Curriculum Vitae

Jasim M. Mahdi, Ph.D.

Department of Energy Engineering,
University of Baghdad, Baghdad 10071, Iraq.
Email: jasim@siu.edu
Phone: (+964)772-914-4189
Orcid profile: https://orcid.org/0000-0002-6060-5015
Scopus Profile: https://www.scopus.com/authid/detail.uri?authorId=57190376985
Web of Science profile: https://publons.com/researcher/1667913/jasim-m-mahdi-phd
Google Scholar profile: https://scholar.google.com/citations?user=tBmWtucAAAAJ&hl=en

EDUCATION

2013 - 2018	Southern Illinois University (United States), Ph.D. **(GPA: 3.9/4.0)** Major: Engineering Science/ Mechanical and Energy Processes
2005 - 2008	University of Baghdad (Iraq), M.Sc. Major: Mechanical Engineering
2001 - 2005	University of Baghdad (Iraq), B.Sc. Major: Nuclear Engineering

ACADEMIC EMPLOYMENT

August 2018 - present	**Senior Lecturer**, University of Baghdad Courses taught are Solar Thermal Systems, Renewable Energy Sources, and Eng. Thermodynamics
August 2013 - May 2018	**Graduate Research Assistant**, Southern Illinois University
August 2008 - May 2013	**Instructor**, University of Baghdad Courses taught are: Programing in MATLAB, Eng. Thermodynamics, and Renewable Energy Sources.

HONORS AND AWARDS

2021	**World's top 2% scientists by Stanford University (2020)** August 2021 data-update for "Updated science-wide author databases of standardized citation indicators.
2021	**NISA Award for Best International Collaborative Paper (2020)** Awarded by Network of Iraqi Scientists Abroad (NISA)
2020	**Highly Cited Research Paper Award** Awarded by Elsevier- Applied Energy (ISSN: 0306-2619)
2018	**Southern Illinois University Graduate Assistantship** Awarded by Southern Illinois University Carbondale
2017	**ASHRAE College of Fellows Travel Award** Awarded by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

RESEARCH INTERESTS

Thermal Energy Storage
PV Thermal Management
Solar cooling and Desalination
Renewable-energy Systems

SELECTED JOURNAL PUBLICATIONS

[1] **Mahdi JM**, Mohammed HI, Talebizadehsardari P, Ghalambaz M, Sh. Majdi H, khan A, et al. Simultaneous and consecutive charging and discharging of a PCM-based domestic air heater with metal foam. *Applied Thermal Engineering*. 2021;197:117408.

[2] Talebizadehsardari P, **Mahdi JM**, Mohammed HI, Moghimi MA, Hossein Eisapour A, Ghalambaz M. Consecutive charging and discharging of a PCM-based plate heat exchanger with zigzag configuration. *Applied Thermal Engineering*. 2021;193:116970.

[3] **Mahdi, J. M.**, Singh, R. P., Al-Najjar, H. M., Singh, S. & Nsofor, E. C. (2021). Efficient thermal management of the photovoltaic/phase change material system with innovative exterior metal-foam layer. *Solar Energy*, 2021; 216:411-427.

[4] **Mahdi, J. M.**, Mohammed, H. I., & Sardari, P. T. (2021). A new approach for employing multiple PCMs in the passive thermal management of photovoltaic modules. *Solar Energy*. 2021;222:160-74.

[5] Talebizadehsardari P., **Mahdi J.M.**, Mohammed H.I., Moghimi MA, Ghalambaz M. (2021) Consecutive charging and discharging of a PCM-based plate heat exchanger with zigzag configuration. *Applied Thermal Engineering*. 2021;193:116970.

[6] Talebizadehsardari P., Hayder I.; **Mahdi, J. M.**; Gillott, M.; Walker, G. S.; Grant, D.; Giddings, D. (2021) Effect of airflow channel arrangement on the discharge of a composite metal foam-phase change material heat exchanger. *International Journal of Energy Research*. 2021;45: 2593-2609.

[7] Talebizadehsardari, P.; Mohammed, H. I.; **Mahdi, J. M.**, Gillott, M.; Walker, G. S.; Grant, D.; Giddings (2021). Localised heating element distribution in composite metal foam-phase change material: Fourier's Law and creeping flow effects. *International Journal of Energy Research.*

[8] Mahdi, M. S., Mahood, H. B, **Mahdi, J. M.**, Khadom, A. A. & Campbell, A. N. (2020). Improved PCM melting in a thermal energy storage system of double-pipe helical-coil tube. *Energy Conversion and Management, 203, 112238.*

[9] Mohammed H.I., Giddings D, Walker G.S., Talebizadehsardari P., **Mahdi J.M**. (2020) Thermal behaviour of the flow boiling of a complex nanofluid in a rectangular channel: An experimental and numerical study. *International Communications in Heat and Mass Transfer.* 2020;117:104773.

[10] Mohammed HI, Talebizadehsardari P, **Mahdi J. M.**, Arshad A, Sciacovelli A, Giddings D. (2020) Improved melting of latent heat storage via porous medium and uniform Joule heat generation. *Journal of Energy Storage*. 2020;31:101747.

[11] Mahdi, J. M., Mohammed, H. I., Hashim, E. T., Sardari, P. T. & Nsofor, E. C. (2020). Solidification enhancement with multiple PCMs, cascaded metal foam and nanoparticles in the shell-and-tube energy storage system. *Applied Energy, 257, 113993.*
This highly cited paper received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year. (Data from Web of Science/ Essential Science Indicators℠ 2020).

[12] Mahdi, J. M., Lohrasbi, S. L., Ganji, D. D. & Nsofor, E. C. (2019). Simultaneous energy storage and recovery in the triplex-tube heat exchanger with PCM, copper fins and Al_2O_3 nanoparticles. *Energy Conversion and Management, 180, 949-961.*
This highly cited paper received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year. (Data from Web of Science/ Essential Science Indicators℠ 2020).

[13] Mahdi, J. M., Lohrasbi, S. L. & Nsofor, E. C. (2019). Hybrid heat transfer enhancement for latent-heat thermal energy storage systems: A review. *International Journal of Heat and Mass Transfer, 137, 630–649.*

[14] Mahdi, J. M. & Nsofor, E. C. (2018). Solidification enhancement of PCM in a triplex-tube energy storage system with nanoparticles and fins. *Applied Energy*, *211*, 975-986.
This highly cited paper received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year. (Data from Web of Science/ Essential Science Indicators℠ 2020).

[15] Mahdi, J. M., Lohrasbi, S. L., Ganji, D. D. & Nsofor, E. C. (2018). Accelerated Melting of PCM in Energy Storage Systems Using Novel Configuration of Fins in Triplex-tube Heat Exchanger. *International Journal of Heat and Mass Transfer, 124*, 663-676.
This highly cited paper received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year. (Data from Web of Science/ Essential Science Indicators℠ 2020).

[16] Mahdi, J. M. & Nsofor, E. C. (2018). Multiple-segment metal foam application in the shell-and-tube PCM thermal energy storage system. *Journal of Energy Storage, 20, 529-541.*

[17] Mahdi, J. M. & Nsofor, E. C. (2017). Melting Enhancement in a Triplex-Tube Latent Thermal Energy Storage System using Nanoparticles-Fin Combination. *International Journal of Heat and Mass Transfer, 109*, 417-427.

[18] Mahdi, J. M. & Nsofor, E. C. (2017). Solidification Enhancement in a Triplex-Tube Latent Heat Energy Storage System using Nanoparticles-Metal Foam Combination. *Energy, 126*, 501-511.

[19] Mahdi, J. M. & Nsofor, E. C. (2017). Melting Enhancement in Triplex-Tube Latent Heat Energy Storage System using Nanoparticles-Metal Foam Combination. *Applied Energy, 191*, 22-34.
This highly cited paper received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year. (Data from Web of Science/ Essential Science Indicators℠ 2020).

[20] Mahdi, J. M. & Nsofor, E. C. (2016). Solidification of a PCM with Nanoparticles in Triplex-Tube Thermal Energy Storage System. *Applied Thermal Engineering, 108*, 596-604.

CONFERENCE PAPERS AND PRESENTATIONS

[1] **Mahdi, J. M.** & Nsofor, E. C. (2016).
Melting of PCM with Nanoparticles in a Triplex-Tube Thermal Energy Storage System. Technical Paper Presented at the *2016 ASHRAE Annual Conference*, St. Louis, MO, June 25-29, 2016.

[2] **Mahdi, J. M.** & Nsofor, E. C. (2017).
Solidification of PCM in Triplex-Tube Thermal Energy Storage System using Fins and Nanoparticles Enhancement. Technical Paper presented at the *ASTFE Second Thermal and Fluids Engineering Conference*, Las Vegas, Nevada, April 2-5, 2017.

[3] Nsofor, E. C. & **Mahdi, J. M.** (2021).
Heat Transfer Enhancement in PCM Thermal Energy Storage Via the Triplex Tube Heat Exchanger. Technical Paper presented at the *ASTFE 5-6th Thermal and Fluids Engineering Conference*, Virtual, May 26-28, 2021.

PROFESSIONAL SERVICE

A) Guest Associate Editor (2021/3 – 2021/10) leading the research topic collection entitled "Thermal Energy Storage and Management" for the journal of **Frontiers in Energy Research** (ISSN: 2296598X).

B) Certified Reviewer for journals: (1) Applied Thermal Engineering (2018 – present)
(2) Journal of Energy Storage (2018 – present)
(3) Int. J. of Heat and Mass Transfer (2019 – present)
(4) Journal of cleaner production (2019 – present)
(5) Energy (2019 – present)
(6) Cleaner Eng. and Technology (2020 – present)
(7) Energy Reports (2020 – present)
(8) Heliyon (2020 – present)
(9) Journal of Molecular Liquids (2020 – present)
(10) Case Studies in Thermal Engineering

TEACHING EXPERIENCE

INSTRUCTOR

2018-present	**Renewable Energy Sources,** University of Baghdad
2018-present	**English for MSc students,** University of Baghdad
2018-present	**Eng. Thermodynamics,** University of Baghdad
2009-2012	**Programing in MATLAB,** University of Baghdad
2009-2013	**Eng. Thermodynamics,** University of Baghdad
2010-2012	**Fluid Mechanics,** University of Baghdad

TEACHING ASSISTANT

Spring 2018	**Eng. Heat Transfer (ME 302),** Southern Illinois University