



Indra Ganesan

COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
Accredited by NAAC with 'B+' Grade, 2(f) and 12 B Status Institution by UGC

IG Valley, Madurai Main Road, Manikandam, Tiruchirappalli - 620 012

ENGNEWS

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From Secretary's Desk....



Er. G. Rajaseakaran
Secretary
Indra Ganesan Institutions

The college aims to infuse the spirit of wonder and discovery into the teaching -learning process. Interdepartmental collaborative ventures, interface between faculty students and the exchange programme have synergized the march of IGCE to reach out every individual to come out with their full potential. They have helped to enhance qualitative change ensuring substantial growth.

From Director's Desk....



Dr. G. Balakrishnan
Director
Indra Ganesan Institutions

Successful and happy individuals build a successful nation. That strong foundation is good education. Because, in education lies the biggest service to the individual, to the nation and to humanity in the worldwide. IGCE with best education and infrastructure which will help them to face the complexity of life after completing the studies. Not only do we inculcate in them the best of creative and technical qualification, we also teach them indispensable human qualities.

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Dr. C. Soundar Rajan., HoD/MBA



DEPARTMNET OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Mou was signed in the presence of our respected Principal, Dr.G.Balakrishnan, with Judha Code Technologies, located at Trichy, Tamil Nadu, a company involved in cutting-edge technological solutions, training, software development, and consultancy services on 13.6.2025. The purpose of this MoU is to establish a cooperative relationship between IGCE and Jodha Technologies to foster collaboration in the fields of training, skill development, research, internships, and placement opportunities for students.



Incubation Centre: In connection with MoU, Incubation Centre of our Institution has been inaugurated on **16.6.2025** with collaboration of Judha Technologies, Trichy. Our Honorable Secretary, inaugurated and our Respected Principal presided over the function. The purpose of an Incubation Centre is to nurture innovation, foster entrepreneurship, Bridge Academia and Industry, Conduct workshops, boot camps, and training programs, Enhance employability and self-employment skills among students'.and support early-stage start-ups by providing them with the necessary resources, mentorship, and infrastructure.

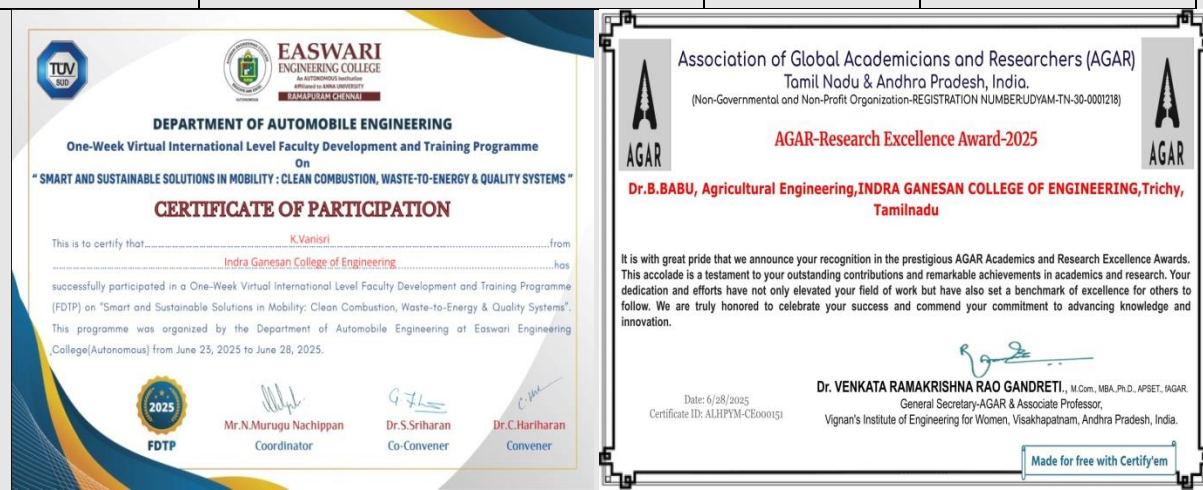


Department of Agricultural Engineering

S. No	Date	Title	Faculty Name	Book/Book Chapter/Journal/ Patent
1	28.6.2025	Underground water pumping model for Agricultural Farming	Dr B Babu, Mrs K vanisri, Dr S Sumathra	International Conference
2	28.6.2025	AGAR-Research Excellence Award	Dr B Babu	Award



Date	Title	Conducted by	Faculty participated
23.6.25 - 28.6.25	Smart and Sustainable solutions in mobility: Clean Combustion, Waste to Energy & Quality systems	Easwari Engineering College	Mrs K Vanisri
20.6.25- 25.6.25	Research Methodology A pathway to excellence	JP college of Arts and Science	Dr B Babu



DEPARTMENT OF BIO MEDICAL ENGINEERING

Students of II Year Biomedical Engineering Undergone Internship In SASTRA Deemed University Thanjavur. The Title is EEG Data analysis, on 09.06.20215 to 09.07.2025.

Sastra Deemed University Thanjavur Internship



Five days FDP attended by all of our BME Staffs On **"Advanced Research Methodologies: Strategies for Teaching and Practice"** Organized by Sacred Heart College (Autonomous), Tirupattur (635601)



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
AND
DEPARTMENT OF BIOMEDICAL ENGINEERING**

The Department of Electronics and Communication Engineering and Biomedical Engineering successfully conducted the Second Board of Studies (BoS) meeting on 18.06.2025 at 11.00am in the Electric Vehicle lab to review and update the curriculum, syllabus, and academic practices. The BoS meeting aimed to ensure that our academic framework alignment and Syllabus with current industry standards and strong base on fundamentals.

We honoured the following eminent members

1. Dr.P.Palanisamy Professor, ECE, NIT, Trichy - Subject Expert.
2. Dr.T.S.Murugesh , Associate Professor, ECE,GCE Srirangam - Expert from Specialized Courses
3. Mr.Syed Ibrahim Abdul Rajak,Regional Manager –South India Advanced Reality Solutions(Chennai) – Dassault Systems (France)
4. Dr. Koushick VenkateshVel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology Chennai – BME, Subject Expert.



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

U. Aaroothira IV ECE, S.Alagusundari IV ECE, K.Meenakshi Devi IV ECE and M.Jeeva III BME student of Indra Ganesan College of Engineering - Trichy In appreciation of their successful internship at Sastra Deemed to be University, Thanjavur. The internship was conducted from 9th June, 2025 to 9th July, 2025 in the Bio-Signal and Image Processing lab under DST SERB project - CRG/ 2022/ 007233. We appreciate your hard work, dedication, and valuable contributions during this intern.



CERTIFICATE OF INTERNSHIP

We present this certificate to
MEENAKSHI DEVI K
(Reg No:811222106021)



student of Indra Ganesan College of Engineering - Trichy

In appreciation of your successful internship at
Sastra Deemed to be University, Thanjavur

The internship was conducted from 9th June, 2025 to 9th July, 2025 in the
Bio-Signal and Image Processing lab under DST SERB project -
CRG/2022/007233. We appreciate your hard work, dedication, and valuable
contributions during this internship period.


Dr. G. Balasubramanian
SEEE/EIE/ACP
Co-Principal Investigator


Dr. N. R. Raajan
SEEE/ECE/ACP
Principal Investigator


CERTIFICATE OF INTERNSHIP


We present this certificate to
ALAGUSUNDARI S
(Reg No:811222106003)

student of Indra Ganesan College of Engineering - Trichy

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Dr. G. Balasubramanian
SEEE/EIE/ACP
Co-Principal Investigator


Dr. N. R. Raajan
SEEE/ECE/ACP
Principal Investigator

CERTIFICATE OF INTERNSHIP

We present this certificate to
AAROOTHIRA U
(Reg No:811222106001)

student of Indra Ganesan College of Engineering - Trichy

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Dr. G. Balasubramanian
SEEE/EIE/ACP
Co-Principal Investigator


Dr. N. R. Raajan
SEEE/ECE/ACP
Principal Investigator

CERTIFICATE OF INTERNSHIP

We present this certificate to
JEEVA M
(Reg No:811223121021)

student of Indra Ganesan College of Engineering - Trichy

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Sastra Deemed to be University, Thanjavur

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Dr. G. Balasubramanian
SEEE/EIE/ACP
Co-Principal Investigator


Dr. N. R. Raajan
SEEE/ECE/ACP
Principal Investigator

Department of Information Technology

The meeting of the UG Board of Studies for the Department of Information Technology was conducted on 18th June 2025 by 11.00am at board room. The Chairman of the Board of Studies in the Department of Information Technology welcomed the board members and thanked them for dedicating their valuable time to enhance the academic excellence of the department. As part of the meeting agenda, the proposed syllabus for the Academic Year 2025–2026 was presented for deliberation.

It was our honor to host the following eminent members:

Dr. M. Suguna, Anna University Nominee, Associate Professor – IT, Thiagarajar College of Engineering, Madurai.

Dr. A. Ramachandran, Subject Expert, Assistant Professor – CSE, University College of Engineering, Anna University, Panruti, Cuddalore.

The following points were the discussed in the BOS Meeting:

1. The Chairperson of the Board of Studies (BOS), Mr. J. Durai Chinnappan, who also serves as the Head of the Department of Information Technology at Indra Ganesan College of Engineering, welcomed the BOS members and provided a brief introduction about the college
2. The actions taken based on the suggestions from the 2nd Board of Studies meeting were reviewed and found to be satisfactory.
3. The revised curriculum structure for the B.Tech. Information Technology program was presented.
4. The course objectives and outcomes should be clearly articulated to align with the intended learning achievements.
5. Meeting was concluded by the Chairperson by thanking the BOS members for their valuable suggestions for enhancing the curriculum and syllabi.



DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

1. Workshop/FDP/Conference participation by the faculty

Event Name	Date	Title	Conducted by	Faculty participated
International Conference on Emerging Technology at Pune	9th to 11th May	Deep Learning-Driven Smart Pedagogy and Assessment: A Quality Framework for Outcome-Based Education in Higher Education.	IEEE, PUNE	Dr. G. Balakrishnan
International Profile Published		Asian Admirable Achievers.	International Publication	Dr. G. Balakrishnan

DYP DPU
Dr. D. Y. Patil Institute of Technology
Pimpri, Pune

2025 Global Conference in Emerging Technology (GINOTECH)



9th– 11th May 2025

Certificate

*This is to certify that Dr./Prof./Mr./Ms. **G Balakrishnan** has presented paper entitled **Deep Learning-Driven Smart Pedagogy and Assessment: A Quality Framework for Outcome-Based Education in Higher Education** in 2025 Global Conference in Emerging Technology (GINOTECH) during 9th to 11th May 2025.*

Dr. D. G. Bhalke
Conference Chair

Dr. Nitin P. Sherje
General Chair

2. Book/ Book Chapter/Journal Publications/Patents/Funding Proposal by the faculty

S.No	Publishing Date	Title	Faculty Name	Book/Book Chapter/Journal/ Patent
1.	June 2025	A HYBRID OPTIMIZATION-BASED SHORTEST DISTANCE ROUTING FOR THE VISUALLY IMPAIRED PERSON	Dr. G. Balakrishnan, Mrs. T. Suagshini, Ms. J. Jenifer	Industrial Engineering Journal ISSN: 0970-2555 Volume : 54, Issue 6, June : 2025
2	AI in Precision Healthcare: A New Frontier	Dr. G. Balakrishnan Dr. S. Mohan Kumar	Book - Published by Jupiter Publication	AI in Precision Healthcare: A New Frontier

Asian Admirable Achievers

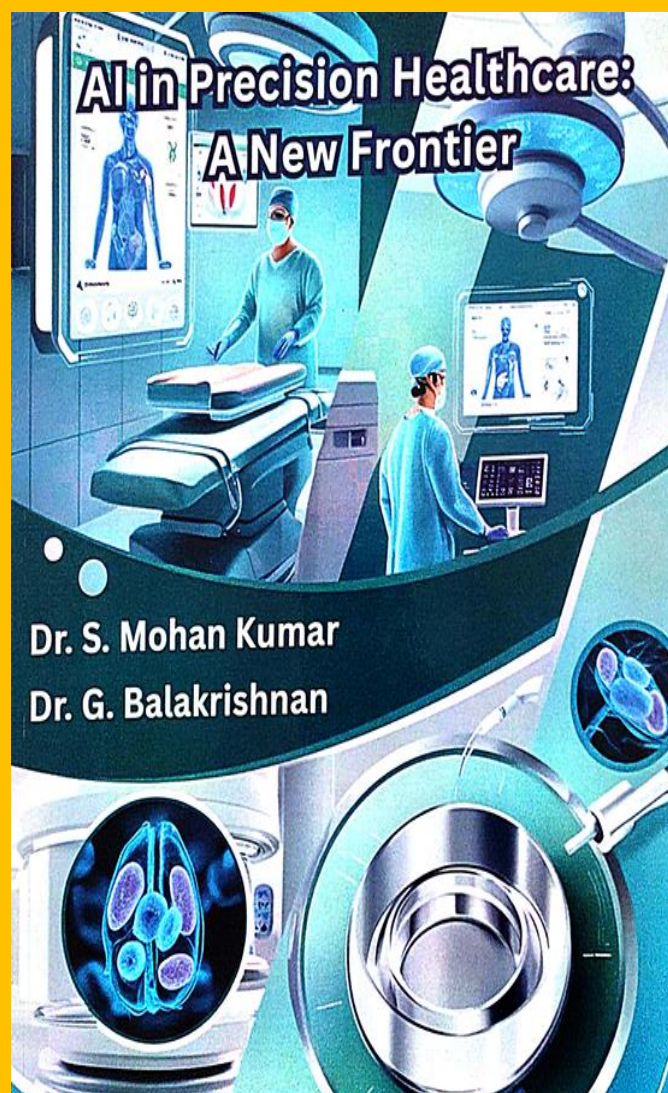
Volume XIII

Ravi Bhushan
Compiling Editor



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A HYBRID OPTIMIZATION-BASED SHORTEST DISTANCE ROUTING FOR THE VISUALLY IMPAIRED PERSON

T. SUGASHINI

AP/CSE, Indra Ganesan College of
Engineering, Manikandam, Trichy

J. JENIFER

AP/CSE, Indra Ganesan College of
Engineering, Manikandam, Trichy

Dr. G. BALAKRISHNAN

Professor/CSE, Indra Ganesan College of Engineering, Manikandam, Trichy

Abstract

The major goal of this article is to create a system that will make the life of a blind person easier and more enjoyable. In this, a solution has been suggested that would assist these visually handicapped persons to travel around the place. This system has two modules: one that provides guidance and the other that detects obstacles. From the source to the destination, the system uses a hybrid ant colony and satin bower optimization to find the shortest path. The ant colony algorithm is commonly used to discover the shortest distance in the travelling salesman problem. To improve its solution, the satin bowerbird algorithm was used to enhance its position update. The overall navigation guiding process was performed by following steps: Locating the ViP starting position using an RGB-D camera.

Finding the shortest distance to reach the destination using proposed Hybrid ant colony-satin bower bird optimization (H-ACO-SBO). Detect the obstacles in their path using ultrasonic sensors and alter the navigating instructions. The shortest path routing is realized with the help of MATLAB R2021a under the windows10 environment. The proposed method was evaluated in terms of distance covered with the existing algorithms.

Keywords: Visually impaired; route finding; shortest distance; optimization; obstacle detection; ultrasonic sensors.

1. Introduction

Navigation is an important process in human life, because it helps them to complete their job and meet their daily needs. Such an important process is difficult for visually impaired people (ViP).

Visually impaired people cannot navigate on their own for a long-distance or in a new environment. Only a few people with strong mental abilities could track their path, but they couldn't locate the obstacles in their path. A head-mounted RGB camera for user localization and path generation using the shortest distance algorithm between source and destination was proposed in [1].

A GPS-based navigation system had proposed for navigating the outdoor environments of ViP using a map-matching algorithm [2]. For indoor navigation, the frame matching algorithm is used for user localization based on camera inputs. The obstacles in their path are detected using ultrasonic sensors. The motion estimation of objects for ViP can be improved by using a magnetic tensor sensor as compared to traditional obstacle detection [3]. The magnetic tensor sensor utilises the geometric field pattern of the objects for location mapping. Then, by using the dynamic time warping algorithm, the shortest distance between the source and destination is determined.

A new approach to assisting navigation for all types of impaired people was proposed in [4]. Here, a shape-changing device called the haptic taco is used with Ubi sensors. Based on the obstacle information

BOARD OF STUDIES MEETING

DEPARTMENT OF MECHANICAL ENGINEERING

Board of Studies (BoS) Meeting is conducted by Department of Mechanical Engineering on 04.07.2025 at Department Conference Hall. The primary objective of the Board of Studies (BoS) meeting was to review and revise the curriculum in line with current industry trends, technological advancements, and academic standards. The discussions also aimed at improving student learning outcomes and incorporating value-added content into the syllabus.

The meeting was chaired by the Head of the Department and attended by the following Board of Studies members: Dr. A. P. Senthil Kumar Associate Professor PSG College of Technology, Coimbatore, Dr. V. Balasubramanian Professor & Director (CEMAJOR) Annamalai University, Chidambaram, Dr. U. Natarajan Professor Government College of Engineering, Srirangam (Anna University), Dr. M. Duraiselvam Professor NIT Trichy, Mrs. M. Pavithra Assistant Manager Acoustics India Pvt. Ltd., Trichy and Mr.A. Vairavel Quality Engineer Sunchirine Auto Parts India Pvt. Ltd., Hosur

Highlights of the Meeting:

Curriculum revised to include recent technological developments in mechanical and allied fields. Industry-focused electives and value-added courses suggested by external members. The Emphasis on project-based learning and inclusion of emerging technologies such as AI, Data Analytics, and 3D Printing. Constructive suggestions on internships, practical training, and laboratory upgrades. The Positive feedback received on faculty efforts and departmental initiatives.



DEPARTMENT OF MANAGEMENT STUDIES

On 4th July 2025, at 11:30 AM, the Department of Management Studies held its 2nd Board of Studies (BoS) meeting in the Board Room, IGCE. The primary objective of the Board of Studies (BoS) meeting was to review and revise the curriculum in line with current industry trends and academic standards. The discussions also aimed at improving student learning outcomes and incorporating value-added content into the syllabus. As part of the meeting agenda, the proposed syllabus for the Academic Year 2025–2026 was presented for deliberation. It was our honor to host the following eminent members:

Dr. V.Lavanya, Anna University Nominee, Associate Professor, Department of Management Studies, NIt, Trichy, Dr. J.Tamilselvi, Subject Expert, Associate Professor, Department of Management Studies, auvery College for Women, Trichy, Dr.R.Hariharan, Associate Professor, Department of Management and Commerce, International Institute of Business Studies (IIBS), Bengaluru North -562157 and Dr.M.Ravichandran, Professor and Head, Expert from Specialized Courses, University College of Engineering, BIT Campus, Anna University, Trichy. The Constructive guidance and recommendations from the expert members played a key role in strengthening the autonomous curriculum. Curriculum revised to include recent technological developments in mechanical and allied fields. Industry-focused electives and value-added courses suggested by external members.



DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Department of Electrical & Electronics Engineering conducted 2nd Board of Studies Meeting today 17.06.25 @ 10.30 am at Engineering Board Room.

Dr.G.Mahendran, Dean Academics presented the proposed syllabus for the Academic Year 2025-26. Anna University Nominee Dr.N.Kumaresan, Prof – EEE, NIT - Trichy & Expert Member Dr.C.Govindaraju, Associate Professor & Head, GCE - Salem. Expert members have given valuable suggestions for framing our Autonomous Syllabus.



Department of Computer Science and Engineering – BOS Meeting

The Department of Computer Science and Engineering conducted its 2nd Board of Studies (BoS) meeting on 18th June 2025 at 10:30 AM in the Engineering Board Room. The proposed syllabus for the Academic Year 2025–2026 was presented during the meeting.

We were honored to have the following distinguished members in attendance:

Dr. M. Suguna, Anna University Nominee, Associate Professor – IT, Thiagarajar College of Engineering, Madurai. Dr. A. Ramachandran, Subject Expert, Assistant Professor – CSE, University College of Engineering, Anna University, Panruti, Cuddalore. The expert members provided insightful and constructive suggestions for enhancing and refining the autonomous curriculum.





Indra Ganesan ★ Institutions ★

Engineering | Medicine - Siddha | Naturopathy | Nursing | Pharmacy | Physiotherapy | Allied Health Science
ANM | Health Inspector | DMLT | Management | Arts & Science | Education | School | Hospital

IG Valley (Near New Integrated Bus Terminal), Manikandam, Tiruchirappalli - 620 012



Where your
FUTURE
begins...



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- Artificial Intelligence & Data Science
- Information Technology

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- VLSI Design

Master of Business Administration (M.B.A.)



Medicine

Siddha

Bachelor of
Siddha Medicine
and Surgery (BSMS)



Naturopathy

Bachelor of
Naturopathy and
Yogic Science (BNYS)



Allied Health Science

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- Dialysis Technology
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- Radiography and Imaging
- Accident and Emergency Care
- Operation Theatre and Anaesthesia
- Cardio Pulmonary and Perfusion Care



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Diploma in Medical Lab Technician (DMLT)



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Pharmacy

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Doctorate of Pharmacy (Pharm.D)

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