

## About the Institute

The National Institute of Engineering (NIE), established in the year 1946, today stands 175<sup>th</sup> place among top engineering colleges in the country that include IITs and NITs as per National Institution Ranking Framework (NIRF-2020) announced by Ministry of Human Resources Development (MHRD). It is ranked 18<sup>th</sup> among India's top Engineering Colleges, as per survey conducted by Times of India (June 2020). NIE is a Grant-in-Aid Institution and approved by the All India Council for Technical Education (AICTE), New Delhi. NIE got Autonomous status from Visvesvaraya Technological University, Belagavi in 2007. Five Undergraduate Programmes - Civil Engineering, Mechanical Engineering, Electronics & Communication Engineering, Electrical & Electronics Engineering and Industrial & Production Engineering and two PG Programmes - Hydraulics and Production Engineering & System Technology have been accredited by the National Board of Accreditation, New Delhi, under Tier-I. It is one of the 14 colleges in Karnataka that has been recognized under MHRD-World Bank sponsored Technical Education Quality Improvement Programme (TEQIP) in all the three phases. To enrich research and consultancy activities, 15 Centres of Excellence have been set up in collaboration with Industries and Alumni. Many funded research projects of Central and State Governments, VTU and overseas Universities are presently being carried out at NIE.

## ORGANIZING COMMITTEE

### CHIEF PATRON

**Dr. N. V. Raghavendra**  
Principal

The National Institute of Engineering, Mysuru

### PATRON

**Dr. Suresha B**

Professor & Head

Department of Mechanical Engineering,  
The National Institute of Engineering, Mysuru.

### PROGRAMME COORDINATOR

**Dr. I. M. Jamadar**

Associate Professor

Department of Mechanical Engineering,  
The National Institute of Engineering, Mysuru.

**Mr. P. K. Samal**

Assistant Professor

Department of Mechanical Engineering,  
The National Institute of Engineering, Mysuru.

### ORGANIZING TEAM

**Mr. Prithvi C**

Asst. Professor

**Dr. Harshavardhan B**

Asst. Professor

**Dr. Akhil V. M.**

Asst. Professor

**Dr. Aravinda S. L.**

Asst. Professor



**The National Institute of Engineering**

(An Autonomous Institute under VTU Belagavi)

**Mysuru-570008**

**ISTE Approved**  
**One Week Online**  
**Short Term Training Program**  
**on**

**Mechanical Vibration Problems**

**Modelling, Simulation, Experiments & Case Studies**

**13<sup>th</sup> to 17<sup>th</sup> September, 2021**

**Organized by**

**Department of Mechanical Engineering**

**The National Institute of Engineering, Mysuru**

(An Autonomous Institute under VTU Belagavi)

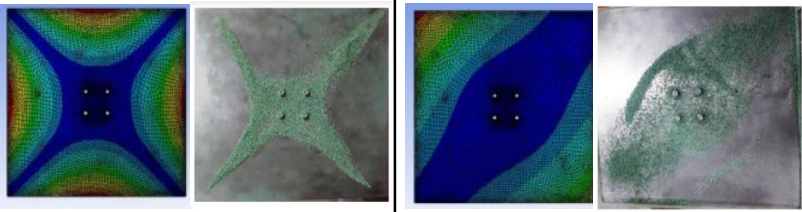
**Mananthavadi Road, Vidyaranya, Mysuru,**

**Karnataka – 570008**



## About the Department of Mechanical Engineering

In addition to the B.E. programme, the Department of Mechanical Engineering presently runs three M. Tech programmes under the Autonomous scheme, namely, Industrial Automation & Robotics, Machine Design and Nanotechnology. The department is recognized as "Research Centre" by VTU. The highly qualified faculty is actively engaged in research and consultancy work in the areas of Composite Materials, Automation Technology, Nanotechnology and Renewable Energy Technology. Thanks to their initiative and efforts, the department has secured funding from reputed funding agencies such as the Department of Science & Technology (DST), TEQIP, UGC, AICTE, KCTU, etc., which has resulted in the establishment of several center's of excellence. Some of the notable ones are the Centre for Materials Research (CMR), Centre for Renewable Energy and Sustainable Technologies (CREST), Centre for Nanotechnology (CNT), Centre for Automation Technologies (CAT), CNC Training Centre, etc. NIE started M. Tech programme in "Machine Design", in the year 2014. The uniqueness of this programme lies in curriculum and pattern of education along with state-of-the-art facilities. The students undergo extensive training on major areas of Machine Design including Finite Element Analysis using MATLAB, ANSYS, ABAQUS, OPTISTRUCT, Experimental Modal Analysis using NIDAQ and LABVIEW.



## About the STTP

The one week online Short Term Training Programme (STTP) on "Mechanical Vibrations Problems – Modelling, Simulation, Experiments & Case Studies" is approved by Indian Society for Technical Education (ISTE) is being organized by the Department of Mechanical Engineering, Machine Design (MMD), NIE, Mysuru. Which provides a platform to understand the concept of mathematical modelling, finite element modelling and simulation, experimental testing of mechanical vibration problems using modern tools like MATLAB, ANSYS, NI-DAQ and LABVIEW.

### Objectives of the STTP

- To understand the concept of mathematical modelling in solving mechanical vibration problems.
- To acquaint the skills of FEA, MATLAB and LABVIEW programming related to mechanical vibration problems.
- To gain the knowledge of experimental vibration testing concepts for real world mechanical vibration problems.

### Who can Participate

Faculty members of the AICTE approved Institutions, Ph.D. Scholars, P.G. Scholars, Participants from Government, Industry (Bureaucrats/Technicians/Participants from Industry etc.) and staff of host Institution may attend the programme.

### Topics to be Covered

- Mathematical Modelling of Vibration Problems
- Simulation of Vibration Problems using FEA/MATLAB
- Experimental Case Studies of Vibration Problems
- Vibration (Numerical & Experimental) Analysis of Beams and Plates
- Vibration of Composite Manipulators etc.

## Resource Persons

**Dr. Gangadharan K. V.**  
Professor, NITK, Surathkal

**Dr. Akash Rajan**  
CEO, TIERA, Trivandrum

**Mr. Madhusudan Nagaraja**  
Diagnostic Engineers, Bengaluru.

**Mr. SKM Rao**  
CEO & Director, ENVICON,  
Bengaluru.

**Mr. Ramakrishna D. P.**  
Chief Technical Officer, Enmaz  
Technical Services, Bengaluru.

**Mr. Panneer Selvam**  
Application Engineer, AIMIL  
Ltd., Bengaluru.

### Registration Details

The participants can register for the programme by making an online payment of **Rs. 472/- (400+18% GST)**. (Account Details: **Beneficiary Name: The National Institute of Engineering, Account No: 50100243056071, RTGS/NEFT IFSC: HDFC0002568, Account Branch: K R Mohalla - Mysuru**)

Please upload the details of fee paid and participant details in the following google form: <https://forms.gle/SMm1M6asephy9zV6>

Participants need to fill out the feedback form of all the sessions and take the test on the last day to avail the certificate.

### Important Dates

**Last date for registration: 11<sup>th</sup> September, 2021**

**Programme Date: 13<sup>th</sup> to 17<sup>th</sup> September, 2021**

### Contact Details

The participants can contact the Coordinators of the STTP for any queries regarding the programme.

**Dr. I. M. Jamadar**  
**+91-9860603195**

[imjamadar@nie.ac.in](mailto:imjamadar@nie.ac.in)

**Mr. P. K. Samal**  
**+91-9535144563**

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ISTE Approved One Week Online STTP on  
**Mechanical Vibration Problems**  
Modelling, Simulation, Experiments & Case Studies  
13<sup>th</sup> to 17<sup>th</sup> September, 2021

**Resource Persons & Topic**

**Topic:** Vibration and its Analysis, an Experiential Learning Approach

13-09-2021  
F/N Session



**Dr. Gangadharan K. V.**  
Professor, NITK, Surathkal

**Topic:** Mathematical Modelling and Applications of Soft Computing Tools for the Vibration Based Condition Monitoring of Rotating Machines

13-09-2021  
A/N Session



**Dr. I. M. Jamadar**  
Associate Professor, NIE, Mysuru

**Topic:** Basic Resonance Issues and on-site Balancing of Rotors with Demo and Case Studies

14-09-2021  
F/N Session



**Mr. Madhusudan Nagaraja**  
ISO CAT-2 Vibration Analyst, Diagnostic Engineers, Bengaluru

**Topic:** Machinery Vibration Problems, their Analysis, Troubleshooting and Solution – Typical Case Studies

14-09-2021  
A/N Session



**Mr. SKM Rao**  
Director, Envicon, Bengaluru

**Topic:** Experimental Vibration Analysis

15-09-2021  
F/N Session



**Dr. Akash Rajan**  
CEO, TIERA, Trivandrum

**Topic:** MATLAB Simulation of MDOF Systems

15-09-2021  
A/N Session



**Mr. P. K. Samal**  
Asst. Professor, NIE, Mysuru



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**Resource Persons & Topic**

**Topic:** Vibration Analysis for  
Aerospace, Defense and Automotive  
Applications

16-09-2021  
F/N Session



**Mr. Ramakrishna D. P.**  
Chief Technical Officer, Enmaz Technical  
Services, Bengaluru.

**Topic:** Experimentation for Free  
Vibration of Plates

16-09-2021  
A/N Session



**Mr. P. K. Samal**  
Asst. Professor, NIE, Mysuru

**Topic:** Instrumentation for Vibration  
Measurements & Case Studies

17-09-2021  
F/N Session



**Mr. Panneer Selvam**  
Application Engineer, AIMIL Ltd., Bengaluru

**Topic:** Tensile Modulus Measurement  
by Free Vibration Testing & Numerical  
Simulation using ABAQUS

17-09-2021  
A/N Session



**Dr. Harshavardhan B**  
Asst. Professor, NIE, Mysuru