NEW PRINCE SHRI BHAVANI
COLLEGE OF ENGINEERING AND TECHNOLOGY

Approved by AICTE | Affiliated to Anna University | ISO 9001 : 2015 Certified | Accredited by NAAC

DEPEARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

FAISCA 2K21

Date:07.05.2021

PREFACE

Welcome to the Faisca 2021 Magazine, a special edition dedicated to encapsulating the essence and significance of our recent symposium. This magazine aims to reflect on and celebrate the dynamic discussions, innovative ideas, and meaningful connections that defined our event.

Published by
Department of Electrical and Electronics Engineering
New Prince Shri Bhavani College of Engineering and Technology
Vengaivasal Main Road, Santhosapuram
Chennai - 600073

ISBN : 978-81-972049-1-3

EDITORIAL DESK

From the editor's desk:

We are thrilled to present FAISCA'21 to you. I am optimistic that readers will find the Souvenir of FAISCA'21 both enjoyable and enriching. This edition aims to provide a lush landscape of scientific, technical, and literary contributions that enhance teaching and research, fostering growth and exploration for the student community.

The small initiatives we undertake significantly contribute to the development of knowledge and enterprise, empowering every individual. This Souvenir serves as a comprehensive compilation of various technical articles, artistic talents, personal experiences, and more from our students. We have ensured that every reader leaves with a thought to ponder. Efforts were made to capture the memories and moments from the past year within this Souvenir.

We trust that FAISCA'21 will captivate and inspire each of you

Editorial Board
FAISCA'2021

Thiru. K. Loganathan,
M.Com., M.Ed. CHAIRMAN

MESSAGE

I deem it to be a matter of immense pleasure to articulate my thoughts as the chairman of NPSBCET. Building the career and transforming the lives of the students is our main motto. Our Institution has been in the list of renowned technical institutions in Chennai city, and we have emerged as a preferred choice for aspiring students.

College Education is the foundation for the future possibilities in the life of a student. Hence proper grooming of the students in all aspects is essential to help them meet the challenges of outside world.

Hence at this juncture I wish to congratulate the Department of Electrical and Electronics Engineering for organizing FAISCA'21 which brings out the talents of students and makes them more confident. I express my wishes to students and faculty of the department for grand success of the event.

Chairman

Thiru. L. Naveen Prasad, B.E.,

M.B.A.,M.Sc (UK). VICE CHAIRMAN

MESSAGE

I am pleased to note that Department of Electrical and Electronics Engineering is organizing a National Level Technical Symposium titled FAISCA'21. Education is the most powerful tool to bring desirable changes in our personality and also to bring positive changes in our society. I also believe that, technocrats are the key to develop economic and technological advancement of our country.

Hence the Technical events such as one which is being organized now improves the knowledge and skill of the students. It would improve the importance of team effort among the students. I do wish the organizing committee for their commitment, dedication and hard work in bringing out such an event. I wish the department to achieve the best

Vice Chairman

Prof. A. Swaminathan,

M.E., F.I.E. DIRECTOR

MESSAGE

It gives me great pleasure and happiness to address the Department of Electrical & Electronics Engineering. I congratulate the successive team of FAISCA'21 for their wonderful work in making the event as a top level. Technical and non – technical events enhance the students' capability and improve their knowledge and skill. I am aware that all my staff members and students have wholeheartedly devoted their energy and time form making this endeavor a grand success. I take this as an opportunity to appreciate the input rendered by all of them for organizing the event.

Director

Thiru.Dr. T. Saravanan,

M.E., Ph.D. PRINCIPAL

MESSAGE

NPSBCET is committed to fostering its students the pursuits of individual excellence and participation in full range of academic, cultural, social and physical activities and make them evolve as all-rounder.

College education is the foundation for all future possibilities in the life of the student. Also, quality education is a passport to its steep rise in life and creates practical avenues to attain financial gains. It provides a golden opportunity to lead a life of dignity and prosperity.

I wish to congratulate the department for their endeavor in bringing out the activities of their department to lime light, FAISCA'21, which allows bidirectional flow of information between students and enriches them to face the challenges while they go out with flying colours from the college.

Principal

Mr. S. Parthasarathy, M.E.,(Ph.D)

Associate Professor and Head of the Department Electrical and Electronics Engineering.

MESSAGE

As Head of the Department of Electrical and Electronics Engineering, the development of students in all facets of life has to be inculcated in college. Our team of dedicated and highly qualified faculty members work as a team to widen the students' learning process. I am glad with the academic achievements, extracurricular and co-curricular participation of the students As a teacher, I do see myself as having the highest responsibility to lead, motivate and inspire my students apart from imparting knowledge about the subjects. In this regard the department has planned to conduct a National Level Online Technical Symposium FAISCA'21.

I wish to congratulate all the students and staff who have worked tirelessly for the organization of the symposium. Also I would like to wish for the grand success of the event.

HOD / EEE

VISION OF THE INSTITUTE

To strive for excellence in imparting technical education by promoting innovation, creativity and entrepreneurial abilities of the students.

MISSION OF THE INSTITUTE

1. Enhancing the effectiveness of teaching-learning process by providing a stimulating learning environment
2. To establish R&D centers, incubation centers and centers of excellences in latest technologies and provide a platform for students to interact with the industry.
3. Achieving Academic excellence by imparting knowledge and skills through problem solving, practical training and design &; development of innovative projects.
4. Sensitizing students to social and environmental issues.
5. Inculcating discipline in students and make them technologically and ethically strong.

VISION OF THE DEPARTMENT

To produce globally competent Electrical and Electronics Engineers who can cater to the contemporary needs of the Industry and Society.

MISSION OF THE DEPARTMENT

M1: To provide a good infrastructure and serene environment to cater the curriculum requirements of Electrical and Electronics Engineering.
M2: To motivate the students and faculty towards research activities in association with industries.
M3: To provide a conducive environment for students to enhance their co curricular, soft skills and ethical values for their career development.
M4: To stimulate continuing education for creating quality engineers towards sustainable improvement in the society.

PROGRAM EDUCATIONAL OBJECTIVES

PEO 1: Procure optimum solution for Electrical Engineering problems in order to cater a successful professional career.
PEO 2: Demonstrate creativity in the engineering practices including entrepreneurial and collaborative ventures with strategic thinking, planning and execution for lifelong learning.
PEO 3: Exhibit to communicate effectively, recognize and incorporate societal needs and constraints in their professional endeavours and practice the profession with high regard to legal and ethical responsibilities.

PROGRAM SPECIFIC OUTCOMES:

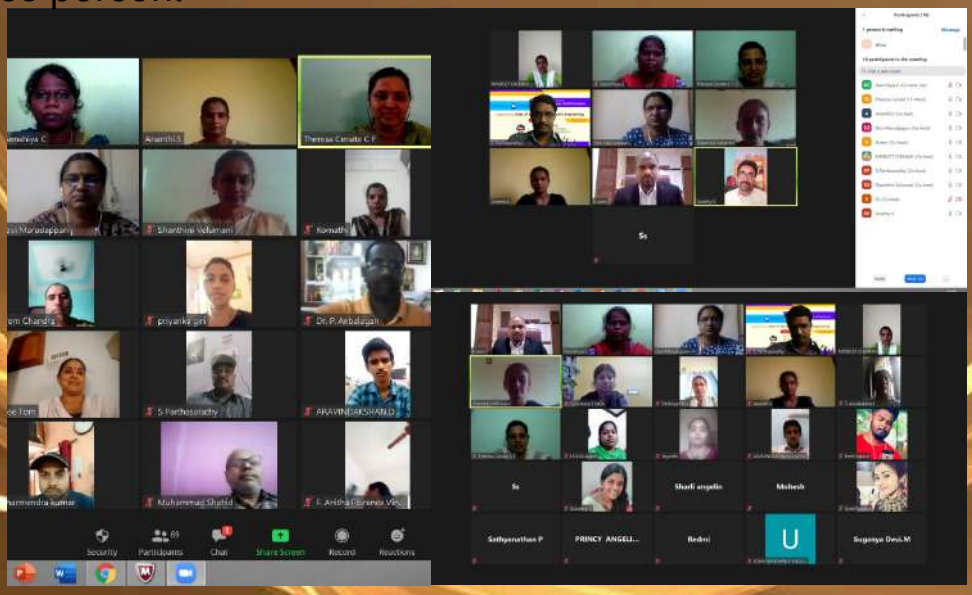
PSO 1: Shall have Potential to analyze, design, synthesize and provide technical solutions in the field of Power generation, distribution, renewable energy systems and Embedded Systems.
PSO2: Shall exhibit leadership skills, pursue entrepreneurship and contribute in the field of Electrical and Electronics Engineering.

INDEX

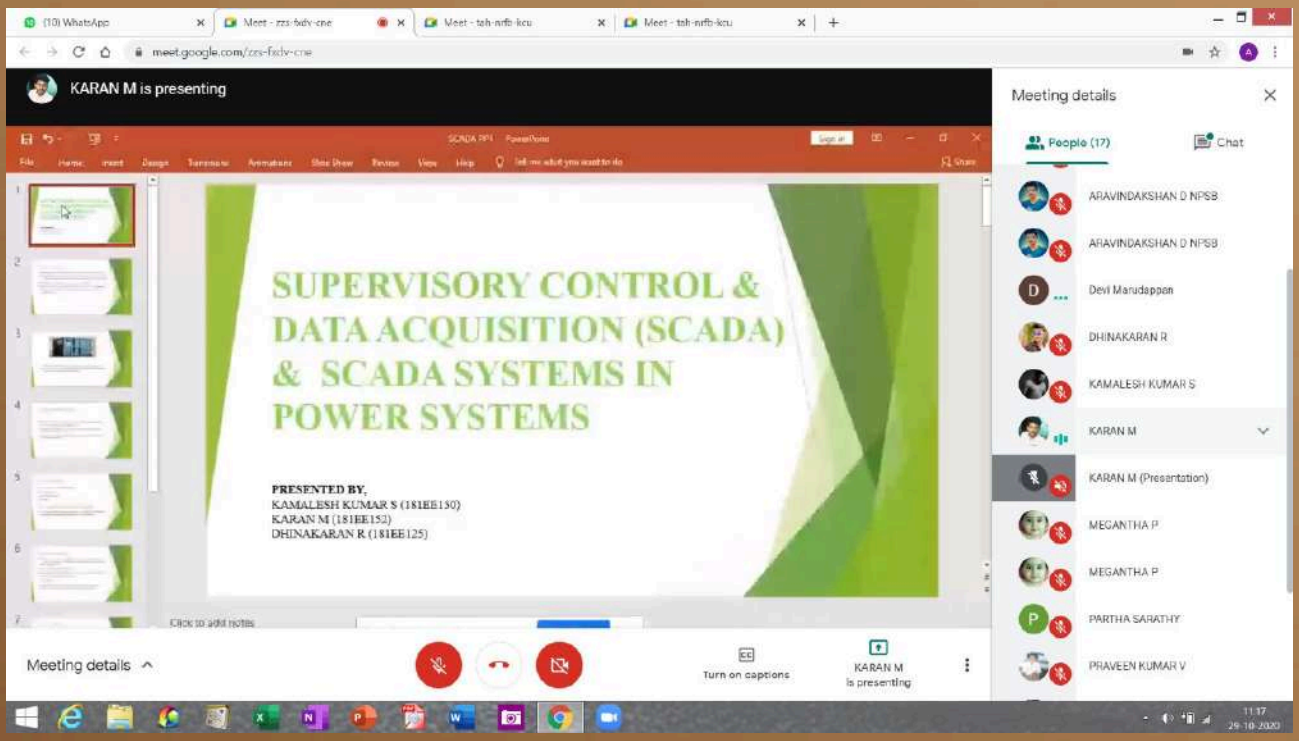
EVENTS ORGANIZED

Virtual Seminar

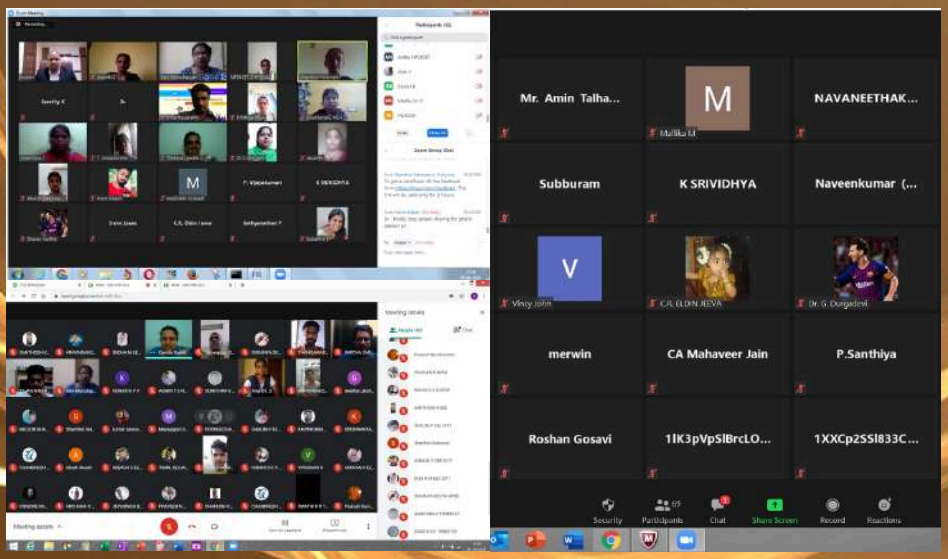
Department of Electrical and Electronics Engineering hosted an international webinar on data center power distribution on June 20, 2020. The session featured Mr. S. Kubendhiren, Regional Engineering Manager at Integrated Facilities Management, Jones Lang LaSalle (JLL) in Singapore, as the resource person.



Webinar:



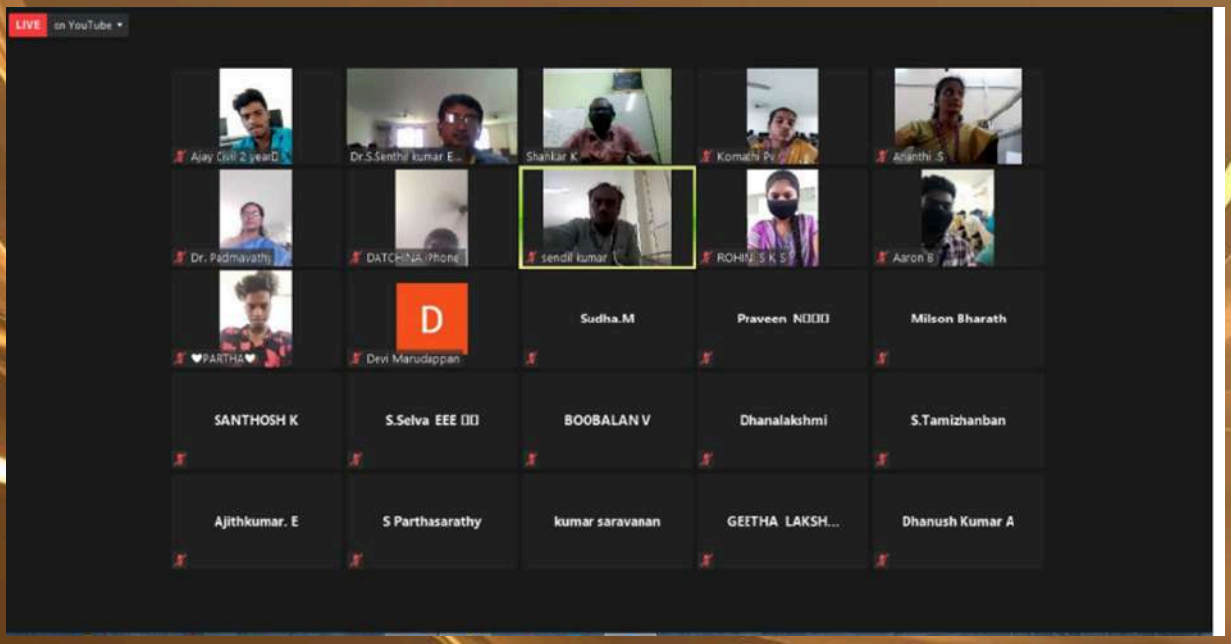
Department of Electrical and Electronics Engineering conducted a webinar on Supervisory Control and Data Acquisition (SCADA) systems in power systems. The event took place on October 29, 2020, featuring Mr. S. Kamelesh Kumar, Mr. M. Karan, and Mr. R. Dhinakaran as resource persons.



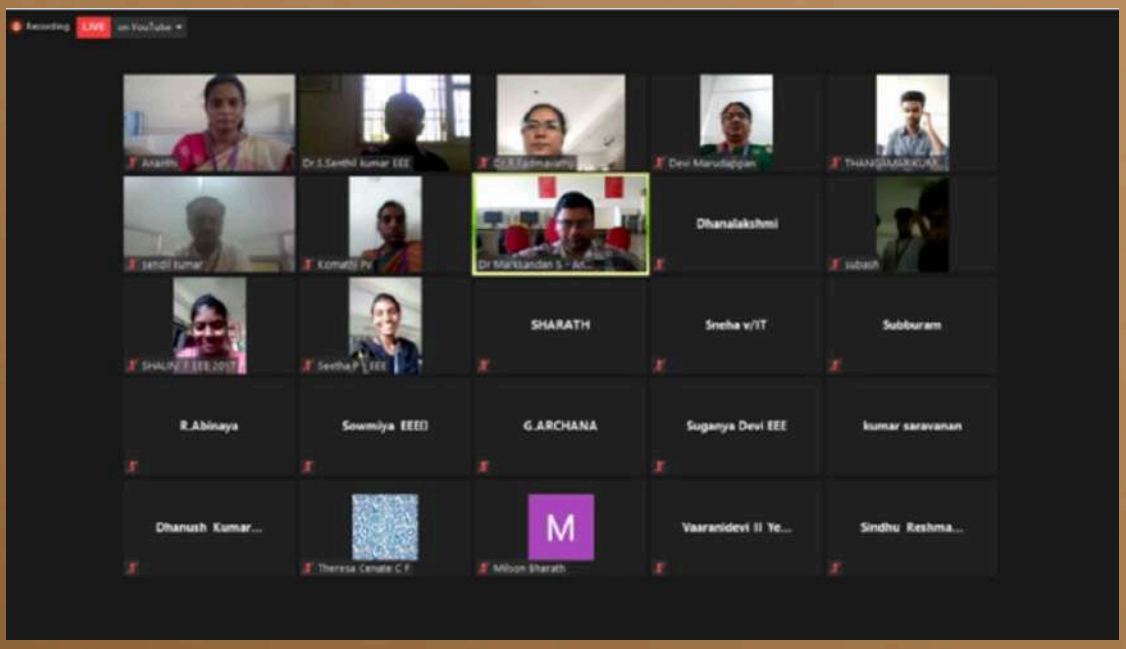
Webinar:

A webinar titled "Idea to Product: An Entrepreneurial Perspective" was conducted as part of the National Innovation and Start-up Policy implementation. The event took place on March 19, 2021, starting at 10:30 AM, with Dr. Shankar from the Department of EIE, Assistant Professor Grade EEE at the National Institute of Technology Silchar, Cachar, Assam, India, serving as the resource person.

The program commenced with a welcome address by Dr. S. Senthil Kumar, Professor of EEE at New Prince Shri Bhavani College of Engineering, Chennai. Following this, Dr. Shankar delivered his lecture on "Idea to Product: An Entrepreneurial Perspective," during which he discussed the crucial steps for transforming a business idea into a successful launch.



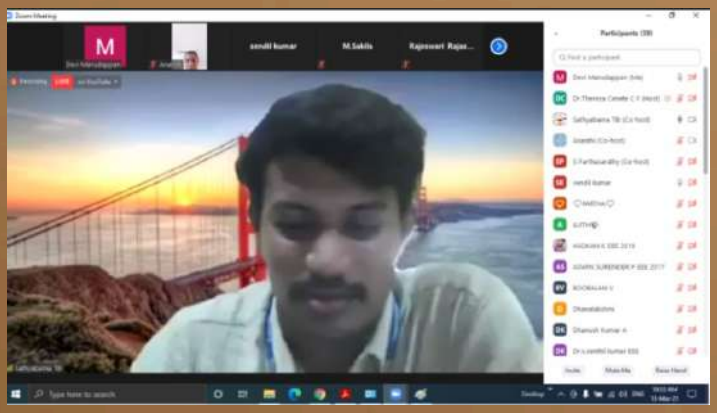
Virtual Seminar:

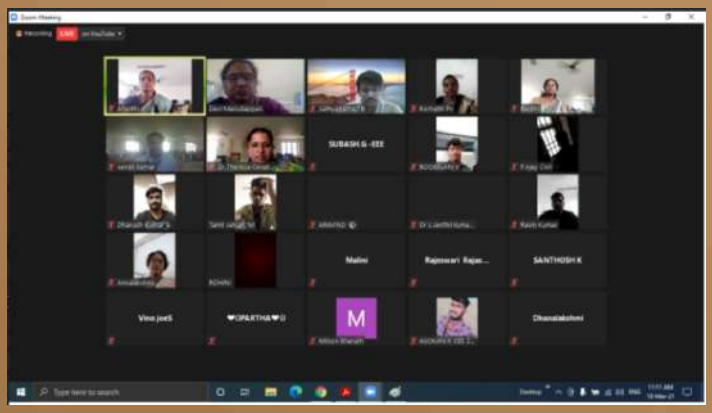


A webinar titled "Idea Generation for Budding Engineers" was organized on March 26, 2021. Dr. S. Markkandan, Assistant Professor in the Department of ECE at SRM TRP Engineering College, Trichy, served as the resource person. He shared insights on transforming ideas or inventions into valuable goods or services that customers are willing to pay for, while also motivating participants to enhance their thinking skills.

The webinar was hosted by Dr. Senthil Kumar, Associate Professor in EEE. The session began with a welcome address from Dr. R. Padmavathy, Associate Professor in EEE, and concluded with a vote of thanks delivered by Ms. S. Ananthi, Associate Professor in EEE.

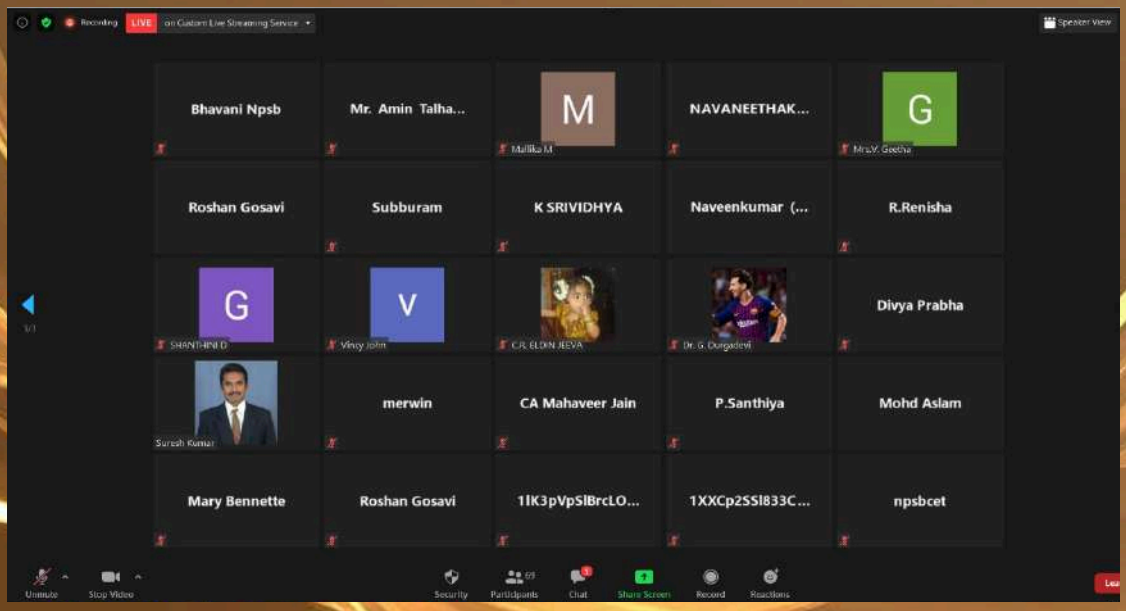
Webinar:





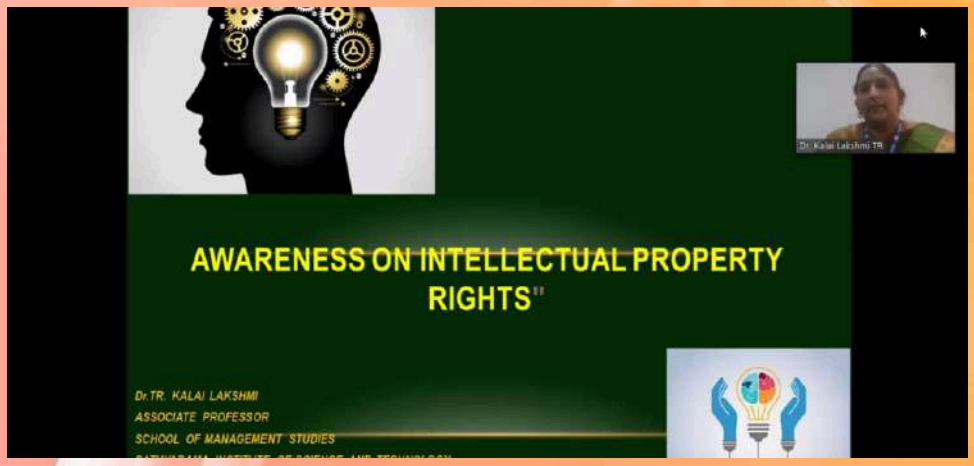
A webinar on "Angel Investment/VC Funding Opportunities for Early-Stage Entrepreneurs" was held for our students on March 13, 2021, from 10:30 AM to 11:30 AM. Ms. S. Ananthi, Associate Professor in EEE and coordinator of the program, welcomed the audience in the presence of Dr. T. Saravanan, Principal, and Dr. S. Parthasarathy, Head of the Department of EEE.

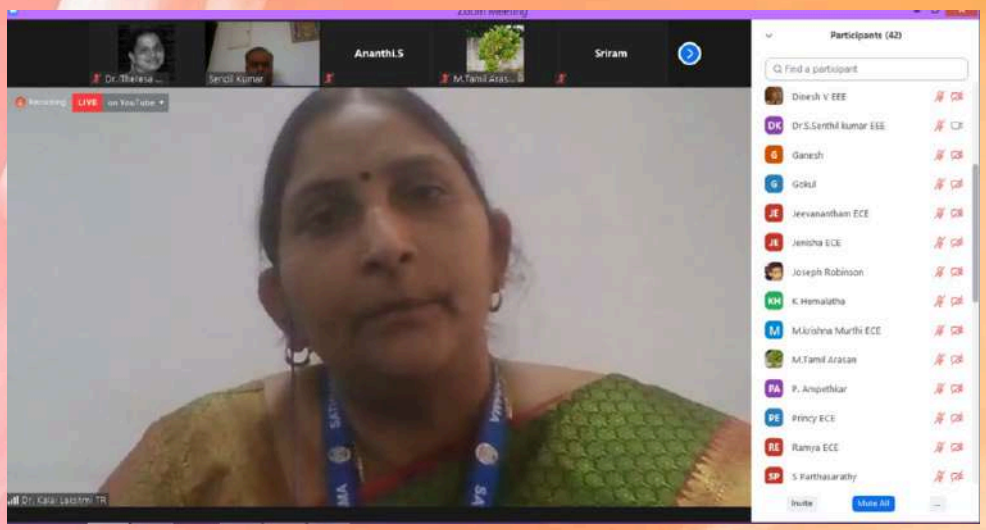
Mr. Kishore Kumar S., Manager of the Technology Business Incubator (TBI) at Sathyabama Institute of Science and Technology, supported by NSTEDB-DST, served as the guest speaker. He discussed various funding opportunities available for entrepreneurs, and his inspiring presentation motivated the students to pursue entrepreneurship.



WORKSHOP

Workshop titled “Awareness on Intellectual Property Rights” for our students on 23.01.2021 between 11.30a.m to 12.30p.m. Dr.C.F.Theresa Cenate Prof /EEE ,Coordinator of this program welcomes the gathering in the presence of Dr.T.Saravanan, Principal, Dr.S.Parthasarathy, HOD/EEE.Dr.T.R. Kalai Lakshmi, Associate Professor, School of Management Studies , Sathyabama Institute of Science and Technology, Chennai, was the guest speaker during the webinar and she addressed upon what is Intellectual Property, why we need it, what are the types of IR, types of IPR, Validity of Patent, relationship between IPR, briefing on patents, its types, What is property of patent, steps involved in industrial designs, geographical indications, trademarks, term of copyright, criteria’s for patenting, how to patent, its application, patent filing and grant procedure was explained elaborately.



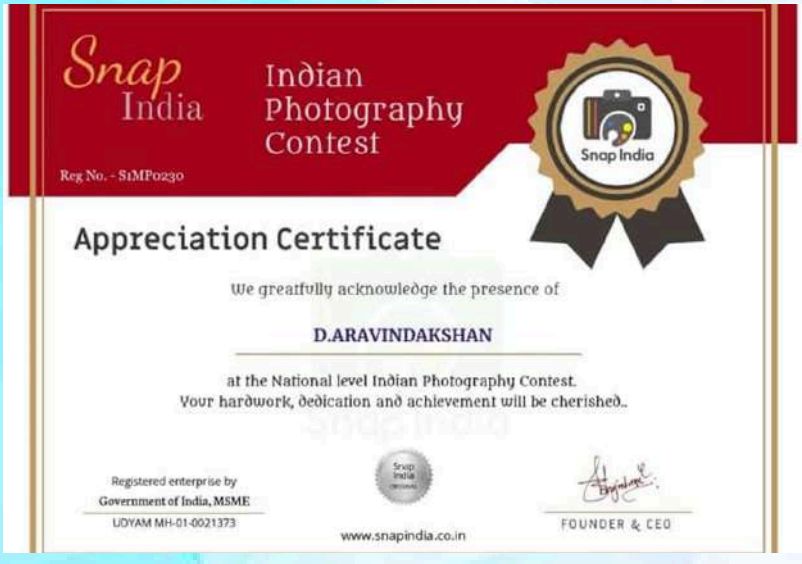


FAISCA 2021

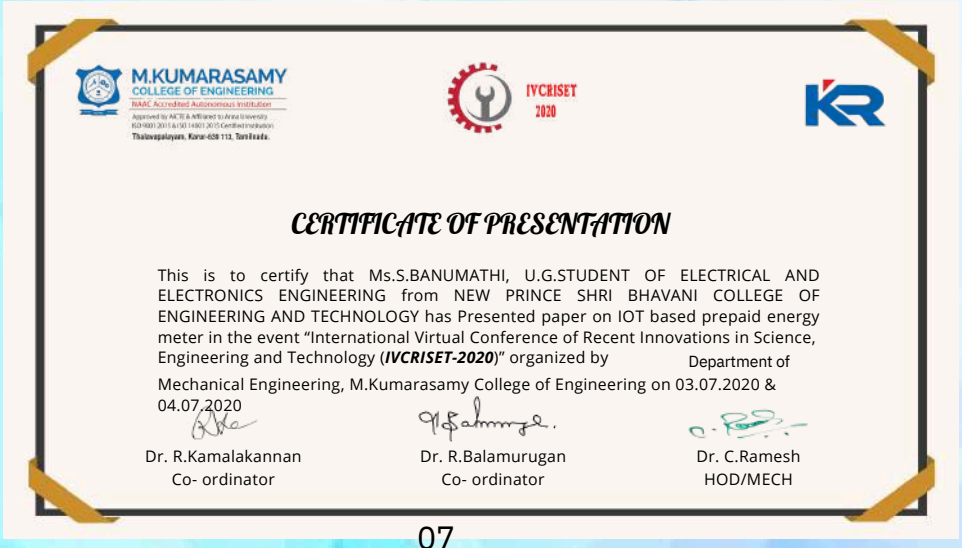
STUDENT'S ACHIEVEMENTS

Achievements & Honors

D. Aravindakshan showcased his talent by participating in the National Level Indian Photography Contest. His dedication and hard work earned him an appreciation award and certificate from Snap India. This recognition highlights his commitment to excellence in photography. Aravindakshan's achievement serves as an inspiration to his peers.



Banumathi S. took an active role in the "International Virtual Conference on Recent Innovations in Science." This event was organized by M. Kumarasamy College of Engineering in Karur. The conference took place on July 4, 2020. It brought together experts and participants from various fields. The focus was on showcasing the latest advancements in science and technology. Banumathi's participation highlights her commitment to ongoing education. This experience contributed to her professional development and network.



COURSERA CERTIFICATION

Students at attended various course platforms have embraced a wide array of courses, showcasing their commitment to broadening their academic horizons. From data science , Deep learning and Embedded systems to taken advantage of unique offerings that cater to a variety of interests.

In a new initiative, the institution introduced interdisciplinary classes that encourage collaboration among different fields, allowing students to tackle complex issues from multiple perspectives. For instance, the courses brings together computer science and embedded systems students to explore how technology can address challenges.

Feedback from participants has been overwhelmingly positive, with many expressing excitement about the practical skills and knowledge gained. As the course progresses, students are eager to apply their learnings in real-world contexts, demonstrating that education is not just about acquiring knowledge but also about fostering innovation and creativity.

Community Service as a Rotary Club Member

Thangamarikumar.K, a dedicated student of our Department, has taken his commitment to community service to the next level as an active member of the Rotary Club. Through his involvement, he has demonstrated exceptional leadership skills and a passion for creating positive change. From organizing charity events to participating in environmental initiatives, Thangamarikumar embodies the values of compassion, empathy, and selflessness. His tireless efforts have inspired fellow students to follow in his footsteps, fostering a culture of social responsibility on campus. We congratulate Thangamarikumar on his outstanding contributions and look forward to his continued impact in the community.

K. Thangamarikumar

Rotary Club Member

Students Shine at Zonal Tournament

S**. Sasikumar** from IV EEE and **M. Tamilselvan** from III year EEE achieved third place in the volleyball match at the Anna University Zonal Tournament, held on April 29, 2021, at Tagore Engineering College, Chennai. Their impressive performance showcased not only their athletic skills but also their teamwork and determination.

ANNA UNIVERSITY SPORTS BOARD
CHENNAI - 600 025

ZONAL TOURNAMENTS 2020-21

CERTIFICATE OF MERIT

This is to certify that M.TAMILSELVAN Register No. 411419105005
Branch B.E.(EEE) of NEW PRINCE SHRI BHAVANI COLLEGE OF ENGINEERING AND TECHNOLOGY
Zone IV was a member of VOLLEY BALL TEAM
Team who secured Third in the Anna University Zonal Tournaments for the Year 2020-21, held at TAGOREENGINEERING COLLEGE
from 29.4.2021 to

ANNA UNIVERSITY

THIRD

PROGRESS THROUGH KNOWLEDGE

Zonal Sports Secretary

Zonal Sports Coordinator

Reflecting on the experience, Sasikumar noted the exhilaration of competing at a zonal level, while Tamilselvan emphasized the valuable lessons in resilience and collaboration gained from the tournament. This achievement highlights the significance of sports in fostering personal development and teamwork among students, and the EEE department proudly supports and encourages participation in extracurricular activities to complement academic pursuits.

Victories and Glorious Momentss

M. Sudha and **G. Geethalakshmi**, final-year EEE students, participated in the Prince Marathon sports and tech quiz at the college. Their performance showcased a balance of academic and athletic skills, representing the EEE department with pride. Their enthusiasm and determination inspired fellow students. Their involvement added to the event's excitement, reflecting the college's emphasis on all-round excellence.

P. Seetha, from the EEE department, won 1st prize in the 100 meter and 200 meter races, and 2nd prize in chess. Her impressive achievements highlight her versatility in both athletics and strategy. She has brought pride to the department, inspiring her peers with her determination.

A Rising Star in Volleyball

S. Sasi Kumar, a dedicated student from our college, showcased his exceptional skills by winning the 2nd prize in volleyball at SSN. His hard work and determination on the court were evident as he contributed significantly to his team's success.

SSN Trophy

Sasi's impressive performance not only highlights his athletic abilities but also reflects the spirit of teamwork and perseverance. His achievement serves as an inspiration to fellow students, encouraging them to pursue excellence in sports. This victory marks a significant milestone in his athletic journey, paving the way for future accomplishments.

Alumini Corner

Francis Pushpalatha .A 2016-2020 batch
Department of Electrical and Electronics Engineering

Good evening, esteemed alumni, faculty, and honored guests,
It's a privilege to stand before you today as we gather to celebrate the enduring legacy of our College. Looking around, I'm reminded of the vibrant community we all once belonged to a community that shaped us into who we are today.

Each of us carries memories of our time here: the friendships formed, the challenges faced, and the triumphs celebrated. Those late-night study sessions, spirited debates in the classroom, and the laughter shared on campus created a foundation for our future endeavors. As we've moved on to diverse paths—be it in business, the arts, public service, or science our experiences here have equipped us with the tools to navigate the complexities of the world. We've learned not just to think critically, but to act compassionately, embodying the values of our college in our personal and professional lives.

Today, we're not just reflecting on our individual journeys; we're also honoring the collective impact we can have as alumni. Our connection to this institution doesn't end when we graduate; it's an ongoing relationship. By coming together, we can share our wisdom, support current students, and ensure that [College Name] continues to thrive.

As we look to the future, let's commit to being active participants in the life of our college. Whether through mentorship, involvement in alumni events, or contributing to scholarships, we have the chance to shape the next generation of leaders who will follow in our footsteps.

In closing, I want to express my gratitude for the friendships, the lessons, and the memories that we've created together. Here's to the enduring spirit of [College Name] and to all of us may we continue to carry its legacy forward and inspire those who come after us.

Thank you!

Merwin Refa .M 2016-2020 batch
Department of Electrical and Electronics Engineering

Ladies and gentlemen, esteemed alumni, faculty, and friends,
It's a true honor to stand before you today as we gather to celebrate not just our shared past, but the bright futures we continue to build from the foundation laid during our time. As I look out at this remarkable group of individuals, I see a tapestry of stories, experiences, and achievements. Each of us has walked a unique path since leaving these halls, but we share a common bond—our time at New Prince Shri Bhavani College of Engineering And Technology. It was here that we formed friendships that have lasted a lifetime, challenged ourselves academically, and discovered our passions.

Reflecting on those formative years, I'm reminded of the late nights spent studying, the laughter shared in dorm rooms, and the inspiration drawn from our professors. They challenged us, guided us, and encouraged us to think critically and creatively. The lessons we learned were not just in textbooks but in every interaction and every challenge we faced together.

Today, as we connect with old friends and meet new faces, let's also celebrate the diverse paths we've taken. From entrepreneurs to educators, scientists to artists, each of us has carved a unique space in the world. And as we've ventured into our respective fields, we've carried the values instilled in us here: resilience, integrity, and a commitment to making a difference.

But this gathering is not just a reflection of the past; it's a moment to look forward. Our college continues to evolve, adapting to new challenges and opportunities in an ever-changing world. Let us also take this opportunity to reconnect with our roots. Together, we can strengthen our alumni network, fostering collaborations that will benefit not just us but the entire New Prince College community.

Thank you!

Faisca'21

TECHNICAL Symposium

COMMITTEE MEMBERS FOR SYMPOSIUM FAISCA '21

ORGANIZING MEMBERS

Convener: S. Parthasarathy, HOD/EEE

Co-Convener: Ms.S.Ananthi, A.P/ EEE

OFFICE BEARER'S

President: K. Thangamarikumar – IV EEE
Vice President: D. Aravindakshan – III EEE
Secretary: M. Sudha – IV EEE
Joint Secretary: T. Sowmiya – III EEE
Treasurer: A. Dhanush Kumar – IV EEE
Join Treasurer: K. Santhosh – II EEE

EDITORIAL COMMITTEE

Staff In-Charge : **1)** Mrs. M. Devi, Assoc.Prof/ EEE

Student In-Charge :
1) P. Aswin Surender – IV EEE
2) K. Thangamarikumar – IV EEE
3) A. Dhanush Kumar – IV EEE
4) E. Nantha Kumar – III EEE
5) T.S. Aswin – III EEE
6) M. Tamil Selvan – II EEE

REGISTRATION & E- CERTIFICATE

Staff In-Charge:

1) Mrs. P.V. Komathi, A.P/EEE

Student In-Charge:

1) G. Archana – IV EEE
2) R. Sharath Kumar – IV EEE
3) P. Shalani – IV EEE
4) V. Dhana Lakshmi – III EEE
5) V. Boobalan – III EEE
6) G. Ramkumar – III EEE
7) D. Milson Bharath – II EEE

PAPER PRESENTATION

Staff In-Charge:

1) Mrs. S. Ananthi, Assoc.Prof/EEE

Student In-Charge:

1) M. Sudha – IV EEE
2) G. Geethalakshmi – IV EEE
3) D. Aravindakshan – III EEE
4) M. Suganya Devi – III EEE
5) T. Sowmiya – III EEE
6) K. Santhosh – II EEE

TECHNICAL QUIZ

Staff In-Charge:

Mrs. Devi, Assoc.Prof/EEE

Students In-Charge:

1) S. Deepa – IV EEE
2) R. Surendaranath – IV EEE
3) G. Subash – IV EEE
4) N. Praveen – III EEE
5) E. Poonguzhali – III EEE
6) C. Nithishwaran – III EEE 7) A. Ravin Kumar – II EEE

E- CREATION

Staff In-Charge:

1) Mrs. K. Shanthini, Assoc.Prof/EEE
2) Mr. K.Sarathy, A.P/EEE

Student In-Charge:

1) R. Akash – IV EEE
2) P. Seetha – IV EEE
3) P. Shobana – IV EEE
4) S.K.S. Roghini – III EEE
5) B. Jeyasingh – III EEE
6) T. Datchinamurthy – III EEE

FIGHT WITH FIRE

Staff In-Charge:

1) Mr. K. Sarathy, A.P/EEE
2) Mr. K. Kumara Saravanan, A.P/EEE

Student In-Charge:

1) S. Sasi Kumar – IV EEE
2) R. Vijay Jothi – IV EEE
3) S. Selvanayagam – III EEE
4) S. Tamilzhanban – III EEE
5) E. Ajith Kumar – III EEE
6) K. Asokan – II EEE

FAISCA2021

PAPER ABSTRACTS

PAPER ID : EEE20-01

SMART GRID SYSTEM

Supriya .E1 Mechatronics
Engineering SNS College of
Technology

Abstract — This paper presents a discussion of the future of the electric energy system, addressing the entire spectrum from power generation, through substations, to distribution and the customer, and the feedback loops along the way necessary to provide the computational intelligence necessary to make the “Smart Grid”. Both at the federal and state levels, governments have recognized a need for modernizing the electric energy system and establishing such Smart Grids around the world. We are at the point of a historic paradigm shift, with the opportunity to implement new, more intelligent methods for producing, distributing, delivering and using electricity in a much more sustainable manner. Whereas the current electric system is based on a one-way flow of energy and information from the sources to the end users, the future Smart Grid will provide multiple paths for the flow of electricity, and particularly information about that flow, throughout the system. This paper introduces this Special Issue by presenting a broad definition for the Smart Grid. We discuss the necessary attributes for such a system-of-systems, review the need for change, and identify the technical challenges facing successful deployment and implementation.

PAPER ID : EEE20-02

SMART CITY WITH IOT

Mahakrishna Moorthy M, JayasuryaJ

Department of Computer Science and Engineering
Bannari Amman Institute of Technology, Sathyamanglam, Tamil Nadu

Abstract — The massive development of the Internet of Things (IoT) is allowing Smart City projects all over the world. A smart city is defined as a city connecting physical infrastructures, social infrastructures, ICT infrastructures, and business infrastructures to leverage the collective intelligence of the city. Over 50 billion objects will be connected and deployed in smart cities in 2020. The heart of smart city operations is IoT communications. IoT is designed to support the Smart City concept, which aims the most advanced communication technology to improve the infrastructure of the city and peoples. The development of IoT needs communication standards that seamlessly operate among the various objects. Huge investments is currently being made in the IoT area to support the delivery of a wide range of services. The IoT will improve the development of various applications that make use of the massive amount and diversity of data produced by objects to implement further services to companies, citizens, and public administrations. Finally, we said some of the weaknesses of IoT used in smart cities.

PAPER ID : EEE20-03

BLUETOOTH SECURITY

Jayasurya J1, Mahakrishna Moorthy M2
Department of Computer Science and Engineering
Bannari Amman Institute of Technology, Sathyamanglam, Tamil Nadu

Abstract — Bluetooth technology has become popular worldwide and has become an integral part of this society. Bluetooth is a way of connecting to devices wireless without a physical medium. Nowadays most of the gadgets using Bluetooth for wireless connections like phones,earphones, personal computers, etc. As technology becomes widespread the vulnerabilities also increased so it is important to secure personal information from attacks. It uses radio waves to transfer information so it is very easy to get attacked. This paper presents the vulnerabilities in the security protocols of the system and the recent vulnerabilities and security threats faced. It also presents some security tips that will be useful to end-users and they implement immediately to get secured about their private information.

PAPER ID : EEE20-04

EFFICIENT E – WASTE MANAGEMENT

Jeyashri K R1 , Kavusika C2
Department of Electrical and Electronics Engineering
Bannari Amman Institute of Technology, Sathyamanglam, Tamil Nadu

Abstract — Over the recent past, the global market of electrical and electronic equipment (EEE) has grown exponentially, while the lifespan of these products has become increasingly shorter. More of these products are ending up in rubbish dumps and recycling centers, posing a new challenge to policy makers. The purpose of this paper is to provide a review of the e-Waste problem and to put forward an estimation technique to calculate the growth of e-Waste One more aggressive but challenging approach to minimizing illegal dumping of electronics is to impose tougher laws. Some States in the US govern e-Waste to ensure a much greater enforcement. Strictly enforcing these laws is strongly suggested as a way to prevent those who make a certain kind of “donations” to developing countries. Future efforts to minimize illegal dumping will undoubtedly include a combination of aggressive legislation, new technological solutions, and increased public awareness through more education on e-Waste. Present laws should be evaluated and modified periodically to allow proper progression. Educating people about how to recycle, reuse, and dispose electronics at all levels will teach them and their communities how to behave more responsibly towards the environment. Indeed, electronic waste is a global problem requiring a global solution.India generates about 1.85 million tons of e-waste annually and it also ranks fifth among top e-waste producing countries.

IoT App based E-Waste Management System for Green smart society are aimed to manage the E-Waste in very effective aswell as efficient way. Many Smart city concept systems using IoT have been designed and employed in E-Waste management to save our environment from hazardous waste. The working principle of this Mobile Application is similar to that of OLX and QUIKR. Similar to other productselling app, you have to create an account and through that account you can access the various options present in the app to dispose any e-material. Disposal of E-Waste is no more a concern, it's as easy as ordering a Pizza. The app will also help its Users to earn some extra cash by disposing e-waste in the right way. Our concept mainly focuses on a simple activity that will vanish Human to Human contact for saving our environment during this pandemic

PAPER ID : EEE20-05

SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) SYSTEMS IN POWER STATIONS

Karan M1, Kamalesh Kumar S2, Dhinakaran.R3
Department of Electrical and Electronics Engineering
Bannari Amman Institute of Technology, Sathyamanglam, Tamil Nadu

Abstract — Supervisory control and data Acquisition (SCADA) Systems are controlling and monitoring critical plants of the nation's infrastructure such as power generation and distribution, oil, gas, water and waste management. SCADA is a system in which the message that are individuals are sends to the external world. In this presentation to understood SCADA concept in control operations and systems components and example of use. The application of SCADA are Supervisory computer remote terminal units, Programmable controllers, logic Communication infrastructure, human-machine interface alarm handling, PLC /RTC programming, PLC commercial integration, communication infrastructure and methods SCADA architecture development. SCADA systems can be relatively simple, such as one that monitors environmental conditions of a small office buildings or incredibly complex, such as a system that monitors all the activity in a nuclear power plant or the activity of a municipal water system. First SCADA was used in 1960s. From the wireless SCADA system which is proposed in setup the temperature of around 30 degree of Centigrade could be sufficiently recorded from remote location. In the similar manner reading of electric energy meter could be read 225 Kilowatt Hour(KWH) or 223 units. The properly designed SCADA system saves time and money by eliminating the need of service personal to visit each site for inspection, data collection or make adjustments. To understand four types of SCADA functions such as Data acquisition, Networked data communication, Data presentation and Control. At present, an evolution at SCADA systems is at a very high rate and it is also entering the market of plants with a huge number of input and output channels. UNIX, VMS and DOS are availed by the systems of SCADA.

PAPER ID : EEE20-06

WASTE HEAT COULD DOUBLE BATTERY LIFE ON LAPTOPS AND CELLPHONES

Megantha.P1, Kavipriya P2, Praveen Kumar3
Department of Electrical and Electronics Engineering
Bannari Amman Institute of Technology, Sathyamanglam, Tamil Nadu

Abstract — More than half of the energy consumed worldwide is wasted. Most of it is in the form of excess heat. The excess heat produced in laptops and cell phones can be used to double the usage time of them without plugging them for recharging. This can be achieved using the single dot quantum devices and thermal diodes in the form of laptops and cell phone covers. It is still a research topic. This idea comes to market only next year. If this idea comes for execution, our lot of electricity waste from our gadgets can be recovered. All the gadgets consume energy. But the energy is not utilized by devices. Some of the energy is lost in the form of friction or heat. For example Computer processor chips, car engines and electric power plants.If the wasted energy is utilized cell phones, laptops, overworked and overloaded poor power plants have not to be recharged frequently and their wear and tear could be reduced too.The current solid state devices which utilize excessive heat and convert it into electricity is not very efficient. So single dot quantum devices and thermal diodes are used as covers for gadgets to achieve successive conversion of heat into electricity by the professor of electrical engineer Prof. Peter Hagelstein at MIT University.His paper about this research was published in the November 2009 issue of the Journal of applied physics.

PAPER ID : EEE20-07

RENEWABLE ENERGY SYSTEMS FOR PLUG-IN HYBRID ELECTRIC VEHICLE

N.R.Tejas, Swathi.R.R, Sumithra.V3
Mechanical Engineering
Kongu Engineering College, Perundurai

Abstract — Hybrid electric vehicles (HEVs) are the future transportation structure as they provide better fuel economy. Energy storage devices are therefore required for the HEVs. The power storage options in this regard must have a feasible weight/energy ratio for better performance. . Electric vehicles (EV), as a promising way to reduce the greenhouse effect, have been researched extensively. This paper presents several possibilities for electric power supply from renewable sources of electric vehicle charging stations. It compares the different power storage options for HEV including the batteries, super-capacitors, and flywheel. Plug-in hybrid electric vehicle (PHEV) provides competitive driving range and fuel economy compared to the internal combustion engine vehicle (ICEV). Operating with optimised control strategies or utilising the concept of the energy management system (EMS), the efficiency of the PHEV could be significantly improved. Battery 'technology and super capacitor technology will increase the possibility of energy capacity of PHEV.

PAPER ID : EEE20-08

ANALYSIS OF PID CONTROLLER FOR A LINEAR PROCESS

School of Electrical Engineering
P.Anandha Narayanan, M.Bharath[1], D. Marshiana[2]3T. Thaj Mary Delsy4
Sathyabama Institute of Science and Technology, Chennai - Tamil Nadu

Abstract — The most important work carried out in any process industries is to control the plant parameter. The process plants may be linear or nonlinear depend on the complexity of the order process. The designs of controllers suitable for the linear process parameters were analyzed. Each process has its own drawbacks and it is rectified by tuning the PID control elements. Various tuning techniques are identified and the closed loop method is said to be more suitable for such process .It is more efficient and cheaper than the other existing methods.In this paper, control of linear process using Ziegler Nicholas tuning method is implemented and P,PI,PID controller analysis were carried out.

PAPER ID : EEE20-09

SMART IRRIGATION SYSTEM USING LORA TECHNOLOGY

Adhavan G1 Department of Electrical and Communication Engineering Bannari Amman Institute of Technology, Sathyamanglam, Tamil Nadu

Abstract — Agriculture has been the backbone of the Indian economy and it will continue to remain so for a long time. It has to support almost 17 per cent of world population from 2.3 per cent of world geographical area and 4.2 per cent of world's water resources. The economic reforms, initiated in the country during the early 1990s, have put the economy on a higher growth trajectory. Annual growth rate in GDP has accelerated from below 6 percent during the initial years of reforms to more than 8 percent in recent years. This happened mainly due to rapid growth in non-agriculture sector. India is an agricultural country, wherein about 70% of the population depends on agriculture. Farmers have wide range of diversity to select suitable fruits and vegetables crops. However, the cultivation of these crops for optimum yield and quality produce is highly technical. Watering the plant is the most important cultural practice and one of the labour intensive tasks in daily greenhouse operation. Watering systems ease the burden of getting water to plants when they need it. Knowing when and how much to water is two important aspects of watering process. To make the gardener works easily, the irrigation watering system is created. Normally, the plants need to be watered twice daily, morning and evening. For example, the microcontroller has to be coded to water the plants in the garden or farms about two times per day. People enjoy plants, their benefits and the feeling related to nurturing them. It can be improved by the aid of technological support like Lora. The management of irrigation can be improved using automatic watering system.

PAPER ID : EEE20-12

SMART GRID SYSTEMS

Chandresh K.V, Dinesh B.S, Kavin Kumar R3
Department of Electrical and Electronics Engineering & Textile Technology
Bannari Amman Institue Of Technology ,Sathyamanglam, Tamil Nadu

Abstract — Electricity plays a major role in our daily life. It has major crisis in electric power production, transmission, distribution efficiently. The power produced in power plants are collected to grid to distribute. To increase efficient electricity field and to reduce losses, smart grid technology is used. Smart grid is an electrical device with various operations and energy measures such as smart meters, smart appliances, and renewable energy resources. Its major aspects control over the production of electric power and distribution of electricity. It is first organized in Europe. It is an electric network that ensure efficient, economical, low losses power system. Integration of grid records is one of the key issues in design of smart grids. It represents the whole current and proposed responses to the demanding situations of power supply, because of the diverse range of things competing taxonomies and no settlement on a well-known definition. Classic grids are designed for one-way drift of power, but if aneighborhood subcommunity generates extra electricity than the reverse flow can raise reliability problems. The stepped forward flexibility of smart grid allows more penetration of tremendously variable renewable energy resources which includes solar and wind electricity, even without addition of strength garage.

PAPER ID : EEE20-13

HYBRID ELECTRIC VEHICLES

Krishnakaanth K R, Kavirajan M, Kishoreram T
Karthikeyan R, Abimanyu A
Department of Electrical and Electronics Engineering
Bannari Amman Institute of Technology, Sathyamanglam, Tamil Nadu

Abstract — Due to the problems caused by the gasoline engines on the environment, the automobile industry has turned to the electrically powered vehicle. An Electric vehicle is a vehicle which uses electric motor or traction motor for propulsion. EVs have seen a resurgence due to technological developments, and an increased focus on renewable energy. There are plenty of modes of EVs are available, but the most common modes are, All-Electric vehicle, Hybrid Electric vehicle and Plug-in Electric vehicle. In this report we are going to discuss about the Hybrid Electric vehicles i.e, HEVs.

A 'gasoline-electric hybrid car' or 'hybrid electric vehicle' is a vehicle which relies not only on batteries but also on an internal combustion engine which drives a generator to provide the electricity and may also drive a wheel. It has great advantages over the vehicles which uses only the gasoline engines. The report provides some of the reasons to switch to electric vehicles. The report is mainly focused on the Hybrid Electric vehicles, advantages and disadvantages of HEVs. It compares the Hybrid Electric vehicles to other mode of EVs like All -electric vehicles and plug-in electric vehicles. Using the concept of Hybridization of cars result in better efficiency and also saves a lot of fuel in today's fuel deficit world. Though at present the concept has been put in to maximum utilization by the automakers. A hybrid gives a solution to all the problems to some extent. If proper research and development is done in this field, hybrid vehicle promises a practical, efficient, low pollution vehicle for the coming era.

PAPER ID : EEE20-14

SMART GRID TECHNOLOGY AND SCADA

Muneesh Dharsini M, Kalikovan K, Kaviya D
Department of Electrical and Electronics Engineering
Bannari Amman Institute of Technology, Sathyamanglam, Tamil Nadu

Abstract — Smart grid technology is a self sufficient systems that can find solution to problem quickly in an available systems that reduces the workforce and target sustainable, safe and quality electricity to all consumers. It is a next generation power grid uses two-flow of electricity and information to create widely distributed automated energy delivery network. The smart grid technologies are already used in other applications such as manufacturing and telecommunication and are being adapted for use in grid operations. Integrated isolated technologies: smart grid enables better energy management, protective management of electrical network during emergency situation, Better demand and power quality; reduce carbon emissions, Renewable Integration. Integrated communication is one of the key factors to smart grid technology. It must be as fast as enough to real-time needs of the system. Depending upon the needs, many different technologies are used in smart grid communication like programmable logic controller, wireless, cellular, supervisory control and dataAcquisition (SCADA) and BLP. These are the keys consider for integrated communication. SCADA systems are used to monitor and control a plant or equipment in industries such as telecommunications, water and waste control, energy, oil and gas refining and transportation.

PAPER ID : EEE20-15

SVM METHOD FOR BUILDING OBJECT IDENTIFICATION

Akash Ram P
Department of Electrical and Communication Engineering
Bannari Amman Institute of Technology,Sathyamangalam,Tamilnadu

Abstract — Building Object detection from Very High Resolution (VHR) Satellite images are recently a challenging task. Different methods were applied for detecting building objects from the satellite images by automation using image processing. The training area to be found for identifying building objects are located and collected as training and test data using supervised classification. The classification process for the exploration of satellite image built on Pixel Intensity Clustering Algorithm. This method engagements the multi-spectral remote sensing information system to discover spectral signature of different objects such as land cover classification, vegetation, rural and urban areas, road structure, concrete structure, rocky areas and remaining areas presented in the image. In the testing, the proposed Support Vector Machine (SVM) framework outperformed for the three (Linear SVM, Cubic SVM, Medium Gaussian SVM) methods tested. SVM istrained complete supervised learning to classify each location in the image as “buildings” or “Non-buildings”. Finally, this method is very useful to get information about a particular location.

PAPER ID : EEE20-16

PESTICIDE SPARING DRONE

Bala Kumar M1
Mechatronics Engineering
SNS College of Technology

Abstract — The purpose of PS drone is to develop a quad-copter which carries pesticides to spray all over the farm which reduces the work of farmers as well as it finishes his work soon. The application of pesticides and fertilizers in agricultural areas is of prime importance for crop yields. This is to develop a user friendly interface for the farmers. The PS Drone is a pesticide spraying quad copter for agricultural purpose which helps the farmer to spray the pesticides all over his land so that it reduces his work which can evenly spray all over his farm.

Here the farmer can control the drone using an android app and he can connect to the app using Wi-Fi module (ESP 8266) which is interfaced in the drone. It will precisely route the land area of that particular farmer's land using GPS no matter shape of the field and type of the crop the pesticide spraying drone will get the job done. Here we can used the Arduino board which is the open source electronics prototype platform which is interfaced with the Wi-Fi module and GPS. To balance the directions and orientations we have used the ACCELEROMETER (ADXL 335), GYRO (MPU-6050), MAGNETOMETER (HMC5883L). We have a wireless camera that can transmit and receive pictures with high resolution.

PAPER ID : EEE20-17

CURRENT STATUS OF ROBOTICS IN FOOD SUPPLY NETWORK

Prataksha R1, Sai Samyukktha J U2, Shanju M3, Vyshnavi K4 Department of Computer Science and Engineering & Department of Food Technology Bannari Amman Institute of Technology, Sathyamanglam, Tamil Nadu

Abstract — Every link within the food supply chain is affected by robotics. Robots introduce new ways in which food is processed and packaged to enhance food safety and sanitation — and provide a chance for job delegations that are ergonomically difficult and harmful to human workers. Overall, for several reasons, the food industry has been slightly slow to adopt robotics. But experts agree that food industry robots are changing — and companies risk falling behind if new technology isn't deployed. With over 7.5 billion of the world's population, the food demand continues to rise. Food suppliers need to work more efficiently. Consumers aren't only looking for better quality, sustainable food at their convenience. The key part of the solution is robotics and automation. Compared to other industries, robotics was relatively slow within the food manufacturing sector. However, over the past few years, robotics has begun to enter almost every corner of the food supply chain, from the field to the kitchen. This paper highlights the current status of robotics and automation in food supply chain.

PAPER ID : EEE20-11

BLOOMS ENERGY

R.Prakash1
Department of Electrical and Electronics Engineering
K. Ramakrishnan College of Technology, Trichy

Abstract — It's a shiny box with a whole lot of mystery that's receiving a whole lot of attention. The energy which gives 24×7 and 365days continuous electric power supply .It is unlike usual battery it generates electricity using fossil fuels .It require only one conversion that is from chemical to electrical our paper shows how to produce reliable, flexible, less polluting ,and continuous supply of electric energy from a cheap material that is sand which is available in plenty.

Technical Article

BIFACIAL SOLAR PANEL'S

Bifacial solar panels utilize advanced cell technology and transparent materials to absorb sunlight from both sides, thereby increasing overall energy yield. The front side of the panel absorbs direct sunlight, while the rear side captures reflected and diffuse sunlight, such as light reflected from the ground or nearby structures. Key components of bifacial solar panels include bifacial cells, transparent encapsulants, and specialized mounting structures that optimize light capture from both side.

Recent advancements in bifacial solar panel technology focus on enhancing efficiency, durability, and cost-effectiveness. Improved cell designs, such as heterojunction and passivated emitter rear cell (PERC) technologies, optimize light absorption and minimize losses.

Additionally, advancements in transparent encapsulant materials, such as anti-reflective coatings and glass-glass configurations, enhance light transmission and panel durability. Furthermore, innovative tracking systems and mounting configurations maximize energy generation by optimizing panel orientation and tilt angles relative to the sun's position throughout the day.

Bifacial solar panels offer versatile applications across various sectors, including utility-scale solar farms, commercial rooftops, and residential installations. In utility-scale projects, bifacial panels can boost energy output and maximize land utilization efficiency, leading to improved project economics. In commercial and residential settings, bifacial panels offer aesthetic appeal and flexibility in installation, making them suitable for diverse architectural designs and space constraints.

DHANUSH KUMAR A
IV YEAR

UNDERWATER WINDMILLS: PIONEERING SUSTAINABLE ENERGY FROM THE DEPTHS

Underwater windmills represent a cutting-edge approach to harnessing renewable energy from the ocean's currents. These turbines, strategically positioned on the seabed, tap into the kinetic energy of underwater currents, converting it into electricity through rotating blades and generators.

By leveraging the consistent flow of ocean currents, underwater windmills offer a reliable and sustainable source of energy, with minimal environmental impact. This innovative process ensures a steady supply of clean electricity.

The implementation of underwater windmills involves careful planning and strategic placement in regions with strong and consistent ocean currents. Once installed, the turbines continuously generate electricity as the currents flow, with the generated power transmitted through underwater cables to onshore facilities or integrated directly into existing power grids.

This seamless integration of underwater windmills into the renewable energy infrastructure presents a promising solution to meet the world's growing energy demands while mitigating the environmental impacts associated with traditional energy sources. Through ongoing research and development, underwater windmills pave the way for a more sustainable and resilient energy future, harnessing the vast potential of our oceans to power communities worldwide.

TAMILSELVAN M
II YEAR

INTERNET PROTOCOL TELEVISION(IPTV)

"Exploring the Evaluation and Impact of Internet Protocol Television (IPTV)"Internet Protocol Television (IPTV) has emerged as a prominent technology in the realm of digital media delivery, offering an alternative to traditional broadcast and cable television. This technical article delves into the comprehensive evaluation and profound impact of IPTV on modern media consumption.

Firstly, it assesses the technical aspects of IPTV, including video encoding standards, streaming protocols, and network infrastructure requirements, to ensure optimal performance and user experience. Secondly, it examines the impact of IPTV on the television industry, content distribution models, and viewer engagement, highlighting its potential to disrupt conventional broadcasting methods.

Additionally, the article explores the implications of IPTV for advertisers, content creators, and regulatory bodies, as well as its role in shaping the future of digital entertainment. Through a thorough analysis, this article aims to provide valuable insights into the evaluation and significance of IPTV in today's media landscape.

DEEPA S
IV-YEAR

FLUIDSHIELD HELMETS

Helmet design has evolved by integrating non-Newtonian fluid technology with soft materials, providing improved security for athletes, laborers in industry, soldiers, and regular users. At the core of this innovation lie the remarkable properties of non-Newtonian fluids. These helmets dynamically adjust viscosity in response to impact, absorbing and dispersing energy to reduce head injury risk. Soft materials like foam padding, gel inserts, and fabric liners provide additional comfort and impact dispersion.

They undergo rigorous testing protocols, including laboratory simulations and real-world scenarios, to meet safety standards while maintaining comfort and functionality. As the demand for safety continues to escalate, the integration of non-Newtonian fluid technology with soft materials represents a significant milestone in helmet engineering, prioritizing safety and user experience.

These helmets represent the convergence of advanced materials and innovative design, heralding a new era of head injury prevention. They stand as a testament to the ongoing commitment to enhancing safety for individuals worldwide.

ASOKAN K
II Year

GAS LEAKAGE DETECTION AND ALERT SYSTEM FOR AIR CONDITIONING UNITS

The Gas Leakage Detection and Alert System, currently in development for air conditioning units, represents a proactive approach to addressing safety risks associated with gas leaks. During its analysis phase, the system focuses on mitigating health hazards and environmental damage stemming from refrigerant gas leaks such as R-410A or R-134A. It utilizes strategically positioned gas sensors to continuously monitor the surrounding environment for any signs of leakage.

Upon detecting a gas leak, the system promptly activates an alarm to alert occupants or maintenance personnel, enabling swift action to mitigate potential hazards. At the core of its operation lies a microcontroller unit (MCU), responsible for processing sensor data and coordinating alarm activation in an efficient manner, ensuring reliable and timely intervention. By leveraging advanced technology, including real-time detection capabilities and prompt notification mechanisms, the system offers a cost-effective and practical solution to enhance safety measures associated with air conditioning units.

As development progresses, the system aims to optimize its effectiveness in detecting and responding to gas leaks, thereby minimizing risks and maximizing safety for occupants and communities alike. By providing peace of mind and creating safer environments, this Gas Leakage Detection and Alert System significantly contributes to the overall safety of air conditioning units in both residential and commercial settings. The ongoing refinement of the system's capabilities underscores its commitment to continuous improvement and innovation in safeguarding human health and the environment.

AJITH E
III YEAR

INTERNSHIP @ LC AUTOMATION A KNOWLEDGE GAINING

Hi I am sathish as an engineering student I joined for internship in LC Automation PVT. Ltd. Company a company manufacturing automotive parts. It is global automotive HIM, of Electrical Actuators, Panel Instruments and PLCs. LC Automation enjoys single source status with most of its customer both at Homes in India and across the world.

Internships in a manufacturing company place a vital role for skill development. Interns gained hands-on experience in machinery operation, quality control, and safety protocols, honing technical skills essential for the industry. It also developed learning to troubleshoot issues and propose solutions under supervision. It has improved the way to communicate with colleagues and supervisors, enhanced effective teamwork and collaboration during work. Time management got cultivated along with organizational skills to complete tasks on time. Attention to even very small detail were emphasized in order to adhere to standards.

It helped in adaptability and flexibility in responding to working environments. Internship also provided understandings into industry practices and technologies. On the whole it gave a professional development and has raised love towards career prospects in the manufacturing sector.

SANTHOSH K
II YEAR

STUDENT'S CORNER

ரகசிய மழை...!

அவசர கதி உலகத்தில் அவசரமின்றி கொட்டும் மழை....!

ஆயிரம் அட்டவணைகளை கன நேரத்தில் கலைத்து விட்டு அவசரமின்றி கொட்டும் மழை.....!

பள்ளி குழந்தைகளின் முகம் மலரச் செய்து அவசரமின்றி கொட்டும் மழை....!

கடலோடிகளை கடல் அன்னையின் மடியில் தவழ விடாமல் அவசரமின்றி கொட்டும் மழை.....!

மொட்டைமாடித் துணிகளை நனைய வைத்து வீட்டு பெண்களிடம் வசை வாங்கிக் கொண்டு அவசரமின்றி கொட்டும் மழை.....!

பல மதத்தினரை ஒரே இடத்தில் நனையாமல் ஒதுங்க வைத்து அவசரமின்றி கொட்டும் மழை.....!

வாழ்க்கை நிச்சயமற்றது என்பதை சொல்லாமல் சொல்லிக் கொண்டே அவசரமின்றி கொட்டும் மழை...!

K. Thangamarikumar
IV- EEE

காலையின் கண்ணீர்.....!

கீச்சிடும் அணில்களின் சத்தம்.

சோம்பலை பழித்து சிறகடிக்கும் பறவை.

வண்ணத்தை ஜாலமாக்கி அங்கும் இங்கும் திரியும் வண்ணத்துப்பூச்சி.

கிழக்கை செந்நிறமாக்கி தகிப்பூட்டும் கதிரவன்.

பரபரப்பாய் மிதிவண்டியில் பயணப்படும் பால் கேன்.

உண்ட மயக்கம் தீராத சாம்பல் நிறப் பூனை.

எல்லாம் இயற்கையோடு இயைந்து போக....

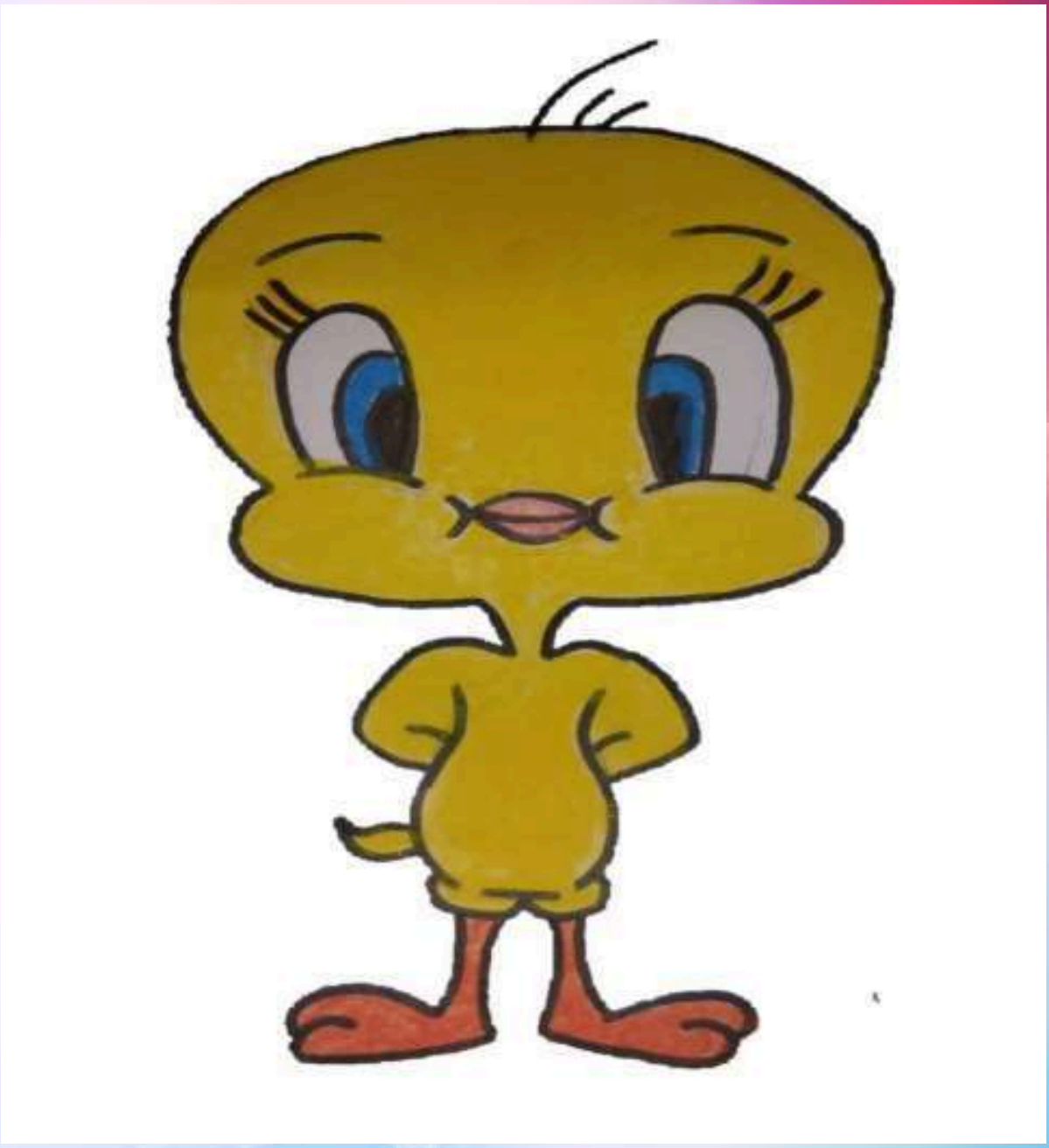
நான் மட்டும் கண்ணீருடன் இந்த நாளை வரவேற்கிறேன்.....

எனை இயக்கும் இயற்கை(கல்லூரி நாட்கள்) நீ இல்லாமல்.....!

K.THANGAMARIKUMAR,
FINAL YEAR.

G. Geetha Lakshmi IV- EEE

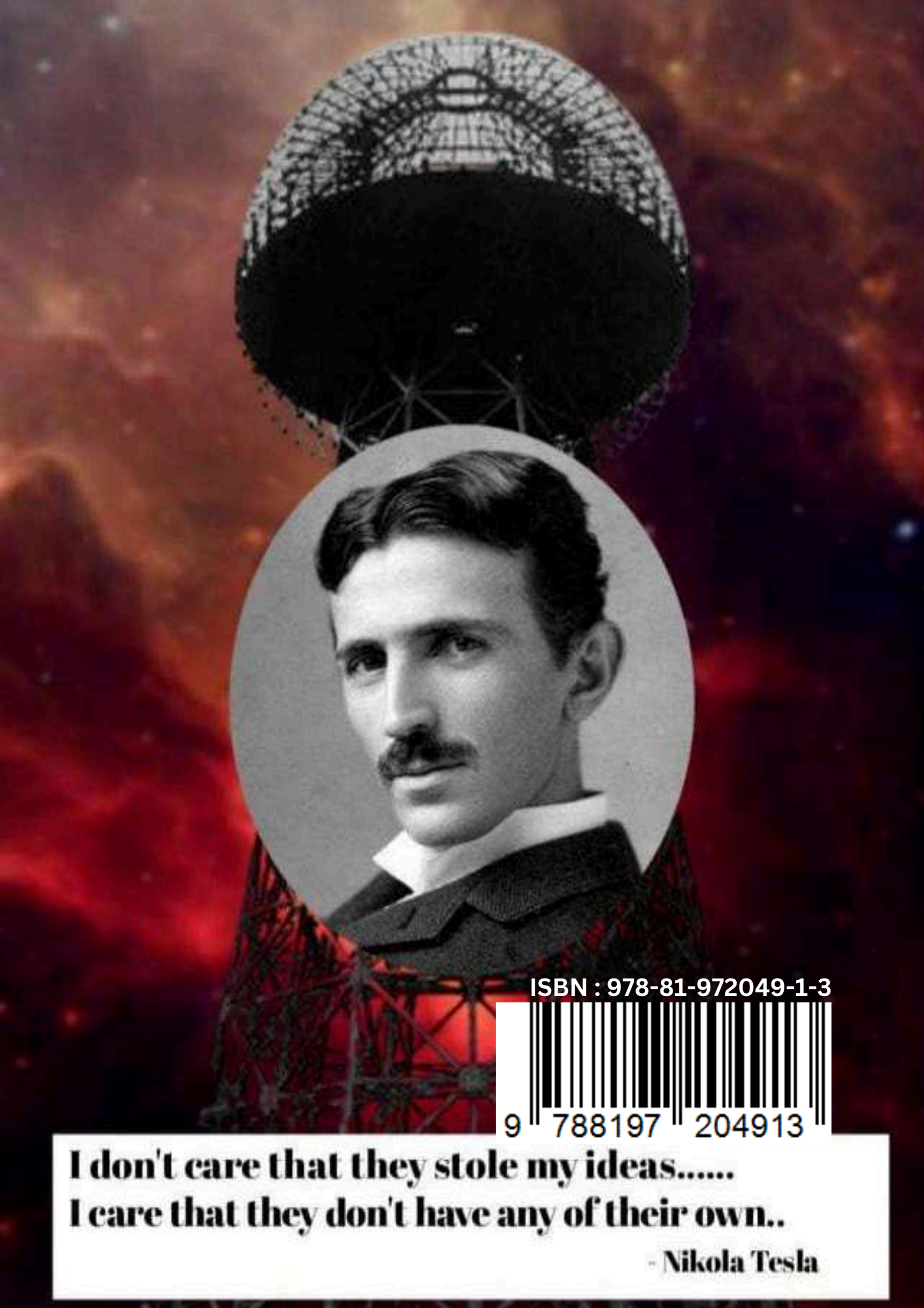
G. Geetha Lakshmi IV- EEE



R. Akash IV- EEE

D. Aravindakshan III - EEE

D. Aravindakshan III - EEE



ISBN : 978-81-972049-1-3

I don't care that they stole my ideas.....
I care that they don't have any of their own..

- Nikola Tesla