Name: Osama Mohamed Hamed Ali Abdelrehim

Current Title: Assistant professor in Mechanical Engineering, faculty of energy engineering, Mansoura university

Contact information.

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FIELDS OF SPECIALIZATION

- Heat transfer.
- Renewable Energy.
- Computational Fluid dynamics.

DEGREES

• **Ph.D.,** Schulich school of Engineering, University of Calgary, Calgary, Canada, 2018, Two-Phase Simulation of Nanofluid in Impinging Jet

• **M.S.**, Faculty of Engineering, Mansoura university, Mansoura, Egypt, 2010, Thermal Performance of Heat Pipe for Cooling Electronic Components

• **B.S.E.E.,** Mechanical Power Engineering Department, Faculty of Engineering, Mansoura University, Mansoura, Egypt.

ACADEMIC AND INDUSTRIAL POSITIONS

1. Sept. 2006 - Dec. 2012, Assistant Lecturer, Faculty of Engineering, Mansoura University.

   Responsibilities: Teaching, marking exams, conducting labs.

2. Jan. 2013 – Dec. 2017,. PhD researcher, Schulich school of Engineering, University of Calgary, Calgary, Canada.

   Responsibilities: Teaching, marking exams, conducting labs.

3. Aug. 2019 – present, Assistant Professor, Faculty of Engineering, Mansoura University.

   Responsibilities: Teaching, marking exams, conducting labs, supervising undergraduate and postgraduate students.

AWARDS

ASME Petroleum Division academic scholarship, 2016, 2500 USD.

PUBLICATIONS

[1] M.G.Mousa, E.A.El Shafei and Osama M.Hamed, "Study of heat pipe performance with water/ water based- nanofluid", Mansoura engineering journal, Vol.34, 2009, No.34, pp.34-45, 2010.

[2] Abdelrehim, Osama and Mohamad, Abdulmajeed, "Immersed Boundary-lattice Boltzmann Method for simulating Complex Geometry." CFD2014 Canada, Toronto June 1-4 (2014).

[3] Mohamad, Abdulmajeed A., and O. M. Abdelrehim. "Simulation of Blood Flow with Lattice Boltzmann Method." In Proceedings of CONV-14: International Symposium on Convective Heat and Mass Transfer. Begel House Inc., (2014).

[4] Abdelrehim, O., A. Khater, A. A. Mohamad, and Ali Radwan. "Two-phase simulation of nanofluid in a confined single impinging jet." Case Studies in Thermal Engineering 14 (2019): 100423.

[5] Raouf, Moataz M., M. G. Mousa, O. Abdelrehim, and E. A. Abdel-Hadi. "EFFECT OF PCM INTEGRATION AT DIFFERENT HEIGHTS OF REFRIGERATOR CABINET." Journal of Al-Azhar University Engineering Sector 15, no. 57 (2020): 1099-1112.

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[9] Abdalla, Abdalla M., Bassem E. Elnaghi, Shahzad Hossain, Mohamed Dawood, O. Abdelrehim, and Abul K. Azad. "Nanotechnology Utilization in Energy Conversion, Storage and Efficiency: A Perspective Review." Advanced Energy Conversion Materials, Apr 20 (2020): 30-54.

[10] Memon, Saim, Yueping Fang, Essam Mohamed Abo-Zahhad, O. Abdelrehim, Mohamed R. Elmarghany, Abdul Rashid Memon, Shanwen Zhang, and Amos Darko. "Factors influencing the performance parameters of vacuum glazed smart windows to net

zero energy buildings." International Journal of Solar Thermal Vacuum Engineering 2, no. 1 (2020): 1-18.

[11] Rejeb, Oussama, Ali Radwan, Essam M. Abo-Zahhad, Chaouki Ghenai, Ahmed A. Serageldin, Mostafa Ahmed, Ahmed AH El-Shazly, Maamar Bettayeb, and O. Abdelrehim. "Numerical analysis of passive cooled ultra-high concentrator photovoltaic cell using optimal heat spreader design." Case Studies in Thermal Engineering 22 (2020): 100757.

[13] Khater, Asmaa, Osama Abdelrehim, Mehdi Mohammadi, AbdulMajeed Mohamad, and Amir Sanati-Nezhad. "Thermal droplet microfluidics: from biology to cooling technology." TrAC Trends in Analytical Chemistry (2021): 116234.

[14] Hegazi, A. A., O. Abdelrehim, and A. Khater. "Parametric Optimization of Earth-Air Heat Exchangers (EAHEs) for Central Air Conditioning." International Journal of Refrigeration (2021).

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Book Chapters

[1] Manshadi, Mohammad KD, Danial Khojasteh, Osama Abdelrehim, Mohammad Gholami, and Amir Sanati-Nezhad. "Droplet-based microfluidic platforms and an overview with a focus on application in biofuel generation." Advances in Bioenergy and Microfluidic Applications (2021): 387-406.

[2] Abdalla, A. M., Abdelrehim, O., Wei, B., Wang, X., Azad, A. K., & Dawood, M. K. (2023). Hydrogen production technologies: Conventional processes. In Hydrogen Economy (pp. 381-396). Academic Press.

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Microchannel Heat Sink for High Speed CPUs." In International Conference on Nanochannels, Microchannels, and Minichannels, vol. 83693, p. V001T04A001. American Society of Mechanical Engineers, 2020.