DETAILED RESUME

Dr.C.Ganesh

Date of Birth: 02.06.1972

Career Goals & Aspirations

- To work in a dynamic university/institution of eminence that provides optimal learning opportunities for enhancing career development of the students
- To achieve the organizational goals for the benefit of the organization as well as the individual
- To play an effective role in an Academic Excellence Group for imparting quality education
- Promotion of Research

Academic Qualification

S.No.	Qualification	Institution	Board/University	Year of Passing	Class & %
1	Ph.D. Electrical Engineering **(Title: Investigations on Parameter Estimation and Controller Design for BLDC Drive fed Position control system)**	College of Engineering, Guindy, Chennai-600025 **Supervisor:Dr.S.K.Pattanaik,** Professor, Dept. of EEE- C&I Divn., College of Engineering, Guindy, Chennai-600025 and **Director**, Centre for Academic Courses, **Anna University** and **Former Director**, **AICTE**, New Delhi	**College of Engineering, Guindy, Anna University, Chennai**	2014	
2	M.Tech. Computer Applications In Industrial Drives	**Malnad College of Engineering**, Hassan-573201	Visvesvaraya Technological University, Belagavi	2003	First (66.85%)
3	B.E. Electrical and Electronics Engineering	**Kumaraguru College of Technology**, Coimbatore-641006	Bharathiar University, Coimbatore	1993	First (69.6%)
4	HSC	Suburban HSS., Ramnagar, Coimbatore-641009	Board of Higher Secondary Education, Tamil Nadu	1989	First (85.16%)
5	SSLC	Govt. HSS., Asokapuram, Coimbatore-641022	Board of Secondary Education, Tamil Nadu	1987	First (84.2%)

- **Passed all the courses in first attempt throughout my career. Secured M.Tech. admission through GATE.**

Additional Qualification

S.No.	Name of the certification course	Title and Duration of the course	Organizing Institute	Honour
1	NPTEL online	Control Engineering 12 week July-October 2017	IIT Madras	**83%** **Top 5%** and Elite (**22nd rank in India)**
2	NPTEL online	Effective Engineering Teaching in Practice 4 week Jan-Feb 2019	IIT Madras	Elite
3	NPTEL online	Industrial Automation and Control 12 week Jan-Apr 2019	IIT-Kharagpur	
4	NPTEL online	Accreditation and Outcome based Learning 8 week Aug-Oct 2019	IIT-Kharagpur	**93%** **Top 2 %** and **Elite+Gold** (**38th rank in India)**

- Good Exposure to Matlab/Simulink and Pspice

Areas of Interest

Control Systems, Adaptive and Intelligent Control, Brushless DC motors

Experience

S.No.	Name of the Institution	Designation	Period
1	New Horizon College of Engineering, Bengaluru	Professor/EEE	16.07.2018 to till date
2	KPR Institute of Engineering and Technology, Coimbatore	Professor/EEE	28.04.2017 to 19.04.2018
3	Sri Ramakrishna Institute of Technology, Coimbatore	Professor and Head/EEE	01.10.2014 to 22.04.2017
		Associate Professor/EEE	01.04.2011 to 30.09.2014
		Assistant Professor/EEE	01.02.2008 to 31.03.2011
		Senior Lecturer/EEE	14.04.2004 to 31.01.2008
4	Kongu Engineering College, Perundurai	Lecturer/EEE	30.05.2003 to 31.03.2004
5	RMD Engineering College, Kavaraipettai	Lecturer/EEE	18.06.2002 to 09.05.2003
6	Sri Ramakrishna Engineering College, Coimbatore	Lecturer/EEE	09.06.1997 to 13.10.2000
7	3 years industrial experience in steel industry, sponge iron industry, elevator industry and windmill		

Total experience: 23 years and 7 months **Teaching experience**: 20 years and 7 months
After PG: 16 years and 2 months **After Ph.D.**: 5 years and 6 months

Salary Drawn

Basic Rs.38522 (Scale of Pay: 37400–67000) with **AGP** Rs.9000, **DA** Rs.42374, **HRA** Rs.9631, **CCA** Rs.300, **Conveyance** Rs.5000 and **Other Allowances** Rs.16010
CTC: Rs.122637 per month (Contributory PF Rs.1800)

1. Research

I am very passionate about control engineering since I started my teaching career. While establishing control systems laboratory a decade back, I have gained some experience in determining mechanical parameters of armature controlled dc motor. This stimulated me to analyse the effect of load on the mechanical parameters. Further, the need for tuning the controller based on the load variation is also explored. I have taken this as my research problem in my Ph.D. work by employing BLDC drive due to the advantages of BLDC motors.

a. Ph.D. Work

Title of Ph.D. Thesis:

Investigations on Parameter Estimation and Controller Design for BLDC Drive fed Position control system

Supervisor:

Dr.S.K.Pattanaik, Director, Centre for Academic Courses, Anna University Professor, Dept. of EEE-C&I Divn., **College of Engineering, Guindy-Chennai** and **Former Director, AICTE, New Delhi**

The main contributions are summarized below.

- The mechanical parameters, viz. moment of inertia and friction coefficient vary with respect to the loading conditions and therefore they have an adverse effect on the performance of BLDC drive system.
- It is essential to tune the controller parameters with respect to load in order to achieve better position control since the load influences the system dynamics.
- Among the conventional PID controller tuning methods, Parr tuning based PID controller is found to produce better results for the closed loop BLDC drive based position control system at different loads.
- ANN-based parameter estimation and adaptive PID controller tuning provide the flexibility to adjust the controller parameters based on the load variation.
- The adaptive controller-based position control system yields results that are found to be independent of parameter variation but suffers from overshoot in the output position.
- Performance index minimisation-based PID controller tuning is employed to eliminate the overshoot and achieve better transient response than conventional PID controller tuning methods.
- ISE-based PID controlled system tracks the desired position and dynamic change in the desired position at any load with better transient response characteristics compared to the other indices. However, PID controller parameters have to be tuned dynamically based on the load variation.
- A novel first order compensator design procedure is proposed. The proposed compensator design procedure is non-iterative and the same procedure is used to design a lag as well as a lead compensator. It is found to be effective for various lower and higher order systems.

- In the design of conventional lag and lead compensators, a safety factor ε has to be adjusted on a trial and error basis to satisfy the desired phase margin. Hence, the design procedure is iterative, tedious and time-consuming. Moreover, design methods of lead and lag compensators are different.
- The proposed compensated system responds to the desired position and dynamic change in the desired position with smaller rise time and settling time than the PID controlled system. The compensator need not be tuned for any load variation to achieve optimum position control.
- Position control system is implemented using a BLDC drive. This system is tested at different loads by employing the non-iterative lead compensator and PID controller.
- The compensator-based position control system yields better transient response than the PID controlled system at any load. The transient response is independent of load variation.
- Experimental results of PID controlled system are slower than the simulation results since high value of K_p leads to saturation which slows down the response in real time. Further, the real-time differentiation and integration operations do not match with that of the PID controller used in MATLAB/SIMULINK model.
- Hardware results of the compensated system agree with the simulation results since the effect of saturation is less at small value of the gain K_c.
- Implementation of compensator is easier compared to PID controller since dynamic tuning of the parameters is not necessary in a compensator. Proposed compensator design is also found to be effective for networked BLDC drive systems. Hence, the non-iterative first order compensator is employed to achieve optimum position control at any load for a BLDC drive fed position control system.

b. Project Proposal sent recently

1. A Research proposal titled **Harmonics Reduction in VFD Chillers for improved Performances** for **Rs.1000000/-** is applied for ISHRAE.

Summary:

Switching of compressor element based on the requirement of cooling introduces harmonics in the refrigeration system. This produces unnecessary heating effect in the compressor and accessories. This is avoided in the research proposed. Switching harmonics are reduced by introduction of active filters. Lower order harmonics are greatly reduced by introduction of active filter network with LC components. VFDs, along with many other types of electronics, cause a phenomenon known as power line harmonics. The advantages of using a VFD far outweigh the negative effects of harmonics, but it is important to be aware of harmonics; the potential problems they can cause; and the solutions that are available to mitigate those harmonics.

Collaboration / Interaction with the external world and Progress made

It is a joint proposal prepared with Dr.R. Priyabrata Adhikary, Professor (Mechanical), New Horizon College of Engineering.

2. A project proposal titled **Infrastructure Upgradation in broader areas of Process Control, Renewable Energy and Electric Drives** for **Rs.1500000/-** is applied to VGST, Karnataka.

Virtual instrumentation can be effectively employed to model and test higher order systems used in process control with appropriate software and data acquisition devices. Electrical machines are used in various industrial applications involving vibration

and mechanical shock. It is essential to test and analyze the performance of machines under dynamic conditions with the help of vibration sensors, spectrum analyzer, testing instruments and necessary software. This will enable the effective usage of machines. Renewable energy sources such as solar and wind energy generation are extensively employed in the present scenario. Conversion and inversion techniques employ switching which introduces the harmonics and affects the power quality. Hence, there is a need to investigate power quality and mitigate harmonics for effective utilization of electrical power. Power quality analyzer with necessary probes will facilitate this feature.

Hence upgradation in broader areas of Process Control, Renewable Energy and Electric Drives with state of art facilities will help the students, researchers and the faculty members to enhance their skills in working with the modern instruments & software and undertake research work suitable for industrial and societal needs.

I have sent five proposals to funding agencies so far seeking fund for Research and Lab Modernisation.

c. Project Proposals under study

1. Smart water measurement and distribution management system

Summary:

Water is one of the most important resources for all living beings in the earth. In a country like India with huge population, distribution and management of water is found to be uneven. The ever-increasing demand for water emphasizes activities related to water management, ensuring the rational development and utilization of water resources. It also requires the development of necessary devices and networks to optimize the usage of water and ensure safe drinking water. An attempt is being made in this project to investigate the availability of water, leakage, different types of water consumers and varying pattern of water requirement and suggest a simple prototype model for effective water distribution management. In this work, appropriate sensors are used for detecting the leakage, overflow and water levels. The sensed and measured data are being collected and stored in a control center. Based on the data and need of consumers over a period of time, distribution of water is scheduled for different areas in the distribution system. Wastage of water is sensed by the authority for appropriate remedial measures.

The primary objective of this research work is to supply water to the consumers based on the requirement, availability and manage water distribution in an efficient manner. The proposed system detects the leakage in the water distribution system at the earliest. It makes use of water flow sensors to detect the leakage. This information obtained is recorded in the database enabling the authorized user to access the information easily. This information can be used at the time of report generation. A solenoid valve is provided in the system in order to cut down the water supply by closing the valve in case of leakage, thereby saving the water. Hence, maintenance of the water distribution system is made easy for the authority. The main objectives of the work are listed as:

- To implement a sustainable system in smart cities for managing and distributing water in an effective way.
- To detect leakage in water distribution system at the earliest by using the raindrop sensors.
- To notify the authority instantaneously about the leakage in the system for appropriate remedial measures.

- To provide easy maintenance of the water distribution system for the authority based on the availability and requirement of water.

Collaboration / Interaction with the external world and Progress made

In connection with the proposal, data of water distribution in Bangalore city has been obtained. Already, a final year project has been implemented as a preliminary study in the last year. Based on the data of water distribution, prototype model will be implemented.

2. Intelligent Solar Powered Electric Vehicle for Differently Abled Persons

Summary:

Fuel operated vehicles pose lot of environmental issues. Further, the cost of the fuel is high that everyone cannot afford to use them. Electric vehicles can overcome these limitations and can be effectively operated in different environments by using solar energy. This proposal deals with development of a solar powered electric vehicle for differently abled persons. Intelligent control techniques are proposed to facilitate the operation of this vehicle by differently abled persons in various environments. EEG waveform can be tracked and analyzed to know the actions and responses of the differently abled persons based on dynamic variation of load, path and disturbance. This signal can be used as an additional input signal to an Artificial Neural Network (ANN) apart from varying loads of the vehicle along with the path and disturbance along the roads.

These two signals are used for training the ANN to yield the mechanical parameters viz. Inertia and Friction of a Brushless DC (BLDC) drive at any load and disturbance. The output of this ANN is employed to generate intelligent controller parameters using another ANN. The intelligent controller is so dynamic that it will change its parameters based on any variation in the load, path, disturbance, sudden natural climatic changes and EEG signal. The desired control action on the vehicle can be achieved with high degree of accuracy and speed. Apart from the battery, Solar PV panel based system is proposed as an additional source for effective utilization of renewable energy.

Collaboration / Interaction with the external world and Progress made

In connection with the proposal, interaction has been made with Mr. Anand VP, Scientist, CSIR Central Scientific Instruments Organisation (Chennai Centre), Coordinator - Common Resource and Technological Development Hub in Renewable energy, CSIR Road, CSIR Madras Complex, Chennai.

d. Research Publications

International Journals:

1. **Ganesh C**, Shanmugasundaram R and Singaravelan A, "Design of a Non-Iterative Compensator for Type 1 Higher Order Systems", Springer Lecture Notes in Electrical Engineering (LNEE) book series, Vol. 602, 2019, pp.335-368. **(Scopus Indexed)**
2. Mahalakshmi G and **Ganesh C**, "A Review of Torque Ripple Control Strategies of Switched Reluctance Motor", International Journal of Applied Engineering Research, Vol.13, No.7, 2018, pp.4688-4692.
3. Shankar CK, Roger Rozario AP and **Ganesh C**, "Obliteration of Harmonics on a VSI Fed Induction Motor Drive", International Journal of Applied Engineering Research, Vol.11, No.3, 2016, pp.2071-2076. **(Scopus Indexed)**

4. Hazim Haneef and **Ganesh C**, "Investigations on The Design Aspects of First Order Controller for Type 1 Third Order System", International Journal of Applied Engineering Research, Vol.10, No.10, 2015, pp.9438-9445.
5. Abdu Samad and **Ganesh C**, "Control and Energy Monitoring Scheme for a Stand-Alone Wind Energy Conversion System", International Journal of Computer Science and Engineering Communications, Vol.3, No.1, 2015, pp.621-626. **(Scopus Indexed)**
6. **Ganesh C** and Patnaik SK, "A simple first order compensator for brushless direct current drive based position control system", Journal of Vibration and Control, Vol.21, No. 4, 2015, pp.647-661. **(Scopus and Web of Science Indexed)**
7. **Ganesh C** and Patnaik SK, "Artificial neural network based proportional plus integral plus derivative controller for a brushless DC position control system", Journal of Vibration and Control, Vol.18, No.14, 2012, pp.2164-2175. **(Scopus and Web of Science Indexed)**
8. **Ganesh C**, Prabhu M, Rajalakshmi M, Sumathi G, Virender Bhola and Patnaik SK, "ANN based PID controlled brushless DC drive system", ACEEE International Journal on Electrical and Power Engineering, Vol.3, No.1, 2012, pp.45-48.
9. **Ganesh C**, Abhi B, Anand VP, Aravind S, Nandhini R and Patnaik SK, "DC position control system – Determination of parameters and significance on system dynamics", ACEEE International Journal on Electrical and Power Engineering, Vol.3, No.1, 2012, pp.1-5.
10. Shanmugasundaram R, **Ganesh C** and Singaravelan A, "ANN based Controllers for Improved Performance of BLDC Motor Drives", is **accepted** and presented in First International Conference on Advances in Electrical Control & Signal Systems AECSS – 2019, held at Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar during November 8-9, 2019. Proceedings of the Conference will be published by Springer Lecture Notes in Electrical Engineering (LNEE), Book Series. **(Scopus Indexed)**
11. Singaravelan A, **Ganesh C**, Sridharan P, Richard C, Pooja V, Shanmugasundaram R and Gunapriya B, "An Overview and Advancement of Electricity Peak Load Saving Methods", is **accepted** for oral presentation in International Conference on Automation, Signal Processing, Instrumentation and Control (i'CASIC 2020), to be held at VIT-Vellore during February 27-28, 2020. Proceedings of the Conference will be published by Springer Lecture Notes in Electrical Engineering (LNEE), Book Series. **(Scopus Indexed)**
12. Singaravelan A, Rashmi R, Venkat N.K., Sahil R.K., Sriram S.P., **Ganesh C** and Gunapriya B "PLC based fire accident prevention system", is **accepted** for oral presentation in International Conference on Automation, Signal Processing, Instrumentation and Control (i'CASIC 2020), to be held at VIT-Vellore during February 27-28, 2020. Proceedings of the Conference will be published by Springer Lecture Notes in Electrical Engineering (LNEE), Book Series. **(Scopus Indexed)**

13. Gunapriya B, Singaravelan A, **Ganesh C** and Shanmugasundaram R "Intelligent controller based on emotional learning of the brain for the PMBLDC motor drive system in industrial applications", is **accepted** for oral presentation in International Conference on Automation, Signal Processing, Instrumentation and Control (i'CASIC 2020), to be held at VIT-Vellore during February 27-28, 2020. Proceedings of the Conference will be published by Springer Lecture Notes in Electrical Engineering (LNEE), Book Series. **(Scopus Indexed)**
14. Gunapriya B, Singaravelan A, **Ganesh C** and Shanmugasundaram R, "Impact of Anti-Windup PI Controller for BLDC Motor Drive System", is **accepted** for oral presentation in International Conference on Automation, Signal Processing, Instrumentation and Control (i'CASIC 2020), to be held at VIT-Vellore during February 27-28, 2020. Proceedings of the Conference will be published by Springer Lecture Notes in Electrical Engineering (LNEE), Book Series. **(Scopus Indexed)**
15. **Ganesh C**, Shanmugasundaram R, Singaravelan A and Gunapriya B, "Design and Analysis of a higher order Process by employing Pspice modelling", is **accepted** for oral presentation in International Conference on Automation, Signal Processing, Instrumentation and Control (i'CASIC 2020), to be held at VIT-Vellore during February 27-28, 2020. Proceedings of the Conference will be published by Springer Lecture Notes in Electrical Engineering (LNEE), Book Series. **(Scopus Indexed)**

International Conferences:

1. **Ganesh C**, Rashmi R, Chaithra KP, Charushri M, Sharmila D and Sandhya M, "Smart Water Distribution and Mangement System", International Conference on Innovative Research in Engineering, Management and Sciences (ICIREMS 2019), pp.67, Bengaluru, 19-21 Dec. 2019.
2. **Ganesh C**, Gomathy S, Jenifer Amla. L, "Control of non-interacting tank system using a non-iterative compensator", IEEE sponsored International conference on Science, Technology, Engineering and Management (ICSTEM'17), pp. 3, Coimbatore, 3-4 March 2017.
3. Ananthababu B, **Ganesh C** and Pavithra CV, "Fuzzy Based Speed Control of BLDC Motor With Bidirectional DC-DC Converter", IEEE sponsored third International conference on Innovations in Information, Embedded and Communication Systems (ICIIECS'16), pp.1488-1493, Coimbatore, 17-18 March 2016. **(Scopus and Web of Science Indexed)**
4. **Ganesh C**, Gomathy S and Jenifer Amla L, "Control of Non-Interacting tank systems using a First order Non-Iterative Compensator", International conference on Mathematical Computer Engineering, pp.113, Chennai, 14-15 Dec. 2015.
5. Vinodhini R, **Ganesh C** and Patnaik SK, "Genetic algorithm optimized on-line neuro tuned robust position control of BLDC motor", 2012 IEEE students' conference, pp. 1-4, Bhopal and 1-2 March 2012. **(Scopus Indexed)**

6. **Ganesh C**, Jeba S, Saranya R, Geethu S and Patnaik SK, "A non-iterative controller design for a BLDC drive system", 2009 IEEE International conference on Advances in Recent Technologies in Communication & Computing, pp.141-145, Kottayam and 27-28 Oct. 2009. **(Scopus and Web of Science Indexed)**
7. Shanmugasundaram R, **Ganesh C**, Yadaiah N and Poornaselvan KJ, "Compensator design by pole-zero adjustment for a typical position control system", Fourth IEEE International conference on Information and Automation for Sustainability, pp.19-24, **Colombo, Srilanka**, 12-14 Dec. 2008. **(Scopus and Web of Science Indexed)**

Textbook:

Authored a textbook titled **Principles of Control Systems** (ISBN 978-93-88005-19-7), published by Yes Dee Publishers, Chennai.

Web of Science Publications: 5 **Scopus Indexed Publications: 8**

Google Scholar:

https://scholar.google.co.in/citations?hl=en&user=uw7h95AAAAAJ
H Index: 4 i10 Index: 2 No. of Citations: 58

Scopus:

https://www.scopus.com/authid/detail.uri?authorId=56503518500
H Index: 3 No. of Citations: 15

Web of Science Researcher ID: I-2315-2019 **ORCID:** 0000-0003-4217-3527

Research Gate:

https://www.researchgate.net/profile/Ganesh_Chandramouleeswaran
H Index: 4 No. of Citations: 46 RG Score: 8.26

Linkedin:

https://www.linkedin.com/in/dr-ganesh-c-8ba5741b

e. **Patents applied**

1. **Indian Patent** Application No.201741043720

Versatile Imprint Head for Low Temperature Applications

Summary: Additive manufacturing always moves towards customisable application oriented. Focus is diversified into multiple applications and a printing component with various ranges of materials within the specified temperature limit, roughly around 700 degree celsius. The sophisticated imprinting head is designed in such a way that it could be incorporated to have (or) to act as three different sources. This imprinting head has the capability to supply one source in a particular time among these three sources. This control is given to the controllers. These controllers decide which material and source could be active during the particular time of printing.

2. **Indian Patent** Application No.201741043727

Trendy Vircine Waste Treatment and Recovery

Summary: The waste treatment and recovery is primary requirement in the globe. Trendy-vircine additives are used in this invention to treat waste and recover from it completely. The unique outcome after treated materials can be taken to versatile industries that could be adopted and getting benefitted. This treatment using new combination of Trendy-vircine additives (natural materials like leaves). Only this gives the recovery to the fullest. Likewise, working with many different types of waste leads to consecutive outcomes.

3. **Indian Patent** Application No.201941027803

ANN based Self-Tuned PID Controller for Speed Control of BLDC Motor

Summary: Main objective of ANN based self-tuned PID controlled BLDC motor drive is to maintain the actual speed close to set speed under load variations and parameter variations. ANN based PID controller implemented in Digital signal processor computes the error and change in duty cycle of PWM gating signals of IGBTs based on controller gains of PID controller viz. K_p, K_d, K_i. The terminal voltage varies with variation in duty cycle of PWM gating signals. Thus the actual speed of BLDC motor is always maintained close to set speed even under load variations and parameter variations of BLDC motor and load. Parameter estimator, ANN and PID control algorithm are implemented in DSP. Parameter estimator estimates the total inertia of the motor and loads (J) and phase resistance(R) of the motor from phase currents, phase voltages and speed of BLDC motor. Trained ANN generates optimum PID controller gains (K_p, K_d, K_i) for each combination of inertia and phase resistance. PID controller in turn generates the new duty cycle for the PWM gating signals required to control the control voltage and hence speed of BLDC motor.

f. Ph.D. Guidance

Guided four Ph.D. Research Scholars in Anna University-Chennai (Recognition No. 2530014) during the period 2016-2018 before taking up the present assignment. Two of them got confirmation of provisional registration. Got Supervisor recognition in Visvesvaraya Technological University-Belagavi (Recognition No. 8265 (VTU10198265))

g. Project funding (Student Projects)

As a Professor in KPR Institute of Engineering and Technology, I guided a Project titled **Swimmer tracking system** which received funding of Rs.3000/- from **Tamilnadu State Council for Science and Technology, Chennai** under Student Projects scheme 2017-18. Abstract of the project is furnished below.

In this project, a safety system is designed for the swimmers. The heartbeat of the swimmer is constantly monitored to track the swimmer in case of any emergency. The Heart Pulse is measured with the help of Heart Beat Sensor. The Normal heart rate for average human ranges from 60 to 90 beats per minute. For a swimmer, the average heart beat ranges from 120 to 160 beats per minute. This heart beat count is constantly fed to an Arduino Microcontroller. In case of any emergency or unexpected drowning, the heart beat starts to increase alarmingly. The controller senses the abnormal value or a value above the predetermined one as the input to the microcontroller which will activate the GPS. The GPS signal is transmitted by the Antenna. This will give an alert signal to the rescuer. The exact location of the swimmer is received by the GPS module. The location is monitored by a LCD Display. This helps the rescuer to easily track the location of the swimmer who is drowning. Thus, swimmers may be prevented from drowning.

A simple and cost effective swimmer tracking system implemented in the project is found to be reliable during the emergency condition of the swimmer. Since, the current location of the swimmer is instantaneously available along with the heart beat rate, it is possible for the people in the control station to take appropriate rescue operation for saving swimmers on emergency. The hardware also possesses features to track swimmers of different age group and gender, by doing necessary modification in the program routine. The technique suggested in the project is more suitable to track the exact location of the swimmer by which activation of rescue operation is made easier.

As Head of EEE Department at Sri Ramakrishna Institute of Technology, I mentored the following Projects which secured recognition by various Professional Organizations.

Project titled **Making Aquaculture Sustainable through parameter monitoring and resource optimization yielding export quality shrimps** secured **First** prize in **Texas Instruments Innovation Challenge India Design Contest** (Collaboration with Department of Science & Technology (DST) and Indian Institute of Management Bangalore (IIMB)) for year 2016 and received **Chairman's award (Seven lakh rupees)**. The batch also got **five lakh rupees** for product development fund the competition. It also received **twenty lakh rupees seed fund** after getting **incubated at IIMB** (Indian Institute of Management Bangalore). Abstract of the project is furnished below.

There are many challenges faced in Aquaculture and mainly when it comes to Shrimp culture, the sustainability issues are high. Shrimp culture being practiced today in many parts of the world involves high energy use, carbon footprints and unsustainable water management practices. Monitoring of Water Quality and optimized use of resources is the main key to increase the productivity and yielding quality shrimps. Innovation in the project gives the ultimate solution towards sustainability through continuous monitoring of vital water parameters and optimized resource utilization. It aims towards drawing a general trend and evolving the best strategies bringing down the risk factor involved and intimating the farmers regarding the problems that may occur far in advance being applicable to every sector in Aquaculture. The main objective of this invention is to increase the productivity yielding high quality aquatic creatures (shrimps) and automating the pond management system based on our prediction algorithm which thereby helps in taking anticipatory actions towards mortality risk mitigation, optimizes the resource utilization, solving the problem of ineffective human resources and also minimizes power consumption having a cascading effect on reducing the cost of farming with improved productivity.

The projects titled **Low Cost Portable Electronic Device for Plant Nitrogen Deficiency Detection based on Leaf color** (year 2014), **IVRS Based Remote Control of Agricultural Pumpset** (year 2015) and **Transformer Nursing System** (year 2016) qualified for **Semifinals** in **Texas Instruments Innovation Challenge India Design Contest** and received **200 US dollars**.

Project titled **Solar Panel Fault detection and cleaning to improve efficiency** received **Rs.35000/-** for entering **Finals** in **Elecrama16**.

Motivated Third year B.E. EEE students of Sri Ramakrishna Institute of Technology, Coimbatore for fabricating an **Electronic Notice board** for the institution at a cost of Rs.26571/-. This noticeboard is found to be useful in displaying academic and other information to the students throughout the academic year. Same students fabricated an **Electronic Notice board for Basketball Tournament** for the institution at a cost of Rs.42871/- in their final year of study. This noticeboard is used for conducting tournaments.

As a Professor in New Horizon College of Engineering, I motivated two batches of second year B.E. EEE students for **VIT Makeathon 2019,** VIT- Vellore. One Project was shortlisted for finals and another batch went till Prefinal.

Presently guiding the project titled **Smart Agriculture System**. This is **nominated** from the institution to **AICTE-Vishwakarma award 2019**. Abstract of the project is furnished below.

There are a lot of improvements and advancements taking in place in agriculture recently. For efficient growth of plants, not only water but also other factors like organic and inorganic minerals viz. air, sunlight, etc. are important. Farmers are mainly focusing on water rather than minerals, which contribute to approximately 50% of the plant growth. Soil is the main source of minerals. In order to keep track of the composition of minerals present in soil, **"Smart Agriculture System"** is being implemented. The project proposed is being designed to check the composition of minerals present in the soil as well as to give a detailed report and recommend what is required for the plant growth. By using the chemical type sensors, some of the minerals like Nitrogen, Ammonia, pH, Phosphate are checked. This constitutes the major part of the growth of the plant. The distribution and composition of minerals in the soil is monitored. By using GSM and wireless technologies, the recommendations are made available to the farmers which can be understood by them in an easier and efficient way.

h. Projects guided in the last fifteen years

Academic year	Title of the Project
2005-06	Embedded Test Bench for Toroidal Transformer
2005-06	Automated Guided Vehicle
2006-07	Single Phase PWM Inverter Implementation & Harmonic Profile Analysis
2007-08	Simulation and implementation of high efficiency, high step-up DC-DC converters
2007-08	Design and Implementation of compensator for third order system
2008-09	Non- iterative controller for a brushless DC drive system
2009-10	Closed loop position control of brushless DC drive system
2009-10	Object tracking system using GSM and GPS
2010-11	Automatic temperature control and food feeding unit for Pisciculture unit
2010-11	Solar Powered Traffic Lighting
2010-11	Electronics score board for Basket Ball Tournament
2010-11	Parameter Estimation and Controller Tuning of DC Position Control System
2010-11	Artificial Neural Network Based PID controlled BLDC Drive system
2011-12	Non- iterative controller based optimization of BLDC Position control system
2011-12	ANN Based optimization of DC servo position control system with two inertia load
2012-13	Speed Control of BLDC Motor for Automotive Fuel Pump Application
2012-13	Sheet counting and jam detection using Sequential Logic
2013-14	Closed loop field controlled DC motor
2013-14	PLC based speed control of BLDC motor
2014-15	Intelligent Passenger Safety Management in Transportation System
2014-15 (M.E.)	Investigation on the Design aspects of first order controller for Type 1 Third order systems
2014-15 (M.E.)	Control and Energy Monitoring scheme for a stand-alone wind energy conversion system
2015-16 (M.E.)	Arduino based speed control of Brushless DC motor

2015-16 (M.E.)	A simple approach to hardware implementation of three phase SVPWM VSI using MATLAB- Arduino
2015-16	Level control of Interacting systems using Compensators
2016-17	Four Quadrant Operation and Speed Control of BLDC Drive for Automotive Application
2017-18	Swimmer Tracking System
2018-19	Smart water distribution and Management system
2019-20	Smart Agriculture system
2019-20	Automatic Energy saving and Security system

2. Honours, Guest Lectures and Research Reviews

- Secured **93% and Topper (Top 2% among the qualified, 38th rank in India)** in a 8 week **NPTEL online certification course** (August-October 2019) on **Accreditation and Outcome based Learning** conducted by **IIT Kharagpur**.
- Got Certificate of Appreciation for Paper Presentation in **2nd International Conference on Communication, Devices and Computing (ICCDC 2019)**, held at Haldia Institute of Technology, West Bengal during March 14-15, 2019.
- **Chaired a session** in the **International Conference on Innovative Research in Engineering, Management and Sciences, ICIREMS 2019** at Bengaluru on 20.12.2019.
- Secured **83% and Topper (Top 5% among the qualified, 22nd rank in India)** in a 12 week **NPTEL online certification course** (July-October 2017) on **Control Engineering** conducted by **IIT Madras**.
- **Expert** for **NBA mock audit** for BE EEE and ECE at Hindusthan College of Engineering and Technology, Coimbatore on 23.12.2016.
- Motivated a faculty member of EEE Department to coordinate all the Departments of **Sri Ramakrishna Institute of Technology, Coimbatore** in using Virtual Lab. **The institution secured third place in usage of Virtual Lab in Coimbatore Region** for 2014-15.
- Secured **Dr.S.Radhakrishnan Award** for **Outstanding Contribution and Academic Excellence** award by **SRIT (Sri Ramakrishna Institute of Technology) - Alumni association** on 26.01.2015.
- **Chaired a session** in the **International Conference on Advances in Recent Technologies in Communications and Computing**, **ARTCom 2009** at Kottayam, Kerala on 28.10.2009. Chaired sessions for paper presentations in the National level Technical Symposia and National Conferences.

Reviewed more than **30 Research papers** till date in the following **International Journals** from 2012.

Journal of Systems and Control Engineering
Journal of Vibration and Control
Canadian Journal of Electrical and Computer Engineering
Journal of Engineering Manufacture
Transactions of the Institute of Measurement and Control
Asian Journal of Control
International Journal of Science Technology Education Research

Guest Lectures delivered

S.No.	Institution/Organization	Programme	Title	Date(s)
1	Tejaa Shakthi Institute of Technology for Women, Karumathampatti, Coimbatore	Seminar	Advancement in Control Systems	31.03.2010
2	Sri Eshwar College of Engineering, Coimbatore	Seminar	State Variable Analysis and Digital control systems	29.03.2011
3	Kumaraguru College of Technology, Coimbatore	Faculty development Programme on Control systems	Stability and Design of Compensators in Control Systems	17.06.2011
4	SSK College of Engineering and Technology, Coimbatore	Seminar	Control systems	04.02.2012
5	Karpagam Institute of Technology, Coimbatore	Seminar	Digital Image Processing and Control System Applications by Using MATLAB	29.02.2012
6	Sri Ramakrishna Institute of Technology, Coimbatore	Seminar on Educational Objectives and Outcomes	Tips for Effective Delivery	07.07.2012
7	P.A. College of Engineering and Technology, Pollachi	CSIR sponsored workshop	Applications of Electromagnetics	23.01.2013
8	Angel College of Engineering and Technology, Tirupur	Seminar	Control systems	13.02.2013
9	Sri Ramakrishna Institute of Technology, Coimbatore	AICTE Sponsored Faculty development programme on Advanced Control Strategies and Applications	Design of Simple First Order Compensators for Servo systems	14.05.2013
10	Angel College of Engineering and Technology, Tirupur	Seminar	Basics of Electromagnetic Theory	16.09.2013
11	Sri Ramakrishna Institute of Technology, Coimbatore	Seminar for the Faculty members of MCA Department	NBA Accreditation SAR – Criteria I and II preparation	27.11.2013
12	P.A. College of Engineering and Technology, Pollachi	Placement Initiative	Control Systems	26.12.2013

		sessions		
13	P.A. College of Engineering and Technology, Pollachi	Faculty development programme on Electromagnetic Theory	Electrostatics I & II	20.06.2014
14	P.A. College of Engineering and Technology, Pollachi	IETE sponsored One week Faculty development programme on Electromagnetic Field and its Applications	Static Magnetic Field	16.12.2014
15	Sri Ramakrishna Institute of Technology, Coimbatore	New Faculty Induction and Orientation	OBE(Outcome-based Education) and Accreditation	28.05.2016
16	SNR Sons College, Coimbatore	Faculty development programme	Mapping outcomes in Outcome Based Education(OBE)	22.08.2016
17	CSE Department, Sri Ramakrishna Institute of Technology, Coimbatore	Faculty development programme on My Profession, My Commitment, My Life	Accreditation and Quality of Education	17.11.2016
18	EEE Department, KPR Institute of Engineering and Technology, Arasur, Coimbatore	Tamil Nadu State Council for Science and Technology sponsored Two days National Seminar on Emerging Technologies & Recent Research in Power Electronics and its Control	Research Opportunities and Challenges in Control Engineering	08.09.2017

3. Student, Department and Institution Development

a. Mentor for Career Growth

As a mentor for the students, counselled and motivated students. I was instrumental in our EEE Department students achieving the **Best Outgoing student** of **Sri Ramakrishna Institute of Technology, Coimbatore** in 2009, 2011, 2016 and 2018. Some of the students that I mentored have secured prominent positions in their career across the globe. The list of prominent students mentored is furnished below.

Name of the student	Qualification	Remarks	Present Position
Jeevitha Aruchamy	M.S. Electrical Engineering at State University of New York at Buffalo	**Best Ougoing female student** (B.E. EEE) at Sri Ramakrishna Institute of Technology, Coimbatore in 2009	Manager - Global New Region Engineering Planning at Greater Seattle Area in Amazon Web Services
CS Hariharan	B.E. EEE	Student of (B.E. EEE) at Sri Ramakrishna Institute of Technology, Coimbatore from 2003 to 2006	Research and Development Engineer at City Lights Trading LLC, UAE
Jeba Satheesh	B.E. EEE	Student of (B.E. EEE) at Sri Ramakrishna Institute of Technology, Coimbatore from 2005 to 2009	MTS at Amadeus , Bangalore
VP Anand	M.Tech. (Renewable Energy) at CSIR	Student of (B.E. EEE) at Sri Ramakrishna Institute of Technology, Coimbatore from 2007 to 2011	Scientist, CSIR Central Scientific Instruments Organisation (Chennai Centre), Coordinator - Common Resource and Technological Development Hub in Renewable energy, CSIR Road, CSIR Madras Complex, Chennai
Aswin Viswanathan	B.E. EEE	Student of (B.E. EEE) at Sri Ramakrishna Institute of Technology, Coimbatore from 2003 to 2006	Project Coordinator, EPC Fire Fighting Systems, Zener Fire & Security LLC, Dubai
Gowthaman Sakkaraiappan	M.S. Electrical Engineering at University of Leeds, London	Student of (B.E. EEE) at Sri Ramakrishna Institute of Technology, Coimbatore from 2005 to 2009	Manager, Pharmaceutical/ Clinical Recruitment at LanceSoft, Inc. Herndon, Virginia
Jairam Ramakrishnan	M.Sc., Sustainable Energy-Electrical Energy Systems at Danmarks Tekniske Universitet	Student of (B.E. EEE) at Sri Ramakrishna Institute of Technology, Coimbatore from 2010 to 2014	India Smart Cities Fellow at Ministry of Housing and Urban Affairs (MoHUA), Government of India
RC Karthikeyan	B.E. EEE	Student of (B.E. EEE) at Sri Ramakrishna	Senior Product Development Engineer

		Institute of Technology, Coimbatore from 2009 to 2013	at Lucas TVS, Chennai
S Hariprasath	Advanced Master in Embedded Systems, ISAE-SUPAERO	Student of (B.E. ECE) at Sri Ramakrishna Institute of Technology, Coimbatore from 2005 to 2009	Cockpit Systems Designer-Airbus R&T, Altran
Sushil Kumar Paulpandi	B.E. EEE	Students of (B.E. EEE) at Sri Ramakrishna Institute of Technology, Coimbatore from 2013 to 2017	Start-up company with full financial support of Texas Instruments
N Saravanan			
J Christob Arputharaj			
C Ramesh Anand			

b. Teaching Practices

Employed Piazza classroom (Teaching-Learning process) for the courses viz. electromagnetic theory, control systems and advanced control system. Used Google classroom for linear control systems.

Used to introduce any lecture session emphasising the session outcome. Used to employ analogies for better learning and connecting the new topic to the already learnt topics. Employed Video lectures for teaching few topics. Promoted Project based learning, Team learning and Peer Learning.

c. Curriculum Development and New Courses Introduced

As Head of EEE Department at Sri Ramakrishna Institute of Technology, I was instrumental in framing curriculum and syllabus for the first batch of autonomous system. Introduced new courses in CBCS (Choice Based Credit System). Modification in syllabus was also done.

As Head of EEE Department at Sri Ramakrishna Institute of Technology, I was instrumental in coordinating different programmes and prepared application for obtaining autonomous status of the institution in 2017.

d. Accreditation

As Head of EEE Department at Sri Ramakrishna Institute of Technology, I was instrumental in coordinating various departments for preparing SSR and the institution secured **NAAC** with **A** Grade (**3.39**) in 2015.

I attended few workshops on OBE (Outcome Based Education). This facilitated me in understanding SAR in new OBE format (Year 2013).

I was instrumental in formulating **Rubrics based Assessment** for Project, Industrial Visits, Internship and co-curricular activities, etc.

I played crucial role in formulation of Course End Survey, Student Exit Survey and Alumni Survey.

I implemented following the lecture plan emphasising COs (Course Outcomes). Also introduced and implemented strategies for OBE based assessment in Internal Examination and Project Reviews from 2013. For this, internal examination question papers were scrutinized by the course coordinator, module coordinator and program coordinator.

I streamlined EEE Department Administration by systematic documentation procedure. I restructured the file management system from the point of view of NBA. I was involved in formulating contents for program specific files.

I delivered number of presentations to the EEE Department faculty members to understand the preparation of documents and SAR for NBA in new format.

I was also involved in internal audit with other senior faculty members for further tuning of the preparation for facing expert committee.

As a **Program Coordinator** of B.E. EEE and **HoD/EEE**, I was instrumental in getting **NBA accreditation** of **B.E. EEE** for **three years** from July 2016.

e. New Program introduced and Research Centre

As Head of EEE Department at Sri Ramakrishna Institute of Technology, I was instrumental in introducing M.E. Power Systems Engineering from academic year 2013-14.

After obtaining Ph.D. in July 2014, I took initiative to recognise **EEE Department** as a **Research Centre of Anna University-Chennai** in 2015.

f. Infrastructural development

I was instrumental in establishing Control Systems laboratory, Power Electronics Laboratory, Instrumentation Laboratory and Solar laboratory in EEE Department of Sri Ramakrishna Institute of Technology.

As Head of EEE Department at Sri Ramakrishna Institute of Technology, I was involved in installing a solar battery charging system with 1KW solar panel for establishing Solar laboratory with the partial financial support from Udhaya Semiconductors, Coimbatore. Many solar based student projects were carried out using this facility. Student Project titled **Solar Panel Fault detection and cleaning to improve efficiency** received **Rs.35000/-** for entering **Finals** in **Elecrama16**.

As Head of EEE Department at Sri Ramakrishna Institute of Technology, I received funding of **Eleven lakh Rupees** from **AICTE** under **MODROBS** scheme in 2013. Using the fund, Electrical Machines Laboratory was modernized with Power Quality Analyzer, Digital Ammeters, Voltmeters, Wattmeters, frequency meter, Multifunction meter, Salient and Non Salient pole Alternators, Brushless DC Motor, Switched Reluctance Motor, Single and Three Phase Capacitive loads. The Modernization of Electrical Machines laboratory enhanced the upgradation of facilities in the department of Electrical and Electronics Engineering. Initially, the department has used the conventional analog meters for voltage, current and power measurement. Then the students were able to do experiments using digital meters for voltage, current and power measurement. Further, the special machines such as Brushless DC motor and Switched Reluctance motor are found to be very useful for doing experiments beyond the curriculum. Moreover, the students used these equipments and machines for their project work.

As Head of EEE Department at Sri Ramakrishna Institute of Technology, I played significant role in spending over thirty lakh rupees for development of infrastructure, faculty and students.

g. Consultancy Projects

As Head of EEE Department at Sri Ramakrishna Institute of Technology, I was instrumental in completing a six months Consultancy Project (**Rs.75000/-**) titled **Development of Loop Powered DC Signal Current Isolator for Process Instrumentation and Control Applications** from **Sertel Electronics, Chennai**.

I also played significant role in carrying out another one year Consultancy Project (**Rs.200000/-**) titled **Development of Steam Leak Detection System for Power Boiler Application** from **Micromax Systems, Trichy**.

Other consultancy works (Rs.90000/-) viz. **Preparation of Operation and Maintenance manual of a passive filter panel for harmonic control in Induction furnace** installed in RSM Autokast, Coimbatore and **Development of Professional Website with Online Calculators** were carried out for Foretec Engineers, Coimbatore were also carried out.

h. MoU established with Foreign University

As Head of EEE Department at Sri Ramakrishna Institute of Technology, I was instrumental in establishing MoU between Sri Ramakrishna Institute of Technology and Universiti Malaysia Perlis (UniMAP) in 2017. The following objectives were identified as a part of MoU.

- Regular exchange of resource and knowledge.
- Tapping of potentials of human resources which contribute to mutual benefits.
- Joint effort to identify avenues for improving the relationship.
- Striving to achieve the mission and work on the path of vision to maintain the quality policy of both the institutions.

The above objectives were expected to get accomplished through R&D Collaboration, OBE Implementation at Sri Ramakrishna Institute of Technology, Academic Exchange Programme, Internship of Students and Undertaking Final Year Projects at UniMAP.

i. Achievements as Head of EEE Department

As Head of EEE Department at Sri Ramakrishna Institute of Technology, I conducted 3 national conferences, 6 Technical Symposia, 15 Professional Society events, 8 Faculty Development Programmes, 30 Guest Lectures, 6 Seminars, 10 Workshops, 15 Value Added Programmes.

More than 50 students could get online MOOC certification courses.

4 faculty members could get online certifications. 3 Patents could be filed by the faculty members.

2 faculty members could get Ph.D.

6 faculty members were pursuing Ph.D.

On an average, faculty members could serve in the Department for more than 5 years. Faculty retention was good.

Average CTC of the student placed could increase from Rs. 2 lakh in 2012 to Rs. 4 lakh in 2017.

Faculty publications improved in terms of quality as well as quantity.

Funding of over Rs.20 Lakh was received for Consultancy, Lab Modernizations, Conduct of FDP and Seminar.

I was instrumental in obtaining NAAC (2015) and Autonomous status (2017) to the institution. EEE Department became a recognized Research Centre of Anna University, Chennai (2015). B.E. obtained OBE based NBA accreditation for three years.

I was one of the Internal Auditors for academic audit of other departments.

I was one of the reviewers for reviewing UG and PG Project Work.

j. Responsibilities – New Horizon College of Engineering

- IQAC – Department Coordinator
- Project Review Expert – Department Coordinator
- R&D – Department Coordinator

- Member in BoS, BoE and DAC
- NBA Coordinator, Module Coordinator
- Chair Person – Class Committee
- Formulated Rubrics for Internship, Project and Industrial Visit.
- Prepared guidelines for effective documentation and database management.
- Exposure on OBE based Assessment to the faculty members
- Instrumental in restructuring Department file management system
- Generalised guidelines of OBE based Assessment for CIE and SEE.
- Mentor for students
- Instrumental in revising the syllabi from Academic year 2019-20
- Introduced new experiments in Linear Control Systems Laboratory with emphasis on application of Integrated Circuits to Control systems. Pspice and MatLab are employed effectively.

4. Interaction with Eminent Experts

In connection with MoU between Sri Ramakrishna Institute of Technology and Universiti Malaysia Perlis (UniMAP), I interacted with Dr. Abu Hassan bin Abdullah - Dean (Academic and Research), Dr. Shafriza Nisha Bin Basah - Deputy Dean (Academic and Research) and Dr. Muhammed Juhairi Aziz Safar - Program Coordinator of School of Mechatronics Engineering, UniMAP. They agreed to visit Sri Ramakrishna Institute of Technology on 17.09.2016 and shared their research experience with the faculty members of Sri Ramakrishna Institute of Technology.

In connection with International Conference on Ingenious Innovations in Science, Technology, Engineering, Mathematics, Management and Health Sciences (I^2STEM^2HS),an interaction was made with Prof. Dr. Sazali bin Yaacob, Professor, Electrical, Electronics & Automation Section, Universiti Kuala Lumpur, Malaysian Spanish Institute and Prof. Dr. Ali Yeon bin Md Shakaff, Professor (Mechatronic Engineering), Universiti Malaysia Perlis. Interaction was also made with Prof. N. Siva Prasad, Director, GITAM School of Technology, GITAM University, Hyderabad Campus and Dr. S.K. Pattanaik, Associate Professor, Dept. of EEE, CEG Campus, Anna University, Chennai. They agreed to play the role as key note speakers for the conference.

I received Rs.402277 from AICTE and organised Faculty Development Programme on Advanced Control Strategies and Applications from 13.05.2013 to 26.05.2013. The experts in the area of control systems are invited from IIT-Madras, IIT-Kharagpur, NIT-Trichy, NIT-Calicut, Amrita University-Coimbatore, PSG College of Technology-Coimbatore, Government College of Technology-Coimbatore and other premier institutions. Dr. M.Chidambaram, IIT-Madras, Dr.V.Sankaranarayanan, NIT-Trichy, Dr.Susy Thomas, NIT-Calicut, Dr.K.Umapathy, NIT-Trichy and Dr.N.Sivakumaran, NIT-Trichy were some of the resource persons for the programme.

I got financial assistance of Rs.150000/- from AICTE for conducting National Seminar on Soft Computing Techniques for Engineering Applications on 10.10.2013 and 11.10.2013. Experts were invited from NIT-Trichy, Anna University, Coimbatore, Karunya University, Coimbatore, Amrita Vishwa Vidyapeetham, Coimbatore, Innovatus Systems-Coimbatore, Micromax Systems-Trichy.

As a Professor at KPR Institute of Engineering and Technology, Coimbatore, I have taken initiative to have long term interaction with Roots Industries India Limited, Coimbatore. In this connection, I invited Mr.N.Sampathkumar, Head–Training & Career Advancement and Mr.K.S.Raguram, Head-Corporate Quality, Roots Industries India Limited, Coimbatore to interact with faculty members of EEE and Mech. Departments on 07.08.2017. They explained about their organization, policies and products. They have

agreed to give training to our faculty members and students on industrial practices ands standards. They also agreed to design short term employment enhancement courses for the students.

As a Professor at New Horizon College of Engineering, Bengaluru, I visited Tessolve semiconductor Company, Bengaluru on 10.01.2019. I could interact with Mr.Ram Jonnavithula, Vice President of Engineering, Tessolve Semiconductor Company. He was happy to contribute in framing curriculum and syllabi in the broader areas of integrated chips-fabrication, testing and development. He came forward to offer internship to one final year student in this year and few more students in the next academic year.

I visited Festo Didactic, Bengaluru on 17.06.2019 along with French Professor, Dr.Philippe Calonnec, Director of Indo French Schneider Center of Excellence at New Horizon College of Engineering, Bengaluru. The visit was made to understand the industrial automation process in the company. It was decided to have further interaction for implementing few facilities in the institution and create new Centre of Excellence.

5. Other Statistics

a. Membership in Professional bodies / Societies

S.No.	Name of the Professional body	Membership details
1	ISTE	Life member (LM 29133)

b. Participation in National/International Conferences

- Participated in the **IEEE Sponsored National Conference on Intelligent Systems, Automation & Signal Processing,** at RMD Engineering College, Kavaraipettai on 01.03.2003.
- **Chaired a session** in the **International Conference on Advances in Recent Technologies in Communications and Computing**, **ARTCom 2009** at Kottayam, Kerala on 28.10.2009. Chaired sessions for paper presentations in the National level Technical Symposia and National Conferences.
- Participated in the Sixth **IEEE Sponsored International Conference on Technology for Education**, at Amrita University, Amritapuri from 18.12.2014 to 21.12.2014.

c. Major Seminars / Workshops / Conferences Organized

S.No.	Title of Seminar/ Workshop/ Conferences	Contribution	Resource Persons	Participants	Date(s)
1	One day workshop on Educational Utilization of Standards	Coordinator	Experts from Bureau of Indian Standards, Coimbatore and Roots Industries, Coimbatore.	Hundred students of various institutions	14.03.2006
2	First National Conference on Communication, Computation, Control and Automation (CCCA)	Organizing Secretary		Research scholars, students and Industrial experts	25.04.2008 and 26.04.2008
3	Second National Conference on	Organizing Secretary		Research scholars,	23.04.2010 and

	Communication, Computation, Control and Automation (CCCA)			students and Industrial experts	24.04.2010
4	Third National Conference on Communication, Computation, Control and Automation (CCCA)	Technical Chair		Research scholars, students and Industrial experts	09.03.2012 and 10.03.2012
5	Two days Workshop on Graphical System Design using LabVIEW		Mr.J.Visveswaran, Academic Technical Consultant, National Instruments, Bengaluru.	Students	19.12.2012 and 20.12.2012
6	AICTE Sponsored Faculty Development Programme on Advanced Control Strategies and applications	Convenor	Experts from IIT-Madras, IIT-Kharagpur, NIT-Calicut, NIT-Trichy, PSG College of Technology, Coimbatore, Coimbatore Institute of Technology, Coimbatore, Government College of Technology, Coimbatore, Amrita Vishwa Vidyapeetham, Coimbatore.	Faculty members in Engineering Colleges	13.05.2013 to 26.05.2013
7	AICTE Sponsored National Seminar on Soft Computing Techniques for Engineering Applications	Convenor	Experts from NIT-Trichy, Anna University, Coimbatore, Karunya University, Coimbatore, Amrita Vishwa Vidyapeetham, Coimbatore, Innovatus Systems-	Students and Faculty members in Engineering Colleges	10.10.2013 and 11.10.2013

			Coimbatore, Micromax Systems-Trichy.		
8	Fourth National Conference on Communication, Computation, Control and Automation (CCCA)	Technical Chair		Research scholars, students and Industrial experts	28.03.2014 and 29.03.2014
9	National Workshop on Control Techniques for Hybrid Electric vehicles	Convenor	Experts from Practising Engineer and Academician	Students	23.03.2018

d. Courses Handled

S.No.	Course
1	Control Systems
2	Circuit Theory
3	Network Analysis and Synthesis
4	Advanced Control Theory
5	System Theory (M.E.)
6	Electrical Engineering
7	Electrical Engineering and Control Systems
8	Electromagnetic Theory
9	Digital Signal Processing
10	Solid State Drives
11	Linear Integrated Circuits and Applications
12	Digital Electronics
13	Electron Devices
14	PLC and Industrial Automation
15	Numerical methods
16	Power Electronics
17	Soft Computing Techniques(M.E.)
18	Electrical Machines I
19	Control System Engineering
20	Basics of Electrical and Electronics Engineering
21	Measurements and Instrumentation
22	Utilization of Electrical Energy
23	Linear Control Systems with Laboratory
24	Control Systems laboratory
25	Power Electronics laboratory
26	Electrical Engineering laboratory
27	Engineering Practices laboratory
28	Electric Circuits laboratory
29	Electron Devices laboratory

e. Participation in Faculty Development Programmes

S.No.	Organizing	Venue	Title	Date(s)

	Institution			
1	Anna University, Chennai	Kongu Engineering College, Perundurai	Electromagnetic Theory	09.06.2003 to 13.06.2003
2	Sri Ramakrishna Institute of Technology, Coimbatore	Sri Ramakrishna Institute of Technology, Coimbatore	Strategies for Effective Teaching	10.06.2005 and 11.06.2005
3	Anna University, Chennai	Bannari Amman Institute of Technology, Sathyamangalam	Digital Signal Processing	19.11.2007 to 01.12.2007
4	Indo-US Engineering Faculty Leadership Institute	Infosys Mysore Center	Course on Introduction to Modern Electric Energy Systems	06.07.2009 to 10.07.2009
5	CII Coimbatore Zone and CII Institute of Quality, Bangalore	The Residency, Coimbatore	Regional Summit on Quality in Education	11.11.2011 and 12.11.2011
6	IIT-Madras, Chennai	IIT-Madras, Chennai	Self-awareness and Higher Goals in education	02.06.2014 to 06.06.2014
7	IIT-Kharagpur	Sri Ramakrishna Institute of Technology, Coimbatore	ISTE Workshop on Control Systems	02.12.2014 to 12.12.2014
8	NPTEL and IIT-Madras	IIT-Madras through online mode	Control Engineering	Jul-Oct 2017
9	Quality Assessment and Skill Development Center, New Horizon College of Engineering, Bengaluru	New Horizon College of Engineering, Bengaluru	Performance Enhancement	06.09.2018 and 07.09.2018
10	Quality Assessment and Skill Development Center, New Horizon College of Engineering, Bengaluru	New Horizon College of Engineering, Bengaluru	Promoting varied approaches for teaching-learning process	09.01.2019 to 18.01.2019
11	NPTEL and IIT-Madras	IIT-Madras through online mode	Effective Engineering Teaching in Practice	Jan-Feb 2019
12	NPTEL and IIT-Kharagpur	IIT-Kharagpur through online mode	Industrial Automation and Control	Jan-Apr 2019
13	NPTEL and IIT-Kharagpur	IIT-Kharagpur through online mode	Accreditation and Outcome based Learning	August-October 2019

f. Participation in Summer/Winter schools

AICTE-ISTE Winter school on **Computer Aided Design, Simulation and Control of Power Electronics Systems** held at Coimbatore Institute of Technology, Coimbatore from 30.11.1997 to 13.12.1997.

g. Participation in Workshops/Seminars/Conferences

S.No.	Organizing Institution	Venue	Title	Date(s)
1	ISTE – Tamilnadu & Pondicherry section	Kongu Engineering College, Perundurai	First Annual Convention	01.08.1998
2	PSG College of Technology, Coimbatore	PSG College of Technology, Coimbatore	DSP Education Symposium 2002	19.01.2002 and 20.01.2002
3	Sri Ramakrishna Engineering College, Coimbatore-22, CODISSIA and TNEB, Coimbatore region	Sri Ramakrishna Engineering College, Coimbatore	One day workshop on Energy Management and Power factor Control in Electrical Systems	05.02.2005
4	ISTE – Tamilnadu & Pondicherry section	PSNA College of Engineering, Dindugul	Eighth Annual Convention– Innovations in Engineering Education – Trends and Focus	28.10.2005 and 29.10.2005
5	CII and Infosys	Hotel Leela Palace, Bangalore	Fourth India Innovation Summit 2008	20.06.2008 and 21.06.2008
6	WIPRO MISSION 10X	Coimbatore Institute of Engineering and Technology, Coimbatore	Workshop on High Impact Teaching Skills	10.11.2008 and 11.11.2008
7	University of Moratuwa, Sri Lanka	Galle Face Hotel, Colombo, Sri Lanka	Fourth IEEE International conference on Information and Automation for Sustainability (ICIAfS 2008)	12.12.2008 to 14.12.2008
8	Anna University, Coimbatore	Kumaraguru College of Technology, Coimbatore	Training Workshop for Academic Auditors	27.01.2009 and 28.01.2009
9	Tea Trade Association, Coimbatore	Tea Trade Association, Coimbatore	One day training programme on Thermal Energy Audit Using the Einstein Audit Methodology	10.02.2009
10	The Association of Computer Electronics and Electrical	Kottayam, Kerala, India	2009 IEEE International conference on	27.10.2009 and 28.10.2009

	Engineers (ACEEE)		Advances in Recent Technologies in Communication & Computing (ARTCom 2009)	
11	National Instruments, Bangalore	Chennai Trade Centre	Seminar on Annual technical forum for Faculty and Research Scholars	14.12.2010
12	Sri Ramakrishna Institute of Technology, Coimbatore	Sri Ramakrishna Institute of Technology, Coimbatore	Workshop on Need Based Approach for Effective Teaching	21.06.2011
13	IIT-Bombay	Sri Ramakrishna Institute of Technology, Coimbatore	ISTE Workshop on Aakash for Education	10.11.2012 and 11.11.2012
14	IUCEE and BMS College of Engineering, Bengaluru	BMS College of Engineering, Bengaluru	Two days Workshop on Outcomes-Based Education	02.08.2015 and 03.08.2015
15	KPR Institute of Engineering and Technology, Arasur, Coimbatore	KPR Institute of Engineering and Technology, Arasur, Coimbatore	Workshop on eCurricula	16.06.2017 and 17.06.2017
16	Haldia Institute of Technology, Haldia, West Bengal	Haldia Institute of Technology, Haldia, West Bengal	Second International Conference on Communication, Devices and Computing (ICCDC 2019)	14.03.2019 and 15.03.2019
17	National Institute of Technology, Calicut	National Institute of Technology, Calicut	Workshop on Delve into the future of Electric Vehicles	15.03.2019 and 16.03.2019
18	New Horizon College of Engineering, Bengaluru	New Horizon College of Engineering, Bengaluru	International Seminar on MHRD Model Curriculum on Latest Technologies	03.09.2019
19	IISc-Bengaluru	IISc-Bengaluru	International Workshop on IEEE Authorship Workshop-India	09.09.2019
20	New Horizon College of Engineering, Bengaluru	New Horizon College of Engineering, Bengaluru	International Conference on Innovative Research in Engineering, Management and Sciences (ICIREMS 2019)	19.12.2019 to 21.12.2019

h. Personal information

Marital Status: Married **Spouse:** M.Com. and Home Maker
Child: 1 daughter studying 8th standard **Siblings:** 4 Elder Sisters (Married and settled)
Parents: Father (Mr. A.K. Chandramouleeswaran, Not alive) and
Mother (Ms. A. Nagarathinam, 85 years)
Community and Caste: Brahmin Iyer **Native:** Coimbatore
Blood Group: A1+ve **Passport No.:** S2948761 **PAN No.:** AKIPG6408N
UAN No.:101104213210 **Aadhar No.:** 787069502938
Languages known: English and Tamil

i. References

1. **Dr.Sanjib Kumar Pattanaik,** **Director, Centre for Academic Courses, Anna University** Professor, Dept. of EEE- C&I Divn., College of Engineering, Guindy, Anna University, Chennai and **Former Director, AICTE, New Delhi** Ph:7358003573	2. Dr.R.Joseph Xavier, Former Principal, Sri Ramakrishna Institute of Technology, Coimbatore Ph:9842618005
3. Dr.R.Jayapal, Former Dean(Research), Sri Ramakrishna Institute of Technology, Coimbatore and Former Additional General Manager, BHEL, Trichy Ph:9994687310	4. Dr.T.Manigandan, Principal, PA College of Engineering and Technology, Pollachi Ph:9443584648
5. Dr.S.Ramkumar, Professor and Head/EEE Department, New Horizon College of Engineering, Bengaluru Ph:9444155592	6. Dr.K.R.Jothi, Associate Professor, School of Computer Science and Engineering, VIT-Vellore Ph:9894819491

j. Address for Communication

Dr.C.Ganesh, C3, Third floor, Anisha Kuteer, 6th 'E' cross, Kaggadasapura, Bengaluru - 560093.

k. Permanent Address

Dr.C.Ganesh, 4/35, Kaliappa Gounder Street, NGGO Colony, Coimbatore - 641022.

E-mail: c.ganesh.mtech72@gmail.com, c.ganesh.srit@gmail.com

Ph: 9994347426

Declaration

I hereby declare that all the statements made in my Resume are true to the best of my knowledge and belief.

Best Regards,