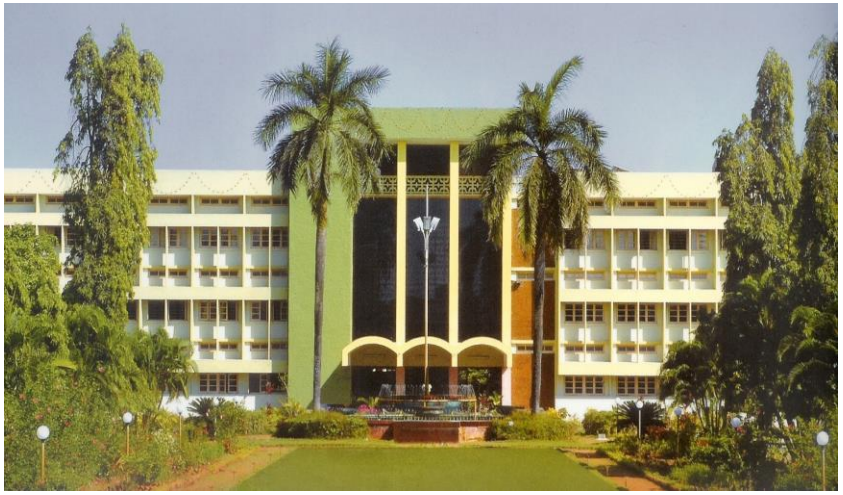
NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL
Mangaluru- 575025, Karnataka State

INFORMATION BULLETIN



Admission to Institutional Post-Doctoral Programme
2021-22

Website: www.nitk.ac.in
Fax : 91-824-2474033

Phone : +91-824-2473005
E-Mail : dean.rc@nitk.edu.in

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CONTENTS

NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

1. The Institute:

The National Institute of Technology Karnataka (NITK), Surathkal is rated as one of the top Institutions in India. Since its inception in 1960 as the Karnataka Regional Engineering College, the Institute has established itself as a premier center engaged in imparting quality technical education and providing support to research and development activities. The Government of India as per the NIT Act 2007, declared NITs as Institutes of National Importance. The Institute is governed by the rules and statutes of the NIT Act. The Institute has a long tradition of research for several years in both traditional and modern areas of engineering and sciences in all departments. The Institute has been actively involved in application-oriented research focused in resolving problems faced by the society in several areas like environment, water resources, rock mechanics, new structures, VLSI, etc. NITK attracts students from all over the country and abroad. The Institute admits students to the B.Tech degree program on the basis of the Joint Entrance Examination (JEE Mains). Foreign students are admitted on various student exchange programs through MEA, ICCR, etc., and scheme of Direct Admission to Students Abroad (DASA). Scholarship seats for M.Tech programs are awarded on the basis of the Graduate Aptitude Test in Engineering (GATE) and a few seats are available for sponsored students. The institute admits students to MCA Program on the basis of NIMCET, admission to MBA is made on the basis of CAT / MAT/ GATE score and for M.Sc Program admissions are made based upon the JAM scores. Every year the Institute admits candidates with Institute fellowships and also admits sponsored/external candidates to the doctoral program. NITK graduates are sought after by top industries/companies and the Institute has been rated as one of the best Institutions in the country with regard to student placements. In this call for applications, NITK is seeking applications from eligible candidates for institute funded post-doctoral positions.

2. Location:

NITK is located in Mangalore City along the Kanyakumari-Mumbai National Highway 66. It is well connected by road, rail, and by air to major cities in India and a few international destinations. The Institute is located amid 300 acres of sylvan surroundings with the picturesque Western Ghat Mountains on the east and the sun-kissed sands of the Arabian sea to the west. The Mangalore (Bajpe) airport and the Mangalore Railway Station are about 20 km away from the Campus, while Surathkal Railway Station is about 3 km away from the campus. The campus is located far away from the din and bustle of a city and is very conducive for academic activities. The climate throughout the year is equitable and has a temperature range of 18 to 38° Celsius. The campus being on the sea shore, is blessed with clean air and a healthy climate.

3. Computing Facilities and Campus Network:

NITK has a campus wide network spanning the entire campus – academic buildings, guest houses, student hostels and campus residences. The campus backbone services are provided with about 20 kms of 12 / 24 core OFC using 1 Gbps and 10 Gbps backbone to the different buildings and broad band to the residences. Departments, Residences (through the broadband), Directorate (and administrative net), Guest houses and Hostels are individually connected to the core switch. The hostel networks are integrated into the academic network of NITK sharing the Internet bandwidth of the Institute. The Institute has 24 x 7 Internet connectivity. The journals subscribed through INDEST consortium are available throughout the campus LAN. In addition to this, the students can access learning material from the internet. The Wi-Fi network is provided as an extension of the wired networks in the different buildings with close to 1000 indoor access points and 40 outdoor access points, which provides transparent seamless migration of connectivity between the access points to the user. NITK has 5Gbps Internet bandwidth and currently being upgraded to 10Gbps. The NITK Data centre acts as an integration hub of OFC/backbone. It houses Internet connections to BSNL and National Knowledge Network, associated networking equipment and has sufficient hardware to handle the critical backbone network services such as the core switch cluster, firewalls, academic and administrative servers and virtual machine hosts. Main servers are connected to the data centre network. CCC Uses Virtualization with Proxmox virtualization environment / Ubuntu System containerization environment. Data centre also houses the NITK Websites. CCC hosts a campus-wide license to MATLAB, Simulink, and companion products. All faculty, researchers, and students are eligible to download and install these products on their university computers as well as their personally-owned computers. The network infrastructure facility management of NITK is outsourced with a help desk facility. The requirement of computing and network resources are assessed from time to time and upgraded accordingly.

4. Library Facilities:

Central Library at NITK Surathkal is the window to the world of latest information in sciences, engineering, technology & management. The library has a rich collection of print materials (1.5 lacs) on all the branches of Engineering, Science, Social Sciences, Humanities and Management. The collection includes reference books, text books, bound volumes, CDs, etc. The library subscribes core collection of print journals (100 plus), e-journals (12045), e-databases (25), e-books (11202) and others. The library is also a core member of e-ShodhSindu - a Consortia for Higher Education E-Resources which provides access to more than 10,000 qualitative electronic resources including full-text, bibliographic and factual databases to the students.
E- journals available to access with various reputed online scientific databases such as American Chemical Society, American Physical Society, IoP, Royal Society of Chemistry, Emerald, Taylor & Francis, American Mathematical Society, Annual Reviews, ASME, IEEE, JSTOR, MathScinet, Nature, Science-Direct, SpringerLink, etc. The library also subscribes to premium version of Grammarly - an automated grammar tutor and revision tool for writing effective and mistake-free documents. Library offers Plagiarism Checking Service using "Turnitin'' as well a ``Urkund'' web tools for the Post-Doctoral Fellows/ Ph.D scholars and M. Tech students. Remote Access to all the e-Resources and mobile app are other important services of the library.

Library has been fully computerized with integrated web-based library management software to Koha, which enables users to search real-time book status and reservations. The library is fully air conditioned with more than 1000 seating capacity. Newly established e-Library Complex has the State-of-the-Art modern IT facilities with e-Studio for lecture capturing and live streaming facility, 2 Cyber Libraries with 50+ computers to conduct hands-on training, 2 Seminar Halls of 50+ Capacity each, 8 Discussion Rooms, dedicated Research Scholars Section, Digital Reading Rooms, Laptop Zones etc. catering to more than 7000 on campus library users 24X7 along with in-housed cafeteria.

5. Course of Study: Post-Doctoral Fellow

Departments/ Centers offering Post-doctoral positions:

The Institute is offering Post-doctoral Fellowships in the following 14 Departments and the Central Research Facility (CRF).

1. Central Research Facility (CRF)
2. Chemical Engineering
3. Chemistry
4. Civil Engineering
5. Computer Science and Engineering
6. Electrical & Electronics Engineering
7. Electronics & Communication Engineering
8. Information Technology
9. Mathematical and Computational Sciences
10. Mechanical Engineering
11. Metallurgical & Materials Engineering
12. Mining Engineering
13. Physics
14. School of Management
15. Water Resources and Ocean Engineering (Formerly Applied Mechanics & Hydraulics Department)

6. Eligibility Criteria:

- The appointee should possess a Ph.D. or equivalent doctorate degree (e.g., D. Sc), which has obtained in the past five years, in the field directly related to the appointee's proposed research topic. PhD Viva should be completed or provisional degree certificate should be available on or before the submission date of application.
- International researchers/ Indian citizens with foreign degrees must hold an advanced (Doctoral) degree that is equivalent to those provided by Indian Institutions.
- The Post-Doctoral appointment can be made only after the candidate's Ph.D. thesis has been formally approved by the degree-granting institution. At the minimum, every selected candidate must produce a Provisional Degree Certificate (PDC) if he/ she does not possess the degree certificate.
- Every prospective post-doctoral candidate must have acquired his/ her Ph.D. degree from a University/ Institute recognized by the regulating authority in the respective country in which the research work has been conducted.

7. Selection Process (For Institute Fellowship):

- The selected candidates must appear for the written test/interview conducted by the departmental post-doctoral selection committee (DPDSC), and followed by IPDSC (Institutional level post-doctoral selection committee).

- A candidate selected as a post-doctoral fellow with the institute fellowship shall be appointed for a period of two years.

8. How to Apply:

The Information Bulletin and Online Application portal for admission to Institutional Post-Doctoral programmes is available on the Institute website **www. nitk.ac.in**. The applicants need to register online with the portal. The registered candidates have to complete Online Application form and pay the prescribed application fee, i.e., **Rs 500,** through the IRIS portal on or before **26-10-2021 (Tuesday)**.

The hardcopy of the completed application form with payment receipts and copies of all necessary documents is to be sent to the Dean (Research and Consultancy), National Institute of Technology Karnataka, Surathkal, Srinivasnagar, Mangalore -575 025, Karnataka to reach on or before 01-11-2021 (Monday). "Application for Institutional Post-Doctoral Admission in the Department of "---------" or Central Research Facility should be clearly mentioned on the top of the envelope.

Applications that are incomplete/defective/received late are liable to be rejected summarily, and no correspondence will be entertained on such applications.

Note: If a candidate desires to apply to more than one post-doctoral fellowship title, he/she should submit a separate APPLICATION along with the Payment Receipt of Application fee for each title. Candidates called for an interview will have to appear for a written test and/or interview at their own cost. The written test and/or interview will be held at N.I.T.K., Surathkal, either in **online or offline mode. The mode of examination/ interview will be intimated to the shortlisted candidates.**

Calendar of Events for Admission to Institutional Post-Doctoral Programme 2021-22.

Last Date for Online Submission of applications	26-10-2021 (Tuesday)
Last Date for hard copy of applications to reach NITK	01-11-2021 (Monday)
Date for dispatch of call letters (by email only) to short-listed candidates,and announcement in the website by the office of Dean (R&C)	08-11-2021 (Monday)
Online Selection Test and/or Interview	Will be communicated
Publication of provisional selection/merit-list on website	Will be communicated
Last date for Sending admission orders/letters (email)	Will be communicated
Online/Offline Reporting and Fee Payment Dates for Selection-List Candidates	Will be communicated
Last Date for sending admission orders/letters to waiting-list candidates	Will be communicated
Last Date for Online/Offline Reporting and Fee Payment, for waiting-list candidates	Will be communicated
Physical Reporting at the Institute start dates	Will be communicated

9. Institutional Post-Doctoral Programme

Departments, Specialization offered for Institutional Post-Doctoral Programme are listed below:

Sl. No	Department	Area of Research	Title of the PDF Proposal	Name of the Faculty	Designation	Email ID
01	Chemical Engineering	Separation and purification; Encapsulation of bioactive components	Selective extraction and encapsulation of hydrophobic bio-active compounds using reassembled Casein Micelles for food applications	Dr I Regupathi / Dr Prasanna B D	Associate Professor / Associate Professor	regupathi@nitk.edu.in / prsn@nitk.edu.in
		Extraction, refining and stabilization of fish oil	Development of an integrated process for the production of oxidatively stable n-3 ploy unsaturated fatty acid rich oil from pelagic fishes	Dr Prasanna B D /Dr I Regupathi	Associate Professor / Associate Professor	prsn@nitk.edu.in / regupathi@nitk.edu.in
		Nano technology applications for water treatment	Bio-synthesis of metal based nano composites from solid waste material for water disinfection	Prof. Vidya Shetty K	Professor	vidyaks68@nitk.edu.in
		Biotechnology	Cloning, Expression and characterization of marine bacterial chitinase for the antimicrobial application	Dr Keyur Raval	Associate Professor	keyurnraval@nitk.edu.in
02	Chemistry	Organic Electronics	Moisture resistant non doped organic small molecules as a hole transporting materials for high efficiency inverted MAPnI3 Perovskite solar cells	Prof. Ram Chandra Bhat	Professor	ram@nitk.edu.in
		Electrochemical energy storage and conversion materials and devices	Development of wide operating potential and high energy asymmetric supercapacitors from reduced graphene oxide, transition metal oxide/ hydroxide and polyaniline ternary nano composites employing aqueous electrolytes	Prof. A Chitharanjan Hegde	Professor	acrhegde@gmail.com
		Chemistry	Design and development of new small molecule SIRT1 regulators	Dr Udaya Kumar D	Associate Professor	udayakumar@nitk.ac.in
		Polymer membrane technology	Development of chitosan nano composite hallow fiber membrane-based device for Arsenic removal	Prof Arun Isloor / Dr Somasekhara Rao Todeti	Professor/ Assistant Professor	isloor@yahoo.com / ssrao@nitk.edu.in
03	Civil	Bioleaching / Bio	Study and influence of ore mineralogy	Dr Basavaraju	Associate	bmanu@nitk.ac.in

	Engineering	mining of precious minerals (ion, aluminum, etc)	on bioleaching of different minerals using native microorganisms (pure and mixed culture)	Manu	Professor	
04	Computer Science and Engineering	IoT Security	Development of device independent system for detecting vulnerabilities in IoT devices	Dr P Santhi Thilagam	Professor	santhi@nitk.edu.in
		Automated Artificial Intelligence, Healthcare, Data Science, Deep Learning	Heuristic Deep Learning Model Search and benchmarking Platform for Healthcare Chronic Diseases	Prof. B Annappa / Dr Jeny Rajan	Professor / Assistant Professor	annappa@nitk.edu.in / jenyrajan@nitk.edu.in
05	Electronics and Communication Engineering	Remote Sensing	Design and development of deep learning frame work for change detention from multi-temporal synthetic aperture radar images	Dr Shyam Lal	Assistant Professor	shyamfec@nitk.edu.in
06	Information Technology	Algorithmic Trading	Design and development of AI based Algorithmic trading approaches on cloud platform	Prof. G Ram Mohana Reddy / Dr Biju R Mohan	Professor / Assistant Professor	profgrmreddy@nitk.edu.in biju@nitk.edu.in
		Blockchain and machine learning techniques	Intelligent conversational question answering system using blockchain and machine learning techniques	Prof. G Ram Mohana Reddy/ Dr Bhawana Rudra	Professor / Assistant Professor	profgrmreddy@nitk.edu.in bhawanarudra@nitk.edu.in
07	Mathematical and Computational Sciences	Non-Linear Analysis	Study on Iterative Roots of Functions and stability	Dr V Murugan	Associate Professor	murugan@nitk.edu.in
		Cryptography & Network Security	Authentication for 5G enabled IoT Networks	Dr R Madhusudhan	Associate Professor	madhu@nitk.ac.in
08	Mechanical Engineering	Thermal (heat transfer) and manufacturing engineering (3D Printing)	Design and Development of architecture foam for minimizing pressure drop and enhanced heat transfer in heat exchangers	Dr N Gnanasekaran / Dr Mrityunjay Doddamani	Assistant Professor/ Assistant Professor	gnanasekaran@nitk.edu.in mrdoddamani@nitk.edu.in
		Composite Materials	Ballistic impact analysis of sandwich composite blocks	Prof. Satyabodh M Kulkarni	Professor	smk@nitk.edu.in
		Heat Transfer	Subcritical / supercritical CO2 based natural circulation loop for data Centre cooling	Dr Ajay Kumar Yadav	Associate Professor	ajaykyadav@nitk.edu.in
		Aerodynamics	Bio-inspired wingtip device for micro air vehicle	Dr A Sathyabhama	Associate Professor	sathyabhama@nitk.edu.in
		Composite sandwich structures	Investigation on the influence of temperature and moisture on the mechanical and vibrational behavior of bio degradable core / composite	Dr Subhaschandra Kattimani	Associate Professor	subhaskatti@nitk.edu.in

			sandwich structures			
09	Metallurgical and Materials Engineering	Materials Engineering	Reactive/Non-reactive wetting and heat transfer across uncoated and thermal spray coated metallic substrates	Prof. K Narayan Prabhu	Professor	knprabhu@nitk.edu.in
		Nano-materials for energy conversion and storage	Development of wearable ploy (vinylidene fluoride) based nano fabrics using interface engineering for piezoelectric energy harvesting	Prof. S Anandhan	Professor	anandhan@nitk.edu.in
		Materials science	Development of solution combustion derived Li doped high K, High entropy metal oxide	Dr Saumen Mandal	Assistant Professor	smandal@nitk.edu.in
10	Physics	Experimental condensed matter physics	Development of nano structures using alumina (Al2O3) templates for Photocatalytic and sensor applications	Prof. Udayashankar N K	Professor	nkuday_01@yahoo.com
11	Central Research Facility	Organic and Bioorganic Chemistry	Design and development of new small molecule SIRT1 regulators	Dr Udaya Kumar D	Associate Professor	udayakumar@nitk.ac.in
		Nano-materials for energy conversion and storage	Development of wearable ploy (vinylidene fluoride) based nano fabrics using interface engineering for piezoelectric energy harvesting	Prof. S Anandhan	Professor	anandhan@nitk.edu.in
		Biotechnology	Production of chitin oligomers from the enzymatic route for the anti-microbial applications	Dr Keyur Raval	Associate Professor	keyurnraval@nitk.edu.in
			Development and optimization of process parameters of additive friction stir deposition process	Prof. Shrikantha S Rao / Dr Arun Kumar Shettigar	Professor/ Associate Professor	ssrcsr@gmail.com akshettigar@nitk.edu.in
			Investigative studies on micro machining of advanced materials	Dr Navin Karanth P / Prof. Shrikantha S Rao	Associate Professor / Professor	navinkaranth.p@nitk.edu.in ssrcsr@gmail.com
		Metal casting / Heat transfer	Assessment of effect of melt treatment on thermal diffusivity of Al-Si Alloys	Prof. K Narayan Prabhu	Professor	knprabhu@nitk.edu.in
		Fluid dynamics and flow visualization	Classification of flow regimes and analysis of fluid flow through metal foams using particle image velocimetry	Dr N Gnanasekaran / Dr Ajay Kumar Yadav	Assistant Professor / Assistant Professor	gnanasekaran@nitk.edu.in ajaykyadav@nitk.edu.in
		Polymer membrane technology	Development of chitosan nano composite hallow fibre membrane-based device for Arsenic removal	Prof Arun Isloor / Dr Somasekhara Rao Todeti	Professor/ Assistant Professor	isloor@yahoo.com ssrao@nitk.edu.in

10. Documents to be Produced:

A. At the time of counselling/written test/interview:

1. Original marks card of all Semesters/years of P h D / Masters /Bachelor's degree
2. Date of Birth Certificate in Original (SSLC / X Std.)
3. Degree Certificate or Course Completion certificate from college (if qualifying degree exam results are awaiting)
4. Caste Certificate if belonging to SC / ST (original)
5. EWS Category Certificate as per prescribed format issued by the Competent Authority on or after 1-4-2021.
6. OBC certificate as per prescribed format for OBC candidates. (If applicable) from the Competent Authority issued on or after 1-4-2021.
7. GATE / NET Score Card (if applicable)
8. Publication/patents first page
9. Persons with Disabilities (PWD) certificate, if applicable.
10. Updated Resume

B. Documents to be Submitted at the Time of Admission:

a. Admission order issued by Competent Authority.
b. Original marks card of qualifying examinations (First to Final Year) with two sets of duplicate copies. (The spelling and order of the name should be same in all the years of marks card, degree certificate and Migration Certificate).
c. Original GATE / NET Score Card (if applicable).
d. Degree Certificate or Provisional Degree Certificate issued by the University/Institute.
e. Sponsorship Certificate (if sponsored) in the prescribed format .
f. Medical Certificate (general fitness).
g. Relieving Certificate in the case of Sponsored Candidates.
h. Date of Birth Certificate in original (X Std. or SSLC).
i. Caste Certificate in case of SC / ST.
j. OBC Certificate (if applicable) from the competent authority issued on or after 1-4-2021.
k. EWS Category Certificate issued by the Competent Authority on or after 1-4-2021.
l. Conduct Certificate.
m. Aadhar card copy.
n. Persons with Disabilities (PWD) certificate, if applicable.
o. Migration Certificate.

11. Financial Assistance for Institutional Post-Doctoral Programme:

- Each Post-doctoral Fellow selected under this scheme will be paid a fellowship of Rs. 50,000 (Rupees Fifty thousand only) per month. They will also be eligible to receive a contingency grant Rs. 30,000 (Rupees Thirty Thousand only) per year which will be made available starting from the third month of their fellowship. Each selected PDF would be eligible to receive fellowship for a period of two years from the month of appointment.
- In deserving and exceptional cases, additional resources can be allocated to supplement the contingency grant made available to the PDF. This additional contingency grant will be provided only once during the tenure of a post-doctoral fellow. Support under this provision will be limited to a maximum of Rs. 30,000 only. This request must carry strong justification and must be recommended and forwarded to the Dean (R&C) with due recommendation of the Departmental Post-Doctoral Assessment Committee (DPDAC). This will be provided subject to availability of funds.

12. Fees and Deposits:

i. Fee Structure for Institutional Post-Doctoral Progamme for the year 2021-22:

Semester Fees	First Year		Second Year	
	I Sem. Rs.	**II Sem. Rs.**	**III Sem Rs.**	**IV Sem Rs.**
Library Fee	3310	-	3310	-
Development Fee	2205	2205	-	-
Security Deposit (**refundable)**	5510	-	-	-
Alumni Fee	2210	-	-	-
Health Care Facility	1100	-	1100	
Campus Amenities	1100	-	1100	-
Central Computing Facility Fee	3310	-	3310	-
Hostel Rent (For Hosteller)				
Hostel Rent (including water/electricity charges) (i) Men	6620	6620	8270	8270
(ii) Women	6620	6620	8270	8270
Accommodation (with family, if any) at the institute will be allotted depending on the availability at institute specified rates				

**Provisional subject to revision.

In case single room accommodation, the student is liable for payment of Hostel Rent Rs. 8270/- per semester