

**Curriculum Vitae (CV) of Prof. U Shripathi Acharya, Professor (HAG), ECE Department at NITK, Surathkal**

1. **Member (Board of Governors, BoG)** from 2022-24: During this period, I made several contributions to policy formulations and their presentation before the Board of Governors (BoG) of NITK, Surathkal.
2. **Chairman, Non-Teaching Staff Recruitment Committee (NTSRC) (2019-23)**: As Chairman of NTSRC, I and my committee were able to induct 92 personnel to Group B and Group C positions in the institute. Recruitment at Group B, C levels was completed for the first time after 1998.
3. **Chairman, Institute NIRF Committee (2019-22)**: After taking over as Chairman of the NIRF committee in 2019, we were able to improve our NIRF ranking (Engineering rankings) to 13 from 21 in 2020. This was further improved to 10 in 2021. We retained this rank in 2022.
4. **Served as Dean (Research and Consultancy) (2018-21)**: During my tenure as Dean (Research and Consultancy), I successfully undertook and completed the following tasks.
  - i. A new and revised **Testing and Consultancy (T&C) framework** which provides for greater remuneration, protection to faculty members from litigation relating to T&C activities conducted by them and clear directions on other administrative processes while conducting T&C work.
  - ii. A revised and comprehensive policy for conducting **Institutional Consultancy projects** (to enable the institute to participate in activities such as JEE seat allotment) was drafted and approved under my guidance.
  - iii. A comprehensive policy for recruiting **institute funded post-doctoral fellows** was drafted and approved by the BoG during my tenure as Dean (R&C). I contributed to drafting the policy, taking financial approvals, and getting it approved by the BoG.
  - iv. A **Regional Academic Centre for Space Research (RACS)** with grant in aid to the extent of Rs. 2 crores per annum by ISRO was set up in NITK during my tenure as Dean (R&C). All the background work required for completion of this exercise was completed by me.
  - v. A comprehensive policy for creation of **Industry specified and supported PG programs** was drafted and approved by the BoG during my tenure. The first such program on **Power Electronics and Drives** in collaboration with **Robert Bosch** was initiated in 2023. **19 Engineers from Robert Bosch** have enrolled for this program.
  - vi. A policy for **enabling software development for institute requirements** by faculty members with support from students was drafted and approved during my tenure.

- vii. A policy to enable faculty members to conduct **Institute supported Social Welfare development work and capacity development work** was drafted and approved by the BoG during my tenure.
  - viii. Comprehensive policies for **conducting self-sponsored training programs and Certification programs with support from Educational Technology companies** were formulated and approved during my tenure as Dean (R&C). I contributed to drafting these policies, getting them approved by internal bodies and the BoG.
  - ix. An **Industry supported Centre of Excellence (CoE) in Manufacturing Engineering with Siemens (India)** as the industry partner was set up during my tenure as Dean (R&C). The ground work for instituting this centre was completed by me and my Associate Deans.
  - x. A framework to provide **additional financial support to the extent of Rs. 1.4 Lakhs per year per faculty member (in addition to the support available under CPDA) to enable them to publish papers in Q1 journals** (payment of APC charges and additional page charges) was prepared and passed through various committees by me. This policy is in operation and many faculty members have benefited.
5. **Served as Head of ECE department (2016-18):** During this period, I was responsible for managing various teaching, research, consultancy and outreach activities of the ECE department, presenting department achievements before PG (NBA) accreditation committees, facilitating faculty selection and enabling curriculum revision. We were able to obtain NBA accreditation for two of our PG programs during my tenure. The M. Tech (CEN) program was granted accreditation for five years while the M. Tech (VLSI design) program was accredited for a period of three years.

6. **Funded Research projects completed as Principal Investigator:**

Serial Number	Project type	Name of the Client Organization	Title of the project	Duration of project	Amount of grant
1.	Research	Ministry of Information and Communication Technology	Secure Turbulence Resistant Free Space Optic links for Broadband Wireless Access Networks	3 years (2010-13)	Rs. 116 Lakhs
2.	Research	Information Technology Research Academy (ITRA)	Uncoordinated Secure and Energy Aware Access in Distributed Wireless Networks. This was a joint project with IIT Bombay, TIFR Mumbai, NIT Durgapur and NITK, Surathkal) <b>(As</b>	3 years (2012-15)	Rs. 21.25 Lakhs

			<b>Principal Investigator from NITK, Surathkal)</b>		
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**7. Funded Research projects completed as co- Principal Investigator:**

<b>Serial Number</b>	<b>Project type</b>	<b>Name of the Client Organization</b>	<b>Title of the project</b>	<b>Duration of project</b>	<b>Amount of grant</b>
1.	Research	IMPRINT, DST, Government of India	Development of cost-effective Radio frequency ablation system and magnetic hyperthermia	3 years (2018-21)	Rs. 65 Lakhs
2.	Research	RACS, ISRO, Government of India	Design, development of Multi-harmonics Turned GaNHEMT Power Amplifier over Broadband	2 years (2022-24)	Rs. 14.13 Lakhs

**8. Patents awarded:**

<b>Serial Number</b>	<b>Patent number and title</b>	<b>Date of Grant</b>	<b>Commercialization efforts</b>
1.	Patent number: 527568  Title: Channel Codes for Enhancing Integrity of Information Storage in NAND Flash Memories	15 <sup>th</sup> March 2024	I am having discussions with senior officials of companies such as <b>Micron Technologies</b> and <b>Western Digital</b> for possible adoption of these channel codes to enhance integrity of stored information and bring about an increase the number of Read/ Write cycles that can improve the reliability of information stored by the device. Three meetings have taken place so far.

2.	Patent number 345670 Wireless Interfaced Integrated Circuit.	31st August 2020	
3.	Patent number: 301828 Alternative means for Conductor based short distance Signal/ Data Transfer.	04th October 2018	

9. Institute development projects completed:

Serial Number	Name of the Institute development project	Period and duration	Responsibility undertaken	Activities conducted
1.	Technical Education Quality Improvement Project (TEQIP), Phase II	2010-17 (Seven years)	Nodal Officer (Academic) and Co-Coordinator	<p>1. Initiated <b>new PG (Twenty positions) and Ph.D (Five positions) admissions under TEQIP-II program</b>. All planning (financial, administrative, and academic) was completed by a team led by me).</p> <p>2. Planned and instituted a scheme of <b>peer mentoring of junior students by senior students</b>.</p> <p>3. Convened, planned, and conducted a <b>five-day induction program for newly recruited faculty members in 2013</b>.</p> <p>4. Assisted and <b>supported the TEQIP Coordinator in financial planning, academic planning, procurement, design of research interaction framework and interaction with mentors, auditors, and</b></p>

				<b>World Bank representatives.</b>
2.	Technical Education Quality Improvement Project (TEQIP), Phase III	2017-20 (Three years)	Nodal Officer (Academic)	<b>1. Designed and implemented the residential program for students of Government Engineering College Jhalawar (GECJ), Rajasthan (mentee institution)</b> <b>2. Taught courses for students of GECJ at NITK and in GECJ</b>

#### 10. Consultancy Projects Undertaken:

Serial Number	Title of Consultancy Project		Period and duration	Value of Consultancy project	Activities Conducted
1.	Design and Implementation of <b>Single line and Double line emulators for Konkan Railway.</b>		(2007-09) Two years	Rs. 1.92 Lakhs	Designed constructed and installed (both hardware and software) for the single line and double line emulator installed at Konkan Railway Training School
2.	Served as consultant to erstwhile <b>Corporation Bank during the procurement of Currency note sorting machines</b>		(2009-13) Four years	Rs. 30 Lakhs	Designed the technical specifications in the tender document as per RBI guidelines, framed the test procedure, examined bid documents for compliance, conducted stress test on machines and qualified machines for procurement, assisted the bank in the evaluation and assimilation of new technologies.

3.	Served as consultant to erstwhile <b>Syndicate Bank</b> during the procurement of <b>Currency note sorting machines</b>		(2012-16) Four years	Rs. 30 Lakhs	Designed the technical specifications in the tender document as per RBI guidelines, framed the test procedure, examined bid documents for compliance, conducted stress test on machines and qualified machines for procurement, assisted the bank in the evaluation and assimilation of new technologies.
4.	Served as consultant to erstwhile <b>Vijaya Bank</b> during the procurement of <b>Currency note sorting machines</b>		(2016-18) Two years	Rs. 10 lakhs	Designed the technical specifications in the tender document as per RBI guidelines, framed the test procedure, examined bid documents for compliance, conducted stress test on machines and qualified machines for procurement, assisted the bank in the evaluation and assimilation of new technologies.

#### 11. Advisory roles to Government/ Private agencies:

Serial Number	Name of the Agency	Period and duration	Activities conducted
1.	Union Public Service Commission (UPSC)	2014 onwards	I have been nominated as an advisor to UPSC. I have been serving as a Subject matter expert on various recruitment Boards and have participated in the

			setting of question paper for Electrical Engineering for UPSC (Mains) examination in 2019.
2.	Office of the IGP, Western Region, Karnataka	2016-17 (One year)	Served as advisor during the process of procurement of CCTV cameras for Naxal affected districts of Karnataka. We (my colleague, Dr. Laxminidhi T and myself) drafted the technical part of the tender document, prepared corrigendum, conducted technical tests on the equipment submitted by vendors and assisted in finalizing the tender process.
3.	Anti- Terrorist Force (ATF), Karnataka	2017-18 One year	Served as advisors during the process of procurement of VHF radios for the Karnataka ATF. We (my colleague, Dr. Laxminidhi T and myself) drafted the technical part of the tender document, prepared corrigendum, conducted technical tests on the equipment submitted by vendors and assisted in finalizing the tender process.
4.	Office of the District Commissioner, Udupi District	2016-18 (Two years)	Served as advisor during the process of evaluation of GPS system set up for monitoring sand mining in the rivers of Udupi district.
5.	Office of the District Commissioner, Dakshina Kannada district	2020-21 (One year)	Served as advisor during the process of evaluation of mobile app developed to regulate mining, transportation and sale of river sand.
6.	Department of Revenue Intelligence (DRI)	2024 onwards	It has been observed that many importers of electronic systems make fraudulent claims about the classification of the goods being imported by them so that lesser amount of customs duty could be paid. We are assisting the DRI in correctly classifying the electronic goods being imported so that the correct amount of customs duty could be levied.
7.	Kalbavi Cashews, Mangalore	2016-19 onwards	Design, development and field testing of a portable instrument to estimate the moisture content in cashew Kernel.
8.	Corporation of Udupi, Karnataka	2005-06	Design and installation of musical fountain at Bhujanga Rao Park in Udupi. The design of the controller, lighting and electrical system was done by me and my student Mr. Sudarshan Hegde.

**12. PhD dissertations guided (12 completed, 02 in progress):**

<b>Serial number</b>	<b>Title of the thesis</b>	<b>Name of the research scholar</b>	<b>Status</b>
1.	Algebraic Structure based on Mixed Radix system and Chinese Remainder Theorem for the generation of Key Sequences and their application to Stream Cipher Systems. (2003-10)	Mr. Ganesh Aithal	Completed
2.	Application of Error correction codes for enhancing data integrity in power line channels. (2004-12)	Mrs. Rajeshwari Itagi	Completed
3.	Decoding Algorithms for Linear Block Codes Based on Tree Structure and their Applicability to Wireless and Data Storage Systems. (2007-11)	Mr. Prashantha Kumar H	Completed
4.	Design and Construction of Algebraic codes for Enhancing Information Integrity in Data Storage Systems. (2006-11)	Mr. Rajesh Shetty K	Completed
5.	Analysis and Design of Reliable and Secure Chaotic Communication Systems for Optical and Wireless Links. (2010-13)	Mr. Lwaa Faisal Abdulameer (SAARC scholar)	Completed
6.	Rate-less Codes for Transmission over Free Space Optics using Stochastic models based on Scintillation Theory and their application to Optical Wireless Sensor Networks. (2009-14)	Mrs. Geeta Prakash	Completed
7.	Design and Implementation of Modulation and Detection strategies for SM –MIMO Systems. (2012-17)	Mr. Goutham Simha G. D	Completed
8.	Synthesis and Performance evaluation of Codes with Good Rank-Distance properties for Wireless Communications and Information Storage Systems. (2013-19)	Mr. Raghavendra M. A. N. S	Completed
9.	Design and Analysis of Reliable Wireless Optical Communication System for Underwater Channels. (2015-20)	Mr. Ramavath Prasad Naik	Completed



10.	Investigation Properties of Rank Distance Properties of Cyclic, Abelian Codes and study of their Applicability for Error Correction in Wireless Devices. (2015-20)	Ms. Shurthkirthi Godkhindi S	Completed
11.	Tentative title: Design, Modeling, simulation and experimental verification of various algorithms for vertical Under water Optical Communication links). (2019-24) Thesis submitted.	Mr. Savidhan Shetty C. S.  Mr. Shetty has been awarded the Ph.D degree in May 2025.	Completed
12.	Tentative title: Research Area: Design, Synthesis and implementation of Channel codes for improvement of information integrity in NAND Flash memories	Mrs. Achala Chetan has submitted her thesis on 1 <sup>st</sup> December 2025.	Thesis Submitted for evaluation
13.	Tentative area: Channel codes for Underwater Optical Communication systems/ Visual Light Communication systems/ Quantum Error Correcting codes and their applications	Mr. Saravanan V  Mr. Saravanan has joined in July 2024. He is currently completing his course work requirement.	Has started literature survey. Will be submitting his research proposal shortly.

**13. Participation in Conferences (only recent conferences have been listed):**

- Served as Transportation Chair in the recently concluded PEDES 2024 conference.
- Conducted a workshop on Work Integrated Learning in the recently concluded TALE 2024 conference.
- I have reviewed papers as part of the technical team for many conferences (too many to list).

**14. Important MoUs formulated for academic collaborations:**

Serial number	MoUs Formulated	Name of agencies/ departments involved	Year of signing MoU	Any other Details
1	MoU with Indian Space Research Organization (ISRO) for setting up of the Regional Academic Centre for Space (RAC-S) in NITK, Surathkal	Indian Space Research Organization (ISRO)	2020	Under the terms of reference of this MoU, ISRO will provide grant in aid up to a maximum of Rs. 2 crores every year to faculty members of NITK to conduct research of relevance to ISRO
2.	MoUs with NIT Warangal, NIT Andhra Pradesh, Government Engineering College Trichur under the	NITK and respective institutes	2020-21	Under the terms of reference of these MoUs, faculty members of these institutes can propose joint result projects with faculty

	ambit of RACS set up with ISRO			members from NITK, Surathkal and submit them to ISRO Rac for evaluation.
3.	University of Pavia	NITK, Surathkal with University of Pavia, Italy	2018	GIAN program with Prof. Fabio DellAcqua from University of Pavia. Faculty and student exchange with this University has been conducted.
4.	McMaster University, Canada	NITK, Surathkal with University of Pavia	2014	Several faculty members and research students from NITK, Surathkal have visited McMaster University for research interaction. Prof. T. Kirubarajan from McMaster University has visited NITK, Surathkal several times for conducting GIAN course and invited lectures.

#### 15. Social outreach:

- I have guided the Municipal Corporation of Udupi in the setting up and commissioning of a musical fountain in Bhuganga Rao park. The design of fountain rings, controller unit and lighting distribution was designed and supervised by me. This fountain was inaugurated by Dr. V. S Acharya, Home Minister of Karnataka on 15<sup>th</sup> August 2006.
- Have assisted the Auto rickshaw Union of Mangalore City in preparing a proposal for creating a call hailing mobile application.

#### 16. Publications:

- Number of Journal publications in Scopus indexed journals: 30
- Number of publications in Scopus indexed conferences: 42

#### 17. Details of Educational qualifications:

S. No	Qualification// Degree	University/ Institute	Subject[s]/Topic[s]	Year	Percentage Achieved	Distinctions
1	PhD	Indian Institute of Science (IISc)	Error Control Codes, Space Time Codes and their applications to Wireless Communications	2005	NA	

2	Master of Technology (M. Tech)	Karnataka Regional Engineering College (KREC), Mangalore University	Digital Electronics and Advanced Communications	1992	83	First Class with Distinction
3	Bachelor of Engineering (B.E)	Manipal Institute of Technology (MIT) under Mangalore University	Electronics and Communications	1989	78	First Class with Distinction

(U. Shripathi Acharya)  
Date: 16<sup>th</sup> December 2025