Hamed Asgari, Ph.D.

Research Associate
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Professional Profile

Materials engineer with emphasis on mechanical and chemical properties of materials, additive manufacturing, wear and corrosion of materials and materials characterization. Extensive experience in the field of metal forming, optimization of materials properties, corrosion and protection of materials, and quality control. Experienced and skilled in prioritizing and management of official tasks, formal communications, preparing proposals, academic and industrial reports/presentations and working with deadlines. Several years of experience in supervising, teaching and training of researchers and graduate students in Iran and Canada. Demonstrated excellence in research recognized by winning several awards and scholarships and publication of more than 30 papers in reputable journals and conferences.

Areas of Expertise

- Metal additive manufacturing.
- Deformation behavior of metals and alloys.
- Mechanical testing (tensile, shock loading, hardness, fatigue, impact) and characterization of materials (OM, XRD, SEM, EBSD, TEM).
- Failure analysis.
- Corrosion & wear of metals.
- Materials selection and design.
- Nano-composite coatings.

Experience & Achievements

May 2019 – Present **Research Associate**, Multi-Scale Additive Manufacturing (MSAM) Lab, University of Waterloo, Canada.

- Research on (i) microstructural, thermal and mechanical characterization of aluminum, titanium and Invar alloys fabricated by laser powder bed fusion (ii) Mechanical and structural characterization of titanium alloys manufactured by electron beam melting.

Sept. 2017 – May 2019 **Postdoctoral Fellow**, Multi-Scale Additive Manufacturing (MSAM) Lab, University of Waterloo, Canada.

- Research on (i) microstructural and mechanical characterization of additively manufactured aluminum, titanium and Invar alloys. (ii) Optimizing the properties of powders used in AM industries.

Jan. 2016 – Sept. 2017 **Postdoctoral Fellow**, Marine Additive Manufacturing Center of Excellence (MAMCE), University of New Brunswick, Canada.

- Research on (i) microstructural, chemical and mechanical characterization of additively manufactured aluminum and steel alloys and, (ii) Tribological and mechanical behavior of nano-structured WC-NiCr coatings.

2012 - 2015 **Research Assistant**, University of Saskatchewan, Canada.

- Research on characterization and dynamic deformation properties of magnesium alloys (cast&rolled): texture, mechanical behavior and microstructural evolution.

2014 **Visiting Researcher**, Chalmers University of Technology, Sweden.

- Research on TEM of deformed magnesium samples.

2009 - 2012 **Research Assistant**, McMaster University, Canada.

- Research on galvannealing of dual phase steels: oxidation, coating kinetics, mechanical properties.

2003 - 2006 **Research Assistant**, Isfahan University of Technology, Iran.

- Research on galvanizing of low carbon steels: corrosion resistance, texture, skin-pass rolling.

- Industrial employment

2008 - 2009 **Research Assistant (engineer)**, Steel Institute, Isfahan, Iran.

- Research on deformation, corrosion and protection of galvanized and chromated steels.
- Responsible for analysis and optimization of chemical and mechanical properties of galvanized steels produced at Mobarakeh Steel Company.
- Communication with steel industries to identify and removal of their corrosion/oxidation problems.
- Technical supervisor and scientific consultant of projects.
- Preparation of papers, proposals, reports and presentations for academic and industrial units.

Academic Qualifications

2012 - 2015 **Ph.D.**: Mechanical Engineering, University of Saskatchewan, Canada.
Thesis: Dynamic mechanical behavior of magnesium alloys under shock loading condition.

2009 - 2012 **M. A. Sc.**: Materials Engineering, McMaster University, Canada.
Thesis: Galvannealing of dual phase steels.

2003 - 2006 **M. Sc.**: Materials Engineering, Isfahan University of Technology, Iran.
Thesis: Effects of production parameters on the corrosion resistance of galvanized steel.

1997 - 2003 **B. Sc.**: Materials Engineering, Shiraz University, Iran.
Thesis: Corrosion fatigue of plastic injection steel tools.

Awards & Honors

- Outstanding Reviewer of international scientific journals, 2015-2018, Canada.
- Saskatchewan Innovation and Opportunity Scholarship, 2014, Canada.
- Toyota Automotive Engineering and Safety Scholarship, 2014, Canada.
- Douglas Patton Hogg Memorial Award, 2014, Canada.
- Canadian Institute of Mining, Metallurgy and Petroleum Travel Award, 2014, Canada.
- Mechanical Engineering Graduate Scholarship, 2014 & 2015, Canada.
- Outstanding Translator, 2011, Iran.
- McMaster Graduate Scholarship, 2009, Canada.
- Outstanding Researcher, 2008, Iran.
- Introduced as a Scientific Elite, 2007, Iran.
- Ranked 1st (Top Student) in Master's Program, 2006, Iran.

Publications

- 26 journal papers, published in prestigious international journals.
- 23 conference papers, presented in reputable international conferences held in Canada, Iran, Turkey, Germany.

Languages

English (Fluent), Persian (Fluent).

Key IT Skills

VPSC software, Microsoft (Excel, Word, PowerPoint, Outlook), Origin.

Interests

Travelling, reading and ping-pong.

References

Available upon request.