A. K. Haghi, Nova Science Publisher, USA, 2012.
- M. Hasanzadeh, **B. Hadavi Moghadam**, '*A Study on Contact Angle of Electrospun Polyacrylonitrile (PAN) Nanofiber Mat*', 5th Chapter, in: Research Progress in Nanoscience and Nanotechnology, Edited by A. K. Haghi, Nova Science Publisher, USA, 2012.

PATENTS:

- “Using hyperbranched polymer for poly (ethylene terephthalate) fabric dyeing by acid dye”, Iranian patent no. 73933.
- “Determination of optimum condition for improving wettability of polyacrylonitrile nanofibers”, Iranian patent no. 74216.

RESEARCH INTEREST:

- Electrospinning of Nanofibers
- Metal-Organic Framework
- Nano Materials
- Smart Textiles and Wearable Electronics
- Polymer and Fiber Characterization
- 3D Image Processing

REFERENCES:

Scholar citations: <https://scholar.google.com/citations?hl=en&user=WqBsW6QAAAAJ>

E-mail: hadavibentolhoda@yahoo.com
hadavi66@gmail.com