



**CHRIST**

(DEEMED TO BE UNIVERSITY)  
BANGALORE · INDIA

# **SURGE**

## **NEWSLETTER**

— MARCH 2022 —

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**Department of Electrical and Electronics  
Engineering  
School of Engineering and Technology**

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# DAKSH 2022

DAKSH is an education fair held by CHRIST (Deemed to be University) every year. During the pandemic this event was fully online, but the offline sessions made a comeback on March 2022. Stalls showcasing the different courses and achievements were set up so that the Pre University and other students could learn more about the courses itself as well as how Christ University is as an educational institute.

The Department of Electrical and Electronics had set up a stall which displayed their activities, placements, research themes, etc from the e-mobility workshop. Students from 4BTEE and 6BTEE were volunteers at the stalls, both offline and online, and were assisted by one faculty each day. The main attraction at the department stall was the e-bike developed in the e-mobility R&D centre. The student volunteers explained what the course was, and about the course specifically at CHRIST (Deemed to be University), School of Engineering and Technology.



# E-MOBILITY LAB REPORT

A One-day Workshop on Design and Development of E bike infrastructure was held by the Department of Electrical and Electronics, on 18th March. This was the first event held in the E-mobility R&D centre after the pandemic hit - after two years of hibernation.

At this event, a demonstration of the work being done by the E-mobility Lab was demonstrated and explained by the members of the E-mobility lab to the participants with respect to the current trends in the domain of E-mobility.

Another recent milestone achieved in the E-mobility R&D centre was the setting up of a BLDC motor test rig.





## IEEE WIE, WOMEN EMPOWERMENT

International Women's day was celebrated at Kengeri Campus by IEEE SB in association with IEEE PES SB & IEEE WIE Affinity Group on 16th March 2022. The event commenced with the prayer song. Next the welcome address was given by Dr Usha Surendra Professor, Dept. of EEE, welcoming our chief guest Dr. Kumudhini Ravindra and the IEEE students. Following these, Dr Vijaya Margaret Assistant Professor, Dept. of EEE gave the introduction of the speaker. Next, the program proceeded with the power point presentation by chief guest Dr Kumudhini Ravindra, Chair, IEEE WIE Bangalore Section on "Women Empowerment". The talk was about "Skill's to helm the 21'st century". It strengthened us to be self dependent and confident so that we can smoothly manage all the chores of both professional and domestic life styles. After the the inspiring and enriching message, the chief guest was honored with a memento as a token of appreciation.

An activity was conducted by IEEE members ,the hosts of the event. Next following session was Dr. Srikant S Tangade Associate Professor, Dept of CSE. The session brought awareness on IEEE WIE membership benefits. The session concluded with a vote of thanks by Ms. Amrutha Student Chair, IEEE WIE affinity Group (CHRIST).





**SCHOOL OF ENGINEERING AND TECHNOLOGY  
IEEE SB CHRIST UNIVERSITY**

IN ASSOCIATION WITH  
IEEE PES SB & IEEE WIE AFFINITY GROUP

**PRESENT**

# WOMEN EMPOWERMENT

**#BREAKTHEBIAS**

**TOPIC: SKILLS TO HELM THE 21<sup>ST</sup> CENTURY**

**MARCH 16, 2022**  
BLOCK III, SEMINAR HALL, IV FLOOR



RESOURCE PERSON

**DR. KUMUDHINI RAVINDRA**

CHAIR, IEEE WIE - 2022  
IEEE BANGALORE SECTION

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**Organizers**

**Dr. Vijaya Margaret**  
BRANCH COUNSELOR, IEEE-SB

**Dr. Usha Surendra**  
STAFF-IN-CHARGE, IEEE-PES SB

# SPORTS DAY '22

Sports day 2022 was celebrated with a great crowd as this was the first sports day ever since the onset of COVID-19. The day started at 9am and ended at 4:30 on March 10th. Vice Chancellor Dr Father Abraham VM, the Chief Guest of the day delivered a speech on the return to offline education on campus and the importance of Sports in our lives. Students from both 6th and 4th semester equally participated in the events and the Departmental March around the college grounds.

Leading Flight Cadet(LFC) Menta Venkat Chandrahas from 7BTEE being part of the NCC(National Cadet Corps) accompanied the Chief Guest to the stage and commanded the rifle squad. Abhinand Nair from 7BTEE played the trumpet as part of the college band. Several competitions were conducted and students participated in them. The students from the Department collectively designed jerseys and proudly displayed them on Sports Day.





# RESEARCH ACTIVITIES

## OPTIMAL LOAD CONTROL FOR ECONOMIC ENERGY EQUILIBRIUM IN SMART GRID USING ADAPTIVE INERTIA WEIGHT TEACHING-LEARNING-BASED OPTIMIZATION

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### **ABSTRACT:**

Due to numerous operational restrictions and economic purposes, optimal load management for energy balance in the smart grid (SG) is one of the compensating responsibilities. This research provides a novel multiobjective optimization technique for attaining energy balance in SG, with the goal of avoiding fines due to excessive upstream network power extraction beyond contractual demand. Due to a lack of capacity to create the whole optimization towards the global optimum after each run, optimal load control (OLC) is a prevalent challenge. Adaptive-TLBO, the most recent variation of Teaching Learning Based Optimization (TLBO), comprises both alterations during the exploitation and exploration phases (ATLBO). Because the ATLBO is used on a modified IEEE 33-bus system, the results obtained in this mode are extraordinary. The energy balance has improved in addition to the enhancement of the voltage profile and the reduction of distribution losses. As evidenced by comparisons with PSO, basic TLBO, backtracking search algorithm (BSA), and cuckoo search algorithms, the suggested ATLBO algorithm has precedence over any other proposed algorithm (CSA).

**Keywords:** Smart grid, Optimal load control, Adaptive teaching-learning-based optimization, Multi-objective optimization.

# IMPORTANT HEADLINES

- PCIM: 1.7kV 900A IGBT module switches more power through EconoDual 3.
- Volvo Trucks and Bucher Municipal build electric trucks for sewer cleaning.
- Momentum Dynamics presents inductive charging system with two power classes.
- NZ: Auckland to launch first electric ferries in 2024.
- Going green: MP's first intercity e-bus to connect Bhopal-Indore next month.
- Toward tiny, solar-powered sensors: New ultralow-power circuit improves efficiency of energy harvesting to more than 80 per cent.
- Innovative New Magneto-Electric Transistor Could Cut 5% From World's Digital Energy Budget



# DATES TO REMEMBER

- 2 April – World Autism Awareness Day
- 5 April – National Maritime Day
- 7 April – World Health Day
- 11 April – National Pet Day
- 13 April – Jallianwala Bagh Massacre
- 17 April – World Haemophilia Day
- 18 April – World Heritage Day
- 22 April – World Earth Day
- 22 & 23rd April – Magnovite '22
- 23 April – World Book and Copyright Day
- 24 April – National Panchayati Raj Day
- 25 April – World Malaria Day

# CREATIVITY CORNER

## POET'S CORNER

### APOLOGIES

In the depths of my mind,  
I took solace,  
For the thoughts there were  
kind,  
They helped me find my  
place;  
Beneath rock bottom,  
Where my soul had died,  
That's where I'd gotten,  
Beneath the lies and fake  
smiles.  
For what was life,  
A facade, covering my  
sorrow,  
Worthless, failing to fight the  
strife,  
I looked ahead and saw no  
tomorrows;  
What had I done,

But disappoint everyone,  
I guess I'd been useless,  
Stuck with only my worthless  
self;  
I guess I must apologize for  
what I am,  
My inadequacy, sadly, was  
too grand.  
I'd wish this sinful life non-  
existent,  
But I guess that's asking too  
much.

**ASHWIN ABRAHAM**  
**8BTEE**



## ART NOOK

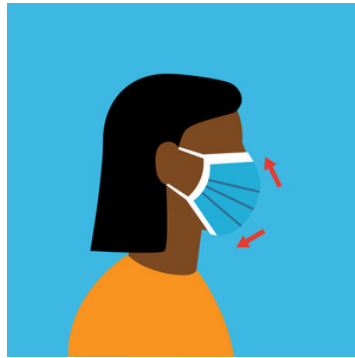


**ANIKET VERMA**  
**8BTEE**



# THREE GOLDEN RULES

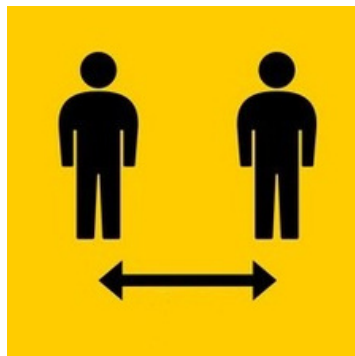
WE EXPECT YOU TO FOLLOW ALWAYS



**Always wear  
a face-cover/Mask**



**Wash Hands frequently  
and Sanitize**



**Maintain Distance  
from others**



# HERE'S A PLAYLIST FOR YOU

FROM THE EEE EDITORIAL BOARD



SCAN THE QR CODE GIVEN BELOW TO FIND THE PLAYLIST



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