

NITK SURATHKAL

Since its inception in 1960, the National Institute of Technology Karnataka (NITK), Surathkal has established itself as a premier Institution engaged in imparting quality technological education and providing support to research and development activities. NITK has conferred the status of an Institution of National Importance vide NIT Act No.29 of 2007 by Govt. of India and is consistently ranked as one of the top ten technical institutions in India. Presently, NITK offers 9 Bachelors, 28 Masters and Doctoral Degree programs. The institute is located 22 kilometers north of Mangalore City along the Kanyakumari-Mumbai National Highway-66, amid 300 acres of sylvan surrounding with the picturesque Western Ghats on the east and sun-kissed sands of the Arabian Sea to the west.

NITK is committed to enhancing the capabilities and potential of our human resources with the objective of transforming them into leaders in their chosen areas of interest. Our vision is to strive for excellence, be globally competitive in technical education and focus on knowledge assimilation, generation, and dissemination. The year-long activities during the occasion showcased the glorious contributions of NITK in various fields of its activities and projected new initiatives for the coming years.

DEPARTMENT OF MECHANICAL ENGINEERING

The Department of Mechanical Engineering established in 1960 is the oldest and largest Department of NITK. The Department has traversed the path of knowledge dissemination and generation as well delivering the best Mechanical Engineering graduates to the nation. Over these glorious 60 years, it has carved a niche for itself in the key areas of teaching, research, consultancy, administration and community services.

The Department offers a program in Mechanical Engineering at B.Tech. level, Thermal Engineering, Manufacturing Engineering, Mechanical Design and Mechatronics Engineering at the M.Tech. level and M.Tech. (by Research), and PhD programme. The Department keeps itself up to date with the latest developments and trends in the field and with a dedicated faculty of highly qualified and experienced members in all streams of Mechanical Engineering. The Department has been active in carrying out funded R&D projects and many facilities for research are added in recent years.

ABOUT THE E-WORKSHOP

Numerical analysis of mechanical systems used in aerospace, automotive, oil and gas and nuclear industries is of great importance in order to simulate and predict failure modes for their better design. Computational mechanics facilitates such failure analysis of engineering components subjected to complex loading conditions and can be successfully used for the design of mechanical components. Computational mechanics is the discipline concerned with the use of computational methods to study phenomena governed by the principles of mechanics. In general, it is important to consider static and dynamic load effects, vibration amplitudes, fatigue and impact effects during analysis and design of machine components. Similarly, it is also important to investigate the behavior of machine components made of advanced materials such composites and nano materials. Advances in computational tools such as finite element method, finite difference method, boundary element method, mesh-free method and analytical methods provides platform to perform the numerical analysis comfortably.

ATTENDING THE E-WORKSHOP WILL HELP THE PARTICIPANT TO

- Enrich knowledge about the advancements in existing computational mechanics
- Understand various aspects of design of machine components used in industries
- Familiar with different types of computational mechanics tools
- Analyze components made of advanced materials numerically
- Identify latest technical challenges; know research updates, and prospective breakthroughs in the field of computational mechanics

CONTENTS OF PROGRAMME

- **Engineering Challenges and Advances in Industries**
- **Dynamic Characterization of Composite Structures**
- **Design and Development of an Automotive Product**
- **Modelling of Smart Materials**
- **Co-Simulation Techniques for Engineering Problems**
- **Crashworthiness Analysis**

- **Bolted Joint Analysis of Composite Structures**
- **Material Modeling and Simulation of Mechanical Systems**
- **Computational Nano-mechanics of Solids**
- **Multiscale Modelling of Composites**

Lectures will be delivered by industrial experts, Faculty & Scientists from IITs, NITs, Premier Research Laboratories and reputed Private Universities and Colleges.

ELIGIBILITY AND SELECTION CRITERIA

Programme is open to Faculties, Research Scholars and PG students of Engineering Colleges in the Department of Mechanical Engineering and related Engineering and Science disciplines. Filled-in registration form in PDF should reach acmea2021@gmail.com on or before **29th Jan, 2021**. The selected participants will be informed via an email before **31st Jan, 2021**. APPLICATION SHOULD BE SENT THROUGH E-MAIL ONLY.

REGISTRATION

There is no registration fee for the programme. The E-certificate will be provided through registered e-mail.

RESOURCE PERSONS

1. **Dr. T. C Ramesh**, QuEST India Pvt Ltd, Bangalore
2. **Prof. Ramji**, IIT Hyderabad
3. **Dr. Rajesh Bhangale**, Mahindra&Mahindra, Pune
4. **Dr. Gangareddy**, General Electric, Bangalore
5. **Dr. Shailesh I. Kundalwal**, IIT Indore
6. **Dr. Subrata kumar Panda**, NIT Rourkela
7. **Dr. Suresh kumar**, NIT Raipur
8. **Prof. R. Vasudevan**, VIT University, Vellore
9. **Prof. A. Kumaravel**, KSRIT, Salem, TN.
10. **Dr. Mallikarjun Reddy**, VIT University, Vellore

REGISTRATION FORM

National Institute of Technology Karnataka, Surathkal
Srinivasnagar, Mangaluru 575025, India.

**Five-day National E-Workshop on
Advances in Computational Mechanics for Engineering
Applications (ACMEA-2021)
1ST -5th February, 2021**

Name :

Designation:

Organisation:

Mailing Address:

PIN: Telephone:

Mobile: Email:

DECLARATION BY THE PARTICIPANT

The information furnished above is true to the best of my knowledge. I agree to abide by the rules and regulations governing the programme. If selected, I shall attend the programme for the entire duration. I also undertake the responsibility to inform the Coordinator(s) sufficiently in advance, in case I am unable to attend the programme.

Date: _____ Signature of Applicant

LINK FOR REGISTRATION

LINK: <https://forms.gle/rpzVsjZh8TXro6gy6/>

Place: NITK Surathkal
Date: 20/1/2021

Five-day National E-Workshop on Advances in Computational Mechanics for Engineering Applications (ACMEA-2021) 1st - 5th February, 2021

Sponsored by TEQIP PHASE-III



Chief Patron

Prof. Karanam Umamaheshwar Rao

Director

National Institute of Technology Karnataka, Surathkal

Patron

Prof. Shrikantha S Rao

Professor and Head,

Dept. of Mechanical Engineering

National Institute of Technology Karnataka, Surathkal



Organized by

**Department of Mechanical Engineering
National Institute of Technology Karnataka
Surathkal, Srinivasnagar P.O., Mangaluru-575 025
www.nitk.ac.in**

IMPORTANT DATES

Last date for receipt of application: 29th Jan, 2021

Intimation of selection (via an e-mail): 30th Jan, 2021

WORKSHOP VENUE

E-Seminar: Microsoft Teams

CONTACT INFORMATION OF CO-ORDINATORS

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