

# Dr. Sujoy Kumar Saha

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Education Director/Vice Chancellor

Personal Details:  
Born 30 August 1959 ▪ Indian  
Male ▪ Married

Accomplished senior educational professional with a proven track record in academic development, research and administration, with success in establishing institutions from scratch. Visionary and forward thinking in creating environments dedicated to the conscious development of students from nursery through to doctorate degree level.

## Key Competencies

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- Mechanical engineering professional ranked in the top 1% in the world of scientists and in top 2% in various fields of study as published by Stanford University, USA.
- Distinguished academician with a progressive career in research and academic organizations, culminating in leadership of mechanical engineering department and set-up of adjacent laboratory units.
- Highly published in SCI, SCOPUS and Web of Science indexed journals with 20 papers for renowned conferences held abroad and in India.

## Professional Experience

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**IIST – Indian Institute of Engineering Science & Technology, Shibpur**  
**Professor – Mechanical Engineering, 2004 – Present**

**1994 – Present**

Progressed to deliver lively and interactive teaching, learning and assessment to an outstanding standard for students in mechanical engineering. Drive the progress of learners by putting targets in place and engage in core activities such as marking, reporting and preparing flexible learning materials. Facilitate pastoral care for students as a personal or course tutor for groups. Educate students on project supervision and mechanical skills through theory teaching, one-to-one tutoring and ongoing assessment.

- Input into curriculum development and research output for the institute as a subject matter expert in mechanical engineering.
- Explicitly enhanced the student learning experience by utilizing technologies, new teaching methods and learning strategies.
- Served as Chairman and Head of the mechanical engineering department from 2012 to 2014 alongside role as Professor.
- Elected to the Board of Governors in 2012 and Member Executive Council for two years to strategically direct finances, assets and affairs.
- Spearheaded the University Grants Commission (UGC) as Profession-In-Charge for two years and directed the internal quality control unit.
- Established the heat transfer, thermodynamics and thermal power laboratory to enable students to research, select thesis and write dissertations.
- Set-up a further laboratory for students to perform computational activities such as fluid dynamics and numerical heat transfer.
- Developed and launched fully funded, regular courses on circulating fluidized bed technology and advanced heat transfer.

**Earlier: Assistant Professor (1996 – 2004) and Lecturer (1994 – 1996)**

## Additional Experience

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Assistant Lecturer, Birla Institute of Technology & Science, 1983 – 1984

## Education and Credentials

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**Post Doctorate:** UNESCO Fellowship of The Abdus Salam, International Centre for Theoretical Physics, Trieste, Italy tenable at ENEA, Rome, Italy

**Post Doctorate:** Dalhousie University, Canada

**PhD:** Indian Institute of Technology Bombay, India

**M. Mechanical E. (Thermal Sciences):** Jadavpur University, India

**B. Mechanical E:** Jadavpur University, India

## Publications & Books

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1. Ranjan, Hrishiraj, Anand Kumar Bharti, Madhu Sruthi Emani, Josua Petrus Meyer, and Sujoy Kumar Saha, "New combined heat transfer enhancement techniques used in laminar flow through non-circular ducts." Applied Thermal Engineering 163 (2019).
2. Emani, Madhu Sruthi, Hrishiraj Ranjan, Anand Kumar Bharti, Josua P. Meyer, and Sujoy Kumar Saha, "Laminar flow heat transfer enhancement in square & rectangular channels having: (1) A wire-coil, axial and spiral corrugation combined with helical screw-tape with and without oblique teeth and a (2) spiral corrugation combined with twisted tapes with oblique teeth." International Journal of Heat & Mass Transfer 144 (2019).
3. Madhu Sruthi Emani, Abhik Nayak, Achin Kumar Chowdhuri, Bijan Kumar Mandal, Sujoy Kumar Saha, "Experimental investigation on heat transfer augmentation in horizontal tube using coiled wire inserts." Pages 513-534 Journal of Enhanced Heat Transfer 26, Issue 5 (2019).
4. Saha, Sujoy Kumar, Environment, Security, Development, Consciousness and Development, New Delhi Publishers, India (2020).
5. Saha, Sujoy Kumar, Hrishiraj Ranjan, Madhu Sruthi Emani, and Anand Kumar Bharti. Heat Transfer Enhancement in Plate and Fin Extended Surfaces, Springer International Publishing (2020).
6. Saha, Sujoy Kumar, Hrishiraj Ranjan, Madhu Sruthi Emani, and Anand Kumar Bharti. Insert Devices and Integral Roughness in Heat Transfer Enhancement. Springer (2020).
7. Saha, Sujoy Kumar, Hrishiraj Ranjan, Madhu Sruthi Emani, and Anand Kumar Bharti. Performance Evaluation Criteria in Heat Transfer Enhancement. Springer (2020).
8. Saha, Sujoy Kumar, Hrishiraj Ranjan, Madhu Sruthi Emani, and Anand Kumar Bharti. Introduction to Enhanced Heat Transfer. Springer (2020).
9. Saha, Sujoy Kumar, Hrishiraj Ranjan, Madhu Sruthi Emani, and Anand Kumar Bharti. Two Phase Enhanced Heat Transfer. Springer (2020).
10. Saha, Sujoy Kumar, Hrishiraj Ranjan, Madhu Sruthi Emani, and Anand Kumar Bharti. Heat Transfer Enhancement in Externally Finned Tubes and Internally Finned Tubes and Annuli. Springer (2019).
11. Saha, Sujoy Kumar, Hrishiraj Ranjan, Madhu Sruthi Emani, and Anand Kumar Bharti. Electric Fields, Additives and Simultaneous Heat and Mass Transfer in Heat Transfer Enhancement. Springer (2019).

## Affiliations

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ASME Fellow

Fellow of Institution of Mechanical Engineers, London

ACS (American Chemical Society) Member

Indian Society of Heat and Mass Transfer (ISHMT)

Solar Energy Society of India (SESI)

Life Fellow, Institution of Engineers (India)

Indian Society for Technical Education (ISTE)

Indian Cryogenics Council (ICC)

Indian Science Congress Association (ISCA)

Forum of Scientists, Engineers and Technologists (FOSET)

National Society for Fluid Mechanics and Fluid Power (FMFP)

## Papers

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1. Ranjan, Hrishiraj, Madhu Sruthi Emani, Anand Kumar Bharti, Sujoy Kumar Saha, "Heat Transfer Enhancement in Non-Circular Channels by Transverse Ribs and Twisted Tapes" 25th National and 3rd International ISHMT-ASTFE, Heat and Mass Transfer Conference (IHMTTC-2019).
2. Emani, Madhu Sruthi, Hrishiraj Ranjan, Anand Kumar Bharti, Sujoy Kumar Saha, "Heat Transfer and Pressure Drop in Duct Flow using Compound Inserts". 25th National and 3rd International ISHMT-ASTFE, Heat and Mass Transfer Conference (IHMTTC-2019).
3. Ranjan, Hrishiraj, Madhu Sruthi Emani, Anand Kumar Bharti, Sujoy Kumar Saha, "Heat Transfer Augmentation in Laminar Swirl Flow Using Spiral ribs and Twisted Tapes with Oblique Teeth" 25th National and 3rd International ISHMT-ASTFE, Heat and Mass Transfer Conference (IHMTTC-2019).
4. Ranjan, Hrishiraj, Madhu Sruthi Emani, Anand Kumar Bharti, Sujoy Kumar Saha, "Combined Transverse Ribs and Twisted-Tape...An Energy Efficient Thermal Device." 7th International Congress on Technology Engineering and Science, Malaysia(2019).
5. Bharti, Anand Kumar, Hrishiraj Ranjan, Madhu Sruthi Emani, Sujoy Kumar Saha, "Evaluation of hydrothermal characteristics for laminar flow by using compound technique." 7th International Congress on Technology Engineering and Science, Malaysia(2019).
6. Emani, Madhu Sruthi, Hrishiraj Ranjan, Anand Kumar Bharti, Sujoy Kumar Saha, "Heat Transfer Augmentation and Energy Savings using Compound Enhancement Technique for Thermal Systems." 7th International Congress on Technology Engineering and Science, Malaysia(2019).
7. Saha, Sujoy Kumar, Madhu Sruthi Emani, Hrishiraj Ranjan, Anand Kumar Bharti, "Heat Transfer Augmentation- An Energy Efficient Thermal Management System." 7th International Congress on Technology Engineering and Science, Malaysia, (2019).
8. Ranjan, Hrishiraj, Madhu Sruthi Emani, Anand Kumar Bharti, Sujoy Kumar Saha, "Thermo-Fluids in Non-Circular Hydrothermally Enhanced Channels." 12th International Conference on Thermal Engineering: Theory and Applications, Gandhinagar, India, (2019).

## Conferences& Public Speaking

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Session Chair, Technical Session, 7th International Congress on Technology Engineering and Science Aug 08-09, 2019, APU, Kualalampur, Malaysia.

Circulating Fluidized Bed Technology and Its Applications, GIAN Advanced Course on "Coal Utilization Current Status and Future Prospects", IIT Kanpur, July 08-19, 2019 (Keynote Lecture).

Advances in Heat Transfer Enhancement, 12th International Conference on Thermal Engineering: Theory and Applications, Feb 23-26, 2019, SoT, PDPU, Gandhinagar, Gujarat, India in Collaboration with Ryerson University, Toronto, Canada. (Keynote Lecture).

Technical Session in 12th International Conference on Thermal Engineering: Theory and Applications, Feb 23-26, 2019, SoT, PDPU, Gandhinagar, Gujarat, India in Collaboration with Ryerson University, Toronto, Canada. (Session Chair).

Technical Session in 12th International Conference on Thermal Engineering: Theory and Applications, Feb 23-26, 2019, SoT, PDPU, Gandhinagar, Gujarat, India in Collaboration with Ryerson University, Toronto, Canada. (Session Chair).

Keynote Speaker: 8th ExHFT held in June 2013 in Portugal.

Invited Talk, 100th Indian Science Congress, 2012, Kolkata, India.

Invited lecture, MIT (USA) & University of Minnesota (USA), 2013.

Invited talk, University of Freiberg, Germany; Lund University, Sweden; Denmark Technical University, Denmark, Technical University of Eindhoven, Netherlands, 2014.

Invited Talk: ASME International Mechanical Engineering Congress and Exposition (IMECE 2016), Phoenix, Arizona, USA.

Session Chair: 8th ExHFT held in 2013 in Portugal, ASME HSTC 2013.

Session Chair: 21st National & 10th ISHMT-ASME Heat and Mass Transfer Conference, Dec. 27-30, 2011, IIT Madras, India.

Session Chair: 2013 Summer Heat Transfer Conference, Minnesota, Minneapolis, USA.

Session Chair: ASME International Mechanical Engineering Congress and Exposition (IMECE 2013).

*Further information and publications available on request.*