



Curriculum Vitae

Alibakhsh Kasaeian

Ph.D. in Chemical Engineering, Associate Professor

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1. Personal Details

Name: Alibakhsh

Surname: Kasaeian

Date of birth: 10th Aug. 1975

Place of birth: Tehran, Iran

Nationality: Iranian

Language: Persian, English

2. Educational Qualifications

B.Sc. in Chemical Engineering

Iran University of Science & Technology, Iran, (September 1997).

Thesis: Designing a Biogas Plant

M.Sc. in Chemical Engineering

University of Tehran, Iran (September 1999).

Thesis: Treatment of olive oil waste water using chitosan as a polyelectrolyte.

Ph.D. in Chemical Engineering

University of Tehran, Iran (September 2004).

Thesis: Polymerization of propylene using Ziegler-Natta catalyst with diether electron donor.

3. Working Experiences

- 1- Senior Expert, *Nirou Battery Manufacturing Co.*, 1998-1999.
- 2- Manager of Quality Engineering, *MCP of Iran Khodro Co.*, 2000-2003.
- 3- Administrative Manager of QS 9000, *MCP of Iran Khodro Co.*, 2001.
- 4- Polypropylene Core Expert, *Iranian Petrochemicals Research Institute*, 2002-2004.
- 5- Assistant Professor, *Department of Chemical Engineering, University of Semnan*, 2004-2006.
- 6- Head of Chalk Research Center, *University of Semnan*, 2006.
- 7- Microbiologic Project Manager, *Kasaeian Trading Co.*, 2003.
- 8- Consultant, *Ipaco Co.*, 2003-2006.
- 9- Consultant, *Tesco Co.*, 2003.
- 10- Consultant, *Pars Behin System Co.*, 2004-2005.
- 11- R&D Manager, *Ipaco Co*, 2006-2007.
- 12- Managing Director, *Kasra Plastics Novin Co.*, 2002-2006.
- 13- R&D Manager, *Mojdeh Vasl Shiraz Co.*, 2007.
- 14- Assistant Professor, *Department of Mechanical Engineering, University of Zanjan*, from 2008-2011.
- 15- Assistant Professor, *Department of Renewable Energies, University of Tehran*, from 2011-2015.
- 16- Associate Professor, *Department of Renewable Energies, University of Tehran*, from 2016.
- 17- Director of Commercialization Center, *Science & Technology Park, University of Tehran*, 2011.
- 18- International Consultant, *Science & Technology Park, University of Tehran*, 2011.
- 19- Research Chancellor, *Faculty of New Science and Technologies, University of Tehran*, 2012-2013.
- 20- Head of Solar Energy Lab, *Faculty of New Science and Technologies, University of Tehran*, from 2012.
- 21- Consultant, *Modern Autolight Co.*, 2012- 2015.
- 23- Consultant, *Asia Baspar Co.*, 2016.
- 24- Deputy of Science, *Faculty of New Science and Technologies*, from 2018.

4. Research Interests

- (1) Solar Energy
- (2) Nanofluids
- (3) Heat Transfer
- (4) Exergy
- (5) Energy Optimization
- (6) Energy Harvesting

5. Awards

- 1- Distinguished student of Semnan Province, 1990.
- 2- Distinguished Professor, Department of Chemical Engineering, University of Semnan, 2005.
- 3- Distinguished Manager of Samand Project, Iran Khodro, 2002.
- 4- Top Researcher (First in Ranking) of Faculty of New Science and Technologies, University of Tehran, 2017.
- 5- Supervising the top M.S thesis in Faculty of New Science and Technologies, University of Tehran, 2017.
- 6- Distinguished reviewer in 8 Elsevier journals.

6. Papers Published in Journals

- 1) Behrouz Meyssami, **Alibakhsh Kasaieian**, "Use of coagulants in treatment of olive oil wastewater model solutions by induced air flotation" **Bioresource Technology**, 96 (2005) 303-307.
- 2) Gholam Hossein Zohuri, **Alibakhsh Kasaieian**, Mahmoud Torabi Angaji, Roghieh Jamjah, Mohammad Ali Mousavian, Mehrsa Emami, Saied Ahmadjo "Polymerization of propylene using $MgCl_2$ (ethoxide type)/ $TiCl_4$ /diether heterogeneous Ziegler-Natta catalyst" **Polymer International**, 54 (2005) 882-885.
- 3) **Alibakhsh Kasaieian**, "Engineering Thermoplastics and Their Identification, PP, PE" **Iranian Journal of Manufacturing & Production**, Oct. 2007.
- 4) **Alibakhsh Kasaieian**, "Engineering Thermoplastics and Their Identification, PVC, POM, PMMA" **Iranian Journal of Manufacturing & Production**, Jan. 2008.
- 5) **Alibakhsh Kasaieian**, "Engineering Thermoplastics and Their Identification, PC, PTFE, PA" **Iranian Journal of Manufacturing & Production**, May 2008.
- 6) **Alibakhsh Kasaieian**, "Engineering Thermoplastics and Their Identification, ABS, SAN, PS" **Iranian Journal of Manufacturing & Production**, June 2008.
- 7) **Alibakhsh Kasaieian**, "Engineering Thermoplastics and Their Identification, PPO, PBT, PET" **Iranian Journal of Manufacturing & Production**, Sep. 2008.
- 8) **Alibakhsh Kasaieian**, Shahin Nasirivatan, Sina Daneshmand "FGM materials and finding an appropriate model for the thermal conductivity" **Procedia Engineering**, 14 (2011) 3199-3204.
- 9) **Alibakhsh Kasaieian**, Ehsan Heidari, Shahin Nasiri Vatan "Experimental investigation of climatic effects on the efficiency of a solar chimney pilot power plant" **Renewable and Sustainable Energy Reviews**, 15 (2011) 5202-5206.
- 10) Rasul Bagheri, Mojtaba Ayatollahi, **Alibakhsh Kasaieian**, "Elastodynamic analysis of a functionally graded half-plane with multiple sub-surface cracks" **Acta Mechanica Sinica**, 25 (2012) 1-10.
- 11) C.V. Popa, **A.B. Kasaieian**, Sh. Nasiri, A. Korichi, G. Polidori "Natural convection heat and mass transfer modeling for Cu/water and CuO/water nanofluids" **Advances in Mechanical Engineering** (2012), 1-7.

- 12) Mojtaba Ayatollahi, Shiva Nasiri, **Alibakhsh Kasaeian**, “Convection heat transfer modeling of Ag nanofluid using different viscosity theories” **IIUM Engineering Journal** 13 (2012) 1-11.
- 13) **Alibakhsh Kasaeian**, Tahmineh Sokhansefat, Mohammad Javad Abbaspour, Masoud Sokhansefat “Numerical study of heat transfer enhancement by using Al₂O₃/synthetic oil nanofluid in a parabolic trough collector tube” **World Academy of Science, Engineering and Technology** 69 (2012) 1154-1159.
- 14) **Alibakhsh Kasaeian**, Samaneh Daviran “Performance Analysis of Solar Combined Ejector-Vapor Compression Cycle Using Environmental Friendly Refrigerants” **IIUM Engineering Journal**, 14(1), 2013.
- 15) **Alibakhsh Kasaeian**, M Dehghani Mobarakeh, Soodabeh Golzari, & Mohammad Mahdi Akhlaghi. “Energy and Exergy Analysis of Air PV/T Collector of Forced Convection with and without Glass Cover” **International Journal of Engineering**, 26(8), 2013.
- 16) **Alibakhsh Kasaeian**, Mohammad Mahdi Akhlaghi, Soodabeh Golzari, & M Dehghani “Modeling and optimization of an air-cooled photovoltaic thermal (PV/T) system using genetic algorithms” **Applied Solar Energy**, 49(4), 2013.
- 17) Somayyeh Toghiani, **Alibakhsh Kasaeian**, Mohammad Hossein Ahmadi “Multi-objective optimization of Stirling engine using non-ideal adiabatic method” **Energy Conversion & Management**, 80, 2014.
- 18) Mohammad Sameti, **Alibakhsh Kasaeian**, and Fatemeh Razi Astaraiie "Simulation of a ZEB Electrical Balance with a Hybrid Small Wind/PV." **Sustainable Energy**, 2.1 (2014): 5-11.
- 19) **Alibakhsh Kasaeian**, Mohammad Sameti, and Amin Toghi Eshghi "Simplified Method for Night Sky Radiation Analysis in a Cool-Pool System." **Sustainable Energy**, 2.1 (2014): 29-34.
- 20) **Alibakhsh Kasaeian**, Mohammad Sameti “Mini Review on the Application of Neural Networks in Solar Energy Conversion” **Journal of Middle East Applied Science & Technology (JMEAST)**, 16, 2014.
- 21) Mohammad Sameti, Mohammad Reza Najafpour, **Alibakhsh Kasaeian** “Mechanical Modelling of a Modulated Single Pool Tidal Energy System” **Indian Journal of Scientific Research (IJSR)**, 1(2) (2014), 637-642.
- 22) Tahmineh Sokhansefat, **Alibakhsh Kasaeian**, Farshad Kowsary “Heat Transfer Enhancement in Parabolic Trough Collector Tube Using Al₂O₃/Synthetic Oil Nanofluid” **Renewable and Sustainable Energy Reviews**, 33 (2014), 636-644.
- 23) **Alibakhsh Kasaeian**, Arezou Boroumandnia, Alireza Nikfarjam, Raheleh Mohammadpour, “Effect of TiO₂ Nanofiber Density on Organic-Inorganic Based Hybrid Solar Cells” **International Journal of Engineering**, 27(7) (2014), 1133-1138.
- 24) Mohammad Sameti, **Alibakhsh Kasaeian** “Heat Diffusion in an Anisotropic Medium with Central Heat Source” **International Journal of Partial Differential Equations and Applications**, 2(2) (2014) 23-26.
- 25) **Alibakhsh Kasaeian**, Mohammad Sameti, Amin Toghi Eshghi “Simplified Method for Night Sky Radiation Analysis in a Cool-Pool System” **Sustainable Energy**, 2 (2014), 29-34.
- 26) Mohammad Sameti, **Alibakhsh Kasaeian**, Seyedeh Sima Mohammadi, Nastaran Sharifi “Thermal Performance Analysis of a Fully Mixed Solar Storage Tank in a ZEB Hot Water System” **Sustainable Energy**, 2 (2014), 52-56.

- 27) Mohammad Sameti, Fatemeh Razi Astarai, Fathollah Pourfayaz, **Alibakhsh Kasaeian** “Analytical and FDM Solutions for Anisotropic Heat Conduction in an Orthotropic Rectangular” **American Journal of Numerical Analysis**, 2 (2014), 65-68.
- 28) Mohammad Sameti, **Alibakhsh Kasaeian** “Developing a Formula for Optimum Power of an Inverted Piston-in-Cylinder Wave Engine” **International Journal of Renewable Energy Research (IJRER)**, 4 (2014), 471-476.
- 29) Ahmadreza Mohammadkarim, **Alibakhsh Kasaeian**, Abdolrazagh Kaabinejadian “Performance Investigation of Solar Evacuated Tube Collector Using TRNSYS in Tehran” **International Journal of Renewable Energy Research (IJRER)**, 4 (2014), 498-503.
- 30) **Alibakhsh Kasaeian**, Mehran Ghalamchi, Mehrdad Ghalamchi “Simulation and optimization of geometric parameters of a solar chimney in Tehran” **Energy Conversion and Management**, 83 (2014), 28-34.
- 31) Somayeh Toghyani, **Alibakhsh Kasaeian**, Seyyed Hasan Hashemabadi, Morteza Salimi “Multi-objective optimization of GPU3 Stirling engine using third order analysis” **Energy Conversion and Management**, 87 (2014), 521-529.
- 32) Kiana Rahmani, **Alibakhsh Kasaeian**, Mahdi Fakoor, Amirreza Kosari, Seyyedbenyamin Alavi “Wind Power Assessment and Site Matching of Wind Turbines in Lootak of Zabol” **International Journal of Renewable Energy Research (IJRER)**, 4 (2014), 965-976.
- 33) Mehran Ghalamchi, **Alibakhsh Kasaeian**, Mehrdad Ghalamchi “Experimental study of geometrical and climate effects on the performance of a small solar chimney” **Renewable and Sustainable Energy Reviews**, 43 (2015) 425-431.
- 34) A. Boroomandnia, **A. B. Kasaeian**, A. Nikfarjam, A. Akbarzadeh, and R. Mohammadpour “Effect of Crystallinity and Morphology of TiO₂ Nano_Structures on TiO₂:P3HT Hybrid Photovoltaic Solar Cells” **Applied Solar Energy**, 51 (2015), 34-40.
- 35) **Alibakhsh Kasaeian**, Samaneh Daviran, Reza Danesh Azarian, Alimorad Rashidi “Performance evaluation and nanofluid using capability study of a solar parabolic trough collector” **Energy Conversion and Management**, 89 (2015), 368-375.
- 36) Somayeh Toghyani, Mohammad H. Ahmadi, **Alibakhsh Kasaeian**, Amir H. Mohammadi “Artificial neural network, ANN-PSO and ANN-ICA for modelling the Stirling engine” **International Journal of Ambient Energy**, 37(5), (2016), 456-468.
- 37) P. Mohammad Zadeh, T. Sokhansefat, **Alibakhsh Kasaeian**, F. Kowsary, A. Akbarzadeh “Hybrid optimization algorithm for thermal analysis in a solar parabolic trough collector based on nanofluid” **Energy**, 82 (2015) 857-864.
- 38) Mohammad Sameti, **Alibakhsh Kasaeian** “Numerical simulation of combined solar passive heating and radiative cooling for a building” **Building Simulation**, 8 (2015) 239-253.
- 39) **Alibakhsh Kasaeian**, Amin Toghi Eshghi, Mohammad Sameti “A review on the applications of nanofluids in solar energy systems” **Renewable and Sustainable Energy Reviews**, 43 (2015), 584–598.
- 40) S. Amirkhani, Sh. Nasirivatan, **Alibakhsh Kasaeian**, A. Hajinezhad “ANN and ANFIS models to predict the performance of solar chimney power plants” **Renewable Energy**, 83 (2015), 597-607.
- 41) SH. Nasirivatan, **Alibakhsh Kasaeian**, M. Ghalamchi, M. Ghalamchi “Performance optimization of solar chimney power plant using electric/corona wind”, **Journal of Electrostatics**, 78 (2015), 22-30.

- 42) **Alibakhsh Kasaeian**, Ali Shamel, Reza Alayi, “Simulation and Economic Optimization of Wind Turbines and Photovoltaic hybrid System with Storage Battery and Hydrogen Tank (case study the city of Yazd)” , **Journal of Current Research in Science**, 3(5), (2015), 105-113.
- 43) **Alibakhsh Kasaeian**, Ahmadreza Mohammadkarim, Tahmineh Sokhansefat, Reza Alayi, “Performance Investigation of the Yearly Efficiency and Solar Fraction in Vacuum Tube Solar Collector using TRNSYS in Tehran” , **Journal of Current Research in Science**, 3(5), (2015), 92-104.
- 44) **Alibakhsh Kasaeian**, Shiva Nasiri, “Convection Heat Transfer Modeling of Nano- fluid TiO₂ Using Different Viscosity Theories” , **International Journal of Nanoscience and Nanotechnology**, 11(1), (2015), pp 45-51.
- 45) J. Pirkandi, M.A. Jokar, M. Sameti, **Alibakhsh Kasaeian**, F. Kasaeian “Simulation and multi-objective optimization of a combined heat and power (CHP) system integrated with low-energy buildings” **Journal of Building Energy**, 5 (2016)13-23.
- 46) Mehrdad Ghalamchi, **Alibakhsh Kasaeian**, Mehran Ghalamchi “An experimental study on the thermal performance of a solar chimney with different parameters” **Renewable Energy**, 91 (2016), 477-483.
- 47) **Alibakhsh Kasaeian**, Samaneh Daviran, Reza Danesh Azarian “Optical and Thermal Investigation of Selective Coatings for Solar Absorber Tube” **International Journal of Renewable Energy Research (IJRER)**, 6 (1), pp 15-20, (2016).
- 48) Reza Alayi, Ali Shamel, **Alibakhsh Kasaeian**, Hossein Harasi, Majid Amani, “The role of biogas to sustainable development (aspects environmental, security and economic)”, **Journal of Chemical and Pharmaceutical Research**, 8(4), (2016), pp 112-118.
- 49) Mehran Ghalamchi, **Alibakhsh Kasaeian**, Mohammadhossein Ahmadi, Mehrdad Ghalamchi, “Evolving ICA and HGAPSO algorithms for Prediction of outlet temperatures of constructed solar chimney”, **International Journal of Low-Carbon Technologies**, 0, (2017), 1-12.
- 50) **Alibakhsh Kasaeian**, Mehdi Mehrpouya, Mahsa Aghaei, Mohammadhossein Ahmadi, “Solar Radiation Prediction Based on ICA and HGAPSO for Kuhin City, Iran”, **Mechanics and Industry**, 17, (2016), Article No. 509, 1-6.
- 51) Yasamin Khanjari, Fathollah Pourfayyaz, **Alibakhsh Kasaeian**, “Numerical Investigation on Using of Nanofluid in a Water-Cooled Photovoltaic Thermal System”, **Energy Conversion and Management**, 122, (2016), 263-278.
- 52) Reyhaneh Loni, **Alibakhsh Kasaeian**, Omid Mahian, Ahmet Sahin, “Thermodynamic analysis of an organic Rankine cycle using a tubular solar cavity receiver”, **Energy Conversion and Management**, 127, (2016), 494-503.
- 53) Reyhaneh Loni, **Alibakhsh Kasaeian**, Ezzatollah Askari Asli-Ardeh, Barat Ghobadian, “Optimizing the efficiency of a solar receiver with tubular cylindrical cavity for a solar-powered organic Rankine cycle”, **Energy**, 112, (2016), 1259-1272.
- 54) Reyhaneh Loni, **Alibakhsh Kasaeian**, Ezzatollah Askari Asli-Ardeh, Barat Ghobadian, Le

- Roux, "Performance study of a solar-assisted organic Rankine cycle using a dish-mounted rectangular-cavity tubular solar receiver", **Applied Thermal Engineering**, 108, (2016), 1298-1309.
- 55) Mehrdad Ghalamchi, **Alibakhsh Kasaeian**, Mehran Ghalamchi, Amirhossein Mirzahosseini, "An experimental study on the thermal performance of a solar chimney with different dimensional parameters", **Renewable Energy**, 91, (2016), 477-483.
 - 56) Mohammad Amani, Mohammad Ameri, **Alibakhsh Kasaeian**, "The Experimental Study of Convection Heat Transfer Characteristics and Pressure Drop of Magnetite Nanofluid in a Porous Metal Foam Tube" , **Transport in Porous Media**, (2016), DOI: 10.1007/s11242-016-0808-6.
 - 57) **Alibakhsh Kasaeian**, Mohammad Sameti, Zahra Nouri, Mona Rastgou Bahambari, "Numerical Modeling and Characteristic Analysis of a Parabolic Trough Solar Collector" , **International Journal of Mechanical and Mechatronics Engineering (WASET)**, 3(3), (2016), 1291.
 - 58) Samaneh Daviran, **Alibakhsh Kasaeian**, Soudabeh Golzari, Omid Mahian, Shahin Nasiri Vatan, Somchai Wongwises, "Comparative study on the performance of HFO1234yf and HFC134a as an alternative in the automotive air conditioning systems", **Applied Thermal Engineering**, 110, (2017), 1091-1100.
 - 59) Soudabeh Golzari **Alibakhsh Kasaeian**, Samaneh Daviran, Omid Mahian, Somchai Wongwises, Ahmet Sahin, "Second law analysis of an automotive air conditioning system using HFO-1234yf, an environmentally friendly refrigerant", **International Journal of Refrigeration**, 73, (2017), 134-143.
 - 60) Amin Mohammadi, **Alibakhsh Kasaeian**, Fathollah Pourfayaz, Mohammadhossein Ahmadi, "Thermodynamic analysis of a combined gas turbine, ORC cycle and absorption refrigeration for a CCHP system", **Applied Thermal Engineering**, 111, (2017), 397-406.
 - 61) **Alibakhsh Kasaeian**, Shokoufa Molana, Kiana Rahmani, Dongsheng Wen, "A review on solar chimney systems", **Renewable and Sustainable Energy Reviews**, 67, (2017), 954-987.
 - 62) Mohammad Aramesh, Fathollah Pourfayyaz, **Alibakhsh Kasaeian**, "Transient heat extraction modeling method for a rectangular type salt gradient solar pond", **Energy Conversion and Management**, 132, (2017), 316-326.
 - 63) **Alibakhsh Kasaeian**, Masoumeh Amirifard, Mohammad Hossein Ahmadi, Fazel Kasaeian, "Investigation of the Effects of Ambient Temperature and Dimensional Parameters on the Performance of Solar Chimney Power Plants", **International Journal of Low-Carbon Technologies**, Article in Press.
 - 64) Samaneh Daviran, Sassan Mohaseb, **Alibakhsh Kasaeian**, "Differential quadrature method for thermal shock analysis of CNT reinforced metal-ceramic functionally graded disc", **Composite Structures**, 161, (2017), 299-307.
 - 65) Mehrdad Ghalamchi, **Alibakhsh Kasaeian**, Mehran Ghalamchi, Niloufar Fadaei, Reza Daneshzarian, "Optimizing of solar chimney performance using electrohydrodynamic

- system based on array geometry” , **Energy Conversion and Management**, 135, (2017), 261-269.
- 66) Mohammad Amani, Pourya Amani, **Alibakhsh Kasaeian**, Omid Mahian, Somchai Wongwises, “Thermal conductivity measurement of spinel-type ferrite $MnFe_2O_4$ nanofluids in the presence of a uniform magnetic field” , **Journal of Molecular Liquids**, 230, (2017), 121-128.
 - 67) Hamed Tahmooressi, Samaneh Daviran, **Alibakhsh Kasaeian**, Alimorad Rashidi, “Percolating micro-structures as a key-role of heat conduction mechanism in nanofluids” , **Applied Thermal Engineering**, 114, (2017), 346-359.
 - 68) Yasamin Khanjari, **Alibakhsh Kasaeian**, Fathollah Pourfayaz, “Evaluating the environmental parameters affecting the performance of photovoltaic thermal system using nanofluid” , **Applied Thermal Engineering**, 115, (2017), 178-187.
 - 69) **A. Kasaeian**, R. Daneshazarian, O. Mahian, L. Kolsi, A.J. Chamkha, S. Wongwises, I. Pop, “Nanofluid flow and heat transfer in porous media: A review of the latest developments” , **International Journal of Heat and Mass Transfer**, 107, (2017), 778-791.
 - 70) Mohammad Amani, Mohammad Ameri, **Alibakhsh Kasaeian**, “Investigating the convection heat transfer of Fe_3O_4 nanofluid in a porous metal foam tube under constant magnetic field” , **Experimental Thermal and Fluid Science**, 82, (2017), 439-449.
 - 71) Mohammad Amani, Pourya Amani, **Alibakhsh Kasaeian**, Omid Mahian, Fazel Kasaeian, Somchai Wongwises, “Experimental study on viscosity of spinel-type manganese ferrite nanofluid in attendance of magnetic field” , **Journal of Magnetism and Magnetic Materials**, 428, (2017), 457-463.
 - 72) Samaneh Daviran, **Alibakhsh Kasaeian**, Hamed Tahmooressi, Alimorad Rashidi, Dongsheng Wen, Omid Mahian, “Evaluation of clustering role versus Brownian motion effect on the heat conduction in nanofluids: A novel approach” , **International Journal of Heat and Mass Transfer**, 108, (2017), 822-829.
 - 73) **Alibakhsh Kasaeian**, Hossein Barghamadi, Fathollah Pourfayaz, “Performance comparison between the geometry models of multi-channel absorbers in solar volumetric receivers” , **Renewable Energy**, 105, (2017), 1-12.
 - 74) **Alibakhsh Kasaeian**, Amir Reza Mahmoudi, , Fatemeh Razi Astarai, Afshin Hejab, “3D simulation of solar chimney power plant considering turbine blades” , **Energy Conversion and Management**, 147, (2017), 55-65.
 - 75) Jumholkul, C., Mahian, O., **Kasaeian, A.**, Dalkilic, A.S., Wongwises, S, “An experimental study to determine the maximum efficiency index in turbulent flow of SiO_2 /water nanofluids” , **International Journal of Heat and Mass Transfer**, 112, (2017), 1113-1121.
 - 76) Amani, M., Amani, P., **Kasaeian, A.**, Mahian, O., Yan, W.-M, “Two-phase mixture model for nanofluid turbulent flow and heat transfer: Effect of heterogeneous distribution of nanoparticles” , **Chemical Engineering Science**, 167, (2017), 135-144.

- 77) **Kasaeian, A.**, Daneshazarian, R., Rezaei, R., Pourfayaz, F., Kasaeian, G. “Experimental investigation on the thermal behavior of nanofluid direct absorption in a trough collector”, **Journal of Cleaner Production**, 158, (2017), 276-284.
- 78) Yousefi, H., Ghodusinejad, M.H., **Kasaeian, A.**, “Multi-objective optimal component sizing of a hybrid ICE + PV/T driven CCHP microgrid”, **Applied Thermal Engineering**, 122, (2017), 126-138.
- 79) Ghaderian, J., Sidik, N.A.C., **Kasaeian, A.**, (...), Samion, S., Yahya, W.J, “Performance of copper oxide/distilled water nanofluid in evacuated tube solar collector (ETSC) water heater with internal coil under thermosyphon system circulations”, **Applied Thermal Engineering**, 121, (2017), 520-536.
- 80) Sheikhpour, M., Golbabaie, A., **Kasaeian, A.**, “Carbon nanotubes: A review of novel strategies for cancer diagnosis and treatment”, **Materials Science and Engineering C**, 76, (2017), 1289-1304.
- 81) **Kasaeian, A.**, Khanjari, Y., Golzari, S., Mahian, O., Wongwises, S, “Effects of forced convection on the performance of a photovoltaic thermal system: An experimental study”, **Experimental Thermal and Fluid Science**, 85, (2017), 13-21.
- 82) Tahani, M., Rabbani, A., **Kasaeian, A.**, Mehrpooya, M., Mirhosseini, M, “Design and numerical investigation of Savonius wind turbine with discharge flow directing capability”, **Energy**, 130, (2017), 327-338.
- 83) Amani, M., Ameri, M., **Kasaeian, A.**, “The efficacy of magnetic field on the thermal behavior of MnFe₂O₄ nanofluid as a functional fluid through an open-cell metal foam tube”, **Journal of Magnetism and Magnetic Materials**, 432, (2017), 539-547.
- 84) Nikfarjam, A., Mohammadpour, R., **Kasaeian, A.**, Zebhi, Z, “Improving transparency in dye-sensitized nanostructured solar cells by optimizing nano-porous titanium dioxide photo-electrode”, **Journal of Materials Science: Materials in Electronics**, 28(11), (2017), 7811-7818.
- 85) Sheikhpour, M., Barani, L., **Kasaeian, A.**, “Biomimetics in drug delivery systems: A critical review”, **Journal of Controlled Release**, 253, (2017), 97-109.
- 86) **Kasaeian, A.**, Daneshazarian, R., Pourfayaz, F, “Comparative study of different nanofluids applied in a trough collector with glass-glass absorber tube”, **Journal of Molecular Liquids**, 234, (2017), 315-323.
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- 93) Yousefi, H., **Kasaeian, A.**, Ranjbaran, P., Katouli, M.H, “A review on the locational criterions for installing solar power plants in Iran”, **Geospatial Engineering Journal**, 8(2), (2017), 25-38.
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- 112) Yan, W.-M., Ye, Y.-J., **Kasaeian, A.**, “Fluid flow and thermal characteristics in inclined tubes with transcritical carbon dioxide as working fluid”, **International Communications in Heat and Mass Transfer**, (2018), 91, 84-89.
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- 114) Mousavi, S., **Kasaeian, A.**, Shafii, M.B., Jahangir, M.H., “Numerical investigation of the effects of a copper foam filled with phase change materials in a water-cooled photovoltaic/thermal system”, **Energy Conversion and Management**, (2018), 163, 187-195.
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- 117) Mohammad Hossein Jahangir, Hamid Sarrafha, **Alibakhsh Kasaeian**, “Numerical modeling of energy transfer in underground borehole heat exchanger within unsaturated soil”, **Applied Thermal Engineering**, (2018), 132, 697-707.
- 118) Amirreza Moaleman, **Alibakhsh Kasaeian**, Mohamad Aramesh, Omid Mahian, Lovedeep Sahota, Gopal Nath Tiwari, “Simulation of the performance of a solar concentrating photovoltaic-thermal collector, applied in a combined cooling heating and power generation system”, **Energy Conversion and Management**, (2018), 160, 191-208.
- 119) Shohreh Soltani, **Alibakhsh Kasaeian**, Tahmineh Sokhansefat, Mohammad Behshad Shafii, “Performance investigation of a hybrid photovoltaic/thermoelectric system integrated with parabolic trough collector”, **Energy Conversion and Management**, (2018), 159, 371-380.

7. Papers Presented at National and International Conferences

- 120) Behrouz Meyssami, **Alibakhsh Kasaeian**, “Investigation of the effects of different parameters on olive oil wastewater treatment using chitosan polyelectrolyte's” **The Sixth international Conference on Chemical Engineering, Isfahan, 2001.**
- 121) **Alibakhsh Kasaeian**, Mahmoud Torabi Angaji, Gholam Hossein Zohuri “The generations of Ziegler-Natta catalysts for polymerization of α -olefins” **The Eighth International Conference on Chemical Engineering, Mashhad, 2003.**
- 122) **Alibakhsh Kasaeian**, Mahmoud Torabi Angaji, Gholam Hossein Zohuri “Polymerization of propylene using the fifth-generation Ziegler-Natta catalyst” **The Ninth International Conference on Chemical Engineering, Tehran, 2004.**
- 123) **Alibakhsh Kasaeian** “Investigation of the additives affecting the chalk properties” **The Second Natural Convention on Chalk Industries, University of Semnan, Iran, 2006.**
- 124) Faramarz Hormozi, **Alibakhsh Kasaeian**, Farshad Varaminian “Investigation of the methods for the market-based developments of chalk industries” **The Second Natural Convention on Chalk Industries, University of Semnan, Iran, 2006.**
- 125) **Alibakhsh Kasaeian**, Ebrahim Kasaeian “Thermodynamic investigation and analysis of an incinerator power plant” **The Second Natural Convention on Fuel, Energy and Environment, University of Kermanshah, Iran, 2010.**
- 126) **Alibakhsh Kasaeian**, Ehsan Heidari, Shahin Nasiri Vatan “Modeling of the temperature

- changes in a solar chimney” **The Conference on Energy Management and Optimization, Tehran, Iran, 2010.**
- 127) **Alibakhsh Kasaeian**, Mahsa Mosalla, Yasaman Moharrer, “Comparative thermal conductivity modeling of TiO₂/germanium nanocomposites” **Kish International Conference of Composites, Properties and Characterization, 2010.**
 - 128) **Alibakhsh Kasaeian**, Shahin Nasirivatan, Sina Daneshmand “FGM materials and finding an appropriate model for the thermal conductivity” **The East Asia Pacific Conference on Structural Engineering and Construction, Hong Kong, Jan. 2011.**
 - 129) Mojtaba Ayatollahi, Shiva Nasiri, **Alibakhsh Kasaeian**, “Convection heat transfer modeling of Ag nanofluid using different viscosity theories” **IUM Mechanical Engineering Conference, Malaysia, 2011.**
 - 130) Ahmad Hajinezhad, **Alibakhsh Kasaeian**, Maryam Abedi, Somayyeh Hajinezhad, “Investigation of bioethanol production from sugar industry wastes” **33rd Seminar of Sugar Industries, Mashhad, 2011.**
 - 131) **Alibakhsh Kasaeian**, Shiva Nasiri, Ahmad Hajinezhad “Investigation of free-convection heat transfer for an Al nanofluid solution” **5th Symposium on Advances in Science and Technology, Mashhad, 2011.**
 - 132) Ahmad Hajinezhad, **Alibakhsh Kasaeian**, Somayyeh Hajinezhad, Marzieh Yousefi, Afshin Rashidi “Optimization of energy consumption and applying renewable energies in a 1000 Ton Sugar Factory” **33rd Seminar of Sugar Industries, Mashhad, 2011.**
 - 133) **Alibakhsh Kasaeian**, Samaneh Daviran, Elham Zeinali, “Nanotechnology in manufacturing of automotive polymeric trim parts” **The Convention on Advanced Plastics and their Industrial Applications, Darab, Iran, 2010.**
 - 134) Mojtaba Ayatollahi, **Alibakhsh Kasaeian**, “Antiplane elastodynamic analysis of an orthotropic half-plane weakened by several cracks” **International Conference on Mechanical, Automotive and Aerospace Engineering, Malaysia, 2011.**
 - 135) Mojtaba Ayatollahi, **Alibakhsh Kasaeian**, Rasul Bagheri “Dynamic behavior of a functionally graded orthotropic plane with multiple cracks” **The International Conference on Mechanics of Nano, Micro Composite Structures, Torino, 2012 .**
 - 136) **Alibakhsh Kasaeian**, Shiva Nasiri, Mojtaba Ayatollahi “Heat transfer and vibration modeling of oil industry turbine blade using numerical solutions” **The International Conference on Mechanics of Nano, Micro Composite Structures, Torino, 2012 .**
 - 137) **Alibakhsh Kasaeian**, Tahmineh Sokhansefat, Mohammad Javad Abbaspour, Masoud Sokhansefat “Numerical study of heat transfer enhancement by using Al₂O₃/synthetic oil nanofluid in a parabolic trough collector tube” **WASET Conference on Mechanical and Industrial Engineering, Rome, 2012.**
 - 138) **Alibakhsh Kasaeian**, Shiva Nasiri, Ahmad Haji Nezhad “Investigation of free-convection heat transfer for an Al-nanofluid solution model” **Fifth Symposium on Advances in Science & Technology, Mashhad, 2011.**
 - 139) **Alibakhsh Kasaeian**, Ahmad Haji Nezhad, Marzieh Yousefi, Ali Abolhasani “Utilizing solar radiation energy for heating of vegetable greenhouse” **11th International Conference on Clean Energy, Taiwan, 2011.**
 - 140) Zahra Zebhi, Alireza Nikfarjam, Raheleh Mohammadpour, **Alibakhsh Kasaeian** “Nanostructured semi-transparent solar cell based on dye sensitized technology” **Conference on Nanostructured Solar Cells, Sharif University, Iran, 2012.**

- 141) Arezou Boroumandnia, Alireza Nikfarjam, Raheleh Mohammadpour, **Alibakhsh Kasaeian** “Fabricating and analysis of hybrid organic-inorganic nanostructured solar cell with the composition of TiO₂ and P₃HT” **Conference on Nanostructured Solar Cells, Sharif University, Iran, 2012.**
- 142) Zahra Zebhi, Alireza Nikfarjam, **Alibakhsh Kasaeian** “Semi-transparent solar cell based on dye sensitized technology for the novel application of solar energy” **The Second Conference on Environment Planning and Management, Iran, 2012.**
- 143) Shahin Nasiri Vatan, Alibakhsh Kasaeian, Ehsan Heidari, Leila Mahi “Mathematical and experimental temperature modeling of a solar chimney power plant” **The 3rd CUTSE International Conference, Malaysia, 2011.**
- 144) **Alibakhsh Kasaeian**, Samaneh Daviran, Sassan Mohaseb “Incremental differential quadrature method for numerical heat transfer analysis of horizontal tube fluid flow using nanofluid” **The 7th MIT Conference on Computational Fluid and Solid Mechanics- Focus: Multiphysics & Multiscale, USA, 2013.**
- 145) Zahra Zebhi, Alireza Nikfarjam, Raheleh Mohammadpour, **Alibakhsh Kasaeian**, “Fabrication of semi-transparent nanostructured solar cell based on dye-sensitization technology as a smart glass for building integrated photovoltaic system applications” , **UFGNSM2013 Conference, University of Tehran, Tehran, 2013.**
- 146) **Alibakhsh Kasaeian**, Shiva Nasiri, Sassan Mohaseb, Roham Rafiee “Numerical Study of Heat Transfer for an External Natural Convection Using Cu/Water and CuO/Water” **The 7th MIT Conference on Computational Fluid and Solid Mechanics- Focus: Multiphysics & Multiscale, USA, 2013.**
- 147) **Alibakhsh Kasaeian**, Mohammad Sameti “Mini Review on the Application of Neural Networks in Solar Energy Conversion” **The first national conference on energy, environment and biodefence, Iran, 2014.**
- 148) Mohammad Reza Najafpour, Mohammad Sameti, **Alibakhsh Kasaeian** “Mechanical Modelling of a Modulated Single Pool Tidal Energy System” **Third International Conference on Emerging Trends in Energy Conservation (ETEC), Iran, 2014.**
- 149) **Alibakhsh Kasaeian**, Mohammad Sameti, Sima Mohammadi, Nastaran Sharifi “Numerical Modeling of PCM Storage-Integrated Solar Wall for Building Heating Systems” **The 9th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES), Italy, 2014.**
- 150) **Alibakhsh Kasaeian**, Tahmineh Sokhansefat, Kiana Rahmani, Sassan Mohaseb "Comparing the performance of flat plate collector and evacuated tube collector for building and industrial usage in hot and cold climate in Iran with TRNSYS software" **The Ninth International Conference on Engineering Computational Technology, Naples, 2014.**
- 151) Sassan Mohaseb, **Alibakhsh Kasaeian**, Mehran Ghalamchi, Niloufar Fadayi, Yasamin Khanjari "Simulation and optimization of a solar chimney using new structural mechanisms" **The Ninth International Conference on Engineering Computational Technology, Naples, 2014.**
- 152) **Alibakhsh Kasaeian**, Reza Danesh Azarian, Fathollah Pourfayaz, Mohammad Aramesh “Exergy analysis and parametric study of parabolic trough solar collector” **1st Conference on Modern Advances in the Energy Sector, Saveh, Iran, 2015.**

- 153) **Alibakhsh Kasaeian**, Mohamad Aramesh, Fathollah Pourfayaz, Reza Danesh Azarian “Calculation of insolation area in salt gradient solar pond” **1st Conference on Modern Advances in the Energy Sector, Saveh, Iran, 2015.**
- 154) **Alibakhsh Kasaeian**, Afshin Hejab “ Thermodynamic analysis of solar chimney power plant to predict power generation” **1st Conference on Modern Advances in the Energy Sector, Saveh, Iran, 2015.**
- 155) **Alibakhsh Kasaeian**, Fahimeh Yousefi, Fatemeh Razi Astaraei, Parviz Mohamadzadeh “Geometry optimization of solar chimney power plant for gaining the maximum output power ” **1st Conference on Modern Advances in the Energy Sector, Saveh, Iran, 2015.**
- 156) **Alibakhsh Kasaeian**, Zahra Noori, Armen Adamian, Mohammad Sameti “Modeling of nanofluid heat transfer in parabolic trough collector” **1st Conference on Modern Advances in the Energy Sector, Tehran, 2015.**
- 157) Yasamin Khanjari, Fathollah Pourfayaz, **Alibakhsh Kasaeian**, “Simulation of a Water-Cooled PVT System”, **2nd International Conference on IEA (Technology and Energy Management, Tehran, 2016.**
- 158) Alibakhsh Kasaeian, Shahin Nasiri Vatan, Moein Pakdel Sefidi, “Numerical Simulation for Performance Evaluation of Solar Chimney Power Plants in Iran” **2nd International Conference on Renewable Energy Research and Applications, Madrid, 2013.**
- 159) Mehdi Akhlaghi, Amirhossein Abbasi, **Alibakhsh Kasaeian**, “Simulation and optimization of solar refrigeration using trough collectors for Tehran”, **ISME 21st Conference, Shiraz, Iran, 2013.**
- 160) Samaneh Daviran, **Alibakhsh Kasaeian**, Alimorad Rashidi, “Investigation on distribution and stability of carbon nanofluid based on silicone oil and effect of temperature on its properties”, **The First Seminar on Nano Science and Technology, Tehran, Iran, 2013.**
- 161) Mohammad Sameti, Mohammadreza Najafpour, **Alibakhsh Kasaeian**, “The approaches of sustainable development against climate change” , **The First Conference on Climate Change and Towards Sustainable Future, Tehran, 2014.**
- 162) **Alibakhsh Kasaeian**, Reyhaneh Loni, Ezzatollah Askari, Barat Ghobadian, “Evaluation of a Specific Cavity Receiver under Variation of Mass Flow Rate”, **2nd Conference on Advances in mechanical Engineering, Yildiz Technical University, Istanbul, Turkey, 2016.**
- 163) **Alibakhsh Kasaeian**, Alireza Farivar, Mehran Ghalamchi, Mehرداد Ghalamchi, Arezou Boroumandnia, “New Method of Solar Tracking Control System for Dish Stirling”, **2nd Conference on Advances in mechanical Engineering, Yildiz Technical University, Istanbul, Turkey, 2016.**
- 164) **Alibakhsh Kasaeian**, Reza Daneshazarian, Mohammad Aramesh, Fazel Kasaeian, Omid Mahian, “Investigation of the Effect of Selective Coating on the Performance of a Solar Parabolic Trough Collector with Nanofluid Application”, **2nd Conference on Advances in mechanical Engineering, Yildiz Technical University, Istanbul, Turkey, 2016.**
- 165) **Alibakhsh Kasaeian**, Mohammad Aramesh, Fathollah Pourfayaz, Reza Daneshazarian, Soudabeh Golzari “Investigation of Shading Effect on the Performance of Solar Ponds with Rectangular Cross Sections”, **2nd Conference on Advances in mechanical Engineering, Yildiz Technical University, Istanbul, Turkey, 2016.**
- 166) Hossin Abbasi, Fereshteh Rahimpour, Fathollah Pourfayaz, **Alibakhsh Kasaeian**, “Simulation of Biomass Gasification Process Integrated with a Solid Oxide Fuel Cell and

- Based on the Outlet of Torrefaction Process as Feedstock”, **3rd Conference on Advances in mechanical Engineering, Yildiz Technical University, Istanbul, Turkey, 2016.**
- 167)** Hossein Timasi, Alireza Zahedi, **Alibakhsh Kasaeian**, “Experimental Study of using MgO Nanoparticles in Two Different Base Fluids in a Solar Parabolic Trough Collector”, **3rd Conference on Advances in mechanical Engineering, Yildiz Technical University, Istanbul, Turkey, 2016.**
- 168)** Reyhaneh Loni, **Alibakhsh Kasaeian**, Ezzatollah Askari Asli-Ardeh, Barat Ghobadian, Kazem Shahverdi, “Numerical Investigation of Dish Concentrator using a Cavity Receiver: Effect of Mass Flow Rate and Solar irradiation”, **3rd Conference on Advances in mechanical Engineering, Yildiz Technical University, Istanbul, Turkey, 2016.**
- 169)** Reyhaneh Loni, **Alibakhsh Kasaeian**, Ezzatollah Askari Asli-Ardeh, Barat Ghobadian, Kazem Shahverdi, “Investigation of Cylindrical Cavity Receiver as a Heat Source of Solar ORC System using Nanofluid”, **3rd Conference on Advances in mechanical Engineering, Yildiz Technical University, Istanbul, Turkey, 2016.**
- 170)** Reyhaneh Loni, **Alibakhsh Kasaeian**, Ezzatollah Askari Asli-Ardeh, Barat Ghobadian, Kazem Shahverdi, “Thermal Evaluation of Cavity Receiver using Water/PG as the Solar Working Fluid”, **3rd Conference on Advances in mechanical Engineering, Yildiz Technical University, Istanbul, Turkey, 2016.**

8. Completed and Current Research Projects Participated

- 1) Treatment of olive oil waste water using polyelectrolytes, University of Tehran, 1999.
- 2) Polymerization of propylene using highly-active Ziegler-Natta catalyst, the National Petrochemical Company of Iran, Tehran, 2003.
- 3) Synthesis of butyl rubber using Ziegler-Natta Catalyst, Research Institute of Petroleum Industry, Tehran, 2004.
- 4) Investigation of the effects of additives on the engineering properties of chalk, Chalk Research Center, Semnan, Iran, 2006.
- 5) Design and building of a solar chimney, University of Zanjan, 2010
- 6) Solar illumination of Mahdishahr waterfall park, Municipality of Mahdishahr, 2011.
- 7) Design and constructing a solar trough collector with the capability of nanofluid usage (selected as the superior plan in the research achievements fair, University of Tehran, November 2012).
- 8) Design and constructing a solar PVT system equipped with electro hydrodynamic process (selected as the superior plan in the research achievements fair, University of Tehran, November 2012).
- 9) Development of solar chimney technology in Iran, Nirou Research Institute, 2017.

9. Teachings

1. Thermodynamics for Electrical Engineering Students (B.Sc. Course).

2. Thermodynamics I for Chemical Engineering Students (B.Sc. Course).
3. Thermodynamics I for Mechanical Engineering Students (B.Sc. Course).
4. Thermodynamics II for Mechanical Engineering Students (B.Sc. Course).
5. Advanced Thermodynamics for Mechanical Engineering Students (M.Sc. Course)
6. Thermodynamics Laboratory (B.Sc. Course)
7. Renewable Energies I (M.Sc. Course)
8. Renewable Energies II (M.Sc. Course)
9. Laboratory of Renewable Energies (M.Sc. Course)
10. Solar Energy (M.Sc. Course)
11. Energy Conversion & Storage (M.Sc. Course)
12. Heat Transfer I (B.Sc. Course)
13. Heat Transfer II (B.Sc. Course)
14. Advanced Heat Transfer (M.Sc. Course)
15. Transport Phenomena's (B.Sc. Course)
16. Industrial Waste Water Treatment (B.Sc. Course)
17. Paint Chemistry & Technology (B.Sc. Course)
18. Paint & Gaze of Ceramics (B.Sc. Course)
19. General Chemistry (B.Sc. Course)
20. Unit Operations II (B.Sc. Course)
21. Advanced Drying (M.Sc. Course)
22. Chemical Industries (B.Sc. Course)
23. English Language for Mechanical Engineering Students (M.Sc. Course)
24. Solar Thermal & Solar Hydrogen Power Plants Technology (M.Sc. Course)
25. Process Engineering (M.Sc. Course)
26. Energy Consumption Management in Building (PhD Course)
27. Solar Energy Systems (PhD Course)
28. Advanced Energy Conversion & Storage (PhD Course)
29. Designing Energy Systems (M.Sc. Course)
30. Exergy (M.Sc. Course)
31. CHP Design (Ph.D Course)
32. ISI Writing (Free Course)

10. Inventions (Registered in Iranian Patent)

1. Solar chimney with changeable collector slope
2. Electronic device charger with the capability of using four kinds of renewable energies
3. Cell phone charger with rotational hand movement
4. FGM material with the structure of Fe-ZrO₂
5. Solar trough collector with nanofluids as working fluid
6. Photovoltaic/Thermal system using EHD
7. Solar chimney using EHD
8. PCM-assisted solar chimney
9. Replacing automotive mirror for night view
10. Hybrid of solar chimney with dryer

11. Conductivity meter for nanofluids

11. Books

1. Translation of “Micro-CHP Power Generation for Residential and Small Commercial Buildings, (by: L. M. Chamra & P. J. Mago)”, 2015, Yavarian Pub.
2. Translation of “Energy Storage, (by: R. Zito)”, 2017, Islamic Azad University Press.
3. Daviran S., Mohasseb S., Kasaeian A., “Case Studies in Thermal Engineering”, 2017, Editions Universitaires Europeennes.
4. Translation of “Electricity from Sunlight, (by: P. Lynn)”, 2018, Islamic Azad University Press.

12. Editorial Responsibilities

- Editorial Board Member, Journal of Thermal Engineering
- Lead Guest Editor, International Journal of Photoenergy, Special Issue: Solar Thermal Energy