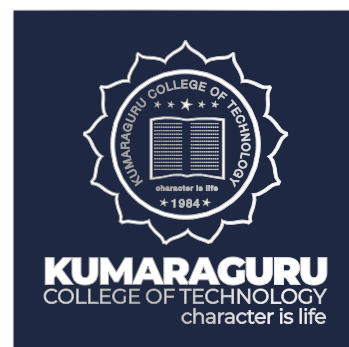


2022 - 2023



Annual Report



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Founder

Arutchelvar Dr. N. Mahalingam

Arutchelvar Dr. N Mahalingam is the Founder Chairman of Sakthi Group, an industrial conglomerate operating in sugar, automobiles, finance, power and logistics. Dr. N. Mahalingam was a philanthropist, educationalist and a statesman. He established a number of educational institutions and is known for his support to various spiritual and cultural organisations.

He was born on 21 March, 1923 in an agriculture family at Pollachi to P.Nachimuthu Gounder, who started the Sakthi Group in 1921 by diversifying his traditional business of hiring out bullock carts to starting passenger transport services. Nachimuthu Gounder's only son Dr. N.Mahalingam joined the business in 1943 and helped grow the business to its current level. He was the founder of many educational institutions, from schools to colleges. Some of his educational institutions are Nachimuthu Polytechnic College, NGM College, Kumaraguru College of Technology, Mahalingam College of Engineering, Kumaraguru Institute of Agriculture and in his vision, Kumaraguru College of Liberal Arts and Science was started in 2018.

He held several important positions and played major roles fostering the development of agricultural, industrial, human resource and institutional development at the State and National levels. He served as a Member of Legislative Assembly of Tamil Nadu from 1952 to 1967 and was on the Tamil Nadu State Planning Commission for two terms. His social and humanitarian considerations took his journey beyond the boundaries of industries and scholarly tenets he nurtured.

He received the Padma Bhushan award from the Government of India in 2007 for his contributions to the nation in the field of Trade and Industry. His other honors include Honorary Consul from the Government of Mauritius during 1989 to 1992 and a number of other recognition and awards. The enigmatic life merged into the light on October 2, 2014, the birth anniversary of Mahatma Gandhi. Until the last moment, Dr. NM was doing what he believed in and envisioned talking about Saint Vallalar's philosophy. Throughout his life Dr. NM carried the twin torches of Gandhian values and Vallalar's way of life and his life is a pathway to lead a life of consciousness.

Amazed by the achievements of Dr.N.Mahalingam in establishing industries and educational institutions, I asked him when he was about eighty years old, what his next mission was and he replied that he wanted to pursue research in Sangam literature. It was another reminder to me that visionaries don't age - Excerpts from Dr. APJ Abdul Kalam's Ignited Minds



Your vision.
Our path.

I Preamble

The academic year 2022–23 is a pivotal year that reflects the resilience of the individuals and the institution alike as Kumaraguru Institutions negotiated its way through the challenges posed during the year 2021–22. Nevertheless, the pandemic has led to progressive disruption in the realms of academics and the institution perceives it as an opportunity to reassess our strategic priorities and is poised to support teaching learning, research and innovation, corporate and industry partnerships and community connect long into the future.

The annual report of Kumaraguru College of Technology (KCT) provides a space and opportunity for every stakeholder to review and contemplate on the past year, celebrate the achievements and build a roadmap to progress forward. In the ever-changing landscape of higher education, fuelled by the power and promise to offer education par excellence, KCT is committed to enhance the global competitiveness, strengthen the research capability and promote public engagement in addition to achieving academic eminence.

The year 2022–2023 is a year of significance for Kumaraguru Institutions which marks the culmination of the birth centenary celebrations of the Founder Arutchelvar Dr.N.Mahalingam, whose achievements, impact and contributions made him stand out as an exemplary leader and human being. As part of the centenary celebrations, Kumaraguru Institutions has implemented several commemorative projects and initiatives as an endeavour to inspire students, staff, visitors and the general public to emulate the ideals and values of Arutchelvar Ayya.

From the Principal's Desk

It is with great pleasure that we present KCT's annual report for the academic year 2022-23. As we reflect on the past year's achievements and challenges, I am filled with pride in what we have accomplished together.

Throughout the past year, our organization has celebrated remarkable achievements across various domains, including academics, research, industry partnerships, and community outreach. These milestones underscore our relentless pursuit of excellence and innovation. We are immensely proud of the recognition bestowed upon us, such as the prestigious A++ ranking awarded during the NAAC accreditation in August 2022. Additionally, we made history as the first and only Indian team to secure the 6th position in the esteemed International Monaco Energy Boat Challenge in July 2022. Furthermore, our student teams have garnered accolades at the national level in various arenas including Hackathon competitions, project presentations, and paper presentations, showcasing their exceptional talent and dedication. It's also noteworthy to highlight their fervor in participating in over 50 clubs and forums in myriad verticals, alongside clinching national-level and state-level honors in sports.

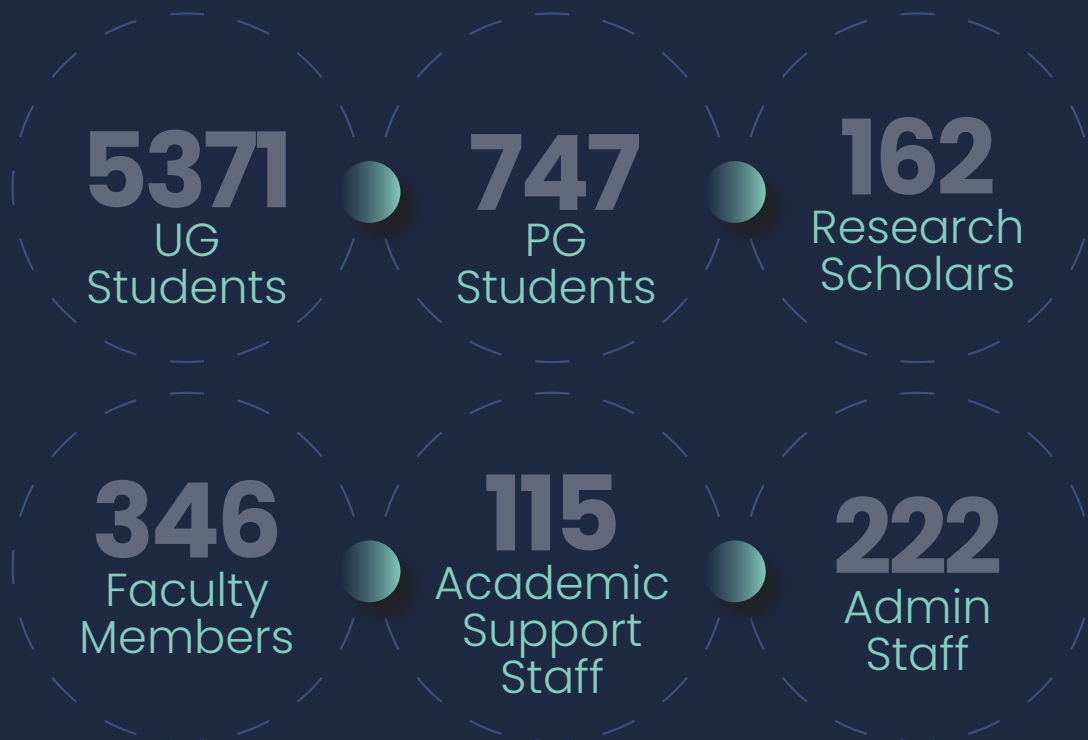
In tandem with our students' achievements, our faculty members have been instrumental in driving innovation and academic excellence. Through pioneering approaches like Project-Based and Problem-Based Learning methodologies, they have reshaped our academic frameworks, ensuring that our students are equipped with the skills and knowledge needed to thrive in today's dynamic world. Moreover, their efforts in establishing industry-collaborated labs and securing research grants have further solidified our position as a hub of cutting-edge research and development. Through prudent leadership guidance and strategic initiatives, we have positioned ourselves for continued growth and sustainability in the years ahead. And, none of our accomplishments would have been possible without the unwavering dedication and commitment of our students, faculty members, staff, alumni, parents, research and industry partners, and supporters. Their passion and contributions have been the driving force behind our success, and for that, I am profoundly grateful.

Through strategic leadership and prudent guidance, we have charted a course for sustained growth and resilience in the years to come. Our achievements stand as a testament to the collective dedication and unwavering commitment of our entire community. We owe a debt of gratitude to our students, faculty members, staff, alumni, parents, research and industry partners, as well as our supporters, whose tireless efforts have fueled our progress. Their unwavering passion and contributions have served as the cornerstone of our success, and for this, I am deeply thankful.

Looking ahead, our steadfast commitment to our mission of attaining international recognition in technical education remains unwavering. In closing, I extend my heartfelt gratitude to each and every one of you for your steadfast support and dedication to our organization's noble cause.



I KCT – Numberscape



1300 students conferred with Mahatma Gandhi Merit Scholarships worth Rupees **1.3 crores**

499 research papers presented in International and National Conferences by faculty members

689 Academic Events organised

335 Research Papers Publications

4534 student participations in Seminar, Conferences and Workshops

NM STEP scholarship awarded to **60 students**

109 Student Research Publications

Highlights from Kumaraguru Community

Path to Prominence

Kumaraguru College of Technology harnessed the need to embrace innovation in engineering and technology and adopted a proactive strategic approach in teaching learning, research capabilities, industry connect and social outreach. Some of the significant initiatives and events at the Kumaraguru Campus have cemented the reputation of the institution to national prominence.



M.Tech. Defence Technology programme launched in collaboration with DRDO.



Research Labs inaugurated in the Department of Biotechnology.



Kumaraguru Summer Learning offered 13 exciting and enriching summer camps on 5 learning themes for school children aged between 10 and 18 years.



The Greatest Tamil literary figure of all times, Mahakavi Bharathiar's statue was unveiled at the Kumaraguru campus.




Kumaraguru Institutions and AIDAT – Aerospace Industry Development Association of Tamil Nadu hosted Coimbatore Defence Conclave – 2023 on 27th July 2023.



The Orb, a contemporary and inspirational space that houses the iconic 115 feet flag mast in an imposing circular podium and an open, expansive pavilion that will play host to events, activities, and moments of pride, was inaugurated by Nobel Peace Laureate Shri Kailash Satyarthi and Pram Vir Chakra Awardee Subedar Major & Honorary Captain Yogendra Singh Yadav.

Pursuit of Excellence

The students, faculty, staff and the institution as a whole have been consistently recognised and awarded at the highest order for showcasing their commitment towards excellence.



KUMARAGURU COLLEGE OF TECHNOLOGY
NAAC (National Assessment and Accreditation Council) | **A++**

Ranked A ++, the highest Grading by NAAC during the 3rd cycle of reaccreditation.

NBA ACCREDITATION FOR ALL ELIGIBLE ACADEMIC PROGRAMMES

Winner of Tamil Nadu Environment Award from the State Government during 2022-23.



The 6-member KCT team - Knight Hackers under the guidance of Mr. Nirosk Kumar H, Lead Innovation, iQube, won the cash prize of Rs. 1 lakh in Smart India Hackathon 2022 Hardware Edition from 25th to 29th August 2022.



The 6-member KCT team - Ellergy under the guidance of Mr. Brathikan V, Associate Lead Innovation - Research Cell won cash prize of Rs. 1 lakh in Smart India Hackathon 2022 Hardware Edition from 25th to 29th August 2022.



Team Sea Sakthi, the first ever Indian team, secured 6th position in the overall ranking and won Communication Prize worth 2000 Euros at the prestigious Monaco Energy Boat Challenge in July 2022.



Anjana Prasad of III year Mechanical Engg won the title and a cash prize of Rs 1 lakh in the inaugural edition of Mech Aura 2022, a contest organized by Collins Aerospace.



Winner of Bhumi Awards 2022 under three categories for Waste Management at the campus and Social work.



Winner of ZEE Edufuture Excellence Award 2023 in the category of Change Makers with Best Environment practice

Dr. V. Gayathri Prof. and Ms.S.Sruthi PhD Scholar, Civil Engg Dept. were awarded the grant of patent for "Red Mud Brick and the Method of Manufacture Thereof" which is the first Granted patent in the name of KCT.

Kumaraguru College of Technology was recognized for having maximum number of domain scholars at the national level SWAYAM NPTEL (Jan- Apr 2023)

Corporate & Industry Alliance

The Corporate and Industry Connect at Kumaraguru College of Technology has been instrumental in bridging the gap between academia and the professional world. It has nurtured a culture of innovation, entrepreneurship, and practical learning, empowering students and faculty to thrive in an ever-evolving technological landscape.



Kumaraguru Institutions signed an MoU with Pkfokam Institute of Excellence, Cameroon for academic collaboration in Engineering, Technology, Management, Humanities other disciplines.

International Visits

Impactful International Visits has led to the fruition of building partnership with international institutions, recognition in the global forum for the academic and research outcomes.

President of Tel Aviv University, Israel Prof Ariel Porat along with the University delegates Vice President, International Prof Milette Shamir, Asia Engagement Director, Konstantin Platonov and Gary Sussman, co-founder, India Alpha Capital visited Kumaraguru Institutions in Dec 2022.



A delegation from Government of Togo, West Africa led by Doctor NADEDE Pyabalo, Chief of minister of cabinet, Government of Togo visited Kumaraguru Institutions as part of their exploratory mission to understand India's expertise in vocational training through Public-Private Partnerships.



Dr Douglas Gilbert, Professor, Walden University, USA visited KCTBS during Feb 2023 to mentor and suggest improvements in the processes adopted by the KCT Business School which became a member of ACBSP in 2020 and currently is candidacy for ACBSP accreditation.





SCHOOL OF
MECHANICAL & BUILT ENVIRONMENT SCIENCES

Aeronautical Engineering



From the HoD's Desk

The primary focus of our curriculum is to provide technical knowledge to students, promote their problem-solving skills and render solutions for the real life automotive engineering problems. The Department offers courses on automotive design, hybrid and electric technologies for acquiring wide spectrum of interdisciplinary knowledge. The course contents are periodically updated in consultation with the experts from the industry considering the scientific and technological developments. One of the distinguishing features of our program is our emphasis on practical application. Students are actively encouraged to engage in hands-on projects, such as vehicle construction and real-time mobility solutions development. By participating in these activities, students not only deepen their understanding of theoretical concepts but also cultivate invaluable practical experience essential for success in the field of automotive engineering.

Thrust Areas of the Department

- Composite Materials
- Computational Fluid Dynamics
- UAVs

The department focuses on Composite Materials, Computational Fluid Dynamics, and UAVs. Faculty and students collaborate within these areas to enhance technical skills. Our contributions include 4 patents, 15 Conference Proceedings, 22 publications in indexed international journals, and 3 Book Chapters. Workshops on Composite Materials and CFD for Aerospace Applications were conducted for skill development.

Programme(s) Offered

B.E. Aeronautical Engineering
M.Tech. Defence Technology

No of Students on Roll	
I Year UG	64
II Year UG	64
III Year UG	57
IV Year UG	62
I Year PG	10

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended	3
No. of FDPs attended	13
No. of Seminars / Webinars Organised	5
No. of Conferences Publications	15
No. of Journal Publications	28
No. of Consultancy Projects	1
No. of Patents filed	2
Total Grant mobilised (in INR)	46.8 Lakhs

Pivotal Accomplishments

The Aeronautical department has successfully inaugurated its PG programme "M.Tech Defence technology" on July 27, 2022.

Dr. P.S. Prem Kumar has secured a funding of 46.8 lakhs from Aeronautics R&D board for the research on UAV propulsion system.

Dr. M Senthil Kumar received the Young Achiever Award from the IEI Coimbatore local center on Engineer's Day, which was held on 15th September 2022.

Haribalan S (19BAE042) & Aravind D (19BAE054) of 2019 batch have cleared GATE exam and got admitted in IIT Bombay and IIT Kanpur respectively

Seminars, Workshops, Conferences and Short-term Courses attended

Workshops Attended

Mr. Arun Kumar attended the "National Interactive Tools and Techniques for Energized and Engaged Classes" workshop at KCT on July 17, 2022, conducted in a virtual format.

Conferences Participated

Dr. M. Senthil Kumar participated in the "Emerging Trends in Defence, Agriculture & Artificial Intelligence Sector" conference organized by PSG Drone Research Lab in collaboration with Jet Aerospace Aviation Centre, Kerala, in September 2022.

Short-term Courses Attended

Dr. Darshan Kumar and **Mr. Vijayanandh R** attended the "National Symposium on UAV Electronics" from December 26, 2022, to January 1, 2023, at IIT Madras, Chennai.

Faculty Development Programmes Attended

Mr. Vijayanandh R attended the FDP on "Sustainable Energy Development Recent Advances and Future Prospect" held virtually at KCT in July 2022.

Dr. M Senthil Kumar participated in the "International Sustainable Energy Development Recent Advances and Future Prospects" FDP at KCT from August 8, 2022, to August 14, 2022.

Mr. R. Arun Kumar took part in the virtual FDP on "Accreditation and Outcome-Based Learning" from August 21, 2022, to October 30, 2022. **Mr. Naveen Kumar** attended the "Capacity Enhancement - Cum - Master Trainers Training Program for Engineering College" FDP at HAL Bangalore from January 17, 2023, to January 28, 2023.

Mr. Rajkumar G took part in the "Conclave on Strategic and Regional Materials (RAKSHA 2023)" held in Thiruvananthapuram from March 15, 2023, to March 16, 2023.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Seminars Organised

Dr. M. Senthil Kumar and **R. Vijayanandh** organized a special one-day webinar on "Propeller Theory" held on June 3, 2021, with 70 participants.

Muthu Kumar S, Dr. Premkumar P. S, and **Raj Kumar G** conducted a one-day webinar on "Advancements and Career Opportunities in Defence Technology" on July 9, 2022, with 170 participants nationwide. The objective was to offer insights into career opportunities and raise awareness in Indian Defence Technology.

Dr. Premkumar P. S organized a one-day guest lecture on "Turbulence Modeling Studies for AAAU" on September 30, 2022, with 130 participants.

Naveen Kumar K arranged a one-day guest lecture on "An Invitation to CFD and Higher Studies" on February 15, 2023, with 70 participants. The talk covered the basics of Computational Fluid Dynamics (CFD), its applications.

Special Lectures Organised

Dr. Sundararaj K delivered a special lecture on "The Role of Academia in the Field of Research to Promote Self-Reliance Drive of India" at Sulur Air Force Station, Coimbatore, on October 28, 2022.

Dr. Sundararaj K gave a special lecture on "Supersonic Combustion for Air Breathing Engines" at Hindusthan Institute of Technology, Coimbatore, on March 15, 2023.

Research Publications

Mr. Raj Kumar G and **Mr. Vijayanandh R** co-authored a journal article titled "Asymmetrical Damage Aspects Based Investigations on the Disc Brake of Long-Range UAVs through Verified Computational Coupled Approaches," published in Advanced Materials, Structures, Symmetrical Design, and Mechanism in Mechanical Engineering.

M. Senthil Kumar, R. Vijayanandh, R. Arul Prakash, and **K. Naveen Kumar** published a journal article titled "Comparative Aerodynamic Investigations on the Thrust Enhancement System of the Gas Turbine Engine Using CFD," published in AIP Conference Proceedings.

Mr. Raj Kumar G authored a journal article titled "Comprehensive Computational Investigations on Various Aerospace Materials under Complicated Loading Conditions Through Conventional and Advanced Analyses A Verified Examination," published in the International Journal of Aerospace Engineering.

Dr. Premkumar P S published a journal article titled "Computational Study of Slotted Winglets on Aircraft Wings," published in AIP Conference Proceedings.

Mr. Muthukumar S authored a conference paper titled "Design and Analysis of 2-kW Straight Bladed Vertical Axis Wind Turbine," published in AIP Conference Proceedings.

Mr. Raj Kumar G published a journal article titled "Design and Fabrication of Composite Shaft Using Stir Casting Technique (MMC)," published in AIP Conference Proceedings.

Mr. Vijayanandh R published a journal article titled "Design and Multi-Perspective Based Computational Analyses of Flying Wing UAV for Rescue Applications at Cryogenic Environments" at the AIAA AVIATION 2022 Forum

R. Vijayanandh and **R. Arul Prakash** published a journal paper titled "Design and Parametric Study of Counter-Rotating Propeller of Unmanned Aerial Vehicles for High-Payload Applications based on CFD-MRF Approach" in the International Journal of Vehicle Structures & Systems.

Vijayanandh R authored a conference paper titled "Design and Performance Investigations on UAV's Convergent-Divergent Nozzle through Validated Computational Aerodynamic Simulation," published in AIP Conference Proceedings.

Mr. Naveen Kumar K authored a journal article titled "Investigation of Aeroelastic Energy Extraction from Cantilever Structures under Sustained Oscillations" in Processes.

Mr. Vijayanandh R presented a conference paper titled "Investigation of Atomic Scale Effects on Nanobots in Fluid Domain" published in AIP Conference Proceedings.

Mr. RAJ Kumar G and **Mr. Vijayanandh R** collaborated on a conference paper titled "Material and Cross-Sectional Shape Optimizations on Polymer Matrix Composites Through Computational Structural Analysis Under Crippling Load," published in AIP Conference Proceedings.

Mr. Naveen Kumar K authored a journal article titled "Multi-Perspective Investigations Based Design Framework of an Electric Propulsion System for Small Electric Unmanned Aerial Vehicles" in Drones.

Dr. M. Senthil Kumar and **Mr. Vijayanandh R** co-authored a journal article titled "Nature-Inspired Design and Advanced Multi-Computational Investigations on the Mission Profile of a Highly Manoeuvrable Unmanned Amphibious Vehicle for Ravage Removals in Various Oceanic Environments" in the Journal of Marine Science and Engineering.

Dr. Premkumar P S published a journal article titled "Numerical Analysis on the Effect of Rotating Cylinder over the Symmetrical Airfoil," published in AIP Conference Proceedings.

Book Chapter Publications

Dr. P S Premkumar contributed a chapter titled "Analysis of Heat Transfer Coefficients and Pressure Drops in Surface Condenser with Different Baffle Spacing" in the book "Applied Mathematics & Computational Intelligence," published by Springer Singapore.

Mr. Vijayanandh R contributed a chapter titled "Structural Optimizations of Different Load-Carrying Members Based on Low Structural Performance" in the book "Advancements in the Processing, Characterization, and Application of Lightweight Materials," published by IGI Global.

Mr. Vijayanandh R authored a chapter titled "PVEH based Electrical Energy Creation in Marine Propeller through Computational Hydrodynamic and Vibrational Simulations" in the book "Transition in Energy Sector Scope, Challenges, and Future Opportunities," published by Central West Publishing, Australia.

Mr. Vijayanandh R presented a chapter titled "Experimental Investigation on Process Parameter Optimization to Enhance Tensile Strength in FDM-3D Printing Process with PLA Material" in the book "Recent Advances in Intelligent Manufacturing & Lecture Notes in Mechanical Engineering," published by Springer, Singapore.

Dr. Senthil Kumar M and **Mr. Vijayanandh R** co-authored a chapter titled "Multi-Perspective Aerodynamic Studies on the Intercity Bus with and Without Drag Reductions Techniques by Using Engineering Approaches" in the book "Lecture Notes in Mechanical Engineering," published by Springer, Singapore.

Membership in Professional Bodies / Institutions

Mr. Vijayanandh R serves as an Academic Editor for the journals, International Journal of Aerospace Engineering; Review of Advanced Materials Science; Frontiers in Materials and Journal of Engineering.

New Equipment Procured

The Department procured Vertical axis wind turbine worth 4,3,5000 INR in 2022-23.

Patent Filed

Dr. Darshan Kumar J and **Mr. Vijayanandh R** filed a patent for the "Design and Development of Nano Drone."

Mr. Vijayanandh R filed a patent for the "Design and Computational Development of Ducted Frame based Hybrid UAV."

Sponsored Research Grant

A research grant was awarded for the project titled "Performance Improvement of Micro Propulsion System for UAV" by the Aeronautics R&D Board, amounting to 46.8 lakhs, and the principal investigator for the project is Dr. P.S. Prem Kumar.

Distinguished Visitors and Guests to the Department

Mr. Ramanjaneyulu Naidu, Scientist E from CABS visited the department to deliver a special lecture on 06 Sep 2022

Dr. Prasad Patnaik B.S.V., Professor of Applied Mechanics IIT Madras visited the department to deliver a special lecture on 16 Feb 2023

Dr. C. Lakshmana Rao from IIT Madras, Applied Mechanics Department visited the department to deliver a special lecture on 10 Feb 2023

Outreach Programmes

Mr. Muthukumar S conducted an outreach program on 15th April 2023, explaining the opportunities in Defence Technology for engineering/science graduates. Dr. Darshan Kumar J organized an outreach program from 22nd May 2023 to 31st May 2023, focusing on creating awareness on drones and robotics for school students.

Alumni Engagement

Dr. Darshan Kumar, as the Faculty Coordinator, organized an alumni engagement event on 6th April 2022 where alumnus Rajavarman AVR, Senior Technical Writer at Azuga, was invited to address students about his career journey in the Aeronautical Department Association.

Dr. Darshan Kumar coordinated another alumni engagement event on 14th January 2023, where alumnus Mr. Syed Masood T S, Graduate Engineer Trainee at TASL Bangalore, delivered a talk on Quality Management during this event.

Students / Research Scholars participation in conferences / seminars / webinars / workshops / symposia

Sabareesh M, (20BAE031) actively participated in the national SAE Drone Design Challenge Workshop held on 26th and 27th November 2022.

Awards and Recognition won by students **Dinesh P (20BAE008)** excelled at the state Zonal Level Hockey Tournament, securing the first place in the competition.

Srivathshan P (20BAE041) achieved national recognition in NCC, obtaining the AIVSC certificate through participation in the national-level camp conducted by the Director General of NCC.



SCHOOL OF
MECHANICAL & BUILT ENVIRONMENT SCIENCES

Automobile Engineering

From the HoD's Desk

The primary focus of our curriculum is to provide technical knowledge to students, promote their problem-solving skills and render solutions for the real life automotive engineering problems. The Department offers courses on automotive design, hybrid and electric technologies for acquiring wide spectrum of interdisciplinary knowledge. The course contents are periodically updated in consultation with the experts from the industry considering the scientific and technological developments and the students are encouraged to build vehicles and work on the real time mobility solutions. *Ala re, nostrora rem pulari iaet de intemque in parist nunirmandum, ommorti fesilibem, simis, Castum pos esidemus rebussa qua ret; ne intem st adducerfer ina quam pris aperum num quam. Go nos*

Thrust Areas of the Department

1. Motorsports Engineering
2. Hybrid and Electric Vehicle Technology
3. Design of Automotive Systems
4. Vehicle Maintenance and Reconditioning



Programme(s) Offered

B.E. Automobile Engineering

No of Students on Roll	
I Year UG	59
II Year UG	60
III Year UG	65
IV Year UG	65

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended	3
No. of Seminars Attended	19
No. of FDPs attended	10
No. of Conferences Organised	1
No. of Seminars Organised	17
No. of Journal Publications	13
No. of Consultancy Projects	3
No. of International Visits by Faculty	1
No of International Visitors	4
No. of Patents filed	2

Pivotal Accomplishments

Accomplished 6 years of Accreditation from the NBA

Winner of ARAI Technovuu Mobility Hackathon (1L Cash prize)

Exchange program with ARA Institute Canterbury, New Zealand

Provided engineering solutions for LG Balakrishnan & Bros. Ltd, Versa Drives Pvt Ltd.,

Seminars and Webinars Attended

Mr. R. Kishore attended the seminar "SAEINDIA Simulation Driven Design of Brakes for Electric and Internal Combustion Vehicles" on November 15, 2022.

Mr. R. Kishore participated in the seminar "WIMER - The Combustion Chemistry of Ammonia and Ammonia/Hydrogen A Comprehensive Modelling Study" on November 11, 2022.

Mr. C. Naveenkumar attended the session on "Study Engineering and Technology in the UK" on November 25, 2022.

Mr. C. Naveenkumar attended the webinar on "Electric Vehicle Design & Engineering - An Overview" on January 24, 2023.

Mr. R. Kishore participated in the webinar on "Motor Selection and Modelling using MATLAB" from February 18-27, 2023.

Workshops Attended

Dr. J. D. Andrew Pon Abraham attended the 7-day National level workshop in collaboration with NAAC on 'Post NAAC Quality Enhancement in Higher Education Institutions' from August 22-29, 2022.

Mr. R. Kishore participated in the workshop on "Improving research writing using 'Grammarly'" on November 02, 2022.

Mr. R. Kishore attended the IEEE STEM Summit from December 06 - 10, 2022.

Dr. J. D. Andrew Pon Abraham participated in the Bridge 2023 - Chennai (A High Impact Industry-Institute Interaction Event of India) on March 14, 2023.

Mr. T. Karthik attended the Two Days Workshop on Digital Twin Solutions for Autonomous Vehicles from March 27-28, 2023.

Short-term Courses Attended

Mr. R. Kishore and **Mr. J. Saiganesh** attended the GIAN course in Electric Machines and Drives in Electrified Transportation Systems from July 18-22, 2022.

Dr. S. Mohankumar, Mr. R. Kishore, and Mr. T. Karthik attended the GIAN course on Battery Technology for E-Mobility from November 28 - 02, 2022.

Faculty Development Programmes Attended

Mr. R. Kishore attended a 6-day online UHV-II FDP organized by All India Council for Technical Education (AICTE) from June 20-25, 2022.

Mr. R. Kishore participated in an FDP on Integrated Active Teaching-Learning Pedagogical Approaches for Enhancing Focused Outcome-based Education from September 05-16, 2022.

Mr. T. Karthik attended a Five Day Online FDP titled "Design and Development of Electric Vehicles Research Challenges and Opportunities" from October 17- 21, 2022.

Dr. S. Mohankumar and **Mr. S. Satish** participated in an FDP on "Machine Learning for Real World Applications and Research Directions with Programming skills" from December 05, 2022, to December 10, 2022.

Seminars Organised

Prof. S. Sivakumar conducted a session on New Age Education on June 24, 2022, with 200 participants. The session provided exposure to the concept of New Age Education, discussing topics such as NEP 2020 and Transnational Education in Engineering and Arts.

Mr. S. Satish conducted a Seminar on Non-Destructive Testing on October 11, 2022, with 70 participants. The seminar introduced attendees to Non-Destructive Testing Technology and its certification process.

Mr. R. Kishore organized the "SAE ISS - Lecture Meet (Coimbatore Division)" on September 23, 2022, with 100 participants. The event included skill development on TRIZ for faculty and students, outreach activities, and networking with the professional society.

Workshops Organised

Mr. C. Naveen Kumar organized an online QUIZ MASTER 2023 on January 26, 2023, with 30 participants. The workshop aimed to enhance domain knowledge regarding the automobile industry and the history of automobiles.

Mr. R. Kishore arranged a Two Days Workshop on Digital Twin Solutions for Autonomous Vehicles from March 27, 2023, to March 28, 2023, with 88 participants. The workshop aimed to improve the system of a smart electric vehicle.

Mr. B. Arun organized SAFETYTHON on April 19, 2023, with 120 participants. During the event, one of the solutions provided by students was highly appreciated and encouraged by the Divisional High Engineer, who expressed the possibility of implementing it in the near future. Additionally, the top six teams presented their ideas before the Coimbatore city police commissioner.

Conference Organised

Dr. G. Thenmozhi organized the International Conference on Material, Design, and Manufacturing (ICMDM'22) on June 21, 2022, with 205 participants. The conference aimed to provide a platform for experts from the automobile domain to showcase and publish their research work in the areas of materials, design, and manufacturing.

Research Publications

Kishore, R. (2022) published a research article titled "Design of suspension system for FSAE Vehicle" in AIP Conference Proceedings, 2446, 180063

G. Thenmozhi, S. Sivakumar, B. Arun, et al. (2022) published a research article titled "An investigation on the performance of permanent magnet brushless DC motor based on different materials." AIP Conference Proceedings 2446, 100004.

S. Sivakumar, S. Satish, S. Mohankumar (2022) published a research article titled "Numerical investigation on the effect of rear wing on aerodynamic performance of race car." AIP Conference Proceedings 2446, 180052.

S. Mohankumar, S. Satish, C. Naveenkumar (2022) published a research article titled "Computational Investigation on Phase Change Material based Hybrid Battery Thermal Management System for Electric Vehicle." In International Journal of Vehicle Structures & Systems, 14(7), 860-864. DOI 10.4273/ijvss.14.7.06

G. Thenmozhi, Ratnakumar P S Samuel, Alexis S John (2022) published a research article titled "Experimental Investigation on Various Aluminium Composite Material for Aluminium-Air batteries." International Journal of Vehicle Structures & Systems, 832-835. DOI 10.4273/ijvss.14.7.01

Sivakumar, S. (2023) published a research article titled "Energy performance and economic assessments of a solar air collector and compression heat pump-integrated solar humidifier desalination system" in SAGE Journals. doi 10.1177/09544089231151577

Karthik, T. (2022) published a research article titled "Development of Alternate Energy System in Four Wheelers / ETEDM – 2022" (Volume 10 – Issue 08) in International Journal of Engineering Research & Technology (IJERT). doi 10.17577/IJERTCONV10IS08055

Membership in Professional Body

Mr. S. Sivakumar, Mr. Kishore R and Mr. Karthik T are active members of SAE INDIA during 2022-23.

Dr. G Thenmozhi is affiliated with IEEE (Institute of Electrical and Electronics Engineers), IEI (Institution of Engineers India), and ISTE (Indian Society for Technical Education).

Equipment Installed

The DIESEL Smoke Meter AVL equipment was procured at a value of 2,88,657
The Gas Analyser was also procured at a value of 2,88,657 INR

Patent Filed

Mr. T. Karthik filed a patent for "Design and Development of Smart Parking Brake System."

Dr. S. Mohankumar filed a patent for "Evacuated Solar Cooking Vessel with Hexagram Fins."

Dr. S. Mohankumar also filed a patent for "Evacuated Solar Idli Pan."

Distinguished Visitors and Guests to the Department

Prof. S Mahdi Abbas Rizvi [Former Professor & Chairman, Mechanical Engineering, Aligarh Muslim University, Aligarh, U.P and Dr. G. Giridhara, Professor and Head - Mechanical Engineering, B.M.S. College of Engineering, Bangalore visited on 19 - 21 May 2023 for an NBA Peer team visit.

Mr. Wolfgang Grimm, Senior Vice President - Engineering System & Software Services, visited for technical discussions and provided team support for the Formula Student Car Project on 10th November 2022

Prof. Usha Natesan, Director, National Institute of Technical Teachers Training and Research (NITTTR), Chennai, visited on 24 June 2022 for a session on New Age Education.

Advisory Board meetings were held with Mr. Nandakumar from Robert Bosch and Dr. R. Rajendran, Vice Chairman, SAEISS, on 23 July 2022.

Dr. U Solomon from CVRDE, DRDO, and Mr. D Pandurengan, an Ex Scientist from DRDO delivered Guest Lecture on 24th January 2023.

Dr. K. S. Raguram, General Manager (Corporate Quality Management), ROOTS Group of Companies, delivered a lecture during a meet organized by SAE ISS (Coimbatore Division) on 30 May 2023.

Outreach Events

"SAFETYTHON" was conducted by Mr. B. Arun, on 19th April 2023 where 120 students participated and presented solutions to various safety-related challenges and the top six teams were given the opportunity to present their projects to the Coimbatore city police commissioner.

Students Participation

Karthikeyan K (18BAU025) Saravanan P (19BAU005) Jayaharharan M (19BAU014) Kavinesh S (19BAU031) Nithish Kumar A (19BAU033) Vishal V (19BAU037) Aravindh Kumar B (20BAU003) Archana R (20BAU004) Kamalaparvathi T M (20BAU015) participated in the National e-BAJA competition held from 1st June to 6th June 2022 at Pithampur, Madhya Pradesh.

Karthick Ram T (19BAU004) Kamales S (20BAU016) took part in the "SUPRA SAEINDIA 2022" competition, organized by SAE INDIA in partnership with Maruti Suzuki, from 22nd August to 25th August 2022 at Buddh International Circuit, Greater Noida.

Karthick Ram T (19BAU004) Sri Varsan S P (19BAU028) competed in the "Tata Imagination Challenge 2022" from 16th September to 18th September 2022, organized by TATA Groups.

Arulmurugan V (19BAU024) Dinesh V (19BAU023) Gokulkrishnan S (19BAU008) competed in the "TVS Eurogrip TORQ 2.0 Challenge" on 18th October 2022, held at TVS Eurogrip, Gurgaon.

Vishal M L (19BAU037) took part in the "TN Police Hackathon-2022" conducted by Tamilnadu Police Cyber Crime Wing on 9th and 10th December 2022.

Boopalan C (21BAU006) Kirupavikranth R (21BAU015) Kushal Reddy V (21BAU016) Mithilesh G (21BAU018) Mohamed Rifat (21BAU019) Mukesh B S (21BAU020) Nisanth S (21BAU021) Hari Vatsan T (21BAU205) Madhumithran G (21BAU206) participated in the "REV KIDS-Mini Dirt Bike Racing Challenge (RALLERZ'23) Season 1" held from 7th March to 8th March 2023 at Ramakrishna Institute of Technology, Coimbatore.

Awards and Recognition won by students

Karan M (18BAU034), Kavinesh S (19BAU031) – won the ARAI Technovuuus Mobility Hackathon with a cash prize of 1L INR held during – 17th July 2022 at Automotive Research Association of India (ARAI), Wakad, Pune.

Rohan R (20BAU027), Yaadhav N (20BAU042) were a part of team Leviathan, Runner-up for Manoeuvrability with a cash prize of ₹10000/- and overall 3rd place with a cash prize of ₹25000/- in the SAE ISS – Electric Two Wheeler Design Competition, 17 – 18 October 2022 at SRM Institute of Science and Technology, Kattankulathur, Chennai.

Prathish Subbu S (21BAU025) and Jackin M (21BAU010) were a part of team Zeall Racing which secured Overall Runner-up in FKRC'23 held at Kari Motor Speedway, Coimbatore during February 01-02, 2023

Kirupavikranth R (21BAU015), Arichand Rahul C M (20BAU202), Renita Sharon S (21BAU027), Sadhasivam D (21BAU029), Subhitsha M (21BAU034), Kesavaraja S (20BAU209), as part of team Sakthi Racing won 5 awards in the dynamic category of FMAE – FFS 2023 organized during 3- 6 February 2023 at Kari Motor Speedway, Coimbatore.

Sedhuram S (20BAU031), Somasekaran C (20BAU034), Yaadhav N (20BAU042) participants of the FMAE Moto Student competition and received overall championship award organized during 4- 6 February 2023 at Kari Motor Speedway, Coimbatore.

Sri Varsan S P (19BAU028) and Karthick Ram T (19BAU004) were awarded a Gold medals for being a finalist in the Grand Finale of the KPIT Sparkle competition held during 17- 19 March 2023 at KPIT Technologies, Pune.

Vishnu Prasad S (21BAU040) – Won the 3rd Prize in the mBAJA in BAJA SAEINDIA 2023 competition held on 18th February 2023 in Pithampur, Madhya Pradesh.



SCHOOL OF
MECHANICAL & BUILT ENVIRONMENT SCIENCES

Mechanical Engineering

From the HoD's Desk

The Department of Mechanical Engineering has excelled in key areas, reinforcing our commitment to academic and industry excellence in the academic year 2022-23. Noteworthy accomplishments include the completion of the ASNT Level II Certification course in Non-Destructive Testing by four students and two faculty members. Our students' impactful internships and projects at esteemed organizations like KSB Valves, SAIL, TVS Limited, and Roots Industries showcase the department's emphasis on Materials and Manufacturing. Our strategic alliance with industry partners has enhanced both student placement opportunities and faculty training and in future we aspire to strengthen the ties further.

Thrust Areas of the Department

Non-Destructive Testing The non-Destructive Testing ASNT Level II Certification course has been completed by four students and two faculty members.

Materials and Manufacturing The student's internship and industry project done at KSB Valves, SAIL, TVS Limited, Roots Industries.

Industry Partnership Tieup with Capgemini Engineering in the area of Product Life Management and New Product Development for students placement and faculty training.



Programme(s) Offered

B.E. Mechanical Engineering
M.E. Industry Engineering
Ph.D Mechanical Engineering

No of Students on Roll	
I Year UG	129
II Year UG	131
III Year UG	189
IV Year UG	191
I Year PG	5
II Year PG	9
Research Scholars	29

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended	4
No. of FDPs attended	49
No. of Conferences Organised	1
No. of Seminars / Webinars Organised	4
No. of FDPs organised	1
No. of Conferences Publications	9
No. of Journal Publications	11

Pivotal Accomplishments

Department of Mechanical Engineering organized an Industry-Academia Conclave on "New Product Development and Product Lifecycle Management" on 20-02-2023.

Department of Mechanical organized an "International Conference on Sustainable Innovation Practices-23" on April 19th and 20th, 2023.

A funded project titled "Deep Learning based one-shot image classification model development" was completed and the project was funded by Emerald Jewel Industry India Limited, Rs. 3,89,400.

Seminars, Workshops, Conferences and Short-term Courses attended

Workshops Attended

Mr. S. Prabhu (Jr) participated in the two-week program "COVIDYA – Startup Sandbox" held from 15th May 2023 to 27th May 2023 at the Indian Institute of Information Technology Design and Manufacturing (IITDM), Kancheepuram, Chennai.

Dr. K.M. Senthilkumar, Mr. V.R. Navaneeth, and Mr. S. Prabhu (Jr) attended the two-day DST SRRB sponsored workshop on "Green Hydrogen Generation Research Issues and Opportunities" on 27th April 2023 and 28th April 2023 at Shri Mata Vaishno Devi University, Jammu & Kashmir.

Dr. P.S. Samuel Ratna Kumar participated in the National workshop on "Processing characterization and application of aluminum alloys – An approach towards circular economy" held on 13th April 2023 at Sri Ramakrishna Engineering College, Vattamalaipalayam.

Conferences Participated

Dr. M. Thirumalai Muthukumar attended the SERB sponsored International conference on "Technological Advancements in materials and manufacturing for the industrial environment" held from 05th May 2023 to 06th May 2023 at KPR Institute of Engineering and Technology.

Dr. M. Thirumalai Muthukumar and **Mr. V.R. Navaneeth** participated in the Ansys Academic Innovation Conference 2022 held on 16th September 2022 at ARK Info solutions Pvt. Ltd., Pune.

Dr. S. Thirumurugaveerakumar attended the International Conference on "4th Innovation Product Design and Intelligent Manufacturing Systems" held from 25th November 2022 to 26th November 2022 at NIT.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Seminars Organised

Initiatives and Events at a Glance

No. of Consultancy Projects	1
No of Industry Projects	1
No of International Visitors	10
No. of Patents filed	2
No. of Patents Awarded	2
No. of Grants received	2
Total Grant mobilised (in INR)	58.10 Lakhs

Dr. Thirumalaimuthukumar M and **Dr. Sangeetha N** organized a seminar on "Preparation for Competitive Exam – Series I Strength of Materials" on 12th April 2023, with 85 total participants. The event focused on providing students with effective placement preparation and competitive exam tips, resulting in an interactive and informative session that greatly benefited the participants.

K. Jasmine and S. Thirumurugaveerakumar coordinated a webinar titled "National Education Policy 2020 Innovation & Entrepreneurship in HEIs for Atma-Nirbhar Bharat" in association with an unspecified organization on 30th August 2022, which attracted 250 participants. The webinar aimed to foster creative imagination, ethical moorings, and values among students to create engaged and contributing citizens for an equitable and inclusive society.

Dr. M. Thirumalai Muthukumar organized a seminar on "Transport Demand Management" for third and fourth-year Mechanical, Aerospace, and Civil Engineering students on 29th August 2022, attended by 31 participants. The seminar aimed to address students aspiring for higher studies abroad.

Dr. M. Thirumalai Muthukumar conducted a seminar on "Twinning Program with University of Leeds, UK" specifically for Mechanical Engineering students on 23rd September 2022, with 118 participants. The objective of the seminar was to create awareness about the twinning program with the University of Leeds.

Workshops Organised

Dr. S. Thirumurugaveerakumar organized a workshop on "Design Thinking, Critical Thinking, and Innovation Design" on 1st March 2023, with 90 total participants. The workshop aimed to enhance participants' understanding of the design process and innovation.

Dr. B.N. Sreeharan and **Mr. P. Prasad** conducted a one-day workshop on Fused Deposition Modeling (FDM) on 24th November 2022, attended by 31 participants. The workshop provided practical knowledge of FDM process and working with slicing software Ultimaker Cura.

Dr. B.N. Sreeharan and **Mr. P. Prasad** also organized a one-day hands-on workshop on Excel functions on 28th November 2022, with 21 participants. The workshop enabled participants to learn and utilize various Basic and Advanced Excel functions.

Dr. V. Manivelmuralidaran and Dr. A.P. Arun

conducted a workshop on "Writing an Outstanding Research Article and Project Proposal" on 7th October 2022, attended by 15 faculty members. The workshop aimed to enhance the participants' knowledge of research paper writing and publishing in reputed journals and research proposal preparation.

Dr. V. Manivelmuralidaran and Dr. A.P. Arun

also organized a National Workshop on Welding for Beginners on 10th November 2022, with 21 participants. The workshop provided insights into weld joint design, consumables selection, and welding of HSLA steels.

Mr. Mohan Kumar R.S. conducted a three-day workshop on "Design Now Using AutoCAD Fusion 360" on 30th September 2022, with 15 participants. The workshop focused on technical concepts related to new product design and development using Autodesk Fusion 360.

Dr. A.P. Arun and Dr. V. Manivel organized a National Level Two-day Hands-on Workshop in Non-Destructive Testing (NDT) from 28th to 29th September 2022, with 130 participants. The workshop provided practical knowledge of NDT techniques and their significance in welding processes.

Conference Organised

Dr. K.K. Arun, Dr. K. M. SenthilKumar, Mr. S. Prabhu, Mr. V. R. Navaneeth, and Mr. P. Pradeep jointly organized the International Conference on Sustainable Innovative Practices - SIP '23 on April 19th - 20th, 2023, with 27 participants. The conference provided valuable insights and knowledge on sustainable design and development practices.

FDP Organised

Dr. M.A. Vinayagamoorthi organized an FDP on "New Product Development, Advanced Modelling, and Analysis using CAD and CAE Tools" from 2nd to 8th May 2023, with 10 participants. The FDP aimed to enhance the participants' knowledge in CAD and Product Design Engineering.

Special Lectures Organised

Dr. S. Bhaskar delivered a special lecture as a resource person in a one-day workshop on "Outcome Based Education" held on 13th May 2023 at Sakthi Institute of Information and Management Studies.

Dr. B.N. Sreeharan served as a resource person for an expert lecture on "Fluid Mechanics and Machinery - Dimensional Analysis" on 16th November 2022 at KGISL Institute of Technology, Coimbatore.

Research Publications

S. Pradeep, C. Velmurugan, S. Balasubramanian, B. Sabitha, K. R. Aranganayagam, and B. Vaishnavi authored an article on "Experimental investigations on the effect of magnesium on wear properties of cast iron" and published in the AIP Conference Proceedings in 2022. [https //doi.org/10.1063/5.0108628](https://doi.org/10.1063/5.0108628)

D. S. Ebenezer Jacob Dhas, C. Velmurugan, K. Leo Dev Wins, S. Senthilkumar, and Sumanth Ratna Kandavalli authored a research article titled "Mathematical Modelling of Machining Performance during Dry Face Milling of AA5052/Tungsten Carbide/Graphite Hybrid Composite" and published in the AIP Conference Proceedings in 2022. [https //doi.org/10.1063/5.0108750](https://doi.org/10.1063/5.0108750)

S. Thirugnanam, C. Velmurugan, and Binu Kurian Mathew authored an article on "The mechanical characteristics of Al6061-Ash-SiC Metal Matrix Composites" and published in the AIP Conference Proceedings in 2022. [https //doi.org/10.1063/5.0108848](https://doi.org/10.1063/5.0108848)

S. Thirugnanam, C. Velmurugan, and Binu Kurian authored an article on "The mechanical properties of Aluminium-7075 based graphite and bagasse ash particles reinforced metal matrix composite through an experimental investigation" and published in the AIP Conference Proceedings in 2022. [https //doi.org/10.1063/5.0108849](https://doi.org/10.1063/5.0108849)

S. Gnanasekaran, P. Vadivel, C. Velmurugan, and C. Samson Jerold Samuel authored an article on "The effect of arc current on microstructural and mechanical properties of nickel hardfaced deposits created using PTA processes" and published in the AIP Conference Proceedings in 2022. [https //doi.org/10.1063/5.0108881](https://doi.org/10.1063/5.0108881)

Sivamani Palanisamy Suvetha, Thiyagarajan Sathishkumar, Kuppamuthu Kumaraesan, Vinohar Stephen Rapheal, Velayutham Muthukumar, and Natarajan Thirugnanam authored a research article on "A purified novel and new diferuloyl glycerate related phenolic acid from Pandanus odoratissimus flowers and its effects on diabetes mellitus" and published in the Brazilian Journal of Pharmaceutical Sciences in 2022. [http //dx.doi.org/10.1590/s2175-97902022e19484](http://dx.doi.org/10.1590/s2175-97902022e19484)

C. Lavanpriya, V. Muthukumar, and P. Manoj Kumar authored an article on "Evaluating suppliers using AHP in a fuzzy environment and allocating order quantities to each supplier in a supply chain" and published in Mathematical Problems in Engineering in 2022. [https //doi.org/10.1155/2022/8695983](https://doi.org/10.1155/2022/8695983)

A. Jeevarathinam, V. Muthukumar, and V. S. Kaushik authored an article on "The mechanical and corrosion behavior of plasma-nitrated tests on SS316L & Ti6Al7NB" and published in NeuroQuantology in 2022. [http //dx.doi.org/10.14704/nq.2022.20.9.NQ44696](http://dx.doi.org/10.14704/nq.2022.20.9.NQ44696)

Selvambikai, V. Raaghul, Akash Sushil, V. Muthukumar, S. Kiruthika, R. Kannan, and R. Sivakumar authored a research article on the "Wear behavior of nickel-tungsten coated mild steel using finite element analysis (FEA). And published in the AIP Conference Proceedings in 2022. [https //doi.org/10.1063/5.0108157](https://doi.org/10.1063/5.0108157)

Dhiviyalakshmi and V. Muthukumar authored an article on "A study on the prevalence of microorganisms in specific areas of hospitals" and published in the AIP Conference Proceedings in 2022. [https //doi.org/10.1063/5.0108885](https://doi.org/10.1063/5.0108885)

Saravanan and V. Muthu Kumaran authored an article on "The optimization of squeeze casting for the green composite production" and published in the AIP Conference Proceedings in 2022. [https //doi.org/10.1063/5.0109183](https://doi.org/10.1063/5.0109183)

V. M. Brathikan, N. Sangeetha, B. Sangeethkumar, and Kavi Scidarath authored an article on "The influence of various blank diameters in deep drawing" and published in Materials Today Proceedings in 2022. [https //doi.org/10.1016/j.matpr.2022.08.281](https://doi.org/10.1016/j.matpr.2022.08.281)

Sangeetha N, Brathikan V M, Nitheeshwar R K, and Jayabalu S authored an article on "Experimental investigation in the selection of blank material during the deep drawing process using finite element analysis" and published in the Journal of Ceramic Processing Research in 2022. [https //www.dbpia.co.kr/journal/articleDetail?nodeId=NODE11247968](https://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE11247968)

Sangeetha, N., Brathikan, V. M., Gideon, D., & Sangeethkumar, B. authored an article on "An experimental investigation of frictional force and the coefficient of friction for brass, titanium, and steel employed under several lubricants" and published in the Journal of Ceramic Processing Research in 2022. [https //doi.org/10.36410/jcpr.2022.23.5.617](https://doi.org/10.36410/jcpr.2022.23.5.617)

Sam Vimal Kumar S., S. Kiruthika, N. Sangeetha, and K. C. Senthamarai Kannan authored an article "The design and validation of dynamic characteristics of vibration of a test fixture for an automobile application" which was published in the AIP Conference Proceedings in 2022. [https //doi.org/10.1063/5.0108284](https://doi.org/10.1063/5.0108284)

Karuppusamy and S. Bhaskar authored an article on "The ageing behavior of silicon carbide, graphite reinforced hybrid Al6061 composites" and published in the AIP Conference Proceedings in 2022. [https //doi.org/10.1063/5.0109460](https://doi.org/10.1063/5.0109460)

Bhaskar and T. Karuppusamy authored an article on "Experimental analysis of EDM parameters on machining aluminum hybrid composites with the Taguchi method" and published in the AIP Conference Proceedings in 2022. [https //doi.org/10.1063/5.0108948](https://doi.org/10.1063/5.0108948)

KM Senthilkumar, N. Kathiravan, L. Girisha, and M. Sivaperumal authored an article on "Experimental investigation and optimization of machining parameters during machining of a glass fiber-reinforced epoxy-based composite using desirability function analysis" and published in the Journal of Ceramic Processing Research in 2022. [https //doi.org/10.36410/jcpr.2022.23.4.541](https://doi.org/10.36410/jcpr.2022.23.4.541)

KM Senthilkumar, VR Navaneeth, S Prabhu, and M Giriraj authored an article on "The optimization of surface roughness during the turning operation in super duplex stainless steel" and published in Materials Today Proceedings in 2022. [https //doi.org/10.1016/j.matpr.2022.02.014](https://doi.org/10.1016/j.matpr.2022.02.014)

Senthilkumar, K. M., Navaneeth, V. R., Prabhu, S., Ramesh Kumar, M., and Giriraj, M. authored an article on "An experimental investigation of turning process parameters under several cutting conditions for duplex steels to minimize the cutting temperature" and published in Materials Today Proceedings in 2022, 1917-1920. [https //doi.org/10.1016/j.matpr.2022.01.447](https://doi.org/10.1016/j.matpr.2022.01.447)

Book Publication

Dr. B. Senthilkumar authored the book titled "Machine Learning Real World Case Studies in Python," published by LAP LAMBERT Academic Publishing in 2023 (ISBN 978-620-4-97743-0).

PhD Supervision

Dr. C. Velmurugan at Anna University Chennai has been granted Guideship for 6 scholars, focusing on Composite Materials.

Dr. V. Muthukumaran, also at Anna University Chennai, guides 9 scholars with a research focus on Bio Materials.

Dr. V.R. Muruganantham, affiliated with Anna University Chennai, guides 2 scholars in the area of TRIZ.

Dr. M. Balaji oversees 6 scholars at Anna University Chennai, specializing in Industrial Engineering.

Dr. S. Balasubramanian, part of Anna University Chennai, guides 4 scholars in the field of Manufacturing Technology.

Dr. B. Senthilkumar, at Anna University Chennai, is a guide for 1 scholar, specializing in Manufacturing Technology.

Dr. S. Thirumurugaveerakumar, affiliated with Anna University Chennai, guides 1 scholar in the field of Manufacturing Technology.

Membership in Professional Bodies / Institutions

Dr. B. N. Sreeharan serves as a reviewer for the "Journal of the Brazilian Society of Mechanical Sciences and Engineering."

Dr. B. N. Sreeharan acts as a reviewer for the "Indian Journal of Science & Technology."

Dr. C. Velmurugan is a reviewer for "Materials Today Proceedings."

Mr. Manikanda Prasath K serves as a reviewer for "Scientific.Net."

Dr. S. Balasubramanian acts as a reviewer for the "Textile Research Journal."

Dr. C. Velmurugan is a reviewer for "Advances in Materials & Processing Technologies."

Dr. B. N. Sreeharan serves as a reviewer for the "Journal of the Brazilian Society of Mechanical Sciences and Engineering."

Dr. C. Velmurugan is a reviewer for "Material Science and Engineering Technology."

Dr. C. Velmurugan is a reviewer for "Advances in Materials Science and Engineering."

Dr. S. Balasubramanian serves as a reviewer for the "Textile Research Journal."

Equipment / Centres Established

CNC Machine of value INR 22,12,500 has been procured during the academic year 2022-23.

Patent Filed

Dr. S. Balasubramanian has filed a patent for "An apparatus for disinfecting biometric system and a method thereof."

Dr. V.R. Muruganatham has filed a patent for "Bathroom Jali with detachable cover."

Patent Awarded

Dr. A.P. Arun has been awarded a patent for "IMPROVED ANKLE FOOT ORTHOSIS."

Mr. B. Jeeva has been awarded a patent for "Compression ignition internal combustion engine operating on diesel or gasoline."

Sponsored Research Grant

The research project titled "Laser additive manufacturing of multiphase high entropy alloy matrix nanocomposite" received funding of 11.28 lakhs INR from URC & CSIR (Council of Scientific and Industrial Research) and is being coordinated by Dr. P.S. Samuelratnakumar. The project commenced in February 2023.

"Performance Improvement of Micro Propulsion System for Unmanned Aerial Vehicle (UAV)" is the title of the research project that secured a grant of 46.82 lakhs INR from AR&DB, DRDO (Aeronautical Research and Development Board, Defence Research and Development Organization). Dr. P.S. Samuelratnakumar is the coordinator of this project, and starts in April 2023.

Distinguished Visitors and Guests to the Department

Timoh William Chick, Head of Mechanical Engineering Laboratory, PF Fokam Institute of Excellence, Cameroon, visited from 13th March 2023 to 21st March 2023, with the purpose of Academic Education Quality Improvement.

Fokom Kamsu Nestor, Faculty of Mechanical Engineering Laboratory, PF Fokam Institute of Excellence, Cameroon, visited from 13th March 2023 to 21st March 2023, for Academic Education Quality Improvement.

Roger Corneille Nkseumou Ngassi, CS/ IT Instructor, PF Fokam Institute of Excellence, Cameroon, visited from 13th March 2023 to 21st March 2023, as part of Academic Education Quality Improvement.

Njiakim Simo Jordan, PF Fokam Institute of Excellence, Cameroon, visited from 13th March 2023 to 21st March 2023, focusing on Academic Education Quality Improvement.

Nono Fongang Arnel Deruru, PF Fokam Institute of Excellence, Cameroon, visited from 13th March 2023 to 21st March 2023, with a focus on Academic Education Quality Improvement.

Mr. R. Saravanakumar, Senior Technical Director at Capgemini Engineering, visited on 20th February 2023 for the Industry and Academia Conclave on NPD (New Product Development) and PLM (Product Lifecycle Management).

Ms. Vipraja Pulluru from PLM Capgemini Engineering visited on 20th February 2023 as part of the Industry and Academia Conclave on NPD and PLM.

Dr. Sampath, HR Head at Roots India Private Limited, participated in the Industry and Academia Conclave on NPD and PLM on 20th February 2023.

Mr. Raja Manoharan, Senior General Manager and Devotional Head at KSB Limited, was also present at the Industry and Academia Conclave on NPD and PLM on 20th February 2023.

Dr. Leo Dev Wins, a Professor from the Mechanical Department at Karunya University, attended the Industry and Academia Conclave on NPD and PLM on 20th February 2023.

Industry Partnerships

L & T EduTech, Chennai, invited Dr. S. Ramanathan from 29th May 2023 to 2nd June 2023 to attend the Advanced Industry Faculty Immersion Program.

Ammarun Foundries hosted **Dr. V.R. Muruganatham and Dr. S. Thirumurugaveerakumar** from 22nd May 2023 to 26th May 2023 for Faculty Internship Training.

Multi Tech Engineering organized an Internship Programme from 17th April 2023 to 22nd April 2023, in which Mr. K. Manikanda Prasath participated.

Dr. M.A. Vinayaga Moorthi, Mr. P.D. Devan, Mr. S. Subbiah Mr. K. Manikanda Prasath, attended an FDP (Faculty Development Program) in New Product Development at Capgemini Engineering, Hanudev Infopark, from 7th August 2023 to 8th March 2023 and 14th March 2023 to 15th March 2023.

Dr. V.R. Muruganatham participated in the Conclave - 2023 organized by The Coimbatore Productivity Council at Hotel Residency, CBE, on 21st February 2023

Mr. B. Jeeva entered into a industry partnership for consultancy with M/s SKF Boilers and Driers Pvt Ltd, located in Moodbidri, Mangalore, India on 27th April 2023 for the project titled "PRN-KCT_KCIRI_SKP2_Design and CFD analysis FGAHE_SKF_Boiler," and the consultancy fee for the project was Rs. 1,95,880/.

The Dept renewed its MoU with SS Engineering Works, Coimbatore, for a duration of 3 years starting from 30th January 2023. The faculty coordinators for this partnership are Dr. V. Muthukumaran, Dr. K. M. Senthilkumar, and Dr. S. Balaji.

MoU has been renewed with Shri Varshini Technologies, Coimbatore, for a period of 3 years commencing from 1st February 2023. The faculty coordinators involved in this partnership are **Dr. V. Muthukumaran, Dr. K. M. Senthilkumar, and Dr. S. Balaji.**

MoU with NDT Training, Coimbatore has been renewed for a duration of 3 years starting from 31st January 2023. The faculty coordinators for this partnership are **Dr. V. Muthukumaran and Dr. S. Balaji.**

LR Fabrications Private Limited, Coimbatore, has renewed its MoU with the institution for a period of 3 years, beginning from 21st January 2023. The faculty coordinator for this partnership is **Dr. V. R. Muruganatham.**

Outreach Events

Dr. M.A. Vinayagamoorthi, the Faculty Coordinator, organized an event titled "Advanced Technology for Younger Minds – Rapid Prototyping" at Government Higher Secondary School, Vellaikinar, Coimbatore, on 10th October 2022. The event aimed to create awareness about rapid prototyping among 11th standard government school students. A total of 23 students from the 11th standard benefitted from the event.

Dr. M.A. Vinayagamoorthi organized an event titled "Advanced Technology for Younger Minds – Internet of Things" at Government Higher Secondary School, Vilankurichi, Coimbatore on 23rd November 2022. A total of 27 students benefitted from this event educating young minds about emerging technologies in the field of mechanical engineering.

Alumni Engagement

Mr. V. R. Navaneeth, as the Faculty Coordinator, participated in the KCT Alumni Reunion for the Batch 1998 - 2002 on 9th July 2022.

On 9th May 2023, **Mr. V. R. Navaneeth** organized a Guest Lecture on "Applications of Advanced Materials" by Mr. Sethupathi Ranagraj, an alumnus from the Batch 2017-2021. The lecture aimed to showcase the practical applications of advanced materials and how they are shaping various industries. It provided a platform for current students to interact with an accomplished alumnus and gain insights into real-world experiences and opportunities.

Students / Research Scholars participation in conferences / seminars / webinars / workshops / symposia

Jeeva Bharathi K (Reg No 20BME048) attended a Regional Workshop on November 10, 2022, at Kumaraguru College of Technology

Vaseekaran S L (Reg No 20BME120) **Vetriselvan V** (Reg No 20BME122) **Nithesh S V** (Reg No 20BME080) participated in an International Conference from February 22, 2023, to February 24, 2023, at SRM Institute of Science and Technology.

Awards and Recognition won by students

Janarthanan V (Reg No 21MIE005) won the Grand Finale of Smart India Hackathon SIH 2022 in the National category. The recognition was awarded by the Ministry of Education Innovation cell on August 29, 2022, at the Ministry of Education Innovation cell.

Vaseekaran S L (Reg No 20BME120) participated in the SNS Colors - National level design thinking contest and festival and emerged as the Winner of Productathon. The event was held at SNS College of Engineering from September 27, 2022, to September 29, 2022.

Praveen Kumar R (Reg No 20BME087) shared the First Place in the team category and secured the Second Place in the Dimensions event at the SNS Colors - National level design thinking contest and festival held at SNS College of Engineering from September 27, 2022, to September 29, 2022.

Shakeel Akthar S (Reg No 20BME104) received the Best

Project Award (Winner) for the project presentation on "Design and development of gloves for the earth movers bucket" at Hindusthan Institute of Technology - MECHTRIGERZ 2022 on November 18, 2022.

Joshua S (Reg No 21BME035) achieved the Third Place in the IIT MADRAS Sastra 2023 Biz QUIZ held at IIT Madras on January 26, 2023.

Joshua S (Reg No 21BME035) secured the First Place in the Master Mind Quiz at Nehru Institute of Technology on January 25, 2023.

Joshua S (Reg No 21BME035) won the Third Place in the Business Quiz event at Nirvana 2022 National level management fest held at St. Joseph College, Kerala on February 4, 2023.

Joshua S (Reg No 21BME035) achieved the First Place in the Business Quiz at GRD Academy of Management on February 9, 2023.

Joshua S (Reg No 21BME035) secured the Second Place in the Kho Kho event at the 12th Centies Championship 2023 held at Sri Ramakrishna Institute of Technology on February 15, 2023.

Non-Academic Participation in Events / Initiatives / Competitions

Akash Velanganni D (Reg No 20BME008) participated in the Physical round phase III of BAJA SAE India 2022 organized by the Society of Automotive Engineers (SAE), India, from June 01, 2022, to June 05, 2022 and secured recognition among several other institutes.

Gowtham R (Reg No 20BME037) participated in the Physical round phase III of BAJA SAE India 2022 organized by the Society of Automotive Engineers (SAE), India, from June 01, 2022, to June 05, 2022 and achieved recognition among several other institutes.

Nithesh S V (Reg No 20BME080) reached the FINALS of the V Guard Big Idea Design and Tech Challenge 2022 at V Guard Industries Ltd on November 19, 2022 and showcased his talent.

Sujith Kumar S (Reg No 20BME113) completed the Certification course on Introduction to Project Management conducted by Sakthi Excellence Academy - KCT on January 19, 2023.

Vidhun C R (Reg No 20BME260) and **Santhosh Muthy K** (Reg No 20BME247) were selected for the international Study tour at ARA Institute of Canterbury, New Zealand, from January 23, 2023, to February 10, 2023 on Engineering Systems Analysis.



SCHOOL OF
MECHANICAL & BUILT ENVIRONMENT SCIENCES

Mechatronics Engineering

From the HoD's Desk

In order to equip our students to meet the real-world demands in robotics and automation, the department of mechatronics engineering is being consistently updating its course content and curriculum along with guidance from the allied industries. Thus we cater to our students with industry-sponsored courses, such as HMI and PLM supported by Bosch and Capgemini respectively. Our students have shown their exemplary talents in national and state-level technical events and won funding for their start-ups from the central and state government agencies. In the upcoming year, the department has planned to provide skill development and training programs for our students in the areas of robotic process automation, Additive manufacturing, and drone technologies.

Thrust Areas of the Department

1. Robotics process automation
2. Additive manufacturing
3. Robotic operating systemTum



Programme(s) Offered

B.E. Mechatronics Engineerin

No of Students on Roll	
I Year UG	60
II Year UG	66
III Year UG	65
IV Year UG	64
Research Scholars	23

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended	1
No. of Seminars / Webinar Attended	13
No. of FDPs attended	28
No. of Seminars / Webinars Organised	5
No. of Journal Publications	28
No. of Consultancy Projects	2
No of Industry Projects	3
No. of Patents filed	6

Pivotal Accomplishments

The most significant or milestone achievements of the Department / Faculty / Students such as establishment of Centre of Excellence, Industry sponsored Laboratory, launch of new programme, Patent filing any other compelling / momentous achievements

- 1) Improved student and faculty publications
- 2) Setting of 3D printing laboratory
- 3) Successful registration of two students start ups

Seminars, Workshops, Conferences and Short-term Courses attended

Seminars / Webinars Attended

Dr. M. Saravana Mohan attended a seminar on "Indigenisation requirements and roadmap for Indigenization in Indian Air Force" at Indian Air Force, Sullur Air Base on 08 June 2022.

Dr. M. Saravana Mohan participated in a webinar on "Supercapacitor - Way to EV" virtually on 18 August 2022. Mr. SIVAGURU J attended recent amendments announced by the Government for the EV sector in a virtual event on 21 November 2022.

Mr. Ramkumar A and **Mr. Murugesan K** attended a seminar on "Automation updates in India" offline on 15 December 2022.

Mr. R. Raffik attended the virtual webinar on "Nuances of Scientific Publishing" on 26 April 2023, "Hydraulics" on 16 May 2023, "Predictive Analytics - Gradient Boosting" on 16 May 2023, "Advanced Hydraulics" on 18 May 2023, and "Predictive Analytics - Tree Based Methods" on 05 December 2023.

Raffik attended "SEAO Webinar Uplift your Palletising with Universal Robots and OnRobot", a virtual event on 05 September 2023.

Mr. M. Saravana Mohan attended a seminar on "Accelerating Defence & Aerospace Industry in TN Defence Corridor" organized by The Society of Indian Defence Manufacturers (SIDM), Confederation of Indian Industry (CII), Tamil Nadu Industrial Investment Corporation Ltd (TIIC), and Tamil Nadu Industrial Development Corporation Limited (TIDCO) on 18 May 2023.

Mr. R. Raffik participated in a webinar on "How to be a Peer Reviewer" virtually on 31 May 2023.

Workshops Attended

Mr. R. Raffik attended the "5 Days Designing and Modelling of IoT, AI & ML Systems" workshop organized by the All India Council for Technical Education (AICTE), Arm Education, and STMicroelectronics from 03 May 2022 to 08 May 2022.

Mr. K. Murugesan participated in the "Revised NAAC Accreditation Process - Acing Quantitative and Qualitative Metrics" workshop at Kumaraguru College of Technology from 10 October 2022 to 13 October 2022.

Dr. B. Sabitha took part in the "Design and development of outcome-based curriculum" workshop at Kumaraguru College of Technology on 17 October 2022.

Mr. SIVAGURU J attended the "Intelligent Battery Management for Electron Economy" workshop at PSG Tech on 20 October 2022.

Mr. Ramkumar A participated in an "Awareness program on world skills competition" workshop on 28 October 2022.

Dr. A. Vasuki attended the "Design and development of outcome-based curriculum" workshop at Kumaraguru College of Technology (Virtual) on 17 October 2022.

Mr. T. Suresh participated in the "Improving Research Performance using ScienceDirect & Scopus" workshop organized by Elsevier (Virtual) on 16 November 2022.

Dr. M. Saravana Mohan also attended the "Improving Research Performance using ScienceDirect & Scopus" workshop by Elsevier-KCT (Virtual) on 16 November 2022.

Mr. R. Saravanan, Mr. K. Murugesan and Mr. A. Ramkumar participated in the "Improving Research Performance using ScienceDirect & Scopus" workshop organized by Elsevier-KCT (Virtual) on 16 November 2022.

Mr. A. Ramkumar attended the "Improving Research writing using Grammarly" workshop by Bridge People Technology solutions & KCT (Virtual) on 02 November 2022.

Mr. A. Ramkumar participated in the "Microsoft PowerPoint" workshop by Skill Nation (Virtual) on 26 November 2022.

Mr. Ramkumar A took part in the "Research paper Writing" workshop organized by Commacad (Virtual) from 17 December 2022 to 18 December 2022.

Dr. M. Saravana Mohan attended the "Academic Research and Publishing in High-Quality Journals" workshop organized by Anna University Chennai (Virtual) on 19 December 2022.

Mr. R. Raffik participated in the "Proposal Writing in Metal 3D Printing for Young Professionals" workshop at KCT (Virtual) on 05 December 2022.

Mr. Ramkumar A attended the "Systematic Literature Review" workshop organized by Commacad (Virtual) from 14 January 2023 to 15 January 2023.

Mr. R. Raffik participated in the “Digital Twin Technologies for Autonomous Vehicles” workshop at Kumaraguru College of Technology from 27 March 2023 to 28 March 2023.

Mr. P. Magudapathi also participated in the “Digital Twin Technologies for Autonomous Vehicles” workshop at Kumaraguru College of Technology from 27 March 2023 to 28 March 2023.

Mr. Ramkumar A attended the “AI Tools” workshop organized by Be10X (Virtual) on 26 March 2023.

Mr. SIVAGURU J participated in the “Best Practices and Techniques for inclusive and sustainable industrial development in Tamilnadu” workshop organized by Tamilnadu Industrial Investment Corporation Limited (TIIC) and United Nations Industrial Development Organization (UNIDO) on 31 May 2023.

Conferences Participated

Dr. K. Akila attended the “International Conference on Sustainable Design, Materials, and Manufacturing in Engineering (ISDMME - 2023)” at Dr. N G P Institute of Technology, Coimbatore, from 05 April 2023 to 06 April 2023.

FDPs Attended

Mr. Magudapathi P attended the “FDP on Defence Technology” at KCT from 20 June 2022 to 22 June 2022.

Mr. Ramkumar A, Sivaguru J, Dr. B. Sabitha and Dr. K. Akila participated in the “IEEE Seasonal School on Image, Video and Audio Processing for Pattern Recognition” at KCT from 23 June 2022 to 28 June 2022.

Mr. R. Raffik participated in the “Robotic Process Automation” workshop organized by PSNA College of Engineering and Technology & ICT Academy from 13 June 2022 to 17 June 2022.

Dr. K. Akila participated in a “7-day National workshop on POST NAAC QUALITY ENHANCEMENT IN HIGHER EDUCATION INSTITUTIONS” organized by Avinashilingam Institute for Home Science & Higher Education for Women from 22 August 2022 to 29 August 2022.

Mr. Sivaguru J attended “UHV-2,” an AICTE workshop organized by MAR BASELIOUS College of Engineering and Technology from 29 August 2022 to 02 September 2022.

Dr. B. Sabitha and P. Magudapathi participated in the workshop “Discovering electric vehicle through ANSYS simulation” at PSG College of Technology, Coimbatore, from 19 September 2022 to 23 September 2022.

Mr. T. Suresh attended the “NPTEL-AICTE Faculty Development Programme on Accreditation and Outcome Based Learning” organized by NPTEL (IIT Madras) from 22 August to 01 October 2022.

Mr. Sivaguru J participated in the “Microsoft Power BI Data Analyst Associate” workshop organized by ICT academy from 05 December 2022 to 09 December 2022.

Mr. Ramkumar A attended the “Kinematics Analysis of Robot Mechanisms Fundamentals” workshop organized by IITDM Kanchipuram from 09 December 2022 to 15 December 2022.

Mr. Ramkumar A attended the “UAV Electronics” workshop at IIT Madras from 26 December 2022 to 01 January 2023.

Mr. Raffik R participated in the “Kinematics Analysis of Robot Mechanisms Fundamentals” workshop at IITDM Kanchipuram from 09 December 2022 to 15 December 2022.

Mr. R. Saravanan attended an “Entrepreneurship Development” program organized by NSTEDB from 30 January 2023 to 10 February 2023.

Mr. R. Raffik participated in the “Fundamentals of Technology Enabled Learning” workshop organized by NITTTR - Kolkata from 20 February 2023 to 24 February 2023.

Mr R. Raffik attended the “Advance Excel with Data Visualization” workshop organized by EICT - IIT Kanpur from 13 February 2023 to 17 February 2023.

Mr. Raffik R participated in the “Teaching and Learning in Engineering (TALE)” program organized by NPTEL - IIT Madras from 23 January 2023 to 26 March 2023.

Mr. Raffik R also attended the “Manufacturing Automation” program organized by NPTEL - IIT Madras from 23 January 2023 to 26 March 2023.

Mr. Raffik R participated in the “IOT & Drone” program organized by EICT - IIT Kanpur from 27 February 2023 to 03 April 2023.

Dr. B. Sabitha, Magudapathi P, and Sivaguru J also participated in the “Teaching and Learning in Engineering (TALE)” program organized by NPTEL - IIT Madras from 23 January 2023 to 26 March 2023.

Mr. R. Raffik attended the “Robotic Process Automation Associate (UiPath)” program organized by ICT Academy & Periyar Maniammai Institute of Science & Technology, Vallam, Thanjavur, from 24 April 2023 to 28 April 2023.

Dr. K. Akila participated in the “Machine Learning for Signal Processing Applications and Research Challenges” program organized by Kumaraguru College of Technology, Coimbatore, in association with IEEE Signal Processing Society (SPS) Madras chapter and TI CoE on Signal Processing and Embedded Systems from 15 May 2023 to 20 May 2023.

Mr. R. Saravanan and Mr. K. Murugesan attended the “COVIDYA - Startup Sandbox” program organized by MaDeIT, IITDM from 15 May 2023 to 27 May 2023.

Research Publications

Dr. B. Sabitha, AP III, published an article titled "Deep Learning Based Recognition of Plant Diseases" in the Journal "Computer Vision and Machine Intelligence Paradigms for SDGs" by Springer, in Jan 2023

Mr. R. Raffik, AP II, published an article titled "Research on nonlinear tracking and evaluation of sports 3D vision action" in the Journal "Electrica" by AVES, on 06.03.2023.

R. Raffik, AP II, also published an article titled "Wireless Sensor Network Technology for Vibration Condition Monitoring of Mechanical Equipment" in the Journal "Nonlinear Engineering," on 18.03.2023.

Mr. R. Raffik from AP II contributed a research paper titled "Wireless Sensor Network Technology for Vibration Condition Monitoring of Mechanical Equipment," in the journal Nonlinear Engineering in 2023.

Mr. R. Raffik, AP II, contributed to a paper titled "Metaheuristics Based Modeling and Simulation Analysis of New Integrated Mechanized Operation Solution and Position Servo System" in the Journal "Mathematical Problems in Engineering," on 18.06.2022.

Mr. R. Raffik, AP II, also authored a paper titled "Single-Input Single-Output System with Multiple Time Delay PID Control Methods for UAV Cluster Multiagent Systems" in the Journal "Security and Communication Networks," on 28.06.2022.

Dr. B. Sabitha, AP III, published an article titled "A hybrid swarm intelligence approach for resolving reactive power dispatch issues in the power system Optimal placement and sizing of UPFC" in the Journal "Advances in Engineering Software" by ScienceDirect, in August 2022.

Mr. T. Suresh, AP II, contributed to an article titled "Influences of Ag+LiAlO₂ on mechanical and high-temperature wear behavior of magnesium hybrid composites" in the Journal "Digest Journal of Nanomaterials and Biostructures," in September 2022.

Mr. R. Raffik, AP II, published a paper titled "Designing and implementing a smart transplanting framework using a programmable logic controller and photoelectric sensor" in the Journal "Energy Reports" by ScienceDirect, in November 2022.

R. Raffik, AP II, contributed to an article titled "Anti-cracking performance test of thick steel structure fireproof coating under vibration fatigue load for critical health infrastructure" in the Journal "The Journal of Engineering" by Wiley, on 15.08.2022.

Mr. R. Raffik, AP II, published an article titled "Utilization of E-Waste as a Concrete Mixture for Infrastructural Buildings" in the Journal "Materials Science Forum" on researchgate.net, in September 2022.

Dr. A Vasuki, Professor, published a tutorial on "Digital Watermarking" in the journal "IEEE Potentials" by IEEE Xplore, with a period of publication on 28.06.2022.

Mr. T. Suresh, AP II, published an article titled "Optimized electrical discharge machining parameters through drilling of AISI 304 steel using the Taguchi technique" in "AIP Conference Proceedings" by AIP Publishing on 26.08.2022.

Mr. R. Saravanan's research on the "Effect of Ni and Si addition on electrical, tribological, and corrosion behavior of novel Cu-Zn alloy" was published in the "Journal of Ceramic Processing Research" on 22.03.2022.

Mr. R. Raffik, AP II published an article titled "The disc brake of long-range UAVs through verified computational coupled approaches" in "Symmetry" by MDPI, on 29.09.2022.

Mr. R. Raffik, AP II, published an article titled "Optimized target acquisition and sorting for object-finding multi-manipulator based on open MV vision" in "Nonlinear Engineering" on 20.09.2022.

Mr. R. Raffik, AP II, published an article titled "Vibration State Monitoring of Mechanical Equipment Based on Wireless Sensor Network Technology," in "Electrica" on 26.09.2022.

Dr. M. Saravana Mohan published an article titled "The joint dynamic property of a nanoclay-based redundant SCARA robot" in "Periodico di Mineralogia" in 2022.

Mr. R. Raffik from AP II, published a paper titled "An AHP-TOPSIS Approach for Optimizing the Mechanical Performance of Natural Fiber-Based Green Composites" in Advances in Materials Science and Engineering, in October 10, 2022.

Dr. A Vasuki, contributed to AIP Publishing with a paper titled "Performance analysis of modified shuttle mechanism in polymerized bag weaving circular loom," published in AIP Conference Proceedings 2446 on November 29, 2022.

Mr. K. Murugesan, presented a paper titled "Preparation and characterization of mullite ceramic nano powder for use in nanocomposites" in AIP Conference Proceedings 2446 on November 29, 2022.

Mr. K. Murugesan, authored a paper titled "Design and fabrication of muffler using natural fiber," published in AIP Conference Proceedings 2446 on November 29, 2022.

Dr. M. Saravana Mohan, published a paper titled "Damping behavior on AA5083-Al₂SiO₅ nanocomposites for SCARA robot arm," published in AIP Conference Proceedings 2446, on November 29, 2022.

Dr. M. Saravana Mohan published a paper titled "Investigating joint dynamic parameter of aluminium-steel composite foam based redundant delta robot with multiple tool end effector" in AIP Conference Proceedings 2446, on November 29, 2023.

Dr. M. Saravana Mohan authored a paper titled "Influence of materials in SCARA robot joints and end effectors," published in AIP Conference Proceedings 2446 on November 29, 2022.

Mr. R. Raffik from AP II, contributed to SAE Technical Paper titled "Mechanical Properties Enhancement of A356 Alloy Hybrid Composite by FSP and SP Route" in 2022.

Dr. B. Sabitha, AP III published a paper titled "Optimal Placement of UPQC in Distribution Network Using Hybrid Approach" in Cybernetics and Systems on December 29, 2022.

Mr. R. Raffik from AP II published a paper titled "Design and Parametric Study of Counter-Rotating Propeller of Unmanned Aerial Vehicles for High-Payload Applications based on CFD-MRF Approach" in the International Journal of Vehicle Structures & Systems in 2022.

Dr. A Vasuki published a paper titled "Deep remote fusion development of improved deep CNN with atrous convolution-based remote sensing image fusion" in The Imaging Science Journal on April 19, 2023.

Patent Filed

Suresh T filed a patent for a Hydraulic Tree Shifter Machine and Robot.

Mr. R. Raffik submitted a patent for an Ornithopter UAV designed for Animal Injections.

Mr. T. Suresh filed a patent related to Compressed Air Production and Energy Generation using Vehicle Suspension.

Mr. R. Raffik initiated a patent application for a Surveillance Mobile Robot designed for hazardous situations.

Dr. M. Saravana Mohan filed a patent for an Electromechanical Crawler.

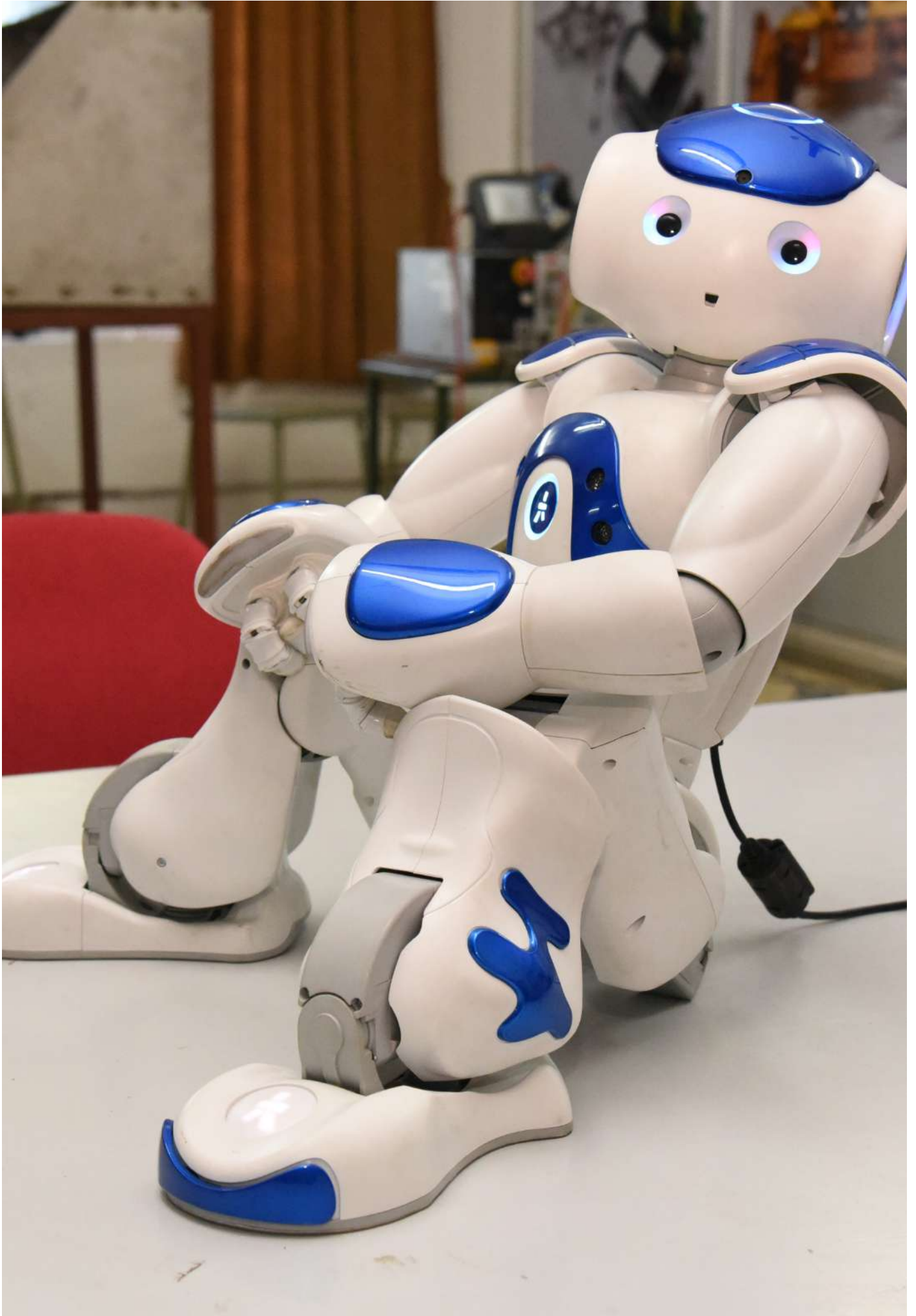
New Centres / Equipment added

The department acquired a 3D Printer at a cost of 6,01,257.20 INR.

The department acquired a 3D Scanner at a cost of 3,66,921 INR.

The department acquired an IoT-based pneumatic actuator control system with a pneumatic gripper and associated accessories at a cost of 1,21,599 INR.





SCHOOL OF
MECHANICAL & BUILT ENVIRONMENT SCIENCES

Civil Engineering



From the HoD's Desk

The Department planned to start a new PG program in AY-2024-2025 and submitted the proposal PG-Infrastructural Engineering and Management to Anna University in 2023-24. The Department UG- NBA accredited with 3 years and PG- Structural Engineering accredited with NBA-3 years. The Department also planned for International accreditation CIOB (first in India -KCT) and submitted the application for the panel visit in September 2023 and CIOB -Student's chapter inauguration on 9 August 2023 . The Department generated the consultancy revenue of Rs.12 lacs and Rs.19 Lacs .

Thrust Areas of the Department

The thrust areas of Civil Engineering department are Structural Engineering, Environmental & Geotechnical Engineering where industrial consultancy carried out with faculty members & students to solve the industrial problems viz. Bridge design, mix design of concrete, materials testing , NDT , soil analysis, SPT for soil strata analysis (SBC) & water and waste water testing for various industries to carry out the project for industries. The industrial experts have delivered hands on training to students & faculty members in Non-Destructive testing, Soil exploration, workshop & webinars in all Civil Engineering verticals.

Programme(s) Offered

B.E. Civil Engineering
M.E. in Structural Engineering
M.E. in Environmental Engineering
M.E. in Construction Management
Ph.D Civil Engineering

No of Students on Roll

I Year UG	110
II Year UG	128
III Year UG	129
IV Year UG	119
I Year PG	38
II Year PG	41
Research Scholars	34

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended	5
No. of Seminars / Webinar Attended	3
No. of FDPs attended	17
No. of Conferences Organised	1
No. of Seminars / Webinars Organised	15
No. of Conferences Publications	39

Pivotal Accomplishments

Civil Engineering Students visited ATAL Tunnel at Rohtang as part of study tour sponsored by ATAL YUVAK Scheme of Rs 2,00,000.

Prabakaran PA, Satheesh Kumar KRP, Aswin Barath A, delivered training sessions to Karnataka and Maharashtra State Highway Officials.

Dr.A. Gayathri was granted the patent "Red mud brick and the method of manufacture thereof" for sustainable red mud bricks casted using industrial by products completely.

No. of Journal Publications	45
No. of Consultancy Projects	13
No of Industry Projects	11
No of International Visitors	2
No. of Patents filed	4
No. of Patents Awarded	2

Dr. V. Gayathri and **Dr. R. Manju** attended the India Construction Meet 2023 organized by the Construction Industries Development Council (CIDC), New Delhi. The event spanned from 10th to 14th April 2023 and included venues at CIDC, New Delhi, Earthquake Engg Department, IIT Roorkee, and Central Building Research Institute (CBRI), Roorkee.

Short-term Courses Attended

Mrs.S.Anita completed NITTTR-AICTE Training Modules 6, 7, and 8 virtually.

Mr.P.Nandhakumar participated in a two-week online Ansys industrial training.

Dr.V.Gayathri attended a Geotechnical Investigation short-term course at IIT Gandhinagar.

Mr.K.R.P.SatheeshKumar joined the e-WILES 2022 course on Wind Loads and Effects on Structures virtually.

Mr.A.Vishnu and **Mr.G.Karthikeyan** attended a short-term course on "Composites in Defence Sector" at IIT Varanasi.

Faculty Development Programmes Attended

Mr.A.Vishnu, Mr.P.A.Prabakaran, Mr.G.Karthikeyan, and **Mr.K.R.P.SatheeshKumar** attended the FDP on "Application of SAR Technology in Disaster Management" at IIT Roorkee.

Mr.G.Karthikeyan participated in "Outcome Based Education and Accreditation Process (OBEAP 2022)" at SSN College of Engineering.

Dr.K.Ramadevi attended the FDP on "Analysis, Design, and Detailing of Multistoried Buildings using ETABS Software" at NITTTR, Chennai.

Dr.B.Nithyalakshmi and **Mr.A.AswinBharath** took part in the "Innovation Mentor Capacity Building Program" at Forge.

Dr.A.GeethaKarthi and **Dr.B.Nithyalakshmi**

participated in a two-week FDP on "Ecology and Environmental Studies" by NITTR, Kolkata (Virtual).

Dr.R.Manju, Dr.B.Nithyalakshmi, Ms.U.SindhuVaardini, and **Mr.A.AswinBharath** completed NPTEL courses on "E-WasteManagement" and "NaturalHazards" during Jan-Feb 2023.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Seminars, Workshops, Conferences and Short-term Courses attended

Seminar Attended

Dr. A Geetha Karthi participated in the seminar on Innovation in Manufacturing and machining of advanced aerospace materials, which was funded by IFCPAR/CEFIPRA and held at PSG Itech, Coimbatore on 2nd and 3rd March 2023.

Workshops Attended

Mr. Sathyanathan K attended the workshop on Sustainable architecture and Building practices, along with an expo on Green building Materials, on 25th November 2022 at CIT.

Dr. N. Ramsundram participated in the workshop focusing on Nature-Based Water Management Techniques in coastal Aquifers, which took place on 24th and 25th February 2023 at IIT Madras.

Conferences Participated

Dr.N.Ramsundram and **Dr.A.Gandhimathi** presented at the 7th Indian International Conference on Air Quality Management at IIT Madras in November-December 2022.

Dr.N.Ramsundram also participated in the India Clean Air summit -2022 in August.

Mr.G.Karthikeyan attended the International Conference on Nanotechnology for Better Living in May 2023.

Dr.K.Ramadevi and **Dr.A.Vennila** jointly participated in the National Conference on Recent Advances in Construction Materials and Structures in February 2023.

Dr.R.Manju and **Dr.A.Vennila** attended a conference on the same theme at PSG Tech, Coimbatore.

Mr.P.A.Prabakaran virtually attended the Revolutionary Technology in Civil Engineering conference in February 2023.

Symposia Attended

Ms. S. Rajalakshmi and **Dr. A. Gandhimathi** participated in the Annual Monsoon Workshop (AMW 2022) and National Symposium on "Challenges in climate services for health sector in the warming environment," held from 28th to 30th March 2023 at IITM, Pune.

Seminars Organised

Dr.P.Eswaramoorthi and **Dr.A.Vennila** coordinated a one-day event on steel structure analysis and design, hosting 60 participants.

Dr.P.Eswaramoorthi and **Dr.A.Vennila** organized a session on civil service exam strategies with 60 participants.

Dr.B.Nithyalakshmi, Mr.A.AswinBharath, and **Dr.G.L.Sathyamoorthy** held a session on water-related aspects in the circular economy, attracting 150 participants.

Mr.A.AswinBharath, Dr.B.Nithyalakshmi, and **Dr.V.Selvan** organized a session on armed forces careers, engaging 110 participants.

Workshop Organised

Mrs.S.Rajalakshmi conducted a QGIS Software workshop from 22nd to 23rd August 2022.

Mrs.S.Anita and **Mr.J.Viswanth** organized a workshop on "Practical Instruction in GNSS – Advanced Surveying" on 9th September 2022.

Dr.A.Gandhimathi and **Dr.G.L.Sathyamoorthi** coordinated a "Thematic Map Preparation Using GIS Software" workshop on 17th September 2022.

Ms.U.SindhuVaardini, Mr.A.AswinBharath, **Dr.R.Manju** conducted a "Management Skills and Personality Development" workshop on 30th September 2022.

Conference Organised

Dr. P. Eswaramoorthi, Dr. G.L. Sathyamoorthi, Dr. V. Gayathri, Dr. R. Manju, Ms. U. Sindhu Vaardini, Dr. B. Nithyalakshmi, Mr. P. Nandhakumar, Dr. Vennila, Mr. Sathiyathan, and Mr. A. Aswin Bharath collectively organized the "International Conference on Sustainable Innovative Practices-SIP '23 (Civil and Mechanical Engineering)" held on 19th and 20th April 2023.

Research Publications

Structural Analysis Reviews

M Sam Horrison, Dr. Selvan V, and Mr. Satheesh Kumar K. R. reviewed pushover analysis procedures (IJARSCT, Mar 23).

P. Ponni and **Dr. J. Premalatha** explored high early strength concrete (Mar 23).

Rakeshwaran S and **Dr. J. Premalatha** investigated concrete blocks with phosphogypsum (Mar 23).

P. Eswaramoorthi and **K. Gowtham A** critically analyzed flat slab structural performance (Feb 23).

M. Gunal, P. Eswaramoorthi, and **S. Arun Kumar** compared Vierendeel beams in RCC, composite, and steel (Mar 23).

Concrete Studies and Innovations

V. Gayathri, K. Ramadevi, P. Eswaramoorthi, and A. Parvathy Karthika presented studies on high-strength concrete using fly ash and alccofine (AIP Conference Proceedings, Nov 22).

Sharan K and **Prof. Dr. Eswaramoorthi.P** conducted a literature study on long-span PEB industrial sheds (Mar 23).

S. Vivekananda Sharma, G. Hemalatha, and K. Ramadevi analyzed the magnetic field strength of MR-dampers (Materials Today Proceedings, May 22).

Environmental Impact and Air Quality Studies

Collaborative efforts assessed the environmental impact of air pollution on human health, PM deposition modeling, and ocular health (Multiple Journals, Various Dates).

Sneha M and **Ramsundram N** explored particulate matter exposure, the impact of COVID-19 on mixed urban cluster air quality, and more (Various Journals, Various Dates).

Studies led by **P. Keerthana Devi, A. Geethakarathi,** and others focused on arsenic removal, household carbon footprint assessment, and dye removal using biochar (Various Journals, Various Dates).

Infrastructure and Construction Techniques

Manju R, Subitha T., and collaborators explored bacterial consortia for concrete strength, reduction of heavy metal toxicity, and more (Various Journals, Various Dates).

Sasikumar P, P Nandha Kumar, and **Manju R** contributed to studies on concrete encased steel composite columns, structural behavior of high-strength concrete columns, and Sisal fiber reinforcement (Various Journals, Various Dates).

Nithin Chakravarthy. L, Dr. Manju. R, and Mr. Nandhakumar. P studied the behavior of RC and precast concrete frames under lateral loading (Mar 23).

Diverse Reviews on Construction Materials

Researchers collaborated on reviews covering integral abutment bridges, GFRG panels, and properties of various construction materials (Various Journals, Various Dates).

Reviews by **Krishnan.S, Sindhu Vaardini U,** and others explored planning, analysis, and design of institutional buildings, modular integrated construction, and more (Various Journals, Various Dates).

Miscellaneous Collaborations

Anantharam T and **Dr.R. Manju** co-authored a study on the influence of wind characteristics on module mounting structures (Jun 23).

Vijay Karthikeyan and **Dr.R. Manju** collaborated on simulating exterior wrapping for flexural studies on beams (Jun 23)

Book Chapter Publications

Dr. K. Ramadevi co-authored "Research Methodology Paradigms - IPR and Patent" (SIPH, Tamilnadu, Jan 2023). She also contributed to "Advances in Civil Engineering, Vol. 8" with a chapter on "Alternate Building Materials for Sustainable Construction" (Akinik Publications, New Delhi, Feb 2023).

Dr.N.Ramsundram, et al., wrote a chapter on “Temporal Prediction of Groundwater Levels” in “Impacts of Urbanization on Hydrological Systems in India” (Springer, Cham, Mar 2023).

Dr.A.Geethakarthis, et al., authored “Synthesis of Graphene Based Nanocomposite from Captured Industrial Carbon” in “Energy, Environment, and Sustainability Metal Composites for Energy and Environmental Applications.”

Book Publication

Dr. S. V. Rajashekararadhya, Mrs. Supreetha Patel T. P., Dr. G. Sudhakar, and Dr. K. Ramadevi collectively authored the book titled “Research Methodology Paradigms – IPR and Patent,” published by Scientific International Publishing House. The book was published in the academic year 2022–23.

PhD Supervision

Dr. B. Nithyalakshmi holds the position of a guide at Anna University, Chennai, with a focus on Environmental Engineering and Environmental Management.

Dr. Manju, also affiliated with Anna University, Chennai, guides a total of 5 scholars. Her research focus spans Bacterial Concretes, Prefabricated Structures, Waste Management, and Steel Concrete Composites, with corresponding outcomes being research publications.

Dr. A. Gandhimathi is associated with Anna University, Chennai, guiding 8 scholars. Her research focus encompasses the analysis of air pollution, climate changes, solid waste management, and rehabilitation structures. The outcomes of her guidance include the development of sensor-based products and research paper publications.

Membership in Professional Bodies / Institutions

Dr. V. Selvan, Dr. G. L. Sathyamoorthy, Dr. A. Gandhimathi, Dr. A. Geetha Karthi, Dr. B. Nithyalakshmi, and Mrs. S. Rajalakshmi are members of The International Water Association (IWA). **Dr. A. Gandhimathi** is also a member of AIR QUALITY MANAGEMENT ASSOCIATION since December 2022, and **Dr. A. Geetha Karthi** is a Fellow Member in the Institution of Engineers since February 2023.

Faculty in Editorial Board

Dr.V.Selvan is a reviewer for Nanomedicine & Nanotechnology Open Access (NNOA).

Dr.R Manju is a reviewer for Revista de la construction and Globalnest.

Dr.B.Nithyalakshmi is a reviewer for Biomass Conversion and Biorefinery, Nature Environment and Pollution Technology, Global NEST, Urban Climate, Water Conservation Science and Engineering.

Mr.P.A.Prabakaran is a reviewer for Engineering, Construction and Architectural Management.

Mr.K.R.P.SatheeshKumar is a reviewer for Advances in Science, Technology and Engineering Systems Journal (ASTESJ) (ISSN 2415-6698).

New Equipment Procured

The Structural Technology Centre acquired a Concrete Core Drilling Machine with a total value of INR 3,41,138.00, and the funding for this acquisition was provided by KCT.

Patent Filed

Geethakarthis A has filed a patent for a “Sectional Hank Dyeing Machine.”

Prabakaran P A has filed a patent for the “Design of Digital Hammer for Smart Construction.”

Mr. A.Aswin Bharath has filed patents for both the “Design of Industrial Chimney” and the “Design of Air Purifier Face Mask.”

Patent Granted

Dr. V. Gayathri has been awarded a patent for the “Red mud brick and the method of manufacture thereof.”

Aswin Barath A has been awarded a patent for “Rice Husk Ash Extracted Sodium Silicate for Synthesis of Zeolites and their Co2 Adsorption Performance.”

Sponsored Research Grant

The research project titled “Eco-Friendly cost-effective silk dyeing technology for rural women upliftment of Sirumugai weaving cluster” received a grant of Rs. 19.75 Lakhs from DST – SEED. The project is coordinated by **Ms. R. Sukanya Devi** and **Dr. A. Geethakarthis**.

Industry Partnerships and Collaborations

Dr. K. Ramadevi facilitated a 7-day partnership with D-CAD Technologies, New Delhi, involving NDT investigation of TG Foundation at Thermal Power Station, Gujarat, for an amount of Rs. 64,000. A 7-day collaboration with Trilochana Associates, Palghat, was led by **Dr. K. Ramadevi**, focusing on mix design and material properties investigation, with a total amount of Rs. 21,240.

Mr. G. Karthikeyan established a 4-year partnership (2021 to 2024) with edX Online Campus Essentials, providing 500 subscriptions. Additionally, he secured a 1-year collaboration with Ekeeda Digital Library, offering 6,000 subscriptions.

Outreach Programmes

Dr. A. Geethakarthis conducted a one-day outreach program focused on “Technology Awareness among Sirumugai Dyers and Weaving Clusters,” emphasizing dyeing and effluent treatment.

Dr. V. Gayathri participated as a panelist in a one-day session on “Skilling entrepreneurship & Industry Academia” during the India Construction Meet 2023 organized by the Construction Industries Development Council (CIDC) in New Delhi.

Mr. G. Karthikeyan delivered an invited talk over a 5-day period at ICNBL 2023 hosted by NIT, Srinagar (J&K).

Alumni Engagement

Dr.A.Gandhimathi organized an Alumni-sponsored National Level Project Competition on March 24, 2023.

Dr.A.Gandhimathi conducted an event focusing on “Thematic Map Preparation using GIS Software” involving alumni participation on September 14, 2023.

Dr.K.Ramadevi and **Mrs.Rajalakshmi** collaborated on a career guidance session for civil engineers on February 16, 2023.

SCHOOL OF BIOSCIENCES

Biotechnology

Programme(s) Offered

B.Tech. Biotechnology
M.Tech. Biotechnology
Ph.D Biotechnology

From the HoD's Desk

The department is dedicated towards academic excellence with a mission to harness and nurture specific skill sets that integrate life science and technology. To meet the fast-changing demands of the industry and to provide a supply of skilled workforce that conforms to various international and national guidelines. The curriculum is constantly upgraded to suit the demands of the industry and prepare students for employment and research in bio-manufacturing, Pharma, Food industries, Natural products, and bioinformatics solutions. The department aims to elevate itself to a Center of Excellence through various research contributions in biotechnology as well as interdisciplinary domains.

Thrust Areas of the Department

The key areas of expertise include Enzyme Technology, Environmental Biotechnology, Natural products, Bioinformatics and Functional Foods. The department has attracted significant funding from DBT, DST, AICTE and SERB for research projects worth 2.5 Crores. The faculty members with students are making quality publications with highest impact factor of 14.98.



No of Students on Roll

I Year UG	57
II Year UG	57
III Year UG	55
IV Year UG	51
I Year PG	6
II Year PG	17
Research Scholars	14

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended	4
No. of FDPs attended	5
No. of Seminars / Webinars Organised	13
No. of Conferences Publications	5
No. of Journal Publications	12
No of International Visitors	1
No. of Patents filed	1
No. of Grants Applied	3
No. of Grants received	1
Total Grant mobilised (in INR)	11 Lakhs

Pivotal Accomplishments

Research Centre for Excellence in Microscopy has been established with the support of DST-SERB and Carl-Zeiss Private Limited at a cost of 60 lakhs.

Dr. N. Sivarajasekar has been awarded Summer Research Fellowship by Indian National Academy of Sciences at Indian Chemical Technology, Mumbai during May - June 2022.

Dr. N. Ram has been awarded TNSCST Young Scientist fellowship in Pondicherry University.

Mrs. V. Veerabhuvaneshwari organised a certification program on "Clinical Trials" with Spinus Life Sciences Private Limited, Coimbatore.

Seminars, Workshops, Conferences and Short-term Courses attended

Workshops Attended

Veerabhuvaneshwari. V attended the workshop on Scientific Writing & Publishing by Merck from August 24 to August 26, 2022.

Conferences Participated

Dr. K. Ram attended the International Conference on Drug Discovery at BITS, Pilani, from November 10 to November 11, 2022.

Dr. S. Nithya Priya participated in the IEEE conference, Fifth International Conference on Electrical, Computer and Communication Technologies (ICECCT) held from February 22 to February 24, 2023.

Veerabhuvaneshwari. V took part in the Advanced Technologies in Chemical, Construction, and Mechanical Sciences ICATCHCOME 2023 Conference (Hybrid Event) on February 09-10, 2023.

Veerabhuvaneshwari. V attended the "Fifth International Conference on Materials Science and Manufacturing Technology 2023 (ICMSMT 2023)" held on April 13 - 14, 2023.

Faculty Development Programmes Attended

Dr. T. Sathish Kumar attended FDP on Computational Statistics from August 01 to August 10, 2022, online, Warangal.

Dr. N. Saraswathy participated in FDP on Ecology and Environmental Studies from January 9 to January 20, 2023, at NITTTR, Kolkata.

Dr. N. Sivarajasekar attended FDP in Modern Packaging Technologies, Smart Warehouse Practices, and Hi-Tech Quality Analytical Instruments for Safe Food Supply from January 2 to January 7, 2023, at NIFTEM, Thanjavur.

Dr. K. Ram participated in FDP on Advanced Research Methodology & Publishing from November 1 to November 30, 2022, online at SGTB Khalsa College.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members

Seminars Organised

Dr. T. Sathish Kumar organized a seminar on "Process of Innovation Development, Technology Readiness Level (TRL), and Commercialization of Lab Technologies & Tech-Transfer" by Dr. Pavithra Somasundaram, Entrepreneur on March 24, 2023, with 45 participants, creating awareness about Entrepreneurial Start Up Outline.

Mrs. Veerabhuvaneshwari. V conducted a seminar on "Higher Studies Interaction and abroad application process" by Career Zone Consulting on February 15, 2023, with 25 participants.

Mrs. Veerabhuvaneshwari. V organized a seminar on "Opportunities at Ulster University, UK" by Dr. Jim McLaughlin, Director of the Nanotechnology and Integrated Bioengineering Centre, Ulster University, on February 22, 2023, with 25 participants.

Workshops Organised

Mr. Muthukumar P organized a workshop on "Basics in Cell Culture Techniques" on February 28, 2023, with 30 participants.

Dr. Nithyapriya S conducted a workshop on "Fruits and Vegetable Processing Techniques" on March 01, 2023, with 39 participants.

Dr. Ram K led a workshop on "Molecular Dynamics" on February 27, 2023, with 16 participants.

Dr. Sathish Kumar T organized a workshop on "Spectroscopic Techniques" on March 30-31, 2023 with 11 participants.

Dr. K. Kumaresan conducted a workshop on "Animal Handling" on April 05, 2023, and April 06, 2023, with 36 participants.

Dr. A. Thirumurugan organized a workshop on "Design of Experiments for Medium Optimization" on April 13, 2023, with 22 participants.

Dr. K. Kumaresan led a workshop on "Microbial Preservation" on May 10, 2023, with 25 participants.

Mrs. Veerabhuvaneshwari. V conducted a workshop on "Mammalian Cell Culture Techniques" from April 28-30, 2023 with 15 participants.

Special Lectures Delivered

Dr. T. Sathish Kumar acted as a BoS member at Kongunadu Arts & Science College on April 1, 2023.

Dr. N. Saraswathy acted as a BOS Member at Avinashilingam University on September 26, 2022, as an IBSC member at PSG College of Technology on June 11, 2023, and as a DC member at Karunya University on May 16, 2023.

Dr. R. Baskar acted as a DC member at PSG College of Technology on May 5, 2023, and at Kongu Nadu Arts & Science College on May 16, 2023.

Mrs. Veerabhuvaneshwari. V delivered a professional certificate course at Kalaingar Karunanidhi Institute of Technology on August 10-11, 2022.

Research Publications

Dr. K. Kumaravel authored research article "Virulence factors of uropathogens and their role in host pathogen interactions" in *The Cell Surface* in 2022.

Dr. K. Kumaravel published an article titled "A review on pilus assembly mechanisms in Gram-positive and Gram-negative bacteria" in *The Cell Surface* in 2022.

Dr. K. Kumaravel contributed to the book chapter "Fluorescent Probes to Visualize Subcellular Localization of Proteins in Bacterial Cells" in *Sustainable Digital Technologies for Smart Cities*, published in 2024. Link *Sustainable Digital Technologies for Smart Cities - CRC Press*

Dr. K. Kumaravel authored "Enterococcus faecalis thrives in dual-species biofilm models under iron-rich conditions" published in *Archives of Microbiology*.

Dr. M. Shanmugaprakash published research article "Biopreservative technologies of food an alternative to chemical preservation and recent developments" in *Food Science and Biotechnology* in 2023. Link *Food Science and Biotechnology - Springer*

Dr. M. Shanmugaprakash authored research article "Three-phase partitioning for the separation of proteins, enzymes, biopolymers, oils and pigments a review" in *Environmental Chemistry Letters* in 2023.

Dr. M. Shanmugaprakash published research article "Strategies to Enhance Biobutanol Production from Lignocellulosic Biomass" in *Microbiology of Green Fuels* in 2023.

Dr. M. Shanmugaprakash authored the publication titled "Chelating agent assisted barium titanate (BaTiO₃) nanoparticles by hydrothermal process" in *AIP Conference Proceedings* in 2022.

Dr. M. Shanmugaprakash authored the research article "Microbial pullulan for food, biomedicine, cosmetic, and water treatment A review" published in *Environmental Chemistry Letters* in 2022. Link *Environmental Chemistry Letters - Springer*

In 2022, **Dr. M. Shanmugaprakash** authored publication "Insolubilization of *Trametes versicolor* laccase as cross-linked enzyme aggregates for the remediation of trace organic contaminants from municipal wastewater" published in *Environmental Research*.

Dr. N. Saraswathy published authored publication "In situ forming alginate dialdehyde - Gelatin hydrogel containing cyclodextrin - curcumin accelerates in vivo wound healing" in *AIP Conference Proceedings* in 2022.

Dr. N. Saraswathy authored publication "Studies on release kinetics of curcumin from alginate dialdehyde hydrogel" in *AIP Conference Proceedings* in 2022.

Dr. R. Baskar authored publication "Banana peel metalloprotease characterizations" in *AIP Conference Proceedings* in 2022.

Veerabhuvaneshwari. V authored research article "Comparative antioxidant capacity of fucoidan batches extracted from *Sargassum* species" in *AIP Conference Proceedings* in 2022.

Veerabhuvaneshwari. V authored publication "Preliminary Analysis and Applications of Bio-Enzymes from Fermented Vegetable and Fruit Peel Wastes" published in the *Indian Journal of Natural Sciences* in August 2022.

Veerabhuvaneshwari. V authored publication "Formulation and evaluation of ointment for acne treatment" in *GSC Biological and Pharmaceutical Sciences* in 2022.

PhD Supervision

Dr. N. Saraswathy guides 8 research scholars focusing on Medical Textiles and Metagenomics.

Dr. R. Baskar supervises 1 research scholar conducting research on Antioxidants and Medicinal Plants, as well as Medical Textiles.

Dr. Kumaresan K oversees the work of 2 research scholars specializing in Probiotics and its applications.

Dr. M. Shanmugaprakash guides 1 research scholar involved in the study of Biopharmaceuticals.

Dr. A. Thirumurugan is guiding 1 research scholar focusing on Food Biotechnology.

Dr. N. Sivarajasekar guides 4 research scholars and conducting research in the field of Environmental Biotechnology.

Dr. K. Ram supervises 1 research scholar conducting research in Bioinformatics.

Membership in Professional Bodies / Institutions

Dr. N. Sivarajasekar was a member of the Indian National Academy of Sciences, Bengaluru admitted between June 2022 and August 2022.

Dr. K. Ram is associated with the TNSCST-Young Scientist Fellowship Scheme from December 2022 and February 2023.

Patent Filed

Dr. Baskar has a published patent titled "Protease based wound dressing material" with the patent number 202041057439.

Patent Awarded

Dr. P. Ramalingam has been awarded a patent for the invention titled "Selective Process for Complete Removal of Dyes in Textile Dye Bath Effluent and Textile Dyeing Wash Liquors."

New Centers/Equipments/Facilities

The Center for Excellence in Zeiss Epi-fluorescence Microscopy was established with the funding of 15.75 lakhs from DST-SERB (Department of Science and Technology – Science and Engineering Research Board).

Sponsored Research Grant

The research project titled "Accelerated Aerobic Composting Biodegradability Test Method on Modified ASTM Method" is funded by the Department of Biotechnology (DBT) with an amount of 11 Lakhs INR for a duration of 1 year (2022-2023). The project is coordinated by **Dr. Vinohar Stephen Raphael**, Associate Professor, and **Dr. Sathyamoorthy**, Professor, Dept of Civil Engineering.

Distinguished Visitors and Guests to the Department

Dr. G. Velvizhi, Senior Associate Professor from VIT, Vellore, visited on February 10, 2023, as a resource person for the TRL Workshop.

Supreet Singh, CEO of TANSAM, visited on February 27, 2023, for collaboration with TANSEM.

Dr. S. Priya, AVP of TIDCO, also visited on February 27, 2023, for collaboration with TIDCO.

Mrs. Pavithra from **Sri Yoganarsimha** International gave a guest lecture on March 24, 2023.

Mrs. Abiraamasundari, MD of Spinos Lifescience, visited on April 6, 2023, for the Spinos Certificate Program.

Dr. Sakthivel Sadayappan, Professor of International Medicine from Cincinnati, USA, gave a guest lecture on May 23, 2023.

Industry Partnership

An academic association was initiated between the academic institution and Spinos Life Science & Research Private Limited, located in Coimbatore, with Veerabhuvaneshwari. V serving as the coordinator in April 2023.

Alumni Engagement

Mr. P. Muthukumar organized the 7th Alumni Talk Series, Ms. Sagarika Prabhakar, Syngene International, Bengaluru, graduated from 2016-2020 batch on January 28, 2023.

Dr. T. Sathish Kumar led an Institution Innovation Council activity, session delivered by **Mrs. Madhumitha Haresh**, the Founder and Proprietor of Earth Care Biotech on February 1, 2023.

Students / Research Scholars participation in conferences / seminars / webinars / workshops / symposia

Iswaryalakshmi. S, Vidhyabharathi B and **Gayathri G** participated in BIOCONCORRENZA 2023 Symposium held on March 1, 2023, at Tamil Nadu Agricultural University-CBE.

Kavin K, JaiVarshini E, and Shruthe C attended National Conference on "Scientific Input, Technological Advancement, and Women Empowerment for Sustainable Development" on February 2-3, 2023, at Kongunadu Arts and Science College.

Deepsikha M J, Dhivya Dharshika C, Lohita K, Sowmiya Sri S Aravinth.S, Bavatharani.K, and Shivani.S participated in the National Conference on "Recent Trends in Genetic Engineering and Biotechnology" held on February 23-24, 2023, at SRM Institute of Science and Technology.

Aarushi.P and Iswaryalakshmi. S participated in conference "Achieving Holistic Health through Ayurveda Along with Advanced Technologies" May 5, 2023 by Patanjali Ayurveda Hospital.

Awards and Recognition won by students. Vaishnavi Bose S, Gayathri G, and Vidhyabharathi B received the "Best Paper Award" at ICATCHCOME 2023.

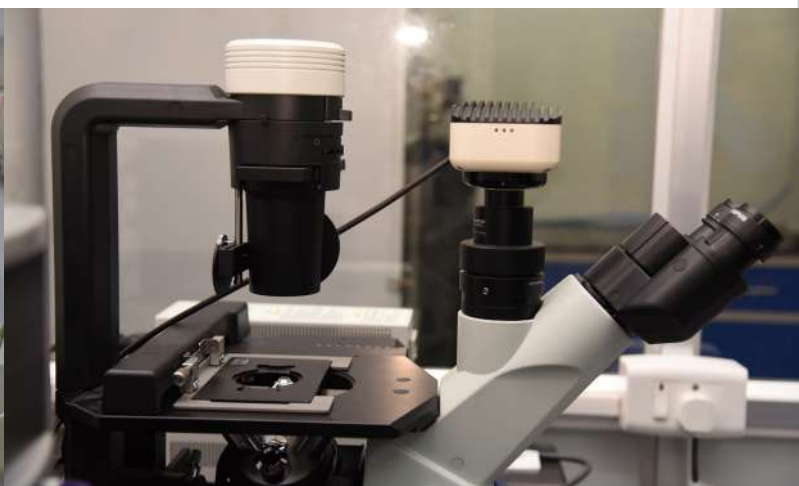
Jayapoorna.S and Mridula.R were awarded the "Best Research Poster Award" at the Indian Science Association Congress.

Deepsikha M J, Dhivya Dharshika C, Sowmiya Sri S, and Lohita K received the "Best Oral Presentation" award at SRM Institute of Science and Technology.

Aravinth.S, Bavatharani.K, and Shivani.S were honoured with the "Best Poster Presentation" award at the National Conference at SRM Institute of Science and Technology.

Lavanya S, Surya G, Mohamed Abu Fareed M received the "Best Paper Award" event at Arunai Engineering College on April 5-6, 2023.

Shabnam.S was honoured with the "Best Paper Presentation Award" at Sathyabhama University, Chennai.



SCHOOL OF ELECTRONIC SCIENCES

Electrical and Electronics Engineering



From the HoD's Desk

The department is devoted to academic excellence by motivating students to gain technical knowledge and promote their problem-solving skills, also concentrate solutions for the real time Electrical and Electronics engineering problems in the major thrust areas like Electrical Machines, Power Electronics and Drives, Power Systems, Embedded Systems, Electric Vehicle Technology and Sustainable Energy. Faculty upgrade their technical knowledge by undergoing certification courses and industrial training periodically, thereby imparting knowledge to students with hands on training to acquire proficiency in the domain of interest to explore real world applications. To bridge the gap between industry and academia, students are encouraged to work with various real time projects which also enhances employability.

Thrust Areas of the Department

Faculty and interested students are grouped into each of the thrust areas to enhance their technical skills with impactful outcomes such as research grants, industry partnerships, research paper publication and Patents. The major thrust areas are Electrical Machines and Drives, Power Electronics, Power and Energy Systems and Embedded Systems.

Programme(s) Offered

B.E. in Electrical and Electronics Engineering
M.E in Embedded systems technologies
Phd in Electrical and Electronics Engineering

No of Students on Roll	
I Year UG	132
II Year UG	126
III Year UG	127
IV Year UG	124
I Year PG	4
II Year PG	7
Research Scholars	25

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended	15
No. of Seminars / Webinar Attended	15
No. of FDPs attended	49
No. of Seminars / Webinars Organised	33
No. of Conferences Publications	45
No. of Journal Publications	16
No. of book chapters	17

Pivotal Accomplishments

13 member multidisciplinary team of GARAGE students including II year EEE students Vikash S, Naveen V Gerontius Leo L, Anand B have contributed to the design and development of e-boat at the international event - Monaco Energy Boat challenge, Ytch Club of Monaco, France on July 2022.

150 EEE students have undergone one/two-week industry internship at various industries in and around Coimbatore during their summer vacation.

No. of Consultancy Projects	4
No of Industry Projects	2
No. of Patents filed	14
No. of Grants Applied	6
No. of Grants received	5
Total Grant mobilised (in INR)	Rs.20,91,000/-

Dr.N.Prakash, Dr.T. Shanthi, Dr.B. Karunamoorthy, and Ms.D.Sharmitha engaged in the programs on "Trends and Challenges in Development of Electric Vehicles and Hybrid Electric Vehicles" from 14 Nov to 18 Nov 2022.

Dr.R.Kavitha, Dr.T.Shanthi, Dr.B.Karunamoorthy, Ms.D.Sharmitha attended the FDP on "Trends and Challenges in Development of E-vehicle" from 26 Sep 2022 to 30 Sep 2022.

Dr. M. Mohanraj, Dr.M.Nirmala, Dr.T.Viswannathan attended the FDP on "Integration of Energy Resources" from 01 Sep 2022 to 08 Sep 2022.

Short term courses attended

Dr.R.Kavitha, D.Sharmitha and Dr.M.Mohanraj, Ms.Anushree, Dr.T.Viswanathan, Ms.P. Maithili, Dr. T. Shanthi, and Dr. B. Karunamoorthy , Ms.G.Anushree participated in "NBA Accreditation and Teaching and Learning in Engineering (NATE)" program from 1 Jan 2023 to 30 Apr 2023 spanning 12 weeks.

Dr.T. Viswanathan, Dr. R. Kavitha, Ms.P.Maithili, Dr.T.Shanthi, and Dr.B.Karunamoorthy participated in the program on "Teaching and Learning in Education" from 23 Jan 2023 to 17 Feb 2023, spanning 4weeks.

Dr.M.Nirmala participated in the "Design of Power Converters" program from 18 Feb 2023 to 29 Apr 2023, lasting for 8 weeks.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members:

Workshops Organised

Ms. D. Sharmitha and **Dr. N. Vinothkumar** organized a workshop titled "Insight into Sustainable Energy Solutions" on 21 Feb 2023, with 100 participants.

Dr.R.Kavitha and **Ms.P.Maithili** organized a workshop on "5G Wireless Mobile Technology" from 15 Mar 2023 to 17 Mar 2023, engaging 67 participants.

Dr. K. Malarvizhi and **Ms. P. Maithili** collaborated to deliver industrial training and a course module on "Electric Vehicle Technology" on 29 Mar 2023 and 30 Mar 2023, with 45 participants.

Dr. T. Shanthi organized a workshop on "Research Opportunities in Micro Grid" on 14 Oct 2022, with 32 participants

Seminars, Workshops, Conferences and Short-term Courses attended:

Workshops Attended:

Dr.K.Paramasivam participated in the Basic Training Program on Nano Science and Technology from 13 Mar 2023 to 15 Mar 2023 at IISC, Bangalore .

Mr.Anushree G and Mr.N.Mohanasundaram

participated in the workshop on "Integration of EV in Smart Grid using V2G Technology" from 06 Sep 2022 to 09 Sep 2022 at Sri Krishna College of Engineering and Technology.

Dr.M.Nirmala participated in a two-day workshop on Quality and Reliability Systems held on 23 Aug 2022 and 24 Aug 2022 at R&D, KCT.

Mr.V.Suresh and Mr. K. Dhanaraj, Mr.N.Harikaran

participated in "Skill Building Workshop for Laboratory Technicians" on 11 Feb 2023 at SREC.

Seminars attended

Dr.T. Shanthi attended the seminar on "Recent Developments in Smart Grid and Applications" from 05 Jul 2022 to 7 Jul 2022.

Dr. K. Paramasivam attended the WIPO-IPO PCT Roving Seminar on 01 Mar 2023 at the Indian Patent Office.

Dr. M. Nirmala participated in the seminar on "Motor Selection and Modelling using MATLAB" on 25 Feb 2023 at ISI India.

Dr. S. Kaliappan attended the seminar on "Cyber-Security for Operational Technology Systems" from 24 Apr 2023 to 28 Apr 2023.

Anushree G attended the seminar on "Industry 4.0" held from 19 Sep 2022 to 20 Sep 2022.

Faculty Development Programmes Attended

Dr. M. Mohanraj attended the FDP on "EV and Smart grid with Renewable energy" from 06 Jun 2022 to 10 Jun 2022 at SREC.

Guest Lectures Organised:

Ms.G.Anushree, Ms.P.Maithili are conducted a guest lecture on "Digital Logic Circuits" as part of module delivery on 03-09-2023, engaging 210 participants.

Ms.D.Sharmitha and **Mr.N.Mohana Sundaram** jointly organised a module on "Power System Analysis" as guest lecturers on 29.03.2023, with a participation of 120 students.

Dr. M. Nirmala , Dr.B.Karunamoorthy jointly organized a guest lecture on "Solar Energy Technologies for Industrial Application" on 30.5.2023, with a participation of 120 attendees.

Dr. K. Premalatha and **Ms. D. Sharmitha** jointly organized an IET sponsored one-day seminar titled "Advancements and Research Challenges on Integration of Vehicle to Grid (V-G) and Renewable Sources" on 3 Feb 2023, attracting 50 participants.

Short-term Courses organised:

Dr. V. Kandasamy and **Mr. M. Mathankumar** introduced participants to "Raspberry Pi Programming" in a short-term course held from 17.03.2023 to 18.03.2023, engaging 30 participants.

Dr. S. Kaliappan and **Ms. R. S. Sandhya Devi** teamed up for a short-term course on "Machine Learning for Beginners " conducted from 17.03.2023 to 18.03.2023, with a total of 30 participants.

Ms. G. Anushree and **Mr. N. Mohana Sundaram** organized a "Hands-on Training on Industrial Automation using PLC (Mitsubishi) - Step towards Industry 4.0" on 19.05.2023 to 20.05.2023, with a participation of 20 individuals.

Value Added programs delivered:

Dr.R. Kavitha and **Dr.T.Viswanathan** collaborated to deliver a value added programme on "MATLAB, Simulink, and Octave" from 14.11.2022 to 7.12.2022, catering to a group of 30 participants.

Dr.M.Nirmala and **Ms.P.Maithili** delivered a Value-added Program titled "Hands-on Training of Converters for Electric Vehicles using Matlab" from 23-02-23 to 26-02-23, attracting 30 participants.

Dr. N. Prakash and **Mr. S. Arunkumar** jointly conducted a Value-added Program on "Electrical Safety and Equipment Maintenance" spanning from 20-02-23 to 24.02.2023, involving 20 individuals.

Mr.N.Mohana Sundaram and **Mr.M. Mathankumar** collaborated on a short-term course focused on "Research Paper Writing" held from 01-03-2023 to 30-04-23, involving 30 participants.

Special Lectures Delivered:

Dr.V.Kandasamy delivered a lecture at the "International Conference on Emerging Innovative Technologies in Engineering ICEITE-22" held on 14.07.2022 at Sri Manakula Vinayagar Engineering College, Puducherry

Dr.P.Thirumoorthi was a session speaker on "V2G/V2H technologies" on 19.10.22 at GCT, Coimbatore.

Dr. T. Shanthy served as a session speaker on "Designing Solar Pumping Systems" on 21.10.22 at the Engineering Staff College of India, Hyderabad.

Dr.M.Mohanraj delivered a lecture on "Recent Trends in Transmission and Distribution" at a seminar on 19.4.23 held at Narasu's Sarathy Institute of Technology, Salem.

Dr.N.Vinothkumar presented a seminar on "Career Opportunities in EV" on 17.10.22 at KIT, Coimbatore.

Research Publications:

Dr. M. Mohanraj's research article titled "Enhancement of physical properties of nebulizer spray-pyrolyzed PbS thin films for Optoelectronic device" was published in the Scopus journal "Journal of Materials Science: Materials in Electronics," Volume 34(7), in February 2023.

Ms. Sandhya Devi, R.S, published a paper titled "Efficient netv2 model for plant disease classification and pest recognition" in the SCI journal "Computer Systems Science and Engineering," Volume 45, No. 2, in November 2022.

Mr. M. Mathankumar contributed to the SCI journal "Concurrency and Computation: Practice and Experience" with the article "Certificateless linkable ring signature-based blockchains for securing cognitive radio networks," published in November 2022.

Mr. M. Mathankumar's article titled "AI and ML Powered IoT Applications for Energy Management in Electric Vehicles," appeared in the SCI journal "Wireless Personal Communications," Volume 126(2), in September 2022.

In the SCI journal "Biomedical Signal Processing and Control," **Mr. M. Mathankumar's** paper, "Auto-encoder and bidirectional long short-term memory based automated arrhythmia classification for ECG signal," was published in August 2022.

Dr. N. Prakash, in collaboration with **Vaikundaselvan, B.,** and **Sivaraju, S. S.,** published the research article "Short-Term Load Forecasting for Smart Power Systems Using Swarm Intelligence Algorithm" in the SCI journal "Journal of Circuits, Systems and Computers," Volume 31(11), in July 2022.

Ms. Sandhya Devi, R.S, contributed to the SCI journal "Optical and Quantum Electronics" with the article "Titanium dioxide, black phosphorus and bimetallic layer-based surface plasmon biosensor for formalin detection: numerical analysis," published in June 2022.

Ms. Sandhya Devi R.S's article titled "Social, Economic and Environmental Impact of Electric Vehicles in India," was featured in the SCI journal "Journal of Environmental Science and Management," Volume 25(1), in June 2022.

Dr. P. Thirumoorthi's research paper titled "A new approach based on current controlled hybrid power compensator for power quality improvement using time series neural network" was published in the SCI journal "Journal for Control, Measurement, Electronics, Computing and Communications," Volume 64, Issue 4, Pages 703-719, in May 2023.

Mr. S. Suryaprakash's work on "Reinforcement Optimization Algorithm for Mobile Robot Sensor Networks Drive Motion Improvement" was featured in the SCI journal "ELEKTRONIKA IR ELEKTROTEHNIKA," Volume 28, No. 4, in August 2022.

In the SCI journal "International Journal of Communication Systems," Volume 35(14), **Mr. M. Mathankumar** published the research paper titled "Hybrid grasshopper and differential evolution algorithm for prolonging network life expectancy in wireless sensor networks (WSNs)" in September 2022.

Kavitha, R. (2023). THD Minimization and Reliability Analysis of Cascaded Multilevel Inverter. Journal of Circuits, Systems and Computers, vol. 32 no. 11, 2350181.

Book Chapter Publications:

Dr. K. Malarvizhi, Ms. P. Maithili, and Ms. Anushree G contributed to the book chapter titled "A Conceptual Study about Global Women Empowerment: Science and Technology Perspective," published in the book "Women Empowerment Entrepreneurship Development & Holistic Challenges" by NFED Publishers.

Maithili, P., Mohit Kumar, R., Nikil Venkatesh, K., & Kavitha, R. (2023). Agricultural Advancement Using IoT. Smart Grids for Smart Cities Volume 2, scrivener publishing. pp. 225-237.

PhD Supervision:

Dr.K.Malarvizhi is a recognised supervisor under the centre for Research, Anna University and guides 5 research scholars. Her research focus encompasses non-linear systems, battery energy storage for microgrids, Internet of Things, electric vehicles, smart grids.

Dr.P.Thirumoorthi, is a recognised supervisor under the centre for Research, Anna University and guides 10 research scholars. His research interests span intelligent controllers, motor drives, smart systems, distributed energy resources, sensor networks, PMU, and automotive applications.

Dr.K.Paramasivam, is a recognised supervisor under the centre for Research, Anna University and guides 3 research scholars in the field of performance evaluation of semiconductor memories and FET using Nanotechnology.

Dr.N.Vinoth Kumar, is a recognised supervisor under the centre for Research, Anna University and guides 3 research scholars and a research focus on IoT and AI-based distributed management.

Membership in Professional Bodies / Institutions:

Dr. K. Malarvizhi, Dr. N. Vinoth Kumar, Mr.M.Mathankumar, Mr.S.Arunkumar, Mr. N. Mohana Sundaram, Ms. G. Anusree, Mr. J. Ramprabu, Ms. P. Maithili, Mr. S. Suryaprakash, Ms.Sandhyadevi. RS are members of the Professional body 'Solar Energy Society of India' since 2022

Ms. D. Sharmitha is a member of IGBC since 2023 and **Ms.Anushree G** is a member of IAENG since 2022

Patent Filed

Dr.K.Paramasivam has filed a patent on "Intelligent capturing of violating vehicle details and assisting for Ambulance."

Dr. K. Premalatha has filed a patent on "Sign detection from hearing impaired."

Dr.N.Vinothkumar and **Dr.T.Viswanathan** have filed a patent on "Supercapacitor-based regenerative braking system."

Dr.V.Kandasamy and **Mr.M.Mathankumar** have filed a patent on "Smart sensing of foot plantar pressure using Raspberry Pi."

Dr. R. Kavitha, P. Maithili, G. Anushree, and M. Mathankumar have filed a patent on "Optimized charging and discharging control for electric vehicle batteries."

Mr. J Ramprabu has filed a patent "Building Cooperative Construction System Based on Artificial Intelligence Technology in Building Construction Management System Modeling."

Sponsored Research Grant:

The project "Development of Smart Campus Power Distribution System for Energy Conservation and Protection", secured a funding of Rs. 849,000 from AICTE – RPS. **Dr. K. Malarvizhi** and **Dr. P. Thirumoorthi** serve as the investigators and this project is completed. The project "Bridge the Digital Inequalities Amongst the Urban and Rural School Students," secured a fund of Rs. 5,00,000 from IEEE. **Dr. P. Thirumoorthi** and **Dr. K. Premalatha** serve as the investigators.

The project "Smart E trike with Detachable wheels for disabled students to enhance their competency," secured a fund of, Rs.2,00,000 in funding from EPICS IEEE. **Mr.N.Mohanasundaram** and student team served as investigators.

The project "Smart Energy Harvest and Storage for Electric Vehicle Onboard Charging" is allocated Rs. 2,00,000 in funding through Seed Money. This initiative extends over 18 months from 2022-2023 and is led by **Dr. P. Thirumoorthi**.

The project "Design and Fabrication of Memristor Device for High-Performance Bio-Inspired Image Processing Architecture" secured Rs. 1,96,000 in funding through Seed Money, under the leadership of Dr. K. Paramasivam.

The project "Smart Energy Monitoring and Data Analytics Using LoRAWAN," set for 18 months from 2022-2023, is awarded Rs. 1,30,000 in funding from Seed Money. **Dr. K. Premalatha** leads the research efforts.

Industry Partnerships and Collaborations

In collaboration with Greenworks Technology Solutions Pvt Ltd (ClimeUp), **Dr. K. Malarvizhi** and **Dr. N. Vinoth Kumar** from 2023-2025. The Memorandum of Understanding (MoU), signed on December 7, 2022, focuses on enhancing the skill set of engineering students and faculty members in Sustainability.

Dr. P.Thirumoorthi in collaboration with Natural Source Foundation, Coimbatore has conducted Energy Audits. Three Consultancy works including "Energy Audit at Madras University" took place during 2022 .

In September 2022, **Dr. R. Kavitha** has done a project titled "Design of Transformers for Solar PV System." in collaboration with Padmavahini Transformers, Coimbatore.

Outreach Programmes:

Dr. N. Prakash and **Mr. S. Arunkumar** organised an Outreach Program on "Creating Awareness about Electrical Safety and Utilization of Solar Powered Home Appliances for Beginners." in association with Government Girls Higher Secondary School, Coimbatore, took place on March 3, 2023 .

Dr. K. Premalatha and **Dr. P. Thirumoorthi** organized a one-day workshop on "WASTE TO WEALTH" on February 28, 2023. This workshop was part of the 2022 IEEE HAC/ SIGHT Funded Project on "Bridging Digital Inequalities amongst the Urban and Rural School Students." At Solasiramani, Namakkal.

Alumni Engagement:

Dr. R. Kavitha engaged **Mr. Lakshmi Prasad C N**, 2012 BEE Batch JTO at BSNL. **Mr. Lakshmi Prasad** and conducted a session in a workshop on 5G wireless technology on March 15, 2023.

Ms. P. Maithili engaged **Mr. Parthasarathy.G** 2015 BEE batch Post Silicon Validation Engineer at Intel Technology India Pvt. Ltd, Bangalore delivered course on "Combinational & Sequential Logic Circuits" on March 17, 2023.

Students / Research Scholars participation in conferences / seminars / webinars / workshops / symposia:

Arunan R, attended the National workshop on "Strategies for Searching in IEEE Xplore" held on November 8, 2022, at IIT Mandi iHub and HCI Foundation.

Amrudha Varshan P R and **Hariharan J**, participated in the IEEE Conference on "Intelligent and Innovative Technologies in Computing, Electrical and Electronics" held on January 27-28, 2023, at BNMIT Bengaluru. **Gayatri R**, **Sarah Caroline S**, **Nalinipriya D**, **Shriram G** participated in Yukta event on March 21, 2023, at PSG Tech.

Aparna, **Laksitha Raju S**, **Sarah Caroline S**, **Varshini.D**, **G.A.Sowmini**, **Manimaran T.N.** participated in the national NEXUS'23 symposium on March 31, 2023, at GCT Coimbatore.

Awards and Recognition won by students.

Hariharan J, participated in the state-level competition "Fit. Kovai Hackathan 2023" and secured the second prize. The event was organized by Robert Bosch, Coimbatore, on January 1, 2023.

Hariharan J, competed in national level competition in the field of sports during the Anna University zonal competition held at KCT from November 25 to November 27, 2022 and won the 1 place





SCHOOL OF ELECTRONIC SCIENCES

Electronics and Communication Engineering



From the HoD's Desk

In comparing the goals of the previous year with those of the current year, a clear evolution and refinement in focus can be observed. The goals set for the previous year demonstrate a discernible shift towards a more targeted and strategic approach in seminar and other funding opportunities. This deliberate shift in goal-setting approach highlights in 95 % placement in 22-23. Furthermore, collaborations have played a pivotal role in this transition. Unlike the previous year, where individual contributions were more common, the current year's publications showcase a greater inclination towards collaborative research efforts.

Thrust Areas of the Department

The Department's key focus areas include the communication module, RF antenna, signal processing, communication network module, VLSI and Embedded system module. Faculty and enthusiastic students are organized into groups corresponding to these thrust areas to bolster their technical skills. The ensuing results from these groups are outlined below.

Programme(s) Offered

B.E. Electronics and Communication Engineering
M.E. in Communication system
Ph.D in Information Science and Engineering

No of Students on Roll	
I Year UG	192
II Year UG	196
III Year UG	202
IV Year UG	205
I Year PG	2
II Year PG	4
Research Scholars	29

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended:	1
No. of Seminars / Webinar Attended:	2
No. of FDPs attended:	24
No. of Seminars / Webinars Organised:	14
No. of FDPs organised:	1
No. of Conferences Publications:	42
No. of Journal Publications:	13

Pivotal Accomplishments

95 % of 2019-2023 batch students are placed in companies with an average CTC of 5.8 LPA. (149 out of 156 students were placed). Dr. S. David selected to translate AICTE Scheme books on Communication Networks theory and Practical from English to Tamil by Anna University, starting January 20, 2023.

The Department, in collaboration with IEEE Madras Section, conducted a one-week FDP on "Machine Learning for Signal Processing" from May 15-20, 2023, drawing 74 participants with 21 internal and 53 external attendees.

Seminars, Workshops, Conferences and Short-term Courses attended:

Conference Attended

Dr.K.Kavitha participated in the conference for the topic titled "Analysis of V2V Planar antenna at the frequency range of 3 GHz –7 GHz resonance in the 2023 Second International Conference ,Trichy on 05 - 07, April 2023.

Dr.B.Gopinath attended 2023 International Conference on Intelligent Data Communication Technologies and Internet of Things (IDCIoT) at Reva University, Bengaluru from January 05, 2023 to January 07, 2023.

Ms.K. Karthika attended the conference for the topic titled "Design of Compact Frequency Reconfigurable Antenna for Sub-6 GHz 5G Application," in the 2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS),Coimbatore,25-26 March 2022.

Faculty Development Programmes Attended

Dr.S.Umamaheswari participated in the FDP on " AI Accelerator for Electric vehicle and battery charging infrastructure design methodology and research issues"held at PSG College of Technology from 21.11.2022 to 26.11.2022 and 28.11.22 to 2.12.2022.

Mr.Karthikeyan.R participated in the AICTE recognized FDP on " Recent trends in wireless communication conducted by Electronics and communication engineering department at NITTTR,Chandigarh from 24.4.2023 to 28.4.2023.

Mr.S.Arunkumar participated in FDP on " Research challenges and issues on Antennas" held at Sathyabama Institute of science and Technology,Chennai from 27.2.2023 to 4.3.2023.

Dr.Thilagavathi.K attended a FDP on Machine learning in healthcare held at Sairam institute of technology,Chennai from 9.1.2023 to 13.1.2023.

No. of International Visits by Faculty:	1
No. of Patents filed:	3
No. of Patents Awarded:	1
No. of Grants Applied:	6
No. of Grants received:	2
Total Grant mobilised (in INR):	Rs 1,71,400/-

Research Publications:

Dr.S.N.Shivapriya published an article titled "Prediction of Cardiac Arrhythmia using Multi-Class Classifiers by Incorporating Wavelet Transform based Features" in Dyna Publishing in April 2022 **Dr.K.Kavitha** published a paper on "Healthcare Internet of Things (HloT) Data Security Enhancement using Blockchain Technology" in the Journal of Intelligent & Fuzzy Systems in 2022.

Mr.R.Darwin contributed to a research on "Sub-6 GHz Band Massive MIMO Antenna System for Variable Deployment Scenarios in 5G Base Stations" in Microsyst Technol in 2022.

Dr.S. Sasikala published a paper on "Improved Breast Cancer Detection using Fusion of Bimodal Sonographic Features through Binary Firefly Algorithm" in The Imaging Science Journal in 2022.

Dr.K. Kavitha contributed to "An Energy Efficient Dantzig Wolfe Decomposition based Parallel Optimization for Software-Defined Industrial IoT" in the Journal of Intelligent & Fuzzy Systems in 2023.

Dr.S.Sasikala presented a feature selection algorithm based on "Binary BAT Algorithm and Optimum Path Forest Classifier for Breast Cancer Detection using both Echographic and Elastographic Mode Ultrasound Images" in the Journal of Cancer Research and Therapeutics in 2023.

Mr.S.Arun Kumar authored "Deep Learning-Based CAD Systems for Breast Cancer Diagnosis" in Technology in Cancer Research & Treatment in 2023.

Dr.S.David published an article on "Pulse Electric Field for Food Preservation" in the International Research Journal of Modernization in Engineering Technology and Science in 2023.

Ms.K.Karthika presented a paper titled "Design and Development of Parasitic Elements Loaded Quadband Frequency and Pattern Reconfigurable Antenna" in the International Journal of RF and Microwave Computer-Aided Engineering in 2023.

Mr.D.Allin Joe contributed a paper on "A Modified Sierpinski Carpet Antenna Structure for Multiband Wireless Applications" in The Scientific Temper in 2023.

Dr.K.Kavitha addressed "Implementation Challenges and Opportunities in the Outcome-Based Education (OBE) for Teaching Engineering Courses: A Case Study" in the International Journal of Engineering and advanced Technology,2023.

Ms. A Kalaiselvi contributed to a paper on "Brain Tumor Detection using Transfer Learning" in the Journal of Signal Processing in 2023.

Ms. A Kalaiselvi published an article on "Implementation of SOBEL Edge Detection" in the International Research Journal of Modernization in Engineering Technology and Science in 2023.

Equipment Procured:

The Dept Laboratory has recently acquired a 500MHz, 4-channel Digital Storage Oscilloscope (DSO) with a 16-channel Logic Analyzer, featuring the model MSO7054 + DST7000-BND, from RIGOL at a cost of ₹7,48,769.

Additionally, a Klystron Bench complete setup has been procured for ₹2,67,990, and a VSWR (Voltage Standing Wave Ratio) Meter has been added at a cost of ₹41,100.

PhD Supervision:

Dr. K. Kavitha, has been granted guideship by Anna University, focusing on Image Processing and Communication.

Dr. M. Bharathi, has been granted guideship by Anna University, focusing on Image Processing and Communication. Wireless Sensor Networks and Communication.

Dr. Rani Thottungal, has been granted guideship by Anna University, focusing on Image Processing and Communication in Electrical Machines and E-Vehicles.

Dr. S. Sasikala, has been granted guideship by Anna University, focusing on Image Processing and Communication in the areas of Machine Learning and Medical Image Processing.

Dr. B. Gopinath, has been granted guideship by Anna University, focusing on Image Processing and Communication on Image Processing and Communication.

Membership in Professional Bodies / Institutions:

Ms. K. Anusha and **Ms. K. Karthika** are members of the Institution of Engineers India (IEI).

Ms. K. Anusha and **Ms. K. Karthika** are also members of the IEEE Antennas and Propagation Society (IEEE-APS).

R. Dhivya Prabha holds memberships in both IEEE and the Institution of Engineers India (IEI). A. Kalaiselvi is a member of the Institution of Engineers India (IEI).

Patent Filed

Mr. R. Karthikeyan has filed a patent for a "System For Ultra-Wide Band Based Real-Time Location Sensing." A joint patent has been filed by Dr. S. Umamaheswari and Dr. S. Sasikala for the "Identification of Fresh Organic Fruit Using Non-Invasive Technique."

Sponsored Research Grant:

Dr. S. Umamaheswari has been awarded a research grant for the project titled "i-Shiksha – Smart Toy for Development of Cognitive and Physical Skills of Children" by TNSCST. The project is scheduled to take place from April 4, 2023, to May 25, 2023, spanning a duration of 3 months. The grant amount for this project is ₹7,500.

Dr. S. Sasikala has received a research grant for her project titled "An Intelligent System for Providing Natural Farming Solutions to Improve the Economy of Farmers." The project is scheduled to run from November 21, 2022, to August 21, 2023, covering a span of 9 months. The awarded grant for this research is ₹1,63,900.

Outreach Programmes:

On April 17, 2023, **Ms. K. Jasmine** led a one-day outreach program to inspire school students to engage more with electronics.

On April 24, 2023, **Dr. S. Sasikala** arranged a one-day outreach program where attendees learned about the significance of cultivating nutritious soil, fostering beneficial microorganisms, and appreciating the health advantages of organic food.

Alumni Engagement:

On February 10, 2023, a one-day workshop on "Entrepreneurship and Innovation as Career Opportunity" was conducted by **Mr. Prasanth Jeyakumar**, Founder of Prasanth Ventures & MD of Bluestrategy, Coimbatore, for the batch 2017-2021.

On April 12, 2023, **Dr. Thilagavathi K** organized an alumni talk on "Skill Building in RF Engineering." The speakers included **Mr. Chandramouli A** (2016-2018 batch / PG Alumni), Project Scientist at INCOIS, Hyderabad, **Ms. Nandhana BT** (2012-2014 batch / PG Alumna), Senior Engineer at L&T Technology Services, and **Ms. Sujatha** (1993-1997 batch / ECE Alumna), Founder of Content URN.

Awards and Recognition won by students

Ms. Aishwarya Lakshmi S S emerged as the winner of the "Hackathon RiGathon'22" held at Kumaraguru College of Technology from September 30, 2022, to October 2, 2022.

Mr. A. Hariharan secured victory in the "VHF FOX HUNT - 2022" organized by Udumalprti VHF Repeater Club on October 2, 2022.

Mr. P. Karthikeyan, won the Bronze medal in the Interzonal Tennis Tournament held on November 17, 2022, to VIT, Vellore.



Electronics and Instrumentation Engineering



From the HoD's Desk

Electronics & Instrumentation Engineering established in the year 2006, which focuses on the principle and operation of field instruments SCADA, DCS, PLC'S and process control systems which are used in design and configuration of automated systems. We have established all our laboratories and centres of excellence, which are required for the curriculum and several specialized equipment and software, which help the students to do their real time projects. We have placed our students in core industries like Yokogawa, Bosch, Data Patterns, TVS, Tesolves, Saipem, ECON, etc. We have our students pursuing their higher studies in US, UK, Germany, and Australia.

Thrust Areas of the Department

Partnership with Yokogawa India Ltd for offering Training, Students' Internship, Placement, Projects, Research and consultancy.

Partnership with Fluke Technologies, Bangalore for Industry Calibration consultancy services and student projects.
*Partnership with Siemens Ltd towards the establishment of PLC Automation Lab for offering intense training in Industrial Automation.

Intense training in Embedded and microcontrollers for Faculty and students by Steps knowledge Pvt. Ltd. - Authorised training partner for Texas Instruments.

Programme(s) Offered

B.E. Electronics & Instrumentation Engineering

No of Students on Roll	
I Year UG	66
II Year UG	63
III Year UG	64
IV Year UG	57

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended:	12
No. of Seminars / Webinar Attended:	17
No. of FDPs attended:	9
No. of Seminars / Webinars Organised:	8
No. of Conferences Publications:	1
No. of Journal Publications:	4
No. of Consultancy Projects:	1
No of Industry Projects:	1

Pivotal Accomplishments

Dr. V. Dinesh Kumar, has published a patent titled "Machine Vision and Multiple Sensor Data Fusion based Robotic Vehicle for Injection Administration".

Mr. V. Athappan, Mr. E. Muthuramalingam, Mr. M. Saravanabalaaji, Mr. S. Ranganathan, has published a patent titled "A customised pick and place system for forging industries".

Ms. I. Jeya Daisy won as winner in Innovation challenge contest(22-23) conducted by AICTE and STMicroelectronics, Greater Noida with the amount of 2,65,000 worth ARM studio software.

No. of Patents filed:	3
No. of Patents Awarded:	2
No. of Grants Applied:	5
No. of Grants received:	5
Total Grant mobilised (in INR):	Rs.6,14,000/-

Umesh M V participated in the Masterclass on Emerging Technologies, emphasizing Robotics & Digital Privacy, delivered by leading TAU professors on 23 Jan 2023 & 24 Jan 2023.

Umesh M V attended MIC's Leadership Talk with Chairman AICTE, Prof. T.G. Sitharam, on 30 Jan 2023.

K.K. Anil Kumar engaged in a webinar on "AUTOMATION STUDIO, organized by IndiaSoft Technologies (P) Ltd., on 10 Feb 2023.

Umesh M V participated in the Orientation Session of the Institutions' Innovation Council (IIC5.0) on 11 Feb 2023.

Dr. K. K. Anil Kumar took part in NASSCOM ER&D Quarterly Immersive Series: on Mar 9, 2023, and Mar 10, 2023.

Dr. K. K. Anil Kumar participated in the Hexnbit Webinar: "IoT in Smart Cities" on 25 Mar 2023.

Umesh M V participated in the orientation session for Creators of Metaverse on 04 Mar 2023.

Umesh M V attended NASSCOM ER&D Quarterly Immersive Series: on Mar 9, 2023, and Mar 10, 2023.

Umesh M V was nominated for the Yukti Innovation Challenge 2023 and participated in IA Training on 28 Mar 2023.

Umesh M V observed World IP Day, focusing on "Woman and IP: Accelerating Innovation and Creation" on 26 Apr 2023.

Workshops Attended

ATHAPPAN V, MUTHURAMALINGAM E, and **SARAVANABALAJI M** participated in "Recent Trends in Soft Sensing and State Estimation (RTSSE 2022)" at NIT Calicut from 18 Jul 2022 to 24 Jul 2022.

Dr. ANIL KUMAR K K attended the program on "Designing and Modelling of IoT, AI & ML Systems" from 01 Aug 2022 to 05 Aug 2022.

Dr. P.S. Mayurappriyan took part in the IET Local Networks flagship event, the Industry Institution Summit (IIS) on 15 Oct 2022.

M.SARAVANABALAJI participated in a one-day workshop on "Design and Development of Outcome Based Curriculum" on 17 Oct 2022.

V.ATHAPPAN and E. Muthuramalingam attended a session on "Improving research writing using Grammarly" on 02 Nov 2022.

I.JEYA DAISY participated in the program on "Designing and Modelling of IoT, AI & ML Systems" from 01 Aug 2022 to 05 Aug 2022.

Seminars, Workshops, Conferences and Short-term Courses attended:

Seminar Attended:

Dr. K. K. Anil Kumar participated in the seminar on "National Education Policy 2020: Innovation & Entrepreneurship in HEIs on 30 Aug 2022.

Dr. K. K. Anil Kumar attended a session on "IST) Siemens, Process Bus" on 13 Sep 2022.

Dr. K. K. Anil Kumar engaged in the event "ISA - Bangalore" focusing on "Ignite the leader within you" on 24 Sep 2022.

Umesh M V took part in the seminar on "National Education Policy 2020: Innovation & Entrepreneurship in HEIs on 30 Aug 2022.

ANIL KUMAR K K participated in the "India Launch of Global Innovation Index 2022 & Innovation Conclave" on 20 Sep 2022.

ANIL KUMAR K K attended the program "Cut Waste Not Cost" with Kaizen Institute India" on 14 Oct 2022.

ANIL KUMAR K K was involved in the event "Ignite Digital Transformation through the Convergence of Simulation, AI, and HPC" from 04 Oct 2022 to 06 Oct 2022.

Dr. K. K. Anil Kumar took part in the session on "Predictive Digital Twins: From physics-based modeling to scientific machine learning" on 07 Jan 2023.

Dr. K. K. Anil Kumar engaged in the event "On the Synergy of data and models for Virtualizing Structures & Infrastructure" by Prof. Eleni Chatzi, Chair of Structural Mechanics & Monitoring, ETH, Zürich Centre for Intelligent Systems CIS EPFL, on 09 Jan 2023.

Dr. K. K. Anil Kumar attended a Masterclass on Emerging Technologies, focusing on Robotics & Digital Privacy, on 23 Jan 2023 & 24 Jan 2023.

Dr. K. K. Anil Kumar took part in MIC's Leadership Talk with Chairman AICTE, Prof. T.G. Sitharam, on 30 Jan 2023.

I.JEYA DAISY participated in the workshop on "Applications of Image Processing in MATLAB" from 12 Dec 2022 to 17 Dec 2022.

ATHAPPAN V attended a National Level workshop on "Pathway to Sustainability and KCT IGBC Green Campus" on 10 Feb 2023.

JEYA DAISY I completed a Certificate Course in "Digital Teaching Techniques" from 02 Feb 2023 to 17 Feb 2023.

ATHAPPAN V participated in the National Level workshop on "Pathway to Sustainability and KCT IGBC Green Campus" on 10 Feb 2023.

K.K. Anil Kumar attended a workshop on "Quality & Reliability of Systems" at KCT, featuring eminent scientists from DRDO Laboratories, from 17 Feb 2023 to 18 Feb 2023.

S. Ranganathan underwent a Hands-on Training on "PLC and SCADA" on 10 Feb 2023. S. Ranganathan participated in a Hands-on workshop cum-competition on "Robotics and Automation" from 16 Feb 2023 to 18 Feb 2023.

JEYA DAISY I completed another Certificate Course in "Digital Teaching Techniques" from 02 Feb 2023 to 17 Feb 2023.

JEYA DAISY I was involved in a program on "Collaborative Research Practices in the Modern Era" from 13 Feb 2023 to 21 Feb 2023.

Dr. V. Dinesh Kumar was engaged in a workshop on "Applications of Image Processing in MATLAB" from 12 Dec 2022 to 17 Dec 2022.

Dr. V. Dinesh Kumar underwent industrial training on "Electronics Product Design and Internet of Things" from 27 Jul 2022 to 27 Aug 2022, spanning one month.

Conferences Participated

Mr. Umesh M V participated in the Future Tech Congress by IET India on 22 Nov 2022 and 23 Nov 2022.

Mr. M. Saravanabalaji attended the INVEST -22 International Conference on 09 Dec 2022 and 10 Dec 2022.

Mr. Umesh M V, Mr. V. Athappan, and Mr. E. Muthuramalingam were part of the ISERDM -23 First International Conference on Intelligent Solutions for Emergency Response and Disaster Management from 09 Jan 2023 to 11 Jan 2023.

Mr. Umesh M V also contributed to the International Conference on Intelligent and Innovative Technologies in Computing, Electrical & Electronics (iciitcce) on 27 Jan 2023 and 28 Jan 2023.

Mr. Umesh M V and Mr. Jeya Daisy I participated in iACT2023 Digital Transformations Through Contemporary Technologies on 31 Mar 2023 and 01 Apr 2023.

Dr. V. Dinesh Kumar was engaged in the Fourth International Conference on Emerging Trends in Science, Engineering & Technology (ICETSET 2022) on 07 Jul 2022 and 08 Jul 2022.

Short-term Courses Attended:

V. Athappan, E. Muthuramalingam, M. Saravanabalaji, and M. V. Umesh participated in the ICT Mode STTP on "Digital Tools for Faculty and Staff (PS23)" from 11 Jul 2022 to 16 Jul 2022.

Faculty Development Programmes Attended

Dr. P.S. Mayurappriyan participated in the following online programs: "Teaching And Learning in General Programs (TALG)" from 25 Jul 2022 to 19 Aug 2022 for 4 weeks, "Educational Leadership" from 25 Jul 2022 to 16 Sep 2022 for 8 weeks, and "Entrepreneurship And IP Strategy" from 25 Jul 2022 to 16 Sep 2022 for 8 weeks.

Umesh M V engaged in online courses: "Managing Intellectual Property in Universities" from 25 Jul 2022 to 19 Aug 2022 for 4 weeks, "Teaching and Learning in General programme (TALG)" from 25 Jul 2022 to 19 Aug 2022 for 4 weeks, "Patent Search and Analysis" from 22 Aug 2022 to 14 Oct 2022 for 8 weeks, and "IPR and Competitive Law" from 22 Aug 2022 to 14 Oct 2022 for 8 weeks.

Dr. ANIL KUMAR K K participated in the NPTEL course on "Cloud Computing" starting from 14 Jul 2022 for 14 weeks.

I. Jeya Daisy completed "Python for Machine Learning: The Complete Beginners Course," consisting of 87 lectures.

Saravanabalaji M and **Athappan V** participated in the program on "Design and Development of Industry-led Curriculum in Technological Era" from 14 Dec 2022 to 22 Dec 2022, spanning 9 days.

Jeya Daisy I and **V Manimekalai** engaged in the "Collaborative Research Practice in the Modern Era" from 13 Feb 2023 to 21 Feb 2023, lasting 9 days.

I. Jeya Daisy and **Saravankumar S** attended the program on "Electric Vehicle Drive System" from 27 Feb 2023 to 04 Mar 2023, lasting 1 week.

Dr. P.S. Mayurappriyan and **Umesh M V** participated in "Effective Engineering Teaching in Practice" from 23 Jan 2023 to 17 Feb 2023, covering a period of 4 weeks. **Umesh M V** also participated in "Roadmap for Patent Creation" from 23 Jan 2023 to 17 Feb 2023, lasting 4 weeks.

Mr. Athappan, Mr. Muthuramalingam, Mr. Saravanabalaji M, and Mr. Ranganathan S participated in the program on "Sensor, Signal Conditioning, and Embedded Controller for Industrial Applications" from 17 Apr 2023 to 21 Apr 2023, spanning 5 days.

Dr. V. Dinesh Kumar engaged in the program on "Collaborative Research Practice in the Modern Era" from 13 Feb 2023 to 21 Feb 2023, lasting 9 days.

Short-term courses/workshops/ seminars/symposia/conferences organised by the faculty members:

Seminars Organised

Mr. E. Muthuramalingam and **Mr. M. Saravanabalaji** organized the seminar/webinar "GATE - To a Rewarding Career" on 07 Sep 2022, with 100 participants.

Dr. P.S. Mayurapprian and **Ms. V. Manimekalai** coordinated the organization of the "All India Seminar: Importance of Calibration and Concepts of Uncertainty Measurements as per ISO/IEC 17025:2017 Standards" on 01 Dec 2022 & 02 Dec 2022, attracting 120 participants.

Mr. M. V. Umesh led the organization of a seminar/webinar on "Aptrix" on 23 Dec 2022, with 50 participants.

Ms. I. Jeya Daisy organized a seminar on "Interdisciplinary Application of Data Science & Masters Studies in WTAMU" on 17 Nov 2022, with 120 participants.

Mr. M. V. Umesh organized the "#1 Webinar on Project Management - SED Series" on 21 Feb 2023, with 60 participants.

Workshop Organised:

Mr. S. Ranganathan and **Mr. M. Saravanabalaji** organized "Core Training Program 1" on 16 Aug 2022 & 18 Aug 2022, with 11 participants.

Mr. S. Ranganathan and **Mr. M. Saravanabalaji** conducted a "Training Program on PLC and SCADA" on 22 Aug 2022 & 26 Aug 2022, attracting 31 participants.

Mr. S. Ranganathan and **Mr. M. Saravanabalaji** hosted a "Workshop on Electric Switchgear & PLC Practices" on 14 Sep 2022 & 16 Sep 2022, with 8 participants.

Mr. S. Ranganathan organized an "Industrial Automation Training Program" from Oct to Nov 2022, with 1 participant.

Mr. S. Ranganathan conducted an "Electrical Switchgear and PLC Program Practices" on 07 Feb 2023 & 09 Feb 2023, with 11 participants.

Ms. Jeya Daisy, Ms. Manimekalai, Mr. Saravanakumar, and **Dr. V. Dineshkumar** collaborated to organize "Fun of Measurement System" on 22 Sep 2022 & 23 Sep 2022, attracting 100 participants.

Mr. E. Muthuramalingam, Mr. Athappan, G. Sumathra, and **Umamaheswari** conducted a "Hands-on Training in Laboratory Equipment Maintenance & Servicing" on 25 Feb 2023, with 25 participants.

Mr. Umesh M.V organized a "Workshop on Mobile Application Development" on 11 Apr 2023, with 60 participants.

Mr. Saravanakumar delivered a "Guest Lecture on Biosensor Design" on 28 Apr 2023, with 34 participants.

Mr. Umesh M.V organized a "Workshop on Career Building Out of AI and Automation" on 18 May 2023, with 40 participants.

Short-term Courses Offered:

Ms. V. Manimekalai conducted a Value-Added Program titled "Hands-on Training on MEMS Sensor Development using Intellisuite software" on 07 Jul 2022 & 08 Jul 2022, with 66 participants.

Mr. Umesh M.V and Ms. Manimekalai organized a short-term course on "Hands-on Training on MEMS Sensor Development using Intellisuite software" from 04 May 2023 to 06 May 2023, with 64 participants.

Mr. E. Muthuramalingam and **Mr. M. Saravanabalaji** offered a short-term course on "PCB Design using Proteus 8.0" on 14 Oct 2022 & 15 Oct 2022, with 60 participants.

Patent Filed

Mr. V. Athappan, Mr. E. Muthuramalingam, Mr. S. Ranganathan, and **Mr. M. Saravanabalaji** filed a patent on a Customized Pick and Place System for Forging Industries.

Mr. V. Athappan filed a patent for a Cryptographic Hash Encryption secure algorithm designed for the confidential data with a user validating scheme in the field of medical healthcare.

Dr. V. Dineshkumar filed a patent for the development of a Machine Vision and Multiple Sensor Data Fusion-based Robotic Vehicle designed for Injection Administration.

Sponsored Research Grant:

The project titled "Importance of Calibration and Concepts of Uncertainty Measurements as per ISO/IEC 17025:2017 Standards" received funding of Rs. 30,000 from the Institution of Engineers (India), IE(I) under the aegis of Electrical Engineering Division Board. The project period was on the 1st and 2nd of December 2022, coordinated by **Dr. P.S. Mayurapprian**.

The project on "Biomedical Instrumentation" was granted seed money amounting to Rs. 1,59,000 for a duration of 2 years. The coordinators and investigators for this project were **Ms. I. Jeya Daisy, V. Manimekalai, Dr. V. Dinesh Kumar,** and **S. Saravana Kumar**.

The project "Labour Pain Detector" secured seed money of Rs. 2,00,000. The coordinators and investigators for this project were **Mrs. I. Jeya Daisy, Dr. Dineshkumar, Mrs. V. Manimekalai,** and **Mr. S. Saravanakumar**.

The project "Artificial Intelligence based Leakage Prediction Using Acoustic Induced Vibration in a Water Pipeline" received seed money of Rs. 2,50,000 for a duration of 2 years. The project was coordinated by **M. Saravanabalaji, S. Ranganathan, V. Athappan,** and **E. Muthuramalingam**.

The project on "Pump Scheduling and Health Monitoring System" secured seed money of Rs. 2,00,000 for a duration of 2 years. The project was coordinated by **Mr. S. Ranganathan, Mr. E. Muthuramalingam, Mr. V. Athappan,** and **Mr. Saravanabalaji**.

Industry Partnerships and Collaborations

In collaboration with Primer Lab Solution, Coimbatore, **Mr. S. Ranganthan** engaged in a 7-day partnership focused on panel wiring and programming support. The collaboration resulted in generating revenue amounting to Rs. 18,800.

Alumni Engagement:

Mr. M. Saravanabalaji and **Mr. V. Athappan** conducted an alumni interaction session for II & III-year E & I students on 29th October 2022.

Mr. Muthuramalingam E and **Mr. Saravanabalaji** organized an alumni talk on Entrepreneurship featuring.

Mr. Gurukrihna S, a graduate from the 2012-2016 batch, on 15th May 2023.

Students / Research Scholars participation in conferences / seminars / webinars / workshops / symposia:

S. Sounder Raj, Balaji S, Sivanikesh S R, Eniya K M, Perinban P presented at an international conference on July 7, 2022, hosted by KCT (Virtual).

Pavin P S and **Nirmal Raj N** participated in a national conference on July 7th and 8th, 2022, hosted by KCT (Virtual).

Aakash S joined a national conference from September 22 to 24, 2022, at KCT (Virtual).

Arjun M, Aakash S, Sreeja G S attended a national conference on November 18, 2022, at Bannari Amman. **Samritha S, E. Praveen, Shakthi Raagavi S** participated in an international conference from January 9 to 11, 2023, at NIT, Trichy.

Sneha S and **Janani T** attended an international conference from January 9 to 11, 2023, at NIT, Trichy. **Sneha M** and **Anantha Harini S K** joined an international conference from January 9 to 11, 2023, at NIT, Trichy.

Dakshin D S, Pavin P S, Gopi Krishnan R, Ashwin Raj M, Pavishna S, Sobika M, Niranjana Ratsha S, Navitha R, Sindhu R, Sri Priya Dharshini B S, Madhumitha R, Selina Scarlett B, Varshika K, Pandimeena K, Suroopika A J, Mushitha L took part in an international conference from March 31 to April 1, 2023, iACT, BMS Engineering College, Bangalore.

Awards and Recognition won by students

Aakash S, Arjun M, Sreeja G S, Praveen E received awards in the National STM Competition.

Aakash S, Arjun M, Sreeja G S, Praveen E achieved recognition in the National Embedded Coding competition

Abiya Primency M and **Swetha P** secured awards in the State Smart India Hackathon 2022.





SCHOOL OF INNOVATION

Computer Science and Engineering



From the HoD's Desk

The department is dedicated towards academic excellence by motivating students to learn, develop, design, test, and validate software applications and hardware solutions by applying computational methods and algorithmic concepts. We strive to integrate legacy systems with cutting edge technologies. Faculty and students continually upgrade through certifications, workshops, and industry training, ensuring cutting-edge knowledge transfer. Further, 64% of the students have ventured into internships to gain exposure to the work environment. 96% of students are placed in reputed MNCs during their final year while the remaining has opted for higher studies or entrepreneurship. The department is keen on achieving its milestone of establishing centres of excellence in Cyber Security to fortify the technical skills of faculty and students.

Thrust Areas of the Department

Thrust areas of the department are Data analytics, Cyber Security and IoT. Faculty and interested students are grouped into each of the thrust areas to enhance their technical skills. The outcomes of these groups are as follows:

Cyber security: Department is offering minor specialization course on Cyber security for 15 credits to other departments engineering students. Offered 3 credit " Introduction to Cyber security" course for KCLAS students. OSINT and vulnerability analysis of Kumaraguru institutions website project was completed and report submitted.

IoT: Our team members got trained through various STTPs and FDPs with a minimum duration of 10 days. 8 papers have been published by our team members. Team members have involved in 3 consultancy projects and submitted 2 proposals.

Programme(s) Offered

B.E. Computer Science and Engineering
Ph.D in Information and Communication Engineering

No of Students on Roll	
I Year UG	148
II Year UG	140
III Year UG	121
IV Year UG	125
I Year PG	
II Year PG	7
Research Scholars	14

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended:	5
No. of Seminars / Webinar Attended:	5
No. of FDPs attended:	19
No. of Seminars / Webinars Organised:	14
No. of FDPs organised:	1
No. of Conferences Publications:	17
No. of Journal Publications:	9

Pivotal Accomplishments

Rajheshwar V (19BCS105) participated in Tamil Nadu Police Hackathon 2022 and have secured cash prize of Rs.3000/- held during 12.10.22 at SRM University Campus, Chennai.

Mr.R.Kirubakaran attended two-month Summer Faculty Research Fellowship in IIT Delhi from 16/05/2023 to 14/07/2023.

During his tenure he has gained enormous knowledge from the project assigned in the field of Predictive Modelling

Department has signed/ renewed 5 MOUs with various industry and academic institutions.

Seminars, Workshops, Conferences and Short-term Courses attended:

Seminar / Webinar

Mr. Arjun P K participated in the "Research Forum on Augmented Reality in Learning Environment and Market Research" held at KCT on August 25, 2022.

Mr. Arjun P K presented at the conference "Frontiers in Artificial Intelligence: From Automation to Societal Applications" organized by the Indian Institution of Information Technology, Kottayam, on February 8, 2022 (Virtual).

Workshop

Mr. Arjun P K attended the "KLDA - Seven Habits of Highly Effective People" workshop at KCT from August 23, 2022, to August 24, 2022.

Dr. S. Nithya participated in the "Two days Workshop on Quality and Reliability on Systems" held at KCT in February 2023.

Ms. Apinaya Prethi K N also attended the "Two days Workshop on Quality and Reliability on Systems" held at KCT in February 2023.

Conference

Dr. J. Cynthia participated in the "Conference on Intelligent Sustainable System [SCISS23]" held at SCAD Institute & SCRS Society from February 3, 2023, to February 4, 2023.

Dr. J. Cynthia attended the "Conference on Communication and Intelligent Systems, 2022" at NIT Delhi from December 19, 2022, to December 20, 2022.

Dr. K.R. Baskaran attended the "Conference on Inventive Computation Technologies (ICICT 2023)" held at Tribhuvan University, Pulchowk campus, Lalitpur, Nepal, from April 26, 2023, to April 28, 2023.

Dr. K.R. Baskaran participated in the "Conference on Computer Vision and Robotics (CVR 2023)" at Babu Banarasi Das University Lucknow from February 24, 2023,

No of Industry Projects:	26
No. of Patents filed:	2
No. of Grants received:	2L

to February 25, 2023.

Dr. K.R. Baskaran attended the "Conference on Communication, Security, and Artificial Intelligence- ICCSAI-2022" held at Galgotias University, Greater Noida, Uttar Pradesh, from December 23, 2022, to December 24, 2022.

Faculty Development Programmes

Ms. Aswini D completed the course "Microsoft Azure Data Fundamentals" offered by ICT Academy online from June 20, 2022, to June 24, 2022.

Ms. Aswini D, Ms. S. Nithya Roopa, and Ms. C. Bharathi Priya participated in the FDP on "Sustainable Energy Development: Recent advances & Future Aspects" held online at KCT from August 8, 2022, to August 14, 2022.

Ms. D. Yamunathangam attended the FDP on "AWS" conducted online at KCT from August 22, 2022, to August 28, 2022.

Mr. V. Senthilkumar completed the FDP on "Big Data Analytics" offered online by VIT Chennai from August 1, 2022, to August 5, 2022.

Mr. P.K. Arjun attended the program on "Next Generation Cyber Security Through Blockchain" at GCT Coimbatore from September 19, 2022, to September 23, 2022.

Ms. N. Jeba completed the course "Programming Fundamentals Using Python" offered by Infosys online from October 17, 2022, to October 21, 2022.

Mr. V. Senthilkumar attended the program "Microsoft Power BI Data Analyst Associate" organized by KCT - ICT Academy from December 5, 2022, to December 9, 2022.

Ms. Apinaya Prethi K N participated in the FDP on "Machine Learning and Artificial Intelligence" organized by Edulakes in association with NSS IIT Roorkee online from February 13, 2023, to March 11, 2023.

Mr. R. Kirubakaran attended the program on "Industrial Approach to Internet of Things and its Research Challenges" offered online by VIT-AP from February 8, 2023, to February 14, 2023.

Ms. X. Francis Jency also participated in the program "Industrial Approach to Internet of Things and its Research Challenges" offered online by VIT-AP from February 8, 2023, to February 14, 2023.

Dr. S. Nithya attended the program “Exploratory Data Analysis for Deep Learning using Python and Microsoft Power BI” conducted online by NIT Warangal from March 31, 2023, to April 4, 2023.

Dr. S. Rajini participated in the program “Inculcating Universal Human Values in Technical Education” organized by AICTE online from April 3, 2023, to April 7, 2023.

Dr. S. Rajini, Ms. Jeba N, and Ms. Baharathi Priya C attended the program “Advanced IoT with AI” at KCT from May 22, 2023, to May 26, 2023.

Dr. Nithyaroop S and Mr. Kanagaraj G participated in the “Introductory UHV FDP: Introduction to Universal Human Values” conducted online by AICTE from May 22, 2023, to May 26, 2023.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members:

Dr. S. Nithya Roopa organized a webinar on “Data Analytics as a Career Option” on June 22, 2022, with 103 participants exploring career opportunities in the data analytics domain.

Ms. C. Bharathi Priya conducted a webinar on “Analytics Landscape in Various Domains” on June 29, 2022, with 50 participants discussing the perspective of analytics usage in different domain areas.

Dr. N. Suganthi, conducted a seminar on “Cyber Crime Awareness and Cyber Forensics” on September 6, 2022, with 34 participants gaining insights and awareness on cybercrime and knowledge about cyber forensics.

Dr. S. Rajini, organized a session on “Cloud and AI - Next Generation Powering Technologies” on September 27, 2022, with 30 participants getting a basic understanding of cloud and AI technology.

Ms. N. Jeba hosted an interactive session on “Skill Development and Career Progression” on November 24, 2022, with 78 participants discussing career development activities.

Ms. D. Aswini conducted an awareness session on “Employability Skills and Competitive Exams” on November 22, 2022, with 133 participants preparing for competitive exams.

Dr. S. Rajini presented a seminar on “Data Visualization using Elastic Stack” on November 19, 2022, with 90 participants gaining a practical perspective on data visualization techniques.

Ms. Suganya and Ms. D. YamunaThangam organized a seminar on “Knowledge Discovery using Database Tools” on May 11, 2022, with 100 participants gaining knowledge on database tools. Dr. S. Rajini conducted a session on “How to Crack an Interview” on January 30, 2023, with 51 participants becoming aware of interview preparation.

Mr. R. Kirubakaran hosted a seminar on “Machine Learning and Its Applications” on January 21, 2023, with 80 participants learning about the knowledge and usage of machine learning algorithms in various real-world applications.

Dr. K.R. Baskaran and Dr. S. Rajini conducted a session on “Software Testing Tools” on February 13, 2023, with 117 participants exploring various tools used in software testing.

Dr. N. Suganthi and Mr. G. Kanagaraj organized a session on “Career Opportunities in Cyber Security” on February 24, 2023, with 50 participants discussing the scope of job opportunities.

Dr. S. Rajini and Ms. Bharathi Priya C, organized “Project Expo 2023” on April 20, 2023, with 125 participants showcasing their projects and gaining peer knowledge.

Ms.K.N. Apinaya Preethi conducted a “Java Bootcamp” from April 28, 2023, to April 29, 2023, with 45 participants learning basic to extensive programming in Java.

Workshops Organised:

Ms. X. Francis Jency, organized the event “Switch and Solve” on September 15, 2022, with 24 participants getting motivated to engage in competitive programming.

Ms. X. Francis Jency conducted the event “Lets C” on September 20, 2022, with 120 participants being encouraged to learn basic and competitive programming.

Mr.V. Senthilkumar and Mr.G. Kanagaraj conducted a 5-day workshop on “Core Computing Fundamentals and Network Basics for Academic Non-Teaching Faculty” from December 12, 2022, to December 16, 2022, with 16 participants.

FDPs Organised:

Dr. S. Nithyaroop S, Mr.V. Senthilkumar, and Mr.R. Kirubakaran organized a Faculty Development Program (FDP) on “Microsoft Power BI” from December 5, 2022, to December 9, 2022, with 35 participants learning to connect to multiple different sources of data and combine them for analysis and visualization.

Guest Lecture:

Mr.V. Senthilkumar and Mr.G. Kanagaraj conducted a one-day hands-on workshop on “Mobile Application Development” at KPR Institute of Engineering & Technology on October 19, 2022.

Research Publications:

Dr. K.R. Baskaran, a Professor, published a research paper titled “A Novel Diseases Prediction Methodology with Optimized Disorder Waiting Time (DPM-OPWT)” in the journal NeuroQuantology in 2022.

Dr. K.R. Baskaran, authored a paper on “Machine Learning Based Disease Prediction in Health Care System,” published in the journal International Journal of Optoelectronics Laser in 2022.

Dr. J. Cynthia, authored "Certificate Authenticity Verification Solutions Using Blockchain Technology," and the findings were published in the International Journal for Science and Advance Research In Technology in 2022.

Dr. S. Rajini, authored a research paper titled "Voice-based E-mail System for Visually Impaired People" in the International Research Journal of Engineering and Technology in 2022.

Dr. K.R. Baskaran contributed to a paper titled "Algorithm for Optimal Power Performance in Body Area Network in Smart Wearable Patches for Environmental Applications," published in the Journal of Environmental Protection and Ecology in 2022.

Dr. K.R. Baskaran authored a research paper "Human Age Estimation Using Deep Convolutional Neural Network based on Dental Images (Orthopantomogram)," and published in the IETE Journal of Research in 2023.

Dr. K.R. Baskaran co-authored a paper titled "Fusion of Ensembled UNET and Ensembled FPN for Semantic Segmentation," published in Traitement du Signal in 2023.

Dr. K.R. Baskaran authored a research paper on "Explainable Efficient and Optimized Feature Fusion Network for Surface Defect Detection," published in The International Journal of Advanced Manufacturing Technology in 2023.

Mr.V. Senthilkumar published a paper titled "Designing an App for Early Detection of Alzheimer" in the International Research Journal of Engineering and Technology in 2022. The paper can be found in Volume 09, Issue 05.

Book Chapter Publication

Mr.V. Senthilkumar authored the book "Cognitive Sensors, Volume 1," published by IOP Publishing, in December 2022.

Dr. J. Cynthia contributed to the book "Novel Research and Development Approaches in Heterogeneous Systems and Algorithms," published by IGI Global. Her chapter in the book covers "Distributed Technologies and Consensus Algorithms for Blockchain" published in March 2023.

PhD Supervision:

Dr. L. Latha is supervising three research scholars under Anna University, guiding them in the areas of Intrusion Detection System, Classification Techniques for Big Data, and Smart Agriculture System, resulting in Journal Publications.

Dr. K. R. Baskaran is supervising four research scholars under Anna University, guiding them in the areas of IoT, Machine Learning, Blockchain, and Semantic Analytics, leading to Journal Publications.

Dr. N. Suganthi is supervising four research scholars under Anna University, mentoring them in the fields of Machine Learning, IoT, and Image Processing, resulting in Journal Publications.

Patent Filed

Mr. G. Kanagaraj has filed a patent for "System for Secure Payment Transaction for E-Commerce."

Ms. C. Bharathi Priya, Ms. D. Aswini, and Ms. X. Francis Jency have collectively filed a patent for "IoT-enabled Bird Repeller System for Crop Protection in Agricultural Farms."

Distinguished Visitors and Guests to the Department:

Dr. D. Surendran, Founder and CEO of SKS Skill Fasteners Pvt. Ltd, Coimbatore, delivered guest lectures on "Cloud and AI-Next Generation Powering Technologies" on 24th June 2022 and 27th September 2022.

Dr. T. Gowrishankar conducted a technical poster presentation on "Smart City Development" on 30th November 2022.

Sanjay Saatyaki, Senior Software Engineer at Bosch Global Software Technologies, delivered a guest lecture on "Data Visualization using Elastic Stack" on 19th November 2022.

Dr. E. K. Girishn, delivered a CSI guest lecture on "Design Thinking Concepts" on 23rd December 2022.

Industry Partnerships:

Mr.V. Senthilkumar has initiated an industry partnership with Samsung Prism through a Memorandum of Understanding (MoU) that started in 2020 and is scheduled to continue until 2023.

Dr. J. Cynthia has initiated an industry partnership with RIT (Rochester Institute of Technology) through a Memorandum of Understanding (MoU) that began in 2021 and is planned to extend until 2026.

Mr. G. Kanagaraj has initiated an industry partnership with Infosys Campus Connect through a Memorandum of Understanding (MoU) that started in 2022 and will last until 2024.

Dr. J. Cynthia has initiated industry partnership with Information Data Systems through a Memorandum of Understanding (MoU) that commenced in 2023 and is set to continue until 2025.

Dr. N. Suganthi has initiated an industry partnership with Cyber Intelligence Academy through a Memorandum of Understanding (MoU) that started in 2023 and is intended to continue until 2026.

Alumni Engagement:

Dr. S. Rajini, as part of alumni engagement activities, conducted various events:

- Guest Lecture on "Cloud and AI-Next Generation Powering Technologies" on 24th June 2022 and 27th September 2022.
- Guest Lecture on "Data Visualization using Elastic Stack" on 19th November 2022.
- CSI-Guest Lecture on Design Thinking Concepts on 23rd December 2022.
- Workshop on Entrepreneurship and Innovation as a Career Opportunity in Digital Marketing on 6th March 2023.
- My Story - Motivational Session by Successful Entrepreneur/Start-up Founder on 20th March 2023.
- Alumni Talk Series on "Recent Trends in IT Industry" on 24th March 2023.
- IoT Industry Collaboration Meeting on 10th April 2023.

Prizes and Awards won by Students / Scholars

Rajheshwar V (19BCS105) participated in the National Tamil Nadu Police Hackathon 2022 held at SRM University Campus, Chennai, and emerged as the winner, securing a cash prize of Rs. 3000/- from Tamil Nadu Police and SRM University on October 12, 2022.

Rubhini P (20BCS079), participated in the Ham Club activity at KCT and achieved the second position on March 4, 2023.

Swetha K (21BCS127), participated in an International Project Presentation and presented a paper at the symposium held at Vel Tech, Chennai, from February 23, 2023, to February 24, 2023.

Priyadharshan R (19BCS012), completed an International Certification Course on "Spring Boot and React with Test-Driven Development" offered by Udemy between February 18, 2023, to April 18, 2023.

Harishini S (20BCS037), successfully completed an International Certification Course on "Mastering Big Data" offered by Great Learning from March 30, 2023, to April 22, 2023.

Mythili Sekar Sriram (21BCS077), participated in the National Intel presents SKOAR! College Gaming Club: Valorant Tournament, organized by KCT and TapTap, powered by visa and Intel, and achieved the second

position on May 15, 2023.

Subharanjini M (21BCS123), successfully completed a National Certification Course titled "Joy of Computing using Python" offered by NPTEL from January 7, 2022, to January 10, 2022, through the NPTEL platform.

Dharunika Namagiri B V (20BCS028), Mukdha Sivani R (20BCS061) and Raswanth V (19BCS020) participated in the National Smart India Hackathon-2022 organized by the Ministry of Education's Innovation Cell and AICTE from August 25, 2022, to August 29, 2022, in Delhi.

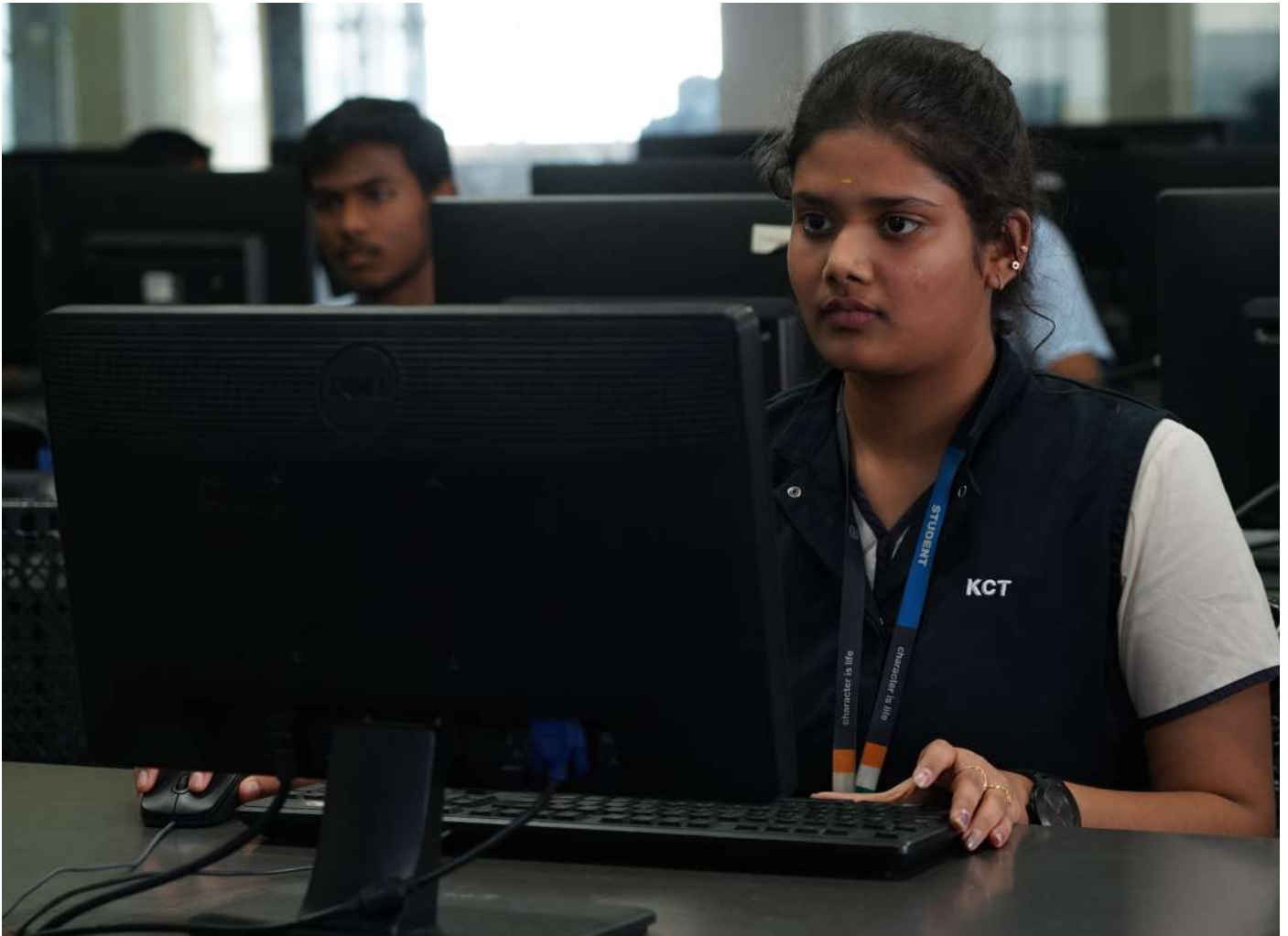
Students / Scholars achievements in non-academic avenues

Dharunika Namagiri B V (20BCS028), participated in the NCC Combined Annual Training Camp 2022 held at Kongu Engineering College, Perundurai and earned a Bronze medal during the training camp, which took place from June 14, 2022, to June 23, 2022.

Dharunika Namagiri B V (20BCS028), took part in the State Static Aeromodelling event organized by NCC from July 29, 2022, to August 8, 2022.

Joshua. A (20BCS045), participated in the National NCIIIP Responsible Vulnerability Disclosure Program conducted by NCIIIP from April 1, 2022, to August 30, 2022, in Delhi.





SCHOOL OF INNOVATION

Information Technology



From the HoD's Desk

The Department of Information Technology lays greater emphasis on training the students to achieve specialised skills in domains of their choice. Industry designed courses such as Mobile applications programming, Business intelligence and its applications, Building enterprise applications are offered to make our students updated and special care is taken to encourage the young entrepreneurs with start-up ideas. The department records over 95% placements in various reputed MNCs. 3 industry MoUs have been signed to strengthen industry academia partnership.

Thrust Areas of the Department

Thrust areas of the department are Network & IoT, Cloud Computing and Data Science. Faculty and interested students are grouped into each of the thrust areas to enhance their technical skills and strengthen knowledge. The outcome of these groups are as follows:

- Network & IoT - National and International publications by faculty and students are published as patents books and book chapters.
- Cloud Computing - Short term course on cloud infrastructure organized for students to enrich their skills.
- Data Science - 25 paper published in reputed journal by experts in data science

Programme(s) Offered

B.E. Computer Science and Engineering
Ph.D in Information and Communication Engineering

No of Students on Roll	
I Year UG	72
II Year UG	70
III Year UG	69
IV Year UG	62
I Year PG	16
II Year PG	12

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended:	3
No. of Seminars / Webinar Attended:	4
No. of FDPs attended:	8
No. of Seminars / Webinars Organised:	7
No. of Conferences Publications:	6
No. of Journal Publications:	17
No. of Patents filed:	2
No. of Patents Awarded:	1

Pivotal Accomplishments

One patent awarded and 2 patents have been filed by faculty

Department of IT signed MoU with Alteryx, Blueprism and Palo Alto Networks for Faculty Training/Student internship/ Placement Opportunities.

The number publications in reputed journals by faculty and students are increased

Seminars, Workshops, Conferences and Short-term Courses attended:

Seminars / Webinars Attended:

Dr. P. Shenbagam attended a webinar on "National Intellectual Property Awareness Mission 2023" on 16 Dec 2022

N. Rajathi attended a seminar on "Higher studies opportunities and Admission process in Abroad," organized by Ms. S. Nagalakshmi from Carrier Zone Consulting Pvt. Ltd., Coimbatore, on 29 Nov 2022

Dr. V. Vanitha and **Dr. N. Rajathi** attended a seminar on "Human Elements of Insider Threats," featuring Ms. Uma Rajagopal, Senior Information Security Governance Lead at Amazon, on 07 Oct 2022

Dr. N. Rajathi and **Dr. V. Vanitha** attended a seminar on "Cyber Laws and Cyber Crimes," featuring

Mr. N. Karthikeyan B.A., B.L., (Hons), Advocate from Madras High Court, on 03 May 2023

Workshops Attended

Dr. P. Shenbagam attended the "Training the Trainers" workshop on "Augmented Reality, Virtual Reality, and Metaverse Development" at PSG College of Technology, Coimbatore, from 19th September 2022 to 22nd September 2022.

Dr. P. Shenbagam attended a workshop on "NIRF India Rankings 2023" from 21st December 2022 to 22nd December 2022, which was conducted online.

Ms. S. Kavitha attended a workshop on "Design and Development of Outcome-Based Curriculum" at Kumaraguru College of Technology on 17th October 2022.

Faculty Development Programmes Attended

Dr. G. Prema Arokia Mary attended the "IoT Concepts and Applications" Faculty Development Program from 30th January 2023 to 4th February 2023 at MIT Campus, Anna University, Chennai.

Dr. P. Shenbagam completed the "Robotic Process Automation - Associate Developer Educator Training" certification by Blue Prism on 25th April 2023 through Eduskills online.

Mr. S. Kanagaraj participated in the "Advanced issues in Image Processing" Faculty Development Program from 9th to 13th January 2023 at Sri Ramakrishna Institute of Technology, which was conducted online. He also completed the "AWS Academy Cloud Foundation & Solution Associate Educator Training Program" from 27th March to 18th April 2023 through EduSkills online.

Ms. S. Sathyavathi attended the "Data Science Essentials for Business Leaders - Learn Machine Learning and AI with No Coding Effort" Faculty Development Program from 11th January 2023 to 19th January 2023, organized by CII SR and conducted online. She also participated in the "Celonis Academic Rising Star (Technical) Educator Training" from 14th March to 24th March 2023 through EduSkills online.

Ms. S. Kavitha attended the "AI master class" Faculty Development Program from 31st October to 3rd December 2022, organized by Pantech prolab and held virtually. She also participated in the "Celonis Academic Rising Star (Technical) Educator Training" from 14th March to 24th March 2023 through EduSkills (Virtual).

N. Rajathi completed the "Cybersecurity Foundation, Network Security, Cloud Security & Security Operations Fundamentals Train the Trainer Course" from 27th March 2023 to 6th April 2023 through Eduskills. She also participated in the "Advanced IoT with Artificial Intelligence" Faculty Development Program from 22nd May 2023 to 26th May 2023.

Mr. Vivek Anand and **Dr. M. Alamelu** both attended the "Advance IoT with Artificial Intelligence" Faculty Development Program from 22nd May 2023 to 26th May 2023.

N. Rajathi participated in the "NPTEL FDP on Cryptography and Network Security" from July 2022 to October 2022.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members:

Seminars Organised

Dr. N Rajathi organized the seminar titled "Higher Studies Opportunities and Admission Process in Abroad" on 29th November 2022 for one day. The event had 75 total participants, and it helped students gain awareness of higher studies opportunities abroad. **Dr. P Shenbagam** and **Ms. S Kavitha** coordinated the seminar titled "Practical Approaches on Dynamic Programming" on 11th May 2023 for one day. The event had 70 total participants and focused on developing students' programming skills.

Dr. N Rajathi and **Dr. V Vanitha** organized a seminar on "Cyber Laws and Cyber Crimes" on 3rd May 2023 for one day, with 200 participants. The event aimed to raise awareness about cyber laws.

Workshops Organised:

Dr. V Vanitha and **Dr. N Rajathi** organized a workshop on "Cyber Security and Human Elements of Insider Threats" on 7th October 2022 for one day, with 105 participants. The workshop aimed to help participants understand the field of cyber security.

Short-term Organised:

Dr. P. Shenbagam, Ms. S. Kavitha, and Dr. M. Alamelu organized a short-term course on "Full Stack Development" from 24th November to 03 December 2022, lasting for 4 days, with 70 participants. The course aimed to help participants gain knowledge in full stack development.

S. Sathyavathi, Dr. G. Prema Arokia Mary, Dr. Alamelu, and Mr. Vivek Anand organized a short-term course on "Cloud on Infrastructure" from 14th November to 26th November, spanning 13 days, with 81 participants. The course aimed to develop participants' skills in cloud infrastructure.

Research Publications:

S. Kavitha and **B. Dhanapriya** published a journal paper titled "Literature Survey on Semantic Segmentation" in the "International Journal of Science & Engineering Development Research" in June 2022. You can cite the publication in APA style as follows: S. Kavitha, B. Dhanapriya, "Literature Survey on Semantic Segmentation," International Journal of Science & Engineering Development Research (www.ijrti.org), ISSN: 2455-2631, Vol.7, Issue 6, pages 1827 - 1829, June-2022.

V. Vanitha and **Prakash Kumar K** published a journal paper titled "Leaf Disease Detection using Ensemble" in the "International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)" in August 2022. You can cite it as: V. Vanitha, "Leaf Disease Detection using Ensemble," International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET), Volume 11, Issue 8, pages 10638-10647, August 2022.

Dr. P. Shenbagam and **N. Sanjana** co-authored a journal paper titled "Corn Leaf Disease Detection: A Survey" in the "5th International Conference on Inventive Computation Technologies (ICICT 2022 Proceedings)."

Dr. P. Shenbagam, NR Narendran, M Sayed Sohail Haque, and S Shameem Ahamedh published a journal paper titled "IoT Based Women Safety System" in the "International Journal of Recent Advances in Multidisciplinary Topics" in June 2022.

S. Kavitha, Shalini R, Harini Sree N, and Akash J published a journal paper titled "A Survey on Skin Disease Prediction" in the "International Research Journal of Modernization in Engineering Technology and Science."

G. Prema Arokia Mary, Nithesh PS, Nanthini V, and Thebiksha GV published a journal paper titled "Wild Animal Detection System" in the "International Research Journal of Modernization in Engineering Technology and Science."

V. Vanitha, R Srinidhi, R Darshana, and S K M Nivetha published a paper titled "COVID-19 Detection using CT-Scan" in the "IEEE 3rd Global Conference for Advancement in Technology (GCAT-2022)."

S. Sathyavathi, Prathikshaa S, Dharshini AJ, and Logendar R published a journal paper titled "A Survey on Age Prediction using Skin Attributes" in the "International Research Journal of Modernization in Engineering Technology and Science."

V. Vanitha, Azhageshwaran, Tamilselvan, and Neethirajan published a journal paper titled "A Survey On Personalized Diet Food Recommendation System" in the "International Research Journal of Modernization in Engineering Technology and Science."

S. Kanagaraj, M. S. Hema, M. N. Guptha, and V. Namitha published a journal paper titled "Detecting Parkinson's Disease with Image Classification" in the "2022 IEEE 3rd Global Conference for Advancement in Technology (GCAT)."

S. Kanagaraj, Swathy K, Shalini S, and Selvakumar authored a journal paper titled "Customer Churn Prediction" in the "International Research Journal of Modernization in Engineering Technology and Science (IRJMETS)," Volume: 05, Issue: 01, January 2023.

S. Kanagaraj, Harini KR, Shahid Majeed Sheikh, and Sriram S co-authored a journal paper titled "A Survey On Parkinson Disease Prediction Using Machine Learning And Deep Learning" in the "International Research Journal of Modernization in Engineering Technology and Science (IRJMETS)," Volume: 05, Issue: 01, January 2023.

Vivek Anand M, Bharath Veerakumar S, Charan U A, and Naveenkumar G published a journal paper titled "Survey on Blockchain Based Online Student's Leader Election System Formulated by ECC And ECDSA Hashing Algorithm."

S. Sathyavathi and **K.R. Baskaran** published a journal paper titled "Human Age Estimation Using Deep Convolutional Neural Network based on Dental Images (Orthopantomogram)" in the "IETE- Journal of Research."

Rajathi N and **Akilan A** authored a journal paper titled "A Study on Web-Based Load Testing Tools" in the "International Journal of Scientific Research and Engineering Development."

S. Kavitha, Arul Murugavel B, Kamaleshwaran B, and Sneha M published a journal paper titled "Certificate as Non-Fungible Token (NFT)" in the "International Research Journal of Modernization in Engineering Technology and Science (IRJMETS)," Volume: 05, Issue: 02, February 2023.

S. Kavitha, K.R. Baskaran, and B. Dhanapriya co-authored a journal paper titled "Fusion of Ensembled UNET and Ensembled FPN for Semantic Segmentation" in the "Traitement du Signal."

V. Vanitha and Naren SR published a journal paper titled "Recent Advancements in Early Diagnosis of Cancer: A Systematic Review" in the "International Research Journal of Modernization in Engineering Technology and Science (IRJMETS)," Volume: 04, Issue: 12, December 2022.

N. Rajathi, Lakshmikant K, Rahulkhanna AS, and Tamarasan M.S co-authored a journal paper titled "Book Lending Platform" in the "International Research Journal of Modernization in Engineering Technology and Science (IRJMETS)," Volume: 05, Issue: 03, March 2023.

Harish D, Manimaran M, Jayashakthi Vishnu P, and Dr. M. Alamelu published a journal paper titled "A Review of Machine Learning and AI-Based Approaches to Detecting Cyberbullying on Social Media" in the "International Journal for Research in Applied Science & Engineering Technology (IJASET)," Volume: 11, Issue: IV, April 2023.

Harish D, Manimaran M, Jayashakthi Vishnu P, and Dr. M. Alamelu authored a journal paper titled "Breaking The Silence: An Overview of Approaches To Detecting Cyberbullying on Social Media" in the "International Journal for Science and Advance Research in Technology (IJSART)," Volume 9, Issue 4, April 2023.

N. Rajathi, Vikram P, Gowthaman A, and Devanand P S co-authored a journal paper titled "Vehicle Theft Detection Using IoT" in the "International Journal of Research Publication and Reviews," Volume 4, No 4, April 2023.

Thirumal PC, Bhuvanesh S, Varrsha L, and Narmatha Shree S published a journal paper titled "Railway Track Crack Detection System" in the "International Research Journal of Modernization in Engineering Technology and Science (IRJMETS)," Volume: 04, Issue: 12, December 2022.

Dr. G. Prema Arokia Mary, Hema, M. S., Gupta, M. N, Maheshprabhu, R & Sharma A, Naveen Vignesh co-authored a journal paper titled "A Machine Learning Approach to Detect Parkinson Disease Using Speech Signals" presented at the "International Interdisciplinary Humanitarian Conference for Sustainability (IIHC)" with the DOI 10.1109/IIHC55949.2022.10060407.

Dr. G. Prema Arokia Mary, Hema, M. S., Gupta, M. N, Maheshprabhu, R & Sharma A authored a journal paper titled "Prediction of Parkinson Disease using Autoencoder Convolutional Neural Networks" presented at the "International Interdisciplinary Humanitarian Conference for Sustainability (IIHC)" with the DOI 10.1109/IIHC55949.2022.10060292.

S. Sathyavathi and K.R. Baskaran published a journal paper titled "An Intelligent Human Age Prediction from Face Image Framework Based on Deep Learning Algorithms" in the "Information Technology and Control (ITC)" journal.

Sathyavathi. S and Rumina R R co-authored a journal paper titled "Segmentation and Removal of Hair Follicles in Dermoscopic Images" in the "International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)," Volume 3, Issue 12, May 2023.

Sathyavathi. S and Tarun Kumar S co-authored a journal paper titled "A Literature Review on Optimal Energy Scheduling for Data Center" in the "International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)," Volume 3, Issue 12, May 2023.

S. Kavitha, Priyanka P, Guruvishnu M, Madhumitha S, and Saroja MN published a journal paper titled "Exercise Pose Prediction using Convolutional Neural Network (CNN) and Residual Networks" in the "Asian Journal for Convergence in Technology (AJCT)" in December 2022.

P. Shenbagam and N. Sanjana authored a conference paper titled "Detection of Corn Leaf Diseases Based on Multiple Deep Learning Techniques" presented at the "1st International Conference on Contemporary Progress in Engineering and Technology (ICCPET 22)" in June 2022. The paper was published with ISBN No: 789356 363373, pp. 42-46.

S. Sathyavathi, Yoganarshaminan, and Vasumathi A contributed to a conference paper titled "Smart Attendance System using Machine Learning," which was presented at the "1st International Conference on Contemporary Progress in Engineering and Technology (ICCPET 22)" in June 2022. The paper was published with ISBN No: 789356 363373, pp. 26-30.

S. Sathyavathi, Kaliraj, Nithyavishal, and Kumaran co-authored a conference paper titled "Web Application for crop Yield production," presented at the "1st International Conference on Contemporary Progress in Engineering and Technology (ICCPET 22)" in June 2022. The paper was published with ISBN No: 789356 363373, pp. 297-301.

N. Rajathi and K. Yogajeeva published a conference paper titled "Rice Crop Disease Detection using GLCM Feature Extraction and Machine Learning Techniques" at the "1st International Conference on Contemporary Progress in Engineering and Technology (ICCPET 22)" in June 2022. The paper was published with ISBN No: 789356 363373, pp. 47-55.

P. Shenbagam and Deepikaa E authored a conference paper titled "A Review of Automated Forest Fire Identification for Mitigation and Extinguishment Strategies" presented at the "International Conference on Science, Technology, Engineering, and Management (ICSTEM'23)" in April 2023.

N. Rajathi, V. Vanitha, P. Parameshwari, and Sandhya Viswanath contributed to a conference paper titled "On Trend Hybrid Image Stylization using Machine Learning" presented at the "International Conference On Communication, Security and Artificial Intelligence (ICCSAI-2022)" held at Galgotias University in December 2022.

N. Rajathi and G. Malavika co-authored a conference paper titled "Alzheimer's Disease Classification using Deep Learning Models" presented at the "International Conference on Information Technology InCITE '23," hosted by Amity School of Engineering and Technology in Noida, on 2-3 March 2023.

S. Sathyavathi and **K.R. Baskaran** published a conference paper titled "Gender and Age Estimation from Facial photos using CNN classification with attention Mechanism" at the "International Conference On Communication, Security and Artificial Intelligence (ICCSAI-2022)" held at Galgotias University in December 2022.

R. Swetha and **N. Rajathi** co-authored a journal paper titled "A Survey on Various Techniques for Handwritten Text Extraction" in the "International Journal of Progressive Research in Engineering Management and Science." This paper can be found in Volume 3, Issue 5, May 2023.

S. Sathyavathi, Deksha, Ajay Krishnan, and **Santhosh** presented a conference paper titled "A survey on estimation of gender and emotion using paralinguistic features" at the "ICICT 2023: 8th International Congress on Information and Communication Technology" held virtually in London from February 20, 2023, to February 23, 2023.

Book Chapter Publication:

In the book titled "Advanced Network Technologies and Intelligent Computing," the chapter titled "Implementation of Deep Learning Models for Real-Time Face Mask Detection System Using Raspberry Pi" was co-authored by **V. Vanitha, N. Rajathi, R. Kalaiselvi,** and **V.P. Sumathi.** This chapter is published in Communications in Computer and Information Science, volume 1798, by Springer.

Book chapter titled "Intrusion Detection in IoT Based Health Monitoring Systems" was co-authored by **M.N. Ahil, V. Vanitha,** and **N. Rajathi,** which is part of the book "Mobile Computing Solutions for Healthcare Systems (2023)".

V. Vanitha and **N. Rajathi** co-authored a chapter titled "Review on Recent Applications of Internet of Flying Things" in the book "Modelling and Simulation of Fast-Moving Ad-Hoc Networks (FANETs and VANETs)" (2023) published by IGI Global.

T. S. Pradeep Kumar and **M. Alamelu** co-authored book chapter titled "Review on Recent Applications of Internet of Flying Things" in the book "Modelling and Simulation of Fast-Moving Ad-Hoc Networks (FANETs and VANETs)" published by IGI Global.

Membership in Professional Bodies

S. Kavitha became a member of the Soft Computing Research Society in the year 2023.

Dr. V. Vanitha became a member of IEI (The Institution of Engineers India), and her membership began in 2023.

N. Rajathi, became a member of IEI (The Institution of Engineers India), and she joined in 2023.

S. Kanagaraj, is a member of IEEE (Institute of Electrical and Electronics Engineers) since the year 2022.

Dr. G. Prema Arokia Mary is affiliated with IAENG (International Association of Engineers) and became a member in 2020.

Dr. M. Alamelu, holds a membership in ACM (Association for Computing Machinery) since 2020.

Patent Filed

S. Kanagaraj has filed a patent for a "Solar powered surveillance camera."

Dr. V. Vanitha has filed a patent for a "Smart Agriculture Recommendation system to improve the productivity of crops."

Patent Awarded

A patent with the title "IMPROVED ANKLE FOOT ORTHOSIS" has been awarded to **S. Kanagaraj** and **M. Alamelu** under the Indian patent application number IN201841002214.

Industry Partnerships:

M. Vivek Anand has established industry partnerships with Alteryx, Blueprism and Palo Alto Networks for a duration of 3 years, focusing on faculty training, student internships, and placement opportunities:

Students / Research Scholars participation in conferences / seminars / webinars / workshops / symposia:

Vaishnavi K, [20BIT060], participated in the National Finals of Smart India Hackathon on 26 August 2022 at Government of India, New Delhi.

Srinithi Srinivasan, [21BIT050], attended the National Combined Annual Training Camp from 20 July 2022 to 29 July 2022 at Karunya Institute Of Technology And Sciences (NCC).

Harihara Roopan CT, [20BIT018], Nandhakumar S, [20BIT035] took part in the National event "Hack o holics" on 29 September 2022 at St Joseph's Institute of Technology.

Nandhakumar, [20BIT035], Harihara Roopan CT, [20BIT018], Kabileesh G, [20BIT022] participated in the National Shristi IEEE Student Chapter Hackathon on 29 October 2022 at PSG College of Technology, Coimbatore.

Ragul Adhithya M, [21BIT035], attended the State-level Devfest 2022 seminar from 10 October 2022 to 15 October 2022 at Dr GRD College of Science Avinashi Road, Coimbatore.

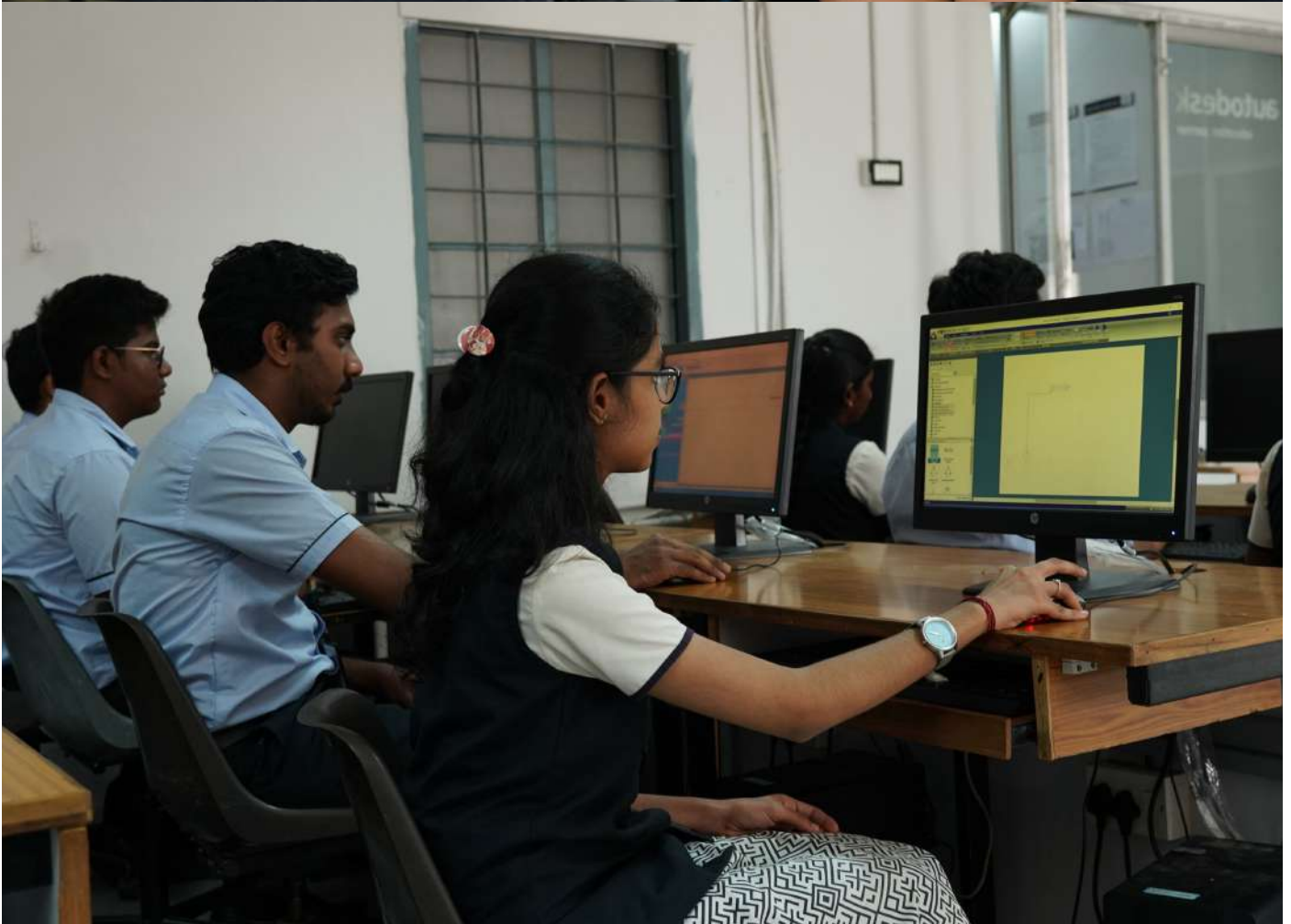
Subasre K, [21BIT051], participated in the Fused Deposition Modelling (FDM) workshop held within Kumaraguru College of Technology from 11 November 2022 to 24 November 2022.

Awards and Recognition won by Students:

Gayathri D, [20BIT013], and **Harish D, [19BIT033],** won the Zonal Anna University Table Tennis Zonal Tournament in Table Tennis on 5 November 2022 at Anna University, Chennai.

Prithvirajan G, [20BIT042], secured a State-level award at CENTIES CHAMPIONSHIP 2023 in KHO-KHO on 16 February 2023 at Sri Ramakrishna Institute of Technology, Coimbatore.

Nihaarika P, [20BIT036], received recognition at the State level for Dhruva 2022 in MIME on 6 April 2022 at Karpagam College of Engineering, Coimbatore.



SCHOOL OF INNOVATION

Artificial Intelligence and Data Science



From the HoD's Desk

The Department of Artificial Intelligence and Data Science is a skill-oriented engineering branches of KCT that enlightens the transformative power of Artificial Intelligence to solve real-world challenges. The well-equipped laboratory facilities and trained faculty members will lead to gain cross-disciplinary skills across fields such as Artificial Intelligence, statistics, machine learning and data science. Students are motivated to take part in hackathons through individual training and assistance. Solving of real-time problems are enhanced through Internships, value added courses, Growth labs and workshops.

Thrust Areas of the Department

In the world of dramatic and accelerating change in the streams of technology, economy, culture, environment, and social dimensions, the role of an engineer must be expanded to include the possibilities of serving as disruptive innovators, business leaders, technology visionaries, policymakers, and custodians of the earth. Thus, it calls for a program that serves as a platform offering knowledge, skills, and exposure to a multidisciplinary array of fields and areas spanning STEM, arts, humanities, design, innovation, business, leadership, and entrepreneurship. Going from a teacher-centric approach to a learner-driven orientation, the very fabric of the program has been embedded with experiential learning, divergent thinking, problem-solving, creativity etc. to empower the learners to not only find stimulation for learning from discovering a higher purpose but also make them responsible for their learning objectives and knowledge outcomes.

Programme(s) Offered

B.E. Artificial Intelligence and Data Science

No of Students on Roll	
I Year UG	124
II Year UG	134
III Year UG	68
IV Year UG	64

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended	5
No. of Seminars / Webinar Attended	2
No. of Seminars / Webinars Organised	1
No. of Conferences Publications	2
No. of Journal Publications	1
No. of Patents filed	1

Pivotal Accomplishments

5 research articles were published and indexed in scopus/WOS.

1 patent was filed and published on the domain on ML and Software Engineering

Dr.Sudharson D, AP/AI&DS was invited for 2 expert sessions online in the regions of UAE and South Africa.

Seminars, Workshops, Conferences and Short-term Courses attended:

Seminar Attended:

Ms. Srigeetha M, AP/AI&DS attended a webinar on “Deep learning for medical image analysis” in AI-Driven Big Data Analytics held on 1st August 2022.

Ms. Srigeetha M, AP/AI&DS attended a webinar on “Optimal Batting First Strategy in Cricket” on 05 Jan 2023, organized jointly by IITM and Talentsprint.

Project Expo attended

Ms. Srigeetha M, AP/AI&DS participated in SRISHTI 2023, the National Level Technical Project Expo, Srishiti 2023, at Saintgits College of Engineering, Kottayam, Kerala and the project secured a position among the Top 5 Projects under the Healthcare Theme.

Conferences Participated

Dr. Sudharson D, AP/AI&DS, Enhancing the Efficiency of Lung Disease Prediction using CatBoost and Expectation Maximization Algorithms in 2022 4th International Conference on Inventive Research in Computing Applications (ICIRCA)

Dr. Sudharson D, AP/AI&DS, A Novel Ai Framework for Personalisation and Customization of Product Prices through Bigdata Analytics in 2023 International Conference on Artificial Intelligence and Knowledge Discovery in Concurrent Engineering (ICECONF)

Dr. Sudharson D, AP/AI&DS, Twitter Based Complaint Management System for Rail Transit in 2023 2nd International Conference on Advancements in Electrical, Electronics, Communication, Computing and Automation (ICAECA)

Dr. Sudharson D, AP/AI&DS, A novel Sentimental Analysis framework using Gated Recurrent Units for Text Transliteration 2023 2nd International Conference on Advancements in Electrical, Electronics, Communication, Computing and Automation (ICAECA)

Mr. Bhuvaneshwaran A, AP/AI&DS, A Multimodal AI Framework for Hyper Automation in Industry 5.0 in 2023 International Conference on Innovative Data Communication Technologies and Application (ICIDCA)

Faculty Development Programmes Attended

Ms. Srigeetha M, AP/AI&DS has appeared for the first phase of UHV in online mode during February 2023.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members:

Seminars Organised

Dr. Sudharson D, AP/AI&DS has organized an expert session on Introduction to python programming with the support of C Suite sweet labs.

Special Lectures Delivered:

Dr. Sudharson D, AP/AI&DS lectured a workshop titled “Entrepreneurship Ventures in Data Science” at KGISL Campus, Coimbatore on 03 Jun 2022.

Mrs. P. Antony Seba, AP/AI&DS was invited as a resource person under the scheme of “STEMM Popularisation and Demonstration” for a science camp organized by JP College of Engineering, Tenkasi, and Department of Science and Technology, Ministry of Science & Technology, Government of India from 23 Jun 2022 - 26 Jun 2022.

Dr. Sudharson D, AP/AI&DS was invited as a resource person at VIT AP for a national FDP titled as Codeless Data Science on 05 Jul 2022.

Dr. Sudharson D, AP/AI&DS has been invited as a resource person to FDP on “cryptocurrency, blockchain and cyber security” organized by the department of commerce and department of computer science in KMM college of arts and science, Cochin-21.

Mr. Bhuvaneshwaran A, AP/AI&DS has been invited as a resource person on “Advances in artificial intelligence & machine learning” at KGISL, Cbe held in October 2022.

Dr. Sudharson D, AP/AI&DS acted as a resource person for the two days online international FDP titled “An Overview of Indian Knowledge System and Intellectual Property Rights” organized by IQAC, Sri Saradha College for Women, Salem.

Dr. Raghuveer VR, Director/ KSI acted as a resource person for the Professional Development Program titled “Technology in Education” on 07 Jan 2023 organized by Kumaraguru College of Liberal Arts and Science.

Ms. Selvi, Certified power BI, has been invited as a resource person for a workshop on BI as part of the department association of AI & DS held on 13 Oct 2022.

Research Publications:

Dr. Sudharson D, AP/AI&DS published a research article titled "Classification of Diabetics and Cardiovascular Diseases using Machine Learning Frameworks" in the International Journal of Research Publication and Reviews, Volume 3, Issue 12, Pages 1848-1853.

Dr. Sudharson D, AP/AI&DS has presented an article titled "Software Quality Prediction by Catboost-Feedforward Neural Network in Software Engineering" at the Summit on System Reliability and Security: Techniques and Methodologies. The article is scheduled to be published under the Book Series on Advances in Computational Collective Intelligence by CRC Press, Taylor & Francis Group, USA.

Ms. Srigeetha, AP/AI&DS has presented a paper titled "Abstractive Summarizer using Bi-LSTM," presented at the 2022 International Conference on Edge Computing and Applications (ICECAA) in Tamilnadu, India, has been indexed in Scopus.

Book Publication:

Mr. Bhuvaneshwaran, AP/AI&DS published a book titled "Artificial Intelligence" under Charulatha Publications. ISBN: 9789396373207

Membership in Professional Bodies / Institutions:

Dr. Sudharson D, AP/AI&DS is being an active member in Data Science Foundation for the academic year 2022-2023.

Patent Filed

Dr. Sudharson D, AP/AI&DS has filed and published a patent titled as A novel Pareto Distribution based CatBoost framework for Software Reliability Estimation and numbered as 202241003203

Industry Partnerships and Collaborations

Dr. V R. Raghuvver and **Mr. A. Bhuvaneshwaran** interacted with **Ms. Deena** and **Mr. Anand** from E-Box to gain insights about the E-Box Platform and the specifics of the Value-Added Course (VAC) on Full Stack Development on May 29th, 2023, at 3:30 p.m.

Students / Research Scholars participation in conferences / seminars / webinars / workshops / symposia:

Ms. Bhavya A and **Ms. Amitha K** have completed a course on 'Python for Machine Learning' offered by Great Learning.

Ms. Bhavya A has completed a course on 'Basics of Exploratory Analysis' offered by Great Learning. **Ms. Sri Thrishna J** has completed a course on 'Python Data Structures' offered by Great Learning.

Bhavya A participated in a workshop on 4.0 technologies as part of CCBP 4.0 academy, conducted by NxtWave Disruptive Technologies Private Limited, Hyderabad, Telangana-32, during August 2022.

Yogeshwari L attended the "Futurepreneur" Conclave featuring inspiring resource speakers, including **Mr. M. Prathap I.A.S.**, Commissioner, CMCC, and **Mr. Sivarajah .R** Mission director and CEO, Startup TN, conducted on 27th August 2022.

Srinithi J participated in a paper presentation as part of Elements 2K22, conducted by Sri Ramakrishna Engineering College, Cbe during September 2022.

Selvakumaran R and **Dharan Raj** participated in an event titled "National Education Policy 2020: Innovation and Entrepreneurship in HEI's" organized by the Department of Electronics and Communications Engineering and Mechanical Engineering, conducted in KCT during September 2022.

Sri Thrishna J attended a workshop on "Free human resource skills," conducted by Tareeqa Global Solution Pvt. Ltd. on 26th September 2022.

Nithyashree VK has completed a course on "Ask questions to make data-driven decisions" through Coursera.

Awards and Recognition won by students

Shri Sanjana S.E attended an online course and a boot camp named "Data Science Tools" conducted by Cognitive Class and "Free Python and Machine Learning Essentials" conducted by LetsUpgrade. Additionally, she contributed to events conducted by DevTown during September 2022.

Ms. Srigeetha and her team won a prize money of Rs. 20,000 in the Manipal Institute of Technology Hackathon in October 2022 and were shortlisted for a seed grant of about Rs. 25,00,000.

Kamali S attended an online course named "Python 101 for Data Science" conducted by Cognitive Class during September 2022 and scored 80% in the Python programming online test conducted by cppbuzz.com.

Mrs. Sri Geetha M mentored a team that participated in the Buoyanci Innovation Challenge 2022. The team was specially recognized for the demonstration of their prototype solution for vertebrae detection and labeling.

Nishanth T, **Sri Harshitha P**, and **Niranjana Devi S P** participated in the Buoyanci Innovation Challenge 2022 and were specially recognized for the demonstration of their prototype solution for vertebrae detection and labeling.

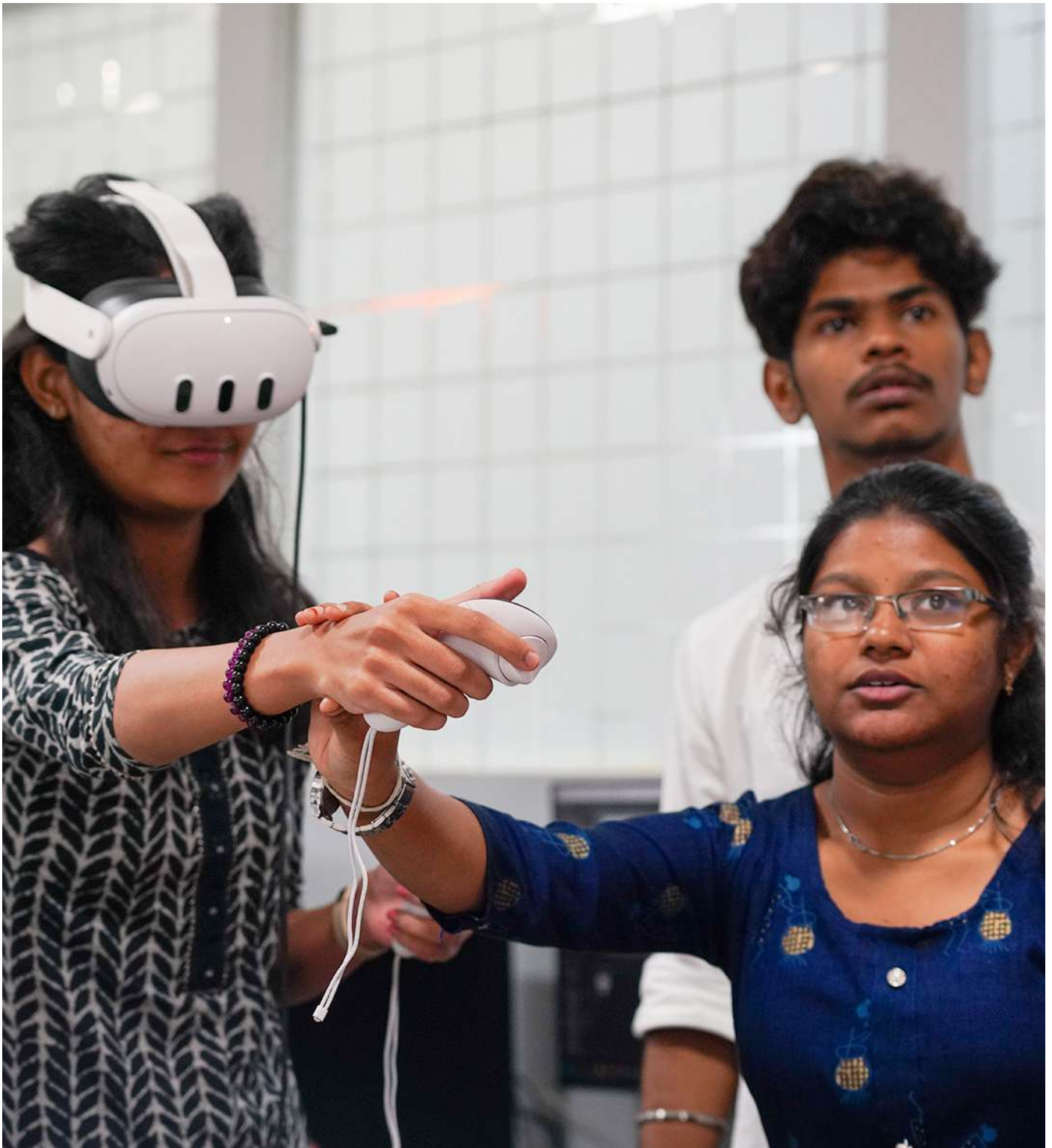
Mrs. Sri Geetha M mentored a team that secured the third place in Vishlesan Innovative Idea Contest VIIC 2022 in collaboration with TIH, IIT Patna, with a cash award of Rs. 20,000.

First-year and second-year students' active participation in Tamil Mandram earned the rolling trophy - Nakkeeran Trophy for the Dept of AI&DS.

Mr. Arun Madhavan E V R (20BAD204) participated in ANNA UNIVERSITY GAMES 2022 and won BRONZE in the 55kg men category held on 24/12/2022 to 12/01/2023 at Kumaraguru College of Technology.

Mr. Charan A A (21BAD014), Mr. Pravin P B (21BAD046), and Mr. Balaji (21BAD009) won first place in Healthware 3.0 organized by SSN College of Engineering on 17th & 18th May 2023, mentored by Ms. Antony Seba P, AP/AI&DS.

Mr. Charan A A (21BAD014), Mr. Pravin P B (21BAD046), Mr. Kavin Bharathi (21BAD031), and third-year student Mr. Arun Madhavan E V R (20BAD204), and first-year student Mr. Jonattan (22BAD043) were shortlisted among 450+ teams and presented their innovations on "Digital Doctor" in the Grand Finale in the National Talent Fest Shrujana' 23 organized by L&T Edutech on 30th May 2023. **Ms. Antony Seba P, AP/AI&DS,** mentored the students for the project.



SCHOOL OF INNOVATION

Information Science and Engineering



From the HoD's Desk

We have crafted ISE with focus and USP as Utility through analytics, Security and Privacy and integrating best of online courses mapped to syllabus of final and pre-final year. We had established strategic partnership with DSCI for Security and Privacy as part of National CoE on Cyber Security Technology Development. On analytics we signed an MoU with pure analytics focused company Course 5i and introduced two common electives. Through a unique initiative, we deployed cloud-based lab services for 7 courses in AY 2022-23. We intend to take it to fruition in the coming year. These initiatives have shown qualitative and quantifiable improvements as outcomes.

Thrust Areas of the Department

Emerging technologies that map to Utility through Analytics, Information Security and Privacy are the thrust areas of B.E. ISE. Strategic Partnerships with DSCI for Information Security and Privacy and Course 5i for Data Analytics has been done that directly corresponds to these thrust areas. The following courses with revamped syllabus has been designed and offered in blended learning with labs supported by latest cloud environments.

Experiential learning is an integral part of these courses, and its impact has been demonstrated through preferred recruitment of ISE students by placement companies, in addition to publications by students and faculty.

Programme(s) Offered

B.E. Information Science and Engineering

No of Students on Roll	
II Year UG	63
III Year UG	63
IV Year UG	57

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended:	5
No. of Seminars / Webinar Attended:	2
No. of FDPs attended:	6
No. of Seminars / Webinars Organised:	6
No. of Conferences Publications:	5
No. of Journal Publications:	9
No. of Consultancy Projects:	3

Pivotal Accomplishments

As a pilot initiative from KCT, practical / experiential learning was done using Cloud Lab Services for 7 courses that necessitated special computing requirements. The courses were 1. Big Data 2. Cloud Architecture and Computing, 3. Engineering Clinics V (involving Hacking and Patching), 4. Deep Learning and 5. Information Storage and Retrieval 6. IoT Architecture and Protocols and 7. Deep Learning. These were for 5th, 6th and 7th semester ISE students. The lab was approved, deployed and students completed all the scheduled exercises. The feedback from students were overwhelmingly positive for the cloud lab over the traditional lab environment.

As a part of the MoU signed with Course5i, two elective courses named "Applied ML Engineering Basics" and "Advanced Applied ML Engineering" have been designed as COMMON ELECTIVES to the students of all the departments and approved by Board of Studies and Academic Council. Board of Studies meeting was completed on 07-07-2022 where the electives were approved. It is to be offered by Course 5i to all students through the Placement office

Placement Statistics is one metric that showcases the outcome of the above ISE initiatives. The impact has been significant and one visible outcome is 139% increase in the median salary from 450000 for 2018-22 batch to Rs. 625000 for 2019-23 batch. The same can also be seen from the relative placements that happened till date for the 2020-24 batch, wherein ISE students were most preferred by high paying companies.

Seminars, Workshops, Conferences and Short-term Courses attended:

Seminars / Webinars Attended:

Mr.Thiruvaazhi U, Mr.Sathish M and Ms.G.Krishna Priya attended the "Improving Research Performance using ScienceDirect & Scopus" webinar on 16th November 2022 at KCT.

Workshops Attended

Ms.Shobana G participated in a workshop on "OBE based Revised Bloom's Taxonomy, delivery methods, and assessment tools" on 18th November 2022 at KCT.

Mr.Thiruvaazhi U attended the GIAN (Global Initiative of Academic Networks) course on "Digital Payments and Digital Currency: Challenges and Solutions for India" from 20th to 25th February 2023 at NIT Silchar.

Conferences Participated

Mr. Thiruvaazhi U presented on "Preventing Phishing of Credentials using Zero Knowledge Proof" at an online conference on 4th June 2022.

Ms.G. Krishna Priya presented a paper on "Automatic Diabetes Prediction Model using AI-ML" during an online conference on 3rd June 2022.

Ms.G. Shobana attended the IEEE 3rd Global Conference for Advancement in Technology - GCAT 2022 from October 7th to 9th, 2022, in an online format.

Mr.Thiruvaazhi Uloli served as a delegate at Uagine 2023, held from 23rd to 25th March 2023, at the Chennai Trade Centre.

Mr.Thiruvaazhi Uloli participated in the DSCI FinSec 2023 industry conclave from 25th to 26th May 2023 at JW Marriott, Mumbai.

Short-term courses Attended

Mr.Sathish M completed the Patent Analysis Course offered by Turnip from 8th to 17th July 2022 in a virtual format.

Faculty Development Programmes Attended

Mr.Mohammed Farooq Abdulla FM and Sathish M participated in the "Data Science Specialization with Python" FDP held online from 27th to 28th August 2022.

Dr. R. Kalaiselvi engaged in the "Data Science for Engineers" FDP conducted by NPTEL from 15th July to 30th September 2022 in an online format.

Mr.Sathish M enrolled in the "NPTEL Course- Introduction to Machine Learning" FDP running from July to October 2022 in an online mode.

Ms.Krishna Priya G attended the "Platforms and System Security in Cyberspace" FDP held online from 30th January to 4th February 2023.

Mr.Sathish M participated in the "Emerging Research Trends in Blockchain & Data Science" FDP conducted online from 8th to 12th May 2023.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members:

Seminar/ Webinar Organised

Ms. K. Saranya organized a seminar on "Metaverse Opportunities" held on 26th May 2023 for one day, with 400 participants gaining exposure to metaverse applications and opportunities.

Dr. Kalaiselvi R conducted a webinar on "Roadmap for Career Development in Cloud Computing" on 19th May 2023, lasting one day and attended by 100 participants, providing insights into career opportunities in the cloud.

Workshops Organised:

Mr.Sathish M and Mr.Mohammed Farooq Abdulla F M jointly organized a workshop titled "Big Data Analytics" on 9th November 2022, with 160 participants gaining hands-on knowledge to work with AWS services in the Big Data domain.

Ms.G. Krishna Priya conducted a workshop on "Recommendation Engine - ML" on 27th February 2023, attended by 84 participants to acquire knowledge on ML tools and techniques relevant to the industry.

In addition, **Ms.G. Krishna Priya** organized a workshop on “Cloud Technologies in AWS” on 1st March 2023, with 120 participants acquiring hands-on knowledge to work with AWS services in the Cloud domain.

Ms. K. Saranya organized the “SKOAR – Esports Event” on 15th May 2023, engaging 400 participants in gaining real-time experience of augmented reality (AR) and virtual reality (VR) techniques.

Special Lectures Delivered

Mr.Mohammed Farooq Abdulla delivered a special lecture on “Android Development Tools” at Adhi College of Technology from 6th to 7th June 2022.

Mr.Mohammed Farooq Abdulla conducted an online workshop on “Mobile Application Development through SQLite” at VIT-Chennai on 21st September 2022.

Mr.Sathish M delivered a special lecture as part of the “Value Added Course on Mobile Application Development” from 16th to 17th September 2022 at Erode Sengunthar Engineering College, Erode.

Research Publications:

Mr.Thiruvaazhi.U, Mr.Deena Dhayalan S, Mr.R Prasanth, and Mr.M Sathish published a research paper titled “Crop Recommendation and Disease Prediction System for Kitchen Garden” in the International Journal of Innovative Research in Engineering, Volume 3, Issue 3, June 2022.

Mr.Thiruvaazhi. U, Mr.Pawan Kumar, Mr.Guru Prasad, and Mr.Jayaprakash contributed to the paper “Summarizing using LED for MoM,” published in the International Journal of Engineering Research in Computer Science and Engineering, Volume 9, Issue 6, June 2022.

MR.Mohammed Farooq Abdulla FM, MR.Nishanth, Ms.Swetha, and Mr.Lohit Shakthi authored the paper “Révolange: Your Fashion Guide,” published in the International Research Journal of Engineering and Technology (IRJET), Volume 9, Issue 6, June 2022.

Mr.Mohammed Farooq Abdulla FM, Ms.Smirthi, Ms.Yoganayagi, and Mr.Maanav published the paper “Canteen Food Ordering and Inventory Management System” in the International Research Journal of Engineering and Technology (IRJET), Volume 9, Issue 6, June 2022.

Mr.Mohammed Farooq Abdulla FM, Mr.Tamil Selvan, Ms.Harshini, and Ms.Deepthikka contributed to the paper “Purchase And Analytics For Grace Marketing,” published in the International Journal of Engineering Research, Volume 9, Issue 5, June 2022.

Mr. Thiruvaazhi Uloli published a paper on “Requirements Analysis of Security and Privacy of Mobile Payments in the Indian Context” in the International Journal of Mobile Communications in July 2022.

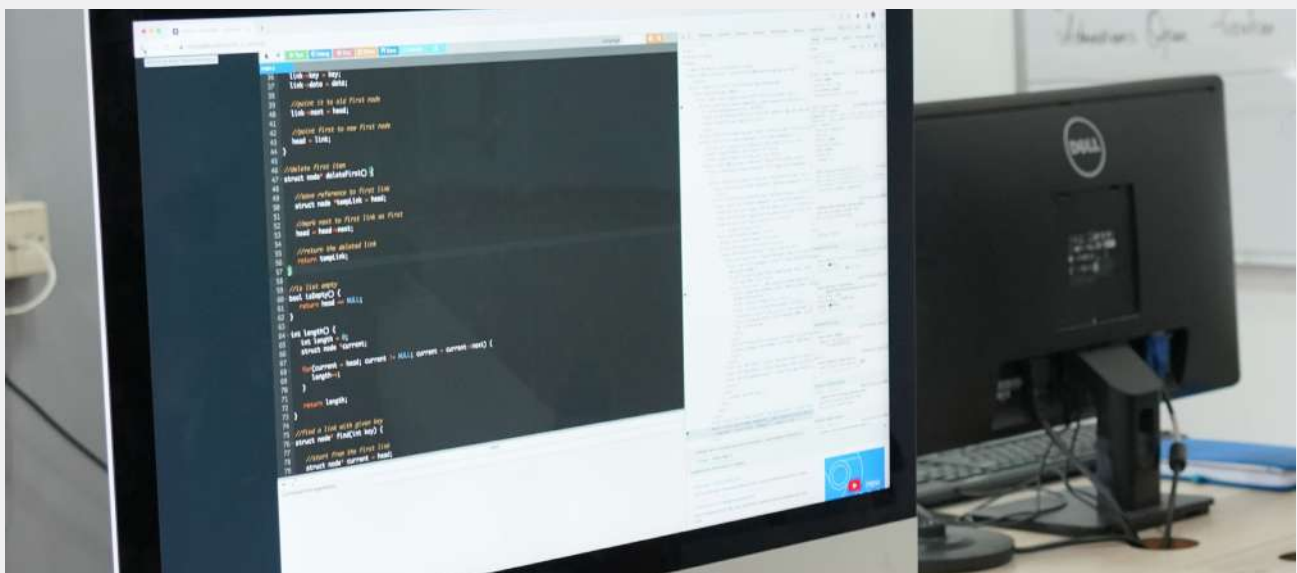
Ms.G. Shobana’s work on “Fruit Freshness Detecting System Using Deep Learning and Raspberry PI” was published in IEEE Explore in December 2022.

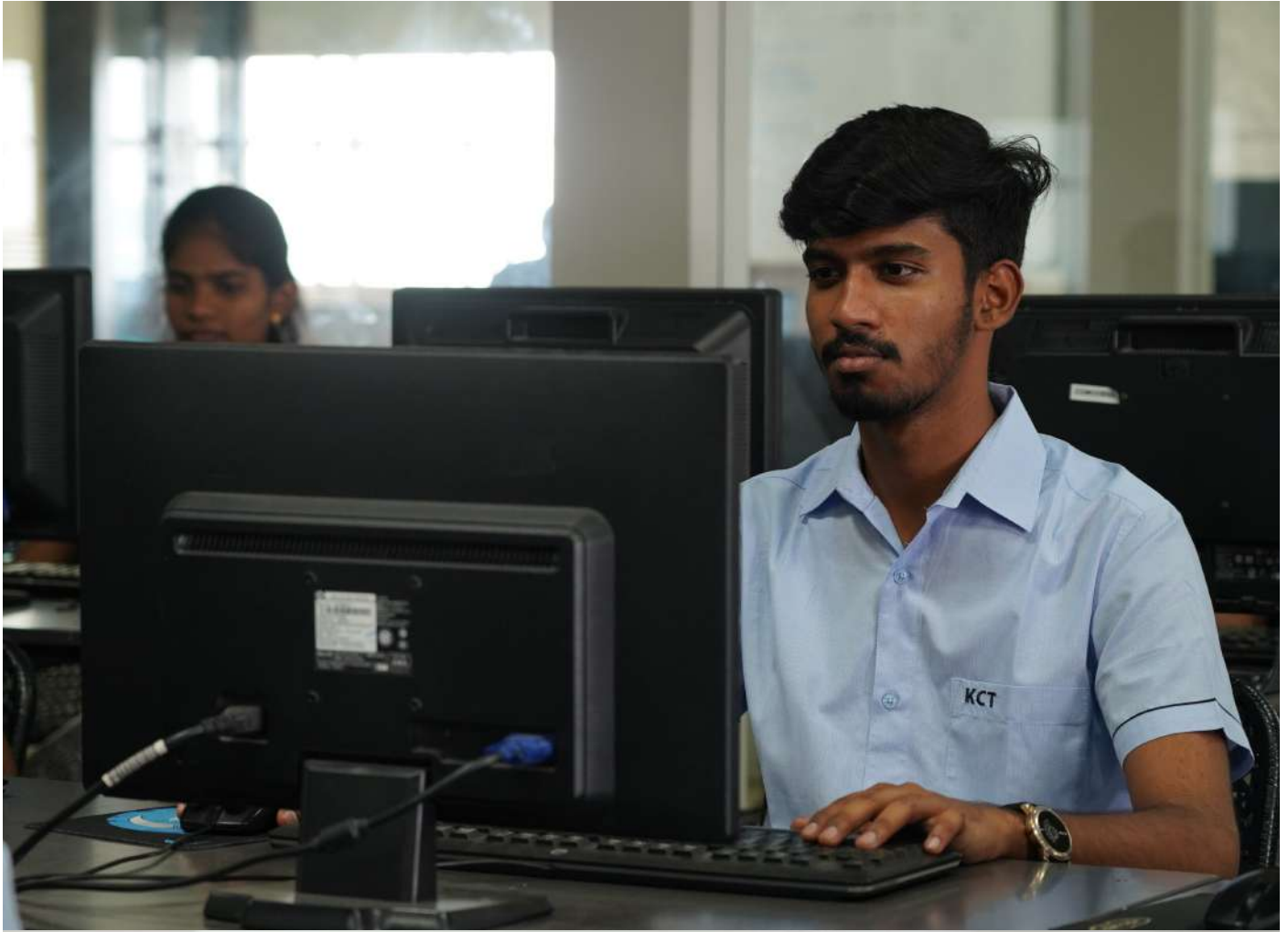
Ms.K. Saranya’s paper titled “An Efficient AP-ANN-Based Multimethod Fusion Model to Detect Stress through EEG Signal Analysis” was published in Computational Intelligence in Neuroscience in December 2022.

Mr.Thiruvaazhi Uloli, Mr.R. M. Koushal Akash, Ms.A. G. Keerthika, and Mr.K. S. Dhanwanth published a paper titled “Survey of Fake Image Synthesis and its Detection” in the International Journal of Innovative Image Processing, Volume 4, Issue 4, January 2023.

Alumni Engagement:

Ms.G. Krishna Priya organised a one-day alumni engagement event where Mr. Pawan Kumar, who is a Software Engineer at Everstage, shared insights and experiences on 24th November 2022.





SCHOOL OF INNOVATION

Master of Computer Applications



From the HoD's Desk

The department emphasizes academic excellence by encouraging students to apply computational methods and algorithmic concepts in software and hardware solutions. Faculty members regularly upgrade their technical knowledge through certification courses and workshops, providing hands-on training for real-world applications. Students participate in industry projects and internships, with 95% securing placements in reputable MNCs. Research ideas are converted into publications, and the Cisco Networking Academy offers value-added courses to students from the circuit branch department.

Thrust Areas of the Department

Thrust areas of the department are Data analytics, Cyber Security, Artificial Intelligence, IoT and Web Development.

Programme(s) Offered

Master of Computer Applications

No of Students on Roll	
I Year PG	64
II Year PG	63

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended:	10
No. of Seminars / Webinar Attended:	4
No. of FDPs attended:	6
No. of Conferences Organised:	1
No. of Seminars / Webinars Organised:	2
No. of Conferences Publications:	10
No. of Journal Publications:	5
No. of Patents filed:	2
No. of Grants received:	1

Pivotal Accomplishments

Dr.R.K.Kavitha, AP III has filed the patent titled "A Monitoring device based smart technique for elders".

Dr.M.C.S.Geetha has filed the patent titled "A Computer Vision and Artificial Intelligence based image pattern recognition system and method thereof"

Seminars, Workshops, Conferences and Short-term Courses attended:

Seminars / Webinars Attended:

Dr. R.K. Kavitha, AP-III, attended a seminar on Patent Analytics from July 7, 2022, to July 16, 2022, organized by Turnip Innovations Pvt. Ltd, Kolkata (virtual).

Dr. M. Manikantan, ASP, attended an AWS Educator seminar on November 10, 2022.

Dr. C. Rajankrupa C, AP (SRG), attended an AWS Educator seminar on November 10, 2022.

Dr. L. Dhanabal, AP III, attended an AWS Educator seminar on November 10, 2022.

Workshops Attended

Dr. P. Parameswari, AP (SRG), attended a workshop on Design and Development on October 17, 2022.

Dr. C. Rajan Krupa, AP, attended a workshop on Design and Development on October 17, 2022.

Dr. M.C.S. Geetha, AP, attended a workshop on Design and Development on October 17, 2022.

Dr. Rajankrupa C, AP (SRG), attended a workshop on OBE based Revised Bloom's Taxonomy, delivery methods, and assessment tools on November 18, 2022.

Dr. L. Dhanabal, AP III, attended a workshop on OBE based Revised Bloom's Taxonomy, delivery methods, and assessment tools on November 18, 2022.

Conferences Participated

Dr. M.C.S. Geetha attended the International Conference on Artificial Intelligence & Data Analytics, Internet of Things, and Cyber Security (ICAIC-22) from May 20, 2022, to May 21, 2022.

Ms. V. Jalaja Jayalakshmi attended the International Conference on Artificial Intelligence & Data Analytics, Internet of Things, and Cyber Security (ICAIC-22) from May 20, 2022, to May 21, 2023.

Dr. V. Geetha attended the International Conference on Artificial Intelligence & Data Analytics, Internet of Things, and Cyber Security (ICAIC-22) from May 20, 2022, to May 21, 2024.

Dr. N. Jayakanthan attended the International Conference on Artificial Intelligence & Data Analytics, Internet of Things, and Cyber Security (ICAIC-22) from May 20, 2022, to May 21, 2028.

Dr. R.K. Kavitha attended the International Conference on Artificial Intelligence & Data Analytics, Internet of Things, and Cyber Security (ICAIC-22) from May 20, 2022, to May 21, 2029.

Dr. P. Parameswari attended the International Conference on Artificial Intelligence & Data Analytics, Internet of Things, and Cyber Security (ICAIC-22) from May 20, 2022, to May 21, 2032.

Dr. L. Dhanabal attended the International Conference on Artificial Intelligence & Data Analytics, Internet of Things, and Cyber Security (ICAIC-22) from May 20, 2022, to May 21, 2033.

Dr. P. Parameswari attended the International Conference on Information and Communication Technology for Competitive Strategies (ICTCS-2022) from December 9, 2022, to December 10, 2022.

Ms. Amala Jayanthi M attended the "International Conference on High Performance and Intelligent Computing (ICHPIC'22)" from December 7, 2022, to December 9, 2022.

Ms. Jalaja Jayalakshmi V attended the International Conference on Science, Technology, Engineering, and Management (ICSTEM 23) from April 05, 2023, to April 06, 2023.

Short-term Courses Attended

Dr. R.K. Kavitha attended the Basics of Python short-term course from 18/07/2022 to 23/07/2022 at Infosys Ltd.

Dr. R.K. Kavitha attended the "Python for Data Science and Machine Learning Bootcamp" short-term course on Udemy.

Dr. R.K. Kavitha attended the Design and Implementation of Human-Computer Interfaces short-term course on NPTEL.

Dr. L. Dhanabal attended the Introduction to IoT short-term course on NPTEL.

V. Jalaja Jayalakshmi attended the Design and Implementation of Human-Computer Interfaces short-term course on NPTEL.

Dr. M.C.S. Geetha attended the NBA Accreditation and Teaching and Learning in Engineering short-term course from 07-01-2023 to 30/04/2023 on NPTEL.

Dr. R.K. Kavitha attended the NBA Accreditation and Teaching and Learning in Engineering short-term course from 07-01-2023 to 30/04/2023 on NPTEL.

Dr. M. Manikantan attended the NBA Accreditation and Teaching and Learning in Engineering short-term course from 07-01-2023 to 30/04/2023 on NPTEL.

n Krupa, AP(SRG), attended the NBA Accreditation and Teaching and Learning in Engineering short-term course from 07-01-2023 to 30/04/2023 on NPTEL.

Dr. S. Hameed Ibrahim, AP(SRG), attended the NBA Accreditation and Teaching and Learning in Engineering short-term course from 07-01-2023 to 30/04/2023 on NPTEL.

Faculty Development Programmes Attended

Dr. M.C.S. Geetha attended the Faculty Enablement Programme on Programming using Java conducted by Infosys from 20th to 25th June 2022 (Online).

Dr. R.K. Kavitha, AP-III, attended the Smart Tools and Methodologies for Academic Research FDP from 1st August 2022 to 5th August 2022 at Mahatma Gandhi Institute of Technology, Gandipet, Hyderabad.

Dr. R.K. Kavitha, AP III, and Dr. Rajankrupa C, AP (SRG), both attended the Data Science: A Revelation of the Modern Digital Era FDP from 29th August 2022 to 9th October 2022 at SRM Institute of Science & Technology, Ramapuram Campus.

Dr. Rajankrupa C, AP (SRG), attended the National level FDP on Microsoft Power BI Data Analyst Associate from 5th December 2022 to 9th December 2022 at ICT Academy, Chennai.

Dr. M.C.S. Geetha also attended the National level FDP on Microsoft Power BI Data Analyst Associate from 5th December 2022 to 9th December 2022 at ICT Academy, Chennai.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members:

Dr. R.K. Kavitha, AP III, and Dr. C. Rajan Krupa, AP II, jointly organized an Industry Conclave on "Industry Ready Professionals" on 1st July 2023.

Workshops Organised:

Dr. L. Dhanabal, AP-III/MCA, and Dr. S. Hameed Ibrahim, AP(SRG)/MCA, organized a Hands-on Session on IoT Designing Platform for Proof of Concept on 15th July 2022.

Dr. L. Dhanabal, AP-III/MCA, and Dr. S. Hameed Ibrahim, AP(SRG)/MCA, organized a Hands-on Session on IoT Analytics and Internship Opportunity on 2nd August 2022.

Dr. N. Jayakanthan, AP/MCA, organized a workshop on Blockchain Development on 6th September 2022.

Dr. P. Parameswari, AP[SRG], organized a Workshop on Research Methodology on 28th December 2022.

Dr. M.C.S. Geetha, AP/MCA, organized a Workshop on Research Methodology on 29th December 2022.

Conference Organised:

Dr. P. Parameswari organized a PG Conference on Emerging Computing and Technologies on 18th February 2023, which was attended by 60 PG students.

Dr. M.C.S. Geetha organized a PG Conference on Emerging Computing and Technologies on 18th February 2023, which was attended by 60 PG students.

Ms. M. Amala Jayanthi organized a PG Conference on Emerging Computing and Technologies on 18th February 2023, which was attended by 60 PG students.

Special Lectures Organised:

Dr. R.K. Kavitha contributed to the Doctoral Committee Meeting held at Sree Saraswathi Thiagaraja College on 30th May 2022.

Dr. L. Dhanabal served as a BoS Member at RVS College of Arts & Science on 30th June 2022.

Dr. L. Dhanabal acted as an External Examiner for Project Viva Voce at SNS College of Engineering on 23rd June 2022.

Dr. M. Manikantan participated as a BOS Member at Coimbatore Institute of Technology on 5th November 2022

Research Publications:

Amala Jayanthi.M and **Dr. I. Elizabeth** Shanthi published "Quest_SA: Preprocessing Method for Closed-Ended Questionnaires Using Sentiment Analysis through Polarity" in Mobile Information Systems, vol. 2022, 12 pages, 2022

R.K. Kavitha, Jaisingh.W, Saravanan.S, and **Gour R** published "Automated Detection of Brain Abnormalities in MRI Images Using Integrated Deep Convolutional Neural Networks With K-Means Algorithm" in the 2022 IEEE 3rd Global Conference for Advancement in Technology, held on 7-9 Oct. 2022.

R.K. Kavitha, Jayakanthan N., and Harishma S published "Predicting Students' Outcomes with Respect to Trust, Perception, and Usefulness of Their Instructors in Academic Help Seeking Using Fuzzy Logic Approach" in the International Conference on Advancements in Smart Computing and Information Security (ASCIS 2022), Communications in Computer and Information Science, vol. 1759, Springer, Cham. DOI: 10.1007/978-3-031-23092-9_19.

Dr. M.C.S. Geetha and **Kirsten Kennedy** published "Rainfall Prediction using Machine Learning Techniques" in the International Journal of Innovative Research in Computer and Communication Engineering, Vol. No.11, Issue No.2, pp-9137-9141, February 2023. DOI: 10.15680/IJIRCCE.2023.1102020.

R.K. Kavitha, W. Jaisingh, and **S. Harishma** published "Performance Analytics in Collaborative Learning Environments" in the IEEE 2nd International Symposium on Sustainable Energy, Signal Processing, and Cyber Security (ISSSC) in February 2023.

Book Chapter Published:

Dr. P. Parameswari authored a book chapter "Early Stage Prediction of Plant Leaf Diseases Using Deep Learning Model" in "Computer Vision and Machine Learning in Agriculture, Volume 2" published by Springer.

Ms. Amala Jayanthi authored a book chapter "A holistic analysis to identify the efficiency of data growth using a standardized method of non-functional requirements in graph applications" in "Demystifying Graph Data Science: Graph algorithms, analytics methods, platforms, databases, and use cases" published by IET.

Membership Details

Dr. N. Jayakantan became a member of the International Association of Engineers (IAENG) in the year 2022.

Patent Filed

Dr. R.K. Kavitha filed a patent titled "A Monitoring Device Based Smart Techniques for Elders"

Dr. M.C.S. Geetha filed a patent titled "A Computer Vision and Artificial Intelligence-Based Image Pattern Recognition System and Method Thereof."

Sponsored Research Grant:

Dr. R.K. Kavitha coordinated the project titled "Water Stagnation Monitoring and Alerting System for Rail Under Bridges and Flyovers (CSE854)" funded by Tamil Nadu State Council for Science and Technology (TNSCST) for a duration of 3 months, with a grant amount of ₹7,500.

Students / Research Scholars participation in conferences / seminars / webinars / workshops / symposia:

S. Harishma with Reg No 21MCA013 attended a National Workshop on 18th May 2022.

T. Saranya (Reg No: 21MCA038), S. Harishma (Reg No: 21MCA013), and B. Mukesh (Reg No: 21MCA027) participated in a National Training program held from 4th January to 15th June 2022.

V. Karthika (Reg No: 21MCA016) attended a National Training session on 19th June 2022.

Awards and Recognitions won by Students:

Yuvansankar E S (Reg No: 21MCA06) and Kirsten Kennedy K (Reg No: 21MCA020) won the First Prize in the National Code Sprint event.

Nithya Shree M (Reg No: 21MCA028) and Sankeertha Br (Reg No: 21MCA036), achieved the Second Prize in the National Nethunt competition.

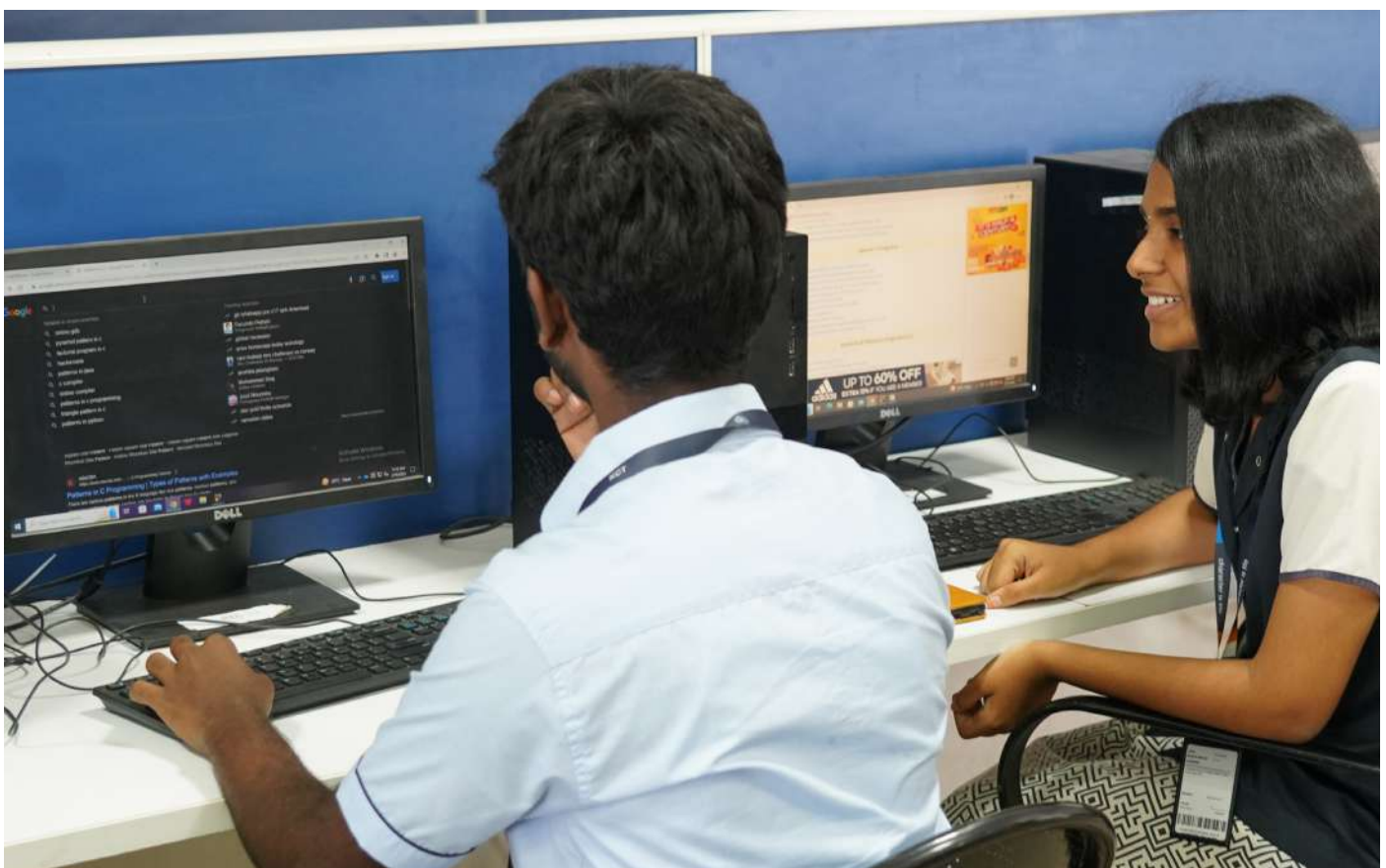
Yuvansankar E S (Reg No: 21MCA06) and Kirsten Kennedy K (Reg No: 21MCA020) secured the First Prize in the National Quiz competition.

Surendiran S (Reg No: 21MCA052), and Kaliraj J (Reg No: 21MCA015) won the First Prize in the Thinklytics competition.

Aruna S (Reg No: 21MCA005) and Harishma S (Reg No: 21MCA013) received the Third Prize in the National Icebreaker event.

Harishma S (Reg No: 21MCA013) and Yuvan Shankar ES (Reg No: 21MCA060), were awarded the first Prize in the National BrainStorm-Technical Quiz.

Kirsten Kennedy K (Reg No: 21MCA020), and Aruna S (Reg No: 21MCA005) were awarded the Second Prize in the National BrainStorm-Technical Quiz.



KCT.BS MBA (General) MBA (Project Management)



From the HoD's Desk

Electronics & Instrumentation Engineering established in the year 2006, which focuses on the principle and operation of field instruments SCADA, DCS, PLC'S and process control systems which are used in design and configuration of automated systems. We have established all our laboratories and centres of excellence, which are required for the curriculum and several specialized equipment and software, which help the students to do their real time projects. We have placed our students in core industries like Yokogawa, Bosch, Data Patterns, TVS, Tesolves, Saipem, ECON, etc. We have our students pursuing their higher studies in US, UK, Germany, and Australia.

Thrust Areas of the Department

Partnership with Yokogawa India Ltd for offering Training, Students' Internship, Placement, Projects, Research and consultancy.

Partnership with Fluke Technologies, Bangalore for Industry Calibration consultancy services and student projects.
*Partnership with Siemens Ltd towards the establishment of PLC Automation Lab for offering intense training in Industrial Automation.

Intense training in Embedded and microcontrollers for Faculty and students by Steps knowledge Pvt. Ltd. - Authorised training partner for Texas Instruments.

Programme(s) Offered

MBA (General)

MBA (Project Management)

No of Students on Roll	
I Year PG	189(MBA GENERAL) & 22 (MBA PM)
II Year PG	180
Research Scholars	07

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended	10
No. of Seminars / Webinar Attended	11
No. of FDPs attended	11
No. of Conferences Organised	1
No. of Seminars / Webinars Organised	27
No. of FDPs organised	2
No. of Conferences Publications	13
No. of Journal Publications	13

Pivotal Accomplishments

Dr. V. Dinesh Kumar, has published a patent titled "Machine Vision and Multiple Sensor Data Fusion based Robotic Vehicle for Injection Administration".

Mr. V. Athappan, Mr. E. Muthuramalingam, Mr. M. Saravanabalaji, Mr. S. Ranganathan, has published a patent titled "A customised pick and place system for forging industries".

Ms. I. Jeya Daisy won as winner in Innovation challenge contest(22-23) conducted by AICTE and STMicroelectronics, Greater Noida with the amount of 2,65,000 worth ARM studio software.

No. of Consultancy Projects	6
No of Industry Projects	2
No of International Visitors	4
No. of Patents filed	1
No. of Patents Awarded	1
No. of Grants Applied	15
No. of Grants received	3
Total Grant mobilised (in INR)	10,60,000

Seminars, Workshops, Conferences and Short-term Courses attended:

Seminar Attended:

Dr. S Jaisankar attended a seminar on "Driving Digital Transformation in Healthcare using Low Code" at ITC Hotels on November 4, 2022.

Dr. B. Poongodi participated in the "Grand Handloom Start-up Challenge" held virtually on December 22, 2022.

Dr. B. Poongodi attended an "Agribusiness Consortia Meet" at DABD, TNAU on November 22, 2022.

Dr. Senthivelkumar attended "NARVIGATE 2023" at PSG Institute of Technology from March 18 to March 19, 2023.

Dr. S Jaisankar participated in a seminar on "Data Analysis" at Avinashilingam University on April 11, 2023.

Dr. S Jaisankar attended a workshop on "TORA" at Anna University on May 12, 2023.

Dr. P. Thamaraiselvi took part in a "TA 101 Self Disclosure" seminar held in the Lecture Hall on April 24, 2023.

Vivekraj SN attended a seminar on "Data Analysis" at Avinashilingam University on April 11, 2023.

Vivekraj SN participated in a seminar on "Predictive Analytics" at SIIMS Pollachi on May 23, 2023.

Workshops Attended

Dr. S Jaisankar participated in a workshop on "Lean Manufacturing" held virtually on September 22, 2022.

Dr. Thamaraiselvi attended a workshop on "Academic Connect on Marketing Metrics" at Dr. NGP IT-Seminar Hall on December 8, 2022.

Conferences Participated

Dr. Shirpria V attended a conference on "Sri Ram Foundry (SRF)- A Case of Entrepreneurial Drive and Quality Conundrum During COVID 2019" from October 14 to October 15, 2022.

Dr. Shirpria V participated in a conference on "Implementing Artificial Intelligence based Talent acquisition in organizations" from December 10 to December 11, 2022.

Dr. S. Sangeetha and Dr. A Latha explored "Customers' experience towards automation and digitalization of Fintech services" at a conference held from December 9 to December 10, 2022.

Dr. P. Thamaraiselvi presented a study on "Management automation task based on the implementation of open ERP with reference to selected Engineering Industries" at a conference from December 9 to December 10, 2022.

Dr. Shirpria V presented a study on the "Sustainable HR approach and the employees' perception of Green HRM and organizational performance" at a conference from January 11 to January 12, 2023.

Vivek Raj SN participated in a conference on "Building an actionable social media marketing planning through content creation strategies - '4D Framework'" from January 11 to January 12, 2023.

Vivek Raj SN presented on "TEXT MINING AND SENTIMENT ANALYSIS OF COVID-19 TWEETS" at a conference from November 24 to November 25, 2022.

Dr. A Latha and Dr. M Mohanamani jointly participated in a conference on "Measuring course attainments through competencies and performance indicators: A Case of Computer lab-based course" from December 28 to December 30, 2022.

Faculty Development Programmes Attended

Dr. V. Kannan attended a 5-Day Virtual EDP on Project Risk Management online from March 13 to March 17, 2023.

Dr. S. Sangeetha participated in an FDP on "Data Analytics for Advanced Research using R and Tableau" conducted online from May 1 to May 10, 2023.

Dr. P. Thamaraiselvi attended a Five Days FDP on "Advanced Statistical Techniques for Data Analysis using R" online from May 22 to May 26, 2023.

Dr. P. Thamaraiselvi also participated in an FDP on "Action Learning Agility Through Case Study methodology" at Leelavathi Auditorium, Firebird Institutions on January 27, 2023.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members:

Conference Organised:

Dr. K.R. Senthilvelkumar and Dr. Thamarai Selvi.P organized the "Case Conclave 2023" on June 8, 2023, with 31 participants.

FDP Organised:

Dr. Thamaraiselvi organized a Faculty Development Program (FDP) as part of the Faculty Development Series titled "There is no growth in comfort zone" on April 15, 2023.

Competitions Organised

Dr. Shirpria V organized the CMA 5th Edition of Business Partnerships Beyond Families on July 28, 2022, with 200 participants.

Dr. Senthilvelkumar and Prof. N. Vanitha jointly organized the "National C-Suite Contest" on February 25, 2023, with 19 participants.

Dr. Shirpria V organized an event on "CEO 2030" on February 1, 2023, with 160 participants.

Dr. Shirpria V conducted the "CMA Sports Meet" on February 9, 2023, with 100 participants.

Short Term Training Programme Organized

Dr. B Poongodi organized a "Capacity Building Programme for Agripreneurs 2022-23" from August 20 to August 29, 2022, with 25 participants.

Dr. B Poongodi hosted a "Short Term Training Programme on Making of Biodegradable Sanitary Napkins from Natural Fibres" on April 28 and April 29, 2023, with 17 participants.

Dr. B Poongodi conducted an "Awareness and Training Programme on Natural Dyes" on May 8 and May 9, 2023, with 40 participants.

Outbound Program Organized

Dr. Shirpria V hosted an event on "NBNP Anaikatti" from November 26 to November 27, 2023, and on December 5 and 6, 2023, with 167 participants.

Webinar Organised

Dr. V. Kannan hosted a webinar on "Project Management – Scope and Prospects" on August 30, 2022, with 30 participants.

Online Tutorials Organized

Vivekraj SN conducted an IIT Bombay Spoken Tutorial on "RDBMS – PostgreSQL" from September to October 2022, with 83 participants.

Special Lectures Delivered:

Dr. Susana D delivered a special lecture on "Introduction to Accounting for Startups" online on

the Zoho platform.

Dr. Poongodi B conducted a special lecture on "Marketing Research" online on the Zoho platform.

Dr. K.R. Senthilvel Kumar gave a special lecture on "Developing Marketing Orientation" online on the Zoho platform.

Dr. Deepa Manickam delivered a special lecture on "Child Development" in Erode.

Dr. B. Poongodi conducted a special lecture on "Sales Etiquettes" in Coimbatore.

Dr. Deepa Manickam provided a special lecture on "Life Skills Education for Scheduled Caste Students," sponsored by Rajiv Gandhi National Institute of Youth Development, Ministry of Youth Affairs & Sports, Government of India, at Periyar University.

Research Publications:

Poongodi Bhupathy and Ramakrishnan G authored an article titled "Jamakalam Rug Weaving in India," published in The Journal of Weavers, Spinners and Dyers, Scopus Indexed in 2022.

Paul VMT, Nimmi P.M, Geetha Jose, and Anjali John Vijaya Kuriakose published an article on "Family incivility and workplace bullying: Mediating and moderating model of psychological safety, optimism and organization-based self-esteem" in the International Journal of Conflict Management in 2023.

Vijaya Kuriakose, Paul VMT, and Bishwas Sumant Kumar contributed to the article "Examining the pathway linking workplace incivility and employee well-being: a study among frontline hotel employees in India," published in the International Journal of Contemporary Hospitality Management in 2022.

Paul VMT, Nimitha Aboobaker, and Uma N Devi authored an article titled "Family incivility and burnout: a moderated mediation model of life satisfaction and psychological capital," published in Evidence-based HRM: a Global Forum for Empirical Scholarship in 2022.

Nimmi PM, Geetha Jose, Paul VMT, and Anjali John explored "Workplace bullying, engagement and employability: Moderating role of organization-based self-esteem" in the Employee Responsibilities and Rights Journal in 2022.

Vivek Raj SN and Manivannan SK published their article "Machine Learning Models to Predict Covid-19 Vaccination Intention: An Indian Study" in International Journal of Professional Business Review, a Scopus Indexed Journal in 2022.

Madhushri R and Vivek Raj SN published their article "Machine Learning Models for Predicting Customer Willingness to Buy Electric Vehicles" in Computational Methods and Data Engineering: Proceedings of ICCMDE 2021, a Scopus Indexed Journal in 2022.

Dr. A. Latha and Dr. Deepa contributed to the article "Consumer perspective on mobile wallet payment system," to be published in the "Interdisciplinary Research in Technology and Management Proceedings of the International Conference on Interdisciplinary Research in Technology and Management" by CRC Press, Taylor and Francis Group, London, New York (scheduled for Scopus indexing in 2023).

Ramya D and Dr. A. Latha collaborated on the article "Evaluating the parameters and role of bank during COVID-19," to be published in the "Interdisciplinary Research in Technology and Management Proceedings of the International Conference on Interdisciplinary Research in Technology and Management" by CRC Press, Taylor and Francis Group, London, New York (scheduled for Scopus indexing in 2023).

Dr. P. Thamaraiselvi, Chintolla Surekha and Deepa R collaborated and published the article "A Novel Cloud-Assisted IoT Framework For Human Stress Rate Monitoring Using Bayesian Network" in European Chemical Bulletin, a Scopus indexed Journal in 2023.

Case Study Publications:

Dr. K R Senthilvel Kumar published a case study titled "Would Mondelez branch out into plant-based products in India?" in the The Case Journal in 2022

Dr. V Shripria and Dr. V Srividya published a case study titled "Sriram Foundry (SRF) – A case of Entrepreneurial Drive and quality Condrium during COVID 2019" in Edited Book, AICTE sponsored International Case Conference -2022 on "Redefining Pedagogy", ISBN 978-81-909372-8-3.

Dr. A. Latha and Dr. M. Kirupa Priyadharshini published a case study titled "The Rise and Fall of the MOOC's – What's in Store?" in The Journal of Indian Management and Strategy – WoS Journal in 2023.

PhD Supervision:

Dr. S Jaisankar serves as a research guide at Anna University and is currently guiding five research scholars.

Membership in Professional Bodies / Institutions:

Dr. B Poongodi is a member of the Crafts Council of India for the year 2021-22. Additionally, she is a member of the TNAU Agribusiness Incubation Society and the Coimbatore Management Association for the year 2022-23.

Dr. Shripria V holds a membership with the Coimbatore Management Association for the year 2021-22 and 2022-23. She is also a member of INDAM for the year 2022-23.

Dr. Deepa M is a member of the National HRD (NHRD) for the period 2022-2032.

Dr. A Latha is a member of IEEE and the IEEE Technology and Engineering Management Society for the year 2022-2023.

Dr. P. Thamaraiselvi holds a lifetime membership with NIPM (National Institute of Personnel Management)

Dr. S. Sangeetha is a lifetime member of the International Society for Development and Sustainability (ISDS).

Faculty in Editorial Board:

Dr. R Vinayagasundaram, an Associate Professor, serves on the editorial board of the "International Journal of Advance Research and Innovative Ideas in Education."

Dr. Vivek Raj S N, an Assistant Professor, is a member of the editorial board for the "Journal of Advances in Information Technology," which is indexed in SCOPUS.

Dr. Susana D, an Assistant Professor, holds a position on the editorial board of "Cogent Economics and Finance," a journal indexed in Scopus.

Patent Filed

Dr. Poongodi B has filed a patent for the "Process of Preparing Banana Fibre Reinforced Nonwoven Composite Biobox."

Sponsored Research Grant:

Dr. Poongodi B secured a research grant from AICTE – Indian Knowledge Systems – Samvardhana, amounting to ₹13,20,000, for a two-year project on the "Development and Application of Natural Dyes for reviving Handlooms and Improving Human Wellness."

Dr. B Poongodi's another project, "Doubling Farmers Income through Scientific Dairy Management," received funding of ₹2,00,000 from KCT SEED Funding for a duration of 1.5 years.

Dr. B Poongodi's initiative on "Exploring the Market Need for the Efficient Use of Water Resources and Inventing an Effective Technology for Recycling the Used Water with Special Reference to Automobile Car Wash Centers" secured a grant of ₹9.39 lakhs from KRIA, spanning a duration of 2 years.

In collaboration with Maya Ventures, Coimbatore, **Dr. B Poongodi** initiated a one-week project on "Handloom Industry – Sourcing Skilled Jacquard Weavers" with a grant amount of ₹7788/-.

Dr. B. Poongodi and **Dr. A. Latha** undertook a 1.5-month project on "Developing Defence Corridor in Coimbatore" with a funding of ₹3000/- from KC.IRI, KCT.

For the project "Handloom Sales Promotion," **Dr. B Poongodi** received a grant of ₹1182.36/- for a 2-day duration from Khadi Saravanampatti.

Additionally, a 2-day project on "Handloom Sales Promotion" received a grant of ₹1180 from Avarampalayam Sarvodaya Sangh, Saravanampatti.

Industry Partnerships and Collaborations

Dr. B. Poongodi, in collaboration with KCT, worked with TVS Flexol Packaging P Ltd, Chennai, in an industry collaboration spanning from April 17, 2021, to April 17, 2026.

Dr. B. Poongodi, along with KCT, collaborated with the Ministry of Culture, Indira Gandhi National Centre for Arts-Atmanirbhar Bharath Centre for Design, New Delhi, in an industry partnership from October 1, 2021, to June 2021.

Alumni Engagement:

Dr. Vivek Raj SN organized an Alumni Talk on October 11, 2022, focusing on "Major Project in Business Analytics – Roadmap and Opportunities."

Dr. B Poongodi engaged alumni by securing sponsorship for the Social Immersion Project on March 26, 2023.

Dr. M Deepa contributed to alumni engagement on April 1, 2023, by hosting a guest speaker session.

Dr. B Poongodi actively participated in alumni events by attending the Family Business Conclave on April 15, 2023. She attended the Family Business Conclave twice on the same date, possibly indicating multiple sessions or activities within the event.

Awards and Recognition won by students

Reshap G (21MBA119) and Vinothini (22MBA174) participated in the "Synetics 22" event at Nandha Engineering College on November 24, 2022, showcasing their business team-building skills at the state level.

Reshap G and Vinothini from I year MBA participated in the "Synetics 22" event at Nandha Engineering College

on November 24, 2022, showcasing their business team-building skills at the state level. They also took part in the "INSPIRA 2K22" event at Dhanalakshmi Srinivasan College of Engineering on November 30, 2022, participating in the Business Plan category at the state level.

Vinothini from I year MBA demonstrated her skills in the "Takshak 22" event at Karpagam College on November 12, 2022, participating in the Best Manager Event at the state level.

Divya J, Akarshana, and Gayathri S P from I year MBA took part in the "URJITH Inter-college Meet – Think HR" at PSGR Krishnammal College on January 7, 2023.

Kamalesh S, Saju S, Vignesh, Rahul AC, Sangam Malla, Hariharan, Dinakaran, Ciddarth, Gokul, Darshan, Gowthaman, Niruban, Abishek M, Manoj, Guruprashant, Reshap G, Vinodhini, Swaminathan R, and Mohammed Rashik A, the KCT Business School Team from II year MBA participated in various sports and management events organized by Coimbatore Management Association on Student Management Day at DJ Academy for Managerial Excellence on February 17, 2023.

Vinothini and Reshap G from I year MBA showcased their entrepreneurial skills in the "Shark Tank" event at KCT-YUGAM on March 2, 2023.





SCHOOL OF TEXTILE SCIENCES

Fashion Technology

From the HoD's Desk

Department of Fashion Technology has consistently progressed towards achieving goals through perseverance and commitment. B.Tech Fashion Technology has been accredited for 3 years until June 2025 (under Tier II) by NBA. Faculty members are engaged in continuous learning producing measurable outcomes in teaching and research. NTTM sponsored laboratories for introducing exclusive PG programmes on Technical Textiles is being expedited. Our students have participated in several events and won awards. All qualified students of Batch 2023 have been placed in reputed companies. Our students gained admissions in NIFT Centre across India, Pearl Academy and PSGIM for their higher education.

Thrust Areas of the Department

Sports Textiles & Medical Textiles, Sustainable Fashion, Handloom & Natural Dyes, new product development using Unconventional Fibres.

Programme(s) Offered

B.Tech. Fashion Technology
M.Tech. Apparel Technology
Ph.D Technology

No of Students on Roll	
I Year UG	54
II Year UG	50
III Year UG	55
IV Year UG	54
I Year PG	2
II Year PG	5
Research Scholars	08

Initiatives and Events at a Glance

Details	Data
Conferences Attended	3
Seminars / Webinar Attended	12
FDPs attended	4
Seminars / Webinars organised	3
Conference organised	1
Conferences Publications	17
Journal Publications	5
Consultancy Projects	60

Pivotal Accomplishments

KCT-UMPEL (formerly Voltas B2B) sponsored Knit Design Lab equipped with SDS-Apex 4 Design system has been established.

Dr. G. Ramakrishnan, Dr. B. Poongodi and Dr. R. Priyadarshini secured a grant of Rs.13.2 Lakh from AICTE-Indian Knowledge Systems (IKS) for the project entitled "Development, Application of Natural Dyes for Reviving Handloom and Improving Human Wellness".

Seminars, Workshops, Conferences and Short-term Courses attended:

Seminars / Webinars Attended:

Dr.G.Ramakrishnan and Dr.R.Priyadarshini participated in "Advanced Apparels and Technical Textiles (from raw material to marketing)" organized by KCT & Texas Tech University, USA during 1st-2nd August 2022.

Dr.G.Rajkumar and Dr.G.Ramakrishnan participated in "EDP - Industrial Textiles" organised by ITTA during 12th-16th December 2022.

Mr.A.Thambidurai, Dr.V.Krishnaveni, Mr.S.Chandrakumar, Ms.Srinidhi Deepthi, and Ms.Pooja attended "National Seminar on Apparel ERP and Digital Marketing" on 13th April 2023 at KCT.

Dr.S.Kavitha attended "Industrial Engineering concepts in textile & Garment production" at PSG on 6th February 2023.

Workshops Attended

Dr.V.Krishnaveni and Dr. S. Kavitha attended "FTIR & NMR Spectroscopy" at KCT on 29th June 2022.

Dr. Bhaarithi Dhurai attended "Design and Implementation of Outcome-based curriculum design and development" at KCT on 17th October 2022.

Dr. Bhaarithi Dhurai attended "Green Nanoparticles in Drug Designing" at KCT on 18th October 2022.

Dr. V. Nithyaprakash attended the "OBE-based revised Bloom's Taxonomy, delivery methods and assessment tools" at KCT on 18th November 2022.

C. Srinidhi Deepthi attended the "Technology Readiness Level" at KCT on 10th February 2023.

Dr. V. Nithyaprakash and Dr. G. Rajkumar attended "National e-Workshop on Innovation & Intellectual Property Rights" by Innovative Technology Enabling Centre, CSIR-IMMT (Bhubaneswar) from 12th to 17th June 2023.

Conferences Participated

Ms.Pooja.P, Mr.A.Arunraj and Mr.A.Thambidurai attended "Sustainable Approaches in Fashion Industry" conference at VIT during 11th-15th July 2022.

Pooja P attended the "Globalspin Trade Conclave & Exhibition on promotion of Handlooms, Handicrafts and Technical Textiles" organized by IAM KHADI, Delhi on 21st September 2022.

Pooja P and Dr R Priyadarshini attended the "Brand Tirupur: Broadening The Value Horizons In Apparel" conference organized by SDC EC, Coimbatore, on 30th September 2022.

Faculty Development Programmes Attended

Dr. V. Krishnaveni and Mr. A. Thambidurai attended the FDP on "Policy initiatives and quality enhancement in higher education" organized by ACT Academy & Academic and Research Conglomerate from 27th March 2023 to 2nd April 2023.

Mr. Chandrakumar. S attended the FDP on "Inclusive Procedures and Processes for NAAC Assessment and Accreditation" at KCT from 24th April 2023 to 30th April 2023.

Dr. S. Kavitha attended the "Teaching Learning in Engineering (TALE)" program by NPTEL-AICTE in January-February 2023.

Dr. G. Rajkumar attended the "Post NAAC Quality Enhancement in Higher Education Institutions" program at Avinashilingam, Coimbatore, from 22nd August 2022 to 29th August 2022.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members:

Dr.S.Kavitha and Dr.G.Ramakrishnan organised Graduate Student Colloquium on 9th June 2022 and engaged 12 participants in insightful research discussions.

Gemini CAD Training coordinated by **Dr. Kavitha** provided hands-on training in pattern making and grading for different apparels during 20th to 21st September 2022

A seminar on Sportswear Product Development: Scope and Opportunities, organized by **Dr. Bhaarithi Dhurai** and **Dr. R. Priyadarshini** provided insights into various projects within the technical textile domain on 29th September 2022.

Training Programme on "Natural Dyes for Handloom Dyers and Weavers" led by **Dr.G. Ramakrishnan** raised awareness about sustainable practices during 8th to 9th May 2023.

The Awareness Program on Hygiene and Sanitation for Students of SVHSS (Samathur) organized by **Dr. Priyadarshini R and Dr. G Ramakrishnan** on 22nd February 2023.

Workshops Organised

The Gemini CAD Training organized by **Dr.S.Kavitha** introduced 26 students to CAD for fashion, enhancing their designing skills held from 20th to 21st September 2022.

Dr. Bhaarithi Dhurai and Dr. G. Rajkumar organized the "Apparel ERP And Digital Marketing" workshop for 150 students, providing insights into ERP and digital marketing to prepare them for their career development on 13th April 2023.

Dr.S.Kavitha and Ms. C. Srinidhi Deepthi, the "Interview and Resume Building" workshop, attended by 6 participants, equipped students with the skills to create engaging resumes for successful job applications conducted on 17th May 2023.

The "Free Style Embroidery" workshop organized by **DR.V.Krishnaveni and Dr.G.Ramakrishnan** from 13th to 14th December 2022 engaged 45 students in practicing various embroidery stitches and exploring their creativity.

On 18th March 2023, Ms.Pooja P and **Dr.R.Priyadarshini** organized the "Workshop on Modest Fashion," enlightening 65 students about Islamic culture, styling practices, and various scarf draping methods.

A workshop on the "Know How" Farnsworth Munsell 100 Hue Test" organized by **Dr.S.Kavitha** and **Mr.A.Thambidurai** from 13th to 16th May 2023 guided 150 participants in analyzing color vision for color-critical operations.

From 27th to 28th March 2023, **Mr. Chandrakumar.S** and **Dr. R Priyadarshini** organized a workshop on "Pipili Art and Nib painting," involving 49 participants to improve their creative skills and knowledge of various art forms.

On 24th April 2023, **Dr. Nithyaprakash. V** organized a "Color Forecasting" workshop for 30 students to help them develop color palettes and patterns for their portfolio.

Dr Ramakrishnan G and **Dr R Priyadarshini** conducted the "Wonder Weaves" workshop from 11th to 12th April 2023, allowing 50 students to digitally create woven designs

Conference Organised:

Dr. Ramakrishnan G, Dr. Bhaarithidurai, and **Dr. R Priyadarshini** organized the "International Conference on Sustainable Materials, Management and Innovative Technologies – 2022," jointly with Civil and Bio-Technology Departments, attended by 50 participants from 24th to 25th June 2022. The conference facilitated the convergence of ideas and concepts from experts in various domains, with a focus on sustainability.

Short-term Programmes Organised:

Dr. G. Ramakrishnan, Professor in FT, conducted a 3-day Short Term Training Programme (STTP) on "Testing of Textiles & Apparels" from 6th to 8th February 2023, with 24 participants benefiting from the program.

Dr. V. Krishnaveni and Ms. Pooja organized a Technical Skill Development course focusing on using the chain stitch embroidery machine for apparel designing, on 3rd May 2023, benefiting 10 students who gained awareness about threading the sewing machine and its operating methods.

Research Publications:

Dr. G. Ramakrishnan published a paper titled "Jamakalam Rug Weaving in India" in the International Journal "The Journal for Weavers Spinners and Dyers" in 2022.

R. Priyadarshini's paper titled "Achieving Sustainability in Fashion: Scope of Recycled Fabric Waste in Sustainable Production of Fashion Apparel" was published in the International Journal "International Journal of Scientific Research in Engineering and Management (IJSREM)" in 2022, volume 06 (11).

Mr. A. Arunraj published papers entitled "Measurement of Garment Dimension based on Switching Median Filter Used in Image Processing", "Behavioral Study of Composite Made from Sisal-Jute-Kenaf Yarn", "Study of Banana/Cotton Blended Nonwoven Fabric for Lead and Zinc Adsorption", "Study on Hybrid Composites for Roofing Applications", and "Investigating the Effect of Laundering on the Polyester/Cotton Sewing Thread Mechanical Properties" were published at the International Conference on Materials Research in Science and Engineering in 2022.

Mr. A. Thambidurai published a paper on "Comfort Behavior of Woven Sheeting Fabrics" at the International Conference on Materials Research in Science and Engineering in 2022.

Dr. Bhaarithi Dhurai published a paper titled "Adsorption of Acid Dyes from Wastewater using Azadirachta Indica Neem (Leaf) Biochar" and "Banana Peel Metalloprotease Characterizations" at the International Conference on Materials Research in Science and Engineering in 2022.

Dr. S. Kavitha published papers entitled "Sustainable Packaging Material Using Natural Fibre Composite to Replace Plastics in Apparel Retail Store" and "Development of Fabric Wrap for Packaging in E-Commerce as an Alternative to Plastic Bubble Sheet" were published at the International Conference on Materials Research in Science and Engineering in 2022.

Dr. G. Rajkumar published papers entitled "Experimental Investigation on Mechanical Properties of Hybrid Protein Fiber Composites and its Optimization using Box Behnken Experimental Design", "Eco Friendly Finishing of Cotton Fabric for Mosquito Repellency with Carica Papaya" and "Effect of Alkali Pretreatment on Dyeing Behavior of Lyocell Fibre" at the International Conference on Materials Research in Science and Engineering in 2022.

Dr. G. Ramakrishnan published a paper titled "Study on Mechanical Properties for the Development of Reusable PPE for the Health Care Workers" and "Design and Development of Bamboo Fibre Period Clothing for Differently Abled Women During Menstruation" at the International Conference on Materials Research in Science and Engineering in 2021.

Dr. G. Ramakrishnan published a paper titled "A Review on Improving Quality Parameters of Linen Yarn for Knitting" and "Development of Viscose/Polyester Wipes and Evaluation of Properties of Shrinkage and Absorption" in the International Journal of Research Publication and Reviews in 2023.

Book/ Book Chapter Publication:

Dr. S. Kavitha authored a chapter titled "Green Chemistry for Sustainable Textiles" in "Advances in Natural Dyeing of Silk," published by Woodhead Publisher in 2021. The chapter focuses on the application of green chemistry principles in the textile industry for sustainability.

Dr. G. Rajkumar contributed a chapter titled "Silk and Wool Hybrid Fiber-Reinforced Polypropylene Composites" in "Wool Fiber Reinforced Polymer Composites," published by Woodhead in 2022. The chapter discusses the use of silk and wool fibers as reinforcements in polypropylene composites.

PhD Supervision:

Dr. G. Ramakrishnan guides 3 research scholars under Anna University focussing on the development of bio-pads from biodegradable materials with quality analysis, development of natural fiber composites as technical textiles, and investigation of ballistic and comfort performance of Kevlar/wool blended nonwovens.

Dr. Bhaarithi Dhurai guides 4 research scholars under Anna University covering study of knitted characteristics of cotton, silk, and blended yarn on single jersey structure, advanced oxidation processes for removing organic pollutants from textile effluent, growth of mycelia on coir fibers for eco-friendly retting of coir, and the development of Ayurvedic wellness textiles with herbal processing and finishes.

Dr. G. Rajkumar guides 1 research scholar under Anna University. The research is focused on the development of a bio-degradable superabsorbent sanitary napkin for healthy menstrual hygiene.

Dr. V. Krishnaveni guides 2 research scholars under Bharathiar University. Their research involves the design and development of multifunctional eco-friendly non-woven textile products for agro and medical applications, and coir and banana fibre blended fabrics for apparels.

Patent Filed

Dr. Bhaarithi Dhurai has filed a patent for "Multifunctional Kitchen Clothing and a process for coating the same."

Dr. S. Kavitha has filed a patent for "Seam Ripper."

Sponsored Research Grant:

An ongoing research grant titled "Development and Application of natural dyes for reviving handloom and improving human wellness" has been awarded by AICTE-IKS. The project started in December 2022 and the duration is 24 months. The grant amount is 13,20,000 INR. The researchers involved in this project are **Dr. G. Ramakrishnan, Dr. B. Poongodi, and Dr. R. Priyadarshini.**

Distinguished Visitors and Guests to the Department:

A Togolese delegation visited the department on June 21, 2023. The purpose of their visit was to explore collaboration opportunities with KCT for manpower training in their country. Additionally, the collaboration with Togo could potentially facilitate connections with France as well."

Industry Partnerships:

Universal MEP projects and engineering limited (UMPEL), under the coordination of **Dr. G. Ramakrishnan and Dr. Bhaarithi Dhurai**, has established a 3-year partnership with the department through a Memorandum of Understanding (MoU).

Dr. Bhaarithi Dhurai leads the partnership with Master Linens INC, which is set to last for 3 years based on a Memorandum of Understanding (MoU).

Dr. S. Kavitha has taken the lead in the department's collaboration with the Apparel, Made-Ups & Home Furnishing Sector Skill Council (AMH SSC) for a period of 3 years, facilitated by a Memorandum of Understanding (MoU).

The NIFT TEA incubation center has entered into a 3-year partnership with the department, with coordination by **Dr. S. Kavitha and Dr. G. Ramakrishnan**, supported by a Memorandum of Understanding (MoU).

Dr. S. Kavitha is the driving force behind the 3-year partnership between the department and GEMINI CAD, formalized through a Memorandum of Understanding (MoU).

Social Outreach:

Dr. G. Ramakrishnan and Dr. R. Priyadarshini coordinated a training program titled "Making of Bio-degradable Sanitary Napkins from Natural Fibres," held from April 28th to April 29th, 2023, focusing on imparting knowledge about crafting environmentally friendly sanitary napkins using natural fibers.

Alumni Engagement:

Ms. Roshni M, Co-Publisher at LuxuryWellness, delivered a Career Guidance Talk on the topic of "Shaping your career in Fashion" on August 29th, 2022 co-ordinated by Dr G Ramakrishnan and Dr R Priyadarshini.

Ms. P. Pooja conducted an alumni interaction event on February 13th, 2023, focusing on "Fashion Styling & Business", a session led by Ms. Devishree, a freelance Fashion Stylist.

Dr. R Priyadarshini, Dr. G Ramakrishnan, and Dr. B Poongodi, organised a training programme on April 28th 2023 on the "Development of biodegradable sanitary napkins from Natural fibres." Ms. R Niveda, Co-Founder, Bliss Naturals was the resource person.

Students / Research Scholars participation in conferences / seminars / webinars / workshops / symposia:

Ms. S. Kalaiarasi (Reg No: 22MAT001) and Ms. R. K. Niveda (Reg No: 21PFT03) attended the 3rd International Conference On Functional Textiles & Clothing at IIT Delhi from February 10th, 2023 to February 12th, 2023.

Jennifer Jasprin (Reg No: 20BFT009), Surya D (Reg No: 20BFT034), and Thilothika T (Reg No: 20BFT036) participated in a National Training conducted at Taneira brand store, Coimbatore, from February 20th, 2023 to February 22nd, 2023.

R Niveda (Reg No: 21PFT03) attended a National Training from February 13th, 2023 to February 16th, 2023, conducted at IIT Kanpur.

Awards and Recognition won by students:

Thilothika T (Reg No: 20BFT036) secured 1st prize in the Regional Fashion Montage Competition held on October 12th, 2022, at KCT, FT Department.

Sivasri V (Reg No: 20BFT029) won 2nd prize in the Regional Fashion Montage Competition held on October 12th, 2022, at KCT, FT Department.

Amritha KS (Reg No: 20BFT002) won 3rd prize in the Regional Fashion Montage Competition held on October 12th, 2022, at KCT, FT Department.





SCHOOL OF TEXTILE SCIENCES

Textile Technology



From the HoD's Desk

The department is committed to generating new knowledge through avant-garde research and promoting academic growth by offering undergraduate, postgraduate, and doctoral programs. Our graduates emerge as professionals ready to serve the local and global textile sector. This is augmented by long-term collaborative projects and MOUs with academia and industry. A curriculum of international standards, excellent teaching by experienced and qualified faculty, and modern laboratories (to which equipment worth Rs. 13.89 lakhs were added recently) constitute the teaching-learning environment. 90% of graduating-students are placed in reputed MNCs while the remaining opted for higher-studies or entrepreneurship.

Thrust Areas of the Department

Thrust areas of the textile department are medical textiles, composites, textile instrumentation and skill development and training.

Programme(s) Offered

BTech. Textile Technology
 MTech. Master of Technology Management
 Ph.D Textile Technology (Full-time and Part-time)

No of Students on Roll	
I Year UG	44
II Year UG	53
III Year UG	63
IV Year UG	56
I Year PG	12
II Year PG	0
Research Scholars	08

Initiatives and Events at a Glance

Details	Data
Conferences Attended:	13
Sminars / Webinar Attended:	18
FDPs attended:	12
Conferences Organised:	1
Seminars / Webinars Organised:	15
Conferences Publications:	13
Journal Publications:	20
Consultancy Projects:	29

Pivotal Accomplishments

Mrs. R. Sukanya Devi and Dr. M. Saravanan applied for patents titled **Sectional Hank Dyeing machine and Multifunctional Kitchen Clothing and A Process For Coating The Same.**

Commissioning of Rieter Open-End spinning machine (Industry - sponsored lab) worth Rs. 34 lakhs and a proposal for MoU with Rieter International.

Dr. V. Ramesh Babu, received Best Life-Time Achievement KMF Awards 2022 Kumari Mangrove Foundation (NGO).

Seminars, Workshops, Conferences and Short-term Courses attended:

Seminars / Webinars Attended:

Dr. M. Saravanan, Dr. P. Chandrasekaran, and Dr. V. Ramesh Babu attended webinar "Developments in Spinning" on June 16, 2022.

Mr. Pavendhan, Dr. P. Chandrasekaran and Dr. R. Saminathan attended "International Conference on Technical Textiles" on 25th and 26th November 2022.

Dr. R. Saminathan participated online in "LSRB-LSBD Webinar with Academia to Evolve LSBD Roadmap" on 29th November 2022.

Mr. A Pavendhan, Dr. M. Saravanan and Dr. R. Saminathan attended "Building Industry-Academia Synergy for Enhancing Industry Participation in R&D Projects of NTTM" virtually on 22nd December 2022.

Mr. A Pavendhan, Dr. M. Saravanan and Dr. R. Saminathan participated in webinar on "Research Verticals" on 22nd November 2022.

Workshops Attended

Dr. Saminathan R attended workshop "K LDA - Seven Habits of Highly Effective People" held on 23rd and 24th August 2022.

Dr. S. Ariharasudhan attended workshop "Revised NAAC Accreditation Process - Acing Quantitative and Qualitative Metrics" held on 12th October 2022.

Dr. S. Ariharasudhan, Dr. V. Ramesh Babu, and Dr. M. Saravanan attended virtual workshop "Advanced Textiles for Surgical Implants" held on 27th March 2023.

Conferences Participated

Dr. M. Saravanan, Dr. S. Ariharasudhan, Dr. M. Dinakaran, Dr. V. Rameshbabu, Dr. P. Chandrasekaran, and Dr. R. Saminathan attended International Conference on Sustainable Materials, Management, and Innovative Technologies held at KCT Coimbatore on 23rd and 24th June 2022.

International Visitors:	1
Patents filed:	2
Grants Applied:	5
Grants received:	4
Total Grant mobilised (in INR):	23,58,800

Dr. R. Saminathan presented a paper in "34th National Convention of Textile Engineers and National Symposium on Innovative Textile Materials" held at UPTTI, Kanpur on 10th and 11th September 2022.

Faculty Development Programmes Attended

Dr. S. Ariharasudhan attended "Microsoft Azure AI Fundamentals" organized by ICT Academy from 13th to 18th June 2022 in virtual format.

Dr. S. Sundaresan, Dr. S. Ariharasudhan, and Dr. P. Chandrasekaran attended "Sustainable Approaches in Fashion Industry" organized by VIT Fashion Institute of Technology Chennai, from 11th to 15th July 2022.

Dr. S. Sundaresan attended FDP on Entrepreneurship at PSG STEP from 30th January 2023 to 10th February 2023.

Dr. P. Chandrasekaran, Dr. P. Sivakumar, Dr. S. Ariharasudhan, Mr. S. Natarajan, Dr. V. Ramesh Babu, and Dr. M. Saravanan attended "Curriculum Development and Academic Quality Improvement" at Indian Institute of Carpet Technology from 1st to 5th March 2023 in online mode.

Dr. S. Ariharasudhan, Dr. P. Chandrasekaran, Dr. M. Saravanan, and Dr. R. Saminathan participated in FDP courses on SWAYAM.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members:

Dr. M. Saravanan organized a virtual seminar about NIFT, NID, U-CEED, and other Design Entrance Examinations on 17th June 2022. It attracted 42 participants who explored various job opportunities and gained insights into the skill set required for above entrance examinations.

Prof. A. Pavendhan conducted an online seminar on "Latest Developments in Uster Yarn Testing" on 23rd January 2023. The 45 participants gained a comprehensive understanding of the Uster yarn testing principle and working methods.

Dr. P. Sivakumar conducted a virtual seminar on "Entrepreneurship in Technical Textiles" on 22nd February 2023. The 131 participants learned about opportunities and challenges in the field of technical textiles and entrepreneurship.

Workshops Organised:

Dr. P. Chandrasekaran organized a workshop "Business Model Canvas" on 22nd November 2022. It had 68 participants who acquired knowledge on developing and implementing a business model canvas, a valuable tool for starting a business.

Dr. P. Sivakumar conducted a workshop on "Manufacturing and Testing in Technical Textiles" on 28th February 2023. The 35 participants gained knowledge about various manufacturing methods, principles, and testing techniques used in technical textiles.

Conference Organised:

Dr. R. Saminathan was an organizing committee member of the International Conference on Sustainable Materials, Management, and Innovative Technologies (ICSMMIT 2022) held at KCT on 24th June 2022. The conference had 310 participants who gained valuable knowledge about latest developments in sustainable materials, management practices, and innovative technologies.

Short-term Organised:

Mr. S. Natarajan organized a course on "Value Added Course on Reengineering Systems in Textile and Apparel Industry" at KCT from 18th to 22nd November 2022. The course had 26 participants who gained knowledge about reengineering systems used in the textile and apparel industry, enhancing their understanding of modern practices and processes in the field.

Special Lectures Organised:

Dr. S. Sundaresan participated as a Subject Expert in the BOS meeting at BIT Sathy on 22nd July 2022 and 26th December 2022.

Dr. R. Saminathan delivered a special lecture on "Sustainable Wet Processing and Circular Economy" at Periyar University on 10th February 2023.

Dr. S. Sundaresan, Dr. Saminathan R., and Dr. M. Saravanan delivered lectures at Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, in March 2023.

Dr. V. Ramesh Babu delivered a lecture on "Automation in Clothtech" at National Conference on Technical Textiles, PSG College of Arts and Science, Coimbatore, on 29th March 2023.

Research Publications:

M. Saravanan published "A Study on the Influence of Natural Agents on the Absorption Properties of Cotton Fabrics – Part I" in Journal of Testing and Evaluation, ASTM, in July–August 2022.

M. Saravanan published "A Study on the Influence of Natural Agents on the Absorption Properties of Cotton Fabrics – Part Two" in Journal of Testing and Evaluation, ASTM, in July–August 2022.

M. Saravanan published "Effect of Natural Agents on the Mechanical and Flame Retardant Properties of Cotton Fabric–Dyeing Technique" in Journal of Testing and Evaluation, ASTM, in July–August 2022

M. Saravanan published "DEVELOPMENT OF NATURAL MULTIFUNCTIONAL MASK" in Asian Dyer In September 2022.

S. Suganthi, K. M. Pachiyappan, S. Ariharasudhan, and S. Sundaresan published "Comparative Study of Moisture Characteristics of Knitted Structures" in Journal of the Textile Association in September–October 2022.

Sadhna, Rajesh Kumar, M. Maanvizhi, C. Prakash, V. Ramesh Babu, and G. K. Indu published "Impact of Stitch Density on Tactile Comfort Properties of Seams" in AATCC Journal of Research in November 2022.

Ariharasudhan, S., Chandrasekaran, P., Sivakumar P., Saravanan M., Dhinakaran, M., Rameshbabu, V., Sundaresan, S., Natarajan, S. published papers in AIP Conference Proceedings in November 2022.

T. Vidya, C. Prakash, T. J. Rajwin, V. R. Babu, B. A. Shah, and R. Reetuparna published "Effect of plasma treatment on polyester knitted fabrics: Part I–Thermal comfort" in Indian Journal of Fibre & Textile Research (IJFTR) in December 2022 and March 2023.

T. Vidya, C. Prakash, T. J. Rajwin, V. R. Babu, B. A. Shah, and R. Reetuparna published the article "Effect of plasma treatment on polyester knitted fabrics: Part II–Moisture management properties" in the Indian Journal of Fibre & Textile Research (IJFTR) in December 2022 and March 2023.

Moorthi M., Chidambaram P., and Venugopal R. published "Study on thermal comfort behavior of seams made of micro-denier polyester sewing thread for high active sportswear" in Hemijaska Industrija journal in March 2023.

PhD Supervision:

Dr. D. Saravanan is supervising two research scholars under Anna University, guiding them in the areas of Fibre science, preparation, and finishing of textile materials.

Dr. V. Rameshbabu is supervising six research scholars under Anna University, guiding them in the areas of Clothing and industrial engineering.

Patent Filed

Dr. Bhaarathi Dhurai and Dr. M. Saravanan have filed a patent for "Multifunctional Kitchen Clothing and a Process for Coating the Same."

R. Sukanya Devi, Dr. A. Geethakarthis, and Vaishnavi Muralidharan have filed a patent for "Sectional Hank Dyeing Machine."

New Centres / Equipment added:

Prototype – Silk Hank Dyeing Machine received funding of 150,000 INR from DST-SEED.
Rib Knitting Machine received funding of 410,000 INR from KCT.

Ultrasound cleaner / Sonicator received funding of 13,800 INR from SEED KCT.

Sponsored Research Grant:

"Automated foot scrubber bath for diabetic patients" received a sponsored research grant of 200,000 INR from Indian Institute of Health Management Research, Rajasthan. The project duration is 12 months from October 2022, and the principal investigator is **R. Sukanya Devi**.

"Eco-friendly cost-effective silk dyeing technology for rural women upliftment of Sirumugai Weaving cluster" secured a sponsored research grant of 1,975,000 INR from DST-SEED. The project is scheduled to last for 30 months starting from March 2023, and **R. Sukanya Devi** is the principal investigator.

"All-weather good clothing for troops" obtained a sponsored research grant of 48,800 INR from KCT SEED. The project duration is 1 month starting from Aug 2022, and the principal investigator is **R. Sukanya Devi**.

"Developing Siddha-based medical textiles" received a sponsored research grant of 135,000 INR from KCT SEED. The project is set to last for 12 months starting from February 2023, and the principal investigator is **R. Saminathan**.

Distinguished Visitors and Guests to the Department:

J Meenakumari - Fashion Designer from Chennai, visited from 27th June 2022 to 28th June 2022 and conducted a one-credit course on "Home Textiles & E-Marketing."

R. Senthil Kumar, GM-Yarn Division, Reliance Ltd, Tirupur, visited on 5th November 2022 and 19th November 2022 and conducted a one-credit course on "Recycling in Textiles."

Dr. Suraj Sharma from UGA USA, along with Mr. Sathish Kumar and Mr. Naveen from KCT, visited on 22nd June 2022 and they had an interaction with Textile faculty members regarding collaborative research, teaching-learning, and infrastructure lab equipment improvement.

Vivek Arora, DGM - Marketing & Sales (Domestic) at M/s Lakshmi Machine Works Ltd, Coimbatore, visited on 14th June 2022 and delivered a guest lecture on "Developments in Spinning."

D. Eswar, MD, Mass India Pvt. Ltd., Tirupur, visited on 9th December 2022 and delivered a guest lecture on "AQL in Garment Industry."

Social Outreach:

Dr. P. Sivakumar organized a one-day KTex next genius contest on 04.06.2022, aimed at bringing awareness about KCT to school students and attracting them to engineering.

Dr. M. Saravanan and Mrs. R. Sukanya Devi conducted a one-day training program on Textile Testing for Nachimuthu Polytechnic college students on 14.03.2023, with the goal of advancing their knowledge and attracting lateral entry students.

Dr. P. Chandrasekaran and **Dr. S. Natarajan** hosted a one-day national level project display contest on 26.04.2023, aimed at popularizing KCT and its research projects.

Mrs. R. Sukanya Devi organized a one-day training session on 17.06.2023 for Sirumugai silk dyers. The training focused on using an eco-friendly hank-dyeing machine to promote sustainable practices and disseminate knowledge within the community.

Alumni Engagement:

Dr. R. Saminathan engaged with Ms. Swathy and Mr. P. Kaleeswaran, as BoS members and alumni representatives on 06 July 2022 and 12 January 2023 respectively.

Dr. S. Sundaesan coordinated a visit from Mr. Vijayaprabhu, an alumnus from the 2013-17 batch and the Managing Director of SKR Tex, Somanur, Coimbatore, to strengthen alumni connections in March 2023.

Students / Research Scholars participation in conferences / seminars / webinars / workshops / symposia:

P. Akshai Kumar, M. Arun Srinivasan, M. Jothi Sankar, G. Thanaguru, B. Kavya, and S. D. Jaswanth took part in the National Smart India Hackathon held from 25th August 2022 to 29th August 2022 at Centurion University of Technology and Management, Jatni, Bhubneshwar, Odisha, and received support from AICTE.

S. D. Jaswanth participated in the National Healthathon held on 23rd September 2022 and 2nd October 2022 at IIHMR, Rajasthan.

Forty-two students participated in a National

Workshop held on 14th June 2023 at KCT.

Priyanka R and **Sharan Krithik S** attended a National Conference by ITAMMA on 24th April 2023 at B.K. Mehta Technology Networking, KCT, with support from KCT.

Prizes and awards won by students

S. D. Jaswanth developed a foot scrubber for diabetic patients and secured research funding during the National Healthathon on 2nd October 2022 at IIHMR, Rajasthan.

Priyanka R, Sharan Krithik S, and Nitishwaran J R participated in the National TEXATHON 23 and received a consolation prize for developing a micro dust analyzer for spinning mills. The event was held on 6th and 7th January 2023 at NIFT TEA, NITI AAYOG, Govt of India, Tiruppur.

Kishore R. A and **Santhosh Kumar S** achieved the second prize for developing an innovative textile product during InovERA'23 held on 3rd and 4th February 2023 at Start Up TN, Tiruppur.

Kishore R. A and **Santhosh Kumar S** also secured the second prize for their innovative textile product during Innovation on Technology and Innovations in Technical Textiles event on 1st April 2023 at PSG College of Technology, Coimbatore, organized by The Institute of Engineers.

SCHOOL OF
FOUNDATIONAL SCIENCES

Mathematics

From the HoD's Desk

The Department of Mathematics has created an impact on every discipline. The Department of Mathematics has been recognized as research centre and nearly hundred books have been included to the library collection on the current research topics like Neural networks, Data Science etc..

Thrust Areas of the Department

Neural Networks, Deep Learning, Artificial Intelligence, Stability Analysis, Fuzzy sets and Systems, Fuzzy Optimization, Mathematical biology, Computational fluid dynamics, Digital Topology and Image Processing, Graph Theory, Queueing Theory, Topology, Nano Topology.

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended:	3
No. of Seminars / Webinar Attended:	26
No. of FDPs attended:	59
No. of Conferences Organised:	1
No. of Seminars / Webinars Organised:	11
No. of FDPs organised:	2
No. of Conferences Publications:	8
No. of Journal Publications:	18
No. of International Visits by Faculty:	1
No. of Patents filed:	1
No. of Grants Applied:	1

Pivotal Accomplishments

Dept. organised an International Conference on Mathematical Sciences, Modelling and Computational Intelligences 2022 (ICMSMCI 2022) on 29.09.2022 & 30.09.2022 which was convened by Dr. Maheswari K.

Dept. initiated two Edge and Edge Plus Courses for 1-year Students, namely: "Statistics Using Excel" and "Achieving the SDG's by the role of ICT: Tech For Good"

Dr. R. Marudhachalam was selected for Summer Faculty Research fellow (SFRF-2023) under the mentorship of Prof. Ram Lal, Computer Service Centre, IIT Delhi for the period of 2 months (16.05.2023- 14.07.2023)

Seminars, Workshops, Conferences

Workshops Attended:

Ms. Princy Flora attended the "Foundation of Teaching for Learning" workshop from September 14, 2022, to October 26, 2022.

Dr. S.P. Sathiyapriya participated in the "International online workshop on Basic statistical analysis and its interpretation using SPSS" held from September 24, 2022, to September 26, 2022.

Dr. D. Arivuoli, Dr. K. Meena, Dr. K.P. Thilagavathy, Dr. J. Dhivya, Ms. R. Anbhuvizhi, Ms. A. Shanmughavadivu, Dr. S.P. Sathiyapriya, Dr. Saratha S R, M. Princy Flora, DE, Maheswari K, and Mythili R R participated in a two-day workshop on "Mentoring Skills, Tools, and Techniques" held on October 27, 2022, and October 28, 2022. Additionally, Dr. Saratha S R also attended a workshop specifically titled "Mentoring Tools and Techniques" on the same dates.

Dr. Maheswari K and Dr. Selvanayaki S participated in a workshop on "Outcome Based Education" on October 17, 2022.

R R Mythili attended an online workshop focused on "Improving Research Writing using Grammarly" on November 2, 2022.

Dr. S. Selvanayaki engaged in a session on "Quality Enhancement and Sustenance in Higher Education" on November 18, 2022.

Dr. S.P. Sathiyapriya took part in the "Virtual International Symposium on Emerging Trends in Mathematical Techniques - ISETMT 2022" from August 4, 2022, to August 5, 2022.

Webinars Attended:

Ms. Anbhuvizhi R attended a webinar on "Some Emerging Areas in Pure Mathematics" from September 16, 2022, to September 17, 2022.

Dr. D. Arivuoli and Dr. Vijeta Iyer participated in a lecture meeting on "Funding Opportunities for Extramural Research in DST and DRDO" on October 12, 2022, and another webinar on "Applications of Mathematical Research" on October 15, 2022.

Dr. K. Meena also attended the webinar on "Applications of Mathematical Research" on October 15, 2022.

Faculty development program attended:

Dr. R. Krishna Moorthy attended an FDP on "Current Trends in Application of Mathematics" from September 21, 2022, to October 4, 2022, and another FDP on "Recent Research Area and Its Application in Mathematics" from October 10, 2022, to October 15, 2022.

Dr. Rajasingh J and **Dr. S.P. Sathiyapriya** participated in a Tamil Nadu State Government-sponsored Five-Day Online FDP on "Computational Mathematics Using R and MATLAB" from October 10, 2022, to October 14, 2022, and another FDP on "Current Trends in Application of Mathematics" from September 21, 2022, to October 4, 2022.

Dr. D. Arivuoli attended an FDP on "Current Trends in Applications of Mathematics" from October 21, 2022, to November 4, 2022.

Dr. K. Meena and Aruna Devi S participated in an FDP on "Current Trends in Application of Mathematics" from September 21, 2022, to October 4, 2022.

Ms. R. Anbhuvizhi and Ms. Shanmughavadivu A attended the FDP on "Current Trends in Application of Mathematics" from September 21, 2022, to October 4, 2022.

Dr. R. Rajkumar attended a two-week online IFDP on "Current Trends in Applications of Mathematics" from September 21, 2022, to October 4, 2022.

Dr. R. Marudhachalam attended a five-day online FDP on "Computational Mathematics Using R and MATLAB" from October 10, 2022, to October 14, 2022.

Dr. S.P. Sathiyapriya was engaged in workshops on "Public Speaking" from July 12, 2022, to October 14, 2022, and "Body Language: Key to Professional Success" from August 22, 2022, to September 16, 2022.

Dr. K.P. Thilagavathy participated in an FDP on "Data Science with MATLAB" from November 7, 2022, to November 18, 2022.

Ms. M. Princy Flora is scheduled for an event from January 9, 2023, to January 13, 2023.

Dr. Anitha N and Dr. S.R. Saratha attended an event on "Challenges for Students in the New Normal" from February 13, 2023, to February 17, 2023 and attended a session on "Applications of Mathematics in Applied Sciences and Engineering" from January 30, 2023, to February 3, 2023.

Dr. J. Dhivya and Dr. Vijeta Iyer participated in workshops on "Introduction to Machine Learning and Deep Learning" from March 27, 2023, to March 31, 2023, and "Problem-Based Learning Towards Advanced Pedagogy" from March 20, 2023, to March 24, 2023.

Dr. K.P. Thilagavathy and Ms. Princy Flora participated in the workshop on "Problem-Based Learning Towards Advanced Pedagogy" from March 20, 2023, to March 24, 2023.

Dr. K.P. Thilagavathy and Ms. M. Princy Flora attended a program on "Advanced Materials for Technological Applications" from March 24, 2023, to April 4, 2023.

M. Princy Flora also participated in an "Induction Training" program from March 27, 2023, to March 31, 2023.

Dr. R. Krishna Moorthy was part of a session on "Conformal Mapping in Complex Analysis" on September 21, 2022.

Dr. Maheswari K was a resource person and attended the "IEEE SPS Seasonal School on Image, Audio, And Video Processing for Pattern Recognition" from June 23, 2022, to June 28, 2022.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members:

Webinars Organised:

Dr. Maheswari K and Dr. Meena K organized a webinar on "Fractal Academic System" on June 4, 2022.

Dr. Maheswari K organized an event called "Experimenta" on March 21, 2023, where approximately 15 faculty members visited the EXPERIMENTA Museum by G. D. Naidu group.

Dr. S. Sivakumar and Dr. Maheswari K jointly organized "Science Expo'23" on March 3, 2023.

Workshops Organised

Dr. K. Maheswari and Dr. J. Rajasingh organized workshop "Science for Defence" on February 28, 2023

Dr. K. Maheswari and Dr. J. Rajasingh organized a workshop on "Machine Learning with MATLAB" on June 20, 2022.

Conference Organised:

Dr. Maheswari K, Dr. J. Rajasingh, and Dr. Vijeta Iyer jointly organized the "INTERNATIONAL CONFERENCE ON MATHEMATICAL SCIENCES, MODELLING, AND COMPUTATIONAL INTELLIGENCES 2022 (ICMSMCI 2022)" held on September 29, 2022, and September 30, 2022.

Special Lectures Delivered:

Dr. Maheswari K delivered a special lecture at the "IEEE SPS Seasonal School on Image, Audio, And Video Processing for Pattern Recognition" organized by IEEE on June 23, 2022.

Dr. S. Selvanayagi delivered a special lecture on "Academic and Administrative Audit" at SREC on August 30, 2022.

Dr. Vijeta Iyer gave a special lecture at the "Virtual Workshop on R Programming" organized by the Department of Mathematics, M.O.P. Vaishnav College for Women, Chennai, on August 20, 2022.

Dr. D. Arivuoli and Dr. K. Meena delivered special lectures on "Mathematics in Industry: Industrial Mathematics and Recent Advancements for Innovation" at Rathinam College of Arts and Science, Coimbatore, on September 16, 2022.

Dr. S. Selvanayagi participated in an NAAC-sponsored seminar on "Innovative Practices in Quality Enhancement through IQAC in HEI" at RMK Engineering College, Chennai, on October 28, 2022. Additionally, she delivered a guest lecture at NGM College.

Dr. Maheswari K conducted a one-week National Level Online Faculty Development Programme on "Recent Advances in Data Science, Data Analytics, and Cyber Security" at Kumaraguru College of Technology, Coimbatore, from March 1 to March 5, 2023.

Research Publications:

Dr. Maheswari K published an article titled "Improved Summation Inequality Based State Estimation for Stochastic Semi-Markovian Jumping Discrete-Time Neural Networks with Mixed Delays and Quantization" in "NEURAL PROCESSING LETTERS," indexed in SCI in July 2022.

Dr. Maheswari K published an article titled "New Event Based H infinity State Estimation for discrete-time recurrent delayed semi-Markov jump neural networks via A Novel Summation Inequality In "JOURNAL OF ARTIFICIAL INTELLIGENCE AND SOFT COMPUTING," indexed in SCI in July 2022.

Dr. K.P. Thilagavathy published an article titled "Cartesian Product of Path Semi graphs with 2 mid vertices and its α -Domination" in the "JOURNAL OF ALGEBRAIC STATISTICS," which is indexed in Web of Science in July 2022.

Dr. D. Arivuoli contributed an article titled "Object Scheduling and Optimization Techniques Using Hesitancy Fuzzy Network Diagram" to the "JOURNAL OF ALGEBRAIC STATISTICS," a Web of Science indexed journal in July 2022.

Ms. M. Princy Flora's article, "A Study on Ordering in Generalized Regular Intuitionistic Fuzzy Matrices," was published in the "JOURNAL OF ALGEBRAIC STATISTICS," indexed in Web of Science in July 2022.

Dr. Maheswari K published an article on "Image Deblurring based on Weiner Deconvolution Method using Markov Basis" in "Mathematical Statistician and Engineering Applications," indexed in Scopus in September 2022.

Dr. D. Arivuoli authored an article titled "Investigation of vital attributes influencing breast cancer through the perspective of nano topology," published in a Scopus-indexed journal in November 2022.

Dr. Saratha S R contributed to the "Journal of Thermal Analysis and Calorimetry" with the article "Nonlinear analysis of irregular temperature distribution in a heat exchanger using fractional derivative" in November 2022 and is indexed in SCI.

Dr. Anitha N published an article on "A simple model to correlate solubility of thermolabile solids in supercritical fluids" in a Web of Science indexed journal in November 2022.

Dr. Anitha N published an article titled "A Statistical Analysis of Solubility Models Employed in Supercritical Carbon Dioxide," indexed in Web of Science, in November 2022.

Dr. K.P. Thilagavathy contributed to the "AIP Conference Proceedings" with an article titled "Achromatic number-based modeling of some ladder graphs," published in November 2022 and indexed in Scopus.

Dr. Vijeta Iyer and Dr. Santha A. jointly published a paper titled "Topological Modelling of Comb Graph in Terms of Order" in the "AIP Conference Proceedings," indexed in Scopus in November 2022.

Vijeta Iyer and A. Santha collaborated on another paper titled "Topological Modelling of Helm Graph in Terms of Order," published in the "AIP Conference Proceedings" indexed in Scopus in November 2022.

Dr. A. Santha and Dr. Vijeta Iyer authored a paper titled "Results on Order with Respect to Incidence Topology-Modelling of Path Graph," published in the "AIP Conference Proceedings" indexed in Scopus in November 2022.

Dr. A. Santha and Vijeta Iyer also contributed to the "AIP Conference Proceedings" with a paper titled "Incidence Topological Modelling of STAR Graph Based on Order of Vertices and Edges," published in November 2022 and indexed in Scopus.

Dr. Maheswari K published a paper titled "A Computational Approach for the Determination of Thermal Conductivity of Cardboard Using Lee's Disc Method" in the "AIP Conference Proceedings," indexed in Scopus, in November 2022.

Dr. Maheswari K authored a chapter titled "Stability Analysis of Semi-Markovian Discrete-Time Neural Networks with Time-Varying Leakage Delays" in the book "Artificial Intelligence for Smart Community," published in the Springer Lecture Notes in Electrical Engineering book series in December 2022.

Dr. J. Dhivya presented a paper titled "A Fuzzy Logic Approach for Material Selection" in the "AIP Conference Proceedings," indexed in Scopus, in November 2022.

Mrs. S. Aruna Devi contributed to the "AIP Conference Proceedings" with a paper titled "An Approach for Solving Transportation Problem Using Interval Valued Possibility Intuitionistic Fuzzy Soft Sets," published in November 2022 and indexed in Scopus.

Membership in Professional Bodies / Institutions:

Dr. K. Maheswari is a member of IEEE in 2023.

Dr. R. Marudhachalam was selected as a Summer Faculty Research Fellow (SFRF-2023) under the mentorship of Prof. Ram Lal at the Computer Service Centre, IIT Delhi from May 16, 2023, to July 14, 2023.

Dr. Vijeta Iyer has been a member of the Institute For Engineering Research and Publication (IFERP) since 2019.

Dr. J. Dhivya joined the Institute For Engineering Research and Publication (IFERP) in 2022.

Editorial Board Member:

Dr. Vijeta Iyer serves as an Editorial Board Member for the "International Research Journal of Innovations in Engineering and Technology - IRJIET" with e-ISSN 2581-3048.

Centre established:

A Mathematics Research Centre has been established at KCT (Kumaraguru College of Technology) with an investment of 15,00,000

Patent Filed

Dr. K. Maheswari has filed a patent for "Battery swapping technology for future Electric vehicle" with the Application No. 202241030742 A. The intellectual property (IP) is filed in India.

Industry Partnerships and Collaborations

Dr. Vijeta Iyer and Dr. Santha A have engaged in collaboration with Spoken Tutorial, IIT Bombay during the academic year 2022-23.



SCHOOL OF
FOUNDATIONAL SCIENCES

Physics

From the HoD's Desk

The Department of Physics, School of Foundational Sciences, since the inception of the college in 1984, has been imparting fundamental knowledge in all facets of Applied Physics and materials. A team of 12 well-experienced faculty members with a keen interest towards innovative approach in academics and research have been tirelessly striving to impart value-based technical education. The department majorly focuses on imparting fundamental and applied concepts of physics to the freshman and engaging them effectively to focus on specific engineering domain. We are also offering open elective courses on Materials Characterization, Plasma physics for surface modification, Human Rights and RTI act. To enable students focus on Renewable energy, value added course on Solar photovoltaics offered to students under edge/ edge plus scheme. Our faculty have initiated a special interest research group based on their specializations and striving hard to receive funds from various agencies to promote research ecosystem at our campus.

Thrust Areas of the Department

The thrust areas of the department are Materials Science (Crystal Growth, Nanostructured Materials for diverse applications, Thin films for optoelectronics and corrosion resistance applications), LASER interferometry (Surface modification of substrates, Acousto-Optics, Bio-Photonics), Computational Materials Science, Plasma Physics.

No of Students on Roll	
Research Scholars	04

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended:	5
No. of Seminars / Webinar Attended:	7
No. of FDPs attended:	41
No. of Seminars / Webinars Organised:	7
No. of FDPs organised:	1
No. of Conferences Publications:	17
No. of Journal Publications:	3
No. of Consultancy Projects:	2
No of Industry Projects:	4
No. of Grants received:	1



Pivotal Accomplishments

Establishment of DST-FIST sponsored centre for Materials Characterization

Implementation of Problem based learning to teach Engineering Physics on real world problems.

Association with DST-Vignyan Prasar to host National level Astronomy Workshop

Seminars, Workshops, Conferences and Short-term Courses attended:

Seminar Attended:

Dr.K. Rathina attended the "DRDO -DRL Tezpur Webinar on Research verticals" organized by DRDO & KCT on 22nd December 2022 (Virtual).

Workshops Attended:

Dr. R. Balamurugan, Dr. R. G. Sethuraman, Dr.R. Sengodan, Dr.H. Arul, Dr.S. Inbakumar, Dr.K. Rathina, Dr. K. Sugandhi, Dr. M. Selvambikai, Dr. E. Shobhana, and Dr. R. Kannan attended the "Mentoring Skills, Tools and Techniques" workshop organized by NITTR at KCT from 27th to 28th October 2022.

Dr. R. Prakasam participated in the DAE-BRNS Sponsored Program on "Artificial Intelligence in Nuclear Applications" at Kongu Engineering College on 6th October 2022.

Dr. H. Arul attended a webinar on "Webinar with Academia to evolve LSDB Roadmap" at DEBEL, DRDO, Bengaluru (Virtual) on 29th November 2022.

Capt A.R.Arul and Dr. R. Balamurugan attended the RUSA 2.0 Sponsored National Workshop on "Lasers and Z-scan Experiments (LAZE)" at Bharathidasan University.

Conference Attended:

Dr. S. Nithya presented at the "International Conference on Chemistry for Sustainable Development" at Avinashilingam Institute for Home Science and Higher Education for Women from 22nd to 23rd February 2023.

Dr. R. Balamurugan and **Capt A.R.Arul** presented at the "International Conference on Multifunctional Materials (ICMM-22)" at Geethanjali College of Engineering & Technology from 22nd to 24th December 2022.

Short-term Courses Attended:

Dr. H. Arul attended the DST-STUTI training program on "Advanced Research Instrumentation" at Babasaheb Bhimrao Ambedkar Central University from 22nd to 28th August 2022.

Fg Offr. Dr. R. Sengodan participated in the short-term course on "Laser Based Manufacturing" at IIT-Guwahati (Virtual) from October to November 2022.

Dr. H. Arul, Dr. R. Sengodan, Dr. E. Shobhana, Capt A.R. Arul, Dr. R. Balamurugan, Dr. K. Rathina, Dr. K. Sugandhi took part in the "Online Course on Electromagnetism - 2 (Magnetostatics)" at IIT Kanpur (Virtual) in December 2022.

Dr. S. Nithya completed the course on "Nanotechnology and Nanosensors" on Coursera and NPTEL course on "Nanotechnology in Agriculture" during January to March 2023

Dr. H. Arul participated in the short-term course on "Effective Engineering Teaching on Practice" through NPTEL, IIT Madras (Virtual), spanning from January 2023 to March 2023.

Faculty Development Programmes Attended

Dr. S. Nithya attended the "Summer School on Optics & Photonics: Fundamentals and Applications" at IIT, Delhi (Virtual) from 6th to 24th June 2022.

Dr. R.G. Sethuraman and Dr. S. Inbakumar participated in the FDP on "Exploring the Fabrication Techniques, Characterization, and Applications of Functional Material" organized by Government College of Engineering and Technology, Karaikudi (Virtual) from 13th to 26th June 2022.

Dr. S. Inbakumar engaged in an FDP on "Idea Generation Methods" organized by ICT Academy and **Dr. M.G.R. Janakiammal** from 20th to 22nd June 2022.

Dr. K. Sugandhi, Dr. E. Shobhana, Dr. R. Kannan, Dr. R. Sengodan, Dr. R.G. Sethuraman, Dr. S. Inbakumar, Capt A.R.Arul, and Dr. R. Balamurugan participated in the virtual program on "Sustainable Energy Development: Recent Advances and Future Prospects" from 8th to 14th August 2023, spanning 7 days.

Dr. S. Nithya, Capt A.R. Arul, Dr. S. Inbakumar, Dr. R. Balamurugan, Dr. K. Rathina, Dr. K. Sugandhi, and Fg Offr. Dr. R. Sengodan also participated in the "Computation Modelling of Materials" program at Madanepaali Institute of Technology and Sciences (Virtual) from 8th May to 12th May 2023.

Fg Offr. Dr.R. Sengodan participated in the "NBA Accreditation and SAR Preparation" program at NITTR from 15th May to 19th May 2023.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members:

Webinars Organised:

Dr. K. Sugandhi and Dr. E. Shobhana organized a webinar on "Significance of Nano Sensor Applications" held on 2nd August 2022.

Dr. R. Balamurugan coordinated webinar titled "India - The Mother of Democracy" conducted on 22nd November 2022 and "International Day of Light" on 16th May 2023.

Dr. K. Rathina led a webinar on "Project-based Learning Framework" on 17th December 2022.

Dr. H. Arul and Prof. N. Saraswathy jointly organized a "Hands-on Training Programme on Thermoanalytical Techniques using STA 8000 for Technicians" on 18th February 2023.

Dr. R. Balamurugan and **Dr. K. Rathina** collaborated for the webinar titled "Global Science for Global Well-being," conducted on 28th February 2023.

Dr. R. Prakasam conducted a "Faculty Orientation Programme on Heritage of Tamil" on 13th May 2023.

Workshops Organised

Dr. S. Nithya organised in the "Mentoring Skills, Tools and Techniques by NITTR" on 27th to 28th October 2022 for 2 days, with a total of 60 participants.

Dr. R. Balamurugan and Capt A.R. Arul organized a "Regional level workshop on Astronomy" held from 27th December to 28th December 2022 for 2 days, with an active participation of 125 attendees.

Dr. S. Inbakumar conducted a workshop on "Framing Course Outcomes" on 20th December 2022 for 1 day, involving 40 participants.

Dr. S. Nithya organised "SCI-CARTOONS: Animation Challenge" on 23rd May 2023 for 1 day, with 41 participants.

FDPs Organised:

Dr. S. Nithya and Dr. K. Rathina jointly organized an FDP on "Sustainable Energy Development: Recent Advances and Future Prospects" held virtually from 8th to 14th August 2023, spanning 7 days, with a participation of 165 individuals.

Special Lectures Delivered:

Dr. S. Nithya and Dr. K. Rathina jointly organized an FDP on "Sustainable Energy Development: Recent Advances and Future Prospects" held virtually from 8th to 14th August 2023, spanning 7 days, with a participation of 165 individuals.

Research Publications:

Dr. R. Kannan published a paper in the Defence Science Journal, titled "Comparative Study of Microstructural, Mechanical, and Electrochemical Aspects of As-Deposited and Shock Wave Exposed Ni-W Nanostructured Coatings" and a paper titled "Investigation of structural, mechanical, and magnetic characterization of electroplated W deposited NiMo thin films" in Electronics journal in 2022.

Dr. R. Balamurugan presented a conference paper in the AIP Conference Proceedings, focusing on the "Study of laser speckle stack images in velocimetry" and published a paper titled "Roughness measurement of mild steel plate by speckle images" in 2022.

Dr. S. Inbakumar published an article on "Surface physical analysis on plasma-treated silk fabric" in the AIP Conference Proceedings in 2022.

Dr. R. Prakasam contributed to the AIP Conference Proceedings in 2022 with a paper titled "A comparative surface roughness study of silicon wafer by laser speckle technique, atomic force microscopy, and stylus profilometry."

Fg Offr. Dr. R. Sengodan presented a conference paper in the AIP Conference Proceedings in 2022, focusing on the "Analysis of corrosion resistance of nanostructured Co-W coatings through electrodeposition technique coated on the surface of mild steel."

Dr. E. Shobhana explored "Computational analysis of an organic nonlinear optical material: 8-Hydroxyquinolinium trichloroacetate (8HQTC)" and a paper titled "A quantum chemical analysis of an organic compound: 3,5-bis (4-hydroxyphenyl)-2,4,6-trimethyl cyclohexanone" in AIP Conference Proceedings in 2022.

Dr. H. Arul presented a conference paper in the AIP Conference Proceedings in 2022, titled "Analysis of physio-chemical properties of solution-grown third-order nonlinear optical single crystal: 1,4-oxazinanium nitrate for photonic applications" and "Studies on nucleation kinetics and growth aspects of solution-grown nonlinear optical single crystal: 2-carboxypyridinium maleate (2-CM)."

Dr. R.G. Sethuraman presented a conference paper in the AIP Conference Proceedings in 2022, focusing on the "Role of nickel (Ni) on the microstructural and optical behaviors of CuO nano-scale structures."

Dr. S. Nithya contributed to the AIP Conference Proceedings in 2022 with a paper on "Hirshfeld surface analysis of 2-amino-6-methyl pyridinium barbiturate tetrahydrate organic single crystal" and "Theoretical investigations on HOMO-LUMO and first-order hyperpolarizability calculations of 2-amino-6-methyl pyridinium barbiturate tetrahydrate organic single crystal."

Dr. M. Selvambikai presented a conference paper in the AIP Conference Proceedings in 2022, titled "Study on the wear behavior of nickel tungsten coated mild steel using finite element analysis (FEA)" and "Enhancement of wear resistance of mild steel using nanocrystalline CoW coatings through electroplating technique."

Dr. R. Kannan presented a conference paper in the AIP Conference Proceedings in 2022, focusing on the "Morphological analysis of shock wave exposed nickel tungsten thin film prepared by electroplating process."

Dr. K. Rathina published a paper in the journal "Lasers in Engineering" in 2022, titled "Roughness Study of Solar Wafer by Angular Speckle and Binary Imaging Techniques."

Dr. E. Shobhana contributed to the AIP Conference Proceedings in 2023 with a paper on the "Vibrational properties of 3,5-bis (4-hydroxyphenyl)-2,4,6-trimethyl cyclohexanone: A quantum chemical study."

Book Publications:

Dr. S. Nithya edited the book titled "Contemporary Pedagogy in Science and Humanities," which was published in May 2023

PhD Supervision:

Dr. R. Balamurugan has been granted guideship by Anna University, he presently guides 1 scholar in the field of LASER interferometry.

Dr. R. Sengodan has been granted guideship by Anna University, he presently guides 1 scholar in the field of surface coatings of ternary alloys.

Journal Editorial Member:

Dr. H. Arul is the Editorial Board Member American Journal of Modern Physics.

Centre / Facility/ Equipment Procured

DST-FIST Centre for Materials Characterization has been established at the cost of INR 78.76 Lakhs

Industry Partnerships and Collaborations

Dr. R. Prakasam facilitated a collaboration between the Walkero company and Messer Cutting Systems on October 28, 2022, for a duration of 1 day, focusing on training.

Dr. H. Arul established a partnership with Perkin Elmer India on February 9, 2023, for 1 day, with a focus on instrumentation support, specifically for FL Spectrophotometer.

In February 2023, **Dr. M. Selvambikai** collaborated with the Department of Metallurgical and Materials Engineering, Amaljyothi College of Engineering, Kanjirappally, Kottayam, Kerala, on a consultancy project.

Dr. H. Arul collaborated with Ador Powertron, Pune, India, on March 24, 2023, for 1 day. This collaboration involved faculty mobilization and research internship opportunities for students.

On May 12, 2023, **Dr. H. Arul** collaborated with Presto Stantest Pvt. Ltd., DLF Industrial Area, Faridabad, Haryana, 121003, for 1 day. The collaboration aimed to support their NABL accreditation facility, particularly in connection with corrosion resistance applications.

Dr. M. Selvambikai established a partnership with Sacred Heart College in May 2023, focusing on consultancy.

Outreach Programmes:

Dr. S. Nithya coordinated a one-day outreach program on July 16, 2022, focusing on Career Guidance for Adolescent children.

Dr. E. Shobhana organized a one-day Health and Wellness program for Housekeeping staff on January 18, 2023.

Dr. K. Rathina coordinated an outreach program called "Kumaraguru Toycathon" for the Government High School students of Saravanampatti on February 27, 2023.



SCHOOL OF
FOUNDATIONAL SCIENCES

Chemistry

From the HoD's Desk

I am delighted to share the remarkable achievements and milestones of our Chemistry department. We have published 36 cutting-edge research papers advancing scientific knowledge. Faculty underwent mentorship training to support first-year students, emphasizing our commitment to their academic journey. Participation in domain-specific training programs from central labs has enriched our expertise. Our events aligned with Sustainable Development Goals showcase our dedication to societal impact. Implementing problem-based learning for first-year students fosters growth and critical thinking. With an impressive pass percentage of 85+, our faculty demonstrates exceptional teaching. Successful collaborations with two industries highlight our commitment to bridging academia and industry for innovative research.

Thrust Areas of the Department

Our Chemistry department excels in research on Nanomaterials, Computational Chemistry, Water Treatment, and Corrosion. Our groundbreaking work impacts industries, technology, and the environment, driving us to shape a brighter scientific future.



No of Students on Roll

Research Scholars	04
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Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended:	9
No. of Seminars / Webinar Attended:	4
No. of FDPs attended:	46
No. of Seminars / Webinars Organised:	2
No. of Journal Publications:	36
No of Industry Projects:	2

Faculty and their Specialization:

Dr U S Shoba - Solid state chemistry

Dr R Mayildurai - Environmental chemistry

Dr R Mahalakshmi - Wastewater treatment and polymer chemistry

Mr K Karthik - Synthetic Organic Chemistry

Dr K R Aranganayagam - Nanomaterials, DFT, Heterogeneous Catalysis, and Carbon Materials

Dr D Jalajaa - Electrochemistry

Dr K Rathidevi - Polymer chemistry

Dr K Kalapriya - Green Chemistry and Natural Dyes

Dr K Sampath - Bioinorganic Chemistry

Dr S Jyothi - Electrochemistry and Corrosion

Dr R Ashokkumar - Organic molecule functionalized nanomaterials

Pivotal Accomplishments

We have published 36 research papers in journals. Our commitment to sustainability is showcased through events aligned with SDGs. Successful collaborations with two industries.

Seminars, Workshops, Conferences and Short-term Courses attended:

Faculty Development Programmes Attended

Drs. K. Rathidevi, R. Ashokkumar, S. Jyothi, K. Kalapriya, K. Sampath, Dr. R. Mayildurai, Mr. K. Karthik, and Dr. D. Jalajaa collectively participated in a common seminar on "One week Faculty development programme on Computational modelling of materials" at Madanapalle Institute of Technology, Andrapradesh, from 08.05.2023 to 12.05.2023 (Virtual), and "Introductory UHV FDP" by AICTE from 22.05.23 to 26.05.23 (Virtual).

Drs. K. Rathidevi, K. Karthik, R. Mayildurai, R. Mahalakshmi, K. Kalapriya, S. Jyothi, D. Jalajaa, and Dr. U. S. Shoba collectively attended the virtual course on "Advanced Materials for Technological Applications" at Sathyabama Institute of Science and Technology, Chennai, from 24.03.2023 to 04.04.2023.

Dr. R. Ashokkumar participated in the virtual course on "Nanotechnology in Agriculture" offered by NPTEL from 04.29.2023 to 03.30.2023.

Drs. R. Ashokkumar and K. Sampath both participated in the program on "Industrial Wastewater Treatment Technologies" at CSIR-CECRI, Karaikudi, from 24-04-2023 to 28-04-2023

Dr. K. Sampath attended the virtual course on "Essential Industrial Chemistry for Engineers" at NITTTR Chandigarh from 05.09.2022 to 09.09.2022.

K Karthik, Dr. K. Sampath, Dr. S. Jyothi, Dr. R. Mayildurai, Ms. K. Rathidevi, Dr. D. Jalajaa, Dr. K. Kalapriya, and Dr. R. Mahalakshmi collectively participated in the virtual program on "Sustainable Energy Development: Recent Advances and Future Prospects" at KCT from 08.08.2022 to 14.08.2022.

Dr. R. Ashokkumar, Mr. K. Karthik, Dr. K. Sampath, Dr. R. Mayildurai and Dr. K. Kalapriya collectively participated in the "Online National Faculty Development Programme on Emerging Trends in Applied Chemistry" at Easwari Engineering College, Chennai, from 25-07-2022 to 30-07-2022 (Virtual).

Dr. S. Jyothi and Dr. D. Jalajaa both attended the program on the "Basics of High-Resolution Imaging Techniques and Their Applications to Science & Technology" at CSIR-Central Electrochemical Research Institute from 04.07.2022 to 08.07.2022.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members:

Seminars Organised

Drs. R. Mahalakshmi and K. Rathidevi organized a seminar on "Water Management" on 28.11.2022, with 400 participants, focusing on Environmental Awareness.

Dr. S. Jyothi and Dr. D. Jalajaa jointly organized a seminar addressing "Save Water" on 30.11.2022, with 250 participants, emphasizing Environmental Awareness.

Workshops Organised:

Dr. K. Kalapriya organized a workshop titled "Build your dream app – Create, Connect, Communicate" on 03-02-2023, where 79 students received training.

Special Lectures Delivered:

Dr. D. Jalajaa delivered a special lecture on "Environment Protection and Awareness" at KGISL Institute of Technology, Coimbatore, on 24/03/2023.

Dr. R. Ashokkumar provided a special lecture on "Chemistry: Easy Way to Learn Engineering" at Sakthi Polytechnic College on 04.02.2023.

Dr. KR Aranganayagam delivered a lecture on the "Importance of IPR in Engineering Field" at Karpagam Academy of Higher Education on 02.02.2023.

Dr. S. Jyothi participated in the celebration of National Science Day 2023 and delivered a lecture at the Department of Science & Humanities, Hindusthan Institute of Technology, on 28.02.2023.

Dr. R. Mayildurai gave a talk on the "Detrimental Effects of Fashion Materials" at RVS College of Engineering and Technology, Coimbatore, on 06.08.2022.

Research Publications:

Dr. KR Aranganayagam published a journal article titled "Studies on Catalytic and in Vitro Cytotoxicity Effects of ZnO Nanorods Containing Ag and Their Structural, Morphological, and Antimicrobial Properties" in April 2023.

Dr. K. Kalapriya contributed to the Rasayan Journal of Chemistry with an article titled "GREEN ENZYMES FROM PLANTS AND MICROBIAL SOURCES USED IN INDUSTRIES," published in March 2023.

Dr. K. Rathidevi published an article in the Journal of Materials Research in March 2023, titled "Greener microwave synthesized Se nanospheres for antioxidant, cell viability, and antibacterial effect."

Dr. K. Sampath authored a journal article titled "Depollution of synthetic dyes from wastewater using polyazomethine/TiO₂ and polyazomethine/ZnO nanocomposites via photocatalytic process." The article was published in the Global NEST Journal in October 2022.

In November 2022, **Dr. KR Aranganayagam** published several articles in AIP Conference Proceedings which include "Simulation, computational sort by using coding, softwares for elucidation of structure and for calculation of energy, force field, interactions of carbon nano tubes (CNTs)", "Growth, computation-structure-elucidation, anti-diabetic use of 1,4-Bis(2-Nitrobenzyl)piperazine (BNBPP) macro, nano crystals", "Structural explication by software and anti-diabetic effectiveness of L-phenylalaninium maleate (LPAM) macro and nano crystalline samples", "Bio utility and structural enrichment of diethylammonium diethyldithiocarbamate (DADDTC) macro and nano scaled crystals" and "Enhancement of wear resistance of mild steel using nano crystalline CoW coatings through electroplating technique."

Dr. KR Aranganayagam co-authored journal articles in AIP Conference Proceedings which include "Experimental investigations on effect of magnesium on wear properties of cast iron", "Hirshfeld surface analysis of 2-amino-6-methyl pyridinium barbiturate tetrahydrate organic single crystal" and "Theoretical investigations on HOMO-LUMO and first-order hyperpolarizability calculations of 2-amino-6-methyl pyridinium barbiturate tetrahydrate organic single crystal"

Dr. R. Ashokkumar published articles in AIP Conference Proceedings in November 2022 which include "Growth, Structural, Elemental, Fluorescence and Non-Linear Optical Analysis of Inosine (IE) Organic Crystals", "Enactment by Computational-Structural and by the Experimental Studies of 2-Hydroxyimino-2-(Pyridin-2-yl)-N'-[1-(pyridin-2-yl) ethylidene] Acetohydrazide - HIPYPYEAH Crystalline Specimen" and "Chelating Agent Assisted Barium Titanate (BaTiO₃) Nanoparticles by Hydrothermal Process".

Dr. K. Kalapriya contributed to AIP Conference Proceedings with two articles in November 2022 which include "Corrosion behaviour of mild steel in waste cooking oil as biofuel" and "Electrochemical method of dyeing cotton fabric using direct dyes".

Dr. K. Sampath published an article in AIP Conference Proceedings in November 2022 titled "Ethoxy salal - Phenyl thiosemicazone complexes of Ruthenium(III): Synthesis and characterization."

In November 2022, **Dr. K. Sampath** published the articles "Ethoxy salal - Phenyl thiosemicazone complexes of Ruthenium(II): Synthesis and characterization" in AIP Conference Proceedings 2446.

Dr. Shoba U.S. contributed to AIP Conference Proceedings with an article in November 2022 titled "Synergism in oxohalates-chromium (III) carbide and Cr systems" in AIP Conference Proceedings 2446 (1).

Dr. S. Jyothi published several articles in AIP Conference Proceedings in November 2022 which include "Corrosion inhibition of low carbon steel by leaves extracts of Coleus aromaticus Benth in sulphuric acid", "Inhibition effect of Maranta arundinacea on mild steel corrosion in sulphuric acid" and "Molecular structural characterization and computational studies of 8-hydroxyquinolinium 4-chloro-3-nitrobenzoate 4-chloro-3-nitrobenzoic acid - An organic crystal"

Dr. D. Jalajaa contributed to AIP Conference Proceedings with two articles in November 2022 titled "Study of corrosion inhibition efficiencies by binary inhibitor systems in hydrochloric acid" and "Evaluation of the corrosion protection on mild steel by Moringa oleifera gum exudate in acid pickling environment."

Dr. K. Sampath published two articles titled "Kinetic and adsorption isotherm modeling of photodegradation of anionic dyes using polyazomethine/titanium dioxide and polyazomethine/zinc oxide nanocomposite" in Desalination and Water Treatment and "Photodegradation, thermodynamic and kinetic study of cationic and anionic dyes from effluents using polyazomethine/ZnO and polyazomethine/TiO₂ nanocomposites" in the Journal of Optoelectronic and Biomedical Materials.

K. Karthik authored an article titled "Growth, thermal, and optical properties of r-2,c-6-bis(p-tolyl)-c-3,t-3-dimethylpiperidin-4-one - A new class of organic NLO material" in the journal Materials Today, published in August 2022.

K. Rathidevi contributed to the AIP Conference Proceedings with articles on structural, vibrational, and morphological analysis of L-tryptophan-Fumaric acid nanofibers, and on the oxidation kinetics mechanism of maleic mono p-methyl aniline (MMA) by N-chloro-3-methyl-2,6 diphenyl piperidine-4-one (NCP) in the presence of ethanol medium, both published in November 2022. In the journal Biomass conversion and Biorefinery, she published an article on the green formulation of palladium nanoparticles for the photocatalytic behavior of fabric dyes removal and its antibacterial assay in April 2023.

Dr. R. Ashokkumar's work was featured in the AIP Conference Proceedings with an article titled "Growth and Studies of (E)-N'-(5-Bromo-2-Hydroxybenzylidene) Nicotine Hydrazide Monohydrate (ENBHNHM) Crystals," published in November 2022.

Dr. R. Mayildurai contributed to the AIP Conference Proceedings with an article on the growth and studies of (E)-N'-(5-bromo-2-hydroxybenzylidene) nicotine hydrazide monohydrate (ENBHNHM) crystals, published in November 2022.

Shoba U.S. published articles in the AIP Conference Proceedings, including one on the anti-inflammatory activity of LPAM nano crystals and Hirshfeld impact on crystals, and another on density functional theory (DFT) studies for quadrupole and octapole moments, field analysis by theoretical interactions by softwares, and anti-diabetic (AD), anti-oxidant (AO), bio-pharma properties of the DLA crystals, both published in November 2022.

Dr. S. Jyothi contributed to the AIP Conference Proceedings with an article titled "Molecular structure and computational studies of 1,2-bis(4-pyridyl)ethane: 2-nitrobenzene-1,3,5-triol: an organic adduct," published in December 22

Book Chapter Publications:

Dr. K. Kalapriya contributed a chapter titled "Developing Green Chemistry Solutions: A Problem-Based Learning Case Study" in the book Contemporary Pedagogy In Science And Humanities by BONFRING INTELLECTUAL INTEGRITY in May 2023

Dr. S. Jyothi authored a chapter on "Teaching of Surface Chemistry and Adsorption Through Problem-Based Learning Approach," in the book Contemporary Pedagogy In Science And Humanities by BONFRING INTELLECTUAL INTEGRITY in May 2023

Dr. K. Rathidevi wrote a chapter titled "Problem-Based Learning: Contemporary Teaching Pedagogy Approach in Teaching Electrochemistry and Corrosion," in the book Contemporary Pedagogy In Science And Humanities by BONFRING INTELLECTUAL INTEGRITY in May 2023

In the book Frontiers of Chemical Sciences by Navanila Maruthi Publication, **K. Karthik, Dr. R. Mayildurai, and Dr. R. Ashokkumar** collaborated on a review chapter titled "A Review on Biomass-Based Activated Carbon Materials in Pollution Abatement," published in June 2022.

PhD Supervision:

Dr. K. Sampath serves as a research guide at Anna University, specializing in the field of Bioinorganic Chemistry. He has guided and supervised three research scholars, and under his guidance, there have been eight publications.

New Equipment Procured:

New equipment, including a Digital pHmeter EI 111, an Electronic Balance KERN, and a VIS Spectrophotometer ANTECH, has been procured at a total cost of Rs. 156,254.84.

Industry Partnerships and Collaborations

Dr. K. Sampath and Dr. Ashokkumar collaborated with Cortech Engineers, Peelamedu, Coimbatore, on June 5, 2023, for a project focused on corrosion prevention with Intercept Technologies.

Dr. S. Jyothi engaged in knowledge sharing on the production of value-added products from milk with Milky Mist on May 25, 2023.

Dr. KR Aranganayagam and Dr. S. Jyothi have been involved in offering a MOOC course on Polymer Chemistry on Udemy since October 15, 2022.

K. Karthik collaborated with the NCUFP research laboratory at the University of Madras, Taramani Campus, Chennai, on June 22, 2022, for sharing research facilities.

Outreach Programmes:

Dr. K. Rathidevi, Dr. K. Kalapriya, and Dr. R. Ashokkumar participated in an environmental awareness and lake surroundings cleaning activity on July 5, 2023.

Mr. K. Karthik, Dr. R. Mayildurai, and Dr. R. Ashokkumar were involved in a similar initiative on May 21, 2023. Dr. R. Mahalakshmi and Dr. K. Rathidevi organized an environmental awareness program on March 29, 2023.

Dr. K. Sampath and Dr. D. Jalajaa conducted a lake surroundings cleaning activity for environmental awareness on March 19, 2023.

Dr. S. Jyothi and Dr. D. Jalajaa raised awareness about the environment among government school students on August 28, 2022.



SCHOOL OF
FOUNDATIONAL SCIENCES

Languages & Communication

From the HoD's Desk

The academic year was a journey of growth and innovation. Amidst the core technical curriculum, we have nurtured a vibrant space for languages, recognizing their significant role in holistic education. The language department's scope extended beyond traditional English communication to encompass technical writing, cross-cultural communication, and emotional intelligence development. As we approach the upcoming year, we are excited to introduce more specialized language courses tailored to engineering domains, fostering students' language proficiency and employability. Our commitment to fostering effective communication skills aligns with our vision of producing well-rounded engineers equipped to thrive in the globalized world.

Thrust Areas of the Department

English Language Teaching (ELT)
Communicative Competence
Indian Writing in English
Teaching of Skills and Elements of Language
Activity based Teaching and Learning
Syllabus Designing, Material Production and Assessment
Ecocriticism,
Ecopoetry
Canadian Writing
Performance Based Teaching and Assessments
Emotional Intelligence



Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended:	1
No. of Seminars / Webinar Attended:	37
No. of FDPs attended:	32
No. of Seminars / Webinars Organised:	13
No. of Conferences Publications:	1
No. of Journal Publications:	4

Pivotal Accomplishments

Published and edited Books

Research papers accepted in
AIP and in Scopus

Industry connect with
Robert Bosch

Seminars, Workshops, Conferences and Short-term Courses attended:

Seminar Attended:

Dr. J. Srikala attended the Sponsored Virtual Impact Lecture Series – I organized by AICTE - MIC - IIC in a virtual format and participated in "Funding opportunities for extramural research in DST and DRDO" on 12 October 2022.

Dr. TISSAA Tony C participated in the Webinar on Excellence in Teaching, Training, and Research hosted by BIET in a virtual setting.

Dr. S. G. Mohanraj and Dr. S. Sreejana were involved in the Assessing the Four Language Skills seminar organized by Cambridge Assessment English.

Dr. J. Srikala, Dr. Arokia Lawrence Vijay, Dr. TISSAA Tony C, Dr. A. S. Mythili Dr. S. G. Mohanraj and Dr. S. Sreejana participated in a discussion on research possibilities in Emotional Intelligence at KCT.

Dr. Hema R engaged in a seminar titled "Assessment for learning: the road to improvement" organized by the British Council in a virtual setting.

Dr. Hema R, Dr. S. G. Mohanraj, Dr. C. TISSA TONY, Dr. S. Sreejana and Dr. B. AROKIA LAWRENCE VIJAY and Dr. J. Srikala took part in a discussion on "Research funding: Trends & implications" with Dr. Anandhi.M, Prof & Head, Department of English, Sri Ramakrishna College of Arts & Science for Women, Coimbatore, conducted online at KCT.

Dr. B. Arokia Lawrence Vijay, Dr. J. Srikala Dr. C. TISSAA Tony C, Dr. S. G. Mohanraj, Dr. S. Sreejana, Dr. R. Hema, and Dr. A. S. Mythili participated in the Faculty Training Programme on Problem-Based Language Learning (PBLL) on 12 October 2022.

Dr. Hema R, Dr. A. S. Mythili, and Dr. C. TISSAA Tony attended the TSP (Teacher Support Programme) on Linguaskill on 23 January 2023 and 24 January 2023.

Workshops Attended

Dr. Arokia Lawrence Vijay participated in a Workshop on "Preparing Learners for the 21st Century Global Workplace" on 16 February 2023.

Dr. J. Srikala, Dr. Arokia Lawrence Vijay, Dr. TISSAA Tony C, Dr. A. S. Mythili Dr. S. G. Mohanraj and Dr. S. Sreejana attended a Two-Day Workshop on Mentoring Skills Tools and Techniques held on 27 October 2022 & 28 October 2022 in a virtual format.

Dr. J. Srikala attended a two-day workshop on Translation - "Mechanics of Translation and Creative Translation: Exploring the intersection of Art and Language" at Presidency University, Chennai, conducted online.

Dr. Hema R took part in a 4-day online workshop titled "Enhance Your Professional Effectiveness" conducted by CII Delhi in a virtual environment.

Conference Attended

Dr. J. Srikala attended the International Conference on Mathematical Sciences, Modeling, and Computational Intelligence held on 29 September 2022 & 30 September 2022.

Short-term courses Attended:

Dr. S. Sreejana attended the "Professional Development for Teacher Trainers," an 8-week online teacher training course delivered by Arizona State University, from 5 July 2022 to 30 August 2022, in a virtual format. She also completed a course on "BEST PRACTICE FOR EDUCATION: PROFESSIONAL DEVELOPMENT SHOWCASE" and a PDP on "Managing Emotions at Work" from 3 June 2023 to 10 March 2023.

Dr. A.S. Mythili completed the following courses in COURSERA "Overcoming Dyslexia!", "The Nature of Genius", and "Pedagogical Excellence". She also completed a "One Week International Virtual FDP on Recent Trends in Teaching Language Literature and Research" from 13 March 2023 to 20 March 2023.

Dr. Hema R took part in the course "Teaching English: Assessing learning" offered by the British Council, which lasted for 4 weeks. She also participated in a STTP on "Evaluating Students' Performance & Designing Question Paper - PS41" organized by NITTTTR, Kolkata and an FDP on "Emerging Trends and Challenges in Language and Literature" organized by VET Institute of Arts and Science.

Dr. R. Hema took part in a Professional Development Programme (PDP) on "Managing Emotions at Work" from 3 June 2023 to 10 March 2023.

Mohanraj S G completed the COURSERA courses "English for Career Development" (5 weeks), "Exploring Instructional Leadership in Education" (3 weeks), and "Transitioning from Friend to Leader" (4 weeks) and an FDP on "Learner-Centered English Language Teaching" at Government College of Technology, Coimbatore.

Dr. J. Srikala engaged in the "NAAN MUDHALVAN - MASSIVE UPSKILLING Platform Training" at the Naan Mudhalvan Regional Conference and FDP, organized by the Government of Tamil Nadu.

Dr. J. Srikala participated in the event “Gendered Counters of Feminism” held at Presidency University, Bangalore, from 26 September 2022 to 30 September 2022.

Dr. J. Srikala was involved in a program on “Incorporating Universal Human Values in Education” organized by UGC-AICTE from 31 October 2022 to 4 November 2022 in a virtual setting.

Dr. J. Srikala participated in the “Advanced Research Methodology for Young Aspirants in Social Sciences and Humanities (ARMYASSH-22)” organized by Rajarshi Shahu Mahavidyalaya, Latur, in collaboration with ICSSR, Mumbai, from 12 December 2022 to 24 December 2022 in a virtual format.

Dr. J. Srikala, Dr. S. Sreejana, and Dr. Tisaa Tony C attended a “Five-Day International Virtual Faculty Development Program” on Pedagogical Excellence from 13 February 2023 to 17 February 2023 in a virtual setting.

Dr. J. Srikala participated in a FDP on the “TEXTUAL and Discursive Construction of Media Innovation and Entrepreneurship” and “Innovation in the Art of Teaching Language and Literature: Venturing into New Frontiers – Transcending Boundaries with New Ideas”.

Dr. Tisaa Tony C attended a program on “Emotional Intelligence” organized by NITTR in a virtual format from 28 November 2022 to 2 December 2022.

Mohanraj S G, Dr. J. Srikala, Dr. S. Sreejana, Dr. Tisaa Tony C, and Dr. A.S. Mythili participated in a program titled “Exploring the Intersection of Teaching and Cognition” at KPR Institute of Engineering and Technology, which took place from 15 May 2023 to 19 May 2023.

Short-term courses/workshops/seminars/symposia/conferences organised by the faculty members:

Workshops Organised

Dr. Tisaa Tony C organized a workshop on Emotional Intelligence on 18 Feb 2023, with Dr. Padma Anil Kumar, Founder Director of Sittara Foundation, Chennai, as the speaker. Close to 100 participants attended this workshop.

Dr. R. Hema organized a session with Dr. Saleh Al Busaidi, Dean & Professor at Sultan Qaboos University (SQU), Sultanate of Oman, on 12 October 2022 in a virtual format, lasting for 3 hours, where they explored Problem-Based Learning (PBL) on a global scale.

Dr. Sreejana S organised a virtual workshop titled “Improving Research Writing Using Grammarly” on 11 February 2022, with a duration of 130 minutes.

Dr. S.G. Mohanraj organised a workshop on Robotics, where four Robotics Experts from Holoworld, Chennai, demonstrated the usage of Humanoid, Augmented Reality, and Virtual Reality.

Dr. Hema R underwent Module Training I on Analysis and Interpretation Skills on 7 February 2023, and Module Training II on the same topic on 14 February 2023, each lasting for 50 minutes.

Dr. Hema R and Dr. A.S. Mythili organizes IELTS EXPRESS – A FASTTRACK WORKSHOP on 3 January 2023.

Dr. S. Sreejana organised in a session with **Dr. Anandhi.M**, Prof & Head, Department of English, Sri Ramakrishna College of Arts & Science for Women, Coimbatore, in the morning on 25 May 2023, lasting for 6 minutes.

Dr. Hema R and Dr. B. Arokia Lawrence Vijay attended a workshop on Cross Cultural Awareness for Foreign Language Learners on 20 May 2023, with a participation of 500 individuals. (240)

Special Lectures Delivered:

Dr. Tisaa Tony C delivered a one-day workshop for teaching staff at SNS Tech, Coimbatore, on 28 Aug 2022.

Dr. Arokia Lawrence Vijay provided a lecture on “The Art of Effective Communication & Awareness Building: What really works for young people” at Shanti Ashram.

Research Publications:

Dr. J. Srikala published a research paper titled “A Study on the Existential Predicaments in Anita Desai’s ‘Cry, the Peacock’” in the International Research Journal of Management Sociology & Humanities (IRJMSH) Volume 14 (3), Pages 330-338 (2023). The paper has a DOI: 10.32804/IRJMSH.

Mohanraj S G, Dr. Arokia Lawrence Vijay B, and Dr. S. Sreejana all published research articles in the European Chemical Bulletin (ISSN 2063-5346) in 2023.

Book Chapter Publications:

Dr. S.G. Mohanraj, Dr. S. Sreejana, Dr. R. Hema, Dr. Tisaa Tony C, Dr. A.S. Mythili and Dr. J. Srikala authored chapters in the book “Contemporary Pedagogy in Science and Humanities” published by Bonfring Publication.

Books Published:

Dr. A.S. Mythili, Dr. R. Hema, and Dr. S. Nithya edited the book titled “Contemporary Pedagogy in Science and Humanities,” published by Bonfring Publication in May 2023.

Membership in Professional Bodies / Institutions:

Dr. Arokia Lawrence Vijay B, Dr. J. Srikala, Dr. Tisaa Tony C, Dr. S.G. Mohanraj, Dr. S. Sreejana, Dr. R. Hema, and Dr. A.S. Mythili are members of the English Language Teachers’ Association of India (ELTAI), with their membership years ranging from 2021 to 2022.

Dr. R. Hema and Dr. A.S. Mythili are members of the Acoustical Society of India (AESI), both having joined in the year 2023.

Industry Partnerships and Collaborations

Dr. B. Arokia Lawrence Vijay, Dr. S.G. Mohanraj, and Dr. S. Sreejana engaged in an industry-institute interaction with Robert Bosch on 06 July 2022 and along with the above Dr. Tissa Tony collaborated for research and training in an industry connect with RIE and Azim Premji University, Bangalore, on 8 Aug 22 and 17 Aug 2022 respectively.

Dr. S. Sreejana, Dr. B. Arokia Lawrence Vijay, Dr. S.G. Mohanraj, Dr. C. Tissa Tony, Dr. A.S. Mythili, and Dr. R. Hema had on-the-job training to discuss syllabi and framework for employees at Robert Bosch On 8/18/2022 and they underwent faculty-corporate training at ROBERT BOSCH on 11 Nov 2022.

Dr. S.G. Mohanraj, Dr. Arokia Lawrence Vijay, and Dr. Tissa Tony participated in an industry collaboration with Cambridge University Press on 28 Mar 2023.

Outreach Programmes:

Dr. AR.Hema and Dr.A.S.Mythili organized an outreach event titled "Workshop on Logical Thinking" at Government Observation Home, Coimbatore.

Dr. S. Sreejana and Dr. S. G. Mohanraj organized an outreach event titled "Unlocking Opportunities: Enhancing English Language Skills through Interactive Activities and Games for Orphanage Students" on 05 May 2023.

Awards and Recognition won by students

Charan V (22MCM002), Dhayanand M (22MCM003), Vijay Ananth V (22MCM010), Shree Shyam A R Srilaya S P, with the registration number 21BIS046, secured the First Prize in the State Level Oratorical Competition at the Coimbatore Book Festival-CODISSIA.

Varsha S, identified by the registration number **21BEC174**, participated in the State Level Oratorical Competition at the Coimbatore Book Festival-CODISSIA.





EDGE & EDGE+ COURSES

In the academic year 2022-2023, School of Foundational sciences has taken significant strides in enriching students' overall development by offering a wide range of co-curricular and extracurricular courses called KCT Edge and Edge+ courses offered to first year students. These courses are designed to complement the academic curriculum, providing students with opportunities to explore diverse interests, develop essential life skills and foster a sense of community engagement. The subsequent report showcases the array of co-curricular courses (15 courses) and extracurricular courses (14 courses) offered to students.

Course Format:

In the academic pursuit of a well-rounded education, our institution recognizes the value of offering diverse and flexible course formats to cater to the diverse needs of our students. This course, offering 2 credits (additional credits) and spanning 30 hours, is designed to provide students with a concentrated learning experience within a specific time frame. The student shall choose a course based on their own interest. 50 seats were allotted for each course. The course is scheduled every Tuesday during the 5th, 6th, and 7th hours, making it an ideal choice for those seeking an intensive learning opportunity while managing their overall academic commitments. The courses are available for either semester to students who have fulfilled the requirement of completing one co-curricular and one extracurricular course.

Assessment Process:

The course assessment comprises both ongoing internal evaluation (50 marks) conducted by the course faculty and external evaluation (50 marks) carried out by expert members from inside and outside the institution.

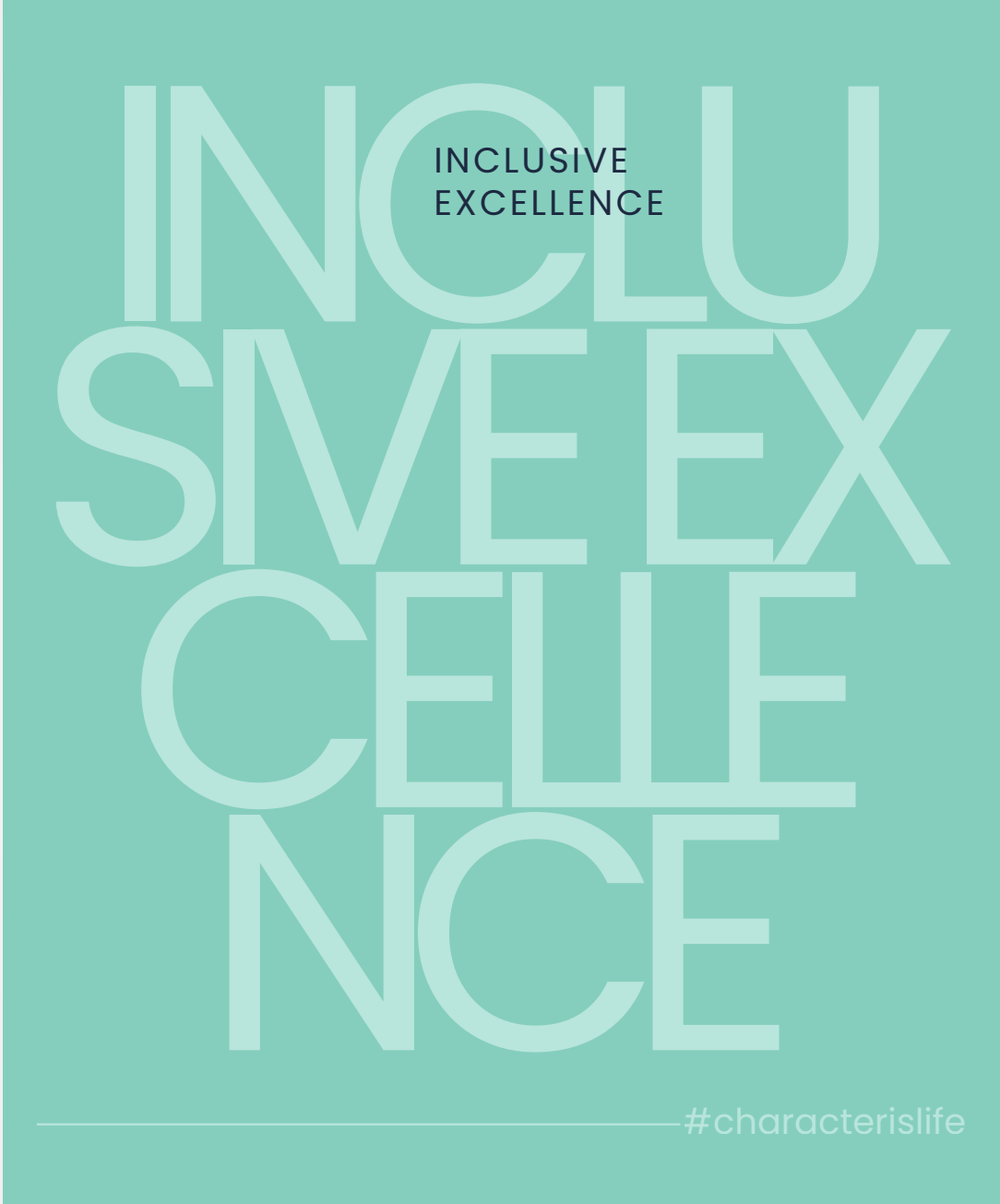
Benefits and Outcomes:

The co-curricular and extracurricular courses led by 14 internal faculty and 15 external faculty has brought multifaceted advantages that enhanced students' academic journey, skills, and industry readiness, ultimately contributing to their holistic growth and success. These co-curricular and extracurricular courses play a vital role in shaping well-rounded individuals by fostering creativity, leadership, teamwork, and various life skills. Our college is committed in providing a holistic educational experience that goes beyond academic excellence, empowering students to thrive academically, professionally, and personally.

Club Name	No of Events	No of Students impacted
EEE	U18EER0001	Foss Essentials For Professionals (Co-Curricular)
EEE	U18EER0002	Matlab - Simulink For Electrical Science & Engineering Application (Co-Curricular)
EEE	U18EER0003	Printed Circuit Board Design With Proteus 8.6 (Co-Curricular)
EEE	U18EER0004	Embedded System Design Using Tinker Cad (Co-Curricular)
AUTO	U18AUR0001	Basics Of Electric Vehicle - Design And Manufacturing (Co-Curricular)
AUTO	U18AUR0002	Components, Circuits And Machines For E Mobility (Co-Curricular)
AUTO	U18AUR0003	Classroom To Corporate (Co-Curricular) (C2c)
IT	U18ITR0001	Fundamentals Of Digital Design (Co-Curricular)
IT	U18ITR0002	Mobile App Deveploment Using Mit (Co-Curricular)
IT	U18ITR0003	Software Entrophy (Co-Curricular)
FT	U18FTR0001	Innovative Craftworks (Extracurricular)
MATHS	U18MAR0003	Tech For Good: Achieving The Sdgs By The Role Of Ict (Co-Curricular)
CHEMISTRY	U18CHR0002	Climate Change: Sustainability And Global Impact (Co-Curricular)
CHEMISTRY	U18CHR0001	Universal Public Health (Co-Curricular)
MATHS	U18MAR0002	Statistics Using Excel (Co-Curricular)
ENGLISH	U18ENR0001	Mastering Sustainable Skills (Extracurricular)
VE	U18VER0001	Greatness And Holistic Healing Of No Oil-No Boil Food (Extracurricular)
VE	U18VER0002	Basics Of Graphology (Extracurricular)
VE	U18VER0003	Journalism (Extracurricular)
VE	U18VER0004	Psychological Well Being (Extracurricular)
VE	U18VER0005	Building Emotional Intelligence (Extracurricular)
VE	U18VER0006	Siddha Maruthuvam (Extracurricular)
VE	U18VER0007	Ethics And Moral Values In Armed Forces For Postive Action (Extracurricular)
VE	U18VER0008	Rural Development Through Student Community Service (Extracurricular)
VE	U18VER0009	Winning Mindset For Career Success (Extracurricular)
VE	U18VER0010	The Life Changing Skills (Extracurricular)
VE	U18VER0011	Bharatanatyam For Beginners (Extracurricular)
VE	U18VER0012	Fundamentals Of Self Defence And Fitness Through Martial Arts (Extracurricular)
VE	U18VER0013	Western Dance For Beginners (Extracurricular)

Snapshot: Glimpses of Activities





Research Cell

Opportunities in Japan
July 2023 | C Block Seminar Hall



From the HoD's Desk

Research cell is dedicated towards development of research community along with imparting entrepreneurial skills.

Thrust Areas of the Department

- Advance Manufacturing
- Renewable Energy
- Energy Storage
- Bio Science
- Computational Engineering
- Gas Turbines
- Vehicle Development

Pivotal Accomplishments

Applied for a patent in Wave Energy Extraction

Winner in SIH

Winner in IIT Mandi Catalyst Himalayan Startup Trek
Number of Students in Re

Number of Students in Re

I Year UG	105
II Year UG	6
III Year UG	15
IV Year UG	30
I Year PG	1

Initiatives and Events at a Glance

Details	Data
No. of Conferences Attended:	14
No. of Seminars / Webinar Attended:	23
No. of Conferences Publications:	4
No. of Journal Publications:	6
No of Industry Projects:	6
No. of Patents filed:	2

Participations and Recognitions

Srinidhi VG participated at the international level in Embios on 10th to 11th March 2023, held at REC College Chennai.

Srinidhi VG competed at the international level in GC - RASM on 26th to 27th July 2023, hosted at PGP College.

Yazhini Nandhini. S participated at the national level in Shaastra held on 29th January 2023 at IIT-Madras.

Aarushi Pradeep competed at the international level in the SHAASTRA Pharma Challenge on 25th to 26th January 2023, hosted at IIT Madras.

Aarushi Pradeep also participated at the international level in ICSTEM on 5th to 6th April 2023, held at Kalaignarkarunanidhi Institute of Technology.

Yoga V I participated at the national level in the National Conference on Advancement in Food Technologies, which took place on 9th to 10th December 2022, in online mode hosted by Bannari Amman Institute of Technology.

Yukta Baskar proposed an innovation to reduce the toxicity of nanoparticles used in drug delivery during the IITM Pharma Challenge at IITM.

Sakthivel P S received state-level IEEE Madras Section Student project funding on 20th May 2023 in Chennai.

Janarthanan V, along with **Sudalaimuthu Suresh P**, **Sivakeerthana S**, **Harini R**, and others, participated in Eureka!22, a national event held on 9th-11th November 2022 at IIT Bombay.

Yoga V I participated in the national event SmartIDEathon 2023 held at GITAM University Hyderabad on 24th and 25th August 2023.

Janarthanan V, along with **Sudalaimuthu Suresh P**, **Aparna V**, **Abiya Primency M**, **Swetha P**, and **Sivakeerthana S**, participated in SIH, a national event held from 25th to 29th August 2022 at Bangalore, Reva University.

Janarthanan V participated in HST IIT MANDI, a national event held in August 2022 at HST IIT Mandi.

Janarthanan V, along with **Sudalaimuthu Suresh P**, **Aparna V**, **Abiya Primency M**, **Swetha P**, and **Sivakeerthana S**, participated in DESIGN X SOCIAL 2022, an international event held on 28th August 2022.

Janarthanan V, along with **Sudalaimuthu Suresh P**, **Sivakeerthana S**, **Harini R**, and others, participated in HackFest Jabalpur 4.0, an international event held on 7th and 8th October 2022 in Jabalpur.



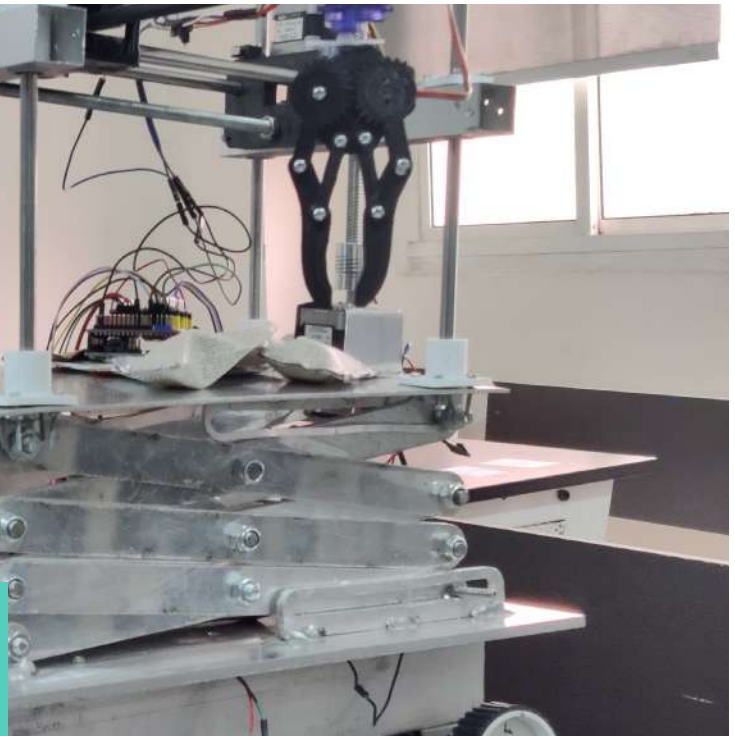
iQube

Important Milestones

- iQube has successfully hosted approximately 24 diverse events.
- Approximately 23 internal and external projects have been accomplished.
- There has been active participation in over 16 inter and intra events.
- A novel initiative has been launched for the gaming community.
- New technological advancements include devices like Meta Quest and NVIDIA GEFORCE RTX4090.

Funded Research Initiatives

The funded research project titled "iPract-ace," initiated in 2021 and completed in 2022 under the guidance of Mr. Nirosk Kumar, involved researchers Vignesh R, Aswin Balaji A R, Diksha Mohan, Praveen S, Prasanth A, and Mugundhan N, with a funding amount of 9.48 lakhs provided by VelTech Technology Incubator under the scheme of Nidhiprayas.



Number of Students in Re

I Year UG	32
II Year UG	32
III Year UG	50
IV Year UG	16

Consultancy Offered

The consultancy provided to Onefinity, involved firmware development services. The consultation was conducted by the Web Development & Embedded Team from iQube, comprising final year students from the Computer Science Engineering (CSE) and Electronics and Communication Engineering (ECE) departments.

The Software Team from iQube provided website building services to Knowinmy.

The company Emerald, received services including Design Compare, Size Detection, Beads Counting, Eye ball marking, and Rhinoceros, provided by the Software Team from iQube.

Indane was provided service involving website building, which was undertaken by the Software Team from iQube.

Clayton Chettinad received website building services from the Software Team at iQube.

Significant Events and Competitions Hosted

iQube's KiC, exclusively tailored for the batch of 2022-2023, aimed to impart the basics of Engineering, Technology, and Management, with over **70 KiCians**

onboarded during the process.

HackRatri, an in-house **hackathon** organized by iQube, provided iQuberz with exposure to the hackathon experience.

RiGathon'22, a unique virtual hackathon, attracted over 200 applicants from 75 teams this year. Nineteen teams, comprising over 90 members, were shortlisted for the 48-hour event. Participants tackled nine industrial problem statements from Emerald Industries, Asia's largest manufacturer of gold. Winners and runners-up are currently serving as interns within the same company.

Future Tech Communities at iQube encompassed various groups, including the Robotics clan, Project Wing, Gamers, and Mechanical Engineers.

iQube's Nova CTF 2022 hosted over 30 challenging teams virtually this year, engaging in a jeopardy-style capture the flag event where participants battled to crack their challenges.

Accolades and Achievements

The iQube team achieved victory at **SiH 2022**, garnering accolades and appreciation.

The iQube team emerged as the sole student team at **AirtelIQ Startup Quest**, receiving recognition for their outstanding performance.

The iQube team's achievement in Robocon secured them an impressive **AIR 30 ranking**, earning them praise and acknowledgment.

The iQube team clinched victory at the **CIT Sustainability Hackathon**, demonstrating their dedication and innovative prowess.

The iQube team's triumph at the Nandha College Tech Symposium brought them recognition as winners, highlighting their excellence in the field.

Social Impact

Facilitated by iQube, the organization **Startup Weekend** hosted an online event from 25th to 27th February 2022, with Techstars from the department conducting the program. Benefiting the **startup community, 150 individuals** participated, fostering innovation and collaboration in the digital sphere.

In collaboration with iQube, Sangamam, facilitated by Tamilpreneur at Kumaraguru College of Science on 25th June 2022, brought together 100 beneficiaries from the startup community. This event aimed to empower budding entrepreneurs, encouraging networking and skill development within a supportive environment.



Garage

From the HoD's Desk

The objective of KCT Garage is to become an internationally recognised research and skill development center by fostering in our students leadership abilities, ethical and moral values, a research culture, and innovative skills through training in real-time engineering. We constantly encourage the most participation from our students. For the sake of the students' development, we plan and carry out national events in accordance with industrial partnerships of the highest calibre.

Thrust Areas of the Department

- Student research and participation in local, regional, national, and worldwide competitions.
- Inspiring pupils to conduct research fosters creativity and critical thinking.
- Providing students with exceptional opportunity to experience the real world and even open up employment prospects thanks to their industrial contacts with leading tech companies.



Number of Students in Re

I Year UG	32
II Year UG	32
III Year UG	50
IV Year UG	16

Pivotal Accomplishments

India's first hydrogen-powered boat and winning the communication prize back-to-back for Team Sea Sakthi highlight their creative thinking.

Team Blitzkrieg's victory in the best sales category.

Team Zeall Racing's runner-up finish and best sales presentation highlight their business acumen.

Accolades won by Garage Team

Prathish Subbu was honored nationally at FKRC, winning the Best Captainship Award.

Kaushik V Subraa earned national recognition at ISNEE as the recipient of the Best Team Manager award.

Workshops Attended:

Mr. Kiran Lal participated in the NEBC - Training workshop on 18th and 19th January 2023, aimed at a national-level electric two-wheeler competition organized by KCT Garage.

Mr. Kiran Lal engaged in the Kido Hands-On workshop from May 25th to 27th, 2023, which involved teaching school students how to build an electric bike, in association with the summer camp organized by the college.

In February 2023, **Mr. Kiran Lal** collaborated with FMAE, participating in their events held on February 3rd, 4th, and 5th, involving 200 participants.
New Equipment Procured

The college recently procured new equipment, including a Horizon Fuel Cell at the cost of 7,00,000 INR, a Welding Machine priced at 80,000 INR, and a Laser Cutting Machine valued at 4,20,000 INR.

Patent Filed

Mr. Lakshmi Narayanan has filed a patent related to the "Design of Vehicle".



KC.IRI

Events and Initiatives

Kumaraguru institutions conducted Coimbatore Defence Conclave – 2022 on Wednesday (July 27, 2022). The conclave was planned on the 7th Memorial Day of the former President of India Dr APJ Abdul Kalam on the theme “Defence Indigenisation Requirements, Opportunities, and Industry Capabilities”.

M.Tech. Program in Defence Technology has been launched as a joint initiative by AICTE and DRDO, in support of Aatmanirbhar Bharat Abhiyan or Self-reliant India. It is a unique program offered with the support of DRDO Laboratories, DPSUs, Defence Industries & IDST for the benefit of aspiring engineers, creating better career opportunities in Defence and Aerospace industries.

The Coimbatore Regional Centre of AIDAT has been established in the Kumaraguru College of Technology premises which shall facilitate in associating new members, disseminating the ongoing AIDAT activities among members, coordinating the participation of all the members, addressing the specific requirements of members, networking with all the stake holders relevant to Aerospace and Defence Technology in the Coimbatore region.

KC.IRI in association with Aerospace Industries Development Association of Tamil Nadu (AIDAT) WEBINAR on Advancements and career opportunities in Defence Technology on 09 July 2022.

KC.IRI along with Departments of Aeronautical and Mechanical Engineering Launches Aerospace and Defence Skill Development Program on 15 Oct 2022 in the presence of **Dr.Balu** -Outstanding Scientist (Retd), DRDL, Hyderabad and **Mr. D. Kannan**, Managing Director, Kannan Tools and Dies

KCIRI organized an awareness programme for 1st year KCT students on 21 Nov 2022 on New Product Development and Defence Technology. KCIRI Head Mr. Gopu Subramaniam elaborated on the students Internship opportunity at KCIRI. The Invited Guest **Mr.R.Vasu**, Former Vice President, Brakes India, Centre of Excellence addressed our students about the Need for New product Development and its Process and Mr. R.Kannan addressed our Students about the Opportunities in Defence Product Development.

Kumaraguru Institutions represented by KC.IRI team participated in the Aero India 2023 International Seminar as a prelude to the fourteenth edition of the Aero India 2023 Aerospace Exposition, organized by Defence Research and Development Organisation (DRDO) in association with the Aeronautical Society of India (AeSI) **on 12 February 2023 with a theme for the seminar is “AEROSPACE AND DEFENCE TECHNOLOGIES - WAY FORWARD”.**

MoUs Signed

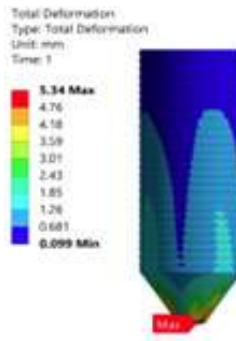
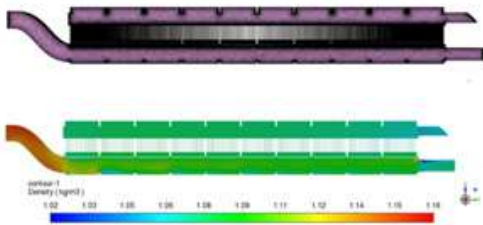
Kumaraguru Centre for Industrial Research and Innovation- KC.IRI has signed a Memorandum of Understanding (MoU) with Katamaran Technologies Coimbatore on 31st of January 2022, This MOU commits both the organizations to work together more closely for providing technical support services and product developments in the areas of Electric & Autonomous vehicle technologies.

KC.IRI is proud to announce that we have signed a Channel Partnership Agreement with PQSI Digital, Chennai for the implementation of Industry 4.0 across various manufacturing Industries in this region. We will be jointly setting up a Centre of Excellence for Industry

4.0 to develop and implement IIoT, AI & ML and Data Analytics integrated solutions using StatPort platform in association with Departments of Mechatronics and Electronics & Instrumentation Engineering.

Kumaraguru Centre for Industrial Research and Innovation (KC.IRI) signs a MoU & NDA with M/S. Kannan Tools and dies, Coimbatore on 28th September 2022 for collaborating on Various Projects, Joint Product developments and Training programs.

KCIRI Research Projects



Project Title: **CFD analysis of flow over Channelized AAAU & internal flow uniformity studies inside AAAU**

Industry: **CABS, Bangalore**

Project Value: **Rs. 9,91,200**

Status: **Completed**

Completed Date: **October 2022**

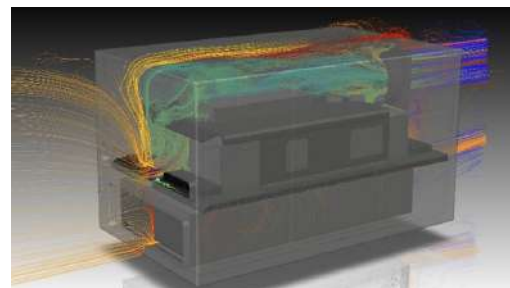
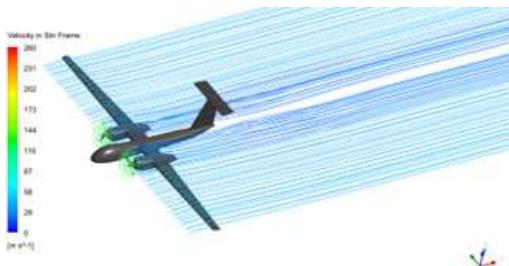
Project Title: **FE Analysis of Paddy Soaking Tank**

Industry: **SKF Boilers & Driers, Mangalore**

Project Value: **Rs. 41,300**

Status: **Completed**

Completed Date: **April 2022**



Project Title: **Study on Engine Installation and Cooling Flow Study on MALE UAV**

Industry: **ADE, Bangalore**

Project Value: **Rs. 9,84,000**

Status: **Completed**

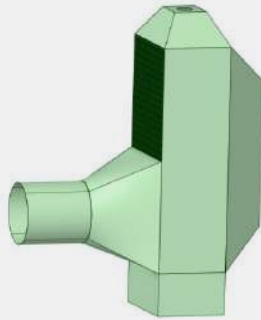
Completed Date: **March 2023**

Project Title: **Numerical simulations for ESM RF LRU**

Industry: **Premier Astra, Coimbatore**

Project Value: **Rs. 2,00,600**

Status: **In progress**



Project Title: **Desing and CFD Analysis for Heat Exchanger of Husk Furnace**

Industry: **SKF Boilers & Driers, Mangalore**

Project Value: **Rs. 1,95,880**

Status: **In progress**



Project Title: **Reverse Engineering of Vacuum Cleaner Top Portion**

Industry: **Hydrill Equipment, Coimbatore**

Project Value: **Rs. 9,440**

Status: **Completed**

Completed Date: **March 2023**

Project Title: **Performance Improvement of Micro Propulsion System for Unmanned Aerial Vehicle (UAV)**

Industry: **AR&DB, New Delhi**

Project Value: **Rs. 46,82,000**

Status: **In progress**



Product Development

Autonomous All Terrain Electric Vehicle

Scope of Work:

Autonomous All Terrain Electric Vehicle - AATEV will be an all-electric platform with an integrated set of sensors & autonomous technologies for surveillance and reconnaissance in difficult terrains & conditions.

Applications:

Patrolling & Security for Defence & Industries.
Institution Funding: Rs 10,00,000

Status: Design and Assembly of Mechanical Steering and Braking systems is completed. Tele & Autonomous mode development in progress.



All Wheel Drive & Steering UGV

Scope of Work:

Development of all wheel drive & steering UGV for industrial applications.

Applications:

Technology demonstrator, Material movement in industries

Institution Funding:

Rs 3,00,000

Status:

Development is in progress.



Students Internship

Name	Domain	College
Mr. S. Sabarish	Mechanical	P.S.G college of Technology
Mr. V. Mageswaran		Vinayaka Mission's Kirupananda Variyar Engineering College
Ms. N. Raveena	Electronics	Madras Institute of Technology
Ms. S. Sona Sherin	Aerospace	Karunaya Institute of Technology and Science
Mr. Prem Chandran		Karunaya Institute of Technology and Science
Mr. Raghul Rai	M.Tech Defence	KCT
Ms. Vanisha Dudekula		KCT
Ms. Kalyanai Bhargavi Vepuri		KCT

KCT UG Students Aeronautical, Automobile, Mechatronics and Electrical & Electronics Communication department around more than 15 students worked on various projects and internship was awarded.

From KCIRI we recommended a few students for DRDO, CABS and ADE.

Technical Team Support for KCT final year students for KPIT Sparkle and L&T Smart Hackathon.

Supported Biotech students for "Tissue sewing machine" Project work.

Physical Education



From the HoD's Desk

The academic year 2022-23 was a remarkable year for our Department of Physical Education after the pandemic era Anna University Sports Board restarts its full-fledged event, Patton from zone level to Kehlo India University Games in all Sports and Games. Our Kumaraguru College of Technology Sports team got many Achievements at various levels in myriad Sports.

Thrust Areas of the Department

Upgraded Sports Infra.

Upgraded in Coaching Strategy strengthened with 21 newly appointed part-time Coaches.

Sports Quota Enrollment for Sports Students.

Awards and Accolades Won by KCT students

P. Karthikeyan secured a **Gold Medal** at the South Zone Inter University Tennis Men Tournament held at VIT, Vellore from 21.11.2022 to 26.11.2022.

Naveena clinched a Gold Medal at the 19th Senior Tamilandu State Wushu Championship for Men & Women held at Karpagam Academy of Higher Education on 06.08.2022 & 07.08.2022.

Aswath Eswar earned **1 Gold Medal, 1 Silver Medal & 1 Bronze Medal** at the 19th Senior Tamilandu State Wushu Championship for Men & Women held at Karpagam Academy of Higher Education on 06.08.2022 & 07.08.2022.

Nandhitha.R secured a **Gold Medal** at the 19th Senior Tamilandu State Wushu Championship for Men & Women held at Karpagam Academy of Higher Education on 06.08.2022 & 07.08.2022.

Manish.K.L achieved a **Gold Medal** at the 19th Senior Tamilandu State Wushu Championship for Men & Women held at Karpagam Academy of Higher Education on 06.08.2022 & 07.08.2022.

Madesh.J won a **Bronze Medal** at the 19th Senior Tamilandu State Wushu Championship for Men & Women held at Karpagam Academy of Higher Education on 06.08.2022 & 07.08.2022.

The Cricket Men team secured **First Place** with a cash award of Rs.10,000/- at the BIT Alumni Trophy held at Bannari Amman Institution of Technology from 02.09.2022 to 04.09.2022.

Aswin Ramesh earned a **Gold Medal** at the Tamilnadu State Boxing Championship for Elite Men 2022 held at SDAT, Salem on 24.12.2022 to 26.12.2022.

The Kabaddi Men team secured **Third place** at the State level Alumni Trophy held on 27.01.2023 & 28.01.2023 at Kongunadu College of Engineering and Technology, Thottiyam.

The Hockey Men team secured **First Place** at the PSG Tech Trophy held from 16.02.2023 to 19.02.2023 at PSG College of Technology.

The Kho-Kho Men team earned **Third place** at the YUGAM – State Level Kho-Kho Tournament held on 10.03.2023 & 11.03.2023 at KCT.

The Cricket Men team became **Champions** at the Yugam state level Cricket Tournament held from 12.03.2023 to 15.03.2023 at KCT.

Pivotal Accomplishments

KCT Tennis player P.Karthikeyan of IV ECE represented Anna University Tennis (men) Team and Won the Gold medal in All India Inter University and Khelo India Games in the category

Organized Asian Powerlifting championship at our campus from 17.06.2022 to 21.06.

Organized Khelo India Women's Junior National Wushu League 2023 from 02.02.2023 to 06.02.2023

The Football Men team achieved **Fourth Place** at the State Level Football Tournament held from 16.03.2023 to 18.03.2023 at KCT.

The Tennis Men team secured **Third place** at the Anna University Inter Zone Tennis Tournament held at Bannari Amman Institute of Technology, Sathy, on 15.11.2022 & 16.11.2022.

The Fencing Men Team earned a **Gold Medal** in the Saber team event and a Bronze Medal in the Epee Team event at the Anna University Inter Zone Fencing Tournament held at KSR College Engineering & Technology, Thiruchencode on 18.11.2022 & 19.11.2022.

Damin Rido won a **Gold Medal** in the Saber Individual event at the Anna University Inter Zone Fencing Tournament held at KSR College Engineering & Technology, Thiruchencode on 18.11.2022 & 19.11.2022.

Damin Risho secured a **Silver Medal** in the Saber Individual event at the Anna University Inter Zone Fencing Tournament held at KSR College Engineering & Technology, Thiruchencode on 18.11.2022 & 19.11.2022.

The Basketball Men Team achieved Third place at the Anna University Inter Zone Basketball Tournament held at Hindustan College of Engineering & Technology on 30.11.2022 & 01.12.2022.

Aswin Ramesh clinched a **Gold Medal** at the Anna University Inter Zone Boxing Championship held at Paavai Engineering College, Namakkal on 08.12.2022 & 09.12.2022.

The Chess (W) team emerged as **Champions** at the 12th CENTIES Tournament held on 09.02.2023 at Arjun College of Technology.

The Chess (M) team finished as **Runners Up** at the 12th CENTIES Tournament held on 09.02.2023 at Arjun College of Technology.

The Basketball (M) team became **Champions** at the 12th

CENTIES Tournament held from 13.02.2023 to 15.02.23 at Erode Sengunthar Engineering College.

The Hockey (M) team secured **Third Place** at the 12th CENTIES Tournament held from 13.02.23 to 15.02.23 at Erode Sengunthar Engineering College.

The Kho-Kho (M) team finished as **Runners Up** at the 12th CENTIES Tournament held on 15.02.23 & 16.02.23 at Sri Ramakrishna Institute of Technology.

The Table Tennis (W) team secured **Third Place** at the 12th CENTIES Tournament held on 17.02.23 at Kongu Engineering College.

The Handball (M) team finished as **Runners Up** at the 12th CENTIES Tournament held from 17.02.23 & 18.02.23 at Kongu Engineering College.

The Kho-Kho (W) team finished as **Runners Up** at the 12th CENTIES Tournament held on 23.02.23 at SNS College of Technology.

The Badminton (M) team emerged as **Champions** at the 12th CENTIES Tournament held on 24.02.23 at SNS College of Technology.

The Tennis (M) team emerged as **Champions** at the 12th CENTIES Tournament held on 27.02.23 at Bannari Amman Institute of Technology.

In **Athletics (M)** at the **12th CENTIES Tournament**, Sunil Austin secured the Gold Medal in the 100mts event on 01.03.23 at Bannari Amman Institute of Technology.

In **Athletics (W)** at the **12th CENTIES Tournament**, Shiny Shalom won the Bronze Medal in Long Jump and 4 x 100mts Relay, Surthi secured the Silver Medal in 400mts and Bronze Medal in 4 x 100mts Relay, Rithika won the Bronze Medal in 4 x 100mts Relay, and Naveena won the Bronze Medal in 4 x 100mts Relay on 01.03.2023 at Bannari Amman Institute of Technology.

The **Basketball (W)** team secured **Third Place** at the 12th CENTIES Tournament held on 05.03.23 at NIET.

The **Football (M)** team achieved **Fourth Place** at the 12th CENTIES Tournament held from 05.03.23 to 07.03.23 at NIET.

The **Table Tennis (Women)** team emerged as **Champions** at the 4th COVAI TIES held on 25.02.23 at Coimbatore Institute of Technology.

The **Basketball (Women)** team emerged as **Champions** at the 4th COVAI TIES held on 25.02.23 at Coimbatore Institute of Technology.

The **Volleyball (Women)** team secured **Third Place** at the 4th COVAI TIES held on 25.02.23 at Coimbatore Institute of Technology.

The **Ball Badminton (Women)** team secured **Third Place** at the 4th COVAI TIES held on 25.02.23 at Coimbatore Institute of Technology.

The **Throwball Women's team** secured **Fourth Place** at the 4th COVAI TIES held on 25.02.23 at Coimbatore Institute of Technology.

The **Chess Women's team** emerged as **Champions** at the 4th COVAI TIES held on 26.02.23 at Coimbatore Institute of Technology.

The **Chess Men's team** secured **Third Place** at the 4th COVAI TIES held on 26.02.23 at Coimbatore Institute of Technology.

The **Ball Badminton Men's team** finished as **Runners up** at the 4th COVAI TIES held on 25.02.23 & 26.02.23 at Coimbatore Institute of Technology.

The **Table Tennis Men's team** emerged as **Champions** at the 4th COVAI TIES held on 27.02.23 at Coimbatore Institute of Technology.

Yuga Bharathi, I MCE, clinched a **Gold Medal** at the Coimbatore District Wushu Championship for Men & Women held at YMCA Ground, Coimbatore on 31.07.2022.

Madesh, I Civil, secured a **Gold Medal** at the Coimbatore District Wushu Championship for Men & Women held at YMCA Ground, Coimbatore on 31.07.2022.

Naveena, I EIE, achieved a **Gold Medal** at the Coimbatore District Wushu Championship for Men & Women held at YMCA Ground, Coimbatore on 31.07.2022.

Manish.K.L, I Aero, earned a **Silver Medal** at the Coimbatore District Wushu Championship for Men & Women held at YMCA Ground, Coimbatore on 31.07.2022.

Selva Kannan, IV MCE, secured a Gold Medal at the Coimbatore District Wushu Championship for Men & Women held at YMCA Ground, Coimbatore on 31.07.2022.

Nandhitha, IV MCE, won a **Silver Medal** at the Coimbatore District Wushu Championship for Men & Women held at YMCA Ground, Coimbatore on 31.07.2022.

Aswath Eswar, I MCE, secured a **Gold Medal** at the Coimbatore District Wushu Championship for Men & Women held at YMCA Ground, Coimbatore on 31.07.2022.

Prasanth.M, I Civil, earned a **Bronze Medal** at the Coimbatore District Wushu Championship for Men & Women held at YMCA Ground, Coimbatore on 31.07.2022.

The **Cricket Men team** finished **Fourth Place** at the SREC Alumni Cricket Trophy held at Sri Ramakrishna Engineering College from 26.08.2022 to 30.08.2022.

The **Handball Men's team** emerged as **Champions** at the CIT Alumni Trophy Cricket tournament held at Coimbatore Institute of Technology on 07.04.23 & 08.04.23.

The **Hockey Men team** secured **Third place** at the CIT Alumni Trophy Cricket tournament held at Coimbatore Institute of Technology from 07.04.23 to 09.04.23.

The **Basketball Women Team** became **Champions** at the CIT Alumni Trophy Cricket tournament held at Coimbatore Institute of Technology on 09.04.23.

The **Table Tennis Women** team finished as **Runners Up** at the CIT Alumni Trophy Cricket tournament held at Coimbatore Institute of Technology on 09.04.23.

The **Volleyball Women team** secured **Third place** at the CIT Alumni Trophy Cricket tournament held at Coimbatore Institute of Technology on 09.04.23.

The **Tennis Men Team** emerged as **Champions** at the Anna University Zone XI Tennis Tournament held at SNS College of Engineering on 05.11.2022.

The **Table Tennis Men Team** emerged as **Champions** at the Anna University Zone XI Table Tennis Tournament held at SNS College of Engineering on 05.11.2022.

The **Table Tennis Women Team** emerged as **Champions** at the Anna University Zone XI Table Tennis Tournament held at SNS College of Engineering on 05.11.2022.

The **Badminton Men Team** finished as **Runners Up** at the Anna University Zone XI Badminton Tournament held at SNS College of Technology on 05.11.2022.

The **Badminton Women Team** emerged as **Champions** at the Anna University Zone XI Badminton Tournament held at SNS College of Technology on 05.11.2022 & 06.11.2022.

The **Basketball Women Team** became **Champions** at the Anna University Zone XI Basketball Tournament held at Sri Ramakrishna Engineering College on 14.11.2022.

The **Kabaddi Men Team** finished as **Runners Up** at the Anna University Zone XI Kabaddi Tournament held at Adithya Institute of Technology on 15.11.2022 & 16.11.2022.

The **Football Men Team** finished as **Runners Up** at the Anna University Zone XI Football Tournament held at United Institute of Technology from 19.11.2022 to 21.11.2022.

The **Hockey Men team** emerged as **Champions** at the Anna University Zone XI Hockey Tournament held at Kumaraguru College of Technology from 25.11.2022 to 27.11.2022.

The **Basketball Men team** became **Champions** at the Anna University Zone XI Basketball Tournament held at Kumaraguru College of Technology on 26.11.2022 & 27.11.2022.

The **Volleyball Men team** secured **Third Place** at the Anna University Zone XI Volleyball Tournament held at KGISL Institute of Technology on 28.11.2022 & 29.11.2022.

The Chess Women Team finished as **Runners Up** at the Anna University Zone XI Chess Tournament held at Sri Ramakrishna Engineering College on 05.12.2022.

The Chess Men Team finished as **Runners Up** at the Anna University Zone XI Chess Tournament held at Sri Ramakrishna Engineering College on 05.12.2022.

The Cricket Men Team finished as **Runners Up** at the Anna University Zone XI Cricket Tournament held at Anna University Regional Campus from 03.12.2022 to 07.12.2022.

The Handball Men Team emerged as **Champions** at the Anna University Zone XI Handball Tournament held at Sri Ramakrishna Engineering College on 07.12.2022.

The Ball Badminton Women Team secured **Third Place** at the Anna University Zone XI Ball Badminton Tournament held at Sri Ramakrishna Engineering College on 09.12.2022.

The Ball Badminton Men Team secured **Third Place** at the Anna University Zone XI Ball Badminton Tournament held at Sri Ramakrishna Engineering College on 09.12.2022.

The Athletics Men Team emerged as **Overall Runners Up** at the Anna University Zone XI Athletics Meet held at Sri Ramakrishna Engineering College on 10.12.2022 & 11.12.2022.

The Athletics Women Team secured **Overall Third Place** at the Anna University Zone XI Athletics Meet held at Sri Ramakrishna Engineering College on 10.12.2022 & 11.12.2022.

The Kho-Kho Men team emerged as **Champions** at the Anna University Zone XI Kho-Kho Tournament held at Sri Ranganathar Institute of Engineering & Technology on 15.12.2022.

Events Organised at KCT Campus

The Asian Powerlifting Championship took place from 17.06.2022 to 21.06.2022, with 197 participants from 13 countries. India won the **Overall Champions title**.

The 6th South Zone Deaf T20 Cricket Tournament was held from 7th to 9th September 2022, featuring 5 teams. Telangana secured the First Place, followed by Tamil Nadu in Second Place, Kerala in Third Place, and Pondicherry in **Fourth Place**.

The Anna University Zone XI Hockey Men Tournament was held from 25.11.2022 to 27.11.2022, with 8 teams participating. Kumaraguru College of Technology emerged as the Winners, and Sri Ramakrishna Engineering College secured the **Runners Up** position.

The Anna University Zone XI Basketball Men Tournament occurred on 26.11.2022 & 27.11.2022, involving 15 teams. Kumaraguru College of Technology claimed the Winners title, while SNS College of Technology became the **Runners Up**.

The Anna University Inter Zone Karate Selection Trails for Men & Women were conducted on 24.12.2022 with 90 participants undergoing the selection process.

The Anna University Wushu Selection trails for Men & Women were held on 21.01.2023, featuring 60 participants for the selection process.

The Kehlo India Women's Junior National Wushu League 2023 took place from 02.02.2023 to 06.02.2023, with 160 participants.

The YUGAM - South India Level Kabaddi Men tournament occurred on 10.03.2023 & 11.03.2023, featuring 6 teams. Loyola College, Chennai secured the **First Place**, followed by Dr.N.G.P.Arts & Science College in Second Place, Karpagam Academy of Higher Education in Third Place, and KIT & KIM Technical Campus in Fourth Place.

The YUGAM - South India Level Handball Men Tournament was held on 13.03.2023 & 14.03.2023, with 6 teams participating. Karpagam Academy of Higher Education secured the **First Place**, Sri Sakthi Institute of Engineering & Technology secured the Second Place, VLB Janakiammal College of Arts & Science secured the Third Place, and PSNA College of Engineering & Technology secured the Fourth Place.

The YUGAM - South India Level Basketball Men Tournament occurred from 15.03.2023 to 17.03.2023, featuring 6 teams. PSG College of Arts and Science, Coimbatore emerged as the **First Place winners**, followed by Sahrdaya College of Advanced Studies, Kerala in Second Place, Sri Eshwar College of Engineering, Coimbatore in Third Place, and St.Joseph's College, Trichy in Fourth Place.

The YUGAM-State Level Kho-Kho Men tournament was held on 10.03.2023 & 11.03.2023, featuring 6 teams. KG College of Arts & Science secured the **First Place**, American College, Madurai secured the Second Place, and Kumaraguru College of Technology secured the Third Place.

The YUGAM - State Level Volleyball Women tournament took place on 10.03.2023 & 11.03.2023, featuring 6 teams. Nirmala College for Women secured the **First Place**, followed by Suguna College of Arts and Science in Second Place, KG College of Arts and Science in Third Place, and NGM College, Pollachi in Fourth Place.

The YUGAM - State Level Cricket Men tournament occurred from 12.03.2023 to 15.03.2023, with 8 teams participating. Kumaraguru College of Technology emerged as the **First Place winners**, followed by Karpagam Academy of Higher Education in Second Place, CMS College of Science and Commerce in Third Place, and Sri Krishna College of Arts and Science in Fourth Place.

The YUGAM - State Level Ball Badminton Women tournament was held on 13.03.2023 & 14.03.2023, featuring 10 teams. PSNA College of Engineering & Technology secured the **First Place**, followed by Lady Doak Women College, Madurai in Second Place, Shri Sakthikailassh College for Women, Salem in Third Place, and VSA Technical Campus, Salem in Fourth Place.

The YUGAM – State Level Football Men tournament

took place from 16.03.2023 to 18.03.2023, with 8 teams participating. GUDALLUR College of Arts & Science secured the **First Place**, NEHRU INSTITUTION secured the Second Place, Sri Narayana Guru College secured the Third Place, and KUMARAGURU INSTITUTION secured the Fourth Place.

The YUGAM – State Level Throwball Women tournament

occurred from 16.03.2023 to 18.03.2023, featuring 8 teams. KPR Institute of Engineering & Technology secured the **First Place**, Kalaignar Karunanidhi Institute of Technology secured the Second Place, KG College of Arts and Science secured the Third Place, and Sri Ramakrishna Institute of Technology secured the Fourth Place.

Various assignments taken up by faculty/ staff in separate sentences

M. Nirmala Devi, the Physical Director, served as a Selection Committee Member for the Anna University Inter Zone Tennis Men Team.

M. Nirmala Devi, in her role as the Physical Director, participated as a Selection Committee Member for the Anna University Inter Zone Kho-Kho Women Team.

M. Nirmala Devi, in her capacity as the Physical Director, fulfilled the role of a Selection Committee Member for the Anna University Zone XI Athletic Women Team.

M. Nirmala Devi, as the Physical Director, contributed as a Selection Committee Member for the Anna University Zone XI Ball Badminton Women team.

M. Nirmala Devi, holding the position of Physical Director, acted as a Selection Committee Member for the Anna University Zone XI Badminton Women team.

M. Nirmala Devi, in her role as the Physical Director, served as a Selection Committee Member for the Anna University Zone XI Basketball Women team.

M. Nirmala Devi, as the Physical Director, assumed the position of Joint Secretary in the CENTIES Executive Committee.

M. Nirmala Devi, in her capacity as the Physical Director, held the position of Vice President in the COVAI TIES Executive Committee.

Dr. K. M. Muthukumar, the Physical Director, served as the Zonal Secretary for Anna University Zone XI.

Dr. K. M. Muthukumar, as the Physical Director, contributed as a Selection Committee Member for the Anna University Kabaddi Men Team.

Dr. K. M. Muthukumar, in his capacity as the Physical Director, participated as a Selection Committee Member for the Anna University Zone XI Table Tennis Men team.

Dr. K. M. Muthukumar, the Physical Director, assumed the role of Organizing Secretary for the Anna University Zone XI Hockey Men Tournament.

Dr. K. M. Muthukumar, in his capacity as the Physical Director, served as the Organizing Secretary for the Anna University Zone XI Basketball Men Tournament.

Dr. K. M. Muthukumar, as the Physical Director, took on the responsibility of Organizing Secretary for the Anna University Zone XI Athletics Men & Women Tournament.

Dr. K. M. Muthukumar, in his role as the Physical Director, acted as the Organizing Secretary for the Anna University Inter Zone Karate M&W Selection Trails.

Dr. K. M. Muthukumar, serving as the Physical Director, fulfilled the role of Organizing Secretary for the Anna University Inter Zone Wushu M&W Selection Trails.

Dr. K. M. Muthukumar, in his capacity as the Physical Director, participated as a Selection Committee Member for the Anna University Zone XI Kabaddi Men Tournament.

M. Saraboji, the Assistant Physical Director, served as the Coach for the Coimbatore District Basketball Men team.

S. Thangadurai, a Physical Training instructor, contributed as a Selection Committee Member for the Anna University Zone XI Ball Badminton Men Tournament.

S. Thangadurai, in his role as a Physical Training instructor, served as a Selection Committee Member for the Anna University Zone XI Table Tennis Women Tournament.

S. Thangadurai, a Physical Training instructor and National Player, represented Tamil Nadu Rokit ball Team at the Senior Rokit Ball Federation Cup in New Delhi from 10.02.2023 to 12.02.2023.





Clubs & Forums

KCT Alumni Relations organizes alumni reunions, which provide a platform for graduates to reconnect, reminisce, and forge new connections. Among these reunions, the Global Alumni Meet, Silver Jubilee Meet, and the Annual Alumni Anniversary Events stand out as notable occasions that facilitate meaningful interactions between alumni and the college community.

Total No of Clubs: **49**



Community Services – **11 clubs**
 Entrepreneur – **3 clubs**
 Fine Arts – **4 clubs** | Fitness – **4 clubs**
 Leadership – **1 club** | Literary – **9 clubs**
 National Organizations – **3 clubs**
 Performing Arts – **6 clubs** | Technical – **7 clubs**

Community Services	Able Club, Gandhian Youth Movement, Nature Club Pudhupaavai, NSS (Wing 1) & Red Ribbon Club, NSS (Wing -2), Road Safety Patrol, Rotaract Club, Voluntary Blood Donors Club, Youth Red Cross, Namadhu Pangu
Entrepreneur	LEED. FLICK, Namma Café
Fine Arts	Nigal, StudioKCT, Varnam, Pixel'D
Fitness	AGAM Forum, KCT Bikers, Runners Club, KMAC
Leadership	Yuva
Literary	SOIL, Books & Beyond, Kural Club, Nithilam, Qubate Club Sahithya, Scrabble, Tamil Mandram, Land of Lexicons
National Organizations	NCC – Air Wing, NCC – Army Wing (Boys), NCC – Army Wing (Girls)
Performing Arts	Drama Troupe, Team Evoke, Haasya, Matrix, Agratha, Namma Hiphop
Technical	Aeromodelling, HAM Club, Robotics & Automation Club, SEDS Kigen, One Shot, KIC, RC Forum

Club Name	No of Events	No of Students impacted
Able Club	10	1750
Aeromodeling	11	260
AGAM Forum	17	1760
Books & Beyond	11	260
Team Evoke	12	866
Drama Troupe	7	1977
FLICK	1	250
Gandhian Youth Movement	1	30
Haasya	9	1582
HAM Club	12	386
KCT Bikers	4	615
Kigen	1	250
KMAC	1	150
KURAL Club	1	25
Land of Lexicons	6	505
LEED	9	530
Matrix	4	430
Agratha	11	935
Nature Club	12	350
NCC – Air Wing	14	476
NCC – Army Wing (Boys)	20	228
NCC – Army Wing (Girls)	12	56
Nigal	1	1000
Nithilam	5	195
National Service Scheme	11	4840
Qubate Club	20	951
Red Ribbon Club	3	3760
Robotics & Automation Club	2	65
Rotaract Club	18	2585
Road Safety Patrol	11	5960
Scrabble	3	115
SEDS KCT	11	605
StudioKCT	1	6
Tamil Mandram	12	1343
Varnam	8	257
Voluntary Blood Donors Club	1	300
Youth Red Cross	6	760
Yuva	5	250

New Clubs Launched.

Pixel'd

pixel'd forum is a design community that will cover design requirements of student events, achievements, awareness, announcements, and initiatives.

FLICK

Financial Literacy and Investments Club of Kumaraguru (FLICK), the club focusing on enhancing students' financial awareness and knowledge. The primary domains we concentrate on are investments, financial planning, and management. Transforming the student community with financial independence is our mission.

Kigen

a one of a kind product design student forum that aims to bring creative thinking, innovation, execution, and engineering all under one roof. Students from this forum are design aspirants eager in starting a career in conceptual design in various fields in the industry today.

Land of lexicons

is for thinkers, readers, creators, and writers. It is the place where students have freedom to think, read and write on the topics of their own interest and choice.

One shot is a forum that will mimic a real-life space mission/project to keep students engaged and inspire them to take their one shot!

RC forum - A platform for RC enthusiasts to build & Race RC cars.

Important Activities and Achievements

Studio KCT

Studio KCT won 1st prize in Live Photography, Portrait photography and perspective photography and 2nd prize in live photography in Festember'23 in NIT Trichy.

Tamil Mandram

Tamil Mandram won 1st prize in Sakalakala Vallavan and Tamil Kavithai Competition at Festember'23 in NIT Trichy.

Drama Troupe and Haasya

Drama Troupe students (10 Members) competed in Mime Competition conducted by IIT Chennai as a part of Saarang'23 and won 3rd place.

Team Haasya won first prize in Asatha povathu Yaaru in Festember'23 NIT Trichy.

Students of Kumaraguru Drama troupe participated in Dhruva'23, a cultural event by Karpagam College of Engineering and won 1st prize in skit and 3rd prize in Mime (signature event).

Band Agratha

Band Agratha secured Second prize in the Band Hunt'23 @SSN College of Engineering, Chennai.

Band Agratha participated Winter Fest '22 - Battle of Bands in Prozone mall on 24th and secured 1st place.

Band Agratha won 2nd prize in Kuruksastra in Sastra University 23.

Students from Band Agratha representing Kumaraguru institution won second prize in Battle of bands at Dhruva'23, Karpagam University.

Team Evoke

Won 3rd place in Duet Freestyle conducted at Festember - NIT Trichy 23.

Team Evoke won 2nd prize in Team Duo - Western and Solo - Eastern in Sastra University.

October 2022 - Winners of Solo, Duo, Eastern Choreonite (group) and Western Choreonite (group) in AURA'22 at PIMS, pondicherry.

Agam

Won championship at 10th South India yogasana championship organised by Tamilnadu sports yogasana association held at Shasun Jain college for women, T.Nagar, Chennai.

Won 3rd prize at 3rd state level yogasana competition held at Excel medical College for Naturopathy and yoga, Namakkal.

Represented Anna University in All India Inter University Yogasana championship held at Kalinga Institute of Industrial Technology, Bhubaneswar, Odisha.

Represented Tamilnadu in 3rd senior National Yogasana sports championship held at Mount Carmel school, jodhpur, Rajasthan. Successfully organised Thulir'23 National Yogasana championship along with Kumaraguru Yugam.

Varnam

1st and 2nd prize in face painting event of "Element 7" conducted by Krupanidhi institution, bangalore (april 2022)

2nd and 3rd prize in tattoo designing event of "Festember" conducted by NIT Trichy (Sep 2022)
1st prize in t-shirt designing event of "Festember" conducted by NIT Trichy (Sep 2022)

1st prize in wall painting event of "Festember" conducted by NIT Trichy (Sep 2022)

1st prize in paper dressing event of "Festember" conducted by NIT Trichy (Sep 2022)

2nd prize in face painting event of "Festember" conducted by NIT Trichy (Sep 2022).

2nd prize in face painting event of "Aura" conducted by PIMS, pondicherry (Oct 2022).

NCC**Airwing**

CUO Tarun RS participated in Republic Day Camp 2022 and performed in Prime Minister's Rally and Cultural. (21-22).

CSUO Dharunika Namagiri BV attended the All India Vayu Sainik Camp 2022 and participated in Static Aeromodelling and she also attended the Basic Skiing Camp 2023 at Sonamarg and received the Basic Skier Badge. (22-23).

CUO Srivathshan M attended the All India Vayu Sainik Camp 2022 and participated in Drill competition. (22-23).

CDT CPL Jaikrishna R attended Ek Bharat Shrestha Bharat (EBSB) camp 2021 and also attended the All India Vayu Sainik Camp 2022 and participated in Aeromodelling Radio controlled flying (22-23).

FC Haridharan K attended the All India Vayu Sainik Camp 2022 and participated in Drill competition. (22-23).

FC Bharaneetharan S attended the All India Vayu Sainik Camp 2022 and participated in the Drill competition. (22-23).

FC Avaesprabha C attended the All India Vayu Sainik Camp 2022 and participated in the Best Pilot competition. (22-23).

FC Prithika Sri S attended the All India Vayu Sainik Camp 2022 and participated in Firing competition (0.22 and Skeet). (22-23).

FC Durga Devi G attended the Ek Bharat Shrestha Bharat (EBSB) camp 2022 and participated in cultural and won the Gold medal by performing Silambam. (22-23).

FC Vetrivel C attended the Basic Mountaineering Camp 2023 at Darjeeling and received the Basic Mountaineering Badge. (22-23).

Army wing girls

Cadet Nithya attended All India Rock climbing training camp held at Gwalior.(Dec 2022)

Army wing boys

CQMS.R.Hariharan Attended Ek Bharat Shreshtha Bharat Camp.(21-22).

SGT.D P.Jagdish Castro attended Army Attachment Camp(AAC) And performed at Cultural.(22-23).

SGT.G.Ajith Kumar attended Army Attachment Camp(AAC) And 5KM marathon.(22-23)

SEDS Club

Cleared PDR review of CANSAT competition conducted by ISRO-INSPACE and submitted our works for CDR round (Jan 2023)

Robotics and Automation

1st place in Projects Innovation fair conducted by VEL tech institute of technology 2022.

Happy Streets

More than 600+ Students participated and volunteered in Happy streets conducted in RS Puram Coimbatore for over 12 weeks (on every Sunday).

Tamil Mandram

Students of Tamil Mandram participated in Yaali'23, a cultural event by Ramakrishna College of Engineering and won 1st prize in செந்தமிழ் செல்வி (signature event) & won 3rd prize in கூறற்கொசுவம் (Paper Dressing).

Tamil Mandram conducted Pongal Vizha in the campus and serious of events were conducted in relation to that.

1st prize in "Sagalagala Vallavan" event of Festember in NIT Trichy.

1st Prize in "Tamil Kavithai" event of Festember in event of NIT Trichy

2 nd Prize in "One page story" event of Kovai Book Festival 2022

3rd Prize in "National Dictating event" of Vritcham Talent show in Coimbatore

Being an one of the authors of the book "Manidhanin marupakkam" released.

1st prize in "SETHAMIZH SELVAN" in Yali in Ramakrishna College, Coimbatore

1st prize in "Paper dressing" event in Yali Ramakrishna College, Coimbatore.

Leed

Shark tank - A business pitch where the startups pitch their business idea and get funds from investors. There have been two startups(Merchster and Lipido) soo far funded from the event by the shark's. It's also one of the highlight event of techno-cultural fest (Yugam).

Rotaract

Defense visit to Sular Airbase, transgender workshop and have done joint projects with many other clubs to evoke the talents in children. We also celebrate various festivals together to bring about joy and happiness in us.

YRC

combined with Sri Sathya Sai Disaster Management and do first aid training, Disaster Management and fire safety Management This has been used designed to involve young people as much as possible in the movement and its activities not only as workers and also as beneficiaries, but as partners in management.

Voluntary Blood Donors Club

Conducted two blood donation drives in our campus for the students on institutional level. So far, we have collected 300 units of blood during this academic year 2022-23.

National Service Scheme of Kumaraguru College of Technology have conducted 7 days medical camp including activities and events for the people and students to boost up their mind, One-day medical camps, awareness sessions on health & fitness and Suicide prevention, Self-defence, Trekking and allied activities, plantation of saplings.

HAM club

Bagged the 2nd prize, 3rd prize and overall women's category winner in the UHF Fox Hunt competition conducted by Udumalpet Receiver's Station in 2022.

Organized a National Level workshop on Antenna Designing and Fabrication.

Represented KCT in the Lamakaan Annual Radio Convention 2023, which happened in Hyderabad.

RF Hackathon was conducted in 2022 in collaboration with IEEE KCT SB.

Aeromodeling Club

April 2022 - Participated in Model Aircraft design Challenge in Sri Ramakrishna Enigeering college, Coimbatore. Customized the agriculture drone (HEXAIR) to banner dropping in YUGAM'22 Launch.

May 2022 - Test flight of an own product of indigenous nano drone and VTOL in Kumaraguru Instiutions.

Aug 2022 - Nov 2022 - Conducted workshop on UAVs (Agri drone, Surveillance drone, Nano drone) for Sri Krishna College of Engineering and Technology, VIT Bophal, Vanavarayar Institute of Agriculture, Central Academy for State Forest Service (SFS Officers) and Different institutions students around Tamilnadu.

Oct 2022 - Participated in 6th National Aerospace Conceptual Design Challenge (NACDeC - VI) conducted by SAEINDIA.

Dec 2022 - Presented a Paper on Design and Development of Nano drone in ICAARS Conference in PSG College of Technology, Coimbatore.

Customized the HEXAIR(Agri drone) into lightning the Yugam and hang the banner in the sky with attractive style.



March 2023 - Participated in AeroHelix and Inspectron (Cognizance 2023) conducted by IIT Roorkee.

Qubate of Kumaraguru

Kabilesh Nataraj. 21BIB015 and Joshua X 20BME221 of Qubate Club participated in Shaastra Business quiz conducted by IIT, Madras and secured 3rd place.

Kabilesh Nataraj. 21BIB015 and Joshua X 20BME221 of Qubate Club participated in Master Mind Quiz conducted by Nehru Institute of Technology and secured First place.

2nd prize in AdZap event in Repowis, conducted by Kongu engineering college, Erode.

1st prize and 2nd prize in TurnCoat in Repowis, conducted by Kongu engineering college, Erode.

1st prize in Treasure Hunt in Repowis, conducted by Kongu engineering college, Erode.

Overall trophy for Undergraduate events at Repowis in Kongu Engineering College, Erode.

2nd Prize in XIME Debate .

1st prize in Business quiz conducted by PSG College of Arts and Science College.

1st prize in Quiz conducted by King Makers IAS academy and SNS Institutions 1st prize in Master Mind quiz conducted by Nehru Institute of Technology .

1st runner up in the GKD Quiz 28th edition held at GVN college, Kovilpatti.

3rd place in Eywa's Third eye quiz.

1st prize and 3rd prize in Biz Quiz at Shri Ramakrishna College of Arts and Science.

1st prize in Business Quiz conducted by GRD Academy of Management.

1st prize in XQUIZIT conducted by Sri Ramakrishna Engineering College.

2nd prize in Quiz, 1st prize in Shipwreck , 2nd prize in Puzzle & 1st prize in Potpourri conducted by Brainstrain.





Placement Cell

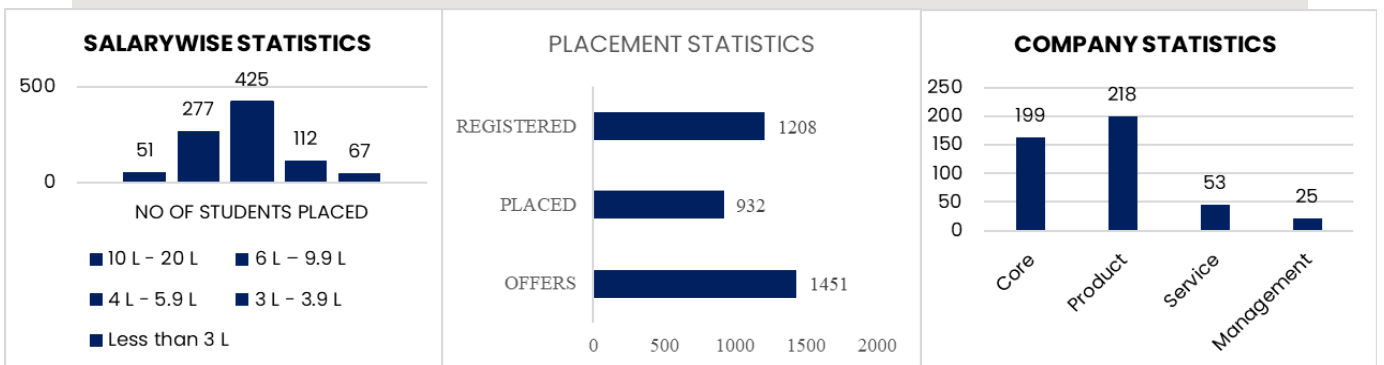
The Placement Cell of KCT plays a vital role by being a platform for Corporates and Young graduates to interact for mutual benefit. Services are provided throughout the year to prepare students and help those secure placements. The number of students placed through campus placement programs is on the rise every year.

1208 of final year students of **B.E, B.Tech** and **MCA** registered for placements in 2023 out of which **932** students were placed.

495 companies visited KCT for student recruitment out of which **40%** was core companies, **44%** was

software- product development companies, **11%** was IT service companies and **5%** was management companies.

Total number of offers received from **495** companies were **1451**. **51** students were placed in the highest packages. This year HPE was the recruiter of **21** students with the highest pay.



KLDA



A one-day workshop on **'Seven Habits of Highly Effective People'** was organised on 31 May 2022, featuring **Mr. Praveen Bhojan**, Master Trainer from Zest Skills, Coimbatore. With 45 participants in attendance, the workshop focused on principles from **Dr. Stephen R. Covey's** bestseller, **"The 7 Habits of Highly Effective People,"** aimed at enhancing individual and leadership effectiveness.

A two-day workshop on **'Seven Habits of Highly Effective People'** happened on 23 -24 September 2022 featuring **Mr. Praveen Bhojan**, Master Trainer from Zest Skills, Coimbatore. Drawing from Dr. Stephen R. Covey's renowned book, the workshop aimed at instilling timeless principles for enhancing individual and leadership effectiveness.

Kumaraguru Learning and Development Academy (KLDA) organized a one-day workshop on 'Design and Development of Outcome-Based Curriculum' on 17 October 2022 at the KCT Business School Training Hall. Featuring **Dr. A. Koteswara Rao**, Director (Academics) from Kalasalingam Academy of Research and Education as the resource person, the workshop had **45** participants in attendance.

A workshop on **'OBE based Revised Bloom's Taxonomy, Delivery Methods, and Assessment Tools'** was organised by Kumaraguru Learning and Development Academy (KLDA) on 18 November 2022. The workshop featured **Dr. A. Koteswara Rao**, Director (Academics) from Kalasalingam Academy of Research and Education, as the resource person. With **30 participants** in attendance, participants focused on formulating Course Outcomes (COs), understanding the fundamentals of RBT, executing action verbs, differentiating between evaluation and assessment, and gaining insights into the question paper scrutiny process.

A workshop titled **'Proposal Writing in Metal 3D Printing for Young Professionals'** held on 05 December 2022 was aimed at providing training in writing research proposals within the realm of metal 3D printing. Organized by the Kumaraguru Learning and Development Academy (KLDA), the workshop featured **Dr. Ramprabhu T**, Scientist 'E' Joint Director from DRDO, Bangalore, as the resource person.

An online workshop organised by the **Kumaraguru Learning and Development Academy (KLDA)** on **'Framing Course Outcomes'** conducted on 20 December 2022 was aimed at assisting participants in mapping the course outcomes for science and language courses. **Dr. U.S. Ragupathy**, Professor and Chief Coordinator (Accreditation) at Kongu Engineering College, served as the resource person for the session. With **23 participants** in attendance, **Dr. Ragupathy** led a discussion on framing course outcomes for science and language subjects, engaging with subject handling faculties to address their queries and provide clarification on the process.

Alumni Relations

KCT Alumni Relations organizes alumni reunions, which provide a platform for graduates to reconnect, reminisce, and forge new connections. Among these reunions, the Global Alumni Meet, Silver Jubilee Meet, and the Annual Alumni Anniversary Events stand out as notable occasions that facilitate meaningful interactions between alumni and the college community.

Number of Alumni:
32,000+ Alumni in 47 Countries

Number of Alumni Chapters: **2**

Number of Alumni Meet conducted in 2022-23: **13**

Number of Alumni Events at the campus in 2022-23: **8**



Alumni Engagement in 2022-23 (Category)	Numbers
Attended an Event	339
Donated	345431
Volunteered	50+
Digital Engagement	19214
Serve on Institution's Board / Committee	55+

Alumni Meet & Celebrations

A group of 17 alumni from the **Batch of 1998-2002**, who had pursued Mechanical Engineering returned to their alma mater to relive cherished memories and rekindle their connection with the college.

The **Silver Jubilee celebration** of the **10th batch** of Kumaraguru College of Technology marked a momentous and joyous occasion on 05 Aug 2022. It was a grand and nostalgic event that brought together graduates from the **Batch of 1993-97** who had embarked on their academic journey together 25 years ago.

On the 03 of Sep 2022, the vibrant and enthusiastic KCT alumni from **Madurai** came together to relive their treasured memories, celebrate the present, and ignite their dreams for the future at **KCT Alumni Coffee Table Talk**.

The KCT Salem Region Meet unfolded on the evening of October 15, 2022, at Grand Estancia in Salem. A total of 45 alumni, brimming with enthusiasm, took part in this momentous occasion, making it a resounding success.

The **KCT Kuwait Alumni Meet** took place on the 9th December 2022 at The Holiday Inn in Farwaniya, Kuwait. The meeting was gracefully hosted and moderated by **Prof. Balu** and **Prof. Nandeesh**, and the discussions during the event centred on the latest happenings and developments at Kumaraguru Institutions (KI).

23 KCT alumni hailing from Trichy, Thanjavur, and Pudukottai regions eagerly participated in the KCT Alumni Meet, held at the Marriott, Trichy on December 17, 2022. This special event brought together alumni from diverse verticals, each expressing their delight at the inception of regional meets and cherishing their memories from their KCT days.

On December 26, 2022, Monday, a group of 6 alumni from the **Computer Science and Engineering (CSE) Batch of 2000** returned to their alma mater. They shared insights and experiences from their professional lives, offering valuable guidance and inspiration to the young minds preparing to embark on their own career paths.

The Alumni Sports Meet 2023 spanning for two days on 26th January and 27th January 2023, brought together a total of 87 jubilant alumni from various sports disciplines, all eager to relive their glory days and engage in exciting matches against the current students.

The Alumni Meet in the Hosur, Krishnagiri, Dharmapuri, and Vellore region unfolded on 18th February 2023 at the TGI Grand Fortuna in Hosur. It brought alumni, who represented various batches, ranging from **1989 to 2020**.

On March 4th, 2023, a reunion of former students of **Batch of 1999-2003** from the mechanical department took place in the campus.

Mr. Sethupathi, one of KCT alumni from the **Batch of 2000 in Textile Technology (TXT)** and currently the Managing Director of Master Linens Inc., Karur, renewed the Memorandum of Understanding (MoU) with the Department of Fashion Technology on 17th March 2023.

The impact of the MoU extension was evident as Master Linens Inc. actively engaged with Fashion Technology students, offering internships in Industrial Engineering and Merchandising.

On April 1, 2023, **KCT campus** was graced with a special visit from seven esteemed alumni belonging to the **Batch of 1998-2001 MCA**.

Alumni Talk

On June 1, 2022, a Workshop on Machine Learning: Web 3.0 powered by AI & ML – A Research Dimension was conducted by **Dr. D. Surendran**, Founder & CEO at SKS Skillfasteners Pvt. Ltd (**Batch 1999, CSE**).

On June 2, 2022, a Seminar on the Role of Non-Ferrous Materials – Aluminum Castings in the Automotive Field was presented by Mr. Amuthan Karunamurthi, Deputy Manager – Proto (Mech) – GTC at Valeo India Private Limited, Chennai (**Batch 2012, MCC**).

On June 17, 2022, **Mr. Krishnan Vaidyanathan**, DevOps & Automation Engineer at Intel Corporation (**Batch 2004, CSE**), conducted a session on Current Trends in DevOps & CI/CD.

On June 18, 2022, Ms. M. Sheeba Rani, Senior Software Engineer at Fidelity Investments, United States (Batch 2001, CSE), kicked off the Alumni Talk Series 02 with Session 1, focusing on Machine Learning and its Foundations.

On June 24, 2022, a captivating Guest Lecture on Visual Effects, Metaverse, and NFT was delivered by **Dr. D. Surendran**, Founder & CEO at SKS Skillfasteners Pvt. Ltd (**Batch 1999, CSE**).

On June 24, 2022, an engaging **Alumni Interaction session** was conducted, addressing the importance of Language Enhancement and Soft Skills. **Dr. Abishek Paul Jackson**, Managing Director of Laurel group of Institutions (**Batch 2010, IT**), shared valuable insights with the attendees.

On September 9, 2022, a practical instruction session in **GNSS Advanced Surveying** was conducted, led by **Mr. Jaisankar**, Managing Director at Indus Instruments,

Chennai (**CE, Batch 1990**).

On September 14, 2022, a session titled “**Electrify and Automate**” was presented by **Mr. S. Laxman**, Senior Global Sourcing Manager at Apple, United States (**MCE, Batch 2006**).

On September 15, 2022, **Mr. C. Veeramanikandan**, Associate Lead Innovation at Re – KCT (**EEE, Batch 2020**), shared insights and experiences about “**Life as an Engineer**” during a special session.

On September 17, 2022, Mr. P. Aswin Kalirajan, GIS Analyst at Datasee.ai (MEEE, Batch 2020), conducted a session on “Thematic Map Preparation using GIS software,” providing valuable knowledge and skills to the attendees.

On September 25, 2022, **Mr. R. Giridharan**, Patent Analyst at MaxVal IP Services (**AUE, Batch 2017**), enlightened the audience about the “**Benefits of Vehicle Design Competition in Professional Career**,” shedding light on the valuable opportunities such competitions offer to aspiring professionals.

On September 27, 2022, **Dr. D. Surendran**, Founder & CEO at SKS Skillfasteners (**CSE, Batch 1999**), delivered an insightful session titled “**Cloud and AI – Next Generation Power Technologies**,” exploring the cutting-edge advancements in cloud computing and artificial intelligence and their transformative potential in the power sector.

On September 29, 2022, **Mr. A. D. Sathish Kumar**, Managing Director at Innotex Material (**FT, Batch 2005**), presented an informative session on “**Sportswear Product Development: Scope and Opportunities**,” shedding light on the potential and prospects in the sportswear industry.

On October 11, 2022, **Ms. R. Madhushri**, a Business Analyst at TCS (**MBA, Batch 2022**), conducted a session on “**Major Project in Business Analytics – Roadmap and Opportunities**,” providing valuable insights into the field of business analytics and the various opportunities it offers for aspiring professionals.

On October 29, 2022, an **Alumni Talk** was delivered by **Ms. Snehaa A**, an Associate Software Engineer at Braking Systems (**IT, Batch 2021**), where she shared her experiences and journey as a professional in the IT industry.

On October 29, 2022, an engaging **Alumni Talk** was delivered by **Ms. Snehaa A**, an accomplished Associate Software Engineer at Braking Systems, who graduated from the **Batch of 2021** in the IT department

On October 29, 2022, **Ms. Kaviya Priya**, an accomplished Executive in Production Operations at Tata Advanced Systems, and an alumna from the **Batch of 2021** in the AE department, conducted a session on “Opportunities for Freshers in Core Industries.”

On October 29, 2022, **Ms. Jayasheelan**, an alumna from the **Batch of 2021** in the AE department, who is the Founder of Young Ones, conducted a session on “**Entrepreneurship as a Career**.”

On October 29, 2022, several insightful sessions were conducted, featuring valuable inputs and expertise from esteemed alumni to benefit the students in various areas that included **"Inputs from Alumni for Design and Advancement"**, **"Session on Industry Communication for Juniors"**, **"Internship Opportunities / Career Choice"**, **"Higher Studies Abroad Trend"** and **"Start-ups - Trends"**

On November 4, 2022, an engaging session on the **"Art of Quizzing"** was conducted by **Mr. Aditya Gopal R**, an accomplished Associate Software Engineer at Bosch, who graduated from the **Batch of 2020** in the EIE department.

On November 2, 2022, the launch event of **"Kumaraguru Pixel'D"** took place, **Mr. Kathiravan S**, a Senior Interaction Designer at IDEO, and an alumnus from the **Batch of 2013** in the ECE department, was the special guest.

On November 19, 2022, an inspiring **Alumni Talk** was delivered by **Mr. Cibi Karthik B**, the Managing Director at Wander with Food, who is an alumnus from the **Batch of 2021** in the Textile department.

On January 21, 2023, a session titled **"Profile Development 101"** was conducted, led by **Mr. Prakash G**, a student at Darmstadt University of Applied Sciences, who graduated from the **Batch of 2022** in the EEE department.

On January 23, 2023, the FLICK Club was launched, and the event was graced by **Mr. Senthilnathan**, an accomplished Technology Director at Wells Fargo, who is an alumnus from the ECE department, having **graduated in 1993**.

On January 24, 2023, a session was conducted on **"Professional Organization Membership for Civil Engineers,"** and it was presented by **Mr. P. Senthil Kumar**, the Proprietor of Trilochana Associates and alumnus from the Civil department, who **graduated in 1995**.

On January 30, 2023, an insightful session on **"How to crack an interview"** was conducted by Mr. Ganesh Subramanian, an experienced Senior Project Manager at Commonwealth Bank.

On February 16, 2023, **Mr. Gnanavel M**, an alumnus from the Civil department (**Batch 2016**), shared his "Alumni Tale on Career Guidance for Civil Engineers" during the session.

On February 22, 2023, **Mr. Kannan A J**, an alumnus from the Textile department (**Batch 2002**), delivered an enlightening **"Alumni Talk on Nonwoven and Textile Materials,"** sharing his expertise as a Consultant in the field.

On March 6, 2023, **Mr. Gopal Krishnan**, an alumnus from the CSE department (**Batch 2006**) and the Founder & CEO of Strategic Digital Marketing, conducted an engaging workshop on **"Entrepreneurship and Innovation as a Career Opportunity in Digital Marketing."**

On March 7, 2023, **Mr. Parthasarathy G**, an alumnus from the EEE department (**Batch 2019**) and a Post Silicon Validation Engineer at Intel Technology India Pvt. Ltd, delivered a course module on **"Combinational & Sequential Logic Circuits."**

On March 15 and 17, 2023, **Mr. Lakshmi Prasad C N**, an alumnus from the EEE department (**Batch 2016**) and a Junior Telecommunications Officer at Bharat Sanchar Nigam Limited (BSNL), conducted a workshop on **"5G Mobile Wireless Technology."**

On March 16, 2023, **Er. Muthukumar**, an alumnus from the CE department (**Batch 2017**) and associated with Nithi Construction, organized a **"National Wide Search for Budding Minds."**

R. Vijaya Prabhu, an alumnus from the TXT department (**Batch 2017**) and the Managing Director at SKR TEX, led the **"Textile Research Community"** on March 17, 2023.

On March 20, 2023, **Mr. Gautam Malaiappan**, an alumnus from the CSE department (**Batch 2012**) and the CEO of Hirehappi, Bangalore, conducted a motivational session titled **"My Story"** as a successful entrepreneur and start-up founder.

On March 24, 2023, **Mr. Sabareesh**, an alumnus from the CSE department (**Batch 2000**), delivered an **"Alumni Talk Series on Recent Trends in IT industry."**

On March 28, 2023, **Ms. Priyanka V**, an alumnus from the CSE department (**Batch 2018**) and a former Robert Bosch engineer, conducted a seminar on **"Placement Interview Preparation."**

On April 12, 2023, **Ms. Nandhana**, an alumnus from the MCO department (**Batch 2014**) and a Senior Engineer at L&T Technology Services, led a session on **"RF Skillset and Building Career."**

On April 12, 2023, **Mr. Chandramouli A**, an alumnus from the MCO department (**Batch 2018**) and a Project Scientist at the INCOIS in Hyderabad, conducted a session titled **"Sculpture Yourself to Become a Radio Frequency / Telecommunication Engineer."**

On April 12, 2023, **Ms. Sujatha**, an alumnus from the ECE department (**Batch 1997**) and an Educational Psychologist, conducted a session on **"Entrepreneurship and Skill Building."**

On April 22, 2023, **Vinodhini Radhakrishnan**, an alumnus from the MCE department (**Batch 2021**) and a Project Engineer at Soliton Technologies, conducted Episode 1 of the **"Pro Placement Talk Series"** on **"How to crack Soliton."**

On April 17, 2023, **J. Priyadharshini**, an alumnus from the EEE department (**Batch 2016**) and an Assistant Professor at JCT College of Engineering and Technology, delivered a guest lecture on **"Battery Management System (BMS)."**

Microcosm

Pivotal Accomplishments

Over 75 tons of waste were recovered, generating a total revenue of more than 19 lakhs and achieving a surplus of over 16 lakhs.

A total of 24,584 saplings were planted in the community in collaboration with Arulagam.

Twenty-five student engagement programs were conducted, accounting for over 9,500 hours of engagement. Additionally, there were over 3,500 student and staff engagements in internal programs.

The organization coordinated over 20 outreach programs with external organizations.

Through the implementation of a Paper Usage Policy, 6.7 tons of paper were saved.

The initiative involved over 30 experts and partnered with more than 25 organizations.



Significant Events and Initiatives:

Over 300 students attended the Y20 Talks, where Mr. Erik Solheim delivered a plenary talk. Additionally, two panel discussions were conducted, and more than five speakers shared their insights on Climate Action during the event.

A group of over 20 nature enthusiasts gathered and observed bird activities with the assistance of Mr. Selva Ganesh, a Bird Watcher.

More than 60 students attended the Puppet Show, which centered around the theme of "Environmental Conservation." Through various initiatives like this, we strive to create awareness among the student community about environmental conservation.

Over 30 students had the opportunity to visit RedWoods Organic Farms, where Mr. Jeya Prakash shared his experience and knowledge about organic farming. This visit provided our students with a firsthand experience of a sustainable lifestyle and organic farming practices.

Kumaraguru Microcosm and Schools of Foundational Science (Department of Chemistry) are collaborating to redesign the Environmental Science course for second-year engineering students. As part of the curriculum restructuring, we have incorporated field visits, expert conversations, and volunteering activities near water bodies to enhance students' understanding and engagement with

The Paper Usage Policy has been revised and implemented in the Academic Operations, aiming to reduce paper usage by 60%. Additionally, a Clean Day event was organized in the Aero Department to promote cleanliness and environmental consciousness.



Kumaraguru Institutions and the Environmental Defense Fund (EDF) have collaborated for a three-month field research project, generously funded by the US-based organization, EDF. The project aims to study the landscape and systems of the dairy subsector in Tamil Nadu. The pilot project comprises three key elements: a comprehensive field study, a dynamic hackathon, and insightful stakeholder meetings.

The Kumaraguru Livestock Hackathon, a collaborative event, convened multidisciplinary teams comprising technology innovators and students from animal sciences to address real-world challenges in the dairy sector.

Energy and Water Management Initiatives

A Schneider Energy Dashboard was created for the campus energy management system at Powerhouse 1. This dashboard enabled the monitoring of energy consumption across all academic blocks.

A Smart Water Management System was installed in the Men's Hostel. This system facilitated the monitoring and reduction of water consumption within the hostel premises.

Awards and Recognition:

Kumaraguru Institutions Campus in Coimbatore gets Platinum rated for 5 years by Indian Green Building Council (IGBC) for sustainability initiatives at our campus.

Tamil Nadu Pollution Control Board honored Kumaraguru Institutions - Green Championship Award for Campus Sustainability & Green initiatives

Way Forward:

Problem Statement

Mission 1: Restoring Technology - Restoring & Revamping the Agricultural Motors with the help of Department of EEE.

Mission 2: Empowering Education - Finding out the need and immediate requirements of Govt Schools & Students with the help of School of Social Work.

Mission 3: Rebuilding Livelihood on Livestock - Understanding the impact on livestock health, nutrition and medical assistance with the help of Kumaraguru Institute of Agriculture

Action Plan

- Impact Assessment in most affected villages
- Poster & Recommendations for restoring process
- Identify Marginal Farmers through District

Administration

- Set a one-week Camp in Villages
- Technicians Support & Collaborators - Pump Manufactures in Coimbatore



International Office



Dr. Sravanthi Sashikumar, Deputy Head of Engineering, Department of Engineering, Ms. Prachi Hajela, Manager India Team from MMU, UK visited Kumaraguru Institutions on 09 June 2022 for a discussion and to plan activities based on the MoU signed.

A Discussion with Ms. Shweta Datt, Country Adviser, University of Leeds, UK took place on 25 July 2022 on the collaboration activities that can be planned for the upcoming Academic year and new areas of collaboration has been proposed for KCT and KCLAS.

Delegates from University of Portsmouth, UK visited the campus on 01 Aug 2022 to discuss on the possible collaboration opportunities for KCLAS and the University of Portsmouth, UK.

Dr. Chockalingam ARAVIND Vaithilingam, Programme Director: Electrical and Electronic Engineering, Faculty of Innovation & Technology from Taylors University, Malaysia visited KCT on 08 Aug 2022 and had a discussion on the models that will be possible to collaborate like semester abroad, project abroad, coteaching, internships etc. and delivered a session on "Thinking Inside the bigger box. - process towards thinking with value propositions" for KCLAS students.

Dr. Andreas RAU – Lecturer Ph. D, Principal Investigator and Ms. Lenny Christina, Assistant Manager, Student Recruitment and Admissions from Technical University of Munich, Singapore visited KCT on 29 Aug 2022 and proposed collaborations on TUM Asia offers Degree Programs, Professional Certifications & TUM interested in Transportation Engineering in FESTO, CDTI (TUM+FESTO) offers Certificate Course.

Dr. Jiangtao Xi – Professor and Associated Dean (Global Engagement), Faculty of Engineering and Information Sciences and Mr. Saravanan Nagarathinam, Manager, International Partnerships from University of Wollongong, Australia visited Kumaraguru campus on 01 Sep 2022 to discuss on Faculty exchange, Semester abroad, 3+2 (Bachelor's degree (AU) and Master's Degree (UoW)) model initially for mechanical and civil engineering.

Dr. Patrick Phelan, Assistant Dean for Engineering Graduate Programs; Professor of Mechanical & Aerospace Engineering, Arzuhan Kavak, Senior Coordinator, Graduate Recruitment, Ira A. Fulton Schools of Engineering and Roshan Lalan, Recruitment Advisor, Graduate Admissions at ASU from Arizona State University, USA visited Kumaraguru on 09 Sep 2022 to discuss on the possible collaboration opportunities in areas of Faculty research in Plastics and recycling, Drone Technology, I+I MBA, Semester abroad, Summer research program, Inbound program for ASU students.

Mr. Vijay, Manager, India Office, Australia, Campus and Ms. Priya Jawahar, Manager, India Office, Malaysia Campus from Swinburne University of Technology, Malaysia visited Kumaraguru Campus to discuss on the activities and expectations for the current academic year to extend the partnership to KCLAS with the Australia Campus.

Ms. Shweta Datt, Country Advisor, Delhi from the University of LEEDS, UK offered a session to Mechanical Engineering students regarding the Twinning arrangement signed with UOL, UK and clarified the doubts students had regarding the arrangement on 23rd September 2022.

A delegation from the Illinois Institute of Technology, USA, visited the SEA Conference Hall on 19 October 2022, comprising Mr. Sri Kumar, Director of India Operations, and Mr. Krushna Kumar, Location Head, Chennai. The discussion aimed to explore collaboration opportunities, including faculty research, semester abroad, summer research, and inbound programs, as well as joint courses and guidance for the formula student team.

Padmavathi Chandramouli, Regional Officer for Tamil Nadu, Telangana, Andhra Pradesh, and Puducherry conducted a session on higher studies and research opportunities in Germany on 13 October 2022. The session focused on admission requirements, the application process, scholarships, and research opportunities available to students both during and after their studies in Germany.

Kumaraguru College of Technology signed a Memorandum of Understanding (MoU) with the University of Huddersfield, for collaborations such as joint events and conferences, as well as collaborative research and publications.

Ms. Supriya Rao, Manager of the South India, India Team, provided insights into pursuing master's studies at Manchester Metropolitan University, UK on November 25, 2022. Students were briefed on the diverse study opportunities available, admission procedures, and the range of scholarship options offered by the university.

Dr. Vinitha Subburaj, Associate Dean of the College of Engineering at West Texas A&M University, delivered a session on 17 November 2022 focusing on the interdisciplinary applications of data science and opportunities in Master of Science (MS) engineering programs.

A delegation from Tel Aviv University, Israel, led by Prof. Ariel Porat, President of Tel Aviv University, Vice President Prof. Milette Shamir, Asia Engagement Director Konstantin Platonov, and Gary Sussman, co-founder of India Alpha Capital, visited KCT on 09 December 2024. The discussion was focused on collaboration activities such as establishing a research center related to water, organizing summer programs, offering joint courses, hosting joint events and conferences, and exploring funding opportunities.

A collaboration discussion took place with Dresden International University, Germany on 25 January 2023 focused on Indo-German Science & Technology Centre (IGSTC) Joint funding and the short courses offered for international students.

Tel Aviv University, Israel, in collaboration with CII and Ananta Aspen Centre, hosted the 4th Edition of the Masterclass Series on Emerging Technologies on 23-24 January 2024 and 13-14 February 2024. The sessions covered topics such as Robotics and Digital Privacy, presented by prominent TAU professors. Aimed at Indian students majoring in Engineering, Cyber, Computer Sciences, and Digital Law, the series offers free participation and grants a non-credit certificate upon completion of all four sessions.

The Masterclass Series are co-convened for Indian students by Tel Aviv University, Ananta Aspen Centre and CII, and with a Sessions on Robotics on Jan. 23-24, and on Digital Privacy on Feb. 13-14 will be delivered by the leading TAU professors.

On January 17, 2023, Kumaraguru College of Technology (KCT) hosted a presentation on the summer programs offered at Tel Aviv University, Israel. Mr. C. Naveen Kumar from the International Office led the presentation, joined by Dr. Konstantin, the Asia Engagement Director, to provide information about the programs and address students' inquiries.

Kumaraguru Institutions in association with "The Hindu" hosted an International education fair where over 400 students participated and spoke to the universities, bankers present in the stall on 02 Feb 2023

The Masterclass Series are co-convened for Indian students by Tel Aviv University, Ananta Aspen Centre and CII, and a Session on Digital Privacy on held on Feb. 13-14 by the leading TAU professors.

International Office, Kumaraguru Institutions in association with Department of Automobile Engineering organized a Session on "HOW THE INDUSTRIAL WORLD IS EMBRACING AUTOMATION AND ROBOTICS" on 17.02.2023 by Dr. Hongwei Zhang, Senior Interim Head, Department of Engineering & Mathematics, Sheffield Hallam University, England.

PKFokam delegates visited KCT, who visited the lab and research facilities of Mechanical department and few other academic departments at KCT. They gave positive feedback about the visit and faculty engagement. Below are some images and descriptions about the engagement of PKFokam delegates from 15 March to 21 March 2023.

Review & planning the collaborative activities with Ara Institute of Canterbury
Mr. Anirudh Raj, International Market Sector Manager – South Asia from Ara Institute of Canterbury, New Zealand visited KCT on 27th Mar 2023. Kumaraguru Office of International Relations facilitated discussion meets with him and all the academic heads at K.I. for various collaborative activities.

Memorandum of Understanding with Northern Illinois University
An MoU was renewed between the Board of Trustees of Northern Illinois University, located in USA (“NIU”), and the Division of International Affairs, Kumaraguru College Of Technology, located in Coimbatore, India (“KCT”) during April 2023. Through this agreement both the institutions expand scholarly ties and work on academic collaborations based on common interests and objectives in educational exchange.

Partnership Initiatives with James Cook University, Singapore
Mr. Jay Shah, Regional Manager – Recruitment & Partnerships and Mr. Ponkarthikeyan R, In Country Representative (South Asia) from James Cook University, Singapore visited Kumaraguru campus on 18 April 2023 for the discussions on various collaborative activities with Kumaraguru College of Technology (KCT), Kumaraguru College of Liberal Arts and Science (KCLAS) and Kumaraguru Business School (KCT-BS).

Project Review with Ara Institute of Canterbury
An online meeting on the status of student projects for MG7028 Engineering System Analysis (Student Exchange Programme) in collaboration with Ara Institute of Canterbury, Christchurch, Christchurch 8011, New Zealand was conducted on 12 April 2023

Dr. Satish Kumar Sagadevan, Associate Head – International Relations, welcomed the NRI and foreign national students in KCLAS and KCT to take an opportunity to experience Indian values and acquire a sense of cultural identity in the safe and tranquil environment at Kumaraguru Campus. Also, He touched up on mindfulness and yoga, familiarization with Tamil language and hostel stays and getting along with Indian resident students to explore social values.

Dr. Satish Kumar Sagadevan, visited Germany during May 7th – May 13th 2023 to strengthen international relations, foster cultural exchange, and explore potential collaborations. Also, he met the Ambassador of India to the Federal Republic of Germany, Mr. Parvathaneni Harish and discussed on Higher education opportunities.

Study Abroad Program

Thirteen students from the Mechanical Sciences cluster along with faculty member Mr. R. Kishore embarked on a study abroad program to Ara Institute of Canterbury, New Zealand, from January 23 to February 9, 2023. The program focused on motorsports engineering as part of the ARA course on Engineering Systems Analysis, covering a range of topics including stress analysis, engine simulation, chassis design, vehicle data logging, materials selection, and aerodynamics.

13 Students from Mechanical sciences cluster and 1 Faculty member Mr. R. Kishore travelled to Ara Institute of Canterbury, New Zealand from January 23 to 9 February 2023 under study abroad program for the course on motorsports engineering in blended mode it is part of ARA course on Engineering Systems Analysis a 15-credit course.
Summer School Abroad

Lithika C L of II-year BBA is part of the summer school in Entrepreneurship at University College of London Ranked 8 in QS University world ranking.

Siddharth of II-year Political science and Sudharsan of III-year BBA are learning and enjoying in the University of Leeds Summer school 2022 from 17.7.2022 to 30.7.2022.

Ms. Shabnam, third year student from Department of Biotechnology has been selected for a 3-month internship starting from 27 July 2022 in McGill University, Montreal, Canada it is a fully funded internship by The Mathematics of Information Technology and Complex Systems (MITACS).



Coimbatore Forge. Factory



ProtoSem - Innovation Fellowship Program

ProtoSem is an Open Innovation Fellowship Program, a 20 weeks program designed and developed by Forge embedding an innovation-centered approach to engineering education.

Metrics that Matter

- 1315** Students
- 219** Teams
- 37** Innovation Mentors
- 50+** Challenge Statements
- 600+** Minutes of Content Streamed
- 25+** Teams Applied for SIH 22

iDEX and Protosem orientation for NCC cadets

202 NCC cadets from across Tamil Nadu at Kumaraguru College of Technology during the 8 day camp, visited the Forge facility and were oriented on the various initiatives of Forge which included iDEX and Protosem. The understanding of iDEX - DIO and Protosem programs kindled the interest of the NCC cadets towards technology and innovation driven careers in the defence sector.

Chunauti 4.0 Roadshow :

Forge in association with STPI conducted a Roadshow for Chunauti 4.0 Forge.Factory on 26th July 2022 . Mr.M.Murugananth, Additional Director, STPI addressed Startups, Student Innovators and explained how the latest initiative from STPI offers seed funding of upto Rs. 25Lakhs which will be provided to Startups selected through CHUNAUTI under NGIS based on innovative solutions.

Smart India Hackathon

SIH, a nationwide initiative by the Ministry of Education's Innovation Cell to provide students a platform to solve the pressing problems of the government, ministries, departments, industries and other organizations was held at Forge Factory, one of the 75 nodal centers for interaction with the Hon'ble Prime Minister.

Product Development Bootcamp- 14 Feb to 25 March

13 participants from Startups founders, Educators & Working professionals attended 6-Week Product Development Bootcamp from 14 Feb to 25 Mar 2022 - An immersive hands-on skill development program for early-stage Startups, Working Professionals, Student Innovators, and Researchers. 7 Startups founders, 5 Educators and 1 Working professional attended the Bootcamp to learn Startup fundamentals/Tech skills & developed their competencies by acquiring various tools, techniques, processes and methods to build the product right.

Engineering Sprint

Engineering Sprint, as part of the Innovation Practicum is designed & delivered for the first-semester students coming fresh out of their schooling was held from April 1st to April 9th, 2022. The course curriculum is tailored to introduce the students into the realm of innovation & technology and upskill them across various tools, techniques and approaches to become self-driven engineers.

Key Metrics

- 1148** Students
- 233** Interdisciplinary Teams
- 35** Educators | **15** Departments
- 72** hours | **6** Days
- 5** Expert talks

Ideation Sprint | Kumaraguru College of Technology

This 6-day Ideation Sprint offered a systematic and structured process of problem validation, MUP ideation and a 72-hour Hackathon to build a PoC from 27th June to 2nd July 2022. 1398 Students from 2nd year UG courses at KCT were grouped into teams of 6 to work on real-time challenges to demonstrate the core features of the solution that is most likely to become permanently deployed or used by the target customer/user.

1398 Students
35 Innovation Mentors
233 Transdisciplinary Teams
70+ PoC Developed
4 Expert/Tech Talks
16 Departments
60+ Challenge Statements

Innovation Mentors

Five-day experiential learning program for educators to become Innovation Mentors was held for 60 educators from across the state took part who worked in 12 interdisciplinary teams on 12 problem statements from various domains such as defense and aerospace, urban planning, manufacturing, health care, and agriculture between 12 and 16 Dec 2022.

Forge as the Program Management Partner for implementing the Accelerator Program for Industrial Tech Startups

The Hon'ble Chief Minister of Tamil Nadu Thiru. MK Stalin awarded Forge as the Program Management Partner for implementing the Accelerator Program for Industrial Tech Startups by TANSIM/StartupTN. The StartupTN Accelerator for Industrial Tech will aim at achieving Product, Business & Growth acceleration of TN's deep-tech startups that are commercializing innovative technologies for the industrial sectors.

Hon Vice-Chancellor of Anna University Visits Forge

Hon Vice-Chancellor of Anna University, Dr R. Velraj visited Forge to study from our best practices around integrating innovation-centric approach to the academic curriculum of higher technical education. As the next step, Hon VC invited Forge Leadership to participate in the efforts underway at Anna University to transform Engineering Curriculum to create future-ready talent in futuristic technologies.

Innovate TN

InnovateTN is a joint initiative of the Directorate of Technical Education, Department of Higher Education, Govt. of Tamil Nadu, StartupTN, and Forge to drive the state's innovation outcomes through defined processes, methods, and frameworks implemented at an institute level impacting the students, educators, and Industry in the local ecosystems.

InnovateTN Labs are being established at Government College of Engineering-Tirunelveli, Government College of Engineering-Salem, Government College of Engineering Srirangam-Trichy and Tamil Nadu Polytechnic College, Madurai as an accredited FABLAB under the Fab Foundation, Centre for Bits and Atoms, MIT, USA.

Innovation Practicum

Innovation Practicum comprises a sequence of courses designed at the grassroots levels providing opportunities to identify and harness the real power of technology to solve industrial problems and challenges. It focuses on Tools, Technology & Talent delivered through Sprints & ProtoSem supported by technical resources, tools, equipment, etc. that are required across the entire spectrum of the innovation process. Understanding the challenges, this curriculum integrated model for innovation & entrepreneurship has been designed as 4 sprints and led by a qualified team to steward the innovation process for the institution.

44- Educators Trained (Host)
124 - Educators Trained
 (Other Government Colleges)
2022- Students Trained
273- Ideas Generated
188- Innovation Engineers Trainees
40- Innovation Prototyped
29- Industry Partners

Product Innovation - Center Wise

07- Tirunelveli | **12 -** Trichy
09- Salem | **10-** Hosur
02- Coimbatore

Innovation Mentor - Capacity Building Program

As the first stage of the innovateTN implementation, educators are provided with a 5 day Capacity Building Program. The Innovation Mentor program was run across four centers - Salem, Tirunelveli, Trichy and Coimbatore. The journey began from Salem with a count of 31 educators which gradually increased to 37 at Tirunelveli, 41 at Trichy lastly 58 educators who were part of the program at Coimbatore recently.

167 Educators from **50+** academic institutions
 (Educators transformed
 to Innovation Mentors)
30 (Challenge Statements Addressed)
32 (Innovation Ideas Generated)
121 (Educators Committed to transform into
 Innovation Managers)
57 (Participating Colleges)

Celebration of World Environment Day

As a part of Environmental Day Awareness . **Mr Ramkumar**, Program Lead(Forge), InnovateTN, was invited as a guest to deliver a session on environmental awareness and Sustainable Development Goals at Government College of Engineering, Tirunelveli on 7th June 2023. The session was attended by over 400 students aligned with Faculty members and Head of Departments. As a follow up of the event students were asked to submit their ideas for environmental sustainability.

KNOWLEDGE CHARACTER TRANSFORMATION



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