Curriculum Vitae

Hassan Jafari Mosleh

Contact:

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Cell Phone: +989129310891

Date of birth: 1988/09/06

Citizenship: Iran

Education:

M.Sc. Sharif University of Technology, Department of mechanical engineering, Tehran, Iran 2011-2014

Mechanical engineering-energy conversion

Thesis: *design, manufacturing and experimental study of a desalination system using a heat pipe and a parabolic trough collector*. (thesis grade 20/20)

Cumulative GPA: 3.81/4

B.Sc. Bu-Ali Sina University (BASU), Department of mechanical engineering, Hamedan, Iran. 2006-2011

Mechanical engineering, fluids & heat transfer

Thesis: *design and manufacturing of an unmanned (RC) underwater vehicle*. (thesis grade 20/20)

Cumulative GPA: 3.38/4

Honors and Awards:

- Ranked 3rd among 50 Mechanical Engineering students, Bu-Ali Sina University, 2006- 2011 in B.Sc. Program.
- **Ranked 2nd in National Olympiad of Mechanical Engineering in Iran.**
- **Member of "National Elite Institution", Iran.**
- M.Sc. thesis was granted by "National Elite Institution".
- **B.Sc. thesis was chosen as the best thesis in mechanical engineering by the Iranian Society of Mechanical Engineers (ISME).**
- B.Sc. thesis was awarded by the Iranian Society of Mechanical Engineers (ISME).
- Selected as "Exceptionally Talented" student at Bu-Ali Sina University.
- Ranked 2nd in the design stage of national unmanned underwater vehicle competition.

Publications:

Papers:

- H.Jafari Mosleh, S.Jahangiri Mamouri, M.B.Shafii, A.Hakimsima, *A new desalination system using a combination of heat pipe, evacuated tube and parabolic trough collector*. Energy Conversion and Management, 2015.
- M.B.Shafii , S.Jahangiri Mamouri, M.M.Lotfi, H.Jafari Mosleh, *A modified solar desalination system using evacuated tube collector*. Desalination, 2016.
- Milad Mohsen Zadeh, Mohammad Behshad Shafii, Hassan Jafari Mosleh, *A novel concentrating photovoltaic/thermal solar system combined with thermoelectric module in an integrated design*. Renewable Energy, 2017.
- Hassan Jafari Mosleh, Mohammad Ali Bijarchi, Mohammad Behshad Shafii, *Experimental and numerical investigation of using pulsating heat pipes instead of fins in air-cooled heat exchangers*. Energy Conversion and Management, 2018.
- Hassan Jafari Mosleh, Ali Hakkaki-Fard, Mohammadreza Daqiq Shirazi, *A year-round dynamic simulation of a solar combined, ejector cooling, heating and power generation system.* Applied Thermal Engineering. 2019.
- Hassan Jafari Mosleh, Rohollah Ahmadi, *Linear parabolic trough solar power plant assisted with Latent Thermal Energy Storage system: A dynamic simulation. Applied Thermal Engineering, 2019.*
- Mohammad Saeid Ghoghaei, Ali Mahmoudian, Omid Mohammadi, Mohammad Behshad Shafii, Hassan Jafari Mosleh, Mohammad Zandieh, Mohammad Hossein Ahmadi. *A review on the applications of micro-/nano-encapsulated phase change material slurry in heat transfer and thermal storage systems*. Thermal Analysis and Calorimetry, 2020.
- Sina Safaee Sadegh, Ali Aghababaei, Omid Mohammadi, Hassan Jafari Mosleh, Mohammad Behshad Shafii, *An experimental investigation into the melting of phase change material using magnetic nanoparticles under magnetic field.* Thermal Analysis and Calorimetry, 2020.
- Seyedali Sabzpoushan, Hassan Jafari Mosleh, Soheil Kavian, Mohsen Saffari Pour, Omid Mohammadi, Cyrus Aghanajafi, Mohammad Hossein Ahmadi. *Non-isothermal Two-phase Modeling of the Effect of Linear Non-uniform Catalyst Layer on PEMFC Performance.* Energy Science & Engineering, 2020.
- Soheil Kavian, Cyrus Aghanajafi, Hassan Jafari Mosleh, Arash Nazari, Ashkan Nazari. *Exergy, economic and environmental evaluation of an optimized hybrid photovoltaic-geothermal heat pump system.* Applied Energy, 2020.
- Soheil Kavian, Ali Hakkaki-Fard, Hassan Jafari Mosleh. *Energy Performance and Economic Feasibility of Hot Spring-Based District Heating System – A Case Study. Energy, 2020.*
- Hassan Jafari Mosleh, Pouria Behnam, Soheil Kavian, Omid Mohammadi, Pouria Ahmadi, Marc.A.Rosen. *A comprehensive comparative investigation on different solar heating and cooling technologies from techno-economic viewpoint-A year-round dynamic simulation. journal of Energy Science & Engineering, 2020.*
- Alireza riahi, Hassan Jafari Mosleh, Soheil Kavian, Mohammad Behshad Shafii. *Performance analysis and Transient simulation of a vapor compression cooling system integrated PCM Thermal energy storage for electric peak load shaving. Journal of Energy Storage, 2021.*
- Alireza riahi, Soheil Kavian, Hassan Jafari Mosleh, Mohammad Behshad Shafii. *Effect of different phase change material on electric peak load shaving in a novel vapor compression cooling system, a dynamic simulation. Journal of Energy Research, 2021.*
- Mohammad Jalalizadeh, Rima Fayaz, Shahram Delfani, Hassan Jafari Mosleh, Maryam Karami. *Dynamic simulation of a trigeneration system using building integrated photovoltaic thermal solar collectors. Journal of Building Engineering, 2021.*

Conferences:

- H.Jafarimosleh, M.DaqiqShirazi, *Design, simulation and parametric study of a solar-absorption cooling system using Transys*, The 23rd Annual national conference of Iranian Society Mechanical Engineering (ISME), Tehran, Iran, 2015.
- Mostafa Baghshiekhi, M.DaqiqShirazi, H.Jafarimosleh. *Feasibility study of the use of heat pipe heat exchangers as a replacement for Ljungström in thermal power plants*. The eleventh international energy conference, Tehran, Iran, 2016.
- Benyamin Ebrahimpour, Mohammad Behshad Shafii, Hassan Jafari Mosleh, Mohammad Javad Abaspour. *A review on the desalinations*. National Conference on advanced sciences and technologies in Water, Energy and Environment, 2020.

Papers in progress:

- Hassan Jafari Mosleh, Soheil Kavian, Omid Mohammadi. *Transient simulation and multi-objective optimization of a solar power plant assisted with Latent Thermal Energy Storage system*. (Under preperation).
- Hassan Jafari Mosleh, Bagher Omidi, M.B.Shafii. *Experimental study of a desalination system using heat pipe, PCM and PTC.* (Under preperation).
- A Riahi, Hassan Jafari Mosleh, M.B.Shafii. *Experimental study of a vapor compression cooling system integrated phase change material storage for electric peak load shaving in a building*. (Under preperation).

Patents:

- Hassan Jafari Mosleh, Hossein Jafari Mosleh, Mohammad Behshad Shafii, *A desalination system with a heat pipe and parabolic trough collector*, Iran Intellectual Property Office, Patent No.86115, 2015.
- Hassan Jafari Mosleh, Hamid Reza Ahmadi, Hossein Jafari Mosleh, *Grape juice extraction device (semi-industrial)*, Iran Intellectual Property Office, Patent No.75053, 2012.

Experiences and projects:

• Design, construction and experimental study of a desalination system using heat pipe and parabolic trough collector (PTC).	***Heat Transfer Lab, SUT, 2011-2014***
• Design, construction, simulation and experimental study of an air-cooled heat exchanger with heat pipe and its comparison with conventional fin fan coolers.	***Heat Transfer Lab, SUT, 2013-2016***
• Design, construction and experimental study of a solar still equipped with an external heat storage system using phase change materials and heat pipes.	***Heat Transfer Lab, SUT, 2014-2015***
• Design, construction and experimental study of a concentrating photovoltaic/thermal solar system combined with thermoelectric modules.	***Heat Transfer Lab, SUT, 2016-2017***
• Design, construction and experimental study of a desalination system using evacuated tube collector.	***Solar Energy Conversion Technologies Laboratory, Sharif Energy Research Inst. (SERI), 2014- 2015.***
• Design and construction of an unmanned underwater vehicle with the ability to move vertically in the water.	***Fluid Mechanics Laboratory BASU, (2010-2011)***
• Design and construction of an unmanned underwater vehicle with two ballast tanks and thrusters.	***Fluid Mechanics Laboratory BASU, (2011-2012)***
• Heat recovery from the exhaust gases of heaters, a feasibility study-Research Assistant.	***Heat Transfer Lab, SUT, 2014-2015***
• Study of using heat pipe heat exchangers for increasing efficiency in power plants-Research Assistant.	***Iran Energy Efficiency Organization (IEEO_SABA), 2015-2016***

• Development of an image processing software for Particle Image Velocimetry (**PIV**) and Laser Induced Fluorescence (**LIF**) methods to calculating velocity, temperature and, PH in fluids flow.	***Fluid Diagnostic Techniques Lab, SUT, 2012-2013***
• CFD simulation (drag calculation in unmanned underwater vehicle, impeller propulsion, Vortex Generation in unmanned underwater vehicle planes, Impeller Blade in Centrifugal Compressors, drag and lift calculation in NACA profiles, Heat exchangers, …)	***Fluid Mechanics Laboratory BASU & Heat Transfer Lab, SUT***
• Transient simulation of a linear parabolic trough solar power plant assisted with Latent Thermal Energy Storage system.	***School of New Technologies, Iran University of Science & Technology, 2016-2017***
• Modeling and parametric study of a solar-driven ejector refrigeration system using TRNSYS and MATLAB software.	***Renewable and Sustainable Energy Systems Lab,(RASES lab) SUT, 2017-2018***
• Numerical simulation and parametric study of a solar-absorption cooling system using TRNSYS software.	***Solar energy lab, DOEE SUT, 2015-2016***
• Simulation of a photovoltaic refrigeration system in Iran by TRNSYS software.	***Solar energy lab, DOEE SUT, 2016-2017***
• Dynamic simulation of a solar cooling, heating and power generation system combined with BIPVT in a building in Tehran.	***Solar energy lab, DOEE SUT, 2017-2018***
• Feasibility study and risk assessment of a CCHP system using Oracle Crystal Ball and TRNSYS software.	***Solar energy lab, DOEE SUT, 2017-2018***
• Energy audit in the soft drink industry in Iran.	***Sharif technology services complex SUT, 2017-2018***
• Energy audit in a typical building in Iran.	***Renewable and Sustainable Energy Systems Lab,(RASES lab), SUT, 2018***
• Design and construction of a solar refrigeration system.	***Heat Transfer Lab, SUT, 2018***
• Design and construction of laboratory equipment and training systems for heat transfer lab (such as cooling tower training system, different heat exchangers trainer, solar water heating with flat collector trainer, solar water heating with evacuated tube collector trainer, photovoltaic trainer)	***SUT, 2012-2016***
• Design and construction of laboratory equipment and training systems for fluid mechanics lab (such as wind tunnel, methods of flow measurements, measurement of Jet forces, wind power plant trainer)	***SUT, 2012-2016***
• Design and construction of laboratory equipment and training systems for control lab (such as 2D planar robot (pantograph), inverted pendulum, air pendulum)	***SUT, 2012-2016***
• Design and construction of a heat pipe heat exchanger for turbine lube oil cooling.	***SUT, 2018-2020***
• Experimental investigation of using thermosyphon heat pipes between gas tubes and fire tubes in CGS heaters in order to reduce fuel consumption and increase thermal efficiency.	***SUT, 2018-2020***
• Feasibility study of the district heating system of Qăynarca village (Iran) using geothermal energy.	***Renewable and Sustainable Energy Systems Lab,(RASES lab), SUT, 2018-2019***
• Multi-objective optimization of different cooling systems.	***Renewable and Sustainable Energy Systems Lab,(RASES lab), SUT, 2019***
• Experimental and analytical study of a vapor compression cooling system integrated phase change material storage for electric peak load shaving.	***SUT, 2019-present***
• Reviewer of Energy Conversion and Management (ECM) journal.	

- Mechanical engineering expert in Tehran water supply and water and wastewater treatment company. ***2020-present***

Teaching experiences:

- Teaching assistant, solar energy (TRNSYS training), Sharif University of Technology, supervisor: Associate Professor Mehrdad Boroushaki, (2014-2018)
- Teaching assistant, heat transfer I, Sharif University of Technology, supervisor: Professor Mohammad Behshad Shafii, 2014.
- Teaching assistant, mechanics of fluids I, Sharif University of Technology, supervisor: Associate Professor Ali Moosavi, 2017.

Skills:

- Highly experienced in designing and manufacturing of laboratory test stands.
- Expert in CAD software (Catia & Solid Works).
- Expert in heat exchanger software (Aspen B-Jac, HTFS, HTRI).
- Expert in TRNSYS software.
- Expert in multi-objective optimization of thermodynamic cycles.
- Expert in economic analysis and risk assessment (Oracle Crystal Ball).
- Experienced with solar energy systems.
- Experienced with optical measurement systems in fluids (PIV&LIF).
- Experienced with simulation, design and, manufacturing of heat exchangers.
- Experienced with simulation, design and, manufacturing of heat pipe heat exchangers.
- Experienced with commercial software: Fluent, CFX, EES, Matlab, IcemCFD, Design-Builder and, Pipe Flow, WaterGEMS, Aspen plus.
- Experienced in programming Languages: FORTRAN, Matlab.
- Experienced in manufacturing methods (CNC manufacturing and RP).
- Familiar with renewable energies.
- Familiar with heat recovery systems.
- Familiar with different cooling systems.
- General Computer Skills: Microsoft Windows, Microsoft Office, Latex.

Interests:

- Experimental Heat Transfer
- Fluid Diagnostic Techniques (MTV, PIV, LIF…)
- Renewable energies
- Solar Energy Conversion Technologies
- Desalination systems
- Thermal Design
- Cooling and refrigeration systems
- Thermodynamics
- Heat Pipes
- UUV and ROV Systems

- Laboratory test stands design and manufacturing
- Multi-objective optimization
- Techno-economic analysis
- Energy efficient buildings

References:

Mohammad Behshad Shafii
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Mehrdad Boroushaki
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Ali Hakaki-Fard
Assistant Professor
Mechanical Engineering Faculty
Sharif University of Technology
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Language:

Persian: Native
English: TOEFL iBT score: 88 (Re-registered in March)

Related links:

Research Gate: *https://www.researchgate.net/profile/Hassan_Jafari_Mosleh*

Google Scholar: *https://scholar.google.com/citations?user=YnXdX0sAAAAJ&hl=fa&oi=sra*

مرجانه سلطانی (ش.پ ۴۸۰)
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انقلاب شماره ۵، طبقه اول، واحد۴ ، دفتر ترجمه سفیر، تلفن
۶۶۴۰۱۳۴۱-۶۶۴۶۵۹۴۶
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جمهوری اسلامی ایران
قوه قضائیه - ادارات مترجمین رسمی

شماره ۹۷۱۲۵٤ سری ص
ردیف دفتر ثبت

OFFICIAL TRANSLATION

In the Name of God
Ministry of Science, Research and Technology

NATIONAL ORGANIZATION FOR EDUCATIONAL TESTING
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Date: May 15, 2018
No.: 2/8407

CERTIFICATE

This is to certify that Mr. HASSAN JAFARI MOSLEH, son of Asadollah, ID Card No. 387-575464-6, participated in the 16th National Olympiad for University Students in 2011 and won the 2nd Rank and Silver Medal in the final stage of Mechanical Engineering Olympiad.

Signed & Sealed: Ehsan Jamali, Statistical and Technical Deputy and Secretary of National Olympiad for University Students

TRUE TRANSLATION CERTIFIED May 27, 2018 File No.: Arshi- Hassan Jafari Mosleh-1

مرجانه سلطانی شماره پروانه ۴۸۰ - تهران
مترجم رسمی زبان انگلیسی قوه قضائیه
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Fig1.**Certificate of Ranked 2nd in Mechanical Olympiad in National academicals poll**

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مترجم رسمی زبان انگلیسی - تهران، ضلع جنوب شرقی میدان انقلاب، شماره ۵، طبقه اول، واحد ۴ - دفتر ترجمه سفیر، تلفن ۶۶۴۰۱۳۴۱، ۶۶۴۶۵۹۴۴
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شماره ۹۲۱۲۵۲ سری ک

ردیف دفتر ثبت

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In the name of God

The Iranian Society of Mechanical Engineers

The Iranian Society of Mechanical Engineers

wishes to acknowledge with appreciation the earnest efforts of

Eng. HASSAN JAFARI MOSLEH

for authoring Bachelor's Thesis, entitled:

Design and Construction of an RC Submarine

Upon recommendation of the Thesis Jury, the prize of Pars Mashal Co. 2009 for Solid Design is awarded to the above project. We wish him ever-increasing success in advancement of the industry and serving our homeland.

Signed and embossed seal: Ali Akbar Saberi Zafarqandi, Chairman of Society

Certified to be true translation from Persian text. May 28, 2018

مرجانه سلطانی
مترجم رسمی زبان انگلیسی قوه قضائیه
Marjaneh Soltani
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Fig2.**Certificate of the best thesis in mechanical engineering by the Iranian society of mechanical engineers (ISME)**