

# Hassan Hajabdollahi, Ph.D.

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Age. 36 years

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## SUMMARY

An energy system modeling, design and optimization specialist with demonstrated experience in research, education and industry. Experience and knowledge in developing advanced methods and computer programs for efficient and robust simulations and optimization of complex energy systems. Author of more than 55 publications in reputable journals, reviewer of 40 journals, Scientific chair of a the 6<sup>th</sup> International conference of energy and technology management, inventor of various new thermal equipment configurations, systems and designs, and new models, correlations, and graphs for heat and mass transfer parameters.

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## EDUCATION

**Sabbatical leave, Dalhousie University, Halifax, Canada, March 2014-September 2014**

*Thesis Title:* Thermo-economic modeling and optimization of solar heat pump

**Ph.D. in Mechanical Engineering, Iran University of Science and Technology, Iran, September 2009– January 2014**

*Dissertation title:* Thermal Modeling and Optimization of Combined Cooling, Heating and Power Generation Systems (CCHP)

**M.S. in Mechanical Engineering, Iran University of Science and Technology, Iran, September 2006–May 2009**

*Thesis title:* Thermo-Economic Modeling and Optimization of Air to Air Heat exchangers

**B.S. in Mechanical Engineering, Zahedan University, Iran, September 2002– September 2006**

*Thesis title:* Thermal Modeling and Optimization of Power Plant Condenser

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## PROFESSIONAL EXPERIENCE

**Teaching Assistant, Mech. Engg. Dept., Vali-e-Asr University of Rafsanjan, Fall 2014 till now**

- Optimization
- Energy system (Design and Optimization)
- Selected topics in Energy
- Advanced Heat Exchanger Design
- Application of Solar Energy
- Power Plant
- Programming
- HVAC
- Heat and Mass Transfer I, II
- Fluid Mechanics I, II
- Thermodynamics I, II
- CFD

### **Industrial Project, Kerman Province, Iran Feb. 2011 – Feb. 2019**

- Selection of optimum Prime mover in combined heat and power generation system
  - Estimated gas consumption in the domestic, industrial power plants and transportation projected for the next 20 years in Kerman, Iran for the Kerman Province Gas Company
  - Performed analysis using an artificial neural network (ANN)
  - Demonstrated that by implementing a tri-generation concept involving combined cooling, heat and power (CCHP), the gas consumption can be significantly reduced resulting in significant savings
  - Performed thermoeconomic environmental optimization of an Organic Rankine Cycle (ORC) for Diesel waste heat recovery, and a steam power plant using Non Sorting Genetic Algorithm (NSGA-II)
  - Applied multimodal genetic algorithm for optimal design of gasket plate heat exchangers, underfloor heating systems and fin geometry for optimal thermal performance
  - Documented project outcomes in the form of reports and made presentations
  - Assessment of solar assisted heat pump in Ahvaz.
  - Investigating the effect of high pressure heater elimination on performance of Shazand power plant
  - Investigating the effect of nanoparticle on thermal improvement of car radiator
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### **COMPUTER SKILLS**

Programming languages & Packages: Python, MATLAB, FORTRAN, EES, Thermoflow, Transys, HAP, Aspen B-JAC, ANSYS/Fluent, SolidWorks, TecPlot, Microsoft Office (Word, Excel, PowerPoint, Outlook),

Machine learning and soft computing: Artificial Neural Networks, Genetic algorithm, Particle Swarm Optimization, Fast and elitism non-dominated Genetic Algorithm (NSGA-II), Multi-objective Particle Swarm Optimization (MOPSO) Algorithm,

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### **HONORS & AWARDS**

- Outstanding international researcher of Vali-e-Asr University of Rafsanjan, 2018.
  - Outstanding researcher in School of Engineering, Vali-e-Asr University of Rafsanjan, 2018.
  - Outstanding researcher in Kerman province, 2017.
  - Outstanding researcher of Vali-e-Asr University of Rafsanjan, 2017.
  - Outstanding young researcher of Rafsanjan, 2016.
  - Outstanding researcher of the Vali-e-Asr University of Rafsanjan, 2016.
  - Outstanding young researcher of the Vali-e-Asr University of Rafsanjan, 2015.
  - Ranked second among all under-graduated students, Zahedan University, 2006.
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### **PUBLICATIONS**

#### **Journal Papers (Published) Total citation of 1838, h-index (25)**

- Hassan Hajabdollahi, Pouria Ahmadi, Ibrahim Dincer "Modeling and Multi-Objective Optimization of Plain Fin and Tube Heat Exchanger Using Evolutionary Algorithm" International Journal of Thermophysics and Heat Transfer 3 (2011) 424-431.
- Hassan. Hajabdollahi, Pouria Ahmadi, Ibrahim Dincer. Exergetic optimization of shell-and-tube heat exchangers using NSGA-II. Heat Transfer Engineering 33 (2012) 618-628.
- Hassan. Hajabdollahi, Pouria. Ahmadi , Ibrahim. Dincer. Thermoeconomic optimization of a shell and tube condenser using evolutionary algorithm" International Journal of Refrigeration 34 (2011) 1066-1076.
- Sepehr. Sanaye, Hassan. Hajabdollahi, Multi-objective optimization of rotary regenerator using genetic algorithm, International Journal of Thermal Sciences, 48 (2009) 1967–1977.

- Sepehr. Sanaye, Hassan. Hajabdollahi, Thermal-Economic Multi-objective Optimization of Plate Fin Heat Exchanger Using Genetic Algorithm, Applied Energy 87 (2010) 1893–1902.
- Sepehr. Sanaye, Hassan. Hajabdollahi, Multi-objective optimization of shell and tube heat exchangers, Applied Thermal Engineering 30 (2010) 1937-1945.
- Pouria. Ahmadi, Hassan. Hajabdollahi, Ibrahim. Dincer “Cost and Entropy generation minimization of a cross flow Plate-Fin Heat Exchanger (PFHE) using Multi-Objective genetic algorithm" ASME Transaction, Journal of Heat Transfer 133 (2010) 021801.
- Hassan. Hajabdollahi, Pouria. Ahmadi, Ibrahim. Dincer "An Exergy-Based multi objective Optimization of a Heat Recovery Steam Generator in a Combined Cycle Power Plant using Evolutionary Algorithm", International Journal of Green Energy 8 (2011) 44-64.
- Hassan. Hajabdollahi, Mojtaba Tahani , M.H. shojaee fard. CFD modeling and multi-objective optimization of compact heat exchanger using CAN method, Applied Thermal Engineering 31 (2011) 2597-2604.
- Farzaneh. Hajabdollahi, Zahra. Hajabdollahi, Hassan. Hajabdollahi, "Thermo-economic modeling and optimization of underfloor heating using evolutionary algorithms. Energy and Buildings 47 (2012) 91–97.
- Farzaneh. Hajabdollahi, Zahra. Hajabdollahi, Hassan. Hajabdollahi, Soft computing based Multi-objective optimization of steam cycle power plant using NSGA-II and ANN. Applied Soft Computing 12 (2012) 3648-3655.
- Sepehr. Sanaye, Hassan. Hajabdollahi, 4E analysis and Multi-objective Optimization of CCHP Using MOPSO. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering. (2013) doi: 0954408912471001.
- Farzaneh. Hajabdollahi, Zahra Hajabdollahi, Hassan Hajabdollahi. Optimum Design of Gasket Plate Heat Exchanger Using Multimodal Genetic Algorithm. Heat Transfer Research 44 (2013).
- Ehsan Khorasani Nejad, Farzaneh Hajabdollahi, Zahra Hajabdollahi, Hassan Hajabdollahi. Thermo-economic Optimization of Gas Turbine Power Plant with Details in Intercooler. Heat Transfer-Asian Research 42 (2013) 704-723.
- Amir hesan kashani nia, mohammad madahi, Hassan. Hajabdollahi, Thermo-economic optimization of Air cooler heat exchanger. Applied thermal engineering 54 (2013) 43-55.
- M.M Ghanadi Arab, Mohsen Hajabdollah, Hassan Hajabdollahi, Multi-objective optimization of a fin with two-dimensional heat transfer using NSGA-II and ANN, Journal of Applied Mechanical Engineering, 2 (2013).
- Ehsan Khorasani Nejad, Mohsen Hajabdollah, Hassan Hajabdollahi, Modeling and Second Law Based Optimization of Plate Fin and Tube Heat Exchanger Using MOPSO, Journal of Applied Mechanical Engineering 12 (2013).
- Ehsan Khorasani Nejad, Hassan Hajabdollahi, Comparison of Imperialist Competitive Algorithm with GA and PSO in Optimization of Fin and Tube Heat Exchanger , American Journal Of Advanced Scientific Research (AJASR), 4 (2013).
- Sajjad Beigmoradi, Kambiz Jahani, Hassan Hajabdollahi, Investigating the Transmission Loss Effect via Optimizing the Insulator Package on Vehicle's Firewall, Journal of acoustical Society of America. 19 (2013).
- Sajjad Beigmoradi, Kambiz Jahani, Hassan Hajabdollahi, Squeak and Rattle Noise Prediction for Trimmed Door of a Car Using Hybrid Statistical Energy-Finite Element Method Analysis. Journal of acoustical Society of America. 19 (2013).
- Sajjad. Beigmoradi, Hassan Hajabdollahi, Asghar Ramezani. Multi-Objective Aero Acoustic Optimization of Rear End in a Simplified Car Model by Using Hybrid Robust Parameter Design, Artificial Neural Networks and Genetic Algorithm Methods. Computers & Fluids 90 (2014) 123-132.

- Zahra Hajabdollahi, Farzaneh Hajabdollahi, Mahdi Tehrani, Hassan Hajabdollahi. Thermo-economic environmental optimization of Organic Rankine Cycle for diesel waste heat recovery. *Energy* 63 (2013) 142-151.
- Sepehr. Sanaye, Hassan. Hajabdollahi, Thermo-economic optimization of solar CCHP plant using Genetic and Particle swarm Algorithms. *Journal of Solar energy Engineering, ASME* 6 (2014) 430-442.
- Ehsan Khorasaninejad, Hassan Hajabdollahi, Thermo-Economic and Environmental Optimization of Solar assisted Heat Pump Plant by using Multi-Objective Particle Swarm Algorithm, *Energy*, 72 (2014) 680-690.
- Hamid Mokhtari, Alireza Esmaili, Hassan Hajabdollahi, Thermo-economic Analysis and Multi-objective Optimization of Dual Pressure Combined Cycle Power Plant with Supplementary Firing, *Heat Transfer*, 64 (2014), 112-128.
- Sepehr Sanaye, Hassan Hajabdollahi, Comparison of different scenarios in optimal design of a CCHP plant, *IMEchE, Part E: Journal of Process Mechanical Engineering*, 230 (2014) 247-262
- Hassan Hajabdollahi, Abdolsaeid. Ganjehkaviri, M.N. Mohd Jaafar, Assessment of New Operational Strategy in Optimization of CCHP Plant for Different Climates using Evolutionary Algorithms, *Applied Thermal Engineering*, 75 (2015) 468-480.
- Rihanna Khosravi, Abbas Khosravi, Saeid Nahavandi, Hassan Hajabdollahi, Effectiveness of evolutionary algorithms for optimization of heat exchangers, *Energy Conversion and Management*, 89, (2015), 281-288
- Hassan Hajabdollahi, Najmeh Pourgholamali, Investigating the Optimum Operational Strategy of Energy Storage Tank by Using Particle Swarm Algorithm, *Heat Transfer-Asian Research*, 7, (2016): 648-660.
- Hassan Hajabdollahi. Investigating the effect of non-similar fins in thermoeconomic optimization of plate fin heat exchanger. *Applied Thermal Engineering* 82 (2015): 152-161.
- Hassan. Hajabdollahi, Farzaneh. Hajabdollahi, Zahra. Hajabdollahi, Soft Computing based optimization of cogeneration plant with different load demands, *Heat Transfer-Asian Research* 6 (2016), 556-577.
- Sajjad Seifoori, Hassan Hajabdollahi, Impact behavior of single-layered graphene sheets based on analytical model and molecular dynamics simulation, *Applied Surface Science*, 351, (2015) 565-572.
- Hassan Hajabdollahi. Investigating the Effects of Load Demands on Selection of Optimum CCHP-ORC Plant. *Applied Thermal Engineering*, 87, (2015) 547-558.
- Hassan Hajabdollahi, Abdolsaeid Ganjehkaviri, Mohammad Nazri Mohd Jaafar, Thermo-economic optimization of RSORC (regenerative solar organic Rankine cycle) considering hourly analysis. *Energy*, 87, (2015) 369-380.
- Hassan Hajabdollahi. Assessment of an Optimal Combined Heat Pump and Trigenation System. *Energy Technology*, 3, (2015), 1026-1037.
- Hassan Hajabdollahi, Zahra Hajabdollahi. "Economic feasibility of trigeneration plants for various prime movers and triple load demands." *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering* 3 (2017): 371-382.
- Hassan Hajabdollahi, Najmeh Pourgholamali. "4E Multi-objective Optimization of Cogeneration Plant with Details Modeling of Recuperator." *Heat Transfer Asian Research* 8 (2016) 773-794.
- Hassan Hajabdollahi. Evaluation of cooling and thermal energy storage tanks in optimization of multi-generation system. *Journal of Energy Storage* 4, 1-13 (2015).
- Hassan Hajabdollahi, Mehdi Naderi, Sima Adimi, A comparative study on the shell & tube and gasket-plate heat exchangers: The economic viewpoint. *Applied Thermal Engineering*, 92, (2016) 271-282.

- Ehsan Khorasaninejad, Abdolvahab Fetanat, Hassan Hajabdollahi. Prime mover selection in thermal power plant integrated with organic Rankine cycle for waste heat recovery using a novel multi criteria decision making approach. *Applied Thermal Engineering*, 102, (2016) 1262-1279.
- Hassan Hajabdollahi, Zahra Hajabdollahi. Assessment of Nanoparticles in Thermoeconomic Improvement of Shell and Tube Heat Exchanger. *Applied Thermal Engineering*, 106, (2016) 827-837.
- Hassan Hajabdollahi, Sajjad Seifoori. Effect of flow maldistribution on the optimal design of a cross flow heat exchanger. *International Journal of Thermal Sciences*, 109, (2016) 242-252.
- Hassan Hajabdollahi, Zahra Hajabdollahi. Investigating the effect of properties variation in optimum design of compact heat exchanger using segmented method. *Chemical Engineering Research and Design*. 112, (2016) 46-55.
- Hassan Hajabdollahi, Zahra Hajabdollahi. Investigating the effect of nanoparticle on thermo-economic optimization of fin and tube heat exchanger. *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*. 6 (2017) 1127-1140.
- Zahra Hajabdollahi, Hassan Hajabdollahi. "Thermo-economic modeling and multi-objective optimization of solar water heater using flat plate collectors." *Solar Energy* 155 (2017): 191-202.
- Mohsen Mirzaei, Hassan Hajabdollahi, Hadi Fadakar. "Multi-objective optimization of shell-and-tube heat exchanger by constructal theory." *Applied Thermal Engineering* 125 (2017): 9-19.
- Hassan Hajabdollahi, Zahra Hajabdollahi. "Numerical Study on Impact Behavior of Nanoparticle Shapes on the Performance Improvement of Shell and Tube Heat Exchanger." *Chemical Engineering Research and Design* (2017).
- Hassan Hajabdollahi, Comparison of stationary and rotary matrix heat exchangers using teaching-learning-based optimization algorithm, *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*. 4 (2018) 493-502.
- Zahra Hajabdollahi, Hassan Hajabdollahi, Pei Fang Fu, The effect of using different types of nanoparticles on optimal design of fin and tube heat exchanger, *Chemical Engineering Research and Design* 6 (2017) 905-918.
- Zahra Hajabdollahi, Hassan Hajabdollahi, Pei Fang Fu, Improving the rate of heat transfer and material in the extended surface using multi-objective constructal optimization, *International Journal of Heat and Mass Transfer* 115 (2017) 589-596
- Hassan Hajabdollahi, Alireza Esmaili, Selection of the optimum prime mover and the working fluid in a regenerative organic rankine cycle, *Energy Equipment and Systems* 5 (2017), 325-339
- Zahra Hajabdollahi, Majid. S. Dehnavi, Hassan Hajabdollahi, Optimization of Solar Absorption Cooling System Considering Hourly Analysis, *Journal of Renewable Energy and Environment* 4 (2017), 11-19.
- Hajabdollahi, Zahra, Hassan Hajabdollahi, and Kyung Chun Kim. "Estimating the non-uniform air velocity distribution for the optimal design of a heat exchanger." *Applied Thermal Engineering* 153 (2019): 704-714.
- Hamid Maleki, Jalal Alsarraf, Abbas Moghanizadeh, Hassan Hajabdollahi, Mohammad Reza Safaei, Heat transfer and nanofluid flow over a porous plate with radiation and slip boundary conditions, *Journal of Central South University* 26 (5), 1099-1115
- Hassan Hajabdollahi, Babak Masoumpour, Multi-objective Optimization of Multi-tube Heat Exchanger Network Considering the Effect of Different Nanoparticles, *Modares Mechanical Engineering* 19 (6), 1507-1518
- Zahra Hajabdollahi, Hassan Hajabdollahi, Kyung Chun Kim, Multi-objective optimization of solar collector using water-based nanofluids with different types of nanoparticles, *Journal of Thermal Analysis and Calorimetry*, (2019), 1-12
- Hassan Hajabdollahi, Multi-objective optimization of plate fin heat exchanger using constructal theory, *International Communications in Heat and Mass Transfer* 108, (2019) 104283

- Zahra Hajabdollahi, Hassan Hajabdollahi, and Kyung Chun Kim. "Heat transfer enhancement and optimization of a tube fitted with twisted tape in a fin-and-tube heat exchanger." *Journal of Thermal Analysis and Calorimetry* (2019): 1-13.
- Hassan Hajabdollahi, Masoud Salarmofrad, Sajjad Shamsi, and Mohsen Rezaeian. "Numerical study of heat transfer and friction factor in a tube with groove and rib on the wall." *Heat Transfer* 49, no. 3 (2020): 1214-1236.
- Seyyed Alireza Mostafavi, Hassan Hajabdollahi. "Investigating the effect of high pressure heater elimination on power generation of Shazand power plant." *International Journal of Energy and Water Resources* (2020): 1-14.
- Hassan Hajabdollahi, Mohammad Shafiey Dehaj. "Rotary regenerator: Constructal thermo-economic optimization." *Journal of the Taiwan Institute of Chemical Engineers* 113 (2020): 231-240.
- Hassan Hajabdollahi, Babak Masoumpour, Mohammad Ataeizadeh. "Thermo-economic analysis and multiobjective optimization of tubular heat exchanger network using different shapes of nanoparticles." *Heat Transfer* (2020) Inpress.
- Ansarinasab, Hojat, Hassan Hajabdollahi. "Multi-objective optimization of a geothermal-based multigeneration system for heating, power and purified water production purpose using evolutionary algorithm." *Energy Conversion and Management* 223 (2020): 113476.

#### Conference Presentations (Selected)

- Hadi Karrabi, Hassan Hajabdollahi, Thermodynamic modeling and Multi-Objective exergetic Optimization of combined Heat and Power System using evolutionary algorithm, Proceedings of ASME International Mechanical Engineering Congress & Exhibition IMECE 2010.
- Sepehr Sanaye, Hassan Hajabdollahi, Design and optimization of air-air compact heat exchanger, 16th International Conference in mechanical engineering, Kerman, 2009.
- Sepehr Sanaye, Hassan Hajabdollahi, Design and multi-objective optimization of rotary regenerator, 16th International Conference in mechanical engineering, Kerman, 2009.
- Sepehr Sanaye, Hassan Hajabdollahi, Thermo-economic optimization of compact heat exchanger and determination of optimum parameters using artificial neural network, 17th International Conference in mechanical engineering, Tehran, 2010.
- Zahra Hajabdollahi, Hassan Hajabdollahi, Optimization of extended surface using genetic algorithm and artificial neural network. 18th International Conference in mechanical engineering, Tehran, 2011.
- Sepehr Sanaye, Hassan Hajabdollahi, Second law based optimization of regenerator heat exchanger using Particle Swarm Optimization. 18th International Conference in mechanical engineering, Tehran, 2011.
- Zahra Hajabdollahi, Farzaneh Hajabdollahi, Hassan Hajabdollahi, Particle Swarm Optimization of shell and tube condenser based economic analysis. National Conference in mechanical engineering, Mashhad, 2010.
- Zahra Hajabdollahi, Farzaneh Hajabdollahi, Hassan Hajabdollahi, Thermo-economic Optimization of Heat pump using Genetic Algorithm. National Conference in mechanical engineering, Mashhad, 2010.
- Zahra Hajabdollahi, Farzaneh Hajabdollahi, Hassan Hajabdollahi, Multi-objective shape Optimization of extended surface based Genetic Algorithm. National Conference in mechanical engineering, Mashhad, 2010.
- Hassan Hajabdollahi, Majid Tehmorsi, Estimation of natural gas consumption in residential section of Kerman using Artificial Neural Network. 1st National Conference in renewable energy, Kerman, 2011.

- Sajjad Beigmoradi, Asghar Ramezani, Hassan Hajabdollahi, Rattle Noise Source Prediction for Instrument Panel of a Car Using Hybrid SEA-FEM Analysis. 20th International Congress on Sound and Vibration, July, 2013.
- Sajjad Beigmoradi, Asghar Ramezani, Hassan Hajabdollahi, Panel Contribution Analysis for a Sedan Car Using Numerical Simulations. 20th International Congress on Sound and Vibration, July, 2013.
- Majid Tehmorsi, Yaser Hamidi, Hassan Hajabdollahi, Improvement of energy consumption in the next 20 year. 2st National Conference in Energy Improvement, Kerman, 2012.
- Majid Tehmorsi, Yaser Hamidi, Hassan Hajabdollahi, Estimation of natural gas consumption in commercial, residential, industrial and power plant sections of Kerman province. 2st National Conference in Energy Improvement, Kerman, 2012.
- Mahdi Naderi, Iraj Mirzaei, Hassan Hajabdollahi, Thermal modeling and comparison of gasket plate with shell and tube heat exchanger in economic viewpoint, 22th International Conference in mechanical engineering, Ahvaz, 2014.
- Hassan Hajabdollahi, Pouria Ahmadi, Zahra Hajabdollahi, Thechno-Economic Optimization of a Hybrid Wind-Photovoltaic-Battery System in Different Iranian Climates using RPGA, International Conference and Exhibition on Solar Energy (ICESE-2015)
- Hassan Hajabdollahi, Alireza Esmaeili, Multi-objective Optimization of ORC cycle with different working fluid. 24th International Conference in mechanical engineering (ISME 2016), Yazd, 2016.
- Hassan Hajabdollahi, Alireza Esmaeili, Modeling and Multi-objective optimization of Compact Heat Exchanger (Optimization of heat exchanger), 24th International Conference in mechanical engineering (ISME 2016), Yazd, 2016.
- Hassan Hajabdollahi, Zahra Hosseini, Economic modeling and optimization of underfloor heating using genetic and PSO algorithms, 24th International Conference in mechanical engineering (ISME 2016), Yazd, 2016.
- Hassan Hajabdollahi, Zahra Hosseini, Multi-objective optimization of steam cycle power plant using NSGA-II, 24th International Conference in mechanical engineering (ISME 2016), Yazd, 2016.
- Ali molaakbari, Hassan Hajabdollahi, Flat plate solar collector optimization considering different covers. 3th International Congress on Mechanical, Electrical and Mechatronic, January, 2016.
- Nader Javani, Hassan Hajabdollahi, Z. Yumurtaci. Multi Objective Optimization Of Underfloor Heating System Based On Particle Swarm Algorithm. International Conference on Energy Systems Istanbul 2015.
- Hassan Hajabdollahi. Investigating the effect of nanofluid on optimal design of solar flat plate collector. 2018 5th International Conference on Renewable Energy: Generation and Applications (ICREGA), 2018/2/25, IEEE

## PROFESSIONAL ACTIVITIES, MEMBERSHIPS AND INTERESTS

### **Reviewership of Journals (40 journals):**

Energy, Applied Energy, Materials & Design, Renewable Energy, Energy and Building, Applied soft computing, Journal of SpringerPlus, Journal of Sientia Iranica, Engineering optimization, Heat Transfer Engineering, Applied Thermal Engineering, Journal of Cleaner Production, Heat Transfer-Asian Research, Journal of Building Engineering, International Journal of Exergy, Alexandria Engineering Journal, Desalination and Water Treatment, Neural Computing and Applications, International Journal of Refrigeration, Energy Conversion and Management, International Journal of Ambient Energy, International Journal of Thermal Science, International Journal of Hydrogen Energy, Thermal Science and Engineering Progress, Chemical Engineering Research and Design, Journal of Thermophysics and Heat Transfer, International Journal of Chemical Engineering, International journal of mechanical engineering,

International Journal of Heat and Mass Transfer, Transport Phenomena in Nano and Micro Scales, International Journal of Greenhouse Gas Control, Journal of Thermal Science, Journal of Engineering and Technological Sciences, Multidiscipline Modeling in Materials and Structures, International Communications in Heat and Mass Transfer, International Journal of Electrical Power & Energy System, Heat transfer-Asian Pacific Journal of Chemical Engineering, International Journal of Engineering Science and Technology, Journal of the Brazilian Society of Mechanical Sciences and Engineering, Aerospace Science and Technology

### **Professional Interests:**

Energy systems (Modeling, design and optimization), Renewable energy, Heat transfer, extended surfaces and heat exchangers (design and optimization), New method for enhancement of heat transfer in thermal systems such as application nanoparticle and turbulators, Power Plant (Gas turbine, Steam cycle, combined cycle), Heat Pumps and refrigeration cycles, Cogeneration plant and combination of different sources of energy such as combined cooling, heating and power generation systems (CHP and CCHP), Thermodynamic cycles such as combination of gas turbine with fuel cell and Organic Rankine cycle, Energy storage technology and its application in thermal improvement of energy systems, Constructal theory (In heat exchangers, heat transfer extended surface and solar collectors), HVAC, Pinch Technology, Soft computing including (DE, GA, RGA, NSGA-II, PSO, MOPSOA, ICA, ANN and Fuzzy logic)

### **Memberships and founder:**

- Founder of Iran energy association (Kerman province branch)
- Head of Iran energy association for two years (2017-2019)
- Scientific chair of a the 6<sup>th</sup> International conference of energy and technology management (<http://cnf.vru.ac.ir/>)
- American Society of Mechanical Engineers (ASME),
- World Society of Sustainable Energy Technology (WSSET)

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## OTHER DETAILS

### **References:**

- **Dr. Mohsen Mirzaei**  
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