Name: Mohamed M. Awad

Current Title: Associate Professor

Contact information:

Address: Mansoura University, Faculty of Engineering, Mechanical Power Department

E-mail: m_m_awad@mans.edu.eg

Phone nombres : +201017452386

- **FIELDS OF SPECIALIZATION**
- Extraction of water from air using solar energy
- Solar Energy Applications
- Water Desalination
- Internal Flow Modeling
- Modeling of Transport Phenomena

DEGREES

Memorial University of Newfoundland, St. John's, NL – 2002-2007

Ph.D. (Mechanical Engineering) – Two-Phase Flow Modeling in Circular Pipes

• Supervisor: Yuri S. Muzychka

• Research Partner: Natural Sciences and Engineering Research Council of Canada (NSERC) – Discovery Grant/ Atlantic Innovation Fund (AIF)/ Petro-Canada Inc.

• Ph.D. Courses: 93% AVERAGE

Mansoura University, Mansoura, Egypt – 1996-2000

M. Sc. (Mechanical Engineering) – Heat Transfer Performance of a Two-Phase Closed Thermosyphon

• Supervisors: Mohamed A. Shalaby, Faisal F. Araid, and Gamal I. Sultan

Mansoura University, Mansoura, Egypt – 1991-1996

• B. Eng. (Mechanical Engineering)

• Very good with honor degree, the first

Academic and Industrial Positions

Academic:

Associate Professor, Mansoura University, 2017- Present

Assistant Professor, Mansoura University, 2009- 2017

Post Doctoral Fellow, Memorial University of Newfoundland, 2007-2009

•Natural Sciences and Engineering Research Council of Canada (NSERC) – Discovery Grant

•Petroleum Research Atlantic Canada (PRAC)

•Research in two-phase flow in porous media, fractures and liquid-liquid two-phase flow

•Research in heat transfer in wavy fins

Graduate Research Assistant (Ph.D.), Memorial University of Newfoundland, 2002-2007

•Research in two-phase flow in circular pipes, minichannels and microchannels

•Teaching assistant for undergraduate mechanical engineering courses

Assistant Lecturer, Mansoura University, 2000-2002

•Teaching assistant for undergraduate mechanical engineering courses

Demonstrator, Mansoura University, 1996-2000

•Research in two-phase closed thermosyphon

•Teaching assistant for undergraduate mechanical engineering courses

Previous Research Projects:

- Storing solar energy at a high temperature using sustainable geopolymer concrete, Mansoura University Research fund, 300 000 Egyptian pounds

SCIENTIFIC AND PROFESSIONAL SOCIETIES:

•Member of the Egyptian Engineers' Syndicate, September 1996-Present)

•Member of Society of Petroleum Engineers (SPE, 2004-Present)

•Member of American Society of Mechanical Engineers (ASME, 2004-Present)

•Member of Canadian Fracture Research Corporation (CFRC, 2009)

• Corresponding Member of the International Information Center for Multiphase Flow (ICeM) in Egypt (ICeM Newsletter No. 53 (March, 2020)-Present)

http://www.jsmf.gr.jp/icem_2.shtml

http://www.jsmf.gr.jp/file/No53.pdf

•Member of Arab Network for Unconventional Water Resources, The Arab Water Council (AWC) (2021-Present)

https://www.arabwatercouncil.org/index.php?option=com_content&view=featured&Itemid=276&lang=en

HONORS AND AWARDS:

• Listed in row 169708 in Table_1_Authors_career_2021_pubs_since 1778_wopp_extracted_202209.xlsx in the list of world ranking of scientists 2022 by Elsevier (top 2% in each field).

September 2022 data-update for "Updated science-wide author databases of standardized citation indicators"
https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4

https://elsevier.digitalcommonsdata.com/public-files/datasets/btchxktzyw/files/dbefaa9c-0022-46dc-95bc-9e8f0ec820f7/file_downloaded

• Listed in row 74903 in Table_1_Authors_singleyr_2021_pubs_since_1778_wopp_extracted_202209.xlsx in the list of world ranking of scientists 2022 by Elsevier (top 2% in each field).

September 2022 data-update for "Updated science-wide author databases of standardized citation indicators"
https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4

https://elsevier.digitalcommonsdata.com/public-files/datasets/btchxktzyw/files/458f56f3-72b3-4a3b-a179-93d9c931a51f/file_downloaded

• Listed in row 165838 in Table_1_Authors_career_2020_wopp_extracted_202108.xlsx in the list of world ranking of scientists 2021 by Elsevier (top 2% in each field).

August 2021 data-update for "Updated science-wide author databases of standardized citation indicators"

https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3

https://data.mendeley.com/public-files/datasets/btchxktzyw/files/d1a08dbe-1a4d-4d9f-942e-5a78bc7afde5/file_downloaded

• Listed in row 86109 in Table_1_Authors_singleyr_2020_wopp_extracted_202108.xlsx in the list of world ranking of scientists 2021 by Elsevier (top 2% in each field).

August 2021 data-update for "Updated science-wide author databases of standardized citation indicators"

https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3

https://data.mendeley.com/public-files/datasets/btchxktzyw/files/b3e31af2-054c-4b3a-b9c5-6fd9bf10557a/file_downloaded

• 50000 Egyptian Pounds from Mansoura University for being in the list of world ranking of scientists 2020 by Stanford University (top 2% in each field).

https://www.facebook.com/story.php?story_fbid=562564131763263&id=101294844556863&sfnsn=scwspwa

https://pgsr.mans.edu.eg/about-musg/current-news/stanford-recognition

• Listed in row 116302 in Table-S7-singleyr-2019.xlsx in the list of world ranking of scientists 2020 by Stanford University (top 2% in each field).

DOI: 10.17632/btchxktzyw.2#file-dd0904a8-0eba-4cf3-be4a-c6092261fed5

https://data.mendeley.com/public-files/datasets/btchxktzyw/files/dd0904a8-0eba-4cf3-be4a-c6092261fed5/file_downloaded

https://www.mans.edu.eg/component/content/article/216-news-archive/mans-news-archive-2020/5095-mansoura-university-scholars-are-among-the-most-influential-scholars-in-the-world?Itemid=666

• Winner of the best applied research at Cairo Water Week, Cairo, Egypt, 20-24 October, 2019.

https://www.cairowaterweek.eg

• Winner of the silver medal at 45th International Exhibition of Inventions, Geneva, Swiss, 29 March - 2 April 2017

http://www.inventions-geneva.ch/en/

•Award of Dead Professor Fawzy Hussein Hammad in Nuclear Technology, The Academy of Scientific Research & Technology (ASRT) Awards for Individuals and Organizations for 2015, 20 September 2016.

http://ar.asrt.sci.eg/index.php/latest-news/662-2016-09-20-13-08-09

http://www.mans.edu.eg/mans-news/2422-mansoura-university-harvested-awards-individuals-and-organizations-for-2015

• Marquis Who's Who in Science and Engineering 12th edition, 2016.

• Marquis Who's Who in the World 32nd edition, 2015.

• Marquis Who's Who in the World 31st edition, 2014.

• Marquis Who's Who in the World 30th edition, 2013.

https://cgi.marquiswhoswho.com/OnDemand/Default.aspx?last_name=awad&page=2

•American Society of Mechanical Engineers, International Petroleum Technology Institute (ASME IPTI), 2006.

•Fellow of the School of Graduate Studies, Memorial University of Newfoundland, 2005.

•American Society of Mechanical Engineers, International Petroleum Technology Institute (ASME IPTI), 2005.

•Society of Petroleum Engineers Atlantic Section Graduate Student Scholarship, Huskyenergy,

2004.

•Memorial University of Newfoundland, Graduate Studies Fellowship, 2002-2006.

•6 th October University, 2001.

• Faculty of Engineering, Mansoura University, 1997.

• Zamalek Sporting Club, 1996.

•El Dakahlya Governorate, 1996.

Patents & Publications

Publications:

Book Chapters

[9] **Mohamed M. Awad,** Auroshis Rout, Sanju Thomas, and Sudhansu S. Sahoo, 2023, "Techno-Economic Analysis of Solar PV/T System Viability," Chapter in Solar Energy Harvesting Conversion and Storage, Mohammad Khalid, Rashmi Walvekar, Hitesh Panchal, and Mahesh Vaka (Eds.), 1st Edition, Academic Press, Elsevier Inc., Philadelphia, PA, USA.

[8] S. Senthilraja, Umit Gunes, and **Mohamed M. Awad,** 2023, "Evolution of heat transfer in phase change material," Chapter 9 in Phase Change Materials for Heat Transfer, Hafiz Mohammad Ali (Ed.), 1st Edition, Academic Press, Elsevier Inc., Philadelphia, PA, USA.

[7] Ahmed Adel Hassan, Mohammed Ezzeddine, Mohamed G. M. Kordy, and **Mohamed M. Awad,** 2023, "Techno-Economic Assessment of Atmospheric Water Harvesting (AWH) Technologies," Chapter 8 in Atmospheric Water Harvesting Development and Challenges, Elvis Fosso-Kankeu, Ali Al Alili, Hemant Mittal and Bheki Bheki (Eds.), Springer.

[6] Karim H. Awad, **Mohamed M. Awad,** and Ahmed M. Hamed, 2023, "Outdoor testing of double slope condensation surface for extraction of water from air," Chapter 2 in Atmospheric Water Harvesting Development and Challenges, Elvis Fosso-Kankeu, Ali Al Alili, Hemant Mittal and Bheki Bheki (Eds.), Springer.

[5] Avinash Alagumalai, Simin Anvari, and **Mohamed M. Awad,** 2022, "Water: A global grand challenge and a path forward," Chapter 1 in Solar-Driven Water Treatment: Re-Engineering and Accelerating Nature's Water Cycle, Omid Mahian, Jinjia Wei, Robert Taylor, and Somchai Wongwises (Eds.), pp. 1, 1st Edition, Academic Press, Elsevier Inc., Philadelphia, PA, USA.

https://www.sciencedirect.com/science/article/pii/B9780323909914000050

https://www.sciencedirect.com/book/9780323909914/solar-driven-water-treatment

https://www.elsevier.com/books/solar-driven-water-treatment/mahian/978-0-323-90991-4

[4] Auroshis Rout, Sudhansu S. Sahoo, Suneet Singh, Sidhartha Pattnaik, Ashok K. Barik, and **Mohamed M. Awad**, 2021, "BENEFIT-COST ANALYSIS AND PARAMETRIC OPTIMIZATION USING TAGUCHI METHOD FOR A SOLAR WATER HEATER," Chapter 7 in Design and Performance Optimization of Renewable Energy Systems, Mamdouh El Haj Assad, and Marc A. Rosen (Eds.), pp. 101-116, 1st Edition, Elsevier Inc., Philadelphia, PA, USA.

https://www.sciencedirect.com/science/article/pii/B9780128216026000080

https://www.sciencedirect.com/book/9780128216026/design-and-performance-optimization-of-renewable-energy-systems

https://www.elsevier.com/books/design-and-performance-optimization-of-renewable-energy-systems/assad/978-0-12-821602-6

[3] **M. M. Awad**, A. S. Dalkilic, and S. Wongwises, 2015, "A Critical Review on Condensation Pressure Drop in Microchannels and Minichannels," Chapter 3 in Heat Transfer Studies and Applications, Edited by Kazi, S. N., pp. 53-102, InTech, ISBN 978-953-51-4191-4.

http://www.intechopen.com/articles/show/title/a-critical-review-on-condensation-pressure-drop-in-microchannels-and-minichannels

[2] **M. M. Awad**, 2012, "Two-Phase Flow," Chapter 11 in An Overview of Heat Transfer Phenomena, Edited by Kazi, S. N., pp. 251-340, InTech, ISBN 978-953-51-0827-6.

http://www.intechopen.com/articles/show/title/two-phase-flow

[1] **M. M. Awad**, and Y. S. Muzychka, 2012, "Thermodynamic Optimization," Chapter 1 in Heat Exchangers - Basics Design Applications, Edited by Mitrovic, J., pp. 3-52, InTech, ISBN 978-953-51-0278-6.

http://www.intechopen.com/articles/show/title/thermodynamic-optimization

Journal Papers (2018-2022)

1. K. A. Naeim, A. A. Hegazi, M. M. Awad, S. H. El-Emam, Inlet air fogging strategy using natural gas fuel cooling potential for gas turbine power plants, Case Studies in Thermal Engineering, 2022.
2. A. A. Kandil, Mohamed M Awad, Gamal I Sultan, Mohamed S. Salem, Investigating the performance characteristics of low concentrated photovoltaic systems utilizing a beam splitting device under variable cutoff wavelengths, Renewable energy, 2022.
3. K. A. Naeim, A. A. Hegazi, M. M. Awad, S. H. El-Emam, Thermodynamic analysis of gas turbine performance using the enthalpy-entropy approach, Case Studies in Thermal Engineering, 2022.
4. Ahmed E Abu El-Maaty, Mohamed M Awad, Gamal I Sultan, Ahmed M Hamed, Performance study of fog desalination system coupled with evacuated tube solar collector, Desalination, 2021.
5. MH Fathy, MM Awad, ESB Zeidan, AM Hamed, Solar powered foldable apparatus for extracting water from atmospheric air, Renewable energy, 2020.
6. AEA El-Maaty, MM Awad, GI Sultan, AM Hamed, Solar powered fog desalination system, Desalination, 2019.
7. HO Helaly, MM Awad, II El-Sharkawy, AM Hamed, Theoretical and experimental investigation of the performance of adsorption heat storage system, Applied Thermal Engineering, 2019.
8. MA Talaat, MM Awad, EB Zeidan, AM Hamed, Solar-powered portable apparatus for extracting water from air using desiccant solution, Renewable energy, 2018.