Pradeep Singh

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Contact Information

Energy Conversion Lab

Department of Mechanical Engineering

Indian Institute of Technology, Kanpur

Kanpur, 208016

Uttar Pradesh, INDIA

Research Interests

Flow Separation and Transition in Turbomachinery, Flow velocity measurements using different experimental techniques

Academic

Indian Institute of Technology Kanpur, India — *Dec. 2014-Thesis submitted*

Department of Mechanical Engineering — *CPI* 7.43

Ph.D., Fluid and Thermal Sciences

- Thesis Topic: Excitation of shear layer due to surface roughness near the leading edge
- Adviser: Prof. Subrata Sarkar

Indian Institute of Technology Roorkee, India — *Jun 2009-Oct 2011*

Department of Mechanical Engineering — *CPI 6.86*

M. Tech., Thermal Engineering

- Thesis Topic: Heat transfer in microchannels
- Adviser: Prof. Ravi Kumar

University of Rajasthan, Jaipur, India — *Aug 2003-June 2007*

B. E., Mechanical Engineering — 75.12%

Training/ Workshops

NTPC Ltd, Dadri

Summer training during B. E.

NTPC Ltd, Dadri

Summer Training during B. E.

Academic Experience

Teaching Assistantship, IIT Kanpur

ME401A: Energy Conversion Lab

ME647A: Introduction to turbulent flows

ME401A: Energy Systems-II

ME 617A: Advanced Theory of Turbomachinery

ME 631A: Viscous Flow Theory

ESO 201A: Thermodynamics

ME401A: Energy Conversion Lab

Assistant Professor, *Aug 2011 - Jan 2012*

GLA University, Mathura

Assistant Professor, *July2012 - Dec 2014*

Vishveshwarya Institute of Engineering and Technology, Dadri

Industrial Experience

Engineer Trainee *Dec 2007 - Aug 2008*

Maintenance Department, UFLEX Ltd, Noida, INDIA

Journal Publications

- Singh, P., and Sarkar, S., 2021, "Excitation of Shear Layer Due to Surface Roughness near the Leading Edge: An Experiment." *ASME* J. Fluids Eng., **143**(5): 051301. https://doi.org/10.1115/1.4049685A.
- Pradeep Singh and S. Sarkar, "Excitation of a Laminar Separation Bubble by a Series of Protuberances on the Leading Edge of an Aerofoil" ASME J. Turbomach. (Under Review)
- Pradeep Singh and S. Sarkar, "Separation Bubble on the Rough Surface at Varying Angles of Attack" Phy. Fluids (Under Review)

Conference Publications

- Pradeep Singh and S. Sarkar, 2018, "Influence of Wall Roughness on the Laminar Separation Bubble," Paper ID-89, ACGT-2018, Morioka, Japan.
- Pradeep Singh and S. Sarkar, 2019, "Shear Layer Excitation near the Leading-Edge due to Uniformly Distributed Roughness Elements," Paper No. 169c, ACFM-2019, Bengaluru.
- Pradeep Singh and S. Sarkar, 2021, "Effect of Hemispherical

Protuberance on the Leading-Edge to Control the Laminar Separation Bubble," ***Proceedings of the ASME International Mechanical Engineering Congress and Exposition***, IMECE2021-59628, November 1-5, 2021, Virtual, online.

- Ravi Kumar, Pradeep Singh, and S. Sarkar, 2022, "Transition of a Laminar Separated Boundary Layer Under Varying Adverse Pressure Gradient," ***Proceedings of ASME Turbo Expo*** **2022**, Paper No. GT2022-83045.

MEMBERSHIP

Member of The American Society of Mechanical Engineers (ASME)
Member of Association of Mechanical Engineers-IIT Kanpur

FELLOWSHIPS/ RESEARCH GRANTS

Ministry of Human Resource & Development (MHRD), Government of India, Departmental Fellowship	*Jan 2020 - Dec 2020*
Ministry of Human Resource & Development (MHRD), Government of India, Senior Research Fellowship	*Feb 2016 -Dec 2019*
Ministry of Human Resource & Development (MHRD), Government of India, Junior Research Fellowship	*Dec 2014 - Jan. 2016*
Ministry of Human Resource & Development (MHRD), Government of India, Junior Research Fellowship	*Jun 2009 - Aug 2011*

ACHIEVEMENTS

- GATE 2012, All India Rank-743
- GATE 2009, All India Rank-273

EXTRA-CURRICULAR ACTIVITIES

Runner-up in chess competition at college level
Winner of cricket tournament organized at college level

TECHNICAL SKILLS

Experimental Techniques: Particle Image Velocimetry, Hotwire measurement and Pressure Measurement using electronically pressure scanner (ESP)
Programming Languages: MATLAB, C, C++
Mechanical Design: Ansys-Fluent, Autodesk Inventor
Post-Processor: Tec plot

Personal Details

Father's Name: Vijay Pal Singh

DOB: 06-08-1984

Marital Status: Married

Category: General

Address: Village Patadi, PO NTPC Dadri, Gautam Budh Nagar, UP, 201008

Languages Known

English, Hindi

Hobbies

Playing Cricket and Chess

Reference

Prof. S. Sarkar
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Indian Institute of Technology Kanpur
Kanpur, Uttar Pradesh 208016, India
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Pradeep Singh