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DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

ELECTROCLIPS

Presented By

ELECTROBLITZ CLUB

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

THE BIANNUAL NEWSLETTER OF ELECTRONICS

Main Campus

DAYANANDA SAGAR UNIVERSITY

School of Engineering

Devarakaggalahalli, Harohalli Kanakapura Road,
Ramanagara - District, Karnataka - 562112

ABOUT THE DEPARTMENT

Dayananda Sagar University, School of Engineering started with the Electronics and Communication Engineering (ECE) Department in the year 2015. As a unit of excellence, the Department is well committed to impart the knowledge with highly qualified and well specialized faculty in the vistas of Electronics and Communication. The department has well established infrastructure and innovative labs put in place to facilitate the first and experience to students, for its academic and research programs. It runs four programs namely UG, PG with specialization of Embedded systems, B.Voc in Mechatronics and Doctoral degree. The department has collaborated with NTTF to offer the Vocational degree. This program enables the graduating students to accept a professional career which demands very high-level industry relevant skills. An exclusive BOSCH REXROTH lab is integrated into the curriculum and students can conduct automation projects. The industry sponsored Analog Devices Lab also provides students with opportunities to conduct research in the Communication Domain. The department faculty have patents and sponsored research projects funded by various Government funding agencies.

VISION

"To create innovative Engineers and Entrepreneurs with technological excellence, professional commitment and social responsibility for serving national and global needs."

MISSION

- Inculcate Academic Excellence through innovative teaching and learning processes and espousing appropriate pedagogical parameters.
- Reinforce the Students with desired technical aptitude, entrepreneurial and leadership skill sets enabling them to face the challenges of globalization and technological sophistication.
- Initiation with understanding the psychology of students, socio-cultural aspects of the bidirectional learners, vitality of interdisciplinary approach, value addition through interactive and collaborative learning. This is followed by systematic and sequential implementation of syllabus upgradations on par with industrial revolution.

Program Educational Objectives (PEOs) - UG

- Our Graduates will have in-depth knowledge of Electronics and Communication Engineering with promising professional careers in private and public sector or higher education.
- Our Graduates will be successful in solving Engineering Problems with innovative ideas and acquire managerial skills for desired outcomes.
- Our Graduates will have the motivation for perennial learning and progress their careers by inculcating interpersonal, leadership and social skills.
- Our Graduates will be active members for catering to the society locally and globally with Ethics and Integrity

Program Specific Outcome (PSO) - UG

- Apply the knowledge of Electronics and Communication to solve Engineering Problems in various domains of Engineering Sciences.
- Adopting analytical skills and complementing the cross-cutting technology to arrive at optimum solutions for Engineering Problems.
- Adaptability to dynamic work environment to address the societal needs with ethical approach.

Program Educational Objectives (PEOs) - PG

- Analyze and formulate suitable Electronic Design Automation (EDA) to solve real world problems in the Embedded Systems domain to design innovative products and systems
- Develop managerial skills and relevant techniques in the disciplines of Embedded Systems that include safety and sustainability, and become a successful professional or entrepreneur in the sector.
- Pursue a career in Embedded Systems research by selfteaching and self-directed research on cutting-edge technology

Program Specific Outcome (PSO) - PG

- Develop skills in Embedded Systems, Design, Testing, Verification, and prototyping with a focus on applications.
- Integrate numerous subsystems to create a System On Chip, enhance its performance, and excel in Embedded domain-related industries.
- Apply use contemporary design tools for efficient product development.

Program Educational Objectives (PEOs) - B.Voc

- Our Graduates will have in-depth knowledge of Mechatronics (B.VoC) with promising professional careers in private and public sector or higher education.
- Our Graduates will be successful in solving Engineering Problems with innovative ideas and acquire managerial skills for desired outcomes.
- Our Graduates will have the motivation for perennial learning and progress their careers by inculcating interpersonal, leadership and social skills.

Program Specific Outcome (PSO) - B.Voc

- Apply the knowledge of Mechatronics to solve Engineering Problems in various domains of Engineering Sciences.
- Adopting analytical skills and complementing the cross-cutting technology to arrive at optimum solutions for Engineering Problems.
- Adaptability to dynamic work environment to address the societal needs with ethical approach.

DEAN'S DESK

Dr. Udaya Kumar Reddy K R

I am delighted that the Department of Electronics and Communication Engineering is bringing out the magazine that can provide wonderful insights for students and faculty fraternity. A lot has been happening in Electronics Sciences over the years, and one of the significant changes involves this newsletter. Our graduate students are doing amazing things in many different areas in different ways.In the current issue, you'll meet some remarkable students and faculty who are making a difference in the technical aspects and otherwise. we are hoping to build this endowment with your support, to afford even more opportunities for students to take part in this important component of their graduate education, I hope this magazine provides the reader a wonderful insight and i thank the editorial team for their wonderful effort in bringing out this masterpiece.

WISH YOU ALL THE BEST.

CHAIRPERSON'S DESK

Dr. Arun Baladi

Dear All,

I hope this message finds you well and in good spirits. As we embark on another exciting year filled with opportunities and challenges, I wanted to take a moment to connect with each one of you. The Electronics and Communication Engineering Department has always been a vibrant community of passionate individuals dedicated to advancing knowledge, pushing boundaries, and contributing to the ever-evolving field of Electronics and Communication Engineering. Our collective efforts have resulted in numerous achievements, accolades, and a reputation for excellence. Firstly, I would like to express my gratitude to our dedicated faculty, passionate students, and supportive staff for their continued commitment to excellence in teaching, research, and innovation. Your collective efforts have positioned our department as a leader in advancing cutting-edge technologies and shaping the future of Electronics and Communication Engineering.In the spirit of fostering a sense of community and celebrating our achievements, I am pleased to announce the upcoming release of the Electronics and Communication Engineering Department Magazine. This publication aims to showcase the remarkable work, accomplishments, and stories within our department. I encourage you all to actively engage in departmental activities, research initiatives, and various events that will be organized throughout the year. Your unique perspectives and skills contribute significantly to the dynamic and enriching environment that defines our department T Your dedication and passion are the driving forces behind our success. I am confident that, together, we will continue to excel and make lasting contributions to the world of Electronics and Communication Engineering. "The focus of the department is to provide a better campus-based educational experience to the students for developing their learning interest and critical thinking to increase competencies in them."

Wishing you a productive and fulfilling year ahead

EDITORIAL MESSAGE

Spark Ignition: The Unwritten Code of Our Community

Dear ECE family,

As we navigate the ever-changing landscape of technology and innovation, it's easy to get lost in the noise. But amidst the hum of circuit boards and the glow of screens, there's a thread that weaves us together – our passion for electronics.

Electroclips is more than just a magazine; it's a spark plug for our community. It's where stories meet innovation, where dreams become reality, and where friendships are forged. Every issue is a snapshot of what makes us tick, a testament to the diversity of talents, perspectives, and backgrounds that make ECE so vibrant.

We're not just talking about achievements; we're talking about experiences. We're talking about late-night hackathons, project triumphs, and failures turned into lessons learned. We're talking about students who've dared to dream big, staff who've mentored with heart, and alumni who've paved the way for those who come next.

This magazine is a time capsule of our collective spirit – one that's fueled by curiosity, creativity, and a willingness to learn. By contributing your stories, ideas, and talents to Electroclips, you're not just writing history; you're creating it.

So, let's spark some ignition in our community! Let's share our passions, showcase our work, and celebrate each other's successes. Together, we can create something truly remarkable – a magazine that embodies the essence of ECE and inspires others to join us on this incredible journey.

Join us on this spark-filled adventure!

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ELECTROCLIPS

THE BIANNUAL NEWSLETTER OF ELECTRONICS

DEPARTMENT EVENTS

FIVE DAYS WORKSHOP ON "FAST PROTOTYPING OF DIGITAL SYSTEMS USING FPGA"

The five-day workshop on "Fast Prototyping of Digital Systems using Verilog HDL," organized by the Department of Electronics and Communication Engineering at Dayananda Sagar University, was to equip students and professionals with essential skills in digital system design using Verilog HDL.

Objectives:

To provide participants with a strong foundation in Verilog HDL for digital system design.
To introduce the design flow for FPGA-based systems, including simulation, synthesis, and implementation.
To offer hands-on training on FPGA development tools such as Xilinx Vivado.
To bridge the gap between theoretical knowledge and industry-oriented practical applications.
To enhance participants' proficiency in fast prototyping techniques for digital systems.

Highlights:

The workshop spanned five days, from 27th August to 31st August 2024, featuring a mix of lectures, hands-on sessions, and demonstrations.
The inaugural session was followed by an interactive lecture by Mr. Abhra Bagchi, Co-founder of Fermion IC Design, who shared valuable industry insights on the practical aspects of Verilog HDL.
Participants engaged in in-depth sessions covering FPGA design flow, including high-level design, simulation, synthesis, and implementation.
Exposure to industry-standard design tools like Verilog/VHDL and Xilinx Vivado for FPGA development.
The sessions were well-received, with participants appreciating the balance between theoretical concepts and practical application.

Conclusion:

The workshop was a resounding success, providing participants with valuable knowledge and hands-on experience in digital system prototyping using Verilog HDL. The combination of expert-led sessions and practical exposure significantly enhanced their understanding and proficiency in FPGA-based design. The event concluded with a valedictory session, where participants were awarded certificates for their participation, marking the successful completion of an enriching learning experience.

FACULTY CO-ORDINATOR :
Dr. Shirshendu Roy, Assistant Professor, ECE, DSU

IEEE DAY 2024 CELEBRATION AT DAYANANDA SAGAR UNIVERSITY

IEEE Day celebration at Dayananda Sagar University on October 1, 2024, was to bring together students and faculty to explore advancements in electrical engineering and technology while fostering collaboration and innovation within the IEEE community.

Objectives:

To celebrate IEEE Day by recognizing the contributions of IEEE in technological advancements.
To provide a platform for students and faculty to discuss emerging trends in electrical and electronics engineering.
To encourage student participation in IEEE activities and enhance their professional network.
To inspire innovation and knowledge sharing through expert talks and discussions.
To strengthen the IEEE Student Branch Chapter at DSU by engaging students in technical and professional development activities.

Highlights:

The event was successfully organized by the IEEE Student Branch Chapter of DSU, bringing together students and faculty members.
The celebration was honored by the presence of distinguished guests, including Dr. Udaya Kumar Reddy, Dean of the School of Engineering, Dr. Arun Balodi, Chairperson of the Department of Electronics and Communication Engineering, and Dr. Pushpamala S, Associate Professor in the Department of ECE.
Various sessions and discussions were held on the advancements and impact of IEEE in shaping technology and engineering.
The event encouraged active participation from students, fostering collaboration and engagement within the IEEE community.

Conclusion:

The IEEE Day celebration at DSU was a great success, providing a platform for students to engage with faculty and experts in the field of electrical and electronics engineering. The event strengthened the IEEE Student Branch Chapter by fostering knowledge exchange, professional networking, and enthusiasm for technological advancements.

Faculty Co-ordinator :

Dr. Arun Balodi, Professor & Chairman, ECE, DSU
Dr. Pushpamala S, Associate Professor, ECE, DSU

WORKSHOP ON PARALLEL AND PIPELINE IMPLEMENTATION OF FIR AND IIR FILTER ON FPGA USING MATLAB/SIMULINK

The workshop aimed to provide 5th-semester Electronics and Communication Engineering students with practical insights into the parallel and pipeline implementation of FIR and IIR filters on FPGA using MATLAB/Simulink. It emphasized bridging theoretical concepts with real-world applications in digital filter design.

Objectives

- To introduce students to the fundamentals of FIR and IIR filters.
- To explore different filter structures, parallel processing, and pipelining techniques.
- To familiarize students with data formats and FPGA implementation basics.
- To offer hands-on experience in FIR filter design using MATLAB/Simulink and conversion to Verilog for FPGA verification using Vivado.
- To enhance students' understanding of industry-standard tools used in digital signal processing.

Highlights

- Inauguration: Dr. Arun Balodi, Professor and Chairman, highlighted the significance of digital filter design in signal processing during the inaugural address.
- Technical Sessions: Dr. Shirshendu Roy, Assistant Professor, led the sessions, focusing on FIR and IIR filter fundamentals, filter structures, and FPGA implementation techniques.
- Hands-on Training: Students were actively engaged in designing FIR filters in Simulink, converting designs into Verilog code, and verifying the implementations in Vivado.
- Event Coordination: The event was coordinated by Prof. Nadeem Pasha and Prof. Jaishree Ramadevaru, who guided students throughout the workshop.

Conclusion

The workshop successfully equipped students with practical skills in digital filter design, offering a seamless blend of academic concepts and industry-standard practices. Dr. Arun Balodi concluded the event by appreciating the efforts of the participants and faculty, reaffirming the department's focus on experiential learning.

Faculty Co-ordinator :

Dr. Arun Balodi, Professor & Chairman, ECE, DSU

Dr. Shirshendu Roy, Assistant Professor, ECE, DSU

VALUE ADDED COURSE ON DIFFRACTIVE MICRO-OPTICS:

Event Name: Value Added Course on "Diffractive Micro-Optics".
Venue: Lecture Theatre 2
Dates: 5th to 15th November 2024

Resource Person:
Dr. Pavelyev, Vladimir S.
Head, Department of Nanoengineering, Chief Researcher, Samara National University, Russia.

Objective of the Course:
The value-added course on "Diffractive Micro-optics" was conducted to provide students with in-depth knowledge and hands-on experience in the field of diffractive optical elements (DOEs). The course emphasized theoretical foundations, practical applications, CAD-based designs, and emerging trends in the domain of micro-optics and nanophotonics.

Topics Covered

- Day 1 (05/11/2024):
  - Inauguration by chief patrons and faculty coordinators.
  - Importance and practical applications of diffractive optical elements (DOEs).
- Day 2 (06/11/2024):
  - Basics of computer-aided DOE design and simulation.
  - Approaches for DOE design in the frame of scalar theory.
- Day 3 (11/11/2024):
  - Stochastic optimization of DOEs.
  - Hands-on session using CAD software for DOE design.
- Day 4 (12/11/2024):
  - Materials and technologies for diffractive optics.
  - Lithographic and direct writing approaches for diffractive microrelief fabrication.
  - Characterization of DOEs, including THz-range micro-optics.
- Day 5 (13/11/2024):
  - Trends and advancements in micro-optics and nanophotonics.

Faculty Co-ordinator :
Dr. Arun Balodi, Professor & Chairman, ECE, DSU
Dr. Vinu R, Associate Professor, ECE, DSU
Dr. Deepthi Chamkur. V, Assistant Professor, ECE, DSU

Highlights:

1. Topic & Focus: A specialized Value-Added Course on Diffractive Micro-Optics for V Semester students, emphasizing both theoretical and practical aspects.
2. Resource Person: Dr. Vladimir S. Pavelyev, Head of the Department of Nanoengineering at Samara National University, Russia, delivered expert insights into the field.
3. Course Content:
   - Theoretical foundations of diffractive micro-optics.
   - CAD-based design approaches and optimization techniques.
   - Practical applications in micro-optics and nanophotonics.
   - Emerging trends and future directions in nanophotonics technology.
4. Organizers: Dr. Vinu R and Dr. Deepthi Chamkur. V coordinated the event under the guidance of Dr. Arun Balodi, Chairman, Department of ECE.
5. Participation: 119 students participated, gaining hands-on experience and advanced knowledge in diffractive micro-optics.

Conclusion:

The Value-Added Course was a tremendous success, offering students a comprehensive understanding of the growing field of diffractive micro-optics. Through theoretical and practical sessions led by a world-renowned expert, participants were introduced to cutting-edge design methodologies and trends in nanophotonics. The course provided valuable exposure to the real-world applications of micro-optics, preparing students for future technological advancements and research in the field.

ROBOTICS CERTIFICATION PROGRAM ORGANIZED BY ECE DEPARTMENT

The Robotics Certification Program was to equip students with hands-on experience in robotics, empowering them with practical skills and knowledge in sensor integration, communication protocols, and robot programming. The program aimed to bridge the gap between theoretical learning and real-world applications in robotics and automation.

Objectives:

1. Introduce students to the fundamentals of robotics, including sensor integration and communication protocols (I2C, UART).
2. Provide hands-on experience in writing efficient code using MicroPython for robotics systems.
3. Teach techniques for robot testing, debugging, and telemetry data analysis.
4. Guide students through the process of building and programming autonomous line-following robots.
5. Foster creativity, problem-solving, and innovation among students in robotics technology.

Event Highlights:

1. Collaboration: Organized by the Department of Electronics and Communication Engineering at DSU in collaboration with Safear India.
2. Participation: 140 students enthusiastically participated in the workshop, eager to delve into robotics and automation.
3. Workshop Content:
   - Sensor integration using IR sensors.
   - Communication protocols (I2C, UART).
   - Coding in MicroPython for robotics.
   - Robot testing, debugging, and telemetry analysis.
4. Expert Trainers: John Srivastava, Debasis Doki, Abhishek Narayan, and Anjani Tiwari from Safear India delivered expert guidance through practical, hands-on sessions.
5. Practical Learning: Students built and programmed autonomous line-following robots, gaining a comprehensive understanding of robotics systems and their applications.
6. Conveners & Organizers: Dr. Arun Balodi convened the event, with key organization by Dr. Pushpa P.V., Prof. Puneeth S, Dr. Navya R, and student organizer Pannati Jayashree A.
7. Support: The Dean of the School of Engineering, Dr. Uday Kumar Reddy, extended his support to the event.

Conclusion:

The Robotics Certification Program successfully provided students with industry-relevant skills, combining theoretical knowledge with practical learning in robotics and automation. Participants gained valuable insights into real-world robotics systems, sensor integration, and programming, leaving the event with new skills and certifications. This program demonstrated DSU's commitment to fostering innovation, technical excellence, and hands-on learning, ensuring students are well-prepared for future advancements in robotics and related fields.

Faculty Co-ordinator :

Dr. Pushpa P V, Professor, ECE, DSU

Dr. Navya R, Assistant Professor, ECE, DSU

Mr. Puneeth S, Assistant Professor, ECE, DSU

GRAND LAUNCH OF THE IEEE CEDA STUDENT BRANCH CHAPTER AT DAYANANDA SAGAR UNIVERSITY

The inauguration of the IEEE Council on Electronic Design Automation (CEDA) Student Branch Chapter at Dayananda Sagar University (DSU) was to establish a platform that fosters innovation, collaboration, and academic excellence in the field of Electronic Design Automation (EDA). This chapter aims to bridge the gap between theoretical learning and practical applications, encouraging students to engage in cutting-edge research and technical activities.

Objectives:

1. Promote awareness of the latest advancements and trends in Electronic Design Automation (EDA).
2. Provide opportunities for students to enhance their technical skills through workshops, talks, and competitions.
3. Encourage collaboration between students, faculty, and industry experts in the field of EDA.
4. Build a vibrant community that supports professional growth, research, and innovation within the domain of electronics and communication engineering.
5. Create a platform for members to contribute to the technical community through knowledge-sharing and participation in IEEE activities.

Event Highlights:

1. Inauguration of IEEE CEDA Student Branch Chapter: A significant milestone at DSU, marking the formal establishment of the student chapter focused on Electronic Design Automation (EDA).
2. Dignitaries Present: The event featured insightful speeches from distinguished guests including Dr. Parameshachari B D, Dr. Shashidhara K S, Dr. Pushpa Mala S, and Dr. Arun Balodi, sharing their expertise on the opportunities in EDA.
3. Dynamic Leadership: The chapter is led by Chair Deekshitha R, Vice Chair Laranya Subudhi, Secretary Prokshith J S, and Treasurer Mohammed Furkhan, with other committee leaders actively contributing to Research, Logistics, Media, and Technical teams.
4. Student Engagement: The launch event witnessed enthusiastic participation from students who engaged in discussions on the chapter's vision and the opportunities available for professional development and collaboration.
5. Commitment to Growth: The chapter is dedicated to organizing technical workshops, talks, and competitions to enrich the learning experiences of the DSU community and promote innovation in EDA.

Conclusion:

The inauguration of the IEEE CEDA Student Branch Chapter at Dayananda Sagar University marks the beginning of a new era of growth, learning, and innovation in the field of Electronic Design Automation. With the support of esteemed faculty and a dedicated student leadership team, the chapter is poised to make a significant impact by promoting technical excellence, research, and collaboration. The event successfully laid the foundation for future activities that will enhance the academic and professional development of students, positioning DSU as a hub for EDA-related initiatives and breakthroughs.

Faculty Co-ordinator :
Dr. Arun Balodi, Professor & Chairman, ECE, DSU

ANTENNA EXPLORATION WORKSHOP

To equip participants with a comprehensive understanding of antenna design, simulation, and measurement, combining both theoretical knowledge and hands-on experience to enhance their skills in the field of electronics and communication.

Objective:

- To provide in-depth insights into different types of antennas, their applications, and design considerations.
- To offer practical exposure to antenna design and simulation using PCAAD 5.0 software.
- To demonstrate real-world antenna measurement techniques, improving the technical competency of participants.

Highlights:

- The Antenna Exploration Workshop was held from 24th to 26th October 2024 at the Harohalli Campus, Department of Electronics and Communication Engineering, Dayananda Sagar University.
- Organized in association with the Centre for Space Science and Technology (CSST).
- 120 students actively participated in the workshop.
- Led by Dr. V. V. Srinivasan, an expert in antenna technologies and microwave systems.
- Sessions included a mix of theoretical foundations, hands-on simulation, and practical measurement techniques.

Conclusion:

The Antenna Exploration Workshop was a successful academic event, offering participants valuable practical experience and theoretical knowledge in antenna technologies. Students gained a solid foundation in design and measurement techniques, encouraging them to pursue further research and projects in this field. The workshop received positive feedback, with participants expressing enthusiasm for future explorations in antenna design.

Faculty Co-ordinator :

Mrs. Manasa K R, Assistant Professor, ECE, DSU

Dr. Deepthi Chamkur V, Assistant Professor, ECE, DSU

INDUSTRIAL VISIT TO THE RF AND MICROWAVE RESEARCH LAB

To provide students with in-depth knowledge and practical experience in RF and Microwave engineering, fostering a deeper understanding of advanced RF systems, measurement techniques, and real-world applications.

Objective:

- **To introduce students to Anechoic Chambers and their role in precision RF measurements.**
- **To familiarize students with the use of Vector Network Analyzers (VNAs) in characterizing RF components and systems.**
- **To bridge the gap between theoretical knowledge and practical applications of RF and Microwave engineering.**

Highlights:

- **Date: 20th November 2024**
- **Venue: RF and Microwave Research Lab, Christ University, Bangalore**
- **Event: Workshop on RF and Microwave Engineering by IEEE MTT-S Student Branch, Dayananda Sagar University**
- **Resource Persons:**
  - **Dr. Shashi Kumar D, expert in RF energy harvesting and microstrip antennas.**
  - **Dr. Naveen Kumar, specializing in antenna design, RF measurements, and 5G technologies.**
- **Sessions covered Anechoic Chambers and Vector Network Analyzers (VNAs), focusing on RF measurement accuracy and hands-on demonstrations.**

Conclusion:

The workshop successfully combined theoretical insights and hands-on learning, enhancing students' understanding of RF and Microwave technologies. Through practical demonstrations of Anechoic Chambers and VNAs, participants gained valuable experience in RF measurements and system design, preparing them for advanced research and professional challenges in the field. The event received positive feedback for its technical depth and interactive approach.

Faculty Co-ordinator :

Mrs. Manasa K R, Assistant Professor, ECE, DSU

Dr. Deepthi Chamkur V, Assistant Professor, ECE, DSU

EIGHTH ANNUAL CONVOCATION

To formally recognize and celebrate the achievements of the ECE graduates and phd awardees as they transition from academia to professional careers, ensuring they are well-equipped to make meaningful contributions to the industry and society.

Objective:

- To award degrees to the 122 graduates of the ECE department.
- To honor and motivate graduates by highlighting their potential and accomplishments.
- To encourage graduates to apply their knowledge and skills in practical, impactful ways within the field of electronics and communication engineering.

Event Highlights:

- A total of 122 students from the ECE department were awarded their degrees.
- The graduation certificates were presented by Dr. Uday Kumar Reddy, Dean, SoE, and Dr. Arun Balodi, Chairperson, ECE.
- The event was marked with excitement and pride as the graduates embarked on their new journeys into the professional world.
- Graduates were recognized for their academic achievements and encouraged to make impactful contributions to the field of electronics and communication.

Conclusion:

The degree-awarding ceremony for the ECE department was a momentous occasion, marking the culmination of years of hard work and dedication. The support and guidance from the faculty, led by Dr. Uday Kumar Reddy and Dr. Arun Balodi, have helped shape these graduates into capable professionals. As they step into the next phase of their lives, they are well-prepared to contribute to the field and society at large. We wish them all the best for their future endeavors!

PHD AWARDEES

1. Three research scholars Divyashree H B,Anitha Suresh and Devjani Bhattacharya were awarded PhD degrees from the Department of ECE under the guidance of Dr. Puttamadappa C,Professor & Registrar, Department of Electronics & Communication Engineering,DSU

2. Research scholar Chinnu Mery George awarded PhD degree from the department of ECE, DSU under the guidance of Dr. Gayathri K M

3. Two research scholars Deepa N and Navya R awarded PhD degrees from the department of ECE DSU under the guidance of Dr. Sneha Sharma and co guide Dr. Preeta Sharan and Dr. Devaraju

4. Two research scholars Pratha P B & Anshika awarded PhD degrees from the department of ECE DSU under the guidance of Dr. Saara

SARASWATHI AND AYUDHA POOJA CELEBRATION

The Saraswathi Pooja conducted by the Department of Electronics and Communication Engineering (ECE) at Dayananda Sagar University was to celebrate the occasion with devotion, unity, and tradition. The event sought to invoke the blessings of Goddess Saraswathi, the deity of knowledge and wisdom, and to foster a sense of spirituality, harmony, and academic excellence among faculty, staff, and students.

Objectives:

1. To organize a traditional Saraswathi Pooja, fostering spiritual growth and collective devotion within the ECE department.
2. To encourage students to seek blessings from Goddess Saraswathi for wisdom, knowledge, and success in their academic endeavors.
3. To enhance participation among students and faculty in cultural activities, promoting a blend of learning and tradition.
4. To create an atmosphere of unity, joy, and celebration, reinforcing the department's mission to achieve academic and personal growth.

Event Highlights:

1. Traditional Saraswathi Pooja:
   - The event commenced with a serene and heartfelt Saraswathi Pooja, where students, faculty, and staff offered prayers and flowers to invoke the blessings of the Goddess of Knowledge. The peaceful ambiance was enhanced by the chanting of sacred hymns and mantras, creating a deeply spiritual atmosphere.
2. Dance Performances:
   - A beautiful classical dance performance was presented by the students of the ECE department. The graceful movements and devotional music added charm to the celebration, embodying the essence of culture and devotion. This performance was a key highlight, mesmerizing the audience and uplifting the spiritual energy of the event.
3. Photo Booth & Fun Activities:
   - To add to the excitement, a photo booth was set up where students and faculty captured joyful moments together. The photo booth was a source of fun and camaraderie, filled with laughter, creative poses, and memorable snapshots.
4. Interactive Cultural Program:
   - The event featured an engaging cultural program, where students performed traditional and contemporary dances, songs, and skits, celebrating the essence of knowledge, culture, and friendship. The performances were met with enthusiastic applause and contributed to the festive spirit.
5. Distribution of Prasadam:
   - After the rituals, prasadam was distributed to all attendees. This was a moment of togetherness as everyone enjoyed the blessed offering, sharing positive energy and joy.
6. Unity and Devotion:
   - The pooja created a strong sense of unity within the ECE department, as faculty, staff, and students came together in reverence and devotion, building a harmonious and inspiring environment.

Conclusion:

The Saraswathi Pooja conducted by the Department of Electronics and Communication Engineering was a grand success, leaving a lasting impression of unity, devotion, and academic inspiration. The event not only honored tradition but also fostered a sense of togetherness and cultural pride. Through active participation in the pooja, dance performances, and fun activities, students and faculty came together to celebrate both knowledge and joy. The pooja reinforced the department's dedication to academic excellence and spiritual growth, motivating everyone to continue striving for success with the blessings of Goddess Saraswathi.

NEW ERA OF WIRELESS SENSOR NETWORKS

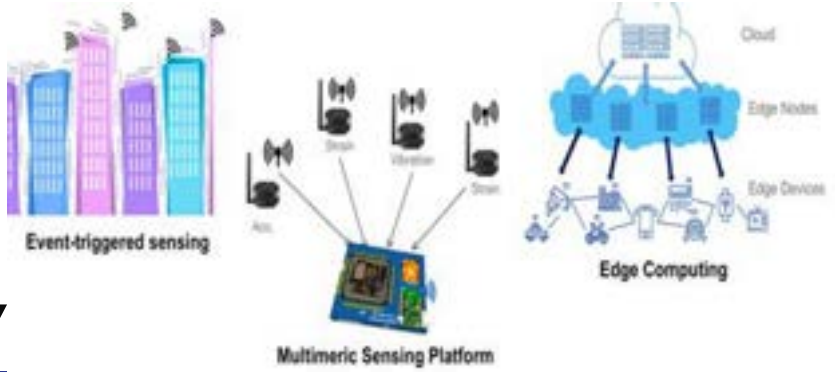
Dr. Santhosh G
Assistant Professor

Wireless Smart Sensor Networks (WSSNs) are systems consisting of multiple sensor nodes that are wirelessly connected and designed to monitor and collect data from the physical environment. Wireless Smart Sensor Networks have a wide range of applications in various areas such as smart homes, environmental monitoring, healthcare and medical applications, industrial and manufacturing applications, agriculture, smart cities, military and defense, transportation and logistics, energy and utilities and disaster management. For some platforms of smart sensors functional subsystems such as actuation interface, wireless radio, computer core, and sensing interface are commonly found in wireless smart sensors. Deploying a single wireless smart sensor comes with its own set of challenges. The most critical one is the constraints in resources in such edge devices. For example, one major obstacle is the limited battery power. Event triggered sensing and schedule based sensing are two main mechanisms for wireless data acquisition aimed at enhancing energy efficiency in long term deployment.

Single metric sensing provides limited information, which limits its ability to address complex problems. Multimeric sensing involves measuring various factors to gather multimeric data, e.g., acceleration, strain, temperature, etc. This can be achieved through a flexible sensing platform that can integrate different types of sensors. Interface boards may be necessary to convert physical responses into voltage signals, which can then be acquired by the WSSN.

One of the most important parts in Wireless Smart Sensors is the onboard central processing unit. This component provides intelligent capabilities like edge computing, which is an emerging computing paradigm where computation is conducted at the edge of the network to increase efficiency and scalability for rapid data analytics and decision making. Edge computing has the potential to convert raw data into valuable information by enabling data processing and analysis at the network edge, reducing the workload for WSS, and addressing data inundation.

WSSN present a promising solution for long-term for application like Structural Health Monitoring etc., by offering ease installation and lower costs than traditional wired counterparts. Various recent advances, including event-triggered sensing, multimetric sensing, and edge computing, have extended the functionalities of each sensor node for more complex applications.



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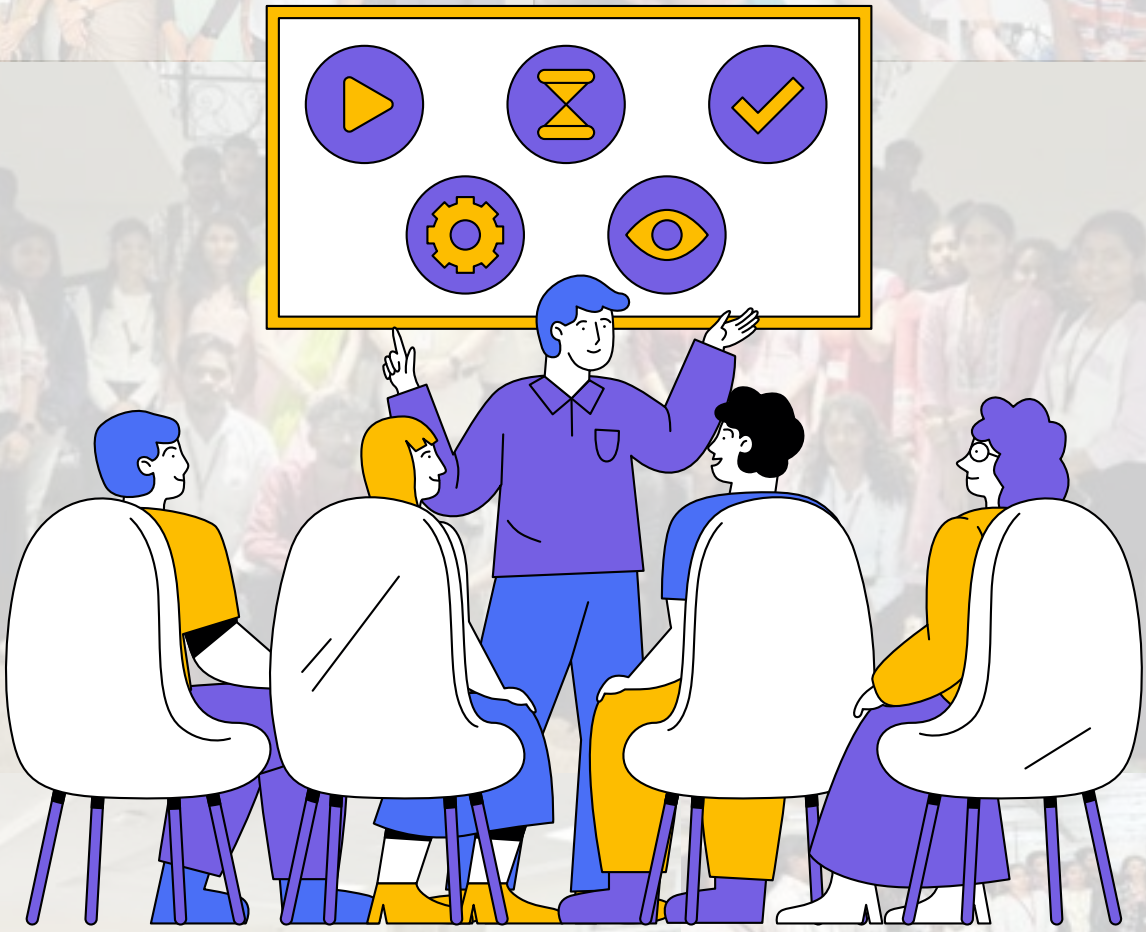


ELECTROBLITZ EVENTS

ELECTROBLITZ CLUB

Electroblitz is a student techno-cultural club formed under the Dept. Of Electronics and Communication, with the motive of providing a platform for students to exhibit both academic and extra curricular skills. The activities of the club enhance their technical skills and personal development apart from academics

VISION

To excel in developing engineers, and techno-entrepreneurs through quality technical education, imbibing societal and ethical values by leveraging interdisciplinary research for sustainable solutions

MISSION

The Department of Electronics and Communication Engineering is committed to:

M1: Design and deliver contemporary Electronics and Communication Engineering curricula to offer quality technical education centered on experiential learning, ethical values, and leadership qualities.

M2: Inculcate interdisciplinary research and innovative culture in partnership with industries and premier institutions.

M3: Create engineers and techno-entrepreneurs to meet societal needs by upholding moral principles.

ABOUT THE CLUB

ElectroBlitz Club is a student techno cultural club formed under the Electronics and Communication Engineering Department with the motive of providing a platform for students to exhibit both their academic and extracurricular activities .The prime intention behind the formation of this club is to enhance ones knowledge quotient with emphasis on their technical skills

PCB DESIGNING WORKSHOP USING KICAD

The aim of the "PCB Designing Workshop Using KiCad" was to provide participants with practical knowledge and hands-on experience in PCB designing, using KiCad software. The workshop aimed to bridge the gap between theoretical understanding and practical implementation, focusing on the design and simulation of electronic circuits, particularly the monostable multivibrator.

Objectives:

1. Introduce participants to KiCad PCB design software and its key features.
2. Provide hands-on experience in designing and simulating electronic circuits.
3. Teach participants how to implement a schematic for a monostable multivibrator.
4. Guide participants through the process of footprint implementation for PCB design.
5. Enhance participants' ability to apply PCB design skills in real-world electronics projects.

Event Highlights:

- Two-Day Workshop: Conducted on 5th and 6th September 2024, the event was divided into two parts:
  - Day 1: Focused on schematic implementation of the monostable multivibrator using KiCad.
  - Day 2: Covered footprint implementation and PCB layout design for the same circuit.
- Hands-On Learning: The workshop provided participants with hands-on experience, led by Mr. Pramath Gopal Bhat, Vice President of the Electroblitz Club, ensuring practical application of theoretical concepts.
- Participation: 70 students registered for the event, showing strong interest in gaining PCB design skills using KiCad.
- Real-World Applications: The workshop emphasized the practical applications of the monostable multivibrator in electronic circuit design, providing participants with a project-based learning experience.
- Guidance and Support: The event was guided by Mrs. Divyashree HB, Convener of the Electroblitz Club, and hosted by Ms. Aarthi Nayak Ullal (President) and Mr. Pramath Gopal Bhat (Vice President).

Conclusion:

The "PCB Designing Workshop Using KiCad" was a resounding success, offering participants valuable insights into PCB design and circuit simulation. The two-day event effectively bridged theoretical learning with practical skills, enabling participants to implement and design a monostable multivibrator using KiCad software. Feedback from attendees indicated that the workshop significantly enhanced their proficiency in PCB design, making it a valuable learning experience. This event reinforced the Electroblitz Club's commitment to fostering technical education and hands-on learning within the Department of Electronics and Communication Engineering at Dayananda Sagar University.

Faculty Co-ordinator :
Dr. Divyashree H.B, Assistant Professor, ECE, DSU

SDP-HANDS ON WORKSHOP ON COMMUNICATION SYSTEMS AND ANTENNA DESIGN

The three-day workshop on "Communication Systems and Antenna Design" was to provide participants with in-depth knowledge and hands-on experience in key areas of modern communication systems and antenna design. The workshop was structured to introduce various modulation techniques, signal processing methods, and antenna design principles using MATLAB, equipping participants with practical skills and theoretical insights relevant to communication engineering.

Objectives:

1. Familiarize participants with advanced modulation and demodulation techniques such as ASK, FSK, QPSK, and the use of FFT filters.
2. Demonstrate the application of MATLAB for designing and analyzing antennas, focusing on practical aspects such as directivity and radiation patterns.
3. Provide hands-on assignments involving the design and optimization of different types of antennas, including helical, fractal, and horn antennas.
4. Strengthen participants' understanding of how to apply communication systems and antenna design in real-world scenarios.
5. Enhance the participants' ability to use MATLAB for simulation, visualization, and performance analysis in both communication and antenna design projects.

Event Highlights:

Day 1: Communication Systems and Demodulation Techniques:

- **Insightful lecture by Dr. Devaraju, covering modulation techniques like ASK, FSK, and QPSK.**
- **Detailed explanations of demodulation using MATLAB, with a focus on practical applications of FFT filters.**
- **Participants gained a comprehensive understanding of the strengths and limitations of each modulation technique in diverse communication environments.**

Day 2: Antenna Design Using MATLAB:

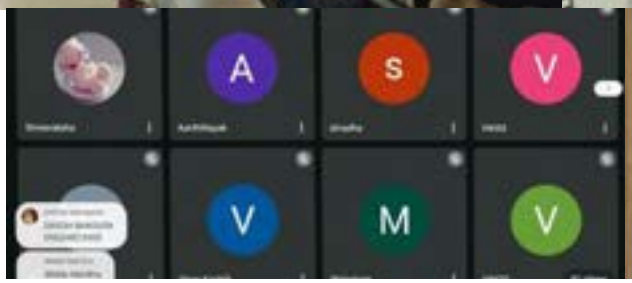
- **Presentation by Dr. Nanda Kumar N, emphasizing the use of MATLAB's Antenna Toolbox for designing and analyzing antennas.**
- **Hands-on demonstration of MATLAB's tools for calculating directivity and generating 2D and 3D radiation patterns.**
- **Practical examples of designing various antennas, including dipole and Yagi-Uda arrays, with real-time performance simulations.**

Day 3: Antenna Design Assignments – Helical, Fractal, and Horn Antennas:

- **Participants engaged in hands-on assignments focusing on the design of advanced antenna types: helical, fractal, and horn antennas.**
- **In-depth discussion on how design parameters impact antenna performance, along with techniques to optimize antenna designs.**
- **Review and feedback session where participants discussed challenges and shared their design insights with the instructors.**

Conclusion:

The workshop on "Communication Systems and Antenna Design" was a highly successful and comprehensive event, offering participants a solid foundation in both communication modulation techniques and advanced antenna design using MATLAB. Across the three days, participants gained valuable knowledge on the practical applications of communication systems and the use of MATLAB for antenna simulation and optimization. The hands-on approach, along with the interactive discussions, provided participants with practical skills that can be applied to real-world engineering challenges. The workshop reinforced Dayananda Sagar University's commitment to advancing technical education in communication systems and antenna design, empowering students with industry-relevant skills and knowledge.



Faculty Co-ordinator :

Dr. Divyashree H. B, Assistant Professor, ECE, DSU

Dr. Supraja Eduru, Assistant Professor, ECE, DSU

INDUSTRY VISIT TO GILL INSTRUMENTS AND ELCIA CLUSTER

The "Industry Visit to Gill Instruments and ELCIA Clusters" was to provide students of Dayananda Sagar University (DSU) with firsthand exposure to cutting-edge industrial practices in IoT, system automation, electronics manufacturing, and innovation. The visit aimed to bridge the gap between theoretical knowledge and practical industrial applications, enabling students to understand the working of advanced technologies in real-world environments.

Objectives:

1. To gain insights into the latest advancements in IoT technology and wireless automation at Gill Instruments Pvt Ltd.
2. To understand the process of designing, developing, and manufacturing IoT devices like the Gateway device.
3. To explore the facilities offered at the ELCIA Tech-Hub for innovation, including precision machining, electronics assembly, and product prototyping.
4. To witness how tech hubs support entrepreneurship, innovation, and product development through state-of-the-art resources.
5. To learn about the processes of product testing, certification, and environmental testing for market-ready innovations.

Event Highlights:

Visit to Gill Instruments Pvt Ltd:

- **Mr. Gurjeet Singh Gill, Director at Gill Instruments, provided an in-depth briefing on IoT, emphasizing "SENSE-CONNECT-MANAGE," which encapsulates the sensing of environmental data, device interconnection, and system management for efficient automation.**
- **Students were introduced to the manufacturing process and features of the Gateway Device, which incorporates microcontrollers, sensors, and connectivity modules for smart automation in various industries.**
- **The applications of the Gateway device, including its role in smart homes, industrial automation, and medical IoT solutions, were discussed in detail, helping students understand the real-world utility of IoT technology.**

Visit to ELCIA Clusters (ELCIA Tech-Hub):

- **Students were given a tour of the Tech-Hub's precision machining, sheet metal working, and electronics assembly facilities, showcasing the infrastructure that supports innovation and product development.**
- **The cluster's NABL Certified Environmental Testing facilities ensure world-class product testing standards, and students learned about testing, calibration, and electronics certification processes.**
- **The comprehensive prototyping and product testing facilities were highlighted, where students witnessed how the hub helps entrepreneurs turn innovative ideas into market-ready products.**
- **The R&D Centre, Training Centre, and machining facilities were demonstrated, showing how the cluster supports both small and large-scale projects in electronics and mechanical design.**

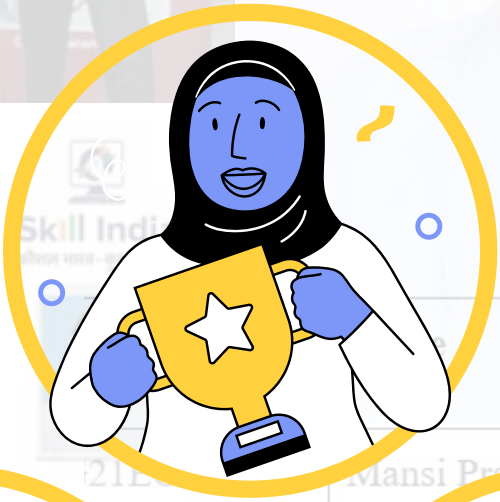
Conclusion:

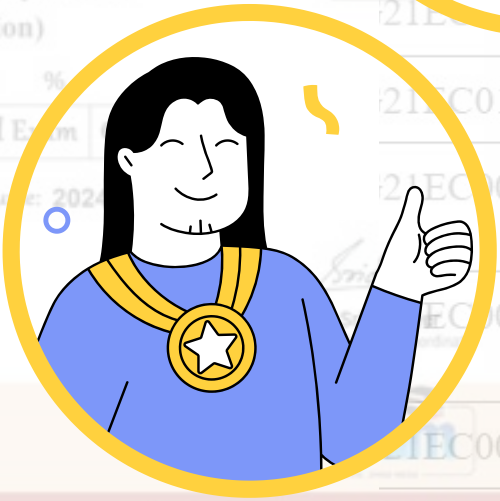
The industry visit to Gill Instruments Pvt Ltd and ELCIA Clusters was an enriching experience for the students, providing them with invaluable knowledge of IoT, system automation, and advanced product development. The hands-on exposure to state-of-the-art manufacturing, testing, and prototyping facilities deepened their understanding of industrial processes and the innovation ecosystem. The visit highlighted the critical role that tech hubs like ELCIA play in supporting entrepreneurship and fostering innovation in India's growing tech landscape. The event successfully fulfilled its objective of connecting theoretical knowledge with practical application, preparing students for future careers in technology and innovation.

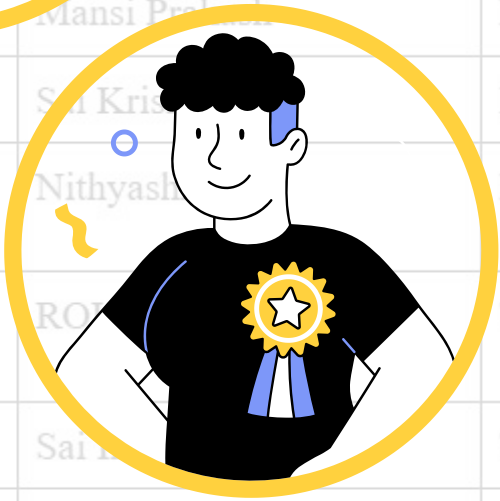
Faculty Co-ordinator :
Dr. Divyashree H.B, Assistant Professor, ECE, DSU

ELECTROCLIPS

THE BIANNUAL NEWSLETTER OF ELECTRONICS







STUDENT ACHIEVEMENTS

Stress Monitoring and Management System

Final year students, ADITHYA J [ENG20EC0004], B RESHMA [ENG20EC0017] BHOOMIKA M [ENG20EC0020], NAVEEN S R [ENG21ECI004] presented a paper entitled "Stress Monitoring and Management System" in 2024 IEEE International Conference on Information Technology, Electronics and Intelligent Communication Systems (ICITEICS) Karnataka, India on June 28-29, 2024. The publication is a result of their final year project work guided by Prof. Jisy N K, Assistant Professor in the Electronics and Communication Engineering department, DSU.

Neeraja Patil Represents Dayananda Sagar University at Nokia's Ideathon 2024

Neeraja Patil, a student from Dayananda Sagar University, Bengaluru, proudly represented the institution at the prestigious Ideathon project contest, organized by Nokia Bangalore University Collaboration. The event took place on October 21, 2024, where Neeraja contributed her innovative ideas as part of a project titled "Enhancing 5G Data Transfer Rates with Nokia mmWave 5G LDRS Technologies".

Her participation in this initiative, which was aimed at leveraging cutting-edge technology for improving data transfer, highlights the ongoing excellence and involvement of DSU students in industry-leading technological advancements. This recognition underscores the university's strong collaboration with industry leaders and its commitment to fostering innovation in telecommunications and related fields.

ECE Department students Akash G, Aman Kumar, Dheeraj A, and Hemanth M N, under the guidance of faculty member Supraja Eduru, presented a paper titled *"Smart Jacket for Yoga Posture Correction"* at the 2024 2nd International Conference, published by IEEE ICNEWS 2024. This innovative project addresses the growing demand for accurate posture correction in yoga practice. The smart jacket they developed integrates an ESP32 microcontroller, an MPU6050 angle sensor, and an OLED display to monitor and provide feedback on yoga poses, aiding users in achieving correct postures independently. This research exemplifies the department's commitment to fostering practical and impactful technological solutions.

Dr. B. M. Ashwin Desai (Associate Professor), Rakshith Prajwal R. S. (ENG21EC0093), and Sameer A. Nadaf (ENG21EC0102) from the Department of Electronics and Communication Engineering attended the IEEE 18th International Conference on Industrial and Information Systems (ICIIS 2024) held at IIT Madras from December 21st to 23rd, 2024.

The conference covered a wide range of topics, including Power, Energy, and High Voltage Engineering; Signal and Image Processing; Control, Robotics, and Automation; Communication and Information Technology; and Electronics, Instrumentation, and Biomedical Engineering, providing valuable insights into advancements in engineering for sustainable growth.

The group presented the paper titled “Development of Novel Electrospun Nanofibers using *Abelmoschus esculentus* (Okra) Mucilage and PVA for Potential Biomedical Applications”. This paper highlighted on how Okra mucilage and PVA based nanofibers were fabricated for the first time using the process of electrospinning and the characterization tests performed to evaluate the structural and bioactive properties of the nanofibers produced. Thus, laying the foundation for various applications of Okra mucilage based nanofiber.

As part of the conference, a workshop titled “Programming with Quantum Computers” was conducted by Jagan Narayan Natarajan, Dr. Kalyan Dasgupta, and Janani A. from the IBM Quantum team. The session introduced fundamental quantum computing concepts such as the Interference Effect, Superposition, Entanglement, Quantum Bits (Qubits) versus Classical Bits, Dirac (Bra-Ket) Notation, Quantum States, Qubit Representation, and the CNOT Gate. Additionally, participants had the opportunity to engage in hands-on quantum programming using Qiskit, providing a practical understanding of these advanced topics.

PLACEMENT

Sl.No	USN	Name	Company	CTC (LPA)
1	ENG21EC0059	Mansi Prakash	Lead Squared	8.5
2	ENG21EC0100	Sai Krishna nk	Lead Squared	8.5
3	ENG21EC0074	Nithyashree	Redant Technologies	5.5
4	ENG21EC0097	ROHAN D SHETTY	TheMath Company	5.5
5	ENG21EC0099	Sai Inchara T M	TheMath Company	6.0
6	ENG21EC0090	Priya D P	EY GDS	4.8
7	ENG21EC0044	K.V.PRIYADARSHINI	DISH Network Technologies	8.6

Gold Medalist - Indhushree D

Congratulations to Indhushree D from the Electronics and Communication Engineering program for achieving the First Rank in her class with an impressive CGPA of 9.28. Her outstanding academic performance has earned her the prestigious Gold Medal at the Eighth Annual Convocation of Dayananda Sagar University, held on October 28, 2024. This award highlights her dedication and excellence throughout her studies, setting a benchmark for future students in the department.

Silver Medalist - Chitra P R

Congratulations to Chitra P R from the Electronics and Communication Engineering program for achieving the Second Rank in her class with an impressive CGPA of 9.02. Her outstanding academic performance has earned her the prestigious Silver Medal at the Eighth Annual Convocation of Dayananda Sagar University, held on October 28, 2024. This award highlights her dedication and excellence throughout her studies, setting a benchmark for future students in the department.

SIH HACKATHON 2024

On average, approximately 200-300 real-life problem statements are released by the government, which attract submissions from various colleges across India. This results in around 55,000 proposal submissions, out of which only 1,000 to 1,500 teams make it to the grand finale of the prestigious Smart India Hackathon—a national-level hackathon organized by the Ministry of Education (MoE) and AICTE.
Shortlisted students have the incredible opportunity to collaborate with some of India's brightest minds and work on innovative solutions to the challenges faced by the Indian government.
In this esteemed competition, Nikhil Kumar (ENG23EC100), a third-semester ECE student, led his team with distinction, showcasing exemplary leadership and innovation, earning recognition for both himself and the Department of Electronics and Communication Engineering. His participation in this national event reflects his dedication and problem-solving capabilities, further contributing to the department's proud achievements.

National Level Inter-Collegiate 24-Hour Hackathon AVINYA-2024

Third semester students won second prize in 24 hours hackathon organised by SJC Institute of Technology. Students are Palak Toshniwal - ENG23EC0101
Nikhil Kumar - ENG23EC100
Shravan Gadavi - ENG23EC0109
Under the guidance of Dr.Divyashree H B, Dr.Ashwin Desai & Dr.Seema

NPTEL CERTIFICATIONS

SEMESTER	COURSE NAME	NO. OF STUDENTS REGISTERED	CERTIFICATION DONE
7 - SEM	DIGITAL VLSI TESTING	145	75

NPTEL CERTIFICATIONS

SEMESTER	COURSE NAME	NO. OF STUDENTS REGISTERED	CERTIFICATION DONE
5 - SEM	DIGITAL IMAGE PROCESSING & SOLAR ENERGY ENGINEERING	102	63

NPTEL CERTIFICATIONS

SEMESTER	COURSE NAME	NO . OF STUDENTS REGISTERED	CERTIFICATION DONE
3 - SEM	BUSSINESS FUNDAMENTALS FOR ENTEPURORS BREIF INTRODUCTION TO PSYCHOLOGY INNOVATION BY DESIGN MORAL THINKING: AN INTRODUCTION TO VALUES AND ETHICS	34	34


Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India

This certificate is awarded to

RONAK SONI K

for successfully completing the course

Business Fundamentals for Entrepreneurs

(Part 1: Internal Operation)

with a consolidated score of 100 %

Online Assignments	25/25	Proctored Exam	75/75

Total number of candidates certified in this course: 2024

Aug-Sep 2024

(4 week course)

Prof. Sridhar Iyer

Indian Institute of Technology Bombay

swayam


Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India

This certificate is awarded to

HEMSAGAR H D

for successfully completing the course

Business Fundamentals for Entrepreneurs

(Part 1: Internal Operation)

with a consolidated score of 99 %

Online Assignments	25/25	Proctored Exam	73.5/75

Total number of candidates certified in this course: 2024

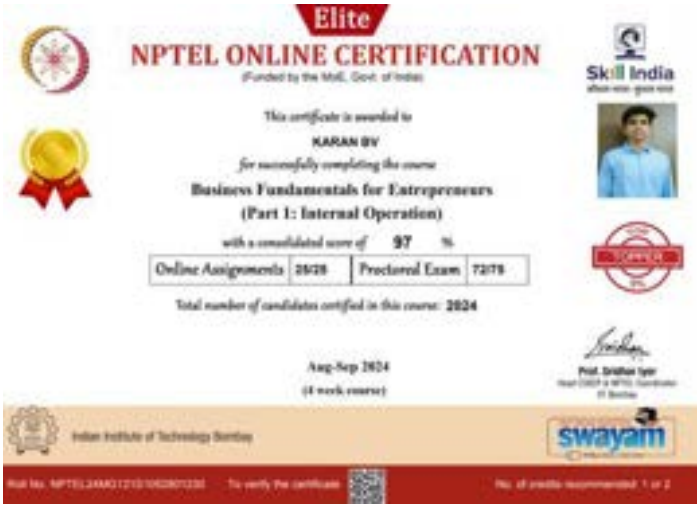
Aug-Sep 2024

(4 week course)

Prof. Sridhar Iyer

Indian Institute of Technology Bombay

swayam


Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India

This certificate is awarded to

KARAN BV

for successfully completing the course

Business Fundamentals for Entrepreneurs

(Part 1: Internal Operation)

with a consolidated score of 97 %

Online Assignments	25/25	Proctored Exam	72/75

Total number of candidates certified in this course: 2024

Aug-Sep 2024

(4 week course)

Prof. Sridhar Iyer

Indian Institute of Technology Bombay

swayam


Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India

This certificate is awarded to

LAKSHMI V

for successfully completing the course

Business and Sustainable Development

with a consolidated score of 85 %

Online Assignments	25/25	Proctored Exam	60/75

Total number of candidates certified in this course: 2373

Aug-Sep 2024

(4 week course)

Prof. Sridhar Iyer

Indian Institute of Technology Bombay

swayam


Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India

This certificate is awarded to

SAGAR P HIREMATH

for successfully completing the course

Business Fundamentals for Entrepreneurs

(Part 1: Internal Operation)

with a consolidated score of 99 %

Online Assignments	25/25	Proctored Exam	74.25/75

Total number of candidates certified in this course: 2024

Aug-Sep 2024

(4 week course)

Prof. Sridhar Iyer

Indian Institute of Technology Bombay

swayam


Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India

This certificate is awarded to

ESWARI K

for successfully completing the course

Business Fundamentals for Entrepreneurs

(Part 1: Internal Operation)

with a consolidated score of 82 %

Online Assignments	24.42/25	Proctored Exam	57.75/75

Total number of candidates certified in this course: 2024

Aug-Sep 2024

(4 week course)

Prof. Sridhar Iyer

Indian Institute of Technology Bombay

swayam

ELECTROCLIPS

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FACULTY ACHIEVEMENTS

DR. ARUN BALODI

Strategic Accreditation: Planning, Implementation, and Continuous Improvement
Dr. Arun Balodi, Chairperson of the Department of Electronics and Communication, conducted detailed sessions on "Strategic Accreditation: Planning, Implementation, and Continuous Improvement" during the Faculty Development Program (FDP). This program was organized by the NBA Core Team at the School of Engineering, DSU.



Dr. Arun Balodi chaired a session at the 2nd IEEE International Conference on Networks, Multimedia, and Information Technology (NMITCON) held at Nitte Meenakshi Institute of Technology, Bengaluru, India, on August 9-10, 2024, in association with the IEEE BANGALORE SECTION.


Dr. Arun Balodi, interacted with the energetic young volunteers and discussed the "Role of IEEE Signal Processing Society in Career Management" at "*Voices of IEEE*" event, a collaborative online event organized by IEEE St. Joseph's college of engineering student Branch Chapter, Chennai (SBC60101) in association with signal processing society (SPS) and IEEE JSSATE Noida student Branch (STB05571).


Dr. Arun Balodi attended the 21st edition of 'Nasscom Future Forge' held on 16th & 17th October at TAJ West End Bangalore (Bangalore). Nasscom Future Forge 2024 themed on 'Accelerating Deep Tech Growth' from India for the world brings together experts, thought leaders, investors, policy makers & regulators to explore solutions for infrastructure access, regulatory reform, talent development, fostering patient capital and discussing strategies to scale the deep tech ecosystem's growth.

- **Dr. Arun Balodi served as Mentor for Tinkerpreneur 2024 in Atal Innovation Mission.6**
- **Dr. Arun Balodi attended the Faculty Development Program on MATLAB for Image Analysis and Pattern Recognition at Jaypee University of Information Technology, Electronics & Communication Engineering, JUIT from September 2 to 6, 2024.**
- **Dr. Arun Balodi contributed his expertise to the 15th Nasscom Emerge 50 awards, helping to recognize and celebrate innovative startups."**

- **Dr. Arun Balodi, attended 5 Days Faculty Development Programme on "Intel AI for future Workforce" organized by Computer Science & Technology and Department of CSE -Artificial Intelligence -Machine Learning in collaboration with Intel & Dell Technologies during August, 13-22 2024 at School of Engineering, DSU, Dayananda Sagar University.**

Dr. Arun Balodi Speaks on Reinforcement Learning in Healthcare

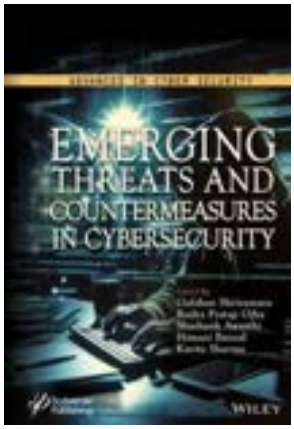
Dr. Arun Balodi, Professor & Chairman of Electronics and Communication Engineering at Dayananda Sagar University, delivered a session on *Reinforcement Learning in Healthcare* at the FDP on *Generative AI: Foundations, Applications, and Future Directions*.
The event, held on 20th November 2024, was organized by E&ICT Academy IIT Roorkee and Delhi Technical Campus, Greater Noida, showcasing advancements in AI and its applications in healthcare.

Dr. Arun Balodi, Professor and Chairman of the Department of Electronics and Communication Engineering at Dayananda Sagar University, was awarded a Certificate of Appreciation at the 8th International Conference on Smart Grid and Smart Cities (ICSGSC 2024).

The conference, held from October 25–27, 2024, in Shanghai, China, recognized Dr. Balodi's outstanding contributions as a member of the technical committee and his significant efforts toward the event's success. His expertise and dedication have been instrumental in advancing research and collaboration in the fields of smart grids and smart cities.

Book Chapter Publication: Dr. Arun Balodi Contributes to Advances in Cybersecurity"

Dr. Arun Balodi, Chairman of the Department of Electronics and Communication Engineering at Dayananda Sagar University, has co-authored the chapter *"Insider Threat Detection and Prevention: New Approaches and Tools"* in the renowned book *"Emerging Threats and Countermeasures in Cybersecurity,"* published by Wiley.
The chapter presents innovative methods for identifying insider threats, advanced tools for prevention, and practical strategies to establish effective threat management programs.



DR. S ARUNGALAI VENDAN

Dr. Arungalai Vendan S, Professor, Department of Electronics and Communication Engineering successfully completed the NPTEL Online Certification course on *Welding Application Technology* with an *Elite* distinction, achieving a consolidated score of 64%. This 8-week course, conducted by IIT Guwahati from July to September 2024, emphasized critical concepts in welding applications. Arungalai excelled in both online assignments (23.33/25) and the proctored exam (40.88/75), demonstrating proficiency in the field.

Dr. S. Arungalai Vendan, Professor, Department of Electronics and Communication, Dayananda Sagar University, was invited as a resource person for the One Week AICTE Training and Learning (ATAL) Faculty Development Program (FDP) on *Green Technology*. The program was organized by the Department of Energy Science and Technology, Periyar University, Salem, from November 4th to November 9th, 2024.

Dr. S. Arungalai Vendan delivered an expert session on *Green Building Design and Architecture* on November 6th, 2024, sharing his expertise with the participants. His presentation focused on innovative strategies for sustainable development and energy-efficient architectural practices. This engagement enhanced knowledge exchange and fostered future collaborations between the institutions.

DR. PUSHPA MALA S

Dr Pushpa Mala S was invited as Resource Person for the IEEE NKCon 2024, the Flagship International conference of IEEE North karnataka subsection, held in association with IEEE Bangalore Section at Bagalkot during 21st to 22nd September 2024.

Publications

1. A paper titled Exploring Memristor Integrated R-2R DAC: A study in Circuit Optimization and Performance was presented at the Flagship International conference of IEEE North karnataka subsection, held in association with IEEE Bangalore Section at Bagalkot during 21st to 22nd September 2024.

Authors/s and Affiliations:

Adithya H K, Aishwarya Kulkarni, Archana B, Chandana K T, Pushpa Mala S
Department of Electronics and Communication Engineering
Dayananda Sagar University

2. A paper titled A Study on Circuit Optimization and Performance of Memristor-Integrated 3 bit Pipeline DAC was presented at the Flagship International conference of IEEE North karnataka subsection, held in association with IEEE Bangalore Section at Bagalkot during 21st to 22nd September 2024.

Authors/s and Affiliations:

Adithya H K, Aishwarya Kulkarni, Archana B, Chandana K T, Pushpa Mala S
Department of Electronics and Communication Engineering
Dayananda Sagar University

3. Ramesh N E, Pushpa Mala S "A novel method to determine bedrock from a single sensor based seismic reflection signal using HAAR wavelet", Discover Geoscience International journal. Springer Nature, Published on September 17, 2024. DOI:10.1007/s44288-024-00062-w

As a part of evidence some photos are attached with this report.

Dr. Pushpa Mala S, who served as a reviewer for the International Conference on Vehicular Technology and Transportation System (ICVTTS) 2024. The conference, held on 27-28 September in Bangalore, India, was organized under the IEEE Vehicular Technology Society (VTS) Bangalore Section.

Guest of Honor at Hackathon "Samanvaya"

Dr. Pushpa Mala S., Associate Professor in the Department of ECE at DSU and Treasurer of the Women in Engineering IEEE Bangalore Chapter, was invited as a guest of honor for the hackathon event "Samanvaya" held at DSCE from 8th to 10th November 2024. This 36-hour event, organized under the theme "Affordable Medical Device Development" as part of the IEEE Asia Pacific R10 initiative, offered students a hands-on platform to explore and innovate in medical device development. With a focus on multidisciplinary learning, the hackathon aimed to equip students with essential skills for creating cost-effective healthcare solutions. Dr. Pushpa Mala's presence and insights contributed greatly to inspiring and guiding participants throughout this impactful event.

Dr. Pushpa Mala S. also participated in the IEEE PES R10 Women in Power (WIP) Summit held on 10th November 2024 at the Radisson Blu Hotel, Atria, Bengaluru. The summit gathered accomplished professionals and aspiring women engineers from across the region, fostering discussions on empowering women in engineering fields. Dr. Pushpa Mala's involvement in the summit highlighted her commitment to promoting women's active participation in engineering and her role in advancing IEEE's Women in Engineering initiatives.

We are proud to announce that Dr Pushpa Mala S, Associate Professor, Department of Electronics and Communication Engineering has successfully completed the NPTEL-AICTE Faculty Development Programme (FDP) on "Accreditation and Outcome Based Learning", conducted by IIT Madras and IIT Kharagpur under the Ministry of Education (MoE), Government of India.

She has achieved the prestigious Elite Certification with a consolidated score of 82%, excelling in both online assignments (18.33/25) and the proctored exam (63.41/75). This 8-week course (Aug-Oct 2024) emphasizes outcome-based teaching and accreditation standards, reflecting her commitment to enhancing educational practices.

Dr. Pushpa Mala S Participates in WINTECHCON 2024

Dr. Pushpa Mala S, Associate Professor in the Department of Electronics and Communication Engineering at Dayananda Sagar University, participated in WINTECHCON 2024, the 5th IEEE Women in Technology Conference, held under the theme "Accelerating Chip Design in the Era of More-than-Moore".

The conference, organized in collaboration with IEEE CAS Bangalore Chapter, IEEE Bangalore Section, and IEEE WIE Council Bangalore, served as a premier platform for women technology leaders to showcase advancements in semiconductor and electronic systems. Sponsored by Cadence as the Platinum partner, the event brought together leading women technologists from prominent industries and academia to discuss cutting-edge developments in chip design and emerging technologies.

Dr. Pushpa Mala S's participation reflects DSU's active engagement in fostering excellence and supporting women leaders in technology and innovation.

Fellowship to Attend Prestigious International Conferences on VLSI Design and Embedded Systems

Dr Pushpa Mala S, Associate Professor, Department of Electronics and Communication Engineering has been awarded the fellowship for attending 38th International Conference on VLSI Design & 24th International Conference on Embedded System scheduled from 4-8th Jan, 2025 at Leela Palace.

Guest of Honor in the National Level Inter-Collegiate 24-Hour Hackathon AVINYA-2024

We are proud to announce that Dr. Pushpa Mala S, Chair of IEEE TEMS, Bangalore Chapter, participated as a Guest of Honor in the National Level Inter-Collegiate 24-Hour Hackathon AVINYA-2024, organized by the SJC Institute of Technology, Chikkaballapur.

The event, held on the 29th and 30th of November 2024, brought together participants from across the nation to showcase their innovative problem-solving abilities. Dr. Pushpa Mala S's presence added immense value to the event, inspiring students and faculty alike with her expertise and contributions to the field of technology and engineering management.

We extend our heartfelt appreciation to Dr. Pushpa Mala S for her role in fostering innovation and excellence through such initiatives.

Dr. Pushpa Mala S Serves as Session Chair at ICIRD-2024

Dr. Pushpa Mala S from the Department of Electronics and Communication Engineering, Dayananda Sagar University, served as the Session Chair at the 3rd International Conference on Innovative Research and Development (ICIRD-2024) held from 8th to 11th November 2024 at Shinawatra University, Thailand. Her role in leading the technical sessions highlights her academic excellence and contributions to international research collaboration.

DR. BM ASHWIN DESAI

Dr. BM Ashwin Desai, Associate Professor, Department of Electronics and Communication Engineering has successfully completed the NPTEL-AICTE Faculty Development Programme (FDP) course titled Computer-Aided Drug Design, with a commendable consolidated score of 83%. The course, offered by IIT Madras and coordinated by Prof. Andrew Thangaraj, spanned 8 weeks from July to September 2024. This achievement highlights his dedication to advancing knowledge in the field of drug design, contributing to the academic and research excellence within the institution.

DSU Faculty and Students Participate in IEEE ICIIS 2024 at IIT Madras

Dr. B. M. Ashwin Desai (Associate Professor), Rakshith Prajwal R. S. (ENG21EC0093), and Sameer A. Nadaf (ENG21EC0102) from the Department of Electronics and Communication Engineering attended the IEEE 18th International Conference on Industrial and Information Systems (ICIIS 2024) held at IIT Madras from December 21st to 23rd, 2024.

The conference covered a wide range of topics, including Power, Energy, and High Voltage Engineering; Signal and Image Processing; Control, Robotics, and Automation; Communication and Information Technology; and Electronics, Instrumentation, and Biomedical Engineering, providing valuable insights into advancements in engineering for sustainable growth.

The group presented the paper titled "Development of Novel Electrospun Nanofibers using *Abelmoschus esculentus* (Okra) Mucilage and PVA for Potential Biomedical Applications". This paper highlighted on how Okra mucilage and PVA based nanofibers were fabricated for the first time using the process of electrospinning and the characterization tests performed to evaluate the structural and bioactive properties of the nanofibers produced. Thus, laying the foundation for various applications of Okra mucilage based nanofiber.

As part of the conference, a workshop titled "Programming with Quantum Computers" was conducted by Jagan Narayan Natarajan, Dr. Kalyan Dasgupta, and Janani A. from the IBM Quantum team. The session introduced fundamental quantum computing concepts such as the Interference Effect, Superposition, Entanglement, Quantum Bits (Qubits) versus Classical Bits, Dirac (Bra-Ket) Notation, Quantum States, Qubit Representation, and the CNOT Gate.

DR. VINU R

We are proud to share that Dr. Vinu R, Associate Professor in the Department of Electronics and Communication Engineering has successfully completed the NPTEL Online Certification course on Microwave Engineering with an Elite Certification. This rigorous 12-week course, conducted from July to October 2024, was organized by the Indian Institute of Technology (IIT) Guwahati and funded by the Ministry of Education, Government of India.

Dr. Vinu R achieved a consolidated score of 64%, excelling in Online Assignments with a score of 21.75/25 and scoring 42/75 in the Proctored Exam.
This course is part of the SWAYAM initiative under Skill India, promoting excellence in education and technical skills.
Congratulations to Dr. Vinu R for this remarkable achievement and commitment to lifelong learning.

We are delighted to announce that Dr. Vinu R has recently published a significant research paper titled:

"Optimized neural network for vulnerable plaque detection in OCT images with noise tolerance and adaptive coefficient zeroing"

The paper, published in the esteemed journal Elsevier: Biomedical Signal Processing and Control (Volume 100, Part C, 2025), focuses on enhancing diagnostic accuracy in Optical Coherence Tomography (OCT) imaging through an optimized neural network model. The study addresses challenges like noise tolerance and introduces innovative techniques for adaptive coefficient zeroing.

This impactful research highlights Dr. Vinu R's dedication to advancing biomedical imaging technologies. Congratulations on this outstanding achievement.

https://doi.org/10.1016/j.bspc.2024.107046.
(https://www.sciencedirect.com/science/article/pii/S1746809424011042)
.

Dr. Vinu R. Associate Professor, Department of ECE, along with co-author Prof. Jisy N.K., Assistant Professor, Department of ECE presented a research paper titled "Artificial Intelligence-based Fast Billing System" at the 5th IEEE-sponsored International Conference on IoT Based Control Networks and Intelligent Systems (ICICNIS 2024). The conference was organized by T. John Institute of Technology, Bengaluru, and held on December 17-18, 2024.
The research, a significant contribution from the Department of Electronics and Communication Engineering, Dayananda Sagar University, highlights innovative AI-driven solutions for enhancing billing processes. This work underscores the department's commitment to cutting-edge advancements in technology and its applications in intelligent systems.
Congratulations to Dr. Vinu R. and Jisy N.K. for this accomplishment.

DR. ARUN ANANTHANARAYANAN:

Dr. Arun Ananthanarayanan, Associate Professor in the Electronics and Communication Engineering department, has published a paper titled "Augmenting Cervical Cancer Analysis with Deep Learning Classification and Topography Selection Using Artificial Bee Colony Optimization" in the SPRINGER NATURE journal on July 5th, 2024.

Dr. Arun Ananthanarayan, Associate Professor, Department of ECE, attended 5 Days Faculty Development Programme on “Intel AI for future Workforce” organized by Computer Science & Technology and Department of CSE -Artificial Intelligence -Machine Learning in collaboration with Intel & Dell Technologies during August, 13-22 2024 at School of Engineering, DSU, Dayananda Sagar University.

DR. DEEPTHI CHAMKUR V

Dr.Deepthi Chamkur V, Assistant Professor from ECE Department of Dayananda Sagar University is Partaker in faculty development program for six days on “Emerging Trends in Electronic Circuit Design, Signal Processing, and Communication” Organized by Department of Electronics and Communication Engineering, Koneru Lakshmaiah Education Foundation, Deemed To Be University, Bachupally Campus, Hyderabad, Telangana From 1st July To 6th July-2024.

Dr.Deepthi Chamkur V, Assistant Professor from ECE Department of Dayananda Sagar University is Partaker in faculty development program for six days on “Emerging Trends in Electronic Circuit Design, Signal Processing, and Communication” Organized by Department of Electronics and Communication Engineering, Koneru Lakshmaiah Education Foundation, Deemed To Be University, Bachupally Campus, Hyderabad, Telangana From 1st July To 6th July-2024.

DR. DIVYASHREE H B

Ph.D. Awarded in Electronics and Communication Engineering

Divyashree H B was awarded Doctor of Philosophy in Department of Electronics & Communication Engineering under the guidance of Dr. Puttamadappa C, Registrar, Department of Electronics & Communication Engineering, DSU. Co-Guide: Dr. Nandini Prasad K S, Dean Foreign affairs & HOD, Department of Information Science Engineering, DSATM, Bangalore.

Title of the Thesis: Performance Analysis and Enhancement of QOS Parameters in Real time applications of MANET's

Publication Details:

1. **"Secure cluster-based routing using multi objective-trust centric artificial algae algorithm for wireless sensor network" International Journal of Electrical and Computer Engineering(IJECE), Vol 13, No 2. (Scopus Indexed, Q2 Journal)**
2. **Multi Objective Energy based Hybrid Optimization Algorithm for Clustering and Routing in WSN" Journal of System and Management Sciences, Vol. 12 (2022) No. 1, pp. 480-497. (Scopus Indexed, Q3 Journal)**
3. **"Hybrid optimization algorithm for clustering and routing in WSN" 2022 IEEE 2nd Mysore Sub Section International Conference (MysuruCon). (Scopus Indexed)**
4. **"Performance Analysis and Enhancement of QoS Parameters for Real-Time Applications in MANETs-Comparative Study" 2020 IEEE 5th International Conference on Recent Trends on Electronics, Information, Communication & Technology (RTEICT-2020). (Scopus Indexed)**
5. **"QOS Aware Secure Cluster Based Routing for Mobile Adhoc Networks Using a Multi Objective-Trust Centric Artificial Algae Algorithm" International conference on wireless communication and internet of everything. (ICWCIE-2024) (Scopus Indexed, Springer Conference)**

Dr. Divyashree H B Shines at MP-TEAS 2024

Dr. Divyashree H B presented her paper, "Improving the Efficiency of EMG-Based Prosthetic Arm Using EEG," at the MP-TEAS 2024 International Conference, held at IES University, Bhopal, from 22nd to 24th November 2024.

Her innovative research, focused on enhancing prosthetic technology, received wide appreciation at the event, which brought together experts in modern practices and security trends.

Congratulations to Dr. Divyashree on this commendable achievement.

DR. SUPRAJA EDURU

Dr. Supraja Eduru has been awarded a Certificate of Appreciation by NPTEL (National Programme on Technology Enhanced Learning) for her contribution to translating educational content. She translated the files for the course *Analog Electronic Circuits (Course Code: 108105158)*, offered by IIT Kharagpur, into Telugu. Dr. Supraja's efforts totalled 10.25 hours, enhancing accessibility for Telugu-speaking students in technical education. This recognition highlights her dedication to supporting the wider dissemination of knowledge through the NPTEL and SWAYAM platforms, which aim to provide free online education to students across India.

DR. SNEHA SHARMA

Dr. Sneha Sharma, Assistant Professor in the Department of Electronics and Communication Engineering, has demonstrated outstanding commitment to professional development by successfully completing two prestigious certifications in *System Design Through Verilog*:

1.NPTEL-AICTE Faculty Development Programme (FDP)
Dr. Sneha Sharma achieved a consolidated score of 86% in the FDP course conducted by IIT Madras, supported by the Ministry of Education, Government of India. This program is recognized as a refresher course for career advancement and faculty development.

2. NPTEL Elite Certification
Dr. Sneha Sharma also earned the *Elite Certification* in the same domain through the NPTEL Online Certification program conducted by IIT Guwahati. Excelling in both online assignments (24.5/25) and the proctored exam (61.5/75), she secured a consolidated score of 86%. This 8-week course highlighted her expertise in digital hardware design using Verilog.

These certifications reflect Dr. Sharma's commitment to advancing her knowledge and contributing to the department's academic and technical excellence.

DR. RASHMITA SAHOO

Dr. Rashmita Sahoo is delighted to share the news that our paper titled "Ambient Noise Effect of the Underwater Channel on the Optical Wireless Communication System" has been honoured with the Best Paper Award at the 2nd IEEE International Conference on Networks, Multimedia and Information Technology-2024 (NMITCON-2024).

The conference, organized by the Nitte Meenakshi Institute of Technology in association with the IEEE Bengaluru Section, was held on the 9th and 10th of August. Our paper's findings were supported by Monte Carlo (MC) simulation results, which were generated using the parallel processing toolbox in MATLAB. The simulations were conducted with various optical sensors, including the AC-S, VSF meter, and Trios-Ramses.

This recognition is a testament to the significant contributions our research is making in the field of optical wireless communication systems.

Congratulations to Dr. Rashmita Sahoo Assistant Professor, Department of Electronics and Communication Engineering for earning an *Elite* certification in the Digital Circuits course offered by NPTEL (July-October 2024). She achieved an impressive consolidated score of 70%, excelling in both online assignments (23.97/25) and the proctored exam (46.5/75). This accomplishment underscores her dedication to continuous learning and technical excellence.

DR. MUKTI CHATURVEDI

We are delighted to share that Dr. Mukti Chaturvedi, Assistant Professor at Dayananda Sagar University, has successfully completed the AICTE Training and Learning (ATAL) Academy Faculty Development Program on *Digital Manufacturing of Personalized Implants in Welding-Based Additive Manufacturing and Automated Post Machining*. This program was conducted by the Coimbatore Institute of Engineering and Technology from December 9 to December 14, 2024.

This achievement demonstrates our faculty's dedication to staying at the forefront of advanced technologies and innovative methodologies. Congratulations to Dr. Mukti Chaturvedi for this significant milestone.

DR. OWAIS AHMAD SHAH

We are pleased to announce that Dr. Owais Ahmad Shah, Assistant Professor, Department of Electronics and Communication Engineering, presented a research paper titled "*Predictive Modeling of Compressive Strength in Coconut Shell-Embedded Concrete Using Ensemble Regression Models*" at the 2nd IEEE International Conference on Integrated Intelligence and Communication Systems (ICIICS-2024).

The conference was organized by Sharnbasva University, Kalaburagi, on November 22-23, 2024. This presentation underscores Owais Ahmad Shah's contribution to innovative research in concrete materials and engineering.

DR. NAVYA R

We are pleased to announce that Navya R has been awarded the degree of Doctor of Philosophy (Ph.D.) in Electronics and Communication Engineering by Dayananda Sagar University. Navya's research focused on "Sea Clutter Suppression in Surveillance Radar using Adaptive Clutter Modelling Techniques," addressing challenges in radar signal processing and offering advancements in clutter suppression methodologies. This achievement highlights our department's commitment to cutting-edge research in engineering. The degree was officially conferred on October 28, 2024, under the faculty of Engineering and Technology.

MS. SIVASANKARI S S

Ms. Sivasankari S S, Assistant Professor in the Department of Electronics and Communication Engineering, successfully completed the NPTEL-AICTE Faculty Development Programme on "System Design Through Verilog" with a consolidated score of 76%. The 8-week course, conducted by IIT Madras from July to September 2024, enhances her expertise in Verilog, a key tool in digital system design and VLSI. This achievement highlights her commitment to professional growth and contributions to academic excellence at DSU.

MR. V SUDHARSAN

Ms. Sivasankari S S, Assistant Professor in the Department of Electronics and Communication Engineering, successfully completed the NPTEL-AICTE Faculty Development Programme on "System Design Through Verilog" with a consolidated score of 76%. The 8-week course, conducted by IIT Madras from July to September 2024, enhances her expertise in Verilog, a key tool in digital system design and VLSI. This achievement highlights her commitment to professional growth and contributions to academic excellence at DSU.

We are pleased to announce that Mr. V Sudharsan, Assistant Professor, Department of Electronics and Communication Engineering has successfully completed the NPTEL Online Certification Course on *Digital Circuits* with an Elite Certification.

The 12-week course, conducted from July to October 2024, covered foundational and advanced concepts of digital circuits. V Sudharsan achieved a consolidated score of 66%, excelling in both online assignments (23.97/25) and the proctored exam (42/75). This certification highlights dedication to academic growth and technical expertise, contributing to a competitive edge in the field of electronics and communication engineering.

M. LORATE SHINY

Congratulations to M. Lorate Shiny Assistant Professor, Department of Electronics and Communication Engineering for earning an *Elite* certification in the Digital Circuits course offered by NPTEL (July-October 2024). She achieved a consolidated score of 64%, excelling in online assignments (23.56/25) and performing commendably in the proctored exam (40.5/75).
This accomplishment demonstrates her commitment to professional development and academic excellence.

M Lorate Shiny successfully presented their paper, “Design and Development of Pulse Rate Monitoring System Powered by STM32 Microcontroller,” at the 5th International Conference on IoT-Based Control Networks and Intelligent Systems (ICICNIS 2024).

The conference was held on 17th-18th December 2024 at T. John Institute of Technology, Bengaluru, and focused on advancements in IoT and intelligent systems. Congratulations to M Lorate Shiny for this excellent contribution to cutting-edge research.

MR. NADEEM PASHA

Mr. Nadeem Pasha, Assistant Professor, Department of Electronics and Communication Engineering at Dayananda Sagar University, has successfully completed the AICTE ATAL Faculty Development Program on *Crystal Growth, Semiconductor Processing, and Manufacturing Technologies* held at the prestigious Indian Institute of Technology (Indian School of Mines), Dhanbad from 16th to 21st December 2024.

Congratulations to Mr. Nadeem Pasha on this significant professional accomplishment.

We are delighted to announce that Mr. Nadeem Pasha, Assistant Professor, Department of Electronics and Communication Engineering at the School of Engineering, Dayananda Sagar University, has successfully completed the AICTE Training and Learning (ATAL) Academy Faculty Development Program.

The program, titled "*Recent Trends in VLSI Design Using Nanotechnology*", was held at the Meerut Institute of Engineering and Technology from November 25 to November 30, 2024. This prestigious certification highlights Mr. Pasha's commitment to advancing his expertise in cutting-edge technologies in the fields of nanotechnology and VLSI design.

MR. ABHINAV KARAN

We are thrilled to share that Mr. Abhinav Karan, Assistant Professor at Dayananda Sagar University, has successfully completed the AICTE Training and Learning (ATAL) Academy Faculty Development Program on *AI and Quantum Computing: The Future of Intelligent Systems*. This advanced program was held at the Bharat Institute of Engineering and Technology from December 9 to December 14, 2024.

This milestone exemplifies our faculty's dedication to staying at the forefront of emerging technologies and contributing to the university's academic excellence. Congratulations to Mr. Karan on this significant achievement.

MR. PUNEETH S

Mr. Puneeth S, Assistant Professor at Dayananda Sagar University, has successfully completed the AICTE Training and Learning (ATAL) Academy Faculty Development Program on *Artificial Intelligence & IoT-Driven Data Analytics in Industry 5.0*. The program was held at the School of Engineering & Technology, D Y Patil University, Ambi, Pune, from December 9 to December 14, 2024.

This accomplishment reflects our commitment to fostering continuous learning and professional development among faculty members. Congratulations to Mr. Puneeth for this outstanding achievement.

S. Puneeth has successfully completed the prestigious NPTEL course on "Introduction to Industry 4.0 and Industrial Internet of Things" with a consolidated score of 75%. This achievement includes two distinct recognitions:

Elite Certification:

- Awarded by NPTEL (IIT Kharagpur) for excelling in the 12-week course (July–October 2024).
- Scored 24.16/25 in online assignments and 51/75 in the proctored exam.
- Part of 15,725 certified candidates, showcasing expertise in cutting-edge Industry 4.0 and IoT technologies.
- Credits recommended: 3–4 under SWAYAM, a Government of India initiative.

Faculty Development Program (FDP) Certification:

- Recognized under NPTEL-AICTE for faculty professional development, coordinated by IIT Madras.
- Endorsed for promotions under the Career Advancement Scheme (CAS) as per AICTE guidelines.
- Highlights the applicability of Industry 4.0 concepts in both academia and industrial practices.

These certifications underscore a commitment to continuous learning and advanced skills development in emerging technologies, contributing to both professional growth and knowledge dissemination in academia.

PUBLICATIONS

NAME	PAPER DETAILS
DR. ARUN BALODI	• Tolani, M., Balodi, A., & Bajpai, A. (2024, July). Simulation analysis of Ge2Sb2Te5 Vertical Photodetector on Silicon Photonic for Various Thickness Levels. In 2024 IEEE Space, Aerospace and Defence Conference (SPACE) (pp. 505-508). IEEE. • Balodi, A., Raghavendra, R. N., Bajpai, A., & Tolani, M. (2024, September). Texture-based classification of ultrasound breast cancer images using machine learning. In AIP Conference Proceedings (Vol. 3131, No. 1). AIP Publishing. • Mittal, A., Anusurya, Gupta, S., Srivastava, V., Balodi, A., & Tolani, M. (2024). FuNet-40: fundus disease/abnormality classification using ensemble of fine-tuned pretrained convolution models. Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization, 12(1). https://doi.org/10.1080/21681163.2024.2422401 • Rakhi, S., Sampada, H. K., Balodi, A., Shobha, P. C., & Kumar, R. (2025). Insider Threat Detection and Prevention: New Approaches and Tools. Emerging Threats and Countermeasures in Cybersecurity, 241-262. • Vihari, N. S., Yadav, M., Shah, S., Balodi, A., Tolani, M., & Mittal, S. (2024). Impact of Sustainable Human Resource Management on Employee Work Wellbeing: Examining the Mediating Role of Employee Empowerment and Moderating Influence of Organizational Identification. Employee Responsibilities and Rights Journal, 1-27.
DR. THEODORE CHANDRA S	Rajeswari P, Theodore Chandra S & Smitha Sasi, "Efficient k-way partitioning of very-large-scale integration circuits with evolutionary computation algorithms", Bulletin of Electrical Engineering and Informatics, Vol. 13, No. 6, 2024, pp. 4002~4007
DR PUSHPAMALA S	• R. Aruna, Pushpa Mala S and K. Kulkarni, "A Composite Approach for a Multi-Layer Perceptron Implementation of Digital Predistortion in Power Amplifiers," 2024 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE), Bangalore, India, 2024, pp. 1-5, d • Pushpa Mala S, Suhiepha Sameer, Sneha Shree M , Sneha , "An Imaging Prognosis Model for Particle Pollution", . J. Inst. Eng. India Ser. B (2024). • Vinay, B.K., Pushpa Mala, S. & Panchami, S.V. Design of Low Power and Robust Asynchronous SRAM Generated Using AMC Involving SAHB Circuit with QDI Logic. J. Inst. Eng. India Ser. B (2024). https://doi.org/10.1007/s40031-024-01010-5
DR. VINU R	• B.Reshma, Adithya.J, Bhoomika.M, Naveen S R, Jisy N K, Vinu.R ,2024 IEEE International Conference on Information Technology, Electronics and Intelligent Communication Systems (ICITEICS),Karnataka, India. Jun 28-29, 2024. • S. Perumal Sankar, R. Vinu, S. Sreelekshmi, N. Viswanath,Optimized neural network for vulnerable plaque detection in OCT images with noise tolerance and adaptive coefficient zeroing, Biomedical Signal Processing and Control,Volume 100, Part C,2025,107046,ISSN 1746-8094,

PUBLICATIONS

NAME	PAPER DETAILS
DR. SNEHA SHARMA	• Deepa N, Preeta Sharan, Sneha Sharma, "A rail wheel contact temperature prediction model using fiber Bragg Grating sensor on test rig" Optical Fiber technology, volume 87, https://doi.org/10.1016/j.yofte.2024.103909 • Deepa, N., Aruna, M.G., Sharma, S. et al. Internet of things enabled rail-wheel contact temperature monitoring using fiber Bragg grating sensors. J Opt (2024). https://doi.org/10.1007/s12596-024-02286-y • S. Sawraj et al., "PCF-based Sensors for Biomedical Applications-A Review," in IEEE Transactions on NanoBioscience, doi: 10.1109/TNB.2024.3462748. • D. N, S. Sharma, P. Sharan and R. Srinidhi, "An investigation of stress and temperature analysis at the rail-wheel contact using an optical simulation study," 2024 IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT), Bangalore, India, 2024, pp. 1-6, doi: 10.1109/CONECCT62155.2024.10677308.
DR. NAVYA R	• Navya, R., Ramakrishna, D., & Sharma, S. (2024). Adaptive Sea-Clutter model based detection for coastal surveillance radar. Nanotechnology Perceptions, 20(S6), 232–257. • Navya, R., Ramakrishna, D., & Sharma, S. (2024). STC Using Coastal Map and Wavelet Transform for Sea Clutter Suppression,11(8),294-300
MRS. MANASA K R	• Pushpa Mala, S., Prajwal Raju, P., Poojashree, B., Hebbar, R., Bedre, V., & Manasa, K. R. (2024). Underwater Fleck Detection Using Convolutional Neural Network. Journal of The Institution of Engineers (India): Series B, 105(2), 365-373.
MS. JISY N K	• B.Reshma, Adithya.J, Bhoomika.M, Naveen S R, Jisy N K, Vinu.R ,"Stress Monitoring and Management System," 2024 IEEE International Conference on Information Technology, Electronics and Intelligent Communication Systems (ICITEICS), Bangalore, India, 2024, pp. 1-5, doi: 10.1109/ICITEICS61368.2024.10625657. • Rahul Choudhary J, Rohit R Patil, Vinay M R, Vishal Rokkam, Vinu R, Jisy N K," Fast AI Billing System ", Proceedings of 9th National Conference on Information and Communication Technologies, NCICT 2024, February 29 & March 1, 2024, pp.no.28-31. • V. R and J. N. K, "Artificial Intelligence (AI) based Fast Billing System," 2024 International Conference on IoT Based Control Networks and Intelligent Systems (ICICNIS), Bengaluru, India, 2024, pp. 1421-1425, doi: 10.1109/ICICNIS64247.2024.10823152.

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THE BIANNUAL NEWSLETTER OF ELECTRONICS





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STUDENT DEVELOPMENT PROGRAM
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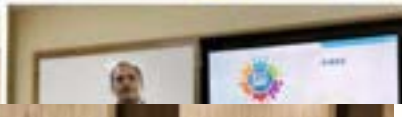


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This magazine is designed solely for informational purposes and an insight into the department. While we take a lot of care to ensure getting the right information, news, and content however the magazine team assumes no responsibility or liability for any errors or omissions in the content of the magazine.

All the student and faculty, technical and non-technical articles, blogs, published papers, and artwork photography were restructured and designed to fit the digital version.

Our student and faculty editorial team carefully curated every part of thi magazine under the digital copy.

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- NPTEL - https://nptel.ac.in/
- COURSERA - https://coursera.org.in/lander
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- edX - www.edx.org
- NAUKRI - www.naukri.com
- KHAN ACADEMY - www.khanacademy.org
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- National Digital Library of India(NDL) - https://ndl.iitkgp.ac.in/

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