

## Morteza Abdolzadeh

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### Research Interests

#### *Energy Efficiency*

- Energy management, optimization, and saving in buildings and industry
- Study of net zero energy buildings
- Study on passive houses and improving their energy efficiency

#### *Solar Energy*

- Study on Photovoltaic systems (PV, CPV, and CPV/T)
- Simulation and performance measurement of solar energy systems
- Improving energy performance of solar heating systems

#### *Indoor Air Quality*

- Airflow and particle motion simulation (CFD simulation) in indoor spaces
- Measurement of air characteristics and particulates in indoor spaces

#### *CFD Simulation for Industrial Applications*

- Simulation of mechanical and chemical devices in thermal and fluid flow aspects (Such as dust collectors, air classifiers, mixing tanks, lime kiln, and flotation cells)
- Problem solving as well as performance improvement of mechanical systems

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### Education

- ***Doctor of Philosophy (PhD), Mechanical Engineering-Energy Conversion, (2006-2011)***  
*Shahid Bahonar University of Kerman, GPA: 18.80*

***Thesis Title:*** Investigation of Particle Deposition and Study of the Effect of Different Factors on Particle Transport on a Sloping Flat Surface in Turbulent Flow

***Thesis Details:*** My doctoral research was numerical simulation of particles deposition over a tilted flat plate. In this research, effect of different parameters on the particle deposition over the inclined plate was investigated. My main concern in my dissertation was development of a mathematical modeling in order to understand and predict the dust deposition on Photovoltaic module's surface.

***Outcome:*** Five Journal Papers, 4-Q1 and 1-Q2.

### **Supervisors:**

Dr Mozaffar Ali Mehrabian, Professor of Mechanical Engineering at Shahid Bahonar University of Kerman  
Dr Lidia Morawska, Professor of Physics and Chemistry, Queensland University of Technology  
(Supervisor in my Ph.D. Sabbatical Leave)

- **Master of Science (M.Sc.), Mechanical Engineering-Energy Conversion, (2004-2006)**

*Shahid Bahonar University of Kerman, GPA:17.1*

**Thesis Title:** Testing of Photovoltaic Water Pumping system in Kerman Province and Investigating the Effect of Water Spray over Solar Panels on the Performance of Photovoltaic Water Pumping system

**Supervisor:** Dr Mehran Ameri, Professor of Mechanical Engineering at Shahid Bahonar University of Kerman

- **Bachelor of Science (B.Sc.), Mechanical Engineering-Heat and Fluids, (1999-2002)**

*Islamic Azad University-Kerman Branch, GPA:17:10*

- **Technician of Automobile Mechanics Technology, 1997-1999**

*Chamran Technology College, Kerman, Iran, GPA:17:40*

### **Position of Responsibility**

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- Associate Professor of Mechanical Engineering-Energy Conversion, Graduate University of Advanced Technology, (2012-now)
- Managing Director of Mechanical Engineering Research and Development Centre, IBKO Group, (2019-now)

### **Academic Experience**

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➤ **Graduate University of Advanced Technology (2012-now)**

- Assistance Professor, Department of Energy Systems Engineering and Energy Conversion, 2012-2016
- Associate Professor, Department of Energy Systems Engineering and Energy Conversion, 2016-now
- Founder and Head of Energy Systems Engineering and Energy Conversion Department, 2020 –now
- Founder and Head of Computational Fluid Dynamic Lab., 2015-now
- Co-Founder and Head of Renewable Energy Lab., 2015-now
- Founder and Head of Indoor Air Quality Lab., 2015-now
- Managing Director of Energy Research Institute, 2016-2018
- Member of University Research Council, 2016-2018
- Member of University Education Council, 2016-2018
- Member of University Management Council, 2016-2018
- Founder and Head of Mechanical Engineering Department, 2012-2015
- Member of International Cooperation Council, 2013-2014
- Member of Green University Council, 2019-2021
- Advisor to Scientific Association of Mechanical Engineering Students, 2013-2016
- Advisor of Kerman Province Science and Technology Park, 2012-now
- Member of University Publishing Council, 2020-now

➤ **Islamic Azad University, Kerman Branch (2007-2012)**

- Full-time Faculty Member of Department of Mechanical Engineering, Lecturer and Assistance professor, 2007-2012
- Head of Equipment and Development Unit of Workshops and Laboratories of the Faculty of Engineering, 2009-2010 (*Set-up and operation of the first subsonic wind tunnel in south-east of Iran*)
- Member of the Research Council of Faculty of Engineering, 2009-2010

➤ **Researcher at International Laboratory for Air Quality and Health, Queensland University of Technology, Australia, (2010-2011)**

➤ **Honorary Member of Occupational Health Engineering Department of Kerman University of Medical Sciences, (2012-2017)**

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### Professional Experience

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- CEO at Paya Sanat Pak Farayand Hezar Company, 2014-now, <http://paspafco.ir/>
- Building Mechanical Installation Engineer, Supervision and Design, Kerman Province Building Engineering Organisation, 2010-now, <http://kermanceo.ir/>
- Technical consultant at IBKO Group, 2016-now
- Technical consultant at Khan Khatoon Zinc Mining and Processing Plant, 2016-now
- Co-Founder and Managing Director of Mechanical Engineering Research and Development Centre, IBKO Group, 2019-now
- Head of Renewable Energy Task Force of Kerman Chamber of Commerce, 2013-2014, <http://www.otagh-bazargani.com>
- Consultant and designer of "Replacement of Low-Efficiency Agricultural Water Pumps with High-Efficiency Floating Electro-Pumps" project, Mahtab Gostar Karmania Company, 2015-2016, [www.karmaniaco.com](http://www.karmaniaco.com)
- Industrial ventilation consultant of Kerman rubber factory, 2017-2018, <https://www.barez.com/>
- Industrial ventilation consultant of coke production and tar refining plants of Zarand, 2016-2017, <http://zisco.midhco.com/fa/page/coke.html>
- Invited member of research committee of Kerman gas company, 2015-2017
- Consultant of energy and industrial ventilation in Kerman Cement Plant, 2016-2017
- Energy consultant of Graduate University of Advanced Technology, 2017-2020, [www.kgut.ac.ir](http://www.kgut.ac.ir)
- Mechanical engineer at Zarand passenger coach manufacturing factories, Body shell, HVAC and QC expert, 2003-2006, <http://www.gpig-co.com/>
- Visiting mechanical engineer at ASTRA passenger coach manufacturing factory, Arad, Romania, 2003-2004, <https://avcactive.com/en/home>
- Visiting mechanical engineer at Raja travel company-maintenance and renovation department, Tehran, spring and summer of 2004, <https://www.raja.ir/>

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### International Collaboration

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1. Dr Lidia Morawska, Professor, Queensland University of Technology, Australia, 2010-2012, (Sabbatical leave (2010-2011))  
*Collaboration in studying the effect of suburb particle pollution on Photovoltaic module power, Air quality in buildings, deposition of charged aerosol particles in lunge, and investigation of air quality at Brisbane State High School–An UPTECH side project*

2. Dr. Reza Arababadi, AFRY Company's Solar Systems Consultant, Sweden, 2018-now, (Co-supervisor of my M. Sc student)  
*Collaboration in studying energy management and optimization of residential buildings*
3. Dr. Amin Moazami, Associate Professor, Norwegian University of Science and Technology, Norway, 2019-now, (Co-supervisor of my M. Sc student)  
*Collaboration in studying building energy management to charge electrical vehicles*
4. Dr. Sasan Sadrizadeh, Professor, KTH University of Sweden, 2019-now, (Co-supervisor of my M. Sc student)  
*Collaboration in studying cost-effective and easy implement ventilation solution for hospital isolation rooms*
5. Dr Stepan Nosek, Associate professor, Czech Republic, 2021-now, (Advisor of my M. Sc student)  
*Collaboration in simulating indoor air quality and gas-particle flow*

### **Awards and Honors**

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- Top technologist, The Top Technologists and Researchers Festival in Kerman-Iran, 2021
- Top researcher, Kerman Graduate University of Advanced Technology, 2017
- Top researcher, Islamic Azad University of Kerman, 2011
- Top researcher in the region 7 of Islamic Azad University (Yazd and Kerman Provinces), 2011
- Top principal investigator for research projects in the region 7 of Islamic Azad University, 2011
- Selected team for the construction and implementation of the first national remote-control submarine competition (supervising professor), 2010
- Selected as top team of the detailed design stage at the first national remote-control submarine competition (supervising professor), 2009
- The best paper award at the 7<sup>th</sup> International Conference on Renewable Energy (SET 2007), South Korea, 2007
- Selected paper at the 22<sup>nd</sup> International Conference on Electrical Engineering of Iran, 2014
- Second place in the country in the twelfth scientific Olympiad of technical colleges across the country in the field of automobile, 1999
- Obtaining an excellent grade from the Ph.D dissertation evaluation (*19.90 out of 20-External opponent: Professor Mohammad Saeed Saeedi, Sharif University of Technology*)
- Admission score of Isfahan University of Technology, Ferdowsi University of Mashhad, Tehran's Khajeh Nasir al-Din Tusi University, and Shiraz University in the master's degree exam (tuition free) in the major of energy conversion, 2004
- First rank in the entrance exam of Islamic Azad University in the undergraduate level, 1999
- First rank among undergraduate graduates, 2002
- Second rank in the PhD exam in 2006
- First rank among PhD graduates in 2011

### **Teaching Experience**

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- ***Courses Taught at Graduate University of Advanced Technology, 2012-Present***  
Advanced Thermodynamics  
Advanced Fluid Mechanics  
Advanced Convection Heat Transfer  
Gas and Particle Flow

Exergy Flow Optimization  
Energy and Environment  
Thermo-Fluid  
Green Buildings  
Methods of Air Pollution Control  
Industrial Ventilation

- ***Courses Taught at Islamic Azad University- Kerman Branch-Full Time Lecturer-2007-2012***

Fluid Mechanics (I and II)  
Thermodynamics (I and II)  
Advanced Thermodynamics  
Heat Transfer (I and II)  
Technical English Language

- ***Courses Taught at Kerman Medicine Science University-Guest Lecturer-2012-2017***

Industrial Ventilation  
Simulation in Engineering  
Gas and Particle Flow  
Air Pollution Control Method

## **Research publications**

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### **Journal Papers:**

1. Morteza Abdolzadeh, Saeed Jafari, Mohammad Rahnama & Mehran Ameri, 2008, Determining the Optimal Angle of Fixed Solar Panels to Receive the Most Radiant Energy in Kerman, International Journal of Engineering Sciences of Iran University of Science and Technology,
2. M. Abdolzadeh, M. Ameri, 2009, Improving the Effectiveness of a Photovoltaic Water Pumping System by spraying Water over the Photovoltaic Cells front, Renewable Energy (Q1), 34,1-5, <https://doi.org/10.1016/j.renene.2008.03.024>
3. M. Abdolzadeh, M. Ameri, M. A. Mehrabian, 2009, Effects of operating head on the performance of PV water pumping system- An experimental investigation, Proc. ImechE Vol. 223 Part A: Journal of Power and Energy, <https://doi.org/10.1243/09576509JPE693>
4. M. Abdolzadeh, M.A. Mehrabian, A. Soltani, 2011, Numerical Study to Predict the Particle Deposition under the Influence of Operating Forces on a Tilted Surface in the Turbulent Flow, Advanced Powder Technology (Q1), 22(3),405-415, <https://doi.org/10.1016/j.appt.2010.06.005>
5. M. Abdolzadeh, M.A. Mehrabian, G. Zahedi, A. Soltani Goharrizi, 2011, Effect of thermophoresis and other parameters on the particle deposition on a tilted surface, International Journal of Heat and Fluid Flow (Q1), 32)3(, 670-679, <https://doi.org/10.1016/j.ijheatfluidflow.2011.02.005>
6. M. Abdolzadeh, M.A. Mehrabian, A. Akbarinia, 2011, Application of a modified Eulerian model to study the particle deposition on a vertical surface in turbulent flow, Powder Technology (Q1), 214(1), 25, 83-88, <https://doi.org/10.1016/j.powtec.2011.07.039>
7. M. Abdolzadeh, M.A. Mehrabian, 2011, Combined effect of thermophoretic force and other influencing parameters on the particle deposition rate on a tilted rough surface, International Journal of Thermal Sciences (Q1), 50(6),954-964, <https://doi.org/10.1016/j.ijthermalsci.2011.01.013>
8. Akbarinia, M. Abdolzadeh, R. Laur, 2011, Critical investigation of heat transfer enhancement using nanofluids in microchannels with slip and non-slip flow regimes, Applied Thermal Engineering (Q1), 31(4), 556-565, <https://doi.org/10.1016/j.applthermaleng.2010.10.017>

9. P. Talebizadeh, M.A. Mehrabian, M. Abdolzadeh, 2011, Prediction of the optimum slope and surface azimuth angles using the Genetic Algorithm, *Energy and Buildings* (**Q1**), 43(11),2998-3005, <https://doi.org/10.1016/j.enbuild.2011.07.013>
10. M. Abdolzadeh, M.A. Mehrabian, A. Soltani, 2011, Predicting the Particle Deposition Characteristics Using a Modified Eulerian Method on a Tilted Surface in the Turbulent Flow, *Particulate Science and Technology*, 29(6), 503-525, <https://doi.org/10.1080/02726351.2010.524975>,
11. M. Abdolzadeh, M. Ameri, M.A. Mehrabian, 2011, Effects of Water spray over the Photovoltaic Modules on the Performance of Photovoltaic Water Pumping system under Different Operating Conditions, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 33(16), 1546-1555, <https://doi.org/10.1080/15567036.2010.499416>
12. M. Abdolzadeh, M.A. Mehrabian, 2011, Obtaining Maximum Input Heat Gain on a Solar Collector under Optimum Slope Angle, *International Journal of Sustainable Energy*, 30(6), 353-366, <https://doi.org/10.1080/1478646X.2010.515743>
13. M. Abdolzadeh, M.A. Mehrabian, 2011, Heat Gain of a Solar Collector under Optimum Slope Angle in Kerman–Iran, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* , 33(14), 1375-1385, <https://doi.org/10.1080/15567036.2010.499417>
14. H. Salavatipour, M. Abdolzadeh, H. Beheshti and M. Rahnama, 2011, Solar Energy Enhancement of a Solar Collector by the Optimum Slope Angle in Isfahan-Central Region of Iran, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects (Taylor and Francis)*,33(17), 1625-1635, <https://doi.org/10.1080/15567036.2010.521799>
15. P. Talebizadeh, M.A. Mehrabian and M. Abdolzadeh, 2011, Determination of optimum slope angles of solar collectors based on new correlations, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effect*, 33(17), 1567-1580, <https://doi.org/10.1080/15567036.2010.551253>
16. M. Abdolzadeh, M.A. Mehrabian, 2011, Optimal Slope Angle for Solar Collectors in Hot and Dry Part of Iran, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* , 34(6),519-530, <https://doi.org/10.1080/15567036.2011.576413>
17. S. A. Keshavarz, P. Talebizadeh, S. Adalatia, M. A. Mehrabian, M. Abdolzadeh, 2012, Optimal Slope-Angles to Determine Maximum Solar Energy Gain for Solar Collectors Used in Iran, *International Journal of Renewable Energy Research(IJRER)*, 2(4), 665-673 <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.967.135&rep=rep1&type=pdf>
18. P. Talebizadeh, M.A. Mehrabian & M. Abdolzadeh, 2012, Determining the Optimal Slope Angle and Inclination of the Surface of Solar Collectors in Southeast Areas of Iran, *Sharif Journal of Mechanical Engineering*, 3-28, No. 1, pp. 77-86, [http://sjme.journals.sharif.edu/article\\_6209.html?lang=en](http://sjme.journals.sharif.edu/article_6209.html?lang=en)
19. E. Roohollahi, M.A. Mehrabian, M. Abdolzadeh, 2013, Prediction of Solar energy gain on 3-D geometries, *Energy and Building* (**Q1**), 62,315-322, <https://doi.org/10.1016/j.enbuild.2013.03.008>
20. P. Talebizadeh, M.A. Mehrabian and M. Abdolzadeh, 2013. Effect of solar angle on the solar incident energy, *Energy engineering Management*, 2(4).12-23, <https://iranjournals.nlai.ir/handle/123456789/650268>
21. A. Arabsolghar, M. Abdolzadeh, 2013, Thermochemical simulation of flash smelting furnace, *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*, 229 (1),11-24, <https://doi.org/10.1177/0954408913502168>
22. E. Roohollahi, M. Abdolzadeh, MA Mehrabian, 2014, Prediction of the Power of Photovoltaic Cells Fixed On the Roof of a Moving Passenger Coach- A Case Study, *Proceedings of the Institution of Mechanical Engineers, Part F, Journal of Rail and Rapid Transit (ImechE)*, 2014, 229 (7) <https://doi.org/10.1177/0954409714524749>

23. M.Abdolzadeh, M.A. Mehrabian, M.Abdolzadeh, 2013, Prediction of Particle Deposition Using a Sim, plified Particle Model in Fully Developed Channel Flow, International Journal of Chemical Engineering, 2015,202(3), 294-302, <https://doi.org/10.1080/00986445.2013.841147>
24. A.Arabsofghar, F. P. Brito,Morteza Abdolzadeh,Ali Farajpour, Numerical Study of twin groove journal bearings performance under steady state condition, Lubrication Science, 2015, 27 (2), 83-102, <https://doi.org/10.1002/ls.1257>
25. H. Porgaribshahi, M. Abdolzadeh, R. Fadaienejad, 2015, Verification of computational optimum tilt angle using an experimental photovoltaic system, Environment progress and sustainable energy, 34(5),1154-1165, <https://doi.org/10.1002/ep.12066>
26. M. Abdolzadeh, A. Khoshabi, M. Mehrabian, 2015, Thermal Analysis of an Electric Power Transformer inside an Enclosure-A Case Study, International Journal of Ambient Energy, 2015, 38 (3), 250-258, <https://doi.org/10.1080/01430750.2015.1086678>
27. Z. Abdolzadeh, M. Abdolzadeh, R. Fadaeinejad, Optimum slope angles and the corresponding uncertainties for a solar collector, International Journal of Ambient Energy, 2016, 37 (1), 46-54, <https://doi.org/10.1080/01430750.2013.874371>
28. A Rouholamini, H Pourgharibshahi, R Fadaeinedjad, M Abdolzadeh, 2016, Temperature of a photovoltaic module under influence of different environmental conditions-experimental investigation, International Journal of Ambient Energy, 37 (3), 266-272, <https://doi.org/10.1080/01430750.2014.952842>
29. T. Zarei, M. Abdolzadeh, Optical and Thermal Simulations of a Photovoltaic Module with and without Sun Tracker, Journal of solar energy engineering, 2016, 138 (1), <https://doi.org/10.1115/1.4031684>
30. T. Zarei, M. Abdolzadeh, Optical and thermal modelling of a tilted Photovoltaic module with sand particles settled on its front surface, Energy(Q1), 2016, 95,51-66, 95, 51-66, <https://doi.org/10.1016/j.energy.2015.11.045>
31. A. Partoa, M. Abdolzadeh, M. Rezaeizadeh, 2016, Effect of fin attachment on thermal stress reduction of exhaust manifold of an Off-road diesel Engine, Journal of central south University, 2017,24(3), 546-559, <https://doi.org/10.1007/s11771-017-3457-1>
32. M. Abdolzadeh, S. Sargaziziadeh, M. Dehghan, 2016, Quantitative and qualitative energy assessments of floor and skirting board heating systems in a room, Journal of Energy Engineering, 2017, 143 (1), 04016032, [https://doi.org/10.1061/\(ASCE\)EY.1943-7897.0000385](https://doi.org/10.1061/(ASCE)EY.1943-7897.0000385)
33. Tahmasebi, Lari & Abdolzadeh, Thermal Analysis of a Greenhouse Considering the Incoming Sunlight, Modares Journal of Mechanical Engineering, October 2016, No. 13, [https://mme.modares.ac.ir/files/mme/user\\_files\\_749497/archive\\_global-A-10-1000-9068\\_bd05c60.pdf](https://mme.modares.ac.ir/files/mme/user_files_749497/archive_global-A-10-1000-9068_bd05c60.pdf)
34. M. Ansari, M. Abdolzadeh, S. Sargazizideh. 2016, Computational modelling of particle transport and distribution emitted from a Laser jet printer in a ventilated room with different ventilation configurations, 2017, Applied Thermal Engineering (Q1), 103, 920-933, <https://doi.org/10.1016/j.applthermaleng.2016.04.137>
35. M. Abdolzadeh, T. Zarei, Optical and Thermal Modelling of a Photovoltaic Module and Experimental Evaluation of the Modeling Performance, Environmental Progress & Sustainable Energy, 36 (1), 277-293, <https://doi.org/10.1002/ep.12493>
36. F. Jamadi, M. J. Arabpour, M. Abdolzadeh. (2017). Performance comparison of parabolic and flat plate solar collectors utilizing in the heating system of a room-An Experimental Investigation International Journal of Renewable Energy Research (IJRER), 7(4), 1836-1849, <https://www.ijrer.org/ijrer/index.php/ijrer/article/view/6277>

37. M. Aliahmadipour, M. Abdolzadeh, K.Lari, (2017), Air flow simulation of HVAC system in compartment of a passenger coach, Applied Thermal Engineering (Q1), 123, 973-990 <https://doi.org/10.1016/j.applthermaleng.2017.05.086>
38. A. Nasiri, & M. Abdolzadeh, Effect of baffle arrangement and inlet air velocity on particulate removal efficiency of a gravitational settling chamber in a coke making plant. International Journal of Coal Preparation and Utilization, (2017) 39 (7), 347-372, <http://dx.doi.org/10.1080/19392699.2017.1333114>
39. H. Heydarabadi, M. Abdolzadeh, &K. Lari, (2017). Simulation of Airflow and Particle Deposition Settled over a Tilted Photovoltaic Module. Energy(Q1), 139, 1016-1029, <https://doi.org/10.1016/j.energy.2017.08.023>
40. M. H. Dehghan, M. Abdolzaeh, Comparison study on air flow and particle dispersion in a typical room with floor, skirt boarding, and radiator heating systems, Building and Environment (Q1), 2018, 133, 161-177, <https://doi.org/10.1016/j.buildenv.2018.02.018>
41. NM Hashemi, M Abdolzadeh, M Rahnama, 2019. Techno-economic analysis of applying linear parabolic and flat plate solar collectors for heating a building and their comparative evaluation, Environmental Progress & Sustainable Energy 38 (4), <https://doi.org/10.1002/ep.13121>
42. M Abdolzadeh, E Alimolaei, M Pustelnik, 2019. Numerical simulation of airflow and particle distributions with floor circular swirl diffuser for underfloor air distribution system in an office environment, Environmental Science and Pollution Research 26, 24552-24569, <https://doi.org/10.1007/s11356-019-05651-8>
43. M Abdolzadeh, R Nikkhah, 2019. Experimental study of dust deposition settled over tilted PV modules fixed in different directions in the South-East of Iran, Environmental Science and Pollution Research, 26, pages31478–31490, <https://doi.org/10.1007/s11356-019-06246-z>
44. S. Amiri, E. Jahanshahi, M. Abdolzadeh, Energy and economic analysis of photovoltaic, concentrating photovoltaic, and combined concentrating photovoltaic/thermal-organic Rankine cycle power plants in Iran Environmental Progress & Sustainable Energy, 2021, Accepted for publication, <https://doi.org/10.1002/ep.13763>
45. T Zarei, M Abdolzadeh, M Soltani, C Aghanajafi, Computational investigation of dust settlement effect on power generation of three solar tracking photovoltaic modules using a modified angular losses coefficient, 2021, Solar Energy, 29, 269-289, <https://doi.org/10.1016/j.solener.2021.04.059>
46. S. Amiri, E. Jahanshahi, M. Abdolzadeh & S. Sadeghi, Technical-Economic Comparison of Photovoltaic Monocrystalline and Concentrator Power Plants in Kerman Province, Journal of Mechanical Engineering of Modares University, June 2020, Volume 20, No. 6, Pages 1511-1523, <https://mme.modares.ac.ir/article-15-27092-en.html>
47. T. Zarei, M. Abdolzadeh, M. Yaqoubi, comparing the impact of climate on dust accumulation and power generation of PV modules, Energy for Sustainable Developments (Q1), 2022, 66,238-270
48. A.Miri, A.Heydari, A.Davtalab, S. Nozek, M.Abdolzadeh, In-situ measurements of indoor dust deposition in sistan region-the effect of wind-catcher design, Building and Environment (Q1), Under review (*Revision submitted*)

#### Conference Papers:

1. Abdolzadeh, Ameri & Hassan Zaeem, Effects of Photovoltaic Panel Arrangement on the Performance of Photovoltaic Water Pump System, International Conference on Mechanical Engineering, May 2007, Tehran



2. Abdolzadeh, Ameri & Hassan Zaeem, The Effect of Water Spraying on Photovoltaic Panels on the Performance of Photovoltaic Water Pump System , National Energy Conference, June 2007, Tehran
3. Abdolzadeh & Ameri, Following Effects of Maximum Power on the Performance of Photovoltaic Water Pump System , National Energy Conference, June 2007, Tehran
4. Abdolzadeh & Ameri, Experimental study of the Performance of Photovoltaic Water Pump System in Kerman Province, The 16th International Conference on Mechanical Engineering, May 2008, Kerman
5. Abdolzadeh & Ameri, The Effect of Water Spraying on Photovoltaic Panels on the Performance of Photovoltaic Panels, The 16th International Conference on Mechanical Engineering, May 2008, Kerman
6. Salavati, Salari, Abdolzadeh & Rahnama, Determining the Optimal Angles of Solar Panels to Receive the Most Radiant Energy in Kerman Province, the 16th International Conference on Mechanical Engineering, May 2008, Kerman
7. Abdolzadeh, Rahnama & Fadeinejad, Determining the Optimal Slope Angle and Direction of Surface Side of Solar Collectors in Kerman Province, The First Conference on Renewable Energies and Distributed Generation of Iran, Birjand, March 2010
8. Zare, Mehrabian & Abdolzadeh, A Study and Analysis of Effective Factors in Thermal Efficiency of Solar Central Receiver with Molten Salt with Variable Heat Fluxes in Climatic Conditions of Kerman Province, The First Conference of Renewable Energies and Distributed Generation of Iran, Birjand, March 2010
9. Talebizadeh, Dadkhah, Mehrabian & Abdolzadeh, Determining Characteristic Angles and the Study of the Cosine Effect in a Heliostat Field at a Central Receiving Power Plant, The 19th International Conference on Mechanical Engineering, Birjand, May 2011
10. Zeinab Abdolzadeh, Ruhollah Fadaeinejad, Morteza Abdolzadeh & Amin Rouh Al-Amini, Receiving Maximum Radiant Energy for Solar Collectors in Different Areas of Iran, The 2nd Conference on Renewable Energies and Distributed Generation of Iran, Tehran, March 2012
11. Amin Rouh Al-Amini, Zeinab Abdolzadeh, Ruhollah Fadeinejad & Morteza Abdolzadeh, A Study of Dust and Single-Axis Tracker on the Production Capacity of Photovoltaic Panels in Mahan, Kerman, The 2nd Conference on Renewable Energies and Distributed Generation of Iran, Tehran, March 2012
12. Zeinab Abdolzadeh, Ruhollah Fadeinejad & Morteza Abdolzadeh, The Impact of Electricity Tariffs on Optimal Output Energy Efficiency of Photovoltaic Panels in Mian Deh, Jiroft- Kerman, The 2nd Regional Conference on Electricity Distribution, Tehran, January 2013
13. Rohollahi, Mehrabian & Abdolzadeh, Predicting Solar Energy Received by a Half Cylinder, The 2nd Conference on Clean Energy, Kerman, July 2012
14. Talebizadeh, Mehrabian & Abdolzadeh, Thermal Power Prediction of a Central Receiving Power Plant, The 2nd Conference on Clean Energy, Kerman, July 2012
15. Keshavarz, Talebian, Edalati, Mehrabian & Abdolzadeh, Atlas of Maximum Solar Energy Receipt in Optimal Solar Collector Angles for Iran, The 2nd Conference on Clean Energy, Kerman, July 2012
16. Kheshabi, Mehrabian & Abdolzadeh, A Study of Heat Transfer in a Single Compact Chamber, The 1<sup>st</sup> Conference on Heat and Mass Transfer of Iran, Zahedan, September 2012
17. Rohollahi, Mehrabian & Abdolzadeh, Prediction of Solar Energy Received by Different 3D Geometries, The 1<sup>st</sup> Conference on Heat and Mass Transfer of Iran, Zahedan, September 2012

18. Nazari & Abdolzadeh, Determining the Optimal Thickness of Polyurethane Thermal Insulation for Residential Buildings in Lorestan Province, The 1<sup>st</sup> Conference on Mechanical Engineering, Lorestan, October 2012
19. Rohollahi, Mehrabian & Abdolzadeh, Output Energy Prediction Installed on the Roof of a Moving Passenger Wagon, The 3<sup>rd</sup> International Conference on Recent Advances In Railway Engineering, Tehran, May 2013
20. Rohollahi, Mehrabian & Abdolzadeh, A Study of the Amount of Solar Energy and Photovoltaic Panels Installed on Different Three-Dimensional Geometries, The 21<sup>st</sup> Annual International Conference on Mechanical Engineering of Iran, Tehran, May 2013
21. •Amin Rouh Al-Amini, Hamed Poorgharibshahi, Ruhollah Fadeinejad & Morteza Abdolzadeh, Determining the Optimal Slope Angle of Photovoltaic Plates Using a Computational Model and Comparison with Experimental Data, The 3<sup>rd</sup> Conference on Renewable Energies, Isfahan, May 2013
22. Hamed Poorgharibshahi, Amin Rouh Al-Amini, Ruhollah Fadeinejad & Morteza Abdolzadeh, Determining the Optimal Slope Angle of Photovoltaic Panels of Network-Independent System in Kerman Region in an Experimental Manner, The 22<sup>nd</sup> International Conference on Mechanical Engineering of Iran, Ahvaz, May 2014
23. Hamed Poorgharibshahi, Ruhollah Fadeinejad & Morteza Abdolzadeh, Determining the Optimal Slope Angle of Photovoltaic Panels in Kerman Region Using Laboratory System and Computational Model, The 22<sup>nd</sup> International Conference on Electrical Engineering, Shahid Beheshti University of Tehran, Tehran, May 2014 (Best Paper Award)
24. Akhovati, Namjoo & Abdolzadeh, Numerical Study of the Effect of Blade on the Velocity and Temperature of the Fluid Inside the Scraper Heat Exchanger, The National Conference on Mechanical Engineering of Iran, Shiraz, March 2014
25. Akhovati, Khaloei, Namjoo & Abdolzadeh, Numerical study of Reynolds Effect on Velocity Field and Temperature of the Fluid Inside Scraper Heat Exchanger, The 22<sup>nd</sup> International Conference on Mechanical Engineering of Iran, Ahvaz, May 2014
26. Akhovati, Khaloei, Namjoo & Abdolzadeh, Numerical Study of the Effect of Rotary Reynolds Number on Velocity Field and Temperature of Fluid Inside the Scraper Heat Exchanger, The National Conference on Mechanical Engineering of Iran, Shiraz, March 2014
27. Poorgharibshahi, Fadeinejad & Abdolzadeh, Estimation of Photovoltaic Panel Parameters with Trans-Innovative Optimisation Algorithm, The 19<sup>th</sup> International Power System Conference, Tehran, May 2014
28. Maedeh Javid, Morteza Abdolzadeh & Alireza Arabsolgar, Energy and Economic Analysis of Solar Combined Heating System for a Residential Building in Kerman, The 4<sup>th</sup> Conference on Clean Energy, Kerman, July 2014
29. Zarei, Abdolzadeh & Lari, Temperature Prediction of a Photovoltaic Module Using an Optical-Thermal Computational Model, The 23<sup>rd</sup> International Conference on Mechanical Engineering, May 2015, Tehran
30. Parto, Abdolzadeh & Rezaeinejad, Simulation and Optimisation of Smoke Manifold of a Diesel Engine Using Computational Methods, The 23<sup>rd</sup> International Conference on Mechanical Engineering, May 2015, Tehran
31. Javid & Abdolzadeh, Energy and Economic Analysis of a Solar Combined Heating Ventilating System in a Residential Building and Determining the Optimal Level of Solar Collectors, the 6<sup>th</sup> International Conference on Heating, Ventilating and Air Conditioning, June 2015, Tehran

32. Taghizadeh, Lari & Abdolzadeh, A Study of Heat Transfer in Flat Panel Solar Collectors Considering the Environment Involved in Radiation, the 6th International Conference on Heating, Ventilating and Air Conditioning, June 2015, Tehran
33. Ansari, Abdolzadeh & Salmanzadeh, Computational Simulation of the Motion of Particles Emitted from a Printer Inside a Chamber with the Presence of a Thermal Mannequin, The 24th International Conference on Mechanical Engineering, Yazd, May 2016
34. Heidar Abadi, Abdolzadeh & Lari, Computational Simulation of the Effect of Slope Angle and Direction of Surface direction of Photovoltaic Panel on the Aerodynamic Forces Entered on Them, The 24th International Conference on Mechanical Engineering, Yazd, May 2016
35. Nasiri & Abdolzadeh, Simulation of Particle Gas Flow of a Gravitational Sedimentation Chamber to Optimise Separation Efficiency, The 24th International Conference on Mechanical Engineering, Yazd, May 2016
36. Hashemi, Abdolzadeh, Rahnama & Ebrahimnia, Analysis and Comparison the Energy of Flat and Parabolic Plate Solar Collectors to Supply Heating for a Residential Building, the 7th International Conference on Heating, Ventilating and Air Conditioning, June 2016, Tehran
37. Ali Ahmadi, Abdolzadeh & Lari, Computational Simulation of Thermal Comfort Conditions in a Passenger Wagon, the 7th International Conference on Heating, Ventilating and Air Conditioning, June 2016, Tehran
38. Ali Molaie, Abdolzadeh & Lari, Computational Simulation of Airflow of Air Conditioning System with Rotating Air Distribution in an Office Room, the 7th International Conference on Heating, Ventilating and Air Conditioning, June 2016, Tehran
39. Shams Al-Dini, Lari & Abdolzadeh, Natural Radiant-CONVECTIVE Composite Heat Transfer in a Rectangular Chamber Considering Incoming Solar Radiation, the 7th International Conference on Heating, Ventilating and Air Conditioning, June 2016, Tehran
40. Zarei & Abdolzadeh, Optical And thermal Modelling of a Photovoltaic Module with the Presence of Dust on its Surface, The International Conference on Mechanical and Aerospace Engineering, April 2016, Tehran
41. Ali Nasiri & Morteza Abdolzadeh, Numerical Study of the Effect of Adding Angled and Curved Blades on Particle Separation Performance in a Gravitational Sedimentation Chamber, The 1st International Conference on Research Achievements in Mechanics, Mechatronics and Biomechanics, June 2016, Tehran
42. Tahmasebi, Lari & Abdolzadeh, Thermal Analysis of a Greenhouse Considering Incoming Sunlight, The 2nd International Conference on Air Conditioning and Heating/Cooling Installations, Birjand, October 2016
43. Jamadi, Abdolzadeh & Arabpour, An Experimental Study of the Heating of a Room Using Solar Heating System of Parabolic Collector Type, The 25th Annual Conference on Mechanical Engineering, May 2017
44. Ahmadipour, Abdolzadeh, Study and Computational Simulation of the Air Conditioning System of Conventional Single-Compartment Passenger Wagon in Use in the Country's Railways, The 25th Annual Conference on Mechanical Engineering
45. Khaloei, Namjoo, Abdolzadeh, The Effect of the Slope of Photovoltaic Panels on the Amount of Electrical Energy Produced in the Climate of Kerman, The 2<sup>nd</sup> National Conference on Science and Technology of Mechanical and Electrical Engineering of Iran, 2016
46. Ahmad Khaloei, Amin Namjoo & Morteza Abdolzadeh, A Study of the Effect of Solar Trackers (Single-Axis and Two-Axis) on the Amount of Electrical Energy Produced by Several Photovoltaic Modules in Kerman Climate, The 2<sup>nd</sup> National Conference on Science and Technology of Mechanical and Electrical Engineering of Iran, 2016

47. Reza Nikkhah, Tahereh Zarei & Morteza Abdolzadeh, Optical-Thermal Numerical Modelling of the Temperature of a Photovoltaic Module, The 5<sup>th</sup> National Conference on Environment, Energy and Biodefense, 2016
48. Shams Al-Dini, Lari & Abdolzadeh, Accurate Thermal Analysis of Single-Walled Building Windows, The 5<sup>th</sup> Annual Conference on Clean Energy, Kerman, 2016
49. Heydar, Lari, Abdolzadeh, Determination of Direct Spectral Radiation Distribution and Diffusion of the Sun in Kerman, The 5<sup>th</sup> Annual Conference on Clean Energy, Kerman, 2016
50. Arabpour, Jamadi & Abdolzadeh, Experimental Study of the Heating of a Room Using a Flat Plate Solar Collector in Sirjan, the 5<sup>th</sup> Annual Conference on Clean Energy, Kerman, 2016
51. Dehghan & Abdolzadeh, Numerical Simulation of Cornice Heating System and the Study of its Performance with the Presence of a Thermal Mannequin, The 3<sup>rd</sup> International Conference on Mechanical and Aerospace Engineering, Tehran, 2018
52. Dehghan, Sargazizadeh & Abdolzadeh, Evaluation of the Performance of Cornice and Underfloor Heating Systems from the Perspective of Energy and Exergy, The 3<sup>rd</sup> International Conference on Mechanical and Aerospace Engineering, Tehran, 2018
53. Ali Ahmadipour & Abdolzadeh, A Study and Computational Simulation of Air Conditioning System of a Conventional Passenger Wagon in Use in the Country's Railways, The 25<sup>th</sup> Annual Conference of Mechanical Engineering of Iran, May 2017
54. Amiri, Jahanshahi, Abdolzadeh & Sadeghi, Comparative Evaluation of Performance of Centralised Photovoltaic Systems in Kerman Province, The 3<sup>rd</sup> International Conference on Mechanical and Aerospace Engineering, Tehran, May 2018
55. Mostafa Bagheri Charouk, Ali Nasiri & Morteza Abdolzadeh, Numerical Simulation of the Impact of Geometric Parameters on the Performance of Opposite Current Cooling Tower, The 6<sup>th</sup> National Conference on Applied Research in Electrical, Mechanical and Mechatronic Engineering, September 2020
56. Mostafa Bagheri, Morteza Abdolzadeh, Khosrow Lari & Ehsan Ebrahimnia, Numerical Simulation of a Room Equipped with a Thermal Energy Storage Wall, The 6<sup>th</sup> National Conference on Applied Research in Electrical, Mechanical and Mechatronic Engineering, September 2020
57. Javadi Vand & Abdolzadeh, Numerical Study of Thermal Comfort in a Room Equipped with Trombe Wall, The 2<sup>nd</sup> International Conference on Green University, Isfahan, 2019
58. M. Abdolzadeh, M. Ameri, Improving the Effectiveness of a Photovoltaic Water Pumping System by Applying Water Flow Over Photovoltaic Cells, International Solar Energy Congress (ISES), 2007, China
59. M. Abdolzadeh, M. Ameri, Experimental Investigation of Influences of Photovoltaic Cells Configurations on a Photovoltaic Water Pumping System Performance, (Presented orally and selected as the best paper award)
60. P. Talebizadeh, M.A. Mehrabian and M. Abdolzadeh, Comparison of Energy Gain of a Solar Collector under Different Conditions of Optimum Slope Angle Using Genetic Algorithm, The 19<sup>th</sup> international Conference of Mechanical Engineering, 2011, Birjand, Iran
61. M. Abdolzadeh, M. A. Mehrabian, A. Zare, Determination of optimum slope angle of solar collector in hot and dry part of Iran, 2010, The first Distributed Power Generation and Renewable Energy Conference in Iran, Birjand,
62. P. Talebizadeh, M. A. Mehrabian and M. Abdolzadeh, Comparison of Energy Gain of a Solar Collector under Different Conditions of Optimum Slope Angle Using Genetic Algorithm, The 19<sup>th</sup> International Conference of Mechanical Engineering, 2011, Birjand, Iran

63. H. Salavati, M. Abdolzadeh, H. Beheshti and M. Rahnama, Energy Enhancement of a Solar Collector Using Optimum Slope Angle in Isfahan-Iran, The First Annual Green Energy Conference, 2011, Kerman, Iran.
64. M. Abdolzadeh, P. Talebizadeh, M.A. Mehrabian, S.A. Keshavaraz, Developing New Models to Predict Optimum Slope Angle of Solar Collectors for Any Latitude in Iran, SET2011, 10th International Conference on Sustainable Energy Technologies, İstanbul, T-RKİYE, 4-7 Sep. 2011
65. P. Talebizadeh, M.A. Mehrabian, M. Abdolzadeh, The Process of Designing Surrounding Heliostat Fields for a Central Receiver Solar Power Plant, SET2011, 10th International Conference on Sustainable Energy Technologies, İstanbul, T-RKİYE, 4-7 Sep. 2011
66. P. Talebizadeh, M.A. Mehrabian, M. Abdolzadeh, A study on the different components of solar radiation in order to calculate the optimum solar angles and the gain of solar Energy using genetic algorithm, Proceedings of the ASME 2011 5th International Conference on Energy Sustainability, ES2011 August 7-10, 2011, Washington, DC, USA
67. Z. Abdolzadeh, M. Abdolzadeh, R. Fadinedjad, Optimum slope angle and the corresponding uncertainty for an inclined solar collector, the 4th national clean energy conference, July 2014, Iran
68. A.Arabsolghar, A. Ahmadi, M. Abdolzadeh, Evolution of optimum slope angle of solar collector, the 4th national clean energy conference, July 2014, Iran
69. H. Phorgharibshahi, R.Fadeinejad, M. Abdolzadeh, Evaluation of Photovoltaic panels modelling with experimental validation, International power and system conference, 2014, Tehran

### Book Chapter

1. Pouyan Talebizadeh, Mozzafar Ali Mehrabian, Morteza Abdolzadeh, Mohammad Reza Azmi, Modeling of the Heliostat Field in Central Receiver Systems for A Given Input Power, DOI: 10.1007/978-3-319-07896-0\_21 In book: Progress in Sustainable Energy Technologies: Generating Renewable Energy, Chapter: 21, Publisher: springer, Editors: Ibrahim Dincer, pp.379-393
2. Morteza Abdolzadeh, Mehran Ameri, Improving the Effectiveness of a Photovoltaic Water Pump System by Applying Water Flow Over Photovoltaic Cells, Proceedings of ISES World Congress 2007 (Vol. I – Vol. V), Publisher: springer, Editors: D. Yogi Goswami, pp.1430-1434

### Research Projects

1. Testing of solar water pumping system in Kerman province, *Co-Investigator*, Renewable Energy Laboratory, Energy Research Institute, Graduate University of Advanced Technology, 2005
2. Determining the optimal slope angle of solar collectors in Kerman, *Principal Investigator*, Islamic Azad University, Kerman Branch, 2008
3. Determining optimal slope angle of solar collectors in hot and dry regions of Iran, *Principal Investigator*, Islamic Azad University, Kerman Branch, 2010
4. Study of particle deposition on flat surfaces using a modified particle model in turbulent flow, *Principal Investigator*, Islamic Azad University, Kerman Branch, 2012
5. Increasing the input energy of solar collectors with changing their optimum slope angle in south-east of Iran, *Principal Investigator*, Graduate University of Advanced Technology, 2012
6. Determining optimal slope angle of photovoltaic panels considering electrical tariffs, *Co- Investigator*, South of Kerman Electric Power Distribution Company, 2013
7. Feasibility study of using the output energy of Photovoltaic modules to supply required power of passenger wagons, *Co-Investigator*, Iranian Energy Optimization Organisation, 2013

8. Study of heat transfer improvement of power distribution transformers using Nano-fluid, *Co-Investigator*, South of Kerman Electric Power Distribution Company, 2016
9. Installation and launch of 10 kW Photovoltaic power plant in Kerman Graduate University of Advanced Technology, *Director*, 2017
10. Evaluation of energy consumption and design of optimal building energy supply system, *Co-Investigator*, South of Kerman Electric Power Distribution Company, 2018
11. Simulation of performance of a concentrated photovoltaic power plant in the south of Kerman province, *Co-Investigator*, South of Kerman Electric Power Distribution Company, 2019.
12. Experimental study of simultaneous use of smart energy optimisation system of heating system and flat plate solar collector in reducing energy consumption of a residential building, *Director*, Kerman Gas Company, July 2018.
13. Technical and economic feasibility of using combined cooling, heating and power (CCHP) for Home/Office applications in the south of Kerman province, *Director*, Kerman Gas Company, 2019.
14. Designing an energy efficient system and supplying the required energy from renewable energy sources for a sample building, *Co-Investigator*, Graduate University of Advanced Technology, 2019.
15. Value Engineering-Elimination of generated dust of Iron ore concentrate plant of Zarand, Foolad Iranian Company, *Co-Investigator*, 2019-2020
16. Energy and economic analysis of active and passive solar systems combination for a net-zero energy building- a case study of Kerman city, *Director*, Kerman Gas Company, 2021.
17. Design and manufacturing of heat recovery heat exchanger for heating systems of residential buildings, *Director*, Kerman Gas Company, 2018.
18. Technical and economic evaluation of simultaneous production of power and heat in Zinc Ingot Plants, *Director*, Mechanical Engineering Research and Development Centre–IBKO Group, 2020-2022.
19. Experimental and computational simulation of cluster cyclones, Mechanical Engineering Research and Development Centre–IBKO Group, *Director*, 2020-now
20. Computational and experimental simulation of cooling tower of zinc ingot plants to improve the performance of the tower, *Director*, Mechanical Engineering Research and Development Centre IBKO Group, 2021-now
21. Design, manufacturing, and testing of an acid mist removal system for electrowining cell of ingot zinc plant, *Director*, Mechanical Engineering Research and Development Centre–IBKO Group, 2021-2022.
22. Investigation of air quality at Brisbane State High School–An UPTECH side project, *Co-Investigator*, International Laboratory for Air Quality and Health, Brisbane, Australia, 2010-2011.
23. Investigation and evaluation of decrease potential of consumed electrical energy in farm wells pumping system through using high performance pumping system, *Co-Investigator*, Kerman Regional Electric company, 2021-now
24. CFD simulation and experimental assessment of a strawberry precooling room, *Director*, Mechanical Engineering Research and Development Centre–IBKO Group, 2021-2022
25. CFD simulation of a mixing tank in different conditions, *Director*, Mechanical Engineering Research and Development Centre–IBKO Group, 2021.
26. CFD simulation of Mixer-Settler, *Co-Investigator*, Mechanical Engineering Research and Development Centre–IBKO Group, 2022-now.
27. CFD simulation of a rotary lime kiln with dust removal system, *Director*, Mechanical Engineering Research and Development Centre–IBKO Group, 2022-now

## Industrial Projects

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1. Design and replacement of high energy consumption pumping systems for agricultural wells, Mahtabgostar Company, (Consultant), 2013.
2. Monitoring the environmental pollutants of Coke Production and Tar Refining Plants of Zarand, (Consultant), 2014.
3. Installation of energy consumption reduction devices of building heating systems, (Consultant), 2016-now
4. Senior mechanical designer of Khan Khatoon Zinc Ingots Processing and Production Plant of Bam, (including: piping, heating system design; compressed air system, low pressure air system, and cooling tower design, mixing tanks, and ventilation), IBKO Group, 2018-2019
5. Design and manufacturing of mixing tanks (open and close), IBKO group, (Consultant and Supervisor), 2021-2022
6. Design and implementation of dust suppression system to reduce the dust of the crushing line of the Khan Khatoon Zinc Ingots Processing and Production Plant, IBKO group, (Consultant and Supervisor), 2020
7. Design and CFD simulation of conditioners of flotation line to improve their performance, Mechanical Engineering Research and Development Centre–IBKO group, Consultant, 2021-now
8. Launching the steam line of Khan Khatoon Zinc Ingots Processing and Production Plant of Bam, IBKO group, (Supervisor and Consultant), 2020.
9. Design of portable mining processing plant, Mechanical Engineering Research and Development Centre–IBKO Group (Consultant), 2020.
10. Design and implementation of energy monitoring system for Khan Khatoon Zinc Ingots Processing and Production Plant of Bam, Mechanical Engineering Research and Development Centre–IBKO group(Consultant), 2021-2022
11. Design of copper sulphate plant, Mechanical Engineering Research and Development Centre– IBKO group (Consultant), 2020.
12. Design and manufacturing of strawberry pre-cooling system, Mechanical Engineering Research and Development Centre-IBKO Group (Supervisor and Consultant), 2021-2022
13. Design and manufacturing of horizontal lime kiln, Mechanical Engineering Research and Development Centre-IBKO group (Consultant and Supervisor), 2020-now
14. Design of monitoring system for dust collection system of smelting furnace of lead plant, Mechanical Engineering Research and Development Centre–IBKO group, (Consultant), 2021.
15. Simulation of flotation cells of Khan Khatun Zinc Ingots Processing and Production Plant of Bam, Mechanical Engineering Research and Development Centre-IBKO group, (Consultant), 2020.
16. Design of rasol drilling dust collection system, Mechanical Engineering Research and Development Centre–IBKO group, (Consultant), 2021.
17. Design of portable crushing plant, Mechanical Engineering Research and Development Centre–IBKO group (Consultant), 2021-now
18. Design of pull-push acid dust collection system for Khan Khatun Zinc Ingots Plant, Mechanical Engineering Research and Development Centre–IBKO group (Consultant), 2022.
19. Design of mixer settler for copper sulphate processing line, Mechanical Engineering Research and Development Centre–IBKO group, (Consultant), 2021.

20. Design of crystalliser for copper sulphate processing line, Mechanical Engineering Research and Development Centre–IBKO group, (Consultant), 2021.
21. Design and manufacturing of wet ball mill, Mechanical Engineering Research and Development Centre-IBKO group (Consultant and Supervisor), 2022-now
22. Melting pump CFD simulation for lead smelting plant, Mechanical Engineering Research and Development Centre–IBKO Group, (Consultant), 2021.
23. Design and manufacturing of a new floatation machine, Mechanical Engineering Research and Development Centre–IBKO Group, (Consultant), 2022-now
24. Design and manufacturing of a modified press filter, Mechanical Engineering Research and Development Centre–IBKO Group, (Consultant), 2022-now
25. Design and manufacturing of tromel screen and drum filter, Mechanical Engineering Research and Development Centre–IBKO Group, (Consultant), 2022-now
26. Replacement of 3000 high-consumption electric motors of water coolers with low-consumption electric motors, Niroo Research Institute, (Consultant and Supervisor), 2020-2021.
27. Energy audit of Kerman, Yazd and Bandar Abbas prisons, Kerman Province University Organisation, (Consultant), 2020-now
28. Building energy audit of Kerman Province Industrial Towns Company, Paya Sanat Pak Faraand Hezar Company, (Consultant),2022

### **Patents and innovations**

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- Patent for reducing the water consumption of water coolers based on controlling the temperature of thermal comfort (the device is commercialised and is being marketed under the brand "Ab Kahan"), Registration number: 93853, 2018/10/14, **TRL**:7/9
- Electrowinning cells contaminant removal system, 2019-2021
- Heat recovery heat exchanger for residential building heating systems, making laboratorial samples, 2018, **TRL**:4/9
- Dust removal system for Rasol drilling system, 2021

### **Contribution to Research**

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#### **Journal Reviewer:**

Solar Energy (Q1)  
 Renewable Energy (Q1)  
 Building and Environment (Q1)  
 Energy (Q1)  
 Building Engineering (Q1)  
 Case Studies in Thermal Engineering, (Q1)  
 IET Renewable Power Generation IEEE (Q1,)  
 Sustainable Energy Technologies and Assessments (Q1)  
 Environmental Progress and Sustainable Energy (Q2)  
 International Journal of Ambient Energy-Taylor and Francis  
 International Journal of sustainable Energy- Taylor and Francis  
 Energy Sources, Part A -Taylor and Francis (Q2)



### **Committee Member:**

- Member of the Scientific Committee of the Second Annual Conference on Clean Energy, June 2012, Kerman
- Member of the Scientific Committee of the First National Conference on New Construction Facilities, March 2012, Kerman
- Member of the Scientific Committee of the Third Annual Conference on Clean Energy, June 2013, Kerman
- Member of the Scientific Committee of the Fourth Annual Conference on Clean Energy, June 2014, Kerman
- Member of the Scientific Committee of the Commercialisation and Advanced Technologies Festival, Kerman, October 2015
- Member of Scientific and Executive Committee of the 5<sup>th</sup> Annual Conference on Clean Energy, March 2016, Kerman
- Member of the Scientific Committee of the 6<sup>th</sup> Conference on Clean Energy, March 2016, Shiraz University

### **Supervising Theses:**

*I have been the supervisor of more than 40 Bachelor final projects.*

#### ***M.Sc. Thesis:***

1. Ensie Osfori, Combined simulation of district heating and solar energy to heat residential houses, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, Under progress
2. Fateme Torkzadeh, Simulation of energy consumption of a residential building with precooling, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, under progress
3. Mohsen Babaei, Numerical simulation of air flow and particle movement passed over a tree, Graduate University of Advanced Technology, Energy Conversion Department, *Co-Supervisor*, under progress
4. Ali Izadi, Numerical simulation of a wet cooling tower under different operating conditions, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, under progress
5. Pouria Saeed, Air flow and particle numerical simulation in a residential building in hot and cold climates, Graduate University of Advanced Technology, Energy Conversion Department, *Co-Supervisor*, under progress
6. Bahar Pourhassani, Numerical simulation of airflow and particle movement in a hospital isolation room, Graduate University of Advanced Technology, Energy Conversion Department, *Co-Supervisor*, under progress
7. Ali Kamrani, Numerical simulation of air flow and carbon dioxide in a classroom under different conditions, Graduate University of Advanced Technology, Energy Conversion Department, *Co-Supervisor*, under progress
8. Ahmad Reza Dayeri, Combined simulation of energy consumption of a building and Electric Vehicle, Graduate University of Advanced Technology, Energy Conversion Department, *Co-Supervisor*, under progress
9. Fateme Pourmand, Numerical simulation of a multi hedroyclone and improving its removal efficiency, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, under progress
10. Fateme Solimani, Numerical simulation of a strawberry precooling room, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, under progress
11. Ali Sajadi, Design and manufacturing an acid mist removal system, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2022
12. Ali Atarzadeh, Numerical simulation of an acid mist removal system, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2022
13. Fateme AliGheias, Numerical simulation of a building energy with precooling strategy with thermal comfort assessment, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2022

14. Mohsen Shafei, Numerical simulation of airflow and particles movement in compartment of a passenger coach, Graduate University of Advanced Technology, Energy Conversion Department, Supervisor, 2022
15. Hossein Nazari, Combined simulation of CVP/T system with absorption cooling system in a residential building, Energy Conversion Department, *Co-Supervisor*, 2021
16. Mostafa Bagheri, Numerical simulation of a Tromb wall with PCM material and nanoparticles, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2020
17. Elham Solatani, Numerical simulation of a Tromb wall in different sides of a buildings, Graduate University of Advanced Technology, Energy Conversion Department, *Co-Supervisor*, 2020
18. Ali Niknahad, Numerical simulation of a room equipped with a wind catcher and the ground cooling effect, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2020
19. Manocher Javadivand, Numerical simulation of air flow and particle movement in a room having Tromb wall, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2020
20. Hadis Rezaei, Simulation of ground heat Pump system with PCM, Graduate University of Advanced Technology, Energy Conversion Department, *Co-Supervisor*, 2020
21. Saman Amiri, Simulation of combined CPV/T with an ORC small scale power plant in different regions of Iran, Graduate University of Advanced Technology, Energy Conversion Department, *Co-Supervisor*, 2019
22. Hossein Torkzadeh, Experimental and mathematical evaluations of a combined conventional heating system with flat plate solar collector in a residential, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2018
23. Rasoul Zamani, Experimental and mathematical evaluations of a evaporative water cooling system under different operating conditions, Department of Mechanical Engineering, Shahid University of Kerman, *Co-Supervisor*, 2017.
24. Mohammad Javad Arabpour, Experimental investigation of a trough heating collector combined with a residential building heating system, Department of Mechanical Engineering, Islamic Azad University, SirjanBranch, *Supervisor*, 2017
25. Reza Nikkhah, Experimental investigation of dust settlement on PV modules installed in different directions, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2016
26. Saleh Sagazizadeh, Energy simulation of a net zero energy building in Kerman-Iran, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2016
27. Hadi Dehghan, Comparison study on air flow and particle dispersion in a typical room with floor, skirt boarding, and radiator heating systems, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2016
28. Azima Khorasani, Computational simulation of a solar chimney in Kerman-Iran, Department of Mechanical Engineering, Islamic Azad University, Kerman Branch, *Supervisor*, 2016
29. Ehsan Alimolaei, Numerical simulation of airflow and particle distributions with floor circular swirl diffuser for underfloor air distribution system in an office environment, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2017
30. Hoda Hederabadi, Numerical simulation of dust settlement over tilted PV modules fixed in different directions, Graduate University of Advanced Technology, Energy Conversion Department, Supervisor, 2017

31. Neda Mohammad Hashemi, Techno-economic analysis of applying linear parabolic and flat plate solar collectors for heating a building and their comparative evaluation, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2017
32. Mohamad Aliahmadipur, Numerical simulation of air flow in a compartment of passenger coaches with different air distribution, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2015
33. Ali Nasiri, Effect of baffle arrangement and inlet air velocity on particulate removal efficiency of a gravitational settling chamber in a coke-making plant, Department of Mechanical Engineering, Islamic Azad University, Kerman Branch, *Supervisor*, 2015
34. Behnam Rohalamini, Numerical simulation of an Electric transformer under different operating conditions, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2015
35. Ahmad Khaloei, Energy and exergy simulation of different PV modules, Department of Mechanical Engineering, Islamic Azad University, Kerman Branch, *Supervisor*, 2015
36. *Mohsen Sadeqkhani*, Computational modeling of a BIPV/T ethylene tetrafluoroethylen (ETFE) cushion structure roof, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2014.
37. Mehrzad Ansari, Computational modeling of particle transport and distribution emitted from a Laserjet printer in a ventilated room with different ventilation configurations, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2014
38. Tahere Zarei, Optical and thermal modeling of a tilted photovoltaic module with sand particles settled on its front surface, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2014
39. Ali Partoa, Effect of fin attachment on thermal stress reduction of exhaust manifold of an off road diesel engine, Graduate University of Advanced Technology, Energy Conversion Department, *Supervisor*, 2014
40. Maede Javid, Energy simulation of an absorption cooling system with flat plate solar collectors, Islamic Azad University-Sirjan Branch, *Supervisor*, 2015
41. Amir Khoshabi, Thermal analysis of an electric power transformer inside an enclosure—a case study, Shahid Bahonar University, Energy conversion Department, *Co-Supervisor*, 2012
42. Ehssan Rohallahi, Prediction of the power generated by photovoltaic cells fixed on the roof of a moving passenger coach: a case study, Shahid Bahonar University, Energy conversion Department *Co-Supervisor*, 2012
43. Zahra Tahmasbi, Thermo-fluid analysis of a greenhouse by considering solar irradiation, Graduate University of Advanced Technology, Energy Conversion Department, *Advisor*, 2017
44. Qadir Panahi, Feasibility study of combined solar, wind, and biogas energy in Kerman-Iran, Graduate University of Advanced Technology, Energy Conversion Department, *Advisor*, 2015
45. Rohollah Shamsoldini, Numerical simulation of a Three pane window heat transfer, Graduate University of Advanced Technology, Energy Conversion Department, *Advisor*, 2015
46. Mohammad Taqizadeh, Numerical simulation of heat transfer of a flat plate collector, Graduate University of Advanced Technology, Energy Conversion Department, *Advisor*, 2015
47. Hamed Pougharibshahi, Verification of computational optimum tilt angles of a photovoltaic module using an experimental photovoltaic system, Power Engineering Department, *Advisor*, 2012
48. Amin Rouhalamini, Temperature of a photovoltaic module under the influence of different environmental conditions—experimental investigation, Power Engineering Department, *Advisor*, 2012

49. Zeinab Abdolzadeh, Determination of optimum slope angles of PV module with consideration of price tariff, Graduate University of Advanced Technology, Power Engineering Department, *Advisor*, 2012