

# Seyed Mohammad Sajadi

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## EDUCATION

- **Master of Science, Mechanical Engineering**, University of Houston, Texas, Houston. Graduation Fall 2016. **GPA: 4.0/4**
- **Bachelor of Science, Mechanical Engineering**, University of Tehran, Tehran, Iran, 2011. Last two years **GPA: 3.28/4**

## RESEARCH INTERESTS

- Heat transport in Micro-Nano Structure
- Thermal Transport Phenomena
- Fluid Mechanics
- Heat transfer
- Bio Engineering
- Bio Mechanic
- Micro and Nano engineering

## SKILLS

- **Mathematical Computation:** MATLAB
- **Mechanical Engineering:** Gambit and Fluent, Ansys, Comsol
- **CAD:** SolidWorks.
- **General Software:** LabVIEW, Microsoft Office (Word, Excel, PowerPoint).
- **Mechanical and Manufacturing Skills:** Electric arc welding, Working with machine shop equipment, Prototyping with plaster and body manufacturing with fiber glass.

## PUBLICATION

### Journal

- **Seyed Mohammad Sajadi**, Nazanin Farokhnia, Peyman Irajizad, Munib Hasnain, and Hadi Ghasemi, "Flexible Artificially Networked Structure for Ambient/High Pressure Solar Steam Generation", **J. Mater. Chem. A**, **2016,4, 4700-4705**, (2016)
- Nazanin Farokhnia, Peyman Irajizad, **Seyed Mohammad Sajadi** and Hadi Ghasemi, "Rational micro-nano structuring for thin film evaporation", **J. Phys. Chem. C**, **2016, 120 (16)**, pp 8742–8750, (2016)
- Peyman Irajizad, Munib Hasnain, Nazanin Farokhnia, **Seyed Mohammad Sajadi**, and Hadi Ghasemi, "Magnetic extreme icephobic surfaces", **Nature Communications**, **10.1038/ncomms13395**, (2016)
- **Seyed Mohammad Sajadi**, Jose Ordonez-Miranda, James M. Hill, Younes Ezzahri, Karl Joulain, Jeremie Drevillon, and Hadi Ghasemi, "Invariant of Heat Conduction in One-Dimensional System", **Under review in Physical review Letters**, (2016)
- Nazanin Farokhnia, **Seyed Mohammad Sajadi**, Peyman Irajizad, and Hadi Ghasemi, "Decoupled Hierarchical Structures for Suppression of Leidenfrost Phenomenon", **Accepted in Longmuir** , (2017)
- Varun Kashyap, Abdullah Al-Bayati, **Seyed Mohammad Sajadi**, Peyman Irajizad, and Hadi Ghasemi, "Flexible Anti-Clogging Carbon Blanket for Scalable Solar Desalination by Heat Localization", **Under review in Advanced Functional Materials**, (2017)

### Conference

- "Decoupled Hierarchical Structures for Suppression of Leidenfrost Phenomenon" **Seyed Mohammad Sajadi**, Nazanin Farokhnia, Peyman Irajizad, and Hadi Ghasemi, **ASME IMECE** (2016), Presented, Phoenix, AZ, USA.
- "Magnetic extreme icephobic surfaces" Peyman Irajizad, Munib Hasnain, Nazanin Farokhnia, **Seyed Mohammad Sajadi**, and Hadi Ghasemi, **ASME IMECE** (2016), Presented, Phoenix, AZ, USA.
- "Flexible integrated structure for low/high pressure solar steam generation" **Seyed Mohammad Sajadi**, Nazanin Farokhnia, Peyman Irajizad, and Hadi Ghasemi, **ASME HT/FE/ICNMM** (2016), Presented, Washington DC, USA.

- “Integrated Flexible Structure for Solar Steam Generation”, **Seyed Mohammad Sajadi**, Nazanin Farokhnia, Peyman Irajizad and Hadi Ghasemi, **IEEE IThERM (2016)**, Accepted, Las Vegas, USA.
- “Rational micro/Nano structuring for thin-film evaporation”, Nazanin Farokhnia, Peyman Irajizad, **Seyed Mohammad Sajadi** and Hadi Ghasemi **ASME HT/FE/ICNMM (2016)**, Presented, Washington DC, USA.

## **SUBMITTED PATENT**

- **Seyed Mohammad Sajadi**, Nazanin Farokhnia, Peyman Irajizad and Hadi Ghasemi “Dual Scale Surface for suppression of Leidenfrost”

## **PROFESSIONAL EXPERIENCE**

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|--|--------------------------------|---------------------|
| <b>Research Assistant –NanoTherm Group</b>   | <b>University of Houston</b>   | <b>2015-Present</b> |
| <ul style="list-style-type: none"> <li>• Development of dual-scale surfaces for suppression Leidenfrost phenomena (see publication section)- Submitted as a patent</li> <li>• Development of magnetic icephobic surface (see publication section)- Submitted as a patent</li> <li>• Development of a flexible artificially networked material structure highly efficient for ambient and high-pressure steam generation (see publication section)</li> <li>• Design, develop and manufacture of different accurate setups for various experiments</li> <li>• Involvement in AFM (Atomic force microscopic) and LabVIEW software</li> </ul> |                                |                     |
| <b>Mechanical Engineer- Taha Production and Support Industrial Company</b>   | <b>Tehran- Iran</b>            | <b>2013-2014</b>    |
| <ul style="list-style-type: none"> <li>• Preparation and development of Auto parts’ technical documents specially Power Steering System (CP, FMEA, OPC, FPC, OPS).</li> <li>• Modeling and drawing of Power Steering system parts with SolidWorks</li> <li>• Audit drawings, test plans, manufacture procedures and production line of suppliers.</li> </ul>   |                                |                     |
| <b>Quality Control Engineer- Falat Energy Company</b>  | <b>Bandar-Abbas port- Iran</b> | <b>2013</b>         |
| <ul style="list-style-type: none"> <li>• Confirmation of the imported raw material</li> <li>• Inspection and controls of welding process (pipes and reservoirs)</li> <li>• Audit drawings and welding procedures of suppliers</li> </ul>   |                                |                     |
| <b>Machine Shop Supervisor- Valafan</b>  | <b>Tehran- Iran</b>            | <b>2012</b>         |
| <ul style="list-style-type: none"> <li>• Quality control of molding and casting design and developed machining procedure</li> <li>• Design, development and manufacture of fixture and gages</li> <li>• Lathe and milling machine production.</li> </ul>   |                                |                     |
| <b>Project Manager- Design and Manufacturing of a Two-Passenger Electric Car</b>   | <b>University of Tehran</b>    | <b>2008-2009</b>    |
| <ul style="list-style-type: none"> <li>• Team management- planning (conceptual design, detail design, and production)</li> <li>• Sponsor Negotiation</li> <li>• Design different parts with <b>SolidWorks</b>.</li> <li>• Manufacture electrical differential, power transition, chassis and body with variety methods like <b>electric arc welding</b>, Working with <b>machine shop equipment</b>, <b>prototyping with plaster</b> and <b>body manufacturing with fiber glass</b>.</li> </ul>  |                                |                     |

## **SELECTED ACADEMIC PROJECTS**

- “Increasing Leidenfrost point with Dual-Scale Structure”, University of Houston, Texas, Adviser: Dr. Hadi Ghasemi “
- “Design and make Flexible Artificially Networked Structure for Ambient/High Pressure Solar Steam Generation”, University of Houston, Texas, Adviser: Dr. Hadi Ghasemi (2015)
- “Design of Experiments and the Optimization of an Electronic Enclosure” University of Houston, Texas, 2016
- “CFD Analysis of Electronic Enclosure with STAR-CCM+”, University of Houston, Texas, Adviser: Dr. Moratta, 2016
- “FEA of Threaded Pipe Connector with ANSYS”, University of Houston, Texas, Adviser: Dr. Moratta, 2016
- “Mixed Formulation for Darcy Equation”, University of Houston, Texas, Adviser: Dr. B.Knakshatrala. 2015
- “A Solver for Steady-State Diffusion Equation”, University of Houston, Texas, Adviser: Dr. B.Knakshatrala. 2015

- “A Solver for Linear Elasticity Equation”, University of Houston, Texas, Adviser: Dr. B.Knakshatrala. 2015
- “Optimal Design of Meat Refrigerating System”, University of Tehran, Tehran, Adviser: Dr. Sharifi. 2010
- **Thesis:** Investigation of Optimal Design of a 3D Heating Operation Furnace (19.5/20), Spring 2011
- “Using Finite-Elements Method to Generate Arbitrary (triangular-rectangular) Grids for stress and strain Analysis of a Thin Sheet through MATLAB Software”, University of Tehran, Tehran, Adviser: Dr. A. Daneshmehr. 2010
- “Optimization of Dynamic and Control System Using Genetic Algorithm Method”, University of Tehran, Tehran, Adviser: Dr. M. Shariat Panahi. 2009
- “Optimization of Structural Components of Truss in order to Reach Minimum Weight Using Genetic Algorithm Method”, University of Tehran, Tehran, Adviser: Dr. M. Shariat Panahi. 2009
- “Finding the Optimal path of a Robot Using Complex Method”, University of Tehran, Tehran, Adviser: Dr. M. Shariat Panahi. 2009
- “Design of a gearbox structure for an electrical engine”, University of Tehran, Tehran, Adviser: Dr. A. Daneshmehr, 2008
- “Calculating Stress And strain Analysis of Crane Hook by finite Elements Method”, University of Tehran, Tehran, Adviser: Dr. A. Daneshmehr 2008.

## **RELEVANT COURSES**

### **GRADUATE COURSES**

- Mechanics of Porous Media
- Finite Element Method
- Methods of Applied Mathematics I
- Optimization of Mechanical Systems
- Mechanic and Physics of the cell

### **UNDERGRADUATE COURSES**

- Fluid Mechanics
- Thermodynamics
- Heat transfer
- Strength of Material
- Dynamics
- Numerical Computation

## **EDUCATIONAL HONORS and AWARDS**

- Dean’s scholarship, University of Houston (2015, 2016)
- Awarded full scholarship for undergraduate program, University of Tehran, (2006-2011)
- Top 10 in conceptual design of green vehicles in national competition in Iran. This competition was held among more than 96 teams, (2009)
- Top 5 in detail design of green vehicles in national competition in Iran, (2009)
- Ranked 1st (99 / 100) in NDT welding inspection (penetration test) workshop, (2012)

## **REFERENCE**

### **Dr. Hadi Ghasemi**

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 Mechanical Engineering Department  
 Bill D. Cook Assistant Professor  
 Email: hghasemi@uh.edu

### **Dr. Yashashree Kulkarni**

University of Houston  
 Mechanical Engineering Department  
 Associate Professor of Mechanical Engineering  
 Email: ykulkarni@uh.edu

### **Dr. Kalyana Babu Nakshatrala**

University of Houston  
 Civil Engineering and Environmental Department  
 Assistant Professor UH Department of Civil and Environmental Engineering  
 Email: knakshatrala@uh.edu