

Curriculum Vitae

Hadi Taghavian



Personal Info.



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Education

- 06.2021 – now **PhD student;** Technical University of Liberec, Czech Republic (www.tul.cz)
Environmental Engineering
Dissertation title: “Highly efficient membrane development for advanced WWT system”.
Research area: water & wastewater treatment, membrane, MBR, surface engineering.
- 09.2010 – 12.2012 **Master of Science;** (IAU), Tehran, Iran (www.azad.ac.ir)
Polymer Engineering
Thesis: “Producing Biocompatible NFs via Electrospinning Technique from Polymer Blends Used for Medical & Biological Applications”.
- 09.2005 – 02.2010 **Bachelor of Science;** (IAU) khuzestan, Iran (www.mahshahriau.ac.ir)
Polymer Engineering
Final Project: “A Survey on Physical-Mechanical Properties of Rigid Polyurethane Foam”.



Professional Exp.

- Since 01.2020 **Institute for Nanomaterials, Advanced Technologies and Innovation CXI, TUL (tul.cz)**
Researcher
 - ▶ Project title: "Ultrafiltration membrane development for WWT".
 - ▶ Project title: "Hybrid material for hierarchical structure".
- 05.2018 – 01.2020 **MAMMUT WORLD (<https://mammutworld.com/en>)**
Production department - Head of Paint-shop
 - ▶ Successful implementation of visual-management-dashboard in paint-shop on a basis of: Q, C, T, HR, M.
 - ▶ Developing and successfully implementation of SCANIA's platform and top-coat covering of SCANIA's cab (first time in Iran).
 - ▶ Process control & System Audits, implementation of the IQA (Internal Quality Audits system).
 - ▶ Technical problem solving and root cause analysis of paints, coatings, applying procedures and polymeric materials.
- 12.2014 – 05.2018 **MAMMUT WORLD (<https://mammutworld.com/en>)**
Engineering department – Engineer, Supervisor

- Technical support (production team, quality inspector and customers' service).
- Research & Development (polymeric moving parts and electrostatic coatings).
- Documentation and determination of instructions (Production Process and QC).
- Laboratory test & analysis (primary new samples of PUR/PIR foams, paint and primers).
- Determination of control plans (CP) for polymeric parts, PUR/PIR foams and coatings, Process Operation Sheets (POS), Purchasing data, Man Map and 5S ref.
- Determination of type, no. of layers and DFT of the coatings of steel parts in moderate (C3) and high corrosive (C5) environments.
- Training course for quality inspectors and process operators.



Publications

Google Scholar

Hadi Taghavian; (<https://scholar.google.com/citations?user=-v1BfYoAAAAJ&hl=en>)

- ✓ Highly Stable, Flexible, Anticorrosive Coating of Metalized Nonwoven Textiles for Durable EMI Shielding and Thermal Properties
MZ Khan, **H Taghavian**, X Zhang, J Militky, A Ali, J Wiener, V Tunáková, ...
ACS Omega 2025 10 (8), 8127-8139 (2025).
- ✓ UV-Activated TiO₂-Coated Carbon Felt for Photocatalytic Dye Degradation and Antibacterial Applications
Y Wang, J Omsinsombon, N Prateepmaneerak, S Li, G Zhu, MZ Khan, **H Taghavian**, M Venkataraman, J Militký, A Chaiyasat.
Surfaces and Interfaces, 106018 (2025).
- ✓ Green superhydrophobic surface engineering of PET fabric for advanced water-solvent separation
H Taghavian, MZ Khan, J Wiener, J Militky, B Tomkova, M Venkataraman, ...
Progress in Organic Coatings 197, 108842 (2024).
- ✓ Green in-situ immobilization of ZnO nanoparticles for functionalization of polyester fabrics
MZ Khan, **H Taghavian**, J Wiener, J Militky, Y Wang, B Tomkova, M Cernik, ...
Surfaces and Interfaces 55, 105336 (2024).
- ✓ A Novel Organic-Inorganic-Nanocomposite-Based Reduced Graphene Oxide as an Efficient Nanosensor for NO₂ Detection
M Khaleghiabbasabadi, **H Taghavian**, P Gholami, S Khodabakhshi, ...
Nanomaterials 14 (24), 1983 (2024).
- ✓ "A risk-based soft sensor for failure rate monitoring in water distribution network via adaptive neuro-fuzzy interference systems"
Mohammad Gheibi, Reza Moezzi, **Hadi Taghavian**, Stanisław Wacławek, Nima Emrani, Mohsen Mohtasham, Masoud Khaleghiabbasabadi, Jan Koci, Cheryl S. Y. Yeap & Jindrich Cyrus
Scientific Reports 13, 12200 (2023).
- ✓ "Advanced (bio) fouling resistant surface modification of PTFE hollow-fiber membranes for water treatment"
H Taghavian, M ČERNÍK, L DVOŘÁK
Scientific Reports 13, 11871 (2023).
- ✓ "Effect of microwave power on bactericidal and UV protection properties of the ZnO nanorods grown cotton fabrics"
MZ Khan, **H Taghavian**, M Fijalkowski, J Militky, B Tomkova, ...

Colloids and Surfaces A: Physicochemical and Engineering Aspects 664, 131135 (2023).

- ✓ “Exterior surface characterization of the novel surface modified PES HF membrane applicable in bioreactor”
H Taghavian, M ČERNÍK, L DVOŘÁK
Proceedings 15th International Conference on Nanomaterials - Research & Application, (2023).
- ✓ “A Smart Bioreactor-based Production and Distribution System for Spirulina Algae in Developed Countries”
M Gheibi, R Moezzi, M Khaleghiabbasabadi, **H Taghavian**, TM Vu
International Journal of Innovative Technology and Interdisciplinary Sciences (2023).
- ✓ “Intelligent Estimation of Total Suspended Solids (TSS) in Wastewater Treatment Plants Utilizing Non-Liner Regression Analysis”
M Gheibi, R Moezzi, M Khaleghiabbasabadi, **H Taghavian**, K Dhoska
Journal of Transactions in Systems Engineering 1 (1), 50-55 (2023).
- ✓ “The operation of urban water treatment plants: a review of smart dashboard frameworks”
A Kiyani, M Gheibi, M Akrami, R Moezzi, K Behzadian, **H Taghavian**
Environmental Industry Letters 1 (1), (2023).
- ✓ “Design of a Decision Support System to Operate a NO₂ Gas Sensor Using Machine Learning, Sensitive Analysis and Conceptual Control Process Modelling”
M Gheibi, **H Taghavian**, R Moezzi, S Waclawek, J Cyrus, ...
Chemosensors 11 (2), 126 (2023).
- ✓ “Superhydrophilic surface modification of PTFE hollow-fiber membrane with advanced biofouling properties for water purification”
H Taghavian, M ČERNÍK, L DVOŘÁK
Proceedings 14th International Conference on Nanomaterials - Research & Application, 91-96 (2022).



Workshops & Internships

08.2024 – 01.2025 (IPF), Germany	“Internship at Leibniz Institute of Polymer Research Dresden”.
08.2023 (Lodz University of Technology), Poland	“Short Course on Nanostructured Polymer Materials”.
07.2023 (University of Girona), Spain	“Summer school on membrane for water processes”.
06.2020 (NETZSCH), Online	“Simultaneous dynamic-mechanical and dielectric analysis”.
02.2017 (SCANIA Oskarshamn), Sweden	“SCANIA’s cabs coating – training course in Sweden”.
2017 (MAMMUTWORLD), Iran	“Paint and coating inspection course – lecturer”.
2017 (Polymer & Petrochemical Institute), Iran	“Rigid polyurethane foam specification training course”.
2016 (https://jdsharif.ac.ir), Iran	“Paint and coating”.
2016 (Polymer & Petrochemical Institute), Iran	“17th course of composite materials & processes”.
2016 (Polymer & Petrochemical Institute), Iran	“Designation of composite structures against high velocity stress”.
2015 (Polymer & Petrochemical Institute), Iran	“Polyurethane, elastomers, adhesives & foams”.
2015 (Polymer & Petrochemical Institute), Iran	“Fundamentals and principles of adhesives”.
2015 (Tehran Polytechnic), Iran	“The powder coatings: components, formulation & test methods”.
06.2012 (Tehran Polytechnic), Iran	“Application of polymer compounds in plastic & rubber Industries”.



Further skills and knowledge

- ISO 9001:2015 , principles and implementation procedure.
 - Laboratory tests analysis: (almost all physical and mechanical test & analysis of industrial paint and coating).
 - Electrostatic powder and elect./non-electrostatic liquid paints, specifications and applying procedures.
 - Eminent proficiency and interested in researching and investigating to develop new materials.
 - Continuous improvements, Poka-Yoke and Kaizen implementation for Process improvement.
 - Root cause analysis, Pareto and fish bone diagrams for quality related problems.
 - Surface preparation of: (steel parts / low surface energy of polymeric mater.) to increase adhesion bond.
 - Synthesis of polymers and nanoparticles.
 - Optimization and designing of experiments via RSM.
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Languages

Persian: native;

English: IELTS overall band score: 6.5 (Listening:6 , Reading:6.5 , Writing:6 , Speaking:7);



Miscellaneous

- Awarded the German Academic Exchange Service (**DAAD**) scholarship for internship in Germany.
- Awarded the Student Grant Scheme from the Technical University of Liberec (SGS-2022-3037).
- Awarded the best lecture of the conference “MELPRO 2022”.
- Awarded the **1st rank** in master's class.