

## ABOUT THE INSTITUTION

New Horizon College of Engineering is an Autonomous college affiliated with Visvesvaraya Technological University (VTU), approved by the All India Council for Technical Education (AICTE) & University Grants Commission (UGC). NAAC and the National Board of Accreditation (NBA) have accredited it with an A grade. New Horizon College of Engineering is located in the heart of the IT capital of India, Bangalore, surrounded by MNCs and IT giants. The campus offers a scenic, peaceful environment that nurtures personal and intellectual development. The modern infrastructure supports effective curriculum delivery, and students can access state-of-the-art facilities and faculty support to pursue their interests.

## ABOUT THE DEPARTMENT OF R & D

The Department offers unparalleled facilities and proactive initiatives to promote sponsored, academic, and consultancy research. Our vibrant R&D culture fosters an innovative spirit, guiding and mentoring young minds with the help of motivated faculty members from all departments. The sustained and passionate efforts of the R&D Cell at NHCE have carved a niche in India and abroad. It has established the vibrant Institution's Innovation Council (IIC) and actively collaborates with various work groups and professional bodies in India and abroad.

## ABOUT THE DEPARTMENT OF EEE

The EEE Department at NHCE, Bangalore, is one of the oldest and most prestigious branches of engineering, with a history dating back to 2001. Since its inception, the department has produced high-calibre engineers and technologists, earning an 'A' Grade accreditation from NAAC and NBA. By collaborating with multinational companies in

Electrical Engineering, the department aims to bridge the gap between industry and academia. The Indo-French Center of Excellence in Electricity, Automation, and Energy (IFCEEAE) is an initiative resulting from an 'MoU' with the French Ministry of National Education and Schneider Electric India Pvt. Ltd.

## ORGANIZING COMMITTEE

### Chief Patron

Dr. Mohan Manghnani, Chairman,  
New Horizon Educational Institution, Bengaluru

### Patron

Dr. Manjunatha, Principal  
New Horizon College of Engineering, Bengaluru

### Convenors

Dr. Revathi V, Professor & Dean, R & D, NHCE  
Dr. Sakthivel Aruchamy, Professor & HoD, EEE, NHCE

### Organizing Secretaries

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### Co-ordinators

Dr. Mausri Bhuyan, Assistant Professor, EEE, NHCE  
Ms. Sangeetha C N, Assistant Professor, EEE, NHCE

## Short Term Training Programme (STTP) on

## Research Challenges in Advanced Power Converters for Industrial Electronics Applications

11<sup>th</sup> November 2024 – 15<sup>th</sup> November 2024

Jointly organized by

Department of Research and Development &  
Department of Electrical and Electronics Engineering



Bengaluru 560103, Karnataka, India

Sponsored by



In Association with



## THEME OF THE PROGRAMME

Learn the fundamentals of power generation technology from renewable energy sources such as wind and solar power at our workshop. We will cover controlling and managing power electronic converters and energy storage components when connecting these sources to the grid. Explore the design of power electronic converters, including conventional and emerging topologies, to optimize energy conversion and transmission, control reactive power, minimize harmonic distortion, and increase efficiency. We will also focus on power quality issues and innovative energy management principles. Join us to discuss common interests, challenges, and solutions for grid integration of renewable energy systems. Finally, we will explore the expected trends in power electronics technology for renewable energy systems. This event aims to bring together experts in Power Electronics & Renewable Energy to provide an interactive forum for discussing and exchanging ideas to promote sustainable economic growth through renewable energy.

## PROGRAMME CONTENT

The programme covers the following important aspects

- Introduction about Power Converters
- Trends in Power Electronics.
- Modelling of Converter to utilize Fuel cell as a Compensator in a Distributed Generation system.
- Applications of Power Electronics Converters in DFIGN.
- Design of Autonomous control of microgrid by Power Electronics Converters.
- Design of Power Converters for Solar Photovoltaic Systems.
- Advanced Power Electronics Technologies on Solar Photovoltaic and Wind Power.
- Design of Power Converters for Fuel Cell Systems.

- Design of high-gain DC-DC Converters for PV Applications.
- Role of Data Mining and Artificial Intelligence in Electrical Engineering.

## EXPERT INSTRUCTORS

Highly qualified faculty members from prestigious institutions such as IIT and NIT and industry professionals will lead both theory and practical sessions during the Faculty Development Program (FDP).

## WHO CAN ATTEND?

Faculty members, Research Scholars, UG, and PG students from AICTE-approved institutions are eligible for the STTP.

## IMPORTANT DATES

Last date for registration: **30.10.2024**

## DURATION OF COURSE SESSIONS

The course consists of five offline sessions, each lasting two hours.



*Li. V. Manjunatha*  
15/11/24

*Sujitha S*  
15/11/24

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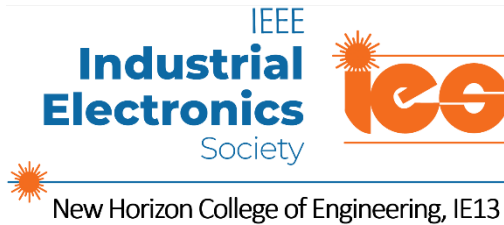
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**NEW HORIZON  
COLLEGE OF ENGINEERING**

**Department of Research and Development  
&  
Department of Electrical and Electronics Engineering**

**IEEE Industrial Electronics Society Student Branch Chapter**  
Geo-Code: SBC66131B



New Horizon College of Engineering, IE13

Title	<b>Short Term Training Program (STTP) on “Research Challenges in Advanced Power Converters for Industrial Electronics Applications”</b>	
Department	Department of Research and Development & Electrical and Electronics Engineering	
Date	From: 11.11.2024	To: 15.11.2024
Time	From: 10:00 AM	To: 04:00 PM
Brief Description	<p>Department of Research and Development and IEEE IES NHCE Student Branch Chapter from Department of Electrical and Electronics Engineering, New Horizon College of Engineering, Bengaluru is jointly organized the Short Term Training Program (STTP) on “Research Challenges in Advanced Power Converters for Industrial Electronics Applications” on 11<sup>th</sup> – 15<sup>th</sup> November 2024, between 10:00 AM to 04:00 PM in association with IEEE Industrial Electronics Society Bangalore Chapter through offline mode. This FDP is designed to address research advancements in Power conversion topologies and applications in the industry and to encourage various zonal professionals'/students/academicians towards research and for their Academic Quality Improvement too. This course will offer a unique opportunity to all the participants in the relevant topics in Real Time Power Electronic systems and its applications through theoretical sessions and simulation plus laboratory-based experiments and demonstrations. It is due to development of switching devices, magnetic components, control techniques, computational methods, DSP/FPGA controllers, etc. Applications of power electronics can be found in several areas like Renewable Energy, industry, transportation, medical, telecommunication, residential energy systems, electric vehicles etc. Certain low and high power switching converters are developed in these areas. Also, this FDP aims at giving scope for future research. The entire session is very informative and enthusiastic manner in the area of power electronics industry. The eminent experts from the eminent professional and Industry delivered the lecture and his talk has been very well received by the 50 participants of IEEE Members.</p>	

*Li. V. S. Srinivas*  
15/11/24

*Dr. M. S. Srinivas*  
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*Dr. V. S. Srinivasan*

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The details of the resource person and schedule are given below:

S. No	Details of the Resource Person	Title of the Presentation	Date & Time
1	<b>Dr. Vishal Anand A G</b> Chair IEEE IES Bangalore Section Chapter Director of Engineering, Bloom Energy (I) Pvt Ltd, Bengaluru	Session 1: Inauguration and Research Challenges in Advanced Power Converters for Industrial Electronics Applications	11.11.2024 Monday (10:00 AM to 12:00 PM) Duration: 120 Minutes
2	<b>Dr. Shefali Jagwani</b> Vice Chair IEEE IES Bangalore Section Chapter Department of EEE, Nitte Meenakshi Institute of Technology, P.B.No.6429, Yelahanka, Bangalore 560064, Karnataka, India	Session 2: Overview of Industrial Electronics	11.11.2024 Monday (02:00 PM to 04:00 PM) Duration: 120 Minutes
3	<b>Dr. Sujitha S</b> Professor, Department of EEE, New Horizon College of Engineering, Bengaluru 560103, Karnataka, India	Session 3: Practical aspects of load test on lithium-ion battery for EV	12.11.2024 Tuesday (10:00 AM to 12:00 PM) Duration: 120 Minutes
4	<b>Dr. Sakthivel Aruchamy</b> Professor & HoD, Department of EEE, New Horizon College of Engineering, Bengaluru 560103, Karnataka, India	Session 4: Harmonics medication strategies in Industrial Electronics Applications	12.11.2024 Tuesday (02:00 PM to 04:00 PM) Duration: 120 Minutes
5	<b>Dr. Selvaraj Kesavan</b> Advisor Solution Architect DXC Technology Bengaluru 560100, Karnataka, India	Session 5: Role of Data Mining and Artificial Intelligence in Electrical Engineering	13.11.2024 Wednesday (10:00 AM to 12:00 PM) Duration: 120 Minutes
6	<b>Dr. Sujitha S</b> Professor, Department of EEE, New Horizon College of Engineering, Bengaluru 560103, Karnataka, India	Session 6: Electric Vehicle design details of BMS	13.11.2024 Wednesday (02:00 PM to 04:00 PM) Duration: 120 Minutes
7	<b>Dr. Agalya V</b> Professor & Associate Head R&D, Department of R&D, New Horizon College of Engineering, Bengaluru 560103, Karnataka, India	Session 7: Advancement in Generative AI for enhanced efficiency in power converters	14.11.2024 Thursday (10:00 AM to 12:00 PM) Duration: 120 Minutes
8	<b>Dr. Vinoth Kumar K</b> Execom Member - IEEE IES Bangalore Section Chapter, Professor & Associate Head R&D, Department of EEE, New Horizon College of Engineering, Bengaluru 560103, Karnataka, India	Session 8: Artificial Intelligence-Based Energy Management and Real-Time Optimization in Electric and Hybrid Electric Vehicles	14.11.2024 Thursday (02:00 PM to 04:00 PM) Duration: 120 Minutes
9	<b>Dr. Shefali Jagwani</b> Vice Chair IEEE IES Bangalore Section Chapter Associate Professor, Department of EEE, Nitte Meenakshi Institute of Technology, P.B.No.6429, Yelahanka, Bangalore 560064, Karnataka, India	Session 9: Advanced Power Converters Topology for Electric Drives Applications	15.11.2024 Friday (09:00 AM to 11:00 AM) Duration: 120 Minutes
10	<b>Dr. Gunapriya B</b> Associate Professor, Department of EEE, New Horizon College of Engineering, Bengaluru 560103, Karnataka, India	Session 10: An Improved Deep Learning-Based Technique for Driver Detection and Driver Assistance in Electric Vehicles with Better Performance	15.11.2024 Friday (11:15 PM to 12:30 PM) Duration: 75 Minutes
11	<b>Industrial Visit (Field Visit)</b>	Rajamane & Hedge Services Pvt Ltd, Tumkur.	15.11.2024 Friday (02:00 PM to 04:00 PM) Duration: 120 Minutes

*Dr. Vishal Anand A G*

*Dr. Vishal Anand A G*

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# NEW HORIZON COLLEGE OF ENGINEERING

Department of Research and Development

&

Department of Electrical and Electronics Engineering

IEEE Industrial Electronics Society Student Branch Chapter: Geo-Code: SBC66131B

Short Term Training Program (STTP) on "Research Challenges in Advanced Power Converters for Industrial Electronics Applications"

(11<sup>th</sup> November 2024 to 15<sup>th</sup> November 2024)



### List of Participants

S. No	Name of the Participant	IEEE Membership No	11.11.2024	12.11.2024	13.11.2024	14.11.2024	15.11.2024
1.	YASHASWINI B S	99812148	YBS	YBS	YBS	YBS	YBS
2.	R GAGANA	99852201	R. Gagan	R. Gagan	R. Gagan	R. Gagan	R. Gagan
3.	SHREYA N	99852205	Sh	Sh	Sh	Sh	Sh
4.	KEERTHANA C S	99682327	Keerthana	Keerthana	Keerthana	Keerthana	Keerthana
5.	LALITH NARAYAN	99905669	Lalith	Lalith	Lalith	Lalith	Lalith
6.	MAHENDRA KUMAR S	99905709	Mahes	Mahes	Mahes	Mahes	Mahes
7.	RANI GUPTA R	99898817	Rg	Rg	Rg	Rg	Rg
8.	SAKSHI SM	99898637	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi
9.	SHATAKSHI PATTANAİK	99899765	Shakshi	Shakshi	Shakshi	Shakshi	Shakshi
10.	GOWRI MANOJKUMAR	99899726	Gowri	Gowri	Gowri	Gowri	Gowri
11.	ACHINTH H S	99151185	Achint	Achint	Achint	Achint	Achint
12.	JAYASOURYA U	99369905	Jayashree	Jayashree	Jayashree	Jayashree	Jayashree
13.	INFANCIA PRAGNA	98126497	Pragna	Pragna	Pragna	Pragna	Pragna
14.	BHARATH T	98126443	Bharath	Bharath	Bharath	Bharath	Bharath
15.	AAMNA NAFIZA	98419136	Aamna	Aamna	Aamna	Aamna	Aamna
16.	HARSHIKA	98060082	Harshika	Harshika	Harshika	Harshika	Harshika
17.	SREERAM G	98120541	Sreeram	Sreeram	Sreeram	Sreeram	Sreeram
18.	SANJAN R	98120576	Sanjan	Sanjan	Sanjan	Sanjan	Sanjan
19.	SHASHANK JOSHI	98120673	Shashank	Shashank	Shashank	Shashank	Shashank
20.	SAGAR KHELGE	99903363	Sagar	Sagar	Sagar	Sagar	Sagar
21.	KIRAN KUMAR R	99369892	Kiran	Kiran	Kiran	Kiran	Kiran
22.	DIYA CHANDRASHEKAR	99018793	Diya	Diya	Diya	Diya	Diya
23.	SAGARGOUDA PATIL	99957361	Sagar	Sagar	Sagar	Sagar	Sagar
24.	KUMARGOUDA PATIL	99957368	Patil	Patil	Patil	Patil	Patil
25.	GAGAN M	98129122	Gagan	Gagan	Gagan	Gagan	Gagan
26.	DHANUSH P	98127466	Dhanush	Dhanush	Dhanush	Dhanush	Dhanush
27.	JHANSI PRIYA K N	99125085	Jhansi	Jhansi	Jhansi	Jhansi	Jhansi
28.	JEEVAN M	99370086	Jeevan	Jeevan	Jeevan	Jeevan	Jeevan

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29.	ADIYTI SUMAN	99480421	Aditya Kougale	Aditya Kougale	Aditya Kougale	Aditya Kougale	Aditya Kougale
30.	KRUTHIKA DC	99377920	Kruthika DC	Kruthika DC	Kruthika DC	Kruthika DC	Kruthika DC
31.	AGRATHA N	99369890	Agratha N	Agratha N	Agratha N	Agratha N	Agratha N
32.	HARSHITHA S	99369871	Harshitha S	Harshitha S	Harshitha S	Harshitha S	Harshitha S
33.	AASHISH THOMAS OOMMEN	99976000	Aashish Thomas Oommen	Aashish Thomas Oommen	Aashish Thomas Oommen	Aashish Thomas Oommen	Aashish Thomas Oommen
34.	SNEHA S A	98715913	Sneha S A	Sneha S A	Sneha S A	Sneha S A	Sneha S A
35.	R K POOJA	99370355	R K Pooja	R K Pooja	R K Pooja	R K Pooja	R K Pooja
36.	POOJITHA M REDDY	99370379	Poojitha M Reddy	Poojitha M Reddy	Poojitha M Reddy	Poojitha M Reddy	Poojitha M Reddy
37.	SANGEETHA C N	99082346	Sangeetha C N	Sangeetha C N	Sangeetha C N	Sangeetha C N	Sangeetha C N
38.	SURAT PYARI ATTI	99042351	Surat Pyari Atti	Surat Pyari Atti	Surat Pyari Atti	Surat Pyari Atti	Surat Pyari Atti
39.	SOUMYA K V	99976148	Soumya K V	Soumya K V	Soumya K V	Soumya K V	Soumya K V
40.	SAKTHIVEL ARUCHAMY	98923084	Sakthivel Aruchamy	Sakthivel Aruchamy	Sakthivel Aruchamy	Sakthivel Aruchamy	Sakthivel Aruchamy
41.	SUJITHA S	98251603	Sujitha S	Sujitha S	Sujitha S	Sujitha S	Sujitha S
42.	VINOTH KUMAR K	92339575	Vinoth Kumar K	Vinoth Kumar K	Vinoth Kumar K	Vinoth Kumar K	Vinoth Kumar K
43.	AGALYA V	91241054	Agalya V	Agalya V	Agalya V	Agalya V	Agalya V
44.	RAJALAKSHMI B	99684450	Rajalakshmi B	Rajalakshmi B	Rajalakshmi B	Rajalakshmi B	Rajalakshmi B
45.	RAJESH GUNDLAPALLE	97097100	Rajesh Gundlapalle	Rajesh Gundlapalle	Rajesh Gundlapalle	Rajesh Gundlapalle	Rajesh Gundlapalle
46.	SANJEEV SHARMA	99695522	Sanjeev Sharma	Sanjeev Sharma	Sanjeev Sharma	Sanjeev Sharma	Sanjeev Sharma
47.	MEENAKSHISUNDARAM B	99671718	Meenakshisundaram B	Meenakshisundaram B	Meenakshisundaram B	Meenakshisundaram B	Meenakshisundaram B
48.	SWATHI BASWARAJU	99678983	Swathi Baswaraju	Swathi Baswaraju	Swathi Baswaraju	Swathi Baswaraju	Swathi Baswaraju
49.	SRINATH M K	99736875	Srinath M K	Srinath M K	Srinath M K	Srinath M K	Srinath M K
50.	UMA REDDY N V	99692430	Uma Reddy N V	Uma Reddy N V	Uma Reddy N V	Uma Reddy N V	Uma Reddy N V

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 Accredited by NAAC with 'A' Grade, Accredited by NBA



CERTIFICATE OF PARTICIPATION

This is to certify that  
**MAHENDRA KUMAR S**  
 has participated in the  
*Short Term Training Program (STTP) on "Research Challenges in Advanced  
 Power Converters for Industrial Electronics Applications"*  
 jointly organized by the Department of Research and Development & Department of Electrical  
 and Electronics Engineering, New Horizon College of Engineering, Bengaluru in association with  
 IEEE IES NHCE SBC & IEEE IES Bangalore Section Chapter from 11<sup>th</sup> -15<sup>th</sup> November 2024.

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Accredited by NAAC with 'A' Grade, Accredited by NBA



## CERTIFICATE OF PARTICIPATION

This is to certify that

**YASHASWINI B S**

has participated in the

*Short Term Training Program (STTP) on "Research Challenges in Advanced Power Converters for Industrial Electronics Applications"*

jointly organized by the Department of Research and Development & Department of Electrical and Electronics Engineering, New Horizon College of Engineering, Bengaluru in association with IEEE IES NHCE SBC & IEEE IES Bangalore Section Chapter from 11<sup>th</sup> -15<sup>th</sup> November 2024.

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