

Department of Electrical & Electronics Engineering

www.newhorizonindia.edu

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SPRING TRONICALS JANUARY-JUNE 2023

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Message from The Chairman

I am delighted to have the opportunity to express my thoughts in the biannual EEE magazine. The Department of Electrical and Electronics Engineering has consistently maintained its reputation as one of the most dynamic and vibrant departments within our esteemed Institute, instilling a sense of immense pride in us over the years. As an institute, we have been undergoing substantial reforms, focusing on curriculum enhancements and course structure modifications.

The EEE Department has readily embraced these changes, anticipating their positive impact on student learning outcomes. In addition to implementing the revised course plans for first-year students, we have also extended their application to senior years in the undergraduate program. We eagerly await feedback from our students, as their valuable input will ensure that we are progressing in the right direction. It is truly gratifying to witness students channeling their creativity and unveiling their hidden talents in various forms. This magazine serves as the perfect platform for students within the Department to showcase their abilities.

Furthermore, this magazine will also serve as a suitable avenue for faculty and students to share technical articles pertaining to their respective research areas, fostering knowledge dissemination and academic collaboration. I extend my best wishes to all involved in this endeavor.

Dr. MOHAN MANGNANI

Message from The Principal

At New Horizon College of Engineering, we recognize the imperative of extending our educational efforts beyond the curriculum to equip our students with the necessary skills to excel in the industry. Recent observations from prominent industry experts highlight a concerning reality that a significant number of engineering graduates lack the employability quotient. New Horizon College of Engineering has consistently been at the forefront of addressing this issue, striving to ensure that our students are well-prepared and ready for the demands of the job market.

It brings me immense delight to offer a few words as a preface to the in-house magazine of the EEE department, "Spring Tronicles." This edition is thoughtfully curated to present an array of events and technical write-ups, rendering it a valuable resource of information. I extend my heartfelt congratulations to all the contributors and the esteemed editorial board for their efforts in producing this exceptional magazine.

May you find delight and enlightenment as you delve into the pages of this edition.

Dr. MANJUNATHA

Message from The Head of the Department

I am delighted to present my perspectives for the biannual EEE magazine, "Spring Tronicles 2023." The Department of Electrical and Electronics Engineering has consistently maintained its position as one of the most dynamic and vibrant departments within our esteemed Institute, instilling us with immense pride over the years. As an institution, we have been undergoing significant reforms in terms of curriculum updates and course structures.

The EEE Department has whole heartedly embraced these reforms, with the earnest belief that they will benefit our students. The implementation of new course plans extends not only to first-year students but also to senior undergraduate years. We eagerly anticipate receiving feedback to ensure that we are progressing in the right direction. Witnessing the students display their creative and hidden talents in diverse forms is truly gratifying, and this magazine serves as the perfect platform for showcasing the exceptional abilities of our department's students.

Moreover, it serves as an apt medium for faculty and students to share technical articles, thus facilitating the exchange of knowledge within their respective research domains. I extend my sincerest wishes for the success of this endeavor.

Dr. SUJITHA S

Message from The Faculty Advisor

Fostering creativity and stimulating innovation are fundamental pillars of a successful educational experience, and a college magazine epitomizes the harmonious fusion of both elements. It serves as a conduit for channeling the creative energies of the academic community, distilling the essence of their inspired ideas in the most brilliant manner imaginable. Consequently, it is with great privilege that I acknowledge the readiness for publication of "Spring Tronicles," the magazine of the EEE department at New Horizon College of Engineering.

"Spring Tronicles" provides a convergence of significant challenges and remarkable opportunities, inviting students to reflect on their efforts and assess their achievements across various realms of skill development. As technology evolves at a rapid pace, it may outpace the design of our traditional classrooms. In light of this, I extend my heartfelt congratulations to the dedicated team of students whose relentless endeavors have culminated in the creation of this magazine. I wholeheartedly wish it every success and aspire for this tradition, established by the current students, to be upheld by the future generations.

With genuine optimism for a bright and prosperous future,

Mr. VINOD KUMAR S

EDITORIAL TEAM







Mr. VINOD KUMAR S

(Faculty Advisor)



Mr. Srinivas Abhinay Gandla



Ms. Harshita K



Mr. Dayas A Dixen



Ms. Tejashree T

ABOUT DEPARTMENT

Department of Electrical & Electronics Engineering (EEE) at New Horizon College of Engineering (NHCE), Bangalore. EEE is one of the prestigious branches of Engineering and one among the oldest departments of NHCE-Bangalore started in 2001. The EEE Department has been playing a vital role in producing engineers and technologists of high caliber ever since it was established in the year 2001. The Department is accredited by NAAC with 'A' Grade and accredited by NBA. The vision of EEE Department is to create contemporary Engineers, innovators and entrepreneurs to make a better nation and in turn, a better world. A critical investigation and innovation into the modern state-of-art and cutting-edge technology lead to the fact that an electrical graduate fits better in today's competitive world.

The strength of the department is highly qualified faculty members with expertise in various fields of electrical engineering, state of art laboratory facilities. The department is inclined towards bridging the gap between Industry and academia by collaborating with Multinational Companies in the field of Electrical Engineering.

Indo-French Center of Excellence in Electricity, Automation and Energy (IFCEEAE) is one such initiative evolved through "MoU" with French Ministry of National Education and Schneider Electric India Pvt. Ltd., The main objectives of IFCEEAE are

- To train the students of all streams of engineering in automation field
- To facilitate interdisciplinary and applied research with a focus on innovative product development
- To provide excellent career opportunities to students through exchange programs with French Universities, industrial training, innovative learning and R & D activities especially in the areas like Smart Grid, Internet of things (IoT), Energy Management Systems, Embedded systems, Supervisory Control and Data Acquisition (SCADA) and industrial automation.

The Department nurtures the young minds beyond the curriculum by facilitating technical clubs in promoting technical events, community development/society impact and universal value/ethics programs. In supporting to this, Department of Electrical & Electronics Engineering has established

Institute of Electrical and Electronics Engineers (IEEE) – Power Electronics Society (PELS) Student Branch Chapter (Geo-Code: SBC66131)

Industrial Electronics Society (IES) Student Branch Chapter (Geo-Code: SBC66131B)

Power & Energy Society (PES) Student Branch Chapter (Geo-Code: SBC66131D)

which is the non- profitable, world largest technical professional organization for the advancement of technology. The students have a greater exposure and flexibility in campus placements in core industries, IT sectors and Public Sector Units (PSU)

MISSION AND VISION

DEPARTMENT VISION

To evolve into a center of excellence in Electrical and Electronics Engineering for bringing out contemporary engineers, innovators, researchers and entrepreneurs for serving nation and society

DEPARTMENT MISSION

- To provide suitable forums to enhance the teaching-learning, research and development activities
- Framing and continuously updating the curriculum to bridge the gap between industry and academia in the contemporary world and serve society
- To inculcate awareness and responsibility towards the environment and ethical values

PROGRAM OUTCOMES

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

• To provide good learning environment to develop entrepreneurship capabilities in various areas of Electrical and Electronics Engineering with enhanced efficiency, productivity, cost effectiveness and technological empowerment of human resource.

• To inculcate research capabilities in the areas of Electrical and Electronics Engineering to identify, comprehend and solve problems and adopt themselves to rapidly evolving technology.

• To create high standards of moral and ethical values among the graduates to transform them as responsible citizens of the nation.

PROGRAM OUTCOMES (POs)

PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems in Electrical and Electronics Engineering.

PO2: Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems in Electrical and Electronics Engineering reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3: Design / Development of solutions: Design solutions for complex engineering problems and design system components or processes of Electrical and Electronics Engineering that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments in Electrical and Electronics Engineering, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities in Electrical and Electronics Engineering with an understanding of the limitations.

PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice in Electrical and Electronics Engineering.

PO7: Environment and sustainability: Understand the impact of the professional engineering solutions of Electrical and Electronics Engineering in societal and environmental contexts, and demonstrate the knowledge of and need for sustainable development.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PSO 1: Graduates will be able to solve real life problems of Power system and Power Electronics using MiPower, PSPICE and MATLAB software tools and hardware.

PSO 2: Graduates will be able to develop and support systems based on renewable and sustainable Energy sources.

Event Photo

Event Name and Details



FIVE-DAY WORKSHOP ON RECENT TRENDS IN ENERGY STORAGE AND ELECTRIC VEHICLE TECHNOLOGY

• Date: 20th- 24th march 2023



Online Guest lecture on 'Phasor estimation algorithms and applications in protective relaying' organised

- Date: 11th April 2023,
- Time: 10.00 AM- 12.00 PM (IST)



Distinguished Lecture Program on "One-Cycle Control and Its Application for Stabilizing Power Grids with High Renewable Penetration"

- Date: 12TH May 2023
- Time: 09:00 AM To 12:00 PM

IEEE PELS NHCE

Training Excel to Excel the school teachers



The E-SOFT club, NHCE & IEEE PELS Bangalore Chapter, organized a social outreach program on 5th January 2023 to help government school teachers familiarize themselves with MS Excel basics, apply formulas, and create marksheets using MS Word

Tech Play



The U-Create club held a TECHPLAY event on 13th January, hosted by Harshitha. R., involving 30 participants from various departments. The event involved three rounds, with participants debugging code and presenting their findings. The event provided exposure to the Electrical Domain and awarded prizes to winners. Participants aimed to enhance their technical skills and evaluate their knowledge

WEBinHOUR



The Department of Electrical and Electronics Engineering at New Horizon College of Engineering hosted a Web in Hours event for E-Soft Club members, focusing on web page basics, HTML, and page design, ensuring an interactive and engaging learning experience.

Seminar on CAMPUS TO CORPORATE



The Department of Electrical and Electronic Engineering organized an online Alumni Talk on February 10th, 2023, featuring SAI RAGHURAM AMOGH, a workday developer at LOWE'S, discussing opportunities in IT, product and service companies, certifications, and gaining experience through projects and internships. The event was organized under the guidance of Dr. S. Sujitha, HOD of EEE, Dr. Gunapriya, and Dr. VINOTH KUMAR K.

IEEE IES NHCE

IEEE IES NHCE Student Branch Chapter Inaugural Ceremony



Start Time

10:00 am February 11, 2023 **Finish Time** 11:00 am March 11, 2023

The Chief Guest of Inaugural ceremony will be Mr. Vishal Anand A G, Chair, IEEE IES Bangalore Chapter ,he emphasized the mission of the IES student branch chapter and how this could help the academia in solving problems related to energy and also stressed that power electronics is the key for integrating renewable energy into the grid and the importance of power electronics in energy generation, management and conservation.

National Workshop on Specific Orientation cum Q&A Session ON Patent Drafting and Filing procedures



Date: 11/03/2023

Time: 10 AM to 11 AM

In today's globally competitive environment, intellectual property has placed itself on a pedestal and is becoming increasingly important. When an individual has an idea that they want to protect from being used by others without their permission, it is best to seek legal protection of that intellectual property. By seeking property rights over your intellectual property, a property is a creation of the mind, such as an invention, symbol, or even a name. You establish rightful ownership and prevent the unlawful use of your property. What's more, establishing intellectual property rights can help to stimulate further innovation.

National Workshop on "New paradigm in Renewable Energy – Microgrids, EV and Hydrogen"





Date:11.03.2023 To 11.03.2023

Time: 11:00 AM To 01:00 PM

The objective of the programme is to bring the researchers and academic experts from reputed institutes of our country to a collective gathering for exchanging and sharing the knowledge about the recent developments and research challenges in Switch Mode DC Converter.

Navigating Life After Graduation – An Alumni Talk



Start Time

2:00 pm March 28, 2023 **Finish Time**

5:00 pm

March 28, 2023

Alumni Talk is organized by the Department Of Electrical & Electronics Engineering for the VI Semester Students **on 28/3/23** at 2PM in the Falconry Hall. The session is going to be engaged by Mr. Arunanshu Chakraborty, 2016 Alumni, and currently working as the Senior Software Engineer, Carelon Global Solutions India, Bangalore.

Design Thinking & Innovation – An Alumni Talk



Start Time

11:00 am March 25, 2023 **Finish Time** 1:00 am March 26, 2023

Alumni Talk is organized by the Department Of Electrical & Electronics Engineering for the III, VI and VIII Semester Students on 25/3/23 at 11AM in Online Mode. The session is going to be engaged by Ms. Bhuvaneshwari M, Design Thinking Team, Assistant Professor, SNS Institutions, Coimbatore, Tamil Nadu

Distinguished Lecture Programme on "Inverter topologies for drives and grid tied applications"



Date: 13TH April 2023 Time: 10:00 AM To 1:00 PM

This lecture provides an Inverter topology for drives and grid tied applications. The eminent expert from the IISC delivered the lecture and his talk has been very well received by the 141 participants.

National Level Seminar on "Study and Work in Germany – the land of ideas"



Start Time

11:00 am April 10, 2023 **Finish Time** 12:00 pm April 10, 2023

This lecture provides an overview of Study and Work in Germany

Technical Event – BUILDATHON



Date: 11TH April 2023 Time: 10:00 AM To 4:00 PM

IEEE IES NHCE Student Branch Chapter of Electrical & Electronics Engineering Department, NHCE organized the Students Technical Event "BUILDATHON" on 11th April 2023.

Expert Lecture on "Modern Trends in Power System Protection"



Date: 19.04.2023

Time: 10:00 AM To 12:00 PM

The objective of the programme was to bring the industry experts from WSP Consultant India Private limited, for exchanging and sharing the knowledge about the recent trends in power system protection. The entire session was handled by Mr. Vinoth Kumar, Senior Power System Engineer. He delivered speech on different advanced protection units and the software tools used in industry.

Expert Lecture on "Electrolyzers and the future of Hydrogen Economy"



Start Time

2:00 pm May 26, 2023 **Finish Time** 4:00 pm May 26, 2023

The Expert Lecture on "Electrolyzers and the future of Hydrogen Economy" on Friday, 26th May 2023, from 02:00 PM to 04:00 PM in association with IEEE IES Bangalore Chapter. Mr. Vishal Anand A G, Chair, IEEE IES Bangalore Chapter Section & Director of Engineering, Bloom Energy (I) Pvt Ltd, Bengaluru, Karnataka, India will be the resource person for the event.

ALUMINI TALK (2023)

Event Photo



Event Name and Details "NAVIGATING LIFE AFTER COLLEGE"

- Date: 28th March 2023
- Time: 02:00 PM to 02:00 PM

The Department of Electrical and Electronics Engineering, New Horizon College of Engineering, Bengaluru organised the Alumni Talk on "Navigating Life After College" on 28th March 2023, Tuesday from 02:00 PM to 02:00 PM in association with IEEE IES Student Branch Chapter of NHCE.

The objective of the program was to bridge the gap between the student's understanding of a corporate world and that of the real-life scenario. The entire session is handled by a resource person Mr.

Arunanshu Chakraborty , working as a Senior Software Engineer dealing with Data Engineering and Analytics at the organization, Carelon Global Solutions, Bangalore, India.



CAMPUS TO CORPORATE

- Date: 10th February 2023
- Time: , 2 pm to 4 pm

The Department of EEE is organized an Online Alumni Talk "CAMPUS TO CORPORATE" on 10th February 2023, 2 pm to 4 pm by SAI RAGHURAM AMOGH. He is currently working as a workday developer at LOWE'S . His areas of interest include Cyber security, 3D printing and Tech evolution.

Topics covered:

• Why EEE

• Opportunities Electrical Engineers get in IT.

• Product companies & Service companies.

• Further education: Certifications or a Masters degree?

• Gaining Experience: Projects and Internships.

INDUSTRIAL VISITS



Date: 06.06.2023

Time: 09:00 AM to 04:00PM

Venue: Rajamane & Hedge Services Pvt Ltd, Tumkur, Karnataka - 572106.

IEEE Power Electronics Society NHCE Student Branch Chapter of Electrical & Electronics Engineering Department, NHCE in association with IEEE PELS Bangalore Chapter organized an Industrial Visit on Synchronous and Induction Machines on 06.06.2023 at Rajamane & Hedge Services Pvt Ltd, Tumkur.

The outcome of the programme was to bring the students on to industry platform to a collective gathering for exchanging and sharing the knowledge about the recent developments in electrical machines. The industry visit has been very well received by the 92 student participants and 3 Faculty Members along with 3 Lab Instructors.



CLUB ACTIVITIES

GREEN ENERGY CLUB

Event Photo



Event Name and Details

Empowering Nation, Empowering Earth

- Date: 7-06-23
- Time: 9 AM onwards The Green Energy Club of the Department of Electrical and Electronics Engineering, had successfully organized a remarkable marathon event titled "Empowering Nation, Empowering Earth". The primary objective of this event was to raise awareness about Atmanirbhar Bharat and the importance of sustainable energy sources



• Date: 14-01-2023

The Department of Electrical and Electronics Engineering of the New Horizon College of Engineering organized a Matter Mind Event of Green Energy Club on 14th January 2023. During this event HoD of the department Dr. Sujitha S presided and introduced the green energy club. And gave the welcome message to the club board members and participants. Yashvantha P. President of the Green Energy Club honored the Guest Speaker Mr. Lohit Y to the event & honored by Infancia Pragna, Secretary of Green Energy Club. Around 80 students participated around different colleges and different department honored. Green Energy club Co-coordinator Mr. Vinod Kumar S gave the vote of thanks.





Industry 4.0 Revolution Workshop" Beyond Automation

- DATE: 10-06-2023
- Venue: schneider lab, NHCE
- Time: 9am onwards

The Green Energy club of department of Electrical and Electronics Engineering, has successfully organized Hands-on Workshop titled "Industry 4.0 Revolution Workshop" Beyond Automation.

The main objective of this workshop was on Industry 4.0 to educate participants about the concepts, technologies, and opportunities associated with the fourth industrial revolution, enabling them to understand and implement these advancements within their organizations.

This event was a significant step in conducting hands-on demonstrations and practical exercises to provide participants with real-world experience and practical skills related to the technologies and concepts.

E SOFT CLUB

Event Photo



Event Name and Details

TRAINING EXCEL TOSCHOOL TEACHERS

- DATE: 05/01/2023
- TIME: 11:00 PM ONWARDS

The E soft club had visited the nearby government school as a part of their social outreach program. The event ensured that our conveners helped the teachers in the school with the excel sheet deigning and how to work on the various basics in the excel software and also ensured that the teachers were well versed to design the excel sheet towards the end of the session.



WEB in HOUR

- DATE: 10/02/2023
- TIME: 11 AM ONWARDS

The objective of the event was to teach our students various web designing techniques and give them a hands-on session. The conveners were from our very own student community and they made it interactive and ensured that the participants were well versed to design a website using basic html code and various designing methods.



ORCAD SIMULATION

- DATE: 09/06/2023
- TIME: 11 AM ONWARDS

The main objective of the event was to ensure that the students were able to develop a basic amplifier circuit using ORCAD software and also to see its various applications in the market. The students were also given a brief insight of amplifiers and their conceptual approach towards the electronic devices. By the end of the session students had a brief idea of amplifiers and various circuit designing methodology.

U CREATE CLUB

Event Photo



Event Name and Details

TechPlay

• 13TH JANUARY 2023

The U-Create club in the Electrical and Electronics department organized TECHPLAY on January 13, 2023. The event, hosted by Harshitha R., began with a welcome note and a talk by Prof. Kodandapani emphasizing innovation in the electrical domain. The competition consisted of three rounds involving speaking on electrical topics, circuit decoding, and debugging code. It was a knowledge-filled day, introducing participants from various departments to the electrical field. Winners were awarded prizes, and the event concluded with a vote of thanks, promoting learning and technical skill enhancement.

SPORTS ACHIEVEMENTS

LONG JUMP



Vikash Rawat 6th semester EEE department First place in Long Jump in the 24th VTU State - Level annual athletics meet held at VTU Belagavi



PATENTS FILLED



Department of Electrical and Electronics Engineering

Patents Filed / Published Details for the AY 2022-23

SI. No	Jurisdiction/ Published in Indian Patent Journal/ Published Date		Jurisdiction/ Published inTitle of PatentIndian Patent Journal/ Published Date		Inventors' Name (Faculty / Students)	Status
1.	Design of waste heat recovery in windmill using TEG ApplicationNumber: 202241039515 dated 09.07.2022	India 08/2023 Dated 24/02/2023	Mr. Vinod Kumar S Dr. Vinoth Kumar K Dr. Mahesh M Mr. Shivashankara M Mr. Abdul Samed Mr. Darshan R	Published in AY 2022-23		
2.	A foldable television remote Design Number: 33043-001 dated 13.02.2021	India Design Certificate Dated 17/01/2023	Dr. Gunapriya B	Published in AY 2022-23		
3.	Design of assistant robot for home appliances ApplicationNumber: 202341007549 A dated 06.02.2023	India 08/2023 Dated 24/02/2023	Dr. Vinoth Kumar K Ms. Sangeetha C N Mr. Baba Fakharuddin	Published in AY 2022-23		
4.	Design of driver drowsiness detection and alert system ApplicationNumber: 202341007572 A dated 06.02.2023	India 08/2023 Dated 24/02/2023	Dr. Vinoth Kumar Ms. K. Sangeetha C N Mr. Kamalesh Badola Mr. Kushal Naik K Mr. Lava Kumar M N Mr. Mohammed Aman	Published in AY 2022-23		

5.	Design of affordable social distance monitoring system using Raspberry PI ApplicationNumber: 202341007554 A dated 06.02.2023	India 08/2023 Dated 24/02/2023	Ms. Surat Pyari Atti Dr. Vinoth Kumar K Ms. Sangeetha C N Mr. Mohammed Imad Mr. Sanjan R Mr. Shashank Joshi Ms. Sneha S A	Published in AY 2022-23
6.	Design of theft diagnosis from smart energy meter using IoT ApplicationNumber: 202341007559 A dated 06.02.2023	India 08/2023 Dated 24/02/2023	Dr. Vinoth Kumar K Ms. Gautammee K K Ms. Aishwarya P Ms. Charishma A Ms. Kesamreddy Deepthi	Published in AY 2022-23
7.	Design of Lifi based text communication ApplicationNumber: 202341007560 A dated 06.02.2023	India 08/2023 Dated 24/02/2023	Ms. Pooja Jose Dr. Vinoth Kumar K Ms. Aamna Nafiza Ms. Disha M Ms. Harshika Ms. Hemavathi V	Published in AY 2022-23
8.	Design of wind solar hybrid system ApplicationNumber: 202341007561 A dated 06.02.2023	India 08/2023 Dated 24/02/2023	Ms. Kavitha Chenna Reddy Dr. Vinoth Kumar K Ms. Manasa G Reddy Ms. Neha R Ms. Tantapureddi Haritha Ms. Tejashree T	Published in AY 2022-23
9.	Design of numerical door lock using Arduino ApplicationNumber: 202341007566 A dated 06.02.2023	India 08/2023 Dated 24/02/2023	Dr. Gunapriya B Dr. Vinoth Kumar K Dr. Sujitha S	Published in AY 2022-23
10.	Design of hybrid renewable energy systems based dc micro grids and mini-grids for off-grid electrification in rural and smart city development ApplicationNumber: 202341007565 A dated 06.02.2023	India 08/2023 Dated 24/02/2023	Dr. Gunapriya B Dr. Vinoth Kumar K	Published in AY 2022-23
11.	Design of smart segregation bin ApplicationNumber: 202341007563 A dated 06.02.2023	India 08/2023 Dated 24/02/2023	Mr. Kartheek Vankadara Mr. Bharath T Mr. Dayas A Dixen Mr. Dony Snehit P Ms. Infancia Pragna	Published in AY 2022-23

12.	Analysis of electrical parameters for formula style electric vehicle ApplicationNumber: 202341007562 A dated 06.02.2023	India 08/2023 Dated 24/02/2023	Dr. Mohan Das R Mr. Vinod Kumar S Mr. Tejas Ms. Rithika Kapoor Mr. Varun R Ms. Shambavi Bhagat	Published in AY 2022-23
13.	Design of dynamic wireless power transfer system technology used in solar wireless electric vehicle charging stations ApplicationNumber: 202341020401 A dated 23.03.2023	India 15/2023 Dated 14/04/2023	Dr. Vinoth Kumar K Mr. Maruthi B Mr. Rahul R Mr. Santhosh Melvin D Mr. Sathish S	Published in AY 2022-23
14.	Design of electric quad bike with hybrid charging mode for physically challenged ApplicationNumber: 202341020419 A dated 23.03.2023	India 15/2023 Dated 14/04/2023	Dr. Sujitha S Mr. M Rohit Kumar Reddy Ms. Harshitha R Ms. Asiri M Urs Mr. Koushik P	Published in AY 2022-23
15.	A fully automated system for paralysis patient health management ApplicationNumber: 202341020423 A dated 23.03.2023	India 15/2023 Dated 14/04/2023	Mr. Satish Kumar D Mr. Bisen Rochil Pradeep Ms. Sakshi Ms. Sanjana Ms. Shreya D Revankar	Published in AY 2022-23
16.	Design of wireless DC motor control ApplicationNumber: 202341020427 A dated 23.03.2023	India 16/2023 Dated 21/04/2023	Ms. Manochitra G Ms. Harshitha K Ms. Deepika K Shetty Ms. Disha Ashok Nayak Ms. Harshitha V	Published in AY 2022-23
17.	Smart transport system for preventing animals attacks and accidents for village roads using AI techniques ApplicationNumber: 202341020431 A dated 23.03.2023	India 16/2023 Dated 21/04/2023	Dr. J Joshua Daniel Raj Ms. Sangeetha C N Mr. Sarthak Ghorai Mr. Subajit Das Mr. Manish Mr. Shariq Ahmed	Published in AY 2022-23
18.	Ultrasonic radar sensor using Arduino	India 20/2023 Dated 19/04/2023	Ms. Sangeetha C N Dr. J Joshua Daniel Raj Mr. Yashwanth S Ms. Simran Kanwar Mr. Vikash Rawat Mr. Vinay Kumar	Filled in AY 2022-23

19.	Design of smart blind stick ApplicationNumber: 202341020436 A dated 23.03.2023	India 15/2023 Dated 14/04/2023	Ms. Manochitra G Ms. Janhavi G Ms. Keerthi M Ms. Lavanya N Ms. Deepika	Published in AY 2022-23
20.	Design of food monitoring system using IoT ApplicationNumber: 202341020448 A dated 23.03.2023	India 15/2023 Dated 14/04/2023	Ms. Soumya K V Dr. Sujitha S Ms. Jayanth CK Mr. Ramakant H Dolli Mr. Sharath Kumar M Mr. Vignesh M	Published in AY 2022-23
21.	Design of error detection using hamming codes ApplicationNumber: 202341020452 A dated 23.03.2023	India 15/2023 Dated 14/04/2023	Ms. Soumya K V Dr. Sujitha S Mr. Manu K Mr. Ponde Sumanth Mr. Raghavendra Mr. Yeshwanth M	Published in AY 2022-23
22.	An intelligent system for plant disease diagnosis using convolution neural networks ApplicationNumber: 202341020454 A dated 23.03.2023	India 15/2023 Dated 14/04/2023	Mr. Satish Kumar D Dr. Joshua Daniel Raj J Mr. Anoopkumar H S Mr. Chethan D R Mr. Deekshith More B Mr. Kushal A Y	Published in AY 2022-23
23.	Design and Implementation of solar fed flood alert system using Bolt Wi- Fi Module ApplicationNumber: 202341020457 A dated 23.03.2023	India 15/2023 Dated 14/04/2023	Ms. Karthika M Dr. Sujitha S Mr. Ezra James D'cunha, Mr. Abrar Altaf Dar Mr. Gaurav P Kumar Mr. Ankit Kumar	Published in AY 2022-23
24.	Design of non-invasive method detecting Anemia ApplicationNumber: 202341021362 A dated 25.03.2023	India 16/2023 Dated 21/04/2023	Anitha A, Vinoth Kumar K, Abhishek Bedant, Madhav Reddy C, Kumar Abhishek	Published in AY 2022-23

25.	Investigation of artificial intelligence and IoT based detection of pesticide in organic fruits and vegetables ApplicationNumber: 202341021366 A dated 25.03.2023	India 16/2023 Dated 21/04/2023	Sunil S K, Sujitha S, Manoj Kumar V, Naveen R N, Sandeep Naik R, Manoj Kumar P	Published in AY 2022-23
26.	Dual Axis Solar Tracker	TEMP/E- 1/16618/2023- CHE	Vinod Kumar S, Mohan Das R, Meghana I K, Prathvi Devanand Gaonkar, Purvi Samanvitha S, Rahul B, Shivashankar A Mughali	Filled in AY 2022-23
27.	Design of solar powered multifunctional agricultural robot ApplicationNumber: 202341021405 A dated 25.03.2023	India 16/2023 Dated 21/04/2023	Sujitha S, Meghana N T, Vidya G R, Vandana R	Published in AY 2022-23
28.	Rear Camera Fixture for Military Purpose	TEMP/D- 1/5073-KOL (Design)	D Kodandapani, Satish Kumar D, Kartheek Vankadara	Filled in AY 2022-23
29.	Adjustable Antifall Multipurpose Table Application Number: 380114-001 dated 25.03.2023	India Design Certificate Dated 21/04/2023	Dr. Agalya V et al (2)	Published in AY 2022-23

BEST PROJECTS

The primary goal is to ensure the safety of the person riding the vehicle. The benefits of this project are, rider can balance the vehicle and prevent them from falling or having accidents. Due to how difficult it is to control the clutch mechanism and balance it during the time of traffic which plays a vital role.



PLACEMENTS



1	Ritika Kapoor	1NH19EE093	IBJ 2023 Japanese Placement Drive



1 Shambhavi Bhagat 1NH19EE104 2023 Dell Technologies

2023



1	Gautammee K K	1NH19EE042	2023 Ernst Young
2	Maruthi B	1NH19EE071	2023 Ernst Young
3	Sarthak Ghorai	1NH19EE100	2023 Ernst Young



3 W Y Jhansipriya 1NH19EE125	2023 Ernst Young
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4 Prajwal J	1NH19EE048	2023 Ernst Young	



1 Deepak Kumar Sah	1NH19EE029	2023 SAP Labs	



1	Faraz Ahmed Mulla	1NH18EE014	2023 Capgemini
2	Abhisek Bedant	1NH19EE004	2023 Capgemini



3	Abrar Altaf Dar	1NH19EE005	2023 Capgemini

4	Aishwarya V H	1NH19EE009	2023 Capgemini
5	Aisiri M Urs	1NH19EE010	2023 Capgemini
6	Anjana Kumari	1NH19EE015	2023 Capgemini



6 Charishma A 1NH19EE023 2023 Capgemini	



7 Deeksnith More B INH19EE028 2023 Capgemini	7 Deekshith More B	1NH19EE028	2023 Capgemini
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8	Ezra James D'Cunha	1NH19EE033	2023 Capgemini



9	Rohith Kumar Reddy Mekala	1NH19EE066	2023 Capgemini
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10	Chennamreddy Madhava Reddy	1NH19EE067	2023 Capgemini
11	Sindhu	1NH19EE083	2023 Capgemini



21	Rachna Palli	1NH19EE091	2023 Capgemini

22	Tabasum Manzoor	1NH19EE114	2023 Capgemini
23	Tejas V	1NH19EE116	2023 Capgemini



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	24	Koushik P	1NH20EE403	2023 Capgemini

25	Faoz Firoz	1NH19EE035	2023 Capgemini
26	Agarwal Rahat Manoj Kumar	1NH19EE007	2023 Capgemini
27	Vinod Kumar R	1NH19EE123	2023 Capgemini

Cognizant

29	Abhishek	1NH19EE003	2023 Cognizant
	11 mars		



30 Aishwarya P 1NH19EE008 2023 Cognizant				
	30	Aishwarya P	1NH19EE008	2023 Cognizant



31	Anil Hegde H	1NH19EE013	2023 Cognizant

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32 Anoopkumar H S 1NH19EE018 2023 Cognizant				
v	32	Anoopkumar H S	1NH19EE018	2023 Cognizant



33	Krishnachaitanya G	1NH19EE038	2023 Cognizant
34	Gaurav P Kumar	1NH19EE040	2023 Cognizant



35	Likitha J	1NH19EE047	2023 Cognizant

36	Naveen Rn	1NH19EE080	2023 Cognizant
37	Rahul R	1NH19EE092	2023 Cognizant



	38	Swastik Shukla	1NH19EE113	2023 Cognizant
1				





37 Manoj Kumar H V 1NH19EE069 2023 Batch Happiest Minds Campus drive		37	Manoj Kumar H V	1NH19EE069	2023 Batch Happiest Minds Campus drive
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38 Akshay v INH19EE012 2023 Minutree	20	AkchovyV	11111055012	2022 Mindtrop
	38	AKSTIDY V	INHI9EEUIZ	2023 Minduree



39 Kesamreddy Deepthi 1NH19EE055 2023 Mindtree



40 Kushal A Y 1NH19EE062 2023 Mindtree				
	40	Kushal A Y	1NH19EE062	2023 Mindtree



41	Varun R	1NH19EE090	2023 Mindtree



42	Hemanth Kumar G N	1NH19EE037	2023 Steer Engineering
43	Vijay Meti	1NH20EE410	2023 Steer Engineering





44 A	kshatha Shree S	1NH19EE011	2023 MuSigma



45	Dhruva S Srinivas	1NH19EE032	2023 MuSigma
	A DESCRIPTION OF THE OWNER OF THE		



46	Sharmi Kanaujia	1NH19EE106	2023 MuSigma

Computacenter

			2023 campus drive by Computacenter India Pvt
47	Chirag Pathak	1NH19EE025	Ltd.

CAREER OPTIONS

TECHNICAL ADVANCEMENTS GRAPHENE SUPERCAPACITORS



Photo credits: https://www.graphenea.com/pages/graphene-supercapacitors

"Due to the lightweight dimensions of graphene-based supercapacitors and the minimal cost of production coupled with graphene's elastic properties and inherit mechanical strength, we will almost certainly see technology within the next five to ten years incorporating these supercapacitors."

Graphene-Based Supercapacitors

Supercapacitors, unfortunately, are currently very expensive to produce, and at present the scalability of supercapacitors in industry is limiting the application options as energy efficiency is offset against cost efficiency. This is the reason why a paper by researchers at the UCLA has been so highly referred to within scientific circles and publications as they were able to produce supercapacitors made out of graphene by using a simple DVD LightScribe writer on a home PC. This idea of creating graphene monolayers by using thermo lithography is not necessarily a new one, as scientists from the US were able to produce graphene nanowires by using thermochemical nanolithography back in 2010; however, this new method avoids the use of an atomic force microscope in favour of a commercially available laser device that is already prevalent in many homes around the world.

Why are scientists looking at using graphene instead of the currently more popular activated carbon? Well, graphene is essentially a form of carbon, and while activated carbon has an extremely high relative surface area, graphene has substantially more. As we have already highlighted, one of the limitations to the

capacitance of ultracapacitors is the surface area of the conductors. If one conductive material in a supercapacitor has a higher relative surface area than another, it will be better at storing electrostatic charge. Also, being a material made up of one single atomic layer, it is lighter. Another interesting point is that <u>as</u> <u>graphene is essentially just graphite</u>, which is a form of carbon, it is ecologically friendly, unlike most other forms of energy storage.

The efficiency of the supercapacitor is the important factor to bear in mind. In the past, scientists have been able to create supercapacitors that are able to store 150 Farads per gram, but some have suggested that the theoretical upper limit for graphene-based supercapacitors is 550 F/g. This is particularly impressive when compared against current technology: a commercially available capacitor able to store 1 Farad of electrostatic energy at 100 volts would be about 220mm high and weigh about 2kgs, though current supercapacitor technology is about the same, in terms of dimensions relative to energy storage values, as a graphene-based supercapacitor would be.

SAMSUNG WILL MASS-PRODUCE 2NM CHIPS IN 2025 AND 1.4NM BY 2027



Photo credit: https://www.gizmochina.com/2023/06/29/samsung-mass-produce-2nm-chips-2025-1-4nm-2027/

Samsung Foundry is the world's second-largest contract chip producer after TSMC, and the Korean company is determined not to be left behind. In early 2022, <u>TSMC announced</u> its plans to introduce 2nm technology to the world by 2025. Now, Samsung has confirmed that it is targeting a similar timeline. During its Forum held in San Jose, California on Tuesday, the South Korean tech giant stated that it wants to start mass production of 2nm mobile chips in 2025.

If you are not familiar, nm stands for nanometer, and it refers to the channel length of the transistors that make up a chip. A smaller channel length allows for more transistors to be densely packed onto a single chip, leading to improved performance.

Once Samsung is done testing the 2nm chips in 2025, it will offer the advanced process for high-performance computing in 2026. Furthermore, by 2027, the Korean company aims to offer a process specifically designed for automotive chips.

The company compares its newly developed 2nm process with the 3nm process that was launched last year. The smaller processor node is claimed to provide a 12% increase in performance and a 25% increase in power efficiency compared to Samsung's 3nm process. The 2nm process also allows Samsung to design chips that are 5% smaller than those produced using its 3nm process. Furthermore, the company has announced its plans to initiate mass production of chips utilizing its 1.4nm process in 2027.

BETAVOLTAIC DEVICE: HARNESSING ENERGY FROM NUCLEAR WASTE



Photo credits: https://pubs.acs.org/doi/10.1021/acs.jpcc.3c00684

Nuclear energy is considered a suitable and eco-friendly alternative for combating the rising greenhouse gases in the atmosphere from excessive fossil fuel consumption. Betavoltaic battery is a form of nuclear technology that utilizes the decay energy of β -emitting radioisotopes to produce electrical power. Owing to its long shelf life, high specific energy density, and ability to work under extreme conditions, it has been a subject of considerable research attention in the past few years. Despite significant research on betavoltaic battery, several impediments to realizing high energy conversion efficiency and maximum power density have yet to be overcome

ALUMNI FEEDBACK



MEGHANA S -1NH19EE073 B.E - EEE (2019-2023)

My Engineering Course at New Horizon College of Engineering was Excellent. I feel extremely delighted in having been the part of this esteemed institution. I am Grateful to our Branch & faculty members who continuously supported us and actively inculcated the culture of activities, including the Project Presentations, paper publications, Club activities and more!!! We were offered an overall development aptitude, coding & soft skills. The opportunities provided by the placement cell were fruitful for us to help gauge us understand the overall interview structure and how to tackle them better. I'm really glad to be placed at "EXL". I'm grateful to the College and the support of the respective faculties.



Yashvantha P - 1NH18EE407 B.E - EEE (2019-2023)

I would express my gratitude for the wonderful education I received at our NHCE institution. I am proud to say that I am a graduate of Electrical and Electronics Engineering from NEW HORIZON COLLEGE OF ENGINEERING. The faculty and staff at NHCE are some of the most dedicated and knowledgeable professionals I have ever had the pleasure of working with. They provided me with the tools and resources I needed to succeed in my studies, and they were always available to answer any questions I had. I also appreciated the many opportunities that my college provided me with to get involved in extracurricular activities. These experiences helped me develop my leadership skills and gave me a chance to make lifelong friends. Overall, I would highly recommend NHCE to anyone who is looking for a high-quality education in a supportive and welcoming environment.



M. ROHITH KUMAR REDDY -1NH19EE066 B.E - EEE (2019-2023)

"I have had an amazing experience at New Horizon College of Engineering. The Professors in the Electrical and Electronics Engineering Department are truly passionate about their work and they have inspired me to pursue my own research interests. I have made lifelong memories with my friends and faculty here and I am so grateful for everything that this college has given me."



MOHAMMED ARSHAD -1NH19EE120 B.E - EEE (2019-2023)

First of all, I have joined this college through KCET that government had allotted. I feel proud that I was one of the students of EEE at New Horizon College of Engineering. EEE department is the best department that has made me gain knowledge and provided a solid experience in solving problems. My sincere thanks to the entire department faculty and my team who made me everything easier.



HARSHITHA R --1NH19EE046 B.E EEE (2019-23)

As a high school kid, I dreamed big about a college that would help me pursue Engineering along with my passion and NHCE has given me a lot of opportunities through various events and fests. I had a phenomenal time at my department of Electrical and Electronics Engineering, and I always give it my highest recommendation. The vision and mission of EEE department, NHCE is at its best. It has helped me in a holistic development. The teachers are very encouraging and supportive for Co-curricular activities, Extracurricular activities, placements and other training apart from the regular course. Each and every student is mentored throughout the course to make sure none of us face any difficulties. I am thankful for the organization and the teachers for their timely guidance and support.

2023



W Y JHANSIPRIYA B.E - EEE (2019-2023)

My experience at New Horizon College of Engineering has been nothing short of exceptional. From the moment I stepped foot on campus, I was greeted by a vibrant and inclusive community that fosters academic excellence, personal growth, and professional development. And as a special mention, the EEE faculty and staff at New Horizon are dedicated, knowledgeable, and passionate about their subjects, always going above and beyond to ensure that students receive the best education possible.

The college's placement cell deserves special recognition. They work tirelessly to bridge the gap between academia and industry, organizing regular placement drives.

In conclusion, I am grateful for my time at New Horizon College of Engineering. It has not only equipped me with the knowledge and skills necessary for my career but also nurtured my overall growth as an individual.