Dr. Harikrishnan S

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About

Dr. Harikrishnan S. currently serves as an Assistant Professor in the Division of Mechanical Engineering, School of Engineering, Cochin University of Science and Technology, Kochi, Kerala. His research areas include heat transfer, multiphase flows, indoor air-conditioning, data-driven methods in thermal engineering, etc. He was awarded the Ph.D. degree by the Department of Mechanical Engineering, IIT Madras, in 2019, where he received the IIT Madras Institute Research Award for his Ph.D. thesis. His doctoral research mainly focused on understanding the underlying mechanism of flow and heat transfer due to secondary flows in different corrugated channels using numerical investigations. He completed his MTech in Thermal Power Engineering (2014) and BTech in Mechanical Engineering (2012) from the NIT Trichy and GEC, Thrissur, respectively. He also holds a PG Diploma in Patent Law (2014) from NALSAR University of Law, Hyderabad.

Profiles

- Vidwan Profile: https://vidwan.inflibnet.ac.in/profile/65993
- Google Scholar: https://scholar.google.co.in/citations?user=0t38hFwAAAAJ&hl=en&oi=sra
- LinkedIn: https://www.linkedin.com/in/dr-harikrishnan-s-276a0b81/

Selected Publications (OpenFOAM based)

1. **S Harikrishnan,** Shaligram Tiwari, Effect of top wall configuration on unsteady flow and heat transfer characteristics of sinusoidal wavy channels, *Heat Transfer Engineering*, 43 (2022), 423-436. (https://doi.org/10.1080/01457632.2021.1875167).

2. **S Harikrishnan**, Prashant Kumar, Shaligram Tiwari, Flow transition in periodically fully developed wavy channels, *Physics of Fluids*, 33 (2021), 073605. (https://doi.org/10.1063/5.0053003).
3. **S Harikrishnan**, P S Mahapatra, Effect of liquid-air interface on particle cloud dynamics in viscous liquids, *Physics of Fluids,* 33 (2021), 063306. (https://doi.org/10.1063/5.0048895).
4. **S Harikrishnan**, Shaligram Tiwari, Unsteady flow and heat transfer characteristics of primary and secondary corrugated channels, *ASME Journal of Heat Transfer,* 142 (2020), 031803. (https://doi.org/10.1115/1.4045751).
5. **S Harikrishnan,** Shaligram Tiwari, Simulation of fully developed flow and heat transfer in wavy channels using OpenFOAM, *International Conference on Recent Innovations and Developments in Mechanical Engineering*, NIT Meghalaya, Shillong, India, November 8-10, 2018. (https://doi.org/10.1007/978-981-15-0124-1_78)

Association with FOSSEE

1. Case study project: "Implementing streamwise periodic boundary condition in OpenFOAM", 2019.
2. Invited talk on "Introduction to Meshing" on 'Three-day online workshop on the basics of CFD and OpenFOAM' organized by FOSSEE IIT Bombay on 11th January 2023.