NEW HORIZON
COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

AUTUMN TRONICALS

JULY - DECEMBER 2023

INDEX

Message from Chairman:

Dr. Mohan Manghnani

Chairman of New Horizon Educational Institutions

I am pleased to contribute my thoughts for the biannual EEE magazine. Department of Electrical and Electronics Engineering has consistently been one of the most active and vibrant departments in our Institute, bringing us great pride over the years. The Institute as a whole has been undergoing significant reforms in terms of curriculum updates and course structures. The EEE Department has readily embraced these changes, with the hope that they will benefit our students. The new course plans have been implemented for some senior years in the undergraduate program, in addition to the first years. We eagerly await feedback to ensure we are on the right track. It is always a joy to see students showcase their creative and hidden talents in various forms, and this magazine provides a perfect platform for the students of our Department to do so. It also serves as an ideal medium for the sharing of technical articles by faculty and students, highlighting their respective areas of research.

Wishing everyone the very best.

Message from Principal:

Dr. Manjunatha

Principal
New Horizon College of Engineering

At New Horizon College of Engineering, we understand the importance of going beyond the standard curriculum to ensure our students are equipped with the skills needed to succeed in the industry. Recent feedback from industry experts has highlighted a concerning trend: many engineering graduates lack the employability skills necessary for success. New Horizon College of Engineering has always been committed to addressing this issue, working tirelessly to ensure our students are well-prepared for the challenges of the job market. I am delighted to offer a few words as a preface to the latest edition of the EEE department's in-house magazine, "Autumn Tronicals". This edition has been carefully curated to showcase a variety of events and technical articles, making it a valuable source of information for our readers. I extend my sincere congratulations to all the contributors and the esteemed editorial board for their hard work in producing this exceptional magazine. I hope you find joy and enlightenment as you explore the pages of this edition.

Message from Head of Department:

Dr. Sakthivel Aruchamy

Professor & HOD
Electrical and Electronics Engineering Department
New Horizon College of Engineering

At NHCE, we understand the need to teach beyond curriculum to make our students 'Industry Ready'. Recent observations made by many stalwarts in the industry indicate the fact that most engineering graduates out of college are not employable. NHCE has always been at the forefront of ensuring that students are employable. It's a pleasure to present my views for the biannual EEE magazine. The Department of Electrical and Electronics Engineering has always been one of the most active and happening Departments of our Institute and has brought us a lot of pride over the past. The Institute has been undergoing very drastic reforms in terms of curriculum updation and course structure. The EEE Department has taken up these readily which we hope will work for the benefit of the students. The new course plans have been applied to some of the senior years in UG apart from the first years as well, and we look forward to the feedback on the same to ensure we're moving on the right path. It is always good to see the students bring out their creative and hidden talents in any form and this would be a perfect platform for the students of the Department. This would also serve as an apt magazine for the sharing of technical articles by faculty and students from their respective areas of research. It gives me immense pleasure to pen a few words as prologue to the in-house magazine of the EEE department, Autumn Tronicles. The issue is designed to present the events that have occurred as well as technical write-ups which makes the issue resourceful and informative. I congratulate all the contributors and also editorial board for bringing out such a nice issue. Happy Reading.

Message from the Faculty Advisor:

Mr. Satishkumar. D

Senior Assistant Professor, Electrical and Electronics Engineering Department New Horizon College of Engineering

Encouraging creativity and nurturing innovation are essential components of a thriving educational environment, and the college magazine stands as a testament to these ideals. I am delighted to announce the forthcoming publication of the EEE department's magazine, 'Autumn Tronicles,' at New Horizon College of Engineering. This magazine serves as a platform for our academic community to showcase their creative endeavors and innovative ideas. It provides a unique opportunity for students to reflect on their achievements and progress in various skill development areas. In today's fast-paced technological landscape, our classrooms may sometimes struggle to keep pace. However, initiatives like 'Autumn Tronicles' demonstrate our commitment to fostering creativity and innovation among our students. I extend my heartfelt congratulations to the team of students whose dedication and hard work have brought this magazine to fruition. I am confident that 'Autumn Tronicles' will continue to inspire and motivate future generations of students at our college. May this tradition of excellence endure and flourish in the years to come.

EDITORIAL TEAM

Dr. Sakthivel Aruchamy

Professor & HOD
E.E.E. Department

Mr. Satishkumar. D

Senior Assistant Professor
E.E.E. Department

Monika G

USN: 1NH21EE064
5th Semester, Section: B

Poojitha M Reddy

USN: 1NH21EE078
5th Semester, Section: B

NEW HORIZON COLLEGE OF ENGINEERING

VISION

To emerge as an institute of eminence in the fields of engineering, technology and management in serving the industry and the nation by empowering students with a high degree of technical, managerial and practical competence.

MISSION

To strengthen the theoretical, practical and ethical dimensions of the learning process by fostering a culture of research and innovation among faculty members and students.

To encourage long-term interaction between the academia and industry through their involvement in the design of curriculum and its hands-on implementation.

To strengthen and mould students in professional, ethical, social and environmental dimensions by encouraging participation in co-curricular and extracurricular activities.

QUALITY POLICY

To provide educational services of the highest quality both curricular and co-curricular to enable students integrate skills and serve the industry and society equally well at global level.

VALUES:

- Academic Freedom
- Inclusiveness
- Professionalism
- Integrity
- Innovation
- Social Responsibility

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

VISION

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

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 (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 Skills: 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.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO 1: 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.

PEO 2: To inculcate research capabilities in the areas of Electrical &Electronics Engineering to identify, comprehend and solve problems and adopt themselves to rapidly evolving technology.

PEO 3: To create high standards of moral and ethical values among the graduates to trans- form them as responsible citizens of the nation.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Graduates will be able to solve real life problems of Power system and Power Electronics using MiPower, PSPICE and MATLAB software tools and hardware.

PSO2: Graduates will be able to develop and support systems based on renewable and sustainable Energy sources.

ABOUT DEPARTMENT

Welcome to the 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) 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).

SEMINARS AND WORKSHOPS

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.

Department of Electrical and Electronics Engineering had made all the arrangements to conduct this event for 4th semester students at B-203 in offline mode. The resource person Dr. Vinoth kumar K (Professor-EEE), Dr. Piyush Kumar Soni (Coordinator – NISP, NHCIIE), Dr. Agalya V (President – IIC 5.0), Dr. S Sujitha (Professor-EEE), and 77 students from 4th Sem EEE had participated in the event.

IEEE PELS NHCE Student Branch Chapter from Department of Electrical and Electronics Engineering, New Horizon College of Engineering, Bengaluru organized the Webinar on “Improving Electric Drive Train Efficiency with Multiphysics Simulation” for the benefit of students, research scholars and faculties of NHCE and other External Institutions on 15th December 2023 from IST 03:00 PM to 04:00 PM. In association with IEEE PELS Bangalore Section Chapter and COMSOL. Mr. Sharath B N, Technical Specialist, COMSOL acted as a resource person.

The outcome 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 Improving Electric Drive Train Efficiency with Multiphysics Simulation. In this presentation, Mr. Sharath B N will explore about the Electric Drive Train Efficiency details. The entire session is very informative and enthusiastic manner in the area of power electronics industry. The eminent expert from COMSOL delivered the lecture and his talk has been very well received by the 64 participants.

Zeonics Systech Defence and Aerospace Engineers Pvt Ltd
Date: 7th December 2023

The IEEE IES NHCE Student Branch Chapter from Department of Electrical and Electronics Engineering, New Horizon College of Engineering, Bengaluru had organized an industrial visit on " Zeonics Systech Defence and Aerospace Engineers Private Limited" 7th & 8th December 2023, between 9:30 AM to 1:00 PM in NHCE Bengaluru in two different batches. The objective of the visit is to know the working of high voltage equipments where different innovative ideas can come up by visiting the real time applications .The managing director Dr. Zarir H Sholapurwala along with his team guided us and showed the various high voltage equipments and their working as well as the usage in the real life. We were then taken to the tesla coil which produces the high voltage up to 42000 volts. He also showed us its working as well as real time usage. Then we were taken to the pulse generators, electromagnetic wave coil, impulse generators, drone shooters, high voltage trigger generators .The entire visit is very informative and interesting manner in the area of high voltage equipments and had a wonderful experience with Dr. Zarir who was the founder of this company very friendly with us and answered all our doubts as well as gave us a lot of knowledge about the high voltage equipments as well as its career scope.

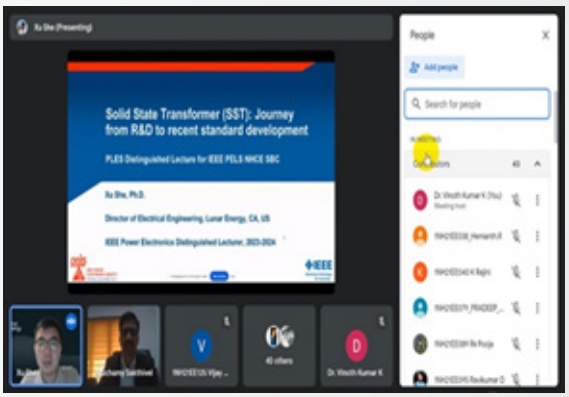
The NHCE institutions innovation council and Department of Electrical and Electronics Engineering, New Horizon College of Engineering, Bengaluru organized an Outreach Program at Government Primary School, Varthur on 9thDecember, Saturday, 2023 between 9:00 AM to 12:00 PM. The objective of the programme/session was to create awareness among the students about pollution and how it can be prevented. The resource person was Savitha KL, HM of the school. The students were shown a presentation on how Pollution can be prevented.

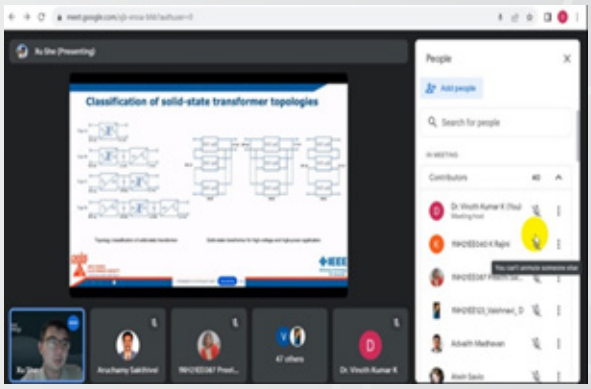
GUEST LECTURES

The Department of Electrical and Electronics Engineering, New Horizon College of Engineering, Bengaluru organized an Expert talk on “Key ingredients for successful Engineering Projects” on 30th November 2023, Thursday from 10:00 AM to 12:00 PM in association with IEEE IES Student Branch Chapter of NHCE. One of the most effective and beneficial ways by which engineering students can learn, understand, remember and apply engineering concepts, is through project-based learning. The objective of the talk is to make the students to understand the necessity of doing engineering projects. The entire session is handled by a resource person Mr. GOBALAKICHENAN GANESHAN, Senior Manager, Thryve Digital, Chennai, India. He has delivered his lecture which emphasizes the necessity and importance of engineering projects and the steps involved in the process of engineering projects. The entire session is very informative and students gained knowledge on how to do successful Engineering Projects. The expert talk was organized by Ms M Karthika, Senior Assistant Professor, EEE, NHCE. The eminent expert talk has been very well received by the 50 participants.

IEEE EVENTS

Achievement: IEEE Industrial Electronics Society NHCE Student Branch Chapter (Geo-Code: SBC66131B) of Department of EEE has won the “Highest Membership Award” for dedicated voluntary contribution to the chapter and for highest number of members for the year 2023 in IEEE PELS and IES Bangalore Section Chapter AGM – 2024 (Annual General Meeting) at Amrita School of Engineering, Bengaluru held on 21.01.2024





IEEE PELS NHCE Student Branch Chapter from Department of Electrical and Electronics Engineering, New Horizon College of Engineering, Bengaluru organized the Distinguished Lecture Program on “Solid state transformers: Journey from R&D to recent standard development” on 13th December 2023, Wednesday from 10:00 AM to 12:00 PM in association with IEEE PELS Bangalore Section Chapter. Dr. Xu She, Distinguished Lecturer – IEEE Power Electronics Society & Director of Electrical Engineering, Lunar Energy Mountain View, California, USA acted as a resource person. The outcome 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 Solid state

transformers: journey from R&D to recent standard development. In this presentation, Dr. Xu She will explore about the solid state transformer is an emerging technology that replaces the traditional line frequency transformer with additional functions and intelligence. It has gained significant attention in the past 10 years with number of publications increased by more than 25x. Around the world, there are many on-going demonstration projects for different applications, such as smart grid integration, EV fast charger, wind and solar power conversion, etc. This lecture provides an overview of development effort of solid-state transformers, a journey starting from early-stage R&D to recent standard development effort (IEEE P3105) within IEEE power electronics society. The entire session is very informative and enthusiastic manner in the area of power electronics industry. The eminent expert from the Lunar Energy delivered the lecture and his talk has been very well received by the 126 participants.

CULB ACTIVITIES

On 14th December, 2023 the Green Energy Club of New Horizon College of Engineering organized a technical seminar for the students on the topic “Role of Renewable energy in Sustainable Development” at Falconry seminar hall at 10am. Dr. Boddapati Venkatesh, Assistant Professor, BMS College of Engineering was invited as the guest to present and share his knowledge about the topic. The event was a great success with over 150+ participants.

INDUSTIAL VISITS

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

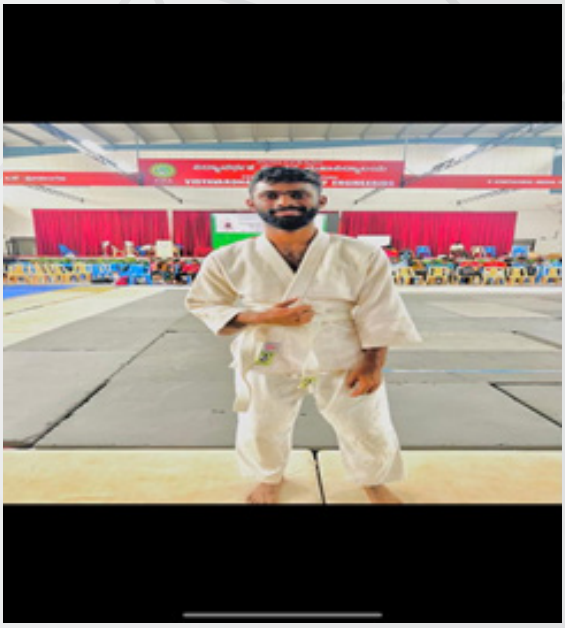
STUDENT ACHIEVEMENTS

Three students from the 7th semester of the EEE department—Sneha S.A (1NH20EE111); Dheeresh Vijay Devadiga (1NH21EE402); and SHASHANK JOSHI (1NH20EE101)—underwent a Study Abroad program at France universities, including two campuses of CESI and one of ESIGELEC, from September 2023 to January 2024. They have successfully completed their internship. On behalf of the New Horizon College of Engineering management, we congratulate them.

CJUO Prathvi Gaonkar 7th semester EEE department participated in RDC (Republic Day Camp) Culturals selection and was selected to represent Bangalore B group in IGC (Inter group competition) that is state level competition which was held in Bellary from 11th October to 20th October. She mainly performed Yakshagana, a traditional art form of Karnataka. She is in CJUO (company junior under office) rank and is the first person from NCC_NHCE to get selected for IGC-RDC.

CDT Apoorva Kulkarni, 4th semester student competed at Inter Group Competition, representing Bangalore B Group of 7th Karnataka Battalion NCC.

CDT Aneelkumar Madarkhandi studying in 4th semester as participated in the National Trekking Camp held in Kolhapur, Maharashtra, representing our college which took place from 18 to 27 November.



Darshan Suresh Shetty from 6th semester represented in Intercollegiate State level tournament JUDO held at KLSVDIT Haliyal by VTU on 20/11/2023 and secured second place. (Silver Medal)

Simran Kanwar (USN: 1NH20EE110) participated in the women's basketball game at New Horizon College of Engineering, Bangalore. She was awarded the "Best Player" trophy in the women's category, and the basketball team received the runners-up trophy. Additionally, a cash prize of 15k was awarded to the team. This event took place from December 27th to December 29th, 2023, at New Horizon College of Engineering.

Rakshan L (USN: 1NH21EE093) participated in the men's basketball game at New Horizon College of Engineering, Bangalore. The basketball team won the runners-up trophy, and a cash prize of 15k was awarded to the team. This event took place from December 27th to December 29th, 2023, at New Horizon College of Engineering.

PUBLICATIONS

Scopus Indexed Publications from July to December 2023

S.NO.	Name of the authors	Title of the paper	Journal, Publisher, Vol, No, pp.no, Year	DOI
1	Dr. Vinoth Kumar K	Energy Saving Optimization Technique-Based Routing Protocol in Mobile Ad-Hoc Network with IoT Environment	*Energies, 2023, 16(3), 1385, MDPI Publisher*	https://doi.org/10.3390/en16031385
2	Dr. Agalya V	Multi-objective optimization for optimal energy transporting path and energy distribution in electric vehicles energy internet	International Journal of Communication Systems, 2024, Wiley Publisher, Article in Press	https://doi.org/10.1002/dac.5700
3	Dr. Vinoth Kumar K	Energy-Constrained Target Localization Scheme for Wireless Sensor Networks Using Radial Basis Function Neural Network	*International Journal of Distributed Sensor Networks, 2023, 2023, 1426430, SAGE Publications Ltd Publisher*	https://doi.org/10.1155/2023/1426430
4	Dr. Vinoth Kumar K	Implementation of Savonius Blad Wind Tree Structure by Super Lift Luo Converter for Smart Grid Applications and Benefits to Smart City	*Smart Grids for Smart Cities: Volume 1*, 2023, 1, pp. 159–174, Wiley Publisher	https://doi.org/10.1002/9781119872108.ch8
5	Dr. Vinoth Kumar K	Three Ways Chip to Chip Communication via a Single Photonic	*IETE Journal of Research*, 2023, 69(5), pp. 2918–2925, Taylor and	https://doi.org/10.1080/03772063.2021.1908179

6	Dr. Gunapriya B	Designing Compensators for Reduced Order Systems Using Genetic Algorithms	Lecture Notes in Electrical Engineering book series (LNEE, volume 1098), Springer	https://doi.org/10.1007/978-981-99-7383-5_28
7	Dr. Vinoth Kumar K	Three Ways Chip to Chip Communication via a Single Photonic Structure: A Future Paragon of 3D Photonics to Optical VLSI	*IETE Journal of Research*, 2023, 69(5), pp. 2918–2925, Taylor and Francis Ltd. Publisher	https://doi.org/10.1080/03772063.2021.1908179
8	Dr. Gunapriya B	Designing Compensators for Reduced Order Systems Using Genetic Algorithms	Lecture Notes in Electrical Engineering book series (LNEE, volume 1098), Springer	https://doi.org/10.1007/978-981-99-7383-5_28
9	Dr. Mohan Das R, Mr. Vinod Kumar S	Electricity Demand Forecasting Using ML	IEEE Proceedings - 2023 3rd International Conference on Pervasive Computing and Social Networking, ICPCSN 2023, 2023, pp. 547–551	10.1109/ICPCSN58827.2023.00095
10	Dr. Karthika M	Arithmetic optimization algorithm based torque ripple minimization technique for solar fed sensorless BLDC drive for domestic applications	Optik, 2023, 290, 171286, Elsevier GmbH Publisher	10.1016/j.ijleo.2023.171286
11	Dr. Gunapriya B	Performance Analysis of SOC Estimation Approaches for	*Lecture Notes in Networks and Systems, 2023, 719 LNNS, pp. 493–503,*	10.1007/978-981-99-3758-5_45

IEEE MAGAZINES

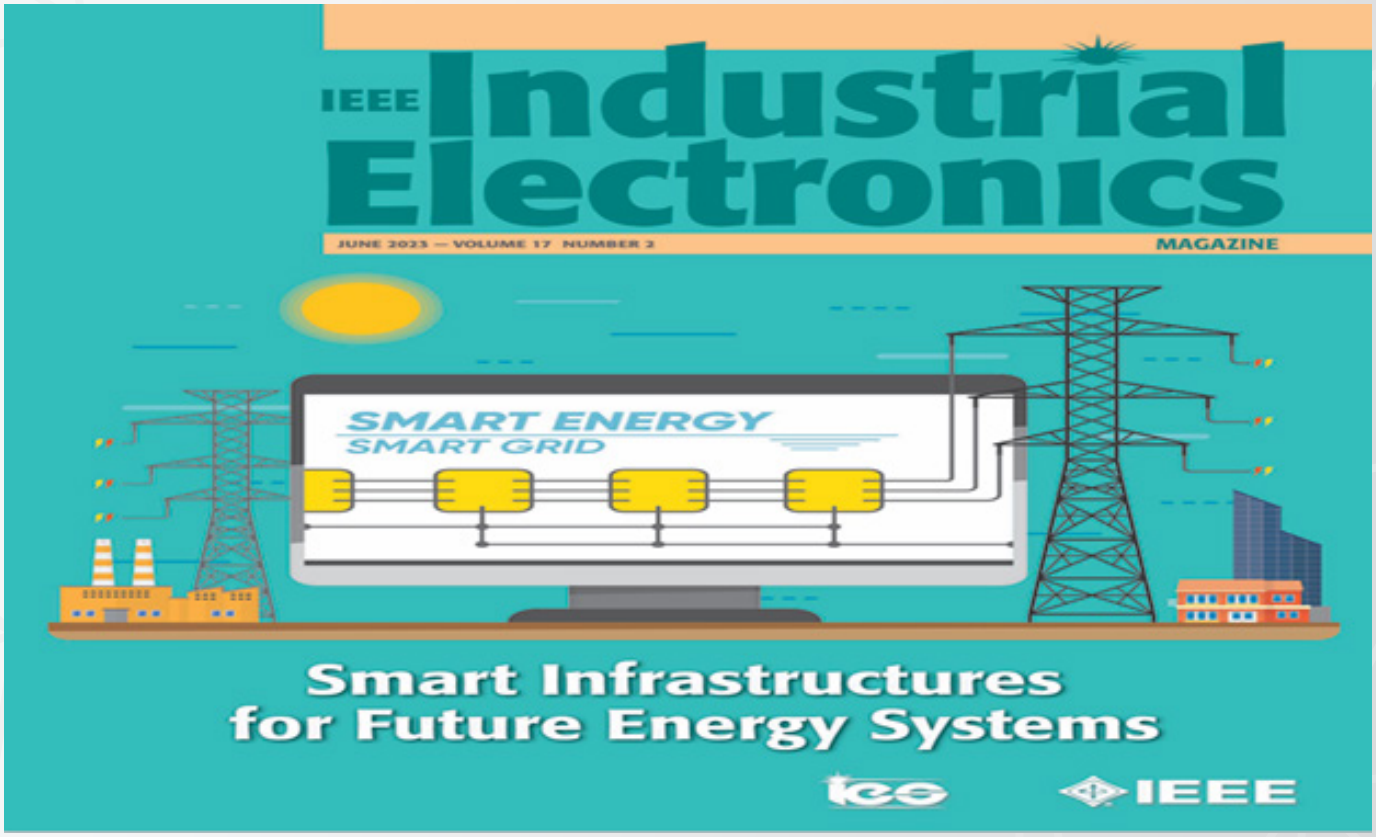


FIGURE 3 – Prof. Gopakumar presents his lecture.

FIGURE 4 – Prof. Gopakumar interacts with the audience.

Prof. Yang Shi Delivers a Distinguished Lecture for Northwestern Polytechnical University

Prof. Huiping Li, on behalf of the School of Marine Science and Technology, Northwestern Polytechnical University, Xi'an, China, and the IEEE Industrial Electronics Society Xi'an Chapter, invited Prof. Yang Shi, IEEE Fellow, University of Victoria, Canada, to deliver an IES Distinguished Lecture online (Figure 1). The title of the lecture was "Advanced Robust Model Predictive Control Framework for Autonomous Intelligent Mechatronic Systems" (Figure 2). More than 40 students and faculty members attended the talk. Model predictive control (MPC)

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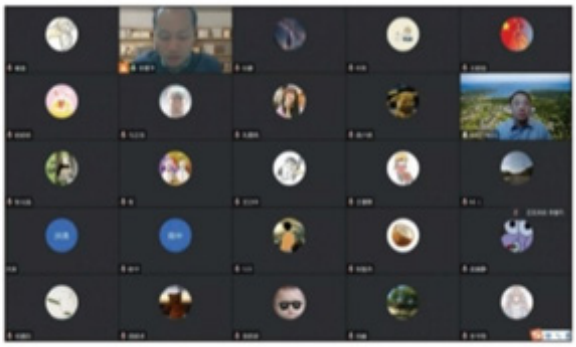
FIGURE 1 – Prof. Huiping Li (top row) introduces Prof. Yang Shi and his talk.

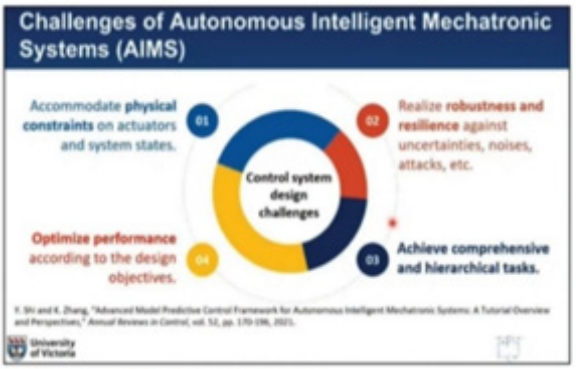

FIGURE 3 – Prof. Shi presents his lecture.

FIGURE 2 – Prof. Shi begins his lecture.

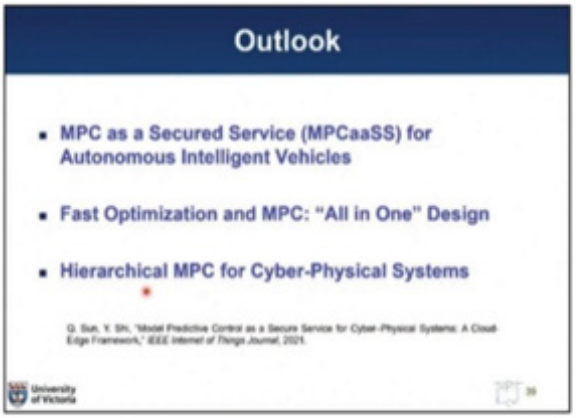

FIGURE 4 – Prof. Shi presents future directions.

Prof. Gopakumar Delivers a Distinguished Lecture at New Horizon College of Engineering

Dr. Vinoth Kumar K., on behalf of the Department of Electrical and Electronics Engineering, New Horizon College of Engineering, Bengaluru, India, invited Prof. Gopakumar, an IEEE Life Fellow and a professor in the Department of Electronic Systems Engineering, Indian Institute of Science, Bangalore, India, to deliver an IEEE Industrial Electronics Society Distinguished Lecture (Figure 1). The title of his lecture was "Inverter Topologies for Drives and Grid Tied Applications." About 141 students and faculty attended (Figure 2), and almost all the seats in the lecture hall were occupied. Prof. Gopakuamr explained how the solar photovoltaic (PV) grid-integrated network has different challenges, such as efficiency enhancement, cost minimization, and overall system resilience. PV strings should function at their maximum power point tracker in all weather situations to ensure reliability. Along with the PV string, the inverter is a critical component of a grid-connected PV framework. While two-level inverters are often utilized in practice, multilevel inverters (MLIs), particularly cascaded H-bridge inverters, are among the finest alternatives for large-scale PV networks in terms of cost and efficiency. Prof. Gopakumar explained the idea behind the potential of MLI topologies. His presentation explored different reduced-switch MLI configurations, classified as symmetric, asymmetric, and hybrid (Figure 3). In his talk, Prof. Gopakumar pointed out the advantages and disadvantages of using inverter topologies for drives and grid-tied applications (Figure 4). He discussed different performance parameters based on their properties and how to understand the potential of various topologies.

FIGURE 1 – Prof. Gopakumar is honored by Dr. R.J. Anandhi, professor and dean of academics, New Horizon College of Engineering.

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Date of current version: 20 September 2023

FIGURE 2 – Prof. Gopakumar meets with students and faculty.

BEST PROJECTS

The students of New Horizon College of Engineering took part in the Project Expo "OXYIGNITE 2023" on 22.12.2023, conducted by The Oxford College of Engineering, Bangalore.

The Department of Electrical and Electronics Engineering, New Horizon College of Engineering bagged first place at the project presentation event. The project's title was 'Therapeutic Treadmill,' represented by P. Vamshi Krishna (1NH21EE075), Raksha K (1NH21EE092), Suprith U (1NH21EE115), Sreejesh S (1NH21EE111) under the guidance of Dr. Sujitha S.

PLACEMENTS

Sl.No	NAME	USN	PLACED IN	No. of Companies placed
1	FARAZ AHMED MULLA	1NH18EE014	Capgemini	1
2	ABHISHEK	1NH19EE003	Cognizant	1
3	ABHISEK BEDANT	1NH19EE004	Capgemini/ Urban Matrix	2
4	ABRAR ALTAF DAR	1NH19EE005	Capgemini	1
5	AGARWAL RAHAT MANOJ KUMAR	1NH19EE007	Capgemini	1
6	AISHWARYA P	1NH19EE008	Capgemini	1
7	AISHWARYA V H	1NH19EE009	Cognizant	1
8	AISIRI M URS	1NH19EE010	Capgemini	1
9	AKSHATHA SHREE S	1NH19EE011	Musigma	1
10	AKSHAY V	1NH19EE012	Cognizant/ Mindtree	2
11	ANIL HEGDE H	1NH19EE013	EXL Service/ Cognizant	2
12	ANJANA KUMARI	1NH19EE015	Capgemini	1
13	ANOOPKUMAR H S	1NH19EE018	Cognizant	1
14	CHARISHMA A	1NH19EE023	Capgemini	1
15	CHIRAG PATHAK	1NH19EE025	Computacenter (India) Pvt. Ltd.	1
16	DECHAMMA V S	1NH19EE027	DXC Technology	1
17	DEEKSHITH MORE B	1NH19EE028	Capgemini	1
18	DEEPAK KUMAR SAH	1NH19EE029	SAP Labs India	1
19	DARSHAN R	1NH19EE030	Apex Auto/ I Exceed tech solutions	2
20	DHRUVA S SRINIVAS	1NH19EE032	Musigma	1
21	EZRA JAMES	1NH19EE033	Capgemini	1

22	FAIZ UR RAHMAN	1NH19EE034	WEG	1
23	FAOZ FIROZ BASHEER	1NH19EE035	Capgemini	1
24	G N HEMANTH KUMAR	1NH19EE037	Steer Engineering Pvt. Ltd.	1
25	KRISHNA CHAITANYA	1NH19EE038	KPIT/Cognizant	2
26	GAURAV P KUMAR	1NH19EE040	KPIT/Cognizant/Mindtree	3
27	GAUTAMMEE K K	1NH19EE042	Capgemini/ Ernst & Young/ Cognizant	3
28	HARSHITHA R	1NH19EE046	Capgemini/ Ample/Accenture	3
29	J LIKITHA	1NH19EE047	EXL Service/ Capgemini/ Cognizant	3
30	J PRAJWAL	1NH19EE048	Ernst & Young/ Cognizant	3
31	JAYANTH R	1NH19EE050	AARAV UNMANNED SYSTEMS	1
32	KESAMREDDY DEEPTHI	1NH19EE055	Cognizant/ Mindtree	2
33	KUMAR ABHISHEK	1NH19EE061	Dyanaelectric	1
34	KUSHAL AY	1NH19EE062	Mindtree	1
35	M GOPAL A MANICKAM	1NH19EE065	AMBERROOT SYSTEMS/ Transcaal	2
36	M ROHITH KUMAR REDDY	1NH19EE066	Capgemini	1
37	MADHAV REDDY C	1NH19EE067	Capgemini	1
38	MANOJ KUMAR H V	1NH19EE069	Happiest Minds Technologies Pvt. Ltd	1
39	MARUTHI B	1NH19EE071	Ernst & Young	1

40	MEGHANA N T	1NH19EE072	Dynalelectric	1
41	MEGHANA S	1NH19EE073	EXL Service	1
42	NAVEEN R N	1NH19EE080	Cognizant	1
43	P SINDHU	1NH19EE083	capgemini	1
44	POOJITH N	1NH19EE087	AARAV UNMANNED SYSTEMS	1
45	R VARUN	1NH19EE090	Mindtree	1
46	RACHNA PALLI	1NH19EE091	Capgemini	1
47	RAHUL R	1NH19EE092	Cognizant	1
48	RITIKA KAPOOR	1NH19EE093	IBJ Japan Inc/Ernst & Young	2
49	SANDEEP NAIK R	1NH19EE095	KPIT	1
50	SANTHOSH MELVIN D	1NH19EE098	AARAV UNMANNED SYSTEMS	1
51	SARTHAK GHORAI	1NH19EE100	Ernst & Young	1
52	SATHISH S	1NH19EE101	AARAV UNMANNED SYSTEMS	1
53	SHAIF ALAM	1NH19EE102	Rinac India	1
54	SHAMBHAVI BHAGAT	1NH19EE104	Dell Technologies	1
55	SHARMI KANAUJIA	1NH19EE106	Temairazu (Japanese Company)/Musigma	2
56	SOWMYA SHREE	1NH19EE107	EPSILON/Visionet System Inc	2
57	SUBHAJIT DAS	1NH19EE109	JLL	1
58	SURAJ RAJU JADHAV	1NH19EE110	AARAV UNMANNED SYSTEMS	1
59	SWASTIK SHUKLA	1NH19EE113	Capgemini/ Cognizant	2
60	TABASSUM MANZOOR	1NH19EE114	Capgemini	1
61	TEJAS V	1NH19EE116	Capgemini	1
62	U MOHAMMED ARSHAD	1NH19EE120	Allstate Solutions Pvt Limited	1

63	VANDANA R	1NH19EE121	EPSILON	1
64	VIDYA G R	1NH19EE122	AMBERROOT SYSTEMS/Transcaal	2
65	VINOD KUMAR R	1NH19EE123	Capgemini/ Steer Engineering Pvt. Ltd.	2
66	W Y JHANSIPRIYA	1NH19EE125	Ernst & Young	1
67	PUNITH Y	1NH19EE126	Dynaelectric	1
68	YANNAM ROOPESWAR REDDY	1NH19EE127	EPSILON	1
69	BINAY KUMAR YADAV	1NH20EE401	Allstate Solutions Pvt Limited	1
70	KOUSHIK P	1NH20EE403	capgemini	1
71	MADIVALAPPA	1NH20EE404	BOSCH	1
72	NANDAN D SALANKE	1NH20EE406	Transcaal	1
73	PRAJWAL R M	1NH20EE407	Transcaal	1
74	SHIVASHANKARA M	1NH20EE408	Computacenter (India) Pvt. Ltd./TCS	2
75	VIJAY METI	1NH20EE410	Steer Engineering Pvt. Ltd.	1
76	JESHWANTH V	1NH18EE021	Transcaal	1
77	YASHVANTHA P	1NH18EE407	Rinauc India	1

CARRER OPTION

In today's high speed world, there is no demise of decisions in any field including education. There are lots of choices with respect to what should be possible after B-Tech. Here we deliver some of them.

MASTER OF TECHNOLOGY

Master of Technology popularly known as M.Tech is the most sought-after higher studies option after B.Tech in India. If you want to pursue deeper knowledge in a particular domain/specialization then M.Tech is a great option. Graduate Aptitude Test in Engineering or GATE is the entrance exam for which B.Tech graduates must appear for, if they wish to pursue M.Tech from India's prestigious engineering institutes. Various private universities offer other entrance exams as well; however, GATE scores are valid across all public and private universities. The test consists of Subject related Questions (70%), Engineering Mathematics (15%) and Aptitude (15%)

Entrance Exam- GATE Course Fee- The tuition fee for the M.Tech course ranges between INR 30K to 3L per annum. Average Salary- The average salary for M.Tech graduates is INR 8 LPA. The salary varies depending upon the role, field, and specialization. Popular Employment Roles- Senior Software Engineer, Development Engineer, Construction Manager, Project Manager, Aerospace Engineer, Software Developer, Machinery Engineer, Senior Electronics Engineer, Maintenance Manager Top Institutes- IITs, NITs, ICT Mumbai, VIT, BITS Pilani, SRM University, Indian Institute of Space Science & Technology, IISC Bengaluru Future Prospects- If you still wish to acquire more knowledge after M.Tech degree, then you can continue to pursue a PhD and venture into the field of research.

MASTER OF SCIENCE (MS)

Students who wish to pursue a Masters degree in Engineering after B.Tech from abroad can go for the Master of Science (MS) degree. Pursuing masters in engineering from abroad is the most popular choice among B.Tech graduates. The facilities and infrastructure offered by foreign universities is top-notch and the best in the world. The experience and exposure of studying abroad gives students the chance of global job opportunities. However, the students must fulfill the strict eligibility criteria and pass the entrance examination for admission in MS at foreign universities. The most popular entrance exam for admission in MS abroad is GRE (Graduate Record Examination). Apart from GRE, there are other exams as well like IELTS and TOEFL. The choice of exam depends upon which country you are applying to. MS from abroad surely comes with amazing

benefits, however, it is important to carefully select the right program and right university since it is a big investment and a life changing irreversible decision. Top Recruiters: Bhabha Atomic Research Centre, Infosys, Wipro, Ranbaxy, GAIL, ONGC, HCL, ISRO, BAARC, BHEL, GlaxoSmithKline, Cipla. Job Profiles: Research Scientist, Junior Research Fellow, Mathematician, Food & Drug Inspector, Food & Drug Inspector Popular Exams: CIT Integrated MSc CET, GSA, IIT JAM, IISER Entrance Exam, JEST, NEST, OUAT Entrance Exam.

MASTER OF BUSINESS ADMINISTRATION

As a generalist degree, the MBA gives you fundamental management knowledge, meaning you'll get a holistic view of business across areas like marketing, finance, and accounting, all while developing those vital soft skills and leadership skills. Having "MBA" on your resume will help you stand out to employers, but the true meaning of the MBA goes beyond three letters on a sheet. During an MBA, you'll build your business knowledge, grow your professional network, and boost your career and salary prospects. For pursuing MBA abroad, students should give GMAT exam. Nowadays, a few Colleges have started accepting GRE scores. GMAT tests analytical, writing, quantitative, verbal and reading skills in written. Along with this exams like TOEFL/IELTS, which test proficiency in English, have to be attempted. TOEFL scores are accepted in U.S.A and those of IELTS are accepted by most European Universities

Specializations: Finance, Business management, Marketing, Human Resource management, Healthcare Management, Information Technology, Retail Management

MBA Admissions Criteria: Graduate Management Admission Test (GMAT) (Average: 720-730 out of 800) Academics (3.5/4.0 GPA and up) Extra-curricular activities.

CIVIL SERVICES

If you aspire to serve the nation, then taking the Civil Services Exam is the best option that you can take up after engineering. For this, you will have to clear the UPSC civil services exam. It is considered one of the toughest examinations. Thus, it is recommended that you start preparing for atleast a year before applying.

The UPSC offers three engineering optional subjects – civil, mechanical, and electrical engineering. On getting a high rank in the examination, you can get the prestigious positions of IAS, IPS, or IFS. The UPSC Engineering Services selection process is divided into three stages:

Stage-I: Engineering Services (Preliminary/Stage-I) Examination (Objective Type Papers)

Stage-II: Engineering Services (Main/Stage-II) Examination (Conventional Type Papers)

Stage-III: Personality Test

INDIAN ENGINEERING SERVICES

Indian Engineering Services cater to the technical and managerial functions of the Government of India. It has a huge demand among the engineering. The exam is conducted by the Union Public Service Commission. The exam has three stages. A candidate must score minimum qualifying marks for advancing in further rounds. A candidate must be an Indian citizen to be eligible for the IAS exam. The Minimum age of the candidate must be 21 years and a maximum of 30 years of candidates belonging to the general category.

DEFENCE FORCES

A career in defense services is considered one of the most respected and prestigious careers in India. Each year lakhs of aspirants give various entrance examinations in order to get selected in the defence services. There are a number of ways through which the aspirants can join the Indian Armed Forces

One can apply for the armed forces. Prior to that one must ensure that he/she meets all physical requirements. The 4 ways of applying for the army are CDS (Combined Defence Services) examination, TGC (Technical Graduate course) which is meant exclusively for male engineering graduates, SSC (Short service commission) and UES (University Entry Scheme). SSC is a boon for those who want serve temporarily. UES is for B-Tech graduates and has provisional entries for final and pre- final years. For joining the Navy, CDS and SSC are the major examinations. The questions in these examinations are on English, General Knowledge and Mathematics

ALUMINI FEEDBACK

Thomas Allwin (1NH17EE754)

Electrical and Electronics Engineering department, New Horizon college of Engineering is excellent at bridging the gap between academia and real-world application by teaching practical knowledge in well-equipped laboratories. A rich learning environment is greatly enhanced by the faculty, which consists of committed professors and is led by an honorable Head of Department.

I can say with pride that this department's solid foundation helped me land a job at Robert Bosch. This achievement demonstrates the department's dedication to educating students for the demands of the business world. Modern labs along with a group of knowledgeable instructors guarantee a comprehensive learning environment, which sets the department apart in promoting excellence in Electrical and Electronics Engineering.