



**Mohammad Nawaz Khan, PhD**  
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**[Google Scholar Citation](#) | [Orcid Id](#), [Scopus](#), | [Web Of Science](#), | [Research gate](#)**

## PROFILE

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**Dr. Mohammad Nawaz Khan** is currently serving as an Assistant Professor in the Department of Mechanical Engineering, a position he has held since February 2018. His research expertise lies in microfluidics and the thermal management of electronic devices, with a particular focus on the development of advanced microchannel heatsink technology. He also has significant experience in the computational analysis of micromixers, as well as in the study of blood flow dynamics in diseased arteries, including aneurysms and stenosis. Dr. Khan has authored over 15 articles published in peer-reviewed journals and conferences. He holds a Ph.D. in Microfluidics from Jamia Millia Islamia, New Delhi, India, an M.Tech. in Thermal Engineering from Maharishi Dayanand University, Rohtak, Haryana, and a B.Tech. in Mechanical Engineering from Jawaharlal Nehru Technological University, Hyderabad, Telangana.

### RESEARCH INTEREST:

- Thermal management of electronic components.
- Computational analysis of Microchannel heatsink.
- Analysis of innovative micromixers, including simple and vortex designs, for enhanced fluid mixing.
- Lithium-ion battery cooling.
- Study of Hemodynamics in diseased artery of human body.

### SUMMARY OF RESEARCH ACCOMPLISHMENT:

- Number of publications in SCI indexed journals

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- Number of publications in Scopus indexed journals :09
- Number of publications in Non-Sci/Scopus but Peer Reviewed :05
- Number of publications in International Conferences :01
- Book Chapters :01
- Presentation in international conferences :04
- The referee for various scientific journals :05
- Citations :89
- H index :06
- I10 index :03

#### COURSES TAUGHT:

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- Heat and Mass Transfer
- Refrigeration and Air Conditioning
- Applied Thermodynamics
- Non-Destructive Testing
- Strength of Material

#### ADMINISTRATIVE/DEPARTMENTAL RESPONSIBILITY

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- Departmental Examination Coordinator.
- Departmental Website Coordinator.
- Departmental coordinator of Learning Management System (ILI).
- Member of NAAC Criteria 3.
- Designed Course Structure for the newly added B.Tech. program in Mechanical Engineering with specialization in Electric Vehicles.
- Undergraduate Final Year Project Coordinator.

#### STUDENTS SUPERVISION/CO-SUPERVISION

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- PhD: 04 (Ongoing)
- M.Tech: 04
- B.Tech: 07 groups

#### PUBLISHED/ACCEPTED SCI/SCOPUS RESEARCH PAPERS

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- “Performance analysis of microchannel heat sink with ribbed pinfins” International Journal of Heat

and Fluid Flow, 2024. **(WoS, I.F:2.6)**

- “Parametric study on the influence of varying angled inlet channels on mixing performance in simple T micromixers and vortex T micromixers across a wide range of Reynolds numbers” *Microfluidics and Nanofluidics*, 2024. **(WoS, I.F:2.4)**
- “Effect of cylindrical ribs location in a fan-shaped cavity on thermo-hydraulic performance of a microchannel heatsink” *Journal of Thermal Analysis and Calorimetry*, 2024. **(WoS, I.F:4.4)**
- “Effect of variation in heights of cylindrical pinfins on the thermo-hydraulic performance of an open-microchannel heat sink” *Numerical Heat Transfer Part B Fundamentals*, 2024. **(WoS, I.F:1.1)**
- “Effect of cylindrical ribs arrangement in the cavity region of the microchannel heatsink with a fan-shaped cavity,” *Journal of Process Mechanical Engineering*, 2024. **(WoS, I.F: 2.4)**
- “Heat Transfer Enhancement in Multi-jet Micro-Pin Fin Heat Sink” *Numerical Heat Transfer Part A Applications*, 2023. **(WoS, I.F: 2.49)**
- “A comprehensive analysis of a rectangular microchannel heat sink furnished with a circular perforated cylindrical pinfin,” *Numerical Heat Transfer Part A Applications.*, pp. 1–17, June. 2023. **(WoS, I.F: 2.49)**
- “Effect of circular perforated pin fin on heat transfer and fluid flow characteristics of rectangular microchannel heat sink,” *Numerical Heat Transfer Part A Applications.*, pp. 1–15, Aug. 2022. **(WoS, I.F: 2.49)**
- “Analysis of heat transfer enhancement in microchannel by varying the height of pin fins at upstream and downstream region,” *Journal of Process Mechanical Engineering*, vol. 234, no. 4, 2021. **(WoS, I.F:1.89)**

#### PAPER PUBLISHED IN INTERNATIONAL CONFERENCES

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- “Effect of undercut slots on the overall performance of microchannel heatsink,” *IOP Conf. Ser. Mater. Sci. Eng.*, vol. 1259, p. 12009, 2022

#### PUBLISHED NON-SCI-SCOPUS BUT PEER REVIEWED RESEARCH PAPERS

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- “Pre and Post Monsoon Variation in Physico-Chemical Characteristics in Groundwater Quality of Shahjahanpur the Town of Martyrs, India: A Case Study”, (*Int. Res. J. Environment Sci.*, Volume 4, Issue 10, October 2015).
- “Energy and Exergy Analysis of Vapour Compression Refrigeration System with R12, R22, R134a”, (*IJETAE*, Volume 5, Issue 3, March 2015).
- “A Comparative Study of Refrigerants R12, R134a, R407 & R717 for Vapour Compression

Refrigeration System”, (IJARSE, Volume 4, Special Issue (01), February 2015).

- “Physico-Chemical Study of Ground water at Shahjahanpur City, Uttar Pradesh, India”. (Research Journal of Chemical Sciences, Volume 5(1) January 2015).
- “Energy and Exergy Analysis of Supercritical Rankine Cycle”. (IJSER, Volume V, Issue XII, December-2014).
- “A Comparative Study of Refrigerants for Simple and Compound Compression with Flash Chamber at High Compression ratio”. (VSRD, Volume IV, Issue IX, September-2014).

#### BOOK CHAPTERS

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- **Khan, M.N.**, Khan, M.A., Khan, S., Khan, M.M. (2018). Effect of Air Conditioning on Global Warming and Human Health. In Modern Age Environmental Problems and their Remediation (pp. 83 – 94). Springer, Cham.
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