Ayad Mahmoud Salman Al Jubori

اياد محمود سلمان عواد الجبوري

Associate Professor

PROFILE

Dr. Al Jubori received his Ph.D. (2017) in Mechanical Engineering from the University of Birmingham/UK. He graduated from the University of Technology- Iraq in 2000 and 2003 for his bachelor's and master's degrees. Currently, he is a faculty member in the Department of Mechanical Engineering, University of Technology- Iraq. He has published over 20 papers in high-ranking prestigious international journals and conferences. His research fields focus on energy conversion systems, including ORC systems, CAES and cryogenic systems, solar thermal power generation, turbine design and optimization, heat pipes, and turbulence modeling. My research activities aim to develop innovative thermal energy systems and improve the energy performance of existing energy systems. I am open to collaborative research work. Currently, I'm working on developing a new efficient energy system based on various micro expanders, developing new heat pipe configurations, and developing near-zero energy building models.

ACADEMIC TITLES

2022-01-18 Associate Professor

GRADUATE SUPERVISION

Experimental Assessment for Performance of Vaccine Freezer Based on Integrated TEC-VCC Hybrid System

Ali M Ashour (2023)

ADMINISTRATIVE POSITIONS

2023-01-12 - Present Head of Air-conditioning and Refrigeration branch

INTERNATIONAL MEMBERSHIPS

- N/A

PUBLICATIONS (57)

1. Integrated Back-Pressure Turbine Plant with Kalina Cycle as an Alternative Solution for Challenges in Sustainable Cogeneration Plants

   Sustainability 18 (2), 680, 2026 | 2026 | Cited: 1

2. Performance characterization of thermoelectric module in successive hybrid cooling system for computer processor

   Applied Thermal Engineering, 130724, 2026 | 2026 | Cited: 1

3. Impact of air-cooling on thermo-hydraulic performance of cylindrical lithium-ion battery packs for electrified vehicles

   International Journal of Thermal Sciences 222, 110519, 2026 | 2026 | Cited: 5

4. Towards net-zero energy buildings: scenario-based review of passive and active energy approaches

   Energy and Buildings, 117840, 2026 | 2026

CONTACT

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EDUCATION

(10-12-2017) دكتوراه
Thermal Engineering
University of Birmingham

RESEARCH METRICS

h-index (Scopus)	16
h-index (GS)	19
Citations (Scopus)	867
Citations (GS)	1120
Documents (Scopus)	47
Documents (GS)	51

AWARDS

- Top reviewers in Cross-Field
- Top reviewers in Engineering - September 2019
- Top reviewers in Engineering - September 2018

PATENTS

- A new method to analysis the physical nanostructure properties of particular matter PM emitted from diesel engine
- Design and manufacture an innovative small scale radial-inflow turbine for power generation purpose driven by low-temperature heat source
- Design of non-contact speed damper for wind power generator by applying centrifugal fundamental

RESEARCH INTERESTS

- Small scale ORC turbines 2 CFD 3 Turbulence model 4 CFX 5Turbine design and optimization 6Low-Carbon Technology 7Heat Pipes 8Zero-Energy Building

5. **Performance assessment of a hybrid vapor compression-thermoelectric refrigeration system using machine learning models**
Energy Conversion and Management 348, 120627, 2026 | 2026 | Cited: 8

6. **An efficient small-scale radial inflow turbine for an adsorption system for cooling and electricity: A comprehensive CFD analysis**
International Communications in Heat and Mass Transfer 162, 108662, 2025 | 2025 | Cited: 14

7. **Energy Landscape in Iraq: Current Status, Research Review, and Policy Insights**
Energy Science & Engineering, 2025 | 2025 | Cited: 5

8. **Performance Evaluation of a Combined Gas Turbine Power Cycle and Absorption Chiller in Design and Off-Design Operation under Different Control Strategies**
Engineering, Technology & Applied Science Research 15 (4), 24226-24235, 2025 | 2025 | Cited: 1

9. **Enhancing the Performance of Split Unit Air-Conditioning System by Integrating Air-PCM Heat Transfer Unit: Numerical and Experimental Assessment**
Heat Transfer | 2025

10. **ANN and RSM Modelling and Optimization of Paraffins and Aromatics in Crude Oil Distillation Products' Properties in Iraq**
Gazi University Journal of Science, 1-1, 2024 | 2024 | Cited: 2

11. **Identifying effective parameters on capillary tube performance with HCFCs, HFCs blends, and hydrocarbon refrigerants: Numerical assessment**
Thermal Science and Engineering Progress, 102825, 2024 | 2024 | Cited: 5

12. **Enhancing the performance of air conditioning systems by integrating phase change materials: A comprehensive review**
Journal of Energy Storage 101, 113857, 2024 | 2024 | Cited: 14

13. **Enhancing the Performance of Split Unit Air‐Conditioning System by Integrating Air–PCM Heat Transfer Unit: Numerical and Experimental Assessment**
Heat Transfer, 2024 | 2024

14. **Experimental analysis of the temperature distribution inside vaccine freezer compartment based on hybrid refrigeration system**
Energy Conversion and Management 300, 117967, 2024 | 2024 | Cited: 20

15. **Experimental effect of CuO₂ nanoparticles into the RME and EGR rates on NO_X and morphological characteristics of soot nanoparticles**
Fuel | 2023

16. **Thermal performance characterization of a thermal energy storage tank with various phase change materials**
International Journal of Thermofluids 18, 100322, 2023 | 2023 | Cited: 22

17. **Performance of hybrid vaccine freezer that combined thermoelectric coolers with vapor compression refrigeration: Experimental assessment**
Heat Transfer, 2023 | 2023 | Cited: 14

18. **Experimental effect of CuO2 nanoparticles into the RME and EGR rates on NOX and morphological characteristics of soot nanoparticles**
Fuel 331, 125549, 2023 | 2023 | Cited: 52

19. **Influence of fuel injection pressure and RME on combustion, NO emissions and soot nanoparticles characteristics in common-rail HSDI diesel engine**
International Journal of Thermofluids | 2022

20. **Experimental thermal performance assessment of aluminum and copper heat pipes for refrigerated container applications**
International Journal of Refrigeration 133, 90-98, 2022 | 2022 | Cited: 2

21. **Impact of spectators attendance on thermal ambience and water evaporation rate in an expansive competitive indoor swimming pool**
Case Studies in Thermal Engineering, 102359, 2022 | 2022 | Cited: 16

22. **Thermal Performance Assessment of External Wall Construction for Energy-Efficient Buildings**
European Journal of Sustainable Development Research 6 (3), em0189, 2022 | 2022 | Cited: 21

23. **Influence of fuel injection pressure and RME on combustion, NOx emissions and soot nanoparticles characteristics in common-rail HSDI diesel engine**
International Journal of Thermofluids 15, 100173, 2022 | 2022 | Cited: 72

24. **Potential and Evolution of Miniatures Compressed Air Energy Storage Plants Based on Impulse Turbine**
Turbo Expo: Power for Land, Sea, and Air 86113, V10CT32A037, 2022 | 2022

25. **Flame stability and equivalence ratio assessment of turbulent partially premixed flames**
Fuel 326, 125107, 2022 | 2022 | Cited: 13

26. **Experimental Investigation of Dehumidification and Regeneration of Zeolite Coated Energy Exchanger**
International Journal of Thermofluids, 100164, 2022 | 2022 | Cited: 17

27. **Modelling of Critical Length of Capillary Tube under Adiabatic Flow of Zeotropic Blends Refrigerants**
International Middle Eastern Simulation and Modelling Conference 2022, MESM 2022 | 2022

28. **Assessment of heat transfer and flow characteristics of a two-phase closed thermosiphon**
Heat Transfer 50 (2), 1351-1370, 2021 | 2021 | Cited: 14

29. **Characterization of a Closed Loop Pulsating Heat Pipe Using Ethanol with Different Angles**
International Journal of Heat and Technology 39 (4), 1365-1371, 2021 | 2021 | Cited: 4

30. **Potential evaluation and analysis of near-to-net zero energy building in hot and dry climate**
Energy Conversion and Management: X 12, 100146, 2021 | 2021 | Cited: 41

31. **Assessment of heat transfer and flow characteristics of a two-phase closed thermosiphon**
Heat Transfer | 2020 | Cited: 14

32. **Computational evaluation of thermal behavior of a wickless heat pipe under various conditions**
Case Studies in Thermal Engineering 22, 100767, 2020 | 2020 | Cited: 49

33. **Design and manufacturing a small-scale radial-inflow turbine for clean organic Rankine power system**
Journal of Cleaner Production 257, 120488, 2020 | 2020 | Cited: 34

34. **Investigation on performance improvement of small scale compressed-air energy storage system based on efficient radial-inflow expander configuration**
Energy Conversion and Management 182, 224-239, 2019 | 2019 | Cited: 23

35. **Optimization of small scale axial air turbine using ansys cfx**
Proceedings of 22 nd the IIER international conference, 2018 | 2018 | Cited: 4

36. **Development of micro-scale radial inflow turbine for organic Rankine cycle**
2016 International Conference for Students on Applied Engineering, ICSAE 2016 | 2017 | Cited: 2

37. **New performance maps for selecting suitable small-scale turbine configuration for low-power organic Rankine cycle applications**
Journal of Cleaner Production 161, 931-946, 2017 | 2017 | Cited: 24

38. **Performance enhancement of a small-scale organic Rankine cycle radial-inflow turbine through multi-objective optimization algorithm**
Energy 131, 297-311, 2017 | 2017 | Cited: 85

39. **Development and optimization of efficient small-scale turbines for organic rankine cycle powered by low-temperature heat sources**
University of Birmingham, 2017 | 2017

40. **Development of three-dimensional optimization of a small-scale radial turbine for solar powered Brayton cycle application**
Applied Thermal Engineering 111, 718-733, 2017 | 2017 | Cited: 44

41. **Three dimensional optimization of small-scale axial turbine for low temperature heat source driven organic Rankine cycle**
Energy conversion and management 133, 411-426, 2017 | 2017 | Cited: 62

42. **Modelling and parametric analysis of small-scale axial and radial-outflow turbines for Organic Rankine Cycle applications**
Applied energy 190, 981-996, 2017 | 2017 | Cited: 87

43. **Numerical analysis of small scale axial and radial turbines for solar powered Brayton cycle application**
Applied Thermal Engineering 120, 672-693, 2017 | 2017 | Cited: 62

44. **An innovative small-scale two-stage axial turbine for low-temperature organic Rankine cycle**
Energy Conversion and Management 144, 18-33, 2017 | 2017 | Cited: 54

45. **Development of micro-scale axial and radial turbines for low-temperature heat source driven organic Rankine cycle**
Energy Conversion and Management 130, 141-155, 2016 | 2016 | Cited: 89

46. **Development of micro-scale radial inflow turbine for Organic Rankine Cycle**
2016 International Conference for Students on Applied Engineering (ICSAE ..., 2016 | 2016 | Cited: 2

47. **Impact of skin friction, tip clearance and trailing edge losses on small scale cryogenic axial turbine performance**
Turbo Expo: Power for Land, Sea, and Air 49866, V008T23A033, 2016 | 2016 | Cited: 4

48. **Development of efficient small scale axial turbine for solar driven organic Rankine cycle**
Turbo Expo: Power for Land, Sea, and Air 49743, V003T25A011, 2016 | 2016 | Cited: 19

49. **Parametric study of efficient small-scale axial and radial turbines for solar powered Brayton cycle application**
Energy Conversion and Management 128, 343-360, 2016 | 2016 | Cited: 37

50. **Minimization of loss in small scale axial air turbine using CFD modeling and evolutionary algorithm optimization**
Applied Thermal Engineering 102, 841-848, 2016 | 2016 | Cited: 44

51. **Prediction of Losses in Small Scale Axial Air Turbine Based on CFD Modelling**
Energy Procedia 75, 3271-3276, 2015 | 2015 | Cited: 12

52. **Effects of biodiesel fuel upon the exhaust emission and the performance of compression ignition engine**
Journal of Engineering and Sustainable Development 17 (5), 107-123, 2013 | 2013 | Cited: 2

53. **Data Acquisition System for Wind Speed, Direction and Temperature Measurements**
Journal of Engineering 18 (11), 2012 | 2012 | Cited: 4

54. **Natural convection heat transfer in rectangular enclosure with sinusoidal boundary condition**
Journal of Engineering and Development 16 (1), 1813-7822, 2012 | 2012 | Cited: 7

55. **An investigation of natural convection heat transfer in a square enclosure filled with nanofluid**
Engineering and Technology Journal 29 (11), 2216-2233, 2011 | 2011 | Cited: 3

56. **A Numerical Prediction of the Turbulence Parameters in Two-Dimensional Ventilated Rooms**
Eng. & Tech. Journal 29 (6), 1052-1068, 2011 | 2011 | Cited: 2

57. **Using personal computer for vibration measurements and rotor balancing**
Baghdad: Energy and Fuel Research Center, 2010 | 2010 | Cited: 3