# NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA

www.nitk.ac.in

*...Inspiring Excellence*

*An Institute of National Importance...*

(NITSER Act 2007, Parliament of India, 15th August, 2007)

National Institute of Technology Karnataka (NITK), Surathkal is located in Mangalore City, Karnataka State, India. Surathkal is a coastal town within the city limits of Mangalore. Mangalore is the headquarters of the coastal district of Dakshina Kannada and is an important centre of education, business and trade in Karnataka State. The presence of an all-weather major port in Mangalore has resulted in rapid industrial growth in the hinterland covering large parts of Karnataka, extending up to the state capital, Bangalore. Mangalore also possesses Special Economic Zones and has been earmarked for Information Technology Parks. Dakshina Kannada district is well known for its educational institutions. Mangalore is a popular tourist destination and is well known for pristine beaches, temples and unique cuisine. Sri U. Srinivasa Mallya, a visionary and a philanthropist, contributed immensely to the development of the coastal region of Karnataka. Among the many achievements to his credit, his effort towards establishment of the Karnataka Regional Engineering College (KREC – now NITK) at Surathkal is probably the most significant one. In recognition of his role as the founder and architect of NITK, the campus and its neighborhood are named after him as 'Srinivasnagar'.

## TEAM NITK

An Amalgamation of:

13 Departments

01 School

12 Supporting Centres

278 highly qualified and dedicated faculty

135 committed supporting staff

6000 talented and motivated students

27000+ distinguished alumni

## DEPARTMENTS

Chemical Engineering

Chemistry

Civil Engineering

Computer Science and Engineering

Electrical and Electronics Engineering

Electronics and Communication Engineering

Information Technology

Mathematical and Computational Sciences

Mechanical Engineering

Metallurgical and Materials Engineering

Mining Engineering

Physics

Water Resources and Ocean Engineering

## SCHOOLS

School of Management

### CAMPUS:

- Lush green 295 acres of campus set in sylvan surroundings with a beach.

- Residential campus, self-sufficient in every respect.

- A full-fledged Health Care Centre with visiting specialists and ambulance facility.

- Shopping complex, schools, banks with ATMs, post office, cafeterias.

- 1200-seater auditorium, 1800 capacity open air theatre.

- Institute guest house with VIP suites and dining hall complex.

- Safe & secure campus with 24X7 comprehensive security and fire safety measures.

### CLASSROOMS & LABORATORIES:

- 150+ Classrooms, equipped with audio-visual facility

- 140+ laboratories equipped with state-of-the-art equipment

- Dedicated and qualified laboratory technicians and staff.

- Specialized laboratories in several thrust areas of research & development.

- Laboratories established with industrial support and collaboration.

- Laboratories certified to carry out testing and calibration.

### COMPUTING:

- Fully air-conditioned Central Computer Centre (CCC) providing the campus backbone service with about 20 km of 12 core OFC using 1 Gbps & 10 Gbps connectivity to Departments, residences (through the broadband), Directorate (and administrative net), guest houses and hostels.

- Houses an aggregate 4 Gbps Internet connection from BSNL and a 1 Gbps link from the National

Knowledge Network, associated networking equipment and sufficient hardware to support the internet requirements of the Institute.

- NITK hostels equipped with a total of 3,000 network access points and Wi-Fi Access Points connecting about 8,000 devices to the campus network.

- The academic LAN has about 2,000 nodes at present and nearly seamless Wi-Fi connecting about 4,000 devices to the network.

- A Skill Development Centre with 150 thin client nodes connected to three advanced servers installed in the Data Centre.

- CCC also houses the Super Computing Facility Akshauhini, a 83 TerraFlop Many Core, MultiCore and GPU computing cluster.

## CENTRAL LIBRARY:

The Central Library of NITK, which works 16 hours a day, provides access to more than 1.35 Lakh books, nearly 8,193 e-books, more than 100 print Journals and periodicals, 12,045 full-text e-journals, 32,806 Standards, 8,829 Conference proceedings, 19 full-text online databases and 5 bibliographic databases. Our library is a member of E-ShodhSindhu Consortium (MHRD Initiative), NIT Consortium. Central library has Wi-Fi facility and 25 dedicated computer systems in the digital library section. It supports access to digital resources. Central library provides campus-wide IP-enabled access to full-text databases like Science Direct, Springer Nature, IEEE, Taylor & Francis, RSC, APS, IOP, OUP, JSTOR, Emerald, etc. Library has access to bibliographic databases like Web of Science, Scopus, etc. and access to BIS, ASTM and IEEE Standards. Library has recently migrated its library-management software to Koha, which enables users to search real-time book status and reservations.

## HOSTELS:

- Completely residential campus with hostel facilities for 5500+ students.

- 12 Hostel blocks for boys, 5 hostel blocks for girls with power back up.

- Multiple dining halls offering variety cuisine.

- Reading room in each hostel with books and periodicals.

- All hostel rooms provided with internet connection.

- Student participation in management of hostels and dining halls.

- Major festivals celebrated in hostels.

- Central laundry facility available

- Student transportation facility from hostels to Lecture Hall Complexes/ Departments and back.



## CENTRES OF EXCELLENCE FOR SUPPORTING MULTIDISCIPLINARY RESEARCH:

- Disaster Risk Reduction

- Sustainable Technologies

- Wireless Sensor Networks

- Materials Research

- System Design (Virtual Instrumentation)

- Innovation

- Smart Grid Technologies

## ASSOCIATED CENTRES

- Centre for Continuing Education (CCE)

- Industry-Institute Partnership (IIP) Cell

- NITK Science and Technology Entrepreneurs' Park (STEP)

- Design Innovation Centre

## ACADEMIC PROGRAMMES:

### Undergraduate (UG: B.Tech) Programmes (9):

- Civil Engineering

- Chemical Engineering

- Computer Science & Engineering

- Electronics & Communication Engineering

- Electrical & Electronics Engineering

- Information Technology

- Mechanical Engineering

- Metallurgical & Materials Engineering

- Mining Engineering

### Postgraduate (M.Tech and M. Tech (Res)) Programmes (27):

### Department of Civil Engineering

1. Environmental Engineering

2. Geotechnical Engineering

3. Structural Engineering

4. Transportation Engineering

5. Construction Technology & Management

## Department of Chemical Engineering

1. Chemical Engineering

2. Environmental Science & Technology

3. Industrial Biotechnology

## Department of Computer Science & Engineering

1. Computer Science and Engineering

2. Computer Science and Engineering - Information Security

## Department of Electronics & Communication Engineering

1. Communication Engineering and Networks

2. VLSI Design

3. Signal Processing and Machine Learning

## Department of Electrical & Electronics Engineering

1. Power & Energy Systems

## Department of Information Technology

1. Information Technology

## Department of Mechanical Engineering

1.  Thermal Engineering

2.  Manufacturing Engineering

3.  Mechatronics Engineering

4.  Mechanical Design

## Department of Metallurgical & Materials Engineering

1. Process Metallurgy

2. Materials Engineering

3. Nanotechnology

## Department of Mathematical & Computational Sciences (MACS)

1. Computational and Data Science

## Department of Mining Engineering

1. Rock Excavation Technology & Management - only M.Tech (Research)

### Department of Water Resources and Ocean Engineering

1. Marine Structures
2. Water Resources Engineering & Management
3. Geoinformatics

### Other PG Programmes:

- Master of Computer Applications (MCA) - Department of MACS

- M.Sc. (Chemistry) - Department of Chemistry

- M.Sc. (Physics) - Department of Physics

- Master of Business Administration (MBA) - School of Management

**Doctoral Programmes:** Offered by all academic departments

### ADVANTAGE NITK

- One of the oldest technological institutions in southern India

- Rated among the top technological institutions in India

- Rated as the best technological institution in Karnataka

- Excellent placement record, rated among top in the country for placements

- Highly accomplished and well-placed alumni serving both within the country and abroad.

- Brightest students from throughout the country and abroad.

- Highly motivated and qualified faculty

- Very good industry-institutional and alumni linkages

- Proximity to Bangalore, the IT capital of India; rapidly developing Mangalore region with several existing upcoming mega industries

- Good connectivity by road, rail and air to destinations in India and abroad

- Ranked 13th among top engineering institutions in India as per NIRF ranking in 2020



### Startup companies set up at NITK Science and Technology Entrepreneurs' Park (STEP):

- Three faculty members have instituted their startup companies in NITK-STEP

- Several students have created their own startup companies and are actively involved in many developmental activities.

- A NITK startup company named "Changepay" (incubated in NITK-STEP) was selected and featured on Startup Karnataka's "Innovations to Combat Covid-19" for their efforts to enable college campuses to set up contactless delivery platforms.

- Oxyheal Pvt. Ltd, a NITK startup incorporated by 6 Undergraduate final year students has received a funding of Rs 9.3 lakh under the DST NIDHI Prayas Grant, from the Technology Business Incubator, KEC, Tamil Nadu. Oxyheal was incorporated on 3rd August 2020, and the grant will help them test and develop their innovative healthcare products for the market.

- NITK Surathkal was ranked 4th globally in the list of Universities with the most accepted students for Google Summer of Code (GSoC) 2020. A total of 23 students from NITK Surathkal were accepted for GSoC 2020.

- Eight Undergraduate students of NITK, Surathkal were conferred with the MCN Millennium Fellowship 2020, an initiative by the United Nations Academic Impact Organization.

### Patents granted to NITK in the past three years:

- Faculty members of NITK Surathkal have been awarded eleven (11) patents in the past three years with six patents being awarded in 2020 itself.

- Nine patent applications submitted by faculty members were filed and ten patent applications were published during the year 2020.

### Outstanding research conducted in the Institute:

- Central Research Facility (CRF) has been set up to support state-of-the-art research in Material Sciences and Engineering. In addition to fostering high-end research activities, the CRF has been able to handle testing and consultancy projects as well.



- A similar facility is being planned in the domain of Cyber Physical Systems with HEFA/ Institute/ MoE funding in the current financial year. This will energize core and inter-disciplinary research in the circuit branches.

- The Indian Space Research Organization (ISRO) has set up a Regional Academic Centre for Space (RAC-S) at NITK, Surathkal on 3rd January 2020. To facilitate joint research work with eminent neighbouring institutes, NITK has signed MoUs with NIT Calicut, NIT Warangal, NIT Puducherry, NIT Andhra Pradesh, GCT Coimbatore and GEC Thrissur. Many joint project proposals with the participation of faculty members of these institutions have been submitted. All these research projects are being conducted in close collaboration

- with ISRO scientists to support the national Space program. Funded research projects of value up to Rs. 2 crores can be acquired by the institute from ISRO alone under this scheme every year.

- NITK is also involved actively in the DRDO-Academia programme that is being jointly conducted by DRDO and the Ministry of Education (MoE). This will allow faculty members to involve themselves actively in creating indigenous technology for defense and dual use.

- In addition to these activities, high value funded research projects are also being executed with support from Department of Heavy Industry (FAME-TPEM project). This project is in the domain of Electrical mobility and is being conducted in collaboration with M/s Aditya Auto, Bangalore.

- Another significant project is being carried out in collaboration with IIT Kanpur and National Science Foundation (USA) in the domain of 3D printing.

- Five SPARC projects and two IMPRINT projects are being coordinated at NITK.

- NITK is also planning to set up an industry supported Centre of Excellence (CoE) that will provide added momentum to our efforts to increase training, research and consultancy services to industry. We also hope that this CoE will help us to improve the industry-institute connect and produce manpower that is well-versed with the expectations of Industry 4.0.

- A number of sponsored research projects with international collaboration with Universities in South Africa, ASEAN countries and Korea have been sanctioned in the past one year.

- We are striving to strengthen the foundation for execution of funded research projects in the institute and execute projects which contribute to the safety and wellbeing of our nation.

- Significant research grants attracted from various central and state government agencies, with the total number of ongoing sponsored research projects being 149

- Total number of registered PhD students: 934

- Number of students awarded PhD in the academic year 2019-2020: 121

- NITK Recognized as Centre for AICTE sponsored National Doctoral Programme; Recognized as Centre for Quality Improvement Programme (QIP) for M.Tech and PhD Programmes for sponsored teachers from other technical institutions

- Number of publications is 1127 in the year 2020.

- Scopus publication per faculty per annum is 4.2 in the year 2020.

- Research Fellowship Programmes planned to encourage research scientists and post-doctoral fellows.

## STUDENT PLACEMENTS:

- Career Development Centre (CDC) facilitates centralized on-campus job Interviews and placements for all students.

- Excellent track record of securing well-paid jobs in premier companies in India and abroad.

- Challenging assignments and one of the best pay packages offered in the country.

- Project work and internships in prestigious industries.

- Career counselling services provided to students.

- Development of soft skills and personal effectiveness to equip students in career planning.

- During 2020-21, about 270 companies visited the campus.

- UG placements stood at 98.68% in 2019-20, including higher studies. PG placements at 92% including higher studies.

- The companies visiting the campus include Microsoft, Uber, Goldman Sachs, Amazon, Flipkart, Oracle, Morgan Stanley, Samsung R&D, Texas Instruments, Tesco, Intel Tech, Western Digital, Mercedes Benz, Hexagon, Bajaj Auto, Boeing, Ford Motors, Reliance India, Tata Motors, Deutsche Bank, JP Morgan, American Express, Indus Insights, Fractal Analytics, Impact Analytics, Deloitte, IOCL, GAIL India, HPCL. BEL, ISRO, ITI Ltd, CDAC, etc.
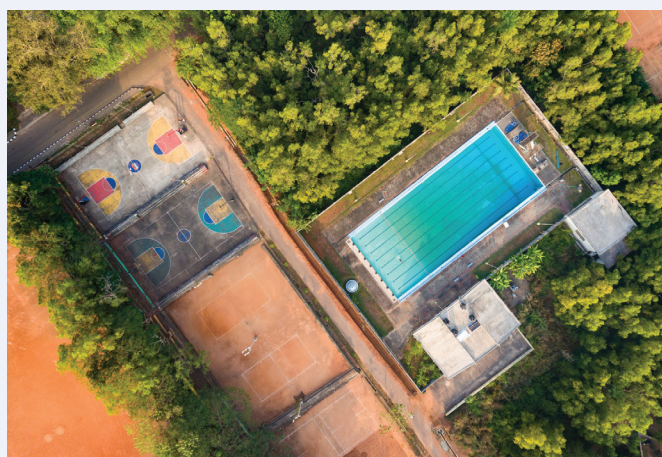
## ALUMNI NETWORKING:

- NITK Alumni Association has a strong network across the globe with chapters spread over five continents viz. Asia, Africa, Europe, North America and Australia.

- Alumni have formed a Venture Support Cell to support and fund start-up initiatives of the Institute students/alumni.

- NITK alumni are funding the Institute faculty/student projects, offering Internships and placements.

## SPORTS & GAMES :

- Separate Department of Physical Education established to provide platform for sports, games and physical fitness.

- International standard playfields for Hockey and Football

- Cricket field with turf pitches

- Floodlit Basketball courts of international standard

- Tennis, Volley ball, and Handball Courts

- Indoor gymkhana with Shuttle Badminton courts, Table Tennis and Snooker zones

- Well-equipped gymnasium

- Floodlit swimming pool of international standard

## COCURRICULAR AND EXTRACURRICULAR ACTIVITIES:

- 26 student clubs for dance, music, drama, star gazing, management, entrepreneurship, photography, etc. with funding support from the Institute

- National Cadet Corps (NCC) established in 1964

- National Service Scheme (NSS) for Community Services

- Value Education Centre (International Yoga day Celebrations)







## ANNUAL EVENTS:

- *Incident:* National Level Intercollegiate Cultural Festival (Even semester)

- *Engineer:* National Level Intercollegiate Technical Festival (Odd Semester)

- *Crescendo:* Inter-batch, Intra-Institute Cultural Festival

- Several other annual features and competitions specific to different interest groups among students

## HOW TO REACH NITK:

The Institute is located 22 kms north of Mangalore city along the Kanyakumari-Mumbai National Highway 66, amid sylvan surroundings with the picturesque Western Ghats on the east and sun-kissed sands of the Arabian Sea to the west. NITK is easily accessible from all parts of the country. Being situated right on the NH 66, the Institute is very well connected by bus routes to the North and South. Mangalore is also connected by NH 48 to Bangalore and there are over 200 luxury buses plying daily between Mangalore and Bangalore. Surathkal, on the Konkan Railway (linking Mumbai to Kanyakumari), is the nearest railway station and is a stopover for most trains passing through Konkan Railway. While Surathkal and Kankanady Junction are the closest alighting points for visitors coming by train from the North, Mangalore Central is the station for many trains from South India. Mangalore International Airport is just 20 km from the campus and there are domestic flights to Mumbai, Bangalore, Hyderabad and Chennai with connections to the rest of the country. Direct International flights are available to Muscat, Dubai, Abu Dhabi, Kuwait, Bahrain and Doha.