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ALI SOHANI

Last Update: July 2, 2025

A Quick Overview

19.44*	Average, M.Sc.	**101**	Papers in peer-reviewed journals	**3685**	Citations
18.47*	Average, B.Sc.	**96**	Papers in Q1 journals	**37**	h-index
20.00*	Average, Ph.D.	**27**	Papers in conference proceedings	**12**	Books or book chapters published
* Averages from 20.00		**482**	Number of reviews; for 39 ISI journals	**41**	Times serving as a teacher assistant
42	Supervising B.Sc. students	**7**	Editorial experiences	**11**	Subjects serving as a teacher assistant
33	Supervising M.Sc. students	**14**	Number of awards and honors	**2**	Times serving as an instructor

Academic Experiences

2025-now

Postdoc Researcher

Department of Enterprise Engineering, University of Rome Tor Vergata, Rome, Italy

Project title: Modeling the performance of bifacial photovoltaic modules for agrivoltaic applications; Supervisor: Professor Cristina Cornaro. An EU Horizon funded project

2022-2025

Doctor of Philosophy, (Ph.D.)

Department of Enterprise Engineering, University of Rome Tor Vergata, Rome, Italy

Dissertation title: Characterization and modeling of innovative photovoltaic technologies for energy conversion; Supervisor: Professor Cristina Cornaro. An EU Horizon funded project

2016-2022

Doctor of Philosophy, (Ph.D.)

Department of Mechanical Engineering, Energy Division, K. N. Toosi University of Technology (KNTU), Iran

Dissertation title: Providing and experimental validation of a thermal-photovoltaic model to predict the performance of photovoltaic panels; Supervisor: Professor Hoseyn Sayyaadi

The first (top) rank student with the average of 20.00 out of 20.00, outstanding as the only student with the full average in the KNTU.

2013-2015

Master of Science, (M.Sc.)

Department of Mechanical Engineering, Energy Division, K. N. Toosi University of Technology (KNTU), Iran

Thesis title: Modeling and optimization of different evaporative cooling systems for different applications; Supervisor: Professor Hoseyn Sayyaadi

The first (top) rank student with the average of 19.44 out of 20.00

2009-2013

Bachelor of Science, (B.Sc.)

Department of Mechanical Engineering, K. N. Toosi University of Technology (KNTU), Iran
The first (top) rank student with the average of 18.47 out of 20.00

Research Experiences

2022-present **Researcher**

ESTER (Energia Solare TEst e Ricerca) Lab, University of Rome Tor Vergata, Rome, Italy

2014-2022 **Senior head**

Optimization of thermal systems' installations Lab (Dr. Hoseyn Sayyaadi's Lab), Department of Mechanical engineering, KNTU

Supervising more than 32 B.Sc., and 26 M.Sc. students

2014-2021 **Senior research assistant**

Optimization of thermal systems' installations Lab (Dr. Hoseyn Sayyaadi's Lab), Department of Mechanical engineering, KNTU

Modelling, simulation, experimental test, and multi-objective optimization of energy systems

2013-2014 **Research assistant**

Optimization of thermal systems' installations Lab (Dr. Hoseyn Sayyaadi's Lab), Department of Mechanical engineering, KNTU

Modelling, simulation, experimental test, and multi-objective optimization of energy systems

Publications In Peer-Reviewed Journals

Google scholar profile:
https://scholar.google.com/citations?hl=en&user=cCajaCoAAAAJ&view_op=list_works&sortby=pubdate

Solar Systems Technology

1. **Sohani, A.**, Pierro, M., Moser, D. and Cornaro, C., 2025. Comparison of physical models for bifacial PV power estimation. Energy Conversion and Management, 327, p.119515 [Link to the webpage].

2. **Sohani, A**., 2025. Time-dependent energy, economic, and environmental assessment of a PV-hydrogen integrated power system. *International Journal of Hydrogen Energy*, 50(5), p.123456 [Link to the webpage].

3. Shahverdian, M.H., Sayyaadi, H. and **Sohani, A.**, 2025. Multi-layer modeling of bifacial photovoltaic panels: Evaluating the accuracy of one-, three-, and five-layer models. *Energy Conversion and Management: X*, 25, p.100879 [Link to the webpage].

4. Soltanifar, F., Bahrami, A. and **Sohani, A.**, 2025. A green energy-economic optimized solar driven solution for power, methanol, and hydrogen production together. *Fuel*, 386, p.134147 [Link to the webpage].

5. Shahverdian, M.H., Soltanifar, F., **Sohani, A**., Sayyaadi, H. and Hoseinzadeh, S., 2025. A 3E comparative study to choose the best storage method for PV solar system for off-grid applications: Hydrogen or battery. *Journal of Energy Storage*, 117, p.116111 [Link to the webpage].

6. **Sohani, A.**, Pierro, M., Moser, D., Cornaro, C, 2025. An Accurate Data-Driven Physical Model for Bifacial PV Power Estimation. *In the submission stage*.

7. Najaftomaraei M., Osouli M., Erbay H., Shahverdian M.H., **Sohani A.**, Mazarei Saadabadi K., Sayyaadi H.. 2025. Artificial Intelligence-Based Optimization of Renewable-Powered RO Desalination for Reduced Grid Dependence. *Water* 17(13), p.1981. [Link to the webpage].

8. Shahverdian, M.H., Najaftomaraei, M., Fassadi Chimeh, A., Yavarzadeh, N., **Sohani, A.**, Javadijam, R. and Sayyaadi, H., 2025. Towards Zero-Energy Buildings: A comparative techno-economic and environmental analysis of rooftop PV and BIPV systems. *Buildings*, 15(7), p.999 [Link to the webpage].

9. Parikh, R., Parikh, S., Sharma, K., **Sohani, A.**, Katekar, V.P., Ansari, M.A., Natrayan, L. and Shah, M.A., 2025. Experimental investigations on the productivity increase of solar stills utilising hybrid nanomaterials and water-cooling techniques. *Energy Exploration & Exploitation*, p.01445987241308588 [Link to the webpage].

10. Shahverdian, M.H., Sayyaadi, H. and **Sohani, A**., 2024. A detailed optical thermo-electrical model for better thermal analysis of bifacial PV systems. *Energy Conversion and Management: X*, 24, p.100817 [Link to the webpage].

11. Javadijam, R., Dehbashi, M., Shahverdian, M.H., **Sohani, A.**, Arıcı, M. and Sayyaadi, H., 2024. Artificial intelligent based techno-economic-exergetic optimization of a thermoelectric enhanced building integrated photovoltaic thermal system. *Journal of Building Engineering*, *84*, p.108526 [Link to the webpage].

12. Bahrami, A., Soltanifar, F., Fallahi, P., Meschi, S.S. and **Sohani, A.**, 2024. Energy and Economic Advantages of Using Solar Stills for Renewable Energy-Based Multi-Generation of Power and Hydrogen for Residential Buildings. *Buildings*, *14*(4), p.1041 [Link to the webpage].

13. **Sohani, A.**, Cornaro, C., Shahverdian, M.H., Pierro, M., Moser, D., Nižetić, S., Karimi, N., Li, L.K. and Doranehgard, M.H., 2023. Building integrated photovoltaic/thermal technologies in Middle Eastern and North African countries: Current trends and future perspectives. *Renewable and Sustainable Energy Reviews*, *182*, p.113370 [Link to the webpage].

14. **Sohani, A.**, Cornaro, C., Shahverdian, M.H., Moser, D., Pierro, M., Olabi, A.G., Karimi, N., Nižetić, S., Li, L.K. and Doranehgard, M.H., 2023. Techno-economic evaluation of a hybrid photovoltaic system with hot/cold water storage for poly-generation in a residential building. *Applied Energy*, *331*, p.120391 [Link to the webpage].

15. **Sohani, A.**, Cornaro, C., Shahverdian, M.H., Hoseinzadeh, S., Moser, D., Nastasi, B., Sayyaadi, H. and Garcia, D.A., 2023. Thermography and machine learning combination for comprehensive analysis of transient response of a photovoltaic module to water cooling. *Renewable Energy*, *210*, pp.451-461 [Link to the webpage].

16. **Sohani, A.**, Shahverdian, M.H., Sayyaadi, H., Nižetić, S. and Doranehgard, M.H., 2023. An optimum energy, economic, and environmental design based on DEVAP concept to reach maximum heat recovery in a PV-wind turbine system with hydrogen storage. *Energy Conversion and Management*, *288*, p.117147 [Link to the webpage].

17. **Sohani, A.**, Dehbashi, M., Delfani, F. and Hoseinzadeh, S., 2023. Optimal techno-economic and thermo-electrical design for a phase change material enhanced renewable energy driven polygeneration unit using a machine learning assisted lattice Boltzmann method. *Engineering Analysis with Boundary Elements*, *152*, pp.506-517 [Link to the webpage].

18. **Sohani, A.**, Sayyaadi, H., Moradi, M.H., Zabihigivi, M., Arıcı, M., Shahverdian, M.H., Hoseinzadeh, S., Nastasi, B. and Garcia, D.A., 2023. An in-depth thermo-electrical evaluation of a rooftop PV technology for a residential building using advanced infrared thermography. *Engineering Analysis with Boundary Elements*, *152*, pp.243-258 [Link to the webpage].

19. Shahverdian, M.H., Sedayevatan, S., Hosseini, M., **Sohani, A.**, Javadijam, R. and Sayyaadi, H., 2023. Multi-objective technoeconomic optimization of an off-grid solar-ground-source driven cycle with hydrogen storage for power and fresh water production. *International Journal of Hydrogen Energy*, *48*(52), pp.19772-19791 [Link to the webpage].

20. Javadijam, R., Shahverdian, M.H., **Sohani, A.** and Sayyaadi, H., 2023. A 4E Comparative Study between BIPV and BIPVT Systems in Order to Achieve Zero-Energy Building in Cold Climate. *Buildings*, *13*(12), p.3028 [Link to the webpage].

21. Asrami, R.F., Sohani, A., Sayyaadi, H. and Moradi, M.H., 2023. Geographical information system as an approach for PV power plants allocation with 3E criteria. Solar Energy, 264, p.111966 [Link to the webpage].

22. Esmaeilion, F., Soltani, M., Hoseinzadeh, S., **Sohani, A.** and Nathwani, J., 2023. Benefits of an innovative polygeneration system integrated with salinity gradient solar pond and desalination unit. *Desalination*, *564*, p.116803 [Link to the webpage].

23. Sedayevatan, S., Bahrami, A., Delfani, F. and **Sohani, A.**, 2023. Uncertainty Covered Techno-Enviro-Economic Viability Evaluation of a Solar Still Water Desalination Unit Using Monte Carlo Approach. *Energies*, *16*(19), p.6924 [Link to the webpage].

24. Asrami, R.F., **Sohani, A.**, Pedram, M.Z. and Sayyaadi, H., 2023. An eco-friendly remote sensing assisted development procedure to install renewable energy infrastructure for highest techno-economic gain. *Energy Conversion and Management: X*, *20*, p.100490 [Link to the webpage].

25. Piri, A., Aghanajafi, C. and **Sohani, A.**, 2023. Enhancing efficiency of a renewable energy assisted system with adiabatic compressed-air energy storage by application of multiple Kalina recovery cycles. *Journal of Energy Storage*, *61*, p.106712 [Link to the webpage].

26. Hassan, I.U., Naikoo, G.A., Salim, H., Awan, T., Tabook, M.A., Pedram, M.Z., Mustaqeem, M., **Sohani, A.**, Hoseinzadeh, S. and Saleh, T.A., 2023. Advances in Photochemical Splitting of Seawater over Semiconductor Nano-Catalysts for Hydrogen Production: A Critical Review. *Journal of Industrial and Engineering Chemistry* [Link to the webpage].

27. Shahverdian, M.H., **Sohani, A.**, Pedram, M.Z. and Sayyaadi, H., 2023. An optimal strategy for application of photovoltaic-wind turbine with PEMEC-PEMFC hydrogen storage system based on techno-economic, environmental, and availability indicators. *Journal of Cleaner Production*, *384*, p.135499 [Link to the webpage].

28. **Sohani, A.**, Sayyaadi, H., Miremadi, S.R., Yang, X., Doranehgard, M.H. and Nizetic, S., 2023. Determination of the best air space value for installation of a PV façade technology based on 4E characteristics. *Energy*, *262*, p.125386 [Link to the webpage].

29. Panchal, H., **Sohani, A.**, Van Nguyen, N., Shoeibi, S., Khiadani, M., Huy, P.Q., Hoseinzadeh, S., Kabeel, A.E., Shaik, S. and Cuce, E., 2023. Performance evaluation of using evacuated tubes solar collector, perforated fins, and pebbles in a solar still–experimental study and CO2 mitigation analysis. *Environmental Science and Pollution Research*, *30*(5), pp.11769-11784 [Link to the webpage].

30. Shahverdian, M.H., **Sohani, A.** and Sayyaadi, H., 2022. A 3E water energy nexus based optimum design for a hybrid PV-PEMFC electricity production systems for off-gird applications. *Energy Conversion and Management*, *267*, p.115911 [Link to the webpage].

31. **Sohani, A.**, Delfani, F., Hosseini, M., Sayyaadi, H., Karimi, N., Li, L.K. and Doranehgard, M.H., 2022. Dynamic multi-objective optimization applied to a solar-geothermal multi-generation system for hydrogen production, desalination, and energy storage. *International Journal of Hydrogen Energy*, *47*(74), pp.31730-31741 [Link to the webpage].

32. **Sohani, A.**, Delfani, F., Chimeh, A.F., Hoseinzadeh, S. and Panchal, H., 2022. A conceptual optimum design for a high-efficiency solar-assisted desalination system based on economic, exergy, energy, and environmental (4E) criteria. *Sustainable Energy Technologies and Assessments*, *52*, p.102053 [Link to the webpage].

33. Sonawane, C.R., Panchal, H.N., Hoseinzadeh, S., Ghasemi, M.H., Alrubaie, A.J. and **Sohani, A.**, 2022. Bibliometric Analysis of Solar Desalination Systems Powered by Solar Energy and CFD Modelled. *Energies*, *15*(14), p.5279 [Link to the webpage].

34. Jafari, S., Hoseinzadeh, S. and **Sohani, A.**, 2022. Deep Q-Value Neural Network (DQN) Reinforcement Learning for the Techno-Economic Optimization of a Solar-Driven Nanofluid-Assisted Desalination Technology. *Water*, *14*(14), p.2254 [Link to the webpage].

35. **Sohani, A.**, Sayyaadi, H., Cornaro, C., Shahverdian, M.H., Pierro, M., Moser, D., Karimi, N., Doranehgard, M.H. and Li, L.K., 2022. Using machine learning in photovoltaics to create smarter and cleaner energy generation systems: A comprehensive review. *Journal of Cleaner Production*, p.132701 [Link to the webpage].

36. **Sohani, A.**, Sayyaadi, H., Miremadi, S.R., Samiezadeh, S. and Doranehgard, M.H., 2022. Thermo-electro-environmental analysis of a photovoltaic solar panel using machine learning and real-time data for smart and sustainable energy generation. *Journal of Cleaner Production*, *353*, p.131611 [Link to the webpage].

37. Bensafi, M., Ameur, H., Kaid, N., Hoseinzadeh, S., Memon, S. and **Sohani, A.**, 2022. Experimental Study of Electric Power Generation with Concentrated Solar Thermoelectric Generator. *Electronics*, *11*(12), p.1867 [Link to the webpage].

38. Jafari, S., **Sohani, A.**, Hoseinzadeh, S. and Pourfayaz, F., 2022. The 3E Optimal Location Assessment of Flat-Plate Solar Collectors for Domestic Applications in Iran. *Energies*, *15*(10), p.3589 [Link to the webpage].

39. **Sohani, A.**, Delfani, F., Hosseini, M., Sayyaadi, H., Karimi, N., Li, L.K. and Doranehgard, M.H., 2022. Price inflation effects on a solar-geothermal system for combined production of hydrogen, power, freshwater and heat. *International Journal of Hydrogen Energy* [Link to the webpage].

40. Shakouri, M., Ghadamian, H., Hoseinzadeh, S. and **Sohani, A.**, 2022. Multi-objective 4E analysis for a building integrated photovoltaic thermal double skin Façade system. *Solar Energy*, *233*, pp.408-420 [Link to the webpage].

41. **Sohani, A.**, Dehnavi, A., Sayyaadi, H., Hoseinzadeh, S., Goodarzi, E., Garcia, D.A. and Groppi, D., 2022. The real-time dynamic multi-objective optimization of a building integrated photovoltaic thermal (BIPV/T) system enhanced by phase change materials. *Journal of Energy Storage*, *46*, p.103777 [Link to the webpage].

42. Jafari, S., Aghel, M., **Sohani, A.** and Hoseinzadeh, S., 2022. Geographical preference for installation of solar still water desalination technologies in Iran: An Analytical Hierarchy Process (AHP)-based answer. *Water*, *14*(2), p.265 [Link to the webpage].

43. Shahverdian, M.H., Sedayevatan, S., Latif Damavandi, S., **Sohani, A.** and Sayyaadi, H., 2022. A Road Map to Detect the Foremost 3E Potential Areas for Installation of PV Façade Technology Using Multi-Criteria Decision Making. *Sustainability*, *14*(23), p.15529 [Link to the webpage].

44. Benami, A., Ouslimane, T., Et-taya, L. and **Sohani, A**., 2022. Comparison of the Effects of ZnO and TiO2 on the Performance of Perovskite Solar Cells via SCAPS-1D Software Package [Link to the webpage].

45. **Sohani, A.**, Naderi, S., and Pignatta, G., 2022. 4E advancement of heat recovery during hot seasons for a building integrated photovoltaic thermal (BIPV/T) system. *Environmental Sciences Proceedings* [Link to the webpage].

46. **Sohani, A.**, Sayyaadi, H., Moradi, M.H., Nastasi, B., Groppi, D., Zabihigivi, M. and Garcia, D.A., 2021. Comparative study of temperature distribution impact on prediction accuracy of simulation approaches for poly and mono crystalline solar modules. *Energy Conversion and Management*, 239, p.114221 [Link to the webpage].

47. **Sohani, A.**, Sayyaadi, H., Doranehgard, M.H., Nizetic, S. and Li, L.K., 2021. A method for improving the accuracy of numerical simulations of a photovoltaic panel. *Sustainable Energy Technologies and Assessments*, 47, p.101433 [Link to the webpage].

48. **Sohani, A.**, Shahverdian, M.H., Sayyaadi, H., Hoseinzadeh, S., Memon, S., Piras, G. and Astiaso Garcia, D., 2021. Energy and Exergy Analyses on Seasonal Comparative Evaluation of Water Flow Cooling for Improving the Performance of Monocrystalline PV Module in Hot-Arid Climate. *Sustainability*, 13(11), p.6084 [Link to the webpage].

49. Fardi Asrami, R., **Sohani, A.**, Saedpanah, E. and Sayyaadi, H., 2021. Towards achieving the best solution to utilize photovoltaic solar panels for residential buildings in urban areas. *Sustainable Cities and Society*, 71, p.102968 [Link to the webpage].

50. **Sohani, A.**, Shahverdian, M.H., Sayyaadi, H., Samiezadeh, S., Doranehgard, M.H., Nizetic, S. and Karimi, N., 2021. Selecting the best nanofluid type for A photovoltaic thermal (PV/T) system based on reliability, efficiency, energy, economic, and environmental criteria. *Journal of the Taiwan Institute of Chemical Engineers*, 124, pp. 351-358 [Link to the webpage].

51. **Sohani, A.**, Hoseinzadeh, S., Samiezadeh, S., and Verhaert, I., 2021. Machine learning prediction approach for dynamic performance modeling of an enhanced solar still desalination system, *Journal of Thermal Analysis and Calorimetry* [Link to the webpage].

52. **Sohani, A**., Hoseinzadeh, S. and Berenjkar K., 2021. Experimental analysis of innovative designs for solar still desalination technologies; An in-depth technical and economic assessment, *Journal of Energy Storage*, 33. p. 101862 [Link to the webpage].

53. Shahverdian, M.H., **Sohani, A.**, Sayyaadi, H., Samiezadeh, S., Doranehgard, M.H., Karimi, N. and Li, L.K., 2021. A dynamic multi-objective optimization procedure for water cooling of a photovoltaic module. *Sustainable Energy Technologies and Assessments*, 45, p.101111 [Link to the webpage].

54. Makkiabadi, M., Hoseinzadeh, S., Nezhad, M.M., **Sohani, A.**, and Groppi, D., 2021. Techno-Economic study of a new hybrid solar desalination system for producing fresh water in a hot–arid climate. *Sustainability*, 13(22), p.12676 [Link to the webpage].

55. Shahverdian, M.H., **Sohani, A.** and Sayyaadi, H., 2021. Water-energy nexus performance investigation of water flow cooling as a clean way to enhance the productivity of solar photovoltaic modules. *Journal of Cleaner Production*, 312, p.127641 [Link to the webpage].

56. **Sohani, A**. and Sayyaadi, H., 2020. Employing Genetic Programming to Find the Best Correlation to Predict Temperature of Solar Photovoltaic Panels. *Energy Conversion and Management*, 224, p. 113291 [Link to the webpage].

57. **Sohani, A**., Shahverdian, M.H., Sayyaadi, H., and Garcia, D.A., 2020. Impact of absolute and relative humidity on the performance of mono and poly crystalline silicon photovoltaics; applying artificial neural network, *Journal of Cleaner Production*, 276, p. 123016 [Link to the webpage].

58. Hoseinzadeh, S., **Sohani, A.**, Samiezadeh, S., Kariman, H. and Ghasemi, M.H., 2020. Using computational fluid dynamics for different alternatives water flow path in a thermal photovoltaic (PVT) system, *International Journal of Numerical Methods for Heat & Fluid Flow* [Link to the webpage].

59. Kariman, H., Hoseinzadeh, S., Heyns, S. and **Sohani, A.**, Modeling and exergy analysis of domestic MED desalination with brine tank, *Desalination and water treatment*. 197. pp. 1-13 [Link to the webpage].

60. **Sohani, A**. and Sayyaadi, H., 2020. Providing an Accurate Way for Obtaining the efficiency of a Photovoltaic Solar Panel. *Renewable Energy*, 156, pp. 395-406 [Link to the webpage].

61. Saedpanah, E., Fardi Asrami, R., **Sohani, A.** and Sayyaadi, H., 2020. Life cycle comparison of potential scenarios to achieve the foremost performance for an off-grid photovoltaic electrification system. *Journal of Cleaner Production*, 242, p.118440 [Link to the webpage].

Building Performance Optimization and HVAC systems

62. Rajski, K., Englart, S. and **Sohani, A.**, 2024. Analysis of greywater recovery systems in European single-family buildings: Economic and environmental impacts. *Sustainability*, 16(12), p.4912 [Link to the webpage].

63. Rajski, K., **Sohani, A.**, Jafari, S., Danielewicz, J. and Sayegh, M.A., 2022. Energy Performance of a Novel Hybrid Air Conditioning System Built on Gravity-Assisted Heat Pipe-Based Indirect Evaporative Cooler. *Energies*, *15*(7), p.2613 [Link to the webpage].

64. **Sohani, A.**, Rezapour S. and Sayyaadi, H., 2021. Comprehensive performance evaluation and demands' sensitivity analysis of different optimum sizing strategies for a combined cooling, heating, and power system. *Journal of Cleaner Production*, 279 [Link to the webpage].

65. Mousavi Motlagh, S.F**., Sohani, A.**, Djavad Saghafi, M., Sayyaadi, H. and Nastasi, B., 2021. Acquiring the Foremost Window Allocation Strategy to Achieve the Best Trade-Off among Energy, Environmental, and Comfort Criteria in a Building. *Energies*, 14(13), p.3962 [Link to the webpage].

66. Mousavi Motlagh, S.F., **Sohani, A.,** Saghafi, M.D., Sayyaadi, H., and Nastasi, B., 2021. The road to developing economically feasible plans for green, comfortable and energy efficient buildings. *Energies*, 14(3), 636 [Link to the webpage].

67. Momeni, M., Jani, S., **Sohani, A.**, Jani, S. and Rahpeyma, E., 2021. A high-resolution daily experimental performance evaluation of a large-scale industrial vapor-compression refrigeration system based on real-time IoT data monitoring technology. *Sustainable Energy Technologies and Assessments*, 47, p.101427 [Link to the webpage].

68. Safari, M., **Sohani, A.**, and Sayyaadi, H., 2021. A higher performance optimum design for a tri-generation system by taking the advantage of water-energy nexus. *Journal of Cleaner Production*, 284, p. 124704 [Link to the webpage].

69. **Sohani, A.** and Sayyaadi, H., Sohani, A. and Sayyaadi, H., End-Users' Behavior and Policymakers' Decision on the Optimal Performance Characteristics of a Dew-Point Indirect Evaporative Cooler. *Applied Thermal Engineering*, 165, p.114575 [Link to the webpage].

70. **Sohani, A.**, Sayyaadi, H. and Azimi, M., 2019. Employing static and dynamic optimization approaches on a desiccant-enhanced indirect evaporative cooling system. *Energy Conversion and Management*, 199, p.112017 [Link to the webpage].

71. Tariq, R., **Sohani, A.,** Xamán, J.**,** Sayyaadi, H. and Bassam, A., Tzuc, M.O., Multi-Objective Optimization for the Best Possible Thermal, Electrical and Overall Energy Performance of a Novel Perforated-type Regenerative Evaporative Humidifier, *Energy Conversion and Management*, 198, p.111802 [Link to the webpage].

72. **Sohani, A.,** Sayyaadi, H. and Zeraatpisheh, M., 2019. Optimization Strategy by A General Approach to Enhance Improving Potential of Dew-Point Evaporative Coolers. *Energy Conversion and Management*, 188, pp. 177-213 [Link to the webpage].

73. **Sohani, A**. and Sayyaadi, H., 2018. Thermal comfort based resources consumption and economic analysis of a two-stage direct-indirect evaporative cooler with diverse water to electricity tariff conditions. *Energy Conversion and Management*, *172*, pp.248-264 [Link to the webpage].

74. Moradi, M.H., **Sohani, A.**, Zabihigivi, M. and Wirbser, H., 2017. A comprehensive approach to find the performance map of a heat pump using experiment and soft computing methods. *Energy Conversion and Management*, *153*, pp.224-242 [Link to the webpage].

75. **Sohani, A.** and Sayyaadi, H., 2017. Design and retrofit optimization of the cellulose evaporative cooling pad systems at diverse climatic conditions. *Applied Thermal Engineering*, 123, pp. 1396-1418 [Link to the webpage].

76. **Sohani, A.,** Zabihigivi, M., Moradi, M.H., Sayyaadi, H. and Balyani, H.H., 2017. A comprehensive performance investigation of cellulose evaporative cooling pad systems using predictive approaches. *Applied Thermal Engineering*, 110, pp.1589-1608 [Link to the webpage].

77. **Sohani, A.,** Sayyaadi, H., Hasani Balyani, H. and Hoseinpoori, S., A Novel Approach Using Predictive Models for Performance Analysis of Desiccant Enhanced Evaporative Cooling Systems, *Applied thermal engineering*, 107, pp. 227-252 [Link to the webpage].

78. **Sohani, A**., Sayyaadi, H. and Hoseinpoori, S., 2016. Modeling and multi-objective optimization of an M-cycle cross-flow indirect evaporative cooler using the GMDH type neural network. *International Journal of Refrigeration*, 69, pp. 186-204 [Link to the webpage].

79. Hasani Balyani, H., **Sohani, A**., Sayyaadi, H. and Karami, R., 2015. Acquiring the best cooling strategy based on thermal comfort and 3E analyses for small scale residential buildings at diverse climatic conditions. *international journal of refrigeration*, 57, pp.112-137 [Link to the webpage].

Power Generation Technologies (Engines, fuel cells, thermoelectrics, and thermal power plants) & Chemical reactors

80. Assareh, E., Meshkinnezhad, S., Agarwal, N., Baheri, A., Ahmadinejad, M., Behrang, M., **Sohani, A.**, Fathi, A., Jafarinejad, T. and Lee, M., 2024. Performance evaluation and multi-objective optimization of an innovative double-stage thermoelectric heat storage system for electricity generation. *Energy Nexus*, *13*, p.100260 [Link to the webpage].

81. Zadegan, M.S., Pedram, M.Z., **Sohani, A.** and Hoseinzadeh, S., 2022. A super-efficient method for hydrogen production from seawater. *International Journal of Hydrogen Energy*, *47*(62), pp.26135-26155 [Link to the webpage].

82. Aksar, M., Yağlı, H., Koç, Y., Koç, A., **Sohani, A.** and Yumrutaş, R., 2022. Why Kalina (Ammonia-Water) cycle rather than steam Rankine cycle and pure ammonia cycle: A comparative and comprehensive case study for a cogeneration system. *Energy Conversion and Management*, *265*, p.115739 [Link to the webpage].

83. Lamraski, M.B.A., Naikoo, G.A., Pedram, M.Z., **Sohani, A.**, Hoseinzadeh, S. and Moradi, H., 2022. Thermodynamic modeling of several alcohol-hydrocarbon binary mixtures at low to moderate conditions. *Journal of Molecular Liquids*, *346*, p.117924 [Link to the webpage].

84. Alizadeh, A., Ghadamian, H., Aminy, M., Hoseinzadeh, S., Sahebi, H.K. and **Sohani, A.**, 2022. An experimental investigation on using heat pipe heat exchanger to improve energy performance in gas city gate station. *Energy*, *252*, p.123959 [Link to the webpage].

85. **Sohani, A.**, Pedram, M.Z., Berenjkar, K., Sayyaadi, H., Hoseinzadeh, S., Kariman, H. and Assad, M.E.H., 2021. Techno-energy-enviro-economic multi-objective optimization to determine the best operating conditions for preparing toluene in an industrial setup. *Journal of Cleaner Production*, 313, p.127887 [Link to the webpage].

86. Naderi, A., Qasemian, A., Shojaeefard, M.H., Samiezadeh, S., Younesi, M., **Sohani, A.** and Hoseinzadeh, S., 2021. A smart load-speed sensitive cooling map to have a high-performance thermal management system in an internal combustion engine. *Energy*, 229, p.120667 [Link to the webpage].

87. Samiezadeh, S., Qasemian, A., **Sohani, A.**, Rezaei, A., Khodaverdian, R., Soltani, R., Li, L.K. and Doranehgard, M.H., 2021. Energy and environmental enhancement of power generation units by means of zero- flow coolant strategy. *International Journal of Energy Research* [Link to the webpage].

88. Lamraski, M.B.A., Naikoo, G.A., Pedram, M.Z., Sohani, A., Hoseinzadeh, S., and Moradi, H., 2021. Thermodynamic modeling of several alcohol-hydrocarbon binary mixtures at low to moderate conditions. *Journal of Molecular Liquids*, p.117924 [Link to the webpage].

89. **Sohani, A.,** Naderi, S., Torabi, F., Sayyaadi, H., Akhlaghi, Y.G., Zhao, X., Talukdar, K. and Said, Z., 2020. Application based multi-objective performance optimization of a proton exchange membrane fuel cell. *Journal of Cleaner Production*, 252, p.119567 [Link to the webpage].

90. Sayyaadi, H., Khosravanifard, Y. and **Sohani, A.**, 2020. Solutions for thermal energy exploitation from the exhaust of an industrial gas turbine using optimized bottoming cycles. *Energy Conversion and Management*, *207*, p.112523 [Link to the webpage].

91. **Sohani, A.**, Pedram, M.Z. and Hoseinzadeh, S., 2020. Determination of Hildebrand solubility parameter of pure 1-alkanols up to high pressures. *Journal of Molecular Liquids*, 297, p.111847 [Link to the webpage].

92. **Sohani, A.,** Naderi, S. and Torabi, F., 2019. Comprehensive comparative evaluation of different possible optimization scenarios for a polymer electrolyte membrane fuel cell, *Energy Conversion and Management*, 191, pp.247-260 [Link to the webpage].

93. **Sohani, A.**, Farasati, Y. and Sayyaadi, H., 2017. A systematic approach to find the best road map for enhancement of a power plant with dew point inlet air pre-cooling of the air compressor. *Energy Conversion and Management*, 150, pp.463-484 [Link to the webpage].

94. Tahmasebzadehbaie, M., Sayyaadi, H., **Sohani, A.** and Zamani Pedram, M., 2017. Heat and mass recirculations strategies for improving the thermal efficiency and environmental emission of a gas-turbine cycle. *Applied Thermal Engineering*, 125, pp.118-133 [Link to the webpage].

Fluid mechanics

95. Jamali, R., **Sohani, A.**, Hemmatpour, K., Behrang, M. and Ghobeity, A., 2022. Experimental study of pressure pulsation in a large-scale hydropower plant with Francis turbine units and a common penstock. *Energy Conversion and Management: X*, *16*, p.100308 [Link to the webpage].

96. Hoseinzadeh, S., **Sohani, A.** and Ashrafi, T.G., 2022. An artificial intelligence-based prediction way to describe flowing a Newtonian liquid/gas on a permeable flat surface. *Journal of Thermal Analysis and Calorimetry*, *147*(6), pp.4403-4409 [Link to the webpage].

97. Hoseinzadeh, S., **Sohani, A.**, Shahverdian, M.H., Shirkhani, A. and Heyns, S., 2021. Acquiring an analytical solution and performing a comparative sensitivity analysis for flowing Maxwell upper-convected fluid on a horizontal surface. *Thermal Science and Engineering Progress*, 23, p.100901 [Link to the webpage].

98. Ghanbari Ashrafi, T., Hoseinzadeh, S., **Sohani, A.** and Shahverdian, M.H., 2021. Applying homotopy perturbation method to provide an analytical solution for Newtonian fluid flow on a porous flat plate. *Mathematical Methods in the Applied Sciences* [Link to the webpage].

99. Hoseinzadeh, S., Sohani, A. and Ashrafi, T.G., 2021. An artificial intelligence-based prediction way to describe flowing a Newtonian liquid/gas on a permeable flat surface. *Journal of Thermal Analysis and Calorimetry*, pp.1-7 [Link to the webpage].

100. Hoseinzadeh, S., **Sohani, A.**, and Heyns, P.S. 2021. Comprehensive analysis of the effect of air injection on the wake development of an airfoil, *Ocean Engineering*. p. 108455 [Link to the webpage].

101. Hoseinzadeh, S., Bahrami, A., Mirhosseini, S.M., **Sohani, A.** and Heyns, P.S., 2020. A Detailed Experimental Airfoil Performance Investigation Using an Equipped Wind Tunnel. *Flow Measurement and Instrumentation*, *72*, p.101717 [Link to the webpage].

PUBLICATIONS IN COFERENCE PROCEEDINGS

Solar Systems Technology

1. **Sohani, A.**, Pierro, M., Cornaro, C., Moser, D., 2025. Evaluation of the Accuracy of Bifacial PV Power Estimation Models Using an Experimental Setup. *The 3r^{d} Italian photovoltaic network for research, development and innovation (Rete italiana del fotovoltaico per la ricerca, lo sviluppo e l'innovazione), Naples, Italy (RETE IFV- 3).*

2. **Sohani, A.**, Pierro, M., Cornaro, C., Moser, D., 2024. An Accurate Data-Driven Physical Model for Bifacial PV Power Estimation. *The 41st European Photovoltaic Solar Energy Conference and Exhibition, Vienna, Austria (EU PVSEC 41).*

3. **Sohani, A.**, Pierro, M., Cornaro, C., Moser, D., 2024. Providing An Accurate Data-Driven Model to Estimate Bifacial PV Power Production. *The 2nd Italian photovoltaic network for research, development and innovation (Rete italiana del fotovoltaico per la ricerca, lo sviluppo e l'innovazione), Bolzano, Italy (RETE IFV- 2).*

4. **Sohani, A.,** Cornaro, C., Moser, D., 2022. Monte Carlo approach to Consider Power Production Uncertainty due to Randomness of Module Manufacturing Process. *The 8th World Conference on Photovoltaic Energy Conversion, Milan, Italy (WCPEC-8).*

5. Sohani, A., Cornaro, C., Hoseinzadeh, S., Moser, D., Nastasi, B., Astiaso Garcia, D., 2022. Thermography and Machine Learning Combination for Comprehensive Analysis of Dynamic Response of a Photovoltaic Module to Water Cooling, *The 17th Conference on Sustainable Development of Energy, Water and Environment Systems, Paphos, Cyprus (SDEWES).*

6. **Sohani, A.**, Naderi, S., Pignatta, G., 2021. 4E advancement of heat recovery during hot seasons for a building integrated photovoltaic thermal (BIPV/T) system. *The 3rd Built Environment Research Forum, Sydney, Australia (BERF#3).*

7. **Sohani, A.**, Groppi D., Nastasi, B., Zabihigivi, M., Moradi, M.H., Sayyaadi, H., Garcia, D.A., 2020. Comparative study of shadow impacts on the temperature distribution and other related performance criteria of solar panels. *The 4th Southeast European Conference on Sustainable Development of Energy Water and Environmental Systems, Sarajevo, Bosnia and Herzegovina, (SDEWES.SEE2020).*

8. **Sohani, A.**, Groppi D., Nastasi, B., Sadooghi, A., Shahrasebi, M., Sayyaadi, H., Garcia, D.A., 2020. Experimental analysis of the effect of the surface temperature distribution on the behavior of PV panels. *The 4th Southeast European Conference on Sustainable Development of Energy Water and Environmental Systems, Sarajevo, Bosnia and Herzegovina, (SDEWES.SEE2020).*

9. **Sohani, A.**, Sadooghi, A., Shahrasebi, M., Sayyaadi, H., Garcia, D.A., 2020. Experimental study the effect of shadow on a monocrystalline PV cell. *The 28rd Annual International Mechanical Engineering Conference, Tehran, Iran, (ISME2020).*

Building Performance Optimization and HVAC systems

10. **Sohani, A.**, Hasani B., H., Sayyaadi, H., Maisotsenko, V. 2018. Performance and economical analyses of a dew point evaporative cooling system using stepwise regression approach. *ASHRAE annual conference, Houston, TX, USA (ASHRAE 2018)*.

11. Azimi, M., **Sohani, A.**, Sayyaadi, H. 2016, Enhancing the performance of direct evaporative coolers in hot and dry areas using cooled air mixing process. *Iranian conference of science and enginnering, Tehran, Iran.*

12. **Sohani, A.**, Fallah, M,, Sayyaadi H., 2016, Thermoeconomic optimization of a direct expansion system with economizer for utilizing in chillers, *The 3rd conference of new technologies of Iran*.

13. **Sohani, A.,** Zabihigivi, M., Moradi, M.H., Sayyaadi, H., 2015. An accurate method to calculate the initial price of a direct evaporative cooler, *The 2nd conference of renewable energy managamet, Hamadan, Iran.*

14. **Sohani, A.,** Mohammadhosseini, N., Hoseinpoori, S., Sayyaadi, H., 2015. Making dimensionless value from inlet and operational effective parameters of a desiccant-enhance evaporative system to develop a general way for their evaluation, *The 1st international conference of HVAC and the related installations, Tehran, Iran.*

15. **Sohani, A.,** Zabihigivi, M., Moradi, M.H., Sayyaadi, H., 2015. Modelling a counter-flow regenerative dew-point evaporative cooler using artificial neural network. *The 1st international conference of HVAC and the related installations, Tehran, Iran.*

16. Moradi, M.H., Zabihigivi, M., **Sohani, A.,** Sayyaadi, H., Investigation of the different solid desiccant cooling systems in wet cities of Iran based on the coefficient of performance, *23rd Annual International Mechanical Engineering Conference, Tehran, Iran, (ISME2015).*

17. Hasani, H., **Sohani, A.**, Sayyaadi, H., 2015. A comparative study between DEVap and vapor compression cooling systems based on energy and economic aspects. *23rd Annual International Mechanical Engineering Conference, Tehran, Iran, (ISME2015).*

18. **Sohani, A.**, Hasani B., H., Sayyaadi, H., 2015. Exergy analysis and feasibility study of a cross-flow dew point air cooling system for Iran's building application. *23rd Annual International Mechanical Engineering Conference, Tehran, Iran, (ISME2015).*

19. **Sohani, A.**, Mohammadhosseini, N., Sayyaadi, H., 2015. Introducing a novel micro-CCHP unit with internal combustion engine and desiccant-enhance evaporative cooler and its assessment in Rasht. *1st conference of new technologies in Iran with the goal of achieving sustainable progress, Tehran, Iran.*

20. Zabihigivi, M., Moradi, M.H., **Sohani, A.,** Sayyaadi, H., 2014. Dimensionless numbers approach to investigate the impacts of inlet and operational parameters on the liquid desiccant cooling systems, *2nd Annual International conference of heat and mass transfer of Iran, Tehran, Iran, (ISME2015).*

21. **Sohani, A.**, Hasani B., H., Sayyaadi, H. (2014). Making dimensionless inlet variables to present a general approach for analysis of the indirect evaporative cooling counter-flow and cross-flow heat exchangers. *5th Annual International Conference on Heating, Ventilating and Air Conditioning, Tehran, Iran, (ICHVAC-2014).*

22. Hasani B., H., **Sohani, A.**, Sayyaadi, H. (2014). A comparative study of M-cycle cross-flow and counter-flow heat exchangers for indirect evaporative cooling. *1st International Conference on Advances in Engineering and Basic Sciences, Iran. (AEBS2014).*

Power Generation Technologies (Engines, fuel cells, and thermal power plants) & Chemical reactors

23. Farasati, Y., Sohani**, A.**, Sayyaadi, H. 2017, Using dew-point evaporative coolers for inlet air precooling of compressor. *3rd Conference of new findings in science, Qom, Iran*.
24. Farasati, Y., Sohani**, A.**, Sayyaadi, H. 2017, Investigation the impacts of different technologies to enhance gas-turbine power generation plants. *3rd Conference of new findings in science, Qom, Iran*.

25. Farmahini Farahani S., Makki, S.A., **Sohani, A.**, Sayyaadi H., 2016, Presentation and optimization of a ground source CCHP system. *The 2nd symposium of new findings in mechanical engineering and related science, Tehran, Iran*.

26. Asgari, M., **Sohani, A.**, Sayyaadi, 2016, Assesment and optimization of ORC-Rankine cycle, *The 2nd symposium of new findings in mechanical engineering and related science, Tehran, Iran*.

Fluid mechanics

27. Mirshahvalad, A.H., **Sohani, A.**, Sayyaadi, H. 2019, Numerical investigation of a shell and tube heat exchanger with spiral baffles to improve hydraulic condition and heat transfer coefficient. *26rd Annual International Mechanical Engineering Conference, Semnan, Iran, (ISME2019)*.

EXPERIENCES AS A REVIEWER

Verified Publons' profile for conducted reviews: *https://publons.com/researcher/3051993/ali-sohani/peer-review*

Elsevier

1. Journal of Cleaner Production
2. Energy Conversion and Management
3. Energy Conversion and Management: X
4. Applied Energy
5. Solar Energy
6. Renewable Energy
7. Applied Thermal Engineering
8. Energy for Sustainable Development
9. Energy Nexus
10. Engineering Analysis with Boundary Elements
11. International Journal of Hydrogen Energy
12. International Journal of Thermofluids
13. Sustainable Energy Technologies and Assessments
14. Thermal Science and Engineering Progress
15. Journal of the Taiwan Institute of Chemical Engineers
16. Journal of Environmental Chemical Engineering
17. Chemical Engineering Research and Design
18. Cleaner Engineering and Technology
19. Unconventional Resources

Springer

20. International Journal of Thermophysics
21. Energy Efficiency

22. Journal of the Brazilian Society of Mechanical Sciences and Engineering
23. Journal of Thermal Analysis and Calorimetry

Taylor & Francis

24. Energy Sources, Part A: Recovery, Utilization and Environmental Effects
25. International Journal of Ambient Energy
26. Australian Journal of Mechanical Engineering

Wiley

27. Environmental Progress & Sustainable Energy
28. Engineering Reports

Multidisciplinary Digital Publishing Institute (MDPI)

29. Buildings
30. Energies

Hindawi

31. Journal of Combustion
32. International Journal of Photoenergy
33. Journal of Energy

Emerald Group Publishing

34. International Journal of Numerical Methods for Heat & Fluid Flow
35. World Journal of Engineering
36. Smart and Sustainable Built Environment

IEEE

37. IEEE Access

Other publishers

38. Journal of Thermal Engineering (Yildiz University)
39. Clean Energy (Oxford university press)

EDITORIAL EXPERIENCE

1. Guest Editor for the topic "Efficient Solutions for Sustainable Development of Energy Systems", International Journal of Thermofluids, Elsevier.
2. Guest Editor for the topic "Selected Papers from the 16th Conference 'Air, Heat and Energy'", Energies (MDPI).
3. Associate Editor, Frontiers in Built Environment.
4. Guest Associate Editor for the topic "Retrofitting Potential of Conventional Energy Systems Using Renewable Energy Technologies", Frontiers in Energy.
5. Guest Associate Editor for the topic "Phase Change Materials: Theory and Applications", Frontiers in Mechanical Engineering.
6. Guest Editor for the topic "Renewable Energy Exploitation: Technologies, Assessment, and Future Perspective", Sustainability (MDPI).
7. Guest Editor for the topic "Sustainable Development of Solar Photovoltaic Islands' Decarbonization", Sustainability (MDPI).

BOOKS

1. Sayyaadi, H., **Sohani, A.**, Shahverdian, M.H., 2022, An introduction to exergy, exergoeconomic, and exergoenvironemntal analyses, *K.N. Toosi Press* (In Persian).

2. Sayyaadi, H., **Sohani, A.**, 2020, Using advanced mathematical programming to solve optimization problems, *K.N. Toosi Press* (In Persian).

3. Shahidian, A., **Sohani, A.**, 2017, Hydropower plant; mechanical engineering perspectives, *K.N. Toosi Press* (In Persian).

BOOK CHAPTERS

1. Shahverdian, M.H., Delfani, F., Pedram, M.Z., Hosseini, M., **Sohani, A.**, Fazeli, H. and Sayyaadi, H., 2024. Fundamentals and mechanism of biological purification and classification. In Sustainable Technologies for Remediation of Emerging Pollutants from Aqueous Environment (pp. 13-28). Elsevier.

2. **Sohani, A.**, Shahverdian, M.H., Hoseinzadeh, S. and Assad, M.E.H., 2023. Thermal energy storage systems. *Emerging trends in energy storage systems and industrial applications*, pp.189-222.

3. Dehnavi, A., Nithiyananthan, K., Arjmandi, M., Khajehali, N., Miremadi, S.R., **Sohani, A.** and FEKIK, A., 2023. Application of machine learning and artificial intelligence in design, optimization, and control of power electronics converters for renewable energy-based technologies. *Power Electronics Converters and their Control for Renewable Energy Applications*, pp.283-300.

4. **Sohani, A.**, Delfani, F., Hosseini, M., Guo, Y., Sadooghi, A., Hoseinzadeh, S. and Sayyaadi, H., 2023. Application of Machine Learning and Artificial Intelligence in Design, Optimization, and Control of VRF Systems. In *Variable Refrigerant Flow Systems* (pp. 93-115). Springer, Singapore.

5. **Sohani, A.**, Cornaro, C., Shahverdian, M.H., Samiezadeh, S., Hoseinzadeh, S., Dehghani-Sanij, A., Pierro, M. and Moser, D., 2022. Using Building Integrated Photovoltaic Thermal (BIPV/T) systems to achieve net zero goal: Current trends and future perspectives. In *Towards Net Zero Carbon Emissions in the Building Industry* (pp. 91-107). Cham: Springer International Publishing.

6. **Sohani, A.,** Mohammadian, A., Asgari, N., Samiezadeh, S., Doranehgard, M.H., Goudarzi, E., Nastasi, B., Garcia, D.A., 2021. Simulation and thermodynamic modelling of heat extraction from abandoned wells, Chapter 8 from book utilization of thermal potential of abandoned wells, *Elsevier*.

7. **Sohani, A.,** Dehnavi, A., Esmaeilion, F., Ighalo, J.O.., Abdulsalam, A., Hoseinzadeh, S., Nastasi, B., Garcia, D.A., 2021. Integration of heat extraction from abandoned wells with renewables, Chapter 23 from book utilization of thermal potential of abandoned wells, *Elsevier* (Accepted for publication, In proofing stage).

8. **Sohani, A.,** Shahverdian, M.H, Hoseinzadeh, Assad, M.E.H., 2021. Thermal Energy Storage Systems, 2021. Chapter 14 from book emerging trends in energy storage systems and industrial applications, *Elsevier*. (Accepted for publication, In proofing stage).

9. **Sohani, A.,** Moradi, M.H., Rajski, K., Akhlaghi, Y.G., Zabihigivi, M., 2021. Data-centric and intelligent systems in air quality monitoring, assessment and mitigation, Chapter 4 from book current trends and advances in computer-aided intelligent environmental data engineering (ISBN: 605435), *Elsevier* (Accepted for publication, In proofing stage).

10. **Sohani, A.,** Berenjkar, K., Shahverdian, M.H.., Sayyaadi, H., Goodarzi, E., 2021. Data-centric and intelligent systems in water quality monitoring, assessment and mitigation, Chapter 10 from book current trends and advances in computer-aided intelligent environmental data engineering (ISBN: 605435), *Elsevier* (Accepted for publication, In proofing stage).

11. Moradi, M.H., **Sohani, A.,** Zabihigivi, M., Wagner, U., Koch, T., Sayyaadi, H., 2021. Data-centric and intelligent systems in land pollution research, Chapter 12 from book current trends and advances in computer-aided intelligent environmental data engineering (ISBN: 605435), *Elsevier* (Accepted for publication, In proofing stage).

12. Torabi, F., **Sohani A.**, …., 2013, A guide for computer programing with C++, *K.N. Toosi Publication* (One chapter, In Persian).

RESEARCH INTERESTS

- Photovoltaic solar technologies
- Renewable energy
- Multi objective optimization
- Decision making
- Programming
- Evaporative cooling systems
- Soft computing and statistical approaches
- Heating, ventilation, air conditioning, and refrigeration systems (HVAC&R)
- Desalination
- Power plants
- Fuel cells
- Combined cooling, heating and power (CCHP) systems
- Energy systems and building efficiency
- Artificial intelligence

HONORS AND AWARDS

2023 & 2024 **Top 2% researchers in the world**
Based on the statistics published recently by Elsevier, SciTech Strategies, and Stanford University

2022 **Top 2% researchers in the world**
Based on the statistics published recently by Elsevier, SciTech Strategies, and Stanford University

2021 **Top 2% researchers in the world**
Based on the statistics published recently by Elsevier, SciTech Strategies, and Stanford University

2021 **The youngest scholar with 1000 citations at the university**
The youngest scholar at K.N. Toosi who reached level of 1000 citations

2021 **The most cited paper of Journal of Energy Storage (IF=6.583)**
Receiving the highest number of citations among 1031 paper have been published in 2021 in the journal

2021 **The best researcher award**
K.N.Toosi University of Technology (KNTU), Tehran, Iran
Each student/researcher can win this award once in a three-year period.

2018 **The best researcher award**
K.N.Toosi University of Technology (KNTU), Tehran, Iran
Each student/researcher can win this award once in a three-year period.

2015-2021 **Scholarship for graduate program from Iranian elite students' organization**
Based on the scores and research activities, which has been the best among all the researchers in the country.

2015-2021 **Member of Iranian elite student community**
Based on the scores and research activities, which has been the best among the students of the K.N.Toosi University of Technology (KNTU), Tehran, Iran

2016 **The best student among all the M.Sc. students of the university**
K.N.Toosi University of Technology (KNTU), Tehran, Iran

2015 **The top (first) rank M.Sc. student award**
Department of Mechanical engineering, K.N.Toosi University of Technology (KNTU), Tehran, Iran.

2015 **The best researcher award**
K.N.Toosi University of Technology (KNTU), Tehran, Iran
Department of Mechanical engineering, K.N.Toosi University of Technology (KNTU), Tehran, Iran.
Each student/researcher can win this award once in a three-year period.

2013-2015 **Full scholarship for graduate M.Sc. program**
Exemption from graduate study entrance exam as the best student of the university, Department of Mechanical engineering, K.N.Toosi University of Technology (KNTU), Tehran, Iran.

2013 **Full scholarship for graduate M.Sc. program**
Exemption from graduate study entrance exam as the best student of the university, Department of Mechanical engineering, K.N.Toosi University of Technology (KNTU), Tehran, Iran.

2013 **The top (first) rank B.Sc. student award**
Department of Mechanical engineering, K.N.Toosi University of Technology (KNTU), Tehran, Iran.

2009-2013 **Full scholarship for undergraduate program**
Through the university entrance exam, Department of Mechanical engineering, K.N.Toosi University of Technology (KNTU), Tehran, Iran.

TEACHING EXPERIENCES

Semesters	Position	Course	University and faculty
Spring 2023	Teaching assistant	Physics	University of Rome Tor Vergata, Rome, Italy
Fall 2022	Teaching assistant	Mathematics	University of Rome Tor Vergata, Rome, Italy
Spring 2021 Spring 2020 Spring 2019 Spring 2018 Spring 2017 Spring 2016 Fall 2015 Fall 2014	Teaching assistant	Advanced mathematical programming	Department of Mechanical Engineering, Energy Division, K. N. Toosi University of Technology (KNTU), Iran
Spring 2020 Spring 2019 Fall 2014	Teaching assistant	Optimization of energy systems	Department of Mechanical Engineering, Energy Division, K. N. Toosi University of Technology (KNTU), Iran
Winter 2019	Instructor	How to write scientific articles	Daneshpazhoh Technical & Vocational Training Institute, Iran

Fall 2020 Fall 2019 Fall 2018 Fall 2017 Spring 2017 Spring 2016 Spring 2015 Spring 2014 Fall 2014 Spring 2014 Fall 2013	Teaching assistant	Heating, ventilation, air conditioning, and refrigeration systems (HVAC&R)	Department of Mechanical Engineering, Energy Division, K. N. Toosi University of Technology (KNTU), Iran
Fall 2020 Fall 2019 Fall 2018 Fall 2017 Fall 2016 Spring 2016 Spring 2015 Spring 2014	Teaching assistant	Exergy	Department of Mechanical Engineering, Energy Division, K. N. Toosi University of Technology (KNTU), Iran
Spring 2018 Spring 2017	Teaching assistant	Thermodynamics	Department of mechanical engineering, KNTU, Iran
Spring 2018	Teaching assistant	Conceptual design of chemical processes	Department of Mechanical Engineering, Energy Division, K. N. Toosi University of Technology (KNTU), Iran
Spring 2017 Spring 2016 Spring 2014	Teaching assistant	Hydro power plants	Department of mechanical engineering, KNTU, Iran
Fall 2016	Teaching assistant	Thermal power plants	Department of Mechanical Engineering, Energy Division, K. N. Toosi University of Technology (KNTU), Iran
Summer 2016	Instructor	Carrier Hourly Analysis Program (HAP) learning course	K. N. Toosi University of Technology (KNTU), Iran
Fall 2013 Fall 2012	Teaching assistant	Computer programming	Department of mechanical engineering, KNTU, Iran

SKILLS

Hands on experience	**Photovoltaic (PV) solar technologies** Professional
	Solar still desalination technologies Professional
	Evaporative cooling systems Professional
Programming Language	**MATLAB** Professional

	Python Intermediate
	C++ Intermediate
Tools	**Carrier HAP** Professional
	LaTeX Professional
	MS Office Professional

Languages

Persian
Native language
English
Professional

Job Experiences

Mar 2017- Jun 2018	**Sayyaadi's Company** Part-time job Project: Modification and optimization of the combined power and cooling systems
Jun 2013- Sep 2013 & Jun 2012-Sep 2012	**Zolal Shomal Water Treatment Company** Internship Reverse osmosis water treatment systems

References

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Other Interests

Reading
Novels
Historical books

Sports
Soccer
Swimming

Traveling