Abdulmajeed Mohamad

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Department of Mechanical and Manufacturing Engineering
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Courses

Fuel Science and Technology

Computational Methods for Engineers

Fundamentals of Environmental Engineering

Heat Transfer

Fluid Mechanics

Thermal System Analysis

Preferred method of communication

Email

Research and teaching

Research areas

- Energy engineering
- Solar energy
- Energy conversion and storage
- Thermal
- Biosystems and biomedical engineering
- Microfluidic and nano technology
- Computational Methods

Research activities

Research

Computational methods

Lattice Boltzmann method

Microfluidics

Combustion in porous media

Solar energy

Thermal system analysis

Teaching

Computational methods

Heat transfer

Fluid mechanics

Thermal system analysis

Fuel science and technology

Biography

Professor Mohamad graduated with a BSc and MSc from Baghdad University's College of Engineering with honors. His PhD is from the School of Mechanical Engineering at Purdue University in the US. Dr. Mohamad has been invited by many institutes around the world as a keynote speaker, invited professor, lecturer, and theses and program evaluator. He has organized and chaired/co-chaired a few successful conferences on the transport in porous media and computational fluid dynamics, and heat and mass transfer.

Professor Mohamad is the author of a textbook (entitled Lattice Boltzmann Method Fundamentals and Engineering Applications with Computer Codes), published by

Springer in 2011. The second edition will be available in 2019. This book is translated into two languages (Chinese by Springer and a Parisian by a private publisher).

Dr. Mohamad was acting Dean of Engineering, Alfaisal University, while he was on leave from the University of Calgary.

Publications

Dr. Mohamad is elected Fellow Member of American Society of Mechanical Engineer (ASME) and Executive Scientific council member of International Centre for Heat and Mass Transfer. He has authored and co-authored more than 250 papers and graduated over 40 PhD and MSc students.

2018

SA Mikhailenko, MA Sheremet, AA Mohamad, Convective-radiative heat transfer in a rotating square cavity with a local heat-generating source, International Journal of Mechanical Sciences 142, 530-540.

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2017

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M Ziad Saghir, Amirhossein Ahadi, Abdulmajeed Mohamad, Seshasai Srinivasan, Water aluminum oxide nanofluid benchmark model Int. J. Thermal Sciences, vol. 109, pp 148-158.

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A.A. Mohamad and KM Issa, Application of the Lattice Boltzmann Method (LBM) to Thermal Microflows, Chapter 15 in Microscale and Nanoscale Heat Transfer: Analysis, Design, and Application, edited by M Rebay, S Kakaç, RM Cotta, 2016.

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2015

A.A. Mohamad, Myth about nano-fluid heat transfer enhancement, International Journal of Heat and Mass Transfer 86, 397-403, 2015.

A Abouei Mehrizi, AA Mohamad, Effect of the Inclination Angle and Eccentricity on Free Convection Heat Transfer in Elliptical–Triangular Annuli: A Lattice Boltzmann Approach, Numerical Heat Transfer, Part A: Applications 68 (1), 17-43, 2015.

HC Lee, A.A. Mohamad and LY Jiang, Comprehensive comparison of chemical kinetics mechanisms for syngas/biogas mixtures, Energy & Fuel 29 (9), pp. 6126-6145.

HZ Hassan, AA Mohamad, Y Alyousef, HA Al-Ansary, A review on the equations of state for the working pairs used in adsorption cooling systems, Renewable and Sustainable Energy Reviews 45, 600-609, 2015.

MA Al-Rmah, AA Mohamad, Simulation of multi-internal confined impinging jets using the lattice Boltzmann method, Applied Thermal Engineering 81, 288-296, 2015.

M Mahmoodi, YH Lee, A Mohamad, SS Park, Effect of flow induced alignment on the thermal conductivity of injection molded carbon nanotube‐filled polystyrene nanocomposites, Polymer Engineering & Science 55 (4), 753-762, 2015.

M Nazari, H Shokri, AA Mohamad, Lattice Boltzmann simulation of natural convection in open end cavity with inclined hot wall, Applied Mathematics and Mechanics 36 (4), 523-540, 2015.

M Hussain, YL He, AA Mohamad, WQ Tao, A New Hybrid Algorithm for Numerical Simulation of VOC Emissions Using Single-Layer and Multilayer Approaches, Numerical Heat Transfer, Part B: Fundamentals 67 (3), 211-230, 2015.

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2014

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HC Lee, AA Mohamad, LY Jiang, JM Bergthorson, SD Salusbury, Numerical Simulation of Lean Premixed Stagnation Flames, ASME Turbo Expo 2014: Turbine Technical Conference and Exposition, Dusseldorf, Germany, 16-20 June, 2014.

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2013

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