



# DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



राष्ट्रीय प्रौद्योगिकी संस्थान कालिकट  
National Institute of  
Technology Calicut

NIT Campus (P O), Kozhikode - 673601, Kerala, India

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## VISION

To be a Centre of Excellence in the Discipline of Computing.

## MISSION

To develop human resource with sound knowledge - theory and practical - in the discipline of computing and the ability to apply the knowledge to the benefit of the society at large.

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<http://www.cse.nitc.ac.in>

# NATIONAL INSTITUTE OF TECHNOLOGY CALICUT

## ABOUT THE DEPARTMENT

From its inception about a century ago, computing has become the defining technology of our age. The study of computing is the study of the process of abstraction and its power, the practice of design and implementation, mathematical theory of computation and its implications.

Undergraduate programme in Computer Science and Engineering started in the year 1985 in the then Electrical Engineering Department. The Department of Computer Science and Engineering (CSE) was established as an independent entity in the year 1997 as a result of trifurcation of the Department of Electrical Engineering.

Department of CSE currently offers two M.Tech programmes, the MCA programme and the Ph.D programme in addition to the B.Tech programme in Computer Science and Engineering. The fast changing scenario in Information Technology necessitates the department to actively extend its research and development activities. The department also strives to fulfill its social responsibility by extending technical support to government and non-governmental organizations through community outreach programmes.

## UNDERGRADUATE AND POSTGRADUATE PROGRAMMES

Name of the Degree	Duration	Specialization	Year of Commencement	Present intake
B. Tech	4 years	Computer Science and Engineering	1985	160
MCA	3 years	Computer Applications	1988	46
M. Tech	2 years	Computer Science and Engineering	1998	20
M. Tech	2 years	Computer Science and Engineering (Information Security)	2006	20

## Ph.D PROGRAMME

Year of Commencement	Ongoing	Completed
2002	58	27

## FACULTY AND SPECIALIZATION

### Professors

Dr. Vineeth Paleri M.Tech. (IITK), Ph.D. (IISc)  
 Dr. Priya Chandran M.Tech. (IITR), Ph.D. (IISc)  
 Dr. S D Madhu Kumar M.E (IISc.), Ph.D. (IITB)  
 Dr. K A Abdul Nazeer M.Tech. (IITM), Ph.D (NITC)

### Associate Professors

Dr. K Muralikrishnan M.Tech.(IITK),Ph.D(IISc)  
 Dr. Saidalavi Kalady M.E (IISc), Ph. D (NITC)  
 Dr. Vinod Pathari M.Tech. (IITK), Ph.D. (IITB)  
 Dr. N Saleena M.Tech. (IITM), Ph.D.(NITC)  
 Dr. M Subhasree M.E (IISc), Ph.D. (IITM)  
 Dr. R Subashini M.Tech. (IITM), Ph.D. (IITM)  
 Dr. Jimmy Jose M.Tech. (KU), Ph.D. (IIT-KGP)

### Assistant Professors

Mr. T A Sumesh M.Tech. (CUSAT), Pursuing Ph.D. (IITK)  
 Mr. B Sreenu Naik M.Tech. (Andhra Uni.), Pursuing Ph.D. (IIT-ISM)  
 Mr. T M Srinivasa M.Tech. (VTU), Pursuing Ph.D. (TUHH, Germany)  
 Dr. A Lijiya M.Tech (CUSAT), Ph.D. (NITC)  
 Dr. Anu Mary Chacko M.Tech. (IIITMG), Ph.D. (NITC)  
 Dr. P N Pournami M.Tech. (KU), Ph.D (NITC)  
 Dr. P B Jayaraj M.Tech. (CUSAT), Ph.D. (NITC)  
 Dr. K S Sudeep M.Tech. (IITB), Ph.D. (IITB)  
 Dr. G Gopakumar M.Tech. (CUSAT), M. Phil, Ph.D. (KU)  
 Dr. P Arun Raj Kumar M.Tech. (NITT), Ph.D. (NITT)  
 Dr. M Prabhu M.E (Anna Uni.), Ph.D. (Anna Uni.)  
 Dr. Vasudevan A R M.Tech. (AVV Uni.), Ph.D. (NITT)  
 Dr. T Veni M.Tech. (Anna Uni.), Ph.D. (NITT)  
 Dr. Hiran V Nath M.Tech. (AVV Uni.), Ph.D. (IDRBT)  
 Dr. Jay Prakash M.Tech. (DAVV Indore), Ph.D. (ABV-IIITM)

## TECHNICAL STAFF

Mr. Abdul Sathar V M  
 Mr. Ajayachandran V R  
 Mr. Biju Francis  
 Mr. Santhosh Kumar S  
 Ms. Sreeja V

Programming Languages, Compilers  
 Computer Architecture, Algorithms  
 Middleware, DBMS, Software Engineering  
 Artificial Intelligence, Bioinformatics, DBMS

Algorithms and Complexity, Coding Theory  
 Data Mining, Operating Systems  
 Information Security Management  
 Program Analysis, Compilers  
 Mathematical Logic, Verification  
 Algorithms and Data Structures  
 Cryptography and Network Security

Computer Networks, Computer Vision  
 Network Security, Cryptography  
 Bioinformatics  
 Image Processing  
 Computer Security  
 Image Processing, Data Structures  
 High Performance Computing  
 Algorithms, Graph Theory  
 Bioinformatics, Data Mining  
 Networks, Internet of Things  
 Network Security  
 Computer Security, Network Security  
 Cloud Computing, Fog Computing  
 Cyber Security and Forensics  
 Data Mining, Soft Computing

Senior Mechanic  
 Computer Operator  
 Senior Mechanic  
 System Programmer  
 Senior Mechanic

## Placement % in CSE Department

	2017	2016	2015	2014	2013
	2018	2017	2016	2015	2014
B.Tech.	100	95	90	90	95
M.Tech. (CSE)	93	92	84	86	88
M.Tech. (CSE-IS)	88	80	83	72	88
MCA	100	48	69	74	77





# DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## MAJOR AREAS OF RESEARCH

Algorithms and Complexity, Artificial Intelligence, Bioinformatics, Cloud Computing, Compilers and Programming Languages, Computer Architecture, Computer Networks, Cyber Security and Forensics, Database Management Systems and Information Retrieval, Data Mining, Distributed Computing, Fog Computing, High Performance Computing, Internet of Things, Image Processing, Information Management and Security, Intelligent Systems, Middleware, Network Security, Operating Systems, Parallel and Distributed Computing Systems, Program Analysis.

## INDUSTRY / RESEARCH COLLABORATIONS

TCS, SAP Labs, JMR Infotech, IBM, Aryaka Networks, Sree Chithra Tirunal Institute for Medical Sciences & Technology-Trivandrum and MVR Cancer Centre and Research Institute - Calicut.

## STUDENTS AND ALUMNI

- Total student strength of around 900
- Over 4000 alumni, occupying enviable positions in industry and academia in India and abroad
- Alumni occupying coveted positions in the academic field, such as Heads of Govt. Engineering Colleges / Technological University
- Alumni serving as faculty members in institutes of repute such as IISc Bangalore, IIT Madras, IIT Kanpur, IIT Bombay, IIT Guwahati, IIT Hyderabad, IIIT Hyderabad, IIT Goa, IIT Palakkad, IIT Dharwad, University of West Virginia (USA), University of Nebraska-Lincoln (USA), University of Warwick (UK), IIITMK Thiruvananthapuram, and CMI Chennai
- Alumni joined for higher studies in reputed universities/institutes such as University of Stanford, Carnegie Mellon University, Universities of Wisconsin Madison, Yale, Southern California, Princeton & institutes like IISc, IIT Bombay, IIT Kanpur, IIT Madras, IIT Hyderabad, TIFR, IMSc, IIM Ahmedabad, IIM Bangalore, and IIM Kozhikode

## STUDENT PLACEMENTS AND INTERSHIPS

- Excellent placements for B.Tech, M.Tech and MCA in reputed firms
- Highest among all the departments in terms of percentage placement, highest salary and average salary
- Internships offered by reputed companies

## FACILITIES

- 500+ computers – available 24 hours
- High performance computing cluster
- Unique digital library support
- Eduserver running on Moodle platform
- Excellent round the clock internet connectivity
- APJ Abdul Kalam conference hall with video conferencing facility
- CSED Seminar hall, Committee room & Discussion room
- Class rooms equipped with audio-visual systems

## LABORATORIES

Software Systems Laboratory  
Hardware & Embedded Systems Laboratory  
Network Systems Laboratory  
Machine Learning Laboratory  
Cloud Computing Laboratory  
Image Processing & Multimedia Laboratory  
Secure Computing Laboratory  
Big Data and Biocomputing Laboratory  
Network Security Research Laboratory

## MAJOR EVENTS ORGANIZED

- International Symposium on Biocomputing (ISB 2010), organized jointly with IUPUI, Indianapolis, USA in association with the Association for Computing Machinery (ACM)
- Indo-US Workshop on Biocomputing (ISB 2011), organized jointly with IUPUI, Indianapolis, USA, in association with NSF and IUSSTF
- IEEE International Conference on Signal Processing, Informatics, Control and Energy Systems (IEEE SPICES 2015), organized jointly with the Departments of EEE and ECE of NIT Calicut
- International GIAN course on 'Data and Text Mining in Bioinformatics', September 2018
- International GIAN course on 'High Performance Computing Concepts and Practices', October 2018
- JMR NiTCKathon, Hackathon event with collaboration from JMR Infotech, October 2018
- Smart India Hackathon (SIH-2019), with support from MHRD and AICTE, March 2019

## COMMUNITY SERVICE ACTIVITIES

- Spearheaded the IT literacy programmes at Nadapuram assembly constituency as part of the 'Growing Nadapuram' project



- Organized IT awareness programmes for the common public at the Koduvally and Chathamangalam Grama Panchayaths
- As part of a Community Learning Initiative named IGNITE 2011, a Two day workshop was conducted on Essence of Computing for high school students
- Launched the IT@Niravu project in collaboration with NIRAVU, a progressive residential forum (NGO) based at Calicut excelling in the field of organic farming
  - Our students developed an agricultural information web portal named 'Krishippura' to help the organic farmers
  - Imparted IT training to the rural youth, as part of IT@Niravu
- Our students developed an Online Mess Management System for the CISF Unit of Calicut Airport

### CENTRAL FACILITIES ATTACHED TO THE DEPARTMENT

#### Central Computer Centre (CCC)

CCC supplements the department level facilities and caters to the general computing requirements of the NITC community. It has 200+ client machines, 30 Workstations and 6 Servers, with a capacity to house around 500 machines. The centre has a state of the art Super Computing Facility with 25 Tera FLOPS computing power to



meet the research needs of the Institute. This Hybrid cluster contains 1 master node and 13 compute nodes (out of which 6 nodes are GPU enabled), interconnected through infiniband.

Faculty-in-Charge: Dr. Jayaraj P B  
 Centre Administrator: Mr. Rajagopalan A  
 Computer Technician: Mr. Sasidharan Pillai G

#### Campus Networking Centre (CNC)

Internet connectivity: 1 Gbps of NKN and two 10 Mbps links of Reliance. CNC is responsible for the mail and web servers of NITC, about 17 kms of OFC backbone, Campus-wide LAN, and management and maintenance of IP Phones and Systems.

In-charge: Mr. Santhosh Kumar S  
 Senior Mechanic: Mr. Beljith P

### ABOUT THE INSTITUTE

National Institute of Technology Calicut (NITC) is a Technical Institution of National Importance, set up by an act of Parliament named the NIT Act 2007, under the Ministry of Human Resources Development (MHRD), Government of India (<http://www.nitc.ac.in>). NITC was initially established as Regional Engineering College Calicut (REC Calicut) in the year 1961 as a joint venture of the Government of India and the Government of Kerala with the objective of fostering technological empowerment and national integration. NITC has ten departments, six centres and three schools, offering ten undergraduate and twenty-four postgraduate programmes apart from Ph.D. The institute has good infrastructure in computing,

information technology and a well stocked central library including digital library.

Set in a picturesque landscape at the foothills of the Western Ghats, National Institute of Technology Calicut is located about 22 kilometres north-east of the Calicut city, also known as Kozhikode. Calicut, "the city of virtues" located in the Malabar region of the Kerala State, found a place in the world history with the discovery of a sea route to India in 1498 by the Portuguese navigator Vasco Da Gama. Basking in the idyllic setting of the Arabian Sea on the west and the proud peaks of the Wayanad hills on the east, Calicut is known for its serene beaches, lush green countryside, historic sites, calm backwaters, wildlife sanctuaries, rivers and waterfalls.

