

CURRICULUM VITAE

KAMAL RAJ SHARMA

WATER TUNNEL FACILITY, DEPARTMENT OF MECHANICAL ENGINEERING, SOUTHERN LABS, INDIAN INSTITUTE OF TECHNOLOGY KANPUR, KANPUR-208016, UTTAR PRADESH



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Post-PhD Experience

Institute Post-Doctoral Fellow ▪ 16 August 2021 - Present
IIT Kanpur ▪ Department of Mechanical Engineering

Mentor: Prof. Malay Kumar Das

Research Topic: Skin-friction drag reduction through passive control of the turbulent boundary layer on an axisymmetric body.

Pre-PhD Experience

Assistant Professor (Mechanical) ▪ 28 July 2014 – 25 December 2014
Swami Vivekananda Institute of Engineering and Technology, Banur, Rajpura, Patiala (Punjab) ▪ Department of Mechanical Engineering

Responsibilities: Teaching and Laboratory work.

Research Interest

- Experimental Fluid Mechanics
- Bluff Body Aerodynamics
- Passive Flow Control
- Fluid Structure Interaction

Education

- Indian Institute of Technology Roorkee (UK), India
21 May 2021 ▪ PhD (Mechanical Engineering)
 - Thesis Topic: Experimental Investigation of Unsteady Aerodynamics and Flow Control for Flexible structure
 - Thesis Supervisor: Prof. Sushanta Dutta
- National Institute of Technology Hamirpur (HP), India
13 October 2014 ▪ M. Tech. (Mechanical Engineering) with CGPA 8.47
- Maharshi Dayanand University Rohtak (HR), India
30 September 2012 ▪ B. Tech. (Mechanical Engineering) with Distinction (79.67 %)

Publications

International/National Journal Papers (05):

- K. R Sharma and Sushanta Dutta (2021), A review on unsteady fluid-flexible structure interaction, Journal of Flow Visualization and Image Processing (Accepted).
- K. R. Sharma and Sushanta Dutta (2021), Influence of length and effective stiffness of an attached flexible foil for flow over a square cylinder, Journal of Fluids and Structures, Vol. 104, pp. 103298. DOI: <https://doi.org/10.1016/j.jfluidstructs.2021.103298>.
- K. R. Sharma and S. Dutta (2020), Flow control over a square cylinder using attached rigid and flexible splitter plate at intermediate flow regime, Physics of Fluids, 32:1, pp. 014104. DOI: 10.1063/1.5127905.
- K. R. Sharma and Sushanta Dutta (2020), Wake Sensitivity of flow over a square cylinder with respect to the length of an attached flexible wake splitter, Journal of flow visualization and image processing, vol. 27:3, pp. 269-296. DOI: 10.1615/JFlowVisImageProc.2020031008.
- K. R. Sharma and G. Kumar (2015), Thermo-mechanical Experiments of Y-PSZ Thermal Barrier Ceramic Coating with Bond Coat of Alumina, J. Inst. Eng. India Ser. C 96, 287–298. DOI: <https://doi.org/10.1007/s40032-015-0172-2>.

International/National Conference Papers (05):

- K. R. Sharma, and S. Dutta, Experimental Study of Flow over Asymmetric Undulation Foil Attached to Square Cylinder at an Intermediate Reynolds Number, in Proceedings of 25th National and 2nd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019), 28-31 December 2019, held at IIT Roorkee. DOI: 10.1615/IHMTTC-2019.1530.
- K. R. Sharma, and S. Dutta, Flow over a square cylinder with an attached cambered flexible wake splitter, In Proceedings Topical Problems of Fluid Mechanics 2019, Prague, 2019 Edited by David Šimurda and Tomáš Bodnár, pp. 109-116. DOI: <https://doi.org/10.14311/TPFM.2019.016>.
- K. R. Sharma, and S. Dutta, Wake Sensitivity of flow over a square cylinder with respect to the length of an attached flexible wake splitter, Proceedings of International Conference, FMFP-2018, organized at IIT Bombay on 10-12 Dec. 2018.
- K. R. Sharma and S. Dutta, Effect of Rigid and Flexible Splitter Plate Attached to Square Cylinder on Strouhal Number at Moderate Reynolds Number, Proceedings of the 24th National and 2nd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2017). DOI: 10.1615/IHMTTC-2017.1520.
- K. R. Sharma, and S. Dutta, Flow Control over a Flexible Splitter Plate Attached Square Cylinder at an Intermediate Reynolds Number, Proceeding of National Conference, FMFP-2017 organized at Amrita University, Amritapuri, Kerela on 14-16 Dec. 2017.

Technical Skills

- Particle Image Velocimetry
- Constant Temperature Anemometry
- MATLAB

Languages

- English
- Hindi
- Dogri
- Punjabi

References

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