

A brief biography about Dr. T.C.Manjunath

Ph.D. (IIT Bombay), Sr. Member IEEE, Fellow IETE & AIMEE, Fellow Institution of Engineers, Chartered Engineer
Professor, Computer Science & Engineering (IoT, CS & BCT), Dean Research (R & D), Rajarajeswari College of Engineering, Bangalore, Karnataka, India



Dr. T.C. Manjunath was born in Bangalore, Karnataka, India on Monday, the 6th of Feb. 1967, aged 58+ years & received the **B.E. Degree** (Bachelor of Engg) from the Karnataka's No. 1 Engg. College - **R.V. College of Engg. (Bangalore Univ., Karnataka, India)** in the year **1989, M.E. (Master of Engg) Degree in Automation,**

Control & Robotics from the prestigious 75+ year-old State Govt.'s LD College of Engg., (Gujarat Univ., Ahmedabad) in the year 1992 with **First Rank & Distinction** for the entire university and **Ph.D. in Systems & Control Engineering** from the prestigious **Indian Institute of Technology Bombay (IIT Bombay)** in the year **2007** respectively with **best research scholar award** for the entire campus amongst all the disciplines and worked on the advanced vibration control strategies for smart intelligent structures which were used in the aerospace engineering & missile cruise controls with an ISRO defense project.

He has got a teaching (**academic**), **research & administrative** experience of nearly **35+ years** in various engineering colleges all over the country (Karnataka, Gujarat, Maharashtra) and spent his entire career after graduation in the field of *academics, research & administration* only. He has worked in the levels of **Lecturer-Asst. Prof.** (17+ yrs), PG Coordinator, Prof-i/c HOD, **Prof. & Head** (8+ yrs), **Director-Research**, i/c Principal & as Full time **Principal** (10+ yrs) in various institutions where he has worked so far across the country. Currently, he is working as **Professor of Computer Science & Engg. Dept. with specialization in IoT, Security & Blockchain Technology & as Dean (Research - R & D)** of the renowned 20-year-old Rajarajeshwari Group of Institutions '*Rajarajeswari College of Engineering*' in Bengaluru, Karnataka, India since more than 1 year. He has also worked as a **Project Assistant** and as a **Research Engineer** in the **Systems and Control Engineering (IIT Bombay, Mumbai)** and worked on vibration control of space launch vehicles in **IITB** during his research tenure for a period of one year, a funded project from ISRO worth Rs. **10 Lakhs**.

He has published more than 1500+ papers in various National, International Journals and Conferences in India & abroad (with 4 publications in Web of Science & >330+ in Scopus, Citations of >780 in scopus, H-Index of 14 in scopus, Google H-index of >50 & i-10 index of >370) and published more than 2 dozen textbooks (25 nos) with editions, notable among them being ('Introduction to robotics' - 1st edition, 'Fast Track to Robotics' - 4th Edn., 'Fundamentals of Robotics'

in 2 volumes, Vol-1 and Vol-2 along with a CD which contains about 200 C / C++ programs for performing various simulations on robotics - 5th edition, 'Examination Security System - Design & Development of Examination Mechanism Using Electronic Box' from Germany costing around 49 Euros, 'Microcontroller & Applications Theory' - 1st Edn, 'Basic Electronics'-1st Edn., 'Computer Communication Networks'-1st Edn., 'Optical Communication & Networkings'-1st Edn., 'Emerging Trends in Engg. & Tech.'-1st Edn., 'Recent Advances in Engg. & Tech.'-1st Edn., 'Recent Developments in Computing, Electronics and Mechanical Sciences', 'Contemporary Research in Electronics, Computing and Mechanical Sciences'-1st Edn., 'Recent Developments in Engg. & Tech.'-1st Edn., 'Analog Communications, Satellite Communications', 'Computer Vision & Techniques', 'Electronic Devices & Circuits for Computer Engineers', 'Computational Intelligence', 'Image Processing & Compute Vision', 'Playing Smart - Artificial Intelligence', 'Signals & Systems-1', 'Signals & Systems-2', 'Basic Electrical & Electronics Engineering', 'Data Communication & Networks', 'Research Methodology-A Beginner's Guide', "", Research Methodology-A Practical Approach for Beginners', 'Principles of Analog Communication Systems', etc ... He has also published a number of 'book chapters' in various edited books from renowned publishers (30 nos). He has also published a research monograph @ the International level from the Springer - Verlag publishers (Germany) based on his Ph.D. thesis topic titled, "Modeling, Control & Implementation of Smart Structures", Vol. 350, LNCIS, costing Rs. 20K in the international market, an Scopus Indexed with very high impact factors.

He is a member of **30 professional societies** across the world. Some of them are a member of IEEE for the past 25 years (currently **Sr. Member of IEEE**), Sr. member of IIEM, SPIE student member (USA) and IOP (USA) student member, life member of ISSS-IISc (India), life member of additive manufacturing society of India (LMAMSI), life member of the ISTE (India), life member of ISOI (India), life member of SSI (India), life member of the CSI (India), Life member of IMAPS, Sr. Member of IACST (Singapore) and life member cum fellow of the IETE (India), AMSI, Life member of IAENG, Life member of Inspira Research Association, Chartered Engineer from IE (I) and a Fellow of the Institution of Engineers (FIE), Fellow of AIMEE, Member of ACDOS - Automatic Control & Dynamic Optimization Society, Member of ACCS-Advanced Computing & Communications Society. He was also an EC & GC member of the IETE (Bangalore) for 2 years.

He has **given** (delivered) **a number of guest lectures / invited talks / expert talks & seminars (resource person) ... > 50 times** in many institutions across the length & breadth of the country and participated (attended) in more than **300+**

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CEP / DEP courses, seminars, workshops, FDPs, training programmes, symposiums, hackathons, webinars, conferences, (with certificates), besides conducting many such activities in the institutions where he worked (more than 600+ numbers). He was awarded with the “**Best research scholar award** in engineering discipline” for the academic year 2006 for the entire institute from the Research Scholars Forum (RSF) from **Indian Institute of Technology Bombay (IITB)**. This award was presented in recognition of the significant contribution to the research (**amongst all the researchers in all disciplines**) in IIT Bombay, where he published **29** research papers (all of them were refereed ; **1-monograph** from springer, **14 Journals**-all refereed (unpaid) & free journals-abroad, **14 conferences**). He is also a **Sr. Typing** (First Class with Distinction) specialist from the commerce institutes association of Karnataka with a high typing speed and a United Nations certified candidate along with **82nd position** in the **tenth standard** merit list all over Karnataka. He is also an Hindi-Rastrabhasha (DBHPS) holder.

Also, he was conferred with the **best paper awards & other national/international awards** (total of 40 times) in a number of events. He was also conferred with the prestigious **Rajiv Gandhi Education Excellence Award, Global Education Achiever of India award, Rashtriya Vidya Gaurav Gold Medal Award & International educational excellence award** (in recognition of sterling merit excellence performance and outstanding contribution for the progress of the nation & world-wide) from New Delhi in the year 2013, **Global Outreach Research Award** Recipients-2019 for his life time achievements in research (**life time achievement award-2020**) from **ESNA & Global Outreach Foundation**, all the previously mentioned awards was awarded w.r.t. his achievements in the field of education, overall life time performance, academics, administration & research (20 times).

He was also **instrumental in getting** a no. of **Research centres** (along with **M.Tech.** programmes & new UG programmes in the engineering colleges where he had worked so far as the administrative head. He was also responsible for getting **AICTE grants** of Rs. 10 Lakhs under **MODROB scheme** for the development of the Robotics & Mechatronics Labs in one of the colleges where he worked. Apart from which, he has brought a number of **grant-in-aid** for the conduction of various events like workshops, conferences, webinars, seminars, projects, events, conferences, FDPs, workshops, hackathons, etc., wherever he has worked [from VTU, DST, IETE, CSI, IEEE, IE(I), DRDO, ISRO, VGST, KSCST, Vodafone, Uninor, etc.] from different sources. In the current college where he had worked as Prof., in the ECE Dept’s VTU Research Centre @ DSCE, 65 research scholars pursued/enrolled for VTU Ph.D. programme in 8 yrs, out of which 40 had come during his time only as research centre head & as HoD. He has got a funded research project of **Rs.**

30.5 Lakhs from GOI’s **DST-TIH-IoT-IITB** along with **4 KSCST** Student Project Proposal worth **Rs. 28,500 & Rs. 1 Lakh** for conduction of activities from **VGST**, which all of them were completed successfully and submitted back to Government.

He has **visited Singapore, Russia, United States of America, Malaysia and Australia** for the presentation of his research papers in the various reputed international conferences abroad (SPIE-IoP, IEEE, SICPRO). His biography was published in the **23rd edition of Marquis’s Who’s Who in the World** in the 2006 issue. He has also guided more than **300+ projects** (B.E. / B.Tech. / M.E. / M.Tech.) in various engineering colleges where he has worked so far, apart from **guiding a couple of research scholars** who are doing **Ph.D.** in various universities under his guidance (*10 Ph.D’s have already come out from VTU under his supervision since 2010*) & still 5 more are pursuing in VTU and are towards completion. All the B.E. & M.Tech. Major & Minor Project Works what he has guided were converted into research papers in reputed journals & conferences. Many of his guided projects, interviews, achievements, the events what he had conducted so far till date have appeared in various **state & national level newspapers and college magazines, newsletters, monthly reports, etc...** (**more than 500 times**). He has also **reviewed** many research papers for the various national & international journals & conferences in India & abroad (**more than 500 times**). He has **more than 320+ scopus indexed & 4 in web of science** papers along with more than **>760 citations** in the scopus portal with **h-index of 14**. In google scholar alone, he has 15000+ citations with an **H-index of >50+ & i-10 index of 370**, He was also associated with **NIRF works** in the DSCE (2 times within 300 band) w.r.t. his department and carried out a number of departmental & institutional surveys from reputed organizations like India Today, ATAL, AARIA Survey, MHRD’s IIC, etc...

He has also organized a number of state & national level sports tournaments like yogasana, chess, cricket, volleyball, etc. where he had worked as an Principal - 18 times. He is also an editorial board / advisory board / reviewer member and is on the panel of many of the national & international Journals as editor, reviewer, committee member etc... He has also served on the **advisory / steering / organizing committee member** of a number of national & international conferences in the country & abroad. He has given many **keynote/invited talks / plenary** lecturers in various national & international conferences and chaired many sessions, was **judge, session chairs, special invitee, guest of honor & was chief guest** on various occasions (50+ times).

He has also **conducted / organized / convened / coordinated** more than **600+** courses / Workshops / Training Programmes / Hands on workshops / Symposiums / STTP’s / FDP’s / Technical paper fests, Student level competitions,

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etc., in various engineering colleges where he worked so far. Till date, he has given more than **1 dozen webinars** on current emerging topics to various organizations in the world along with ATAL FDP invited talks. He has also **taken many administrative initiatives** in the college where he has worked as **HOD, Full time Principal, Vice-Principal, i/c Principal, i/c HoD, PG Coordinator, Research Director, Research Centre Head** & also where he is currently working as Prof. in CSE Dept., besides conducting all the semester university exams successfully as **chief superintendent, deputy chief superintendent, squad member, BOE, BOS member**, etc. Some of the special administrative achievements as Faculty, HOD, R & D Head, Principal & Head of the Institution are.

He **improved the results** of the various branches in few of the engineering colleges where he has worked. He gave more importance to the development of the **in-house projects** for the final year students & initiated the **Project Open-Day**, where all the final year students used to exhibit their project works on a single platform and compulsorily publish papers in the conferences / journals. He has also motivated many of the faculties to take up **consultancy works** & did it efficiently, so that the college got some good income (revenue generation scheme), besides sending large no. of students towards the **internships (2000+)** in various industries till date. He made the faculties to take up research (Ph.D) work or do M.Tech. by compelling them constantly to pursue for **higher studies** as a part of the career enhancement project.

As an administrative head, he made the faculties to **publish paper** in either national / international journals & conferences at least one or two in an academic year. He **started the student chapters** (professional societies) in all the branches such as IETE, IEEE, ISTE, IEL, CSI, SAE, ISOI, ASME, T&F, Springer, Elsevier, SCITECH Press & also conducted a number of events under their banners, which were very much useful to the students & staff members. He brought in **power decentralization** by developing the habit of making coordinator-ships for various works, getting the work done by monitoring those coordinators and following it up successively. He was also involved in **TEQIP-2 & 3 process** in Dr. AIT along with the development of many of the **autonomy and world bank works** & brought **crores of rupees as TEQIP grant** while he was the Principal in Dr. AIT for nearly an year. He also initiated, motivated & helped the various faculties of all Depts. of various college where he worked as Principal to get funded project proposals of more than **Rs. 10 Crores** & all of them were completed successfully & submitted to the Government. The last funded project he completed was from TIH-IoT-IITB-DST funded project of Rs. 30.5 Lakhs on Quantum Computing as one of the investigators.

He was also a **BOS member** & **BOE member** in the some of the university panels. He **conducted a number of exams**

from the public sectors & private sectors such as GATE exams, CET / COMED-K, KPSC, TCS, Police Exams, Inst. of Civil Engineer exams & conducted a number of state & national level examinations like Defense, PG entrance exams, Medical, KPTL in the college where he had worked as administrative head, so that the college could get some revenue (under the banner of **revenue generation scheme**). He started the **weekly monitoring** of the staff & students by making the proctoring or the mentoring process very strong. He **developed the counseling of student data booklets** & that of the **faculty work-diary**, besides the **monthly newsletter** & the **research bulletin** (samshodhana saara) in all the places where he has worked.

All the **laboratory manuals** were developed in-house, printed & given to the students (both in the hard as well as in the soft copy). All the laboratory experiments were videographed individually & given to the students and put on the departmental portal also. The notes of the different subjects were put in the moodle server of the departmental portal so that the students could use it for their study purposes. He used to conduct the **Academic Council & Governing Council** meetings regularly along with the **HOD's meetings & staff meetings** time to time. He had looked after the **NBA process (10 times)** in all the colleges where he worked as **Principal & HOD** and **got NBA in all the colleges mentioned previously**. He has also looked after the **NAAC process in in all the colleges mentioned previously** and was the NAAC coordinator for couple of criterias on 2 occasions and was also the IQAC coordinator for the department. He conducted the prestigious 7th IETE ICONRFW & the 28th Karnataka State CSI Student Convention in HKBKCE, the 1st IEEE Student Chapter Supported National Conference NCECON-19 & the 2nd IEEE Student Chapter Supported National Conference NCECON-24 & IEEE-ICIMIA-2023 in DSCE. He introduced the scheme of best lecturer award / best HOD award / best non-teaching award / service awards concept / Principal cup / Departmental cup, etc. in the colleges where he worked as administrative head for the various staff members. He also conducted a number of national & international conferences in the colleges where he worked such as the NCECON-24, NCECON-19, SIETCON-17 & 18, ICRTEMP-20, IEEE-ICIMIA-19,21,23.

He created a **record placement** of more than **3000 students** in couple of engineering colleges where he has worked as **Principal / HoD** with the help of the college placement department & departmental placement coordinators and that of the institution. He helped the management to fill up many of the **student admissions** in the first year of UG (B.E.) & in PG (M.Tech.) course by doing extensive marketing from different angles and sources, conducted a no. of marketing programmes in the virtual mode & in the off-line mode. He created a number of hobby-clubs,

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start-up, μ -Club, nano-club, e-club, 0.7 Club, EDC cells, Innovation & Incubation centres, centre of excellences in the institute for the staffs & students to work towards development of prototypes, models, and projects. He started the faculty seminar series in the institute so that every faculty gives a lecture of 45 mins with 15 mins discussion at least once in a month in many colleges. Many of the subjects were treated with project-based learning in the autonomous colleges. He introduced many of the new subjects (25 courses & 20 new Labs) in the autonomous colleges such as 5G Communications, AI, ML, DL, AI & Robotics, ACT, Auto SAR, etc.

He introduced the concept of coaching class / tutorial classes for weak students & remedial class concept for failed students, slow learners, which yielded successful results apart from the training of top 10 students for getting ranks. He made students to get **university ranks** when he was working as Principal & HOD in the UG & in PG streams. He started the **On-line courses, Certificate oriented courses** of 1/2/3 months & 6 months, also 1-2-3-4 weeks for various types of people, especially on weekends when he was the **Principal**. He made students to participate in project competitions and hackathons outside the college & win a number of prizes, brought laurels to the institution (brought awards, prizes & certificates from the students more than **40 times**). He helped the students to get some **financial assistance using sponsors** for conducting the cultural events & other activities such as the workshops, FDPs & Conferences. He was on the panel of **Local Inspection Committee (LIC)** member of inspecting various engineering colleges of VTU a number of times & he is also a registered research supervisor in the Visvesvaraya Technological University & went as expert panel member for conduction of research interviews (SSIT, VTU, etc...) in couple of universities, faculty selection panel member for appointment purposes (Ex. MIT, Atria, etc...)

He brought a project **grant of more than Rs. 10 crores** till date in the various organizations where he has worked so far with help of faculties under various funded projects scheme such as DST, ISRO, KSCST, VTU, IET, DRDO, VGST, AICTE, MHRD, ICSR, TIH-IOE, etc... along with a number of research proposals being submitted to various organizations (AICTE-RPS, ANRF, ISRO, DST, VGST, etc...) as PI & Co-PI's. He developed the Innovation & Entrepreneurship Development Cell in HKBKCE & did a number of programs under its belt. He was responsible for some of the UG students of HKBKCE to make them establish a start-up company in the college itself by name '*pentaP systems Inc*'. He also developed a number of hobby clubs in the departments such as the '*e-club*', '*0.7 club*' which was used to conduct a large no. of activities w.r.t. technical & non-technical problems. He made **25 MOU's** with reputed firms & sectors with the college and utilized all advantages of signed MOUs with companies, used MOU

banner to get projects, conduct seminars, placements, conferences, workshops & FDPs.

He streamlined many of the process in the college office level & that of the departmental level by developing new & newer formats for the smooth conduction of various processes along with excellent documentations. He underwent the **one-week NUS-Leadership training programme in Singapore @ National University of Singapore (NUS)**, sponsored by TEQIP-II SPFU MHRD GOK DTE & Govt. of India in the year Sept. 2015 when he was the **Principal of the Govt. Aided Dr. Ambedkar Inst. of Tech.** in Bangalore. He developed the culture of making up of small / mini hobby projects by the students along with the development of a number of alternate assessment tools. He developed the systematic documentation of entire departments & that of the college as **HOD & Principal**. He also on many occasions made the students to work upon the *project-based learning*, i.e., whatever is taught in the theory, the same is carried out in practicals in few subjects. He conducted a no. of AATs such as Surprise Test, Seminar, Quiz, Role Play, Group Discussion, Case Study, E-Course Certification, Mini Projects, Developing Products, Building, Models, Paper Presentation, Poster Publication, Programming Contest, General Science & Technical Quiz, Hackathons, Demonstrations, Analysis, Optimization & comparison of theoretical concepts using modern tools.

He has got more than **175 Patents** from the Govt. of India & Australia, out of which few of them are Australian & Indian Patents with grants (**15 numbers**). He also has got very good experience in the **autonomous curriculum** of the VTU course in the context of make up exams, fast track exams, supplementary exam and also got good ideas about BOS / BOE / COE, CIE, SEE, AAT, Curriculum Design, etc... as he has worked for nearly 8 years in the autonomous colleges. Under **industry-institute interaction**, he **conducted a number of industry-oriented courses** like CADD course, ANSYS course, PCB Designing course, Quadcopter course, IOT Course, Oracle course, Infosys campus connect courses (18 batches rolled out in HKBKCE), Software testing, etc.

His special areas of interest are - *Control systems, DSP, AI, ML, Deep Learning, IP, PE, Robotics, Signals & systems, Smart Intelligent Structures, Basic Electrical Engg., Basic Electronics, Network Analysis, Vibration control, Instrumentation, IoT, Industry 5.0, Power Electronics, WSNs, Circuits & Networks, Matlab* and a host of laboratory related courses, etc...

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