The National Institute of Engineering (NIE), established in the year 1946, today stands 175th 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 18th 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.

About the Institute

ORGANIZING COMMITTEE

CHIEF PATRON

Dr. N. V. Raghavendra
Principal
The National Institute of Engineering, Mysuru

PATRON

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

PROGRAMME COORDINATOR

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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

13th to 17th September, 2021

Organized by
Department of Mechanical Engineering
The National Institute of Engineering, Mysuru
(An Autonomous Institute under VTU Belagavi)
Mananthavadi Road, Vidyaranyapura, 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 Sustainable Materials, Centre for Automation Technology (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 “Mathematical 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
Mr. Madhusudan Nagaraja
Diagnostic Engineers, Bengaluru.
Mr. Ramakrishna D. P.
Chief Technical Officer, Enmaz

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)

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: 11th September, 2021
Programme Date: 13th to 17th September, 2021

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

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ISTE Approved One Week Online STTP on Mechanical Vibration Problems
Modelling, Simulation, Experiments & Case Studies
13th to 17th 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:** 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:** 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:** 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