



Sri SAI RAM INSTITUTE OF TECHNOLOGY

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Sai Leo Nagar, West Tambaram, Chennai - 600 044. www.sairamit.edu.in



DEPARTMENT OF MECHANICAL ENGINEERING PERSONAL ATTENTION PARENTAL CARE

Name : D Sathish Kumar

Designation : Assistant Professor

Email : sathishkumar.mech@sairamit.edu.in

Qualification : ME, PhD

Specialization : Mechanical Engineering

Research Interest : Heat Transfer Enhancement, Electronic Cooling, CFD

Experience in years : **Teaching** UG : 6 PG : - **Industry** : -

No. of Workshop/Conferences/
FDP / Webinar attended : Workshop & Webinar: 3 Conferences : FDP : -

No. of Workshop/Conferences/
FDP/ Webinar Organized : Workshop & Webinar - Conferences - FDP -



Professional Membership	3
Publications	National : 1
	International: 7
	Book Chapter: 5
Research Funded Projects	1
Consultancy	-
Patents	-
Academic Achievements	-
Recognitions & Honors	3
Any Other Information	-

List of Publications:

- [1] D. Sathish Kumar and Jayavel, S, Effect of surface modification and substrate material on flow and heat transfer characteristics in microchannel heat sink. *Journal of Thermal Analysis and Calorimetry*, pp.1-13, 2023.
- [2] D. Sathish Kumar and Jayavel, S., Effect of Location of Discrete Heat Sources on a Wavy-Wall Microchannel for Liquid Cooling, *Journal of Enhanced Heat Transfer*, 2022.
- [3] D. Sathish Kumar and S. Jayavel, Optimization of porous fin location and investigation of porosity and permeability effects on hydro-thermal behavior of rectangular microchannel heat sink, *International Communications in Heat and Mass Transfer*, 129, p.105737, 2021.
- [4] D. Sathish Kumar and S. Jayavel, Effect of Wavy Wall and Plate Bifurcations on Heat Transfer Enhancement in Microchannel, *ASME, Journal of Electronic Packaging*, 144, no. 4, 041007, 2021.
- [5] D. Sathish Kumar and S. Jayavel, Microchannel with Waviness at Selective Locations for Liquid Cooling of Microelectromechanical Devices, *J. Appl. Fluid Mech.*, 14(3), pp. 935–948, 2021.
- [6] Warghat, Ketan Vinayak, D. Sathish Kumar, and S. Jayavel, CFD Analysis on Heat Transfer Enhancement in a Pipe in Pipe Heat Exchanger with Tangential Injection, *IOP Conference Series: Materials Science and Engineering*, vol. 1013, no. 1, p. 012028. IOP Publishing, 2021.
- [7] Warghat, Ketan V, D. Sathish Kumar, and S. Jayavel, CFD analysis on the effect of radiation and inlet gas temperature on porous media solar heater, *Journal of Physics: Conference Series*, vol. 1473, no. 1, p. 012015. IOP Publishing, 2020.
- [8] V. Narendran, V. Seralathan Sivamani, M. Hariram, A. Gnanaprakash, Mohammed Raffiq, and D. Sathish Kumar, Theoretical and numerical analysis of convective recuperator for an oil-fired water tube boiler to improve the boiler performance, *Indian Journal of Science and Technology*, 9, no. 42, 2016.

Books / Book Chapters :

- [1] Sathish Kumar, D. and Jayavel, S., 2023. Effect of Surface Modification and Substrate Material on Flow and Heat Transfer Characteristics in Microchannel Heat Sink. In *Fluid Mechanics and Fluid Power (Vol. 2) Select Proceedings of FMFP 2021* (pp. 327-332). Singapore: Springer Nature Singapore.
- [2] D. Sathish Kumar and S. Jayavel, Numerical Analysis of Smooth and Wavy Wall Microchannel Heat Sink for Electronic Cooling Applications, In *Recent Advances in Computational and Experimental Mechanics*, Vol—I, pp. 299-309. Springer, Singapore, 2022.
- [3] Tiwari, Ratnanjali, D. Sathish Kumar, J. Ramarajan, and S. Jayavel, Enhancement of Heat Transfer in Liquid-Cooled Heat Sink Using Rotating Impeller, In *Recent Advances in Computational and Experimental Mechanics*, Vol—I, pp. 349-357. Springer, Singapore, 2022.
- [4] J. Ramarajan, D. Sathish Kumar, Ratnanjali Tiwari, and S. Jayavel, The Influence of Rotating Element on Flow and Heat Transfer in the Two-Dimensional Confined Channel, In *Fluid Mechanics and Fluid Power*, pp. 333-341. Springer, Singapore, 2021.
- [5] D. Sathish Kumar, S. Jayavel, Effect of Channel Confinement and Hydraulic Diameter on Heat Transfer in a Micro-channel, *Lecture Notes in Mechanical Engineering, Select Proceedings of NHTFF 2018*

Awards / Recognitions:

1. Research Exchange student at Nagaoka University of Technology, Niigata, Japan (June – July, 2018)
2. Editorial Board Member (MC Engineering Themes)

3. Peer Reviewer (The European Physical Journal Plus)

National & International Conference (s) :

[1] D. Sathish Kumar, S. Jayavel, Numerical Analysis of Nano Fluid Based Wavy Wall Microchannel Heat Sink for Electronic Cooling Applications, Proceedings of the 26th National and 4th International ISHMT-ASTFE Heat and Mass Transfer Conference December 17-20, 2021, IIT Madras, India

[2] D. Sathish Kumar, S. Jayavel, Effect of Substrate Thickness and Material on Wavy Wall Microchannel Heat Sink for Electronic Cooling Applications, Proceedings of the 48th National Conference on Fluid Mechanics and Fluid Power (FMFP) December, 2021, BITS Pilani, Pilani Campus, RJ, India

[3] A.S. Kavin, R.V. Abishek, J. Ramarajan, D. Sathish Kumar, S. Jayavel, Numerical Study on Enhancement of Heat Transfer in a Double Pipe Heat Exchanger Using Multiple Tangential Injection, Proceedings of the 48th National Conference on Fluid Mechanics and Fluid Power (FMFP) December, 2021, BITS Pilani, Pilani Campus, RJ, India

[4] D. Sathish Kumar, S. Jayavel, Numerical Study of Multi Microchannel Heat Sink for Electronic Cooling, 25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019), December 2020, IIT Roorkee, Roorkee.

[5] Siddhant Karmarkar, D. Sathish Kumar, S. Jayavel, Numerical study of heat transfer augmentation in micro-channels with corrugation, 25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019), December 2020, IIT Roorkee, Roorkee.

Funds Received from AICTE, / UGC / DST/ TNSCST, etc:

Title: Smart Trolley for Home Inverter Batteries

Role: Co- Principal Investigator

Agency: NIDHI PRAYAS (DST)

Amount: Rs. 486000 /-