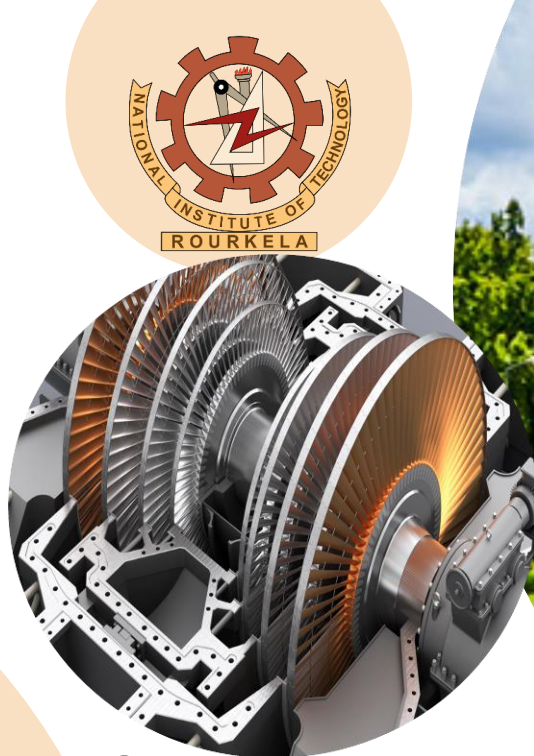


## ABOUT US:

NIT Rourkela, a premier national institution funded by the Government of India, has been elevated to a deemed university status and ranked 16th, 29th, and 37th in the NIRF 2023 rankings for Engineering, Research, and Overall categories, respectively. It is also placed in the 291-300 group in the QS World University Ranking: Asia 2024. The institute is committed to providing quality education in a diverse and multicultural environment, offering PhD and M.Tech by Research programs in 21 branches of Engineering. NIT Rourkela's research centers actively engage with government bodies and industries, including DST, DAE, CSIR, DRDO, BARC, and ISRO, for consultancy and research activities.

## ABOUT WORKSHOP:

Turbomachinery, Bearings, and Rotordynamics are essential in the design, analysis, and maintenance of rotating machinery like turbines and compressors. These interconnected fields ensure the efficient and reliable operation of such equipment in various industries. The workshop aims to provide professionals and researchers with valuable knowledge and skills in these areas. It combines theoretical and practical approaches to help participants understand the design principles of key components like turbines, compressors, bearings, and rotors. This integrated learning experience will enhance their ability to design and maintain high-performance rotating machinery.



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# Five Days Workshop on Turbomachinery, Bearings, and Rotordynamics(TBR-24) (02<sup>nd</sup>-06<sup>th</sup> Dec 2024)

Coordinator: Prof. Suraj Kumar Behera  
Co-Coordinator: Prof. Debanshu Shekhar Khamari

# MENTORS:

Prof. Manas R. Pattnayak, IIT Bhubaneswar  
Prof. Arun Kumar Jalan, BITS Pilani  
Dr. Shital Patil, Bosch(India)  
Dr. Rohit Gunerkar, Vestas(India)  
Dr. Jitesh Kumar (Director, DEQ, Bangalore)  
Dr. Debanshu Shekhar Khamari (GCE, Kalahandi)  
Dr. Manoj Kumar ( IPR, Ahmedabad)  
Prof. Samir Kumar Acharya, NIT Rourkela  
Prof. Suraj Kumar Behera, NIT Rourkela  
Mr. Hara Prakash Mishra ( PhD Scholar, NIT Rourkela)  
Mrs. Srusti Priyadarsani (PhD Scholar, NIT Rourkela)

# CONTACT DETAILS:

For any clarification, please contact  
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# IMPORTANT DATES:

Last date for receipt of application: 25<sup>th</sup> Nov 2024  
Last day of selection & notification: 26<sup>th</sup> Nov 2024

Only 30 number of outstation participants will be selected on the first-cum-first-serve basis.

# REGISTRATION LINK:

<https://docs.google.com/forms/d/e/1FAIpQLScbpMw0SsMgws6BEY5S8tN5hn-2XHJjwQiWE9lbr01xEwHA/viewform>

# PAYMENT DETAILS:

The fee structure for participants:

Participants	Early Bird (Before 18 <sup>th</sup> Nov 24)	Regular
Students	Rs. 6000/-	Rs. 7000/-
Others	Rs. 12,000/-	Rs. 14,000/-

- The course fee includes course material, food and accommodation during the program days.
- To and fro travel allowances will be reimbursed from workplace to NIT Rourkela as per institute rule.

Registration fees should be bank transferred through UPI/NEFT/IMPS to the following:

- Account Number (Name): 10138951784 (CONTINUING EDUCATION NIT ROURKELA)
- IFSC Code: SBIN0002109
- Bank & Branch Name: SBI, NIT Campus, Rourkela



BHIM UPI

"Engineering the future, one innovation at a time."



# WORKSHOP SCHEDULE :

**Day 1:**

Design principles of turbine blades, nozzles, and diffusers, with studies on turboexpander components. Experiments on vibration analysis of high-speed turboexpanders.

**Day 2:**

Working principle of various bearings. Design of bearings and application of AI tools in bearings design. Experimental investigation of locomotive turbochargers supported with oil lubricated bearings.

**Day 3:**

Rotordynamics analysis of high-speed rotors, including experiments on whirling and misalignment on rotordynamics simulators.

**Day 4:**

Design principles of gas foil bearings, grooved bearings and the use of machine learning tools for tribological elements. Experiments on high precision industrial balancing machine.

**Day 5:**

Condition monitoring techniques for prediction of life of bearings and Other Turbomachinery parts.

