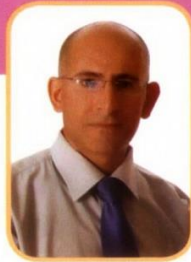


Third Laureate Applied Research



- **Research Work Title:** Reverse Osmosis Desalination Unit
- **Researcher:** Professor Moh'd Ahmad Al-Nimr
- **Nationality:** Jordan
- **Field:** Mechanical Engineering (Heat Transfer / Energy)
- **Position:** Professor / Instructor and Researcher
- **Scientific Affiliation:** Mechanical Engineering Department / Jordan University of Science and Technology – Jordan

Abstract:

Recent advances and developments in the fabrication of micro electrical mechanical systems (MEMS) and in the design of ultrafast processes (picosecond processes) necessitate the use of nonconventional heat transfer models to describe the thermal behavior of these systems and processes. Five conduction heat transfer models have been investigated under wide range of engineering applications, design and operating conditions. These models are the macroscopic parabolic model, the macroscopic hyperbolic model, the macroscopic dual-phase-lag model, the microscopic parabolic two step model and the microscopic hyperbolic two step model. The hydrodynamics and thermal models that describe the behavior of micro-channel fluid flow problems have been investigated for many engineering applications. The basic physics and operating conditions of each of these models have been examined and investigated. Examples of these engineering applications are the behavior of high frequency fluctuating micro thermal systems, thermal behavior of micro-porous channels, thermal stability of microsystems, hydrodynamics and thermal behavior of many micro systems, etc...

Biography:

Moh'd A. Al-Nimr received his Ph.D. (1991) in Mechanical Engineering from the University of Michigan/ Ann Arbor. He then joined the faculty of Mechanical Engineering at Jordan University of Science and Technology, Jordan. He has published about 243 articles in the areas of heat transfer, mathematical modeling, and different fields of energy. He was awarded King Abdullah II Award for Innovation (2010), Scopus Award for Distinguished Researchers (2009), the Abed-Alhameed Shoman Award for Arab Scientists (1994) and many others. He has the highest number of research publications in Jordan as mentioned in a study about the status of the scientific research in the Islamic countries and conducted by the COMSTECH. He is acting now as an Editor of Energy Conversion and Management Journal- Elsevier and as an Associate Editor for 12 other journals such as Energy-The International Journal, Int. J. Thermophysics, etc... He worked many times as an expert in evaluating the EU projects such as Tempus, FP7 and Erasmus Mundus programs.