

## EDUCATION

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- ❖ **PhD in Mechanical and Nuclear Engineering (2018)**  
Virginia Commonwealth University  
Dissertation title: *Liquid Interaction with Non-Wettable Surfaces Structured with Macroscopic Ridges*
- ❖ **MSc in Mechanical Engineering (Heat Transfer and Fluid Mechanics, 2011)**  
K.N. Toosi University of Technology, Tehran, Iran  
Thesis title: *Enhancing Thermal Energy Storage Systems under the Influence of Nano-particles Added to the Phase Change Material and/or the Working Fluid*
- ❖ **BSc in Mechanical Engineering (Solid Mechanics, 2008)**  
Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran  
Thesis title: *Analytical Design of a Buckling Test Device for Circular Plates*

## JOURNAL PAPERS

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- 9. Mehran Abolghasemibizaki, Robert L. McMasters, Reza Mohammadi, “Towards the Shortest Possible Contact Time: Droplet Impact on Cylindrical Superhydrophobic Surfaces Structured with Macro-Scale Features” *Journal of Colloid and Interface Science*, Volume 521, Pages 17-23, 2018.**
- 8. Mehran Abolghasemibizaki, Connor J. Robertson, Christian P. Fergusson, Robert L. McMasters, Reza Mohammadi, “Rolling Viscous Drops on a Non-wettable Surface Containing both Micro- and Macro-Scale Roughness” *Physics of Fluids*, Volume 30, 2018.**
- 7. Mehran Abolghasemibizaki and Reza Mohammadi, “Droplet Impact on Superhydrophobic Surfaces Decorated with Cylindrical Macrottextures” *Journal of Colloid and Interface Science*, Volume 509, Pages 422-431, 2018.**
- 6. Karekin D. Esmeryan, Carlos E. Castano, Ashton H. Bressler, Mehran Abolghasemibizaki, Christian P. Fergusson, Allan Roberts, Reza Mohammadi, “Kinetically Driven Graphite-like Carbon Transformation in Low Temperature Laminar Diffusion Flames”, *Diamond and Related Materials*, Volume 75, Pages 58–68, 2017.**
- 5. Karekin D. Esmeryan, Carlos E. Castano, Mehran Abolghasemibizaki, Reza Mohammadi, “An Artful Method for In-situ Assessment of the Anti-biofouling Potential of Various Functional Coatings Using a Quartz Crystal Microbalance”, *Sensors and Actuators B: Chemical*, Volume 243, Pages 910–918, 2017.**
- 4. Karekin D. Esmeryan, Carlos E. Castano, Ashton H. Bressler, Mehran Abolghasemibizaki, Reza Mohammadi, “Rapid Synthesis of Inherently Robust and Stable Superhydrophobic Carbon Soot Coatings”, *Applied Surface Science*, Volume 369, Pages 341–347, 2016.**

**3. Mehran Abolghasemi**, Ali Keshavarz, Mozaffar A. Mehrabian, “*Thermodynamic Analysis of a Thermal Storage Unit under the Influence of Nano-particles added to the Phase Change Materials and/ or the Working Fluid*”, **Heat and Mass Transfer**, Volume 48, Pages 1961–1970, **2012**.

**2. Mehran Abolghasemi**, Ali Keshavarz, Mozaffar A. Mehrabian, “*Heat Transfer Enhancement of a Thermal Storage Unit Consisting of a Phase Change Material and Nano-particles*”, **Journal of Renewable and Sustainable Energy**, Volume 4, Issue 4, DOI: 10.1063/1.4747824, **2012**.

**1.** Ali Keshavarz, Mozaffar A. Mehrabian, **Mehran Abolghasemi**, Arash Mostafavi “*Availability (exergy) Analysis in a Thermal Energy Storage System with the Phase Change Materials Arranged in Series*”, **Journal of Power and Energy**, Volume 225, Pages 44-52, **2011**.

## CONFERENCE PRESENTATION

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**1. Mehran Abolghasemibizaki**, Connor J. Robertson, Christian P. Fergusson, Robert L. McMasters, Reza Mohammadi, “*Parameter Estimation Involving Droplets on Flat and Cylindrical Non-wettable Surfaces*” **Inverse Problems Symposium**, Michigan State University, **2018**.

## HONORS AND AWARDS

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- ❖ Finalist for Outstanding Graduate Research Award (2018)
- ❖ Dissertation Assistantship Award (2017)
- ❖ Young Project Manager Award at Kalleh, Dairy Co. (2013)- due to many self-initiated projects
- ❖ Top 1% (220 out of 15,000) Mechanical Engineering Students in National Graduate Studies Entrance Examination (2008)
- ❖ Top 0.1% (184 out of 300,000) Students in National Under-Graduate Studies Entrance Examination (2002)

## ACADEMIC EXPERIENCE

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- ❖ **Postdoctoral Fellow**
  - Supervisor: Dr. Soojung Claire Hur, Department of Mechanical Engineering, Johns Hopkins, Whiting School of Engineering, Baltimore MD (Oct 2018-present)
- ❖ **Lab and Research Assistant**
  - Supervisor: Dr. Carlos Castano, MNE department, VCU, Richmond VA (June 2018-Oct 2018)

### ❖ **Graduate Research Assistant**

- Advanced Functional Laboratory, MNE department, VCU, Richmond VA (Sep 2014-May 2018)
- Mechanical Engineering department, K.N. Toosi University of Technology (Sep 2008-Aug 2011)

### ❖ **Teaching Assistant**

- *Mechanical and Nuclear Engineering Materials, Continuum Mechanics* (graduate courses) and *Mechanics of Deformables* (undergraduate course) at MNE department, VCU, Richmond VA (Sep 2015-May 2017)
- *Fluid Dynamics* and *Thermodynamics* (undergraduate courses) at Department of Mechanical and Materials Engineering, University of Cincinnati, Cincinnati OH (Sep 2013-Aug 2014)

## PROFESSIONAL EXPERIENCE

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### ❖ **Project Manager/Process Improvement**, Kalleh Dairy Co. Iran (Aug 2012-Jun 2013)

- Assigned projects completed:
  - Installing/Relocating three filling lines (increased the production capacity by 60%)
  - Providing piping and instrumentation diagrams for the entire beverage company
- **Self-initiated projects completed:**
  - Automating the Clean-In-Place (CIP) system
  - Improving the piping system to increase the product quality using less pump/pipe/joint
  - Installing sensors in filling lines and automating their operation (reduced product waste by 10%)
  - Proposing a new packaging for enhancing the heat transfer in the cooling tunnel based on numerical and experimental studies

### ❖ **Quality Control Supervisor**, Parsamizeh Co. Iran (Feb 2007-Nov 2007)

- Documented the fabrication process for getting ISO 9000 and 9001
- Supervising **15** technicians in the absence of their manager
- Designed molds and fabricated specimens for mechanical testing

## COMPUTER SKILLS

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### ❖ **Programming:** FORTRAN, MATLAB, PASCAL

### ❖ **Engineering Software:** ANSYS, CATIA, SolidWorks

### ❖ **General:** LaTeX, MS Office

## MEMBERSHIP

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- ❖ American Society of Mechanical Engineering (ASME)
- ❖ **Secretary**, *Engineering Graduate Student Association*, VCU, Richmond, VA (2016-2018)
- ❖ **Social Chair**, *Persian Club at VCU*, VCU, Richmond, VA (2014-2015)