



**CHRIST**  
(DEEMED TO BE UNIVERSITY)  
BANGALORE · INDIA

# SURGE

## NEWSLETTER

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

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# **RESEARCH ACTIVITIES**

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## **TEACHING LEARNING BASED OPTIMIZATION WITH LEARNING ENTHUSIASM FOR OPTIMAL CONTROL OF PV INVERTERS IN UTILITY GRIDS FOR TECHNO-ECONOMIC GOALS**

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### **ABSTRACT:**

This study presents the optimal placement and operation of distributed generation (DG) sources in a distribution system embedded with utility owned DG sources. Cost minimization and technical improvement of the network are the key objectives of the Distribution Company (DisCo). With the increasing popularity for renewable energy sources, DisCos are installing their own DGs to fulfill their electricity demand partially. When DisCos are the DG owners the technical and economic considerations overlap. A novel method is proposed in this paper based on the recent variant of the Teaching Learning Based Optimization (TLBO) algorithm, Learning Enthusiasm Based TLBO (LebTLBO) to optimize locations, sizes and operational power factors of DGs in a distribution system with DisCo owned DGs. A multiobjective function to improve voltage stability, reduce distribution losses and reduce energy costs has been considered for solving the problem.

**Keywords:** utility owned DG, optimal deployment, energy cost, LebTLBO

# ▶ ARTICLES

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## **SPICE & COFFEE**

**NIRMALA JOHN**

Pepper and coffee!! Exotic but spicy!

As you leave Kushalnagar and climb up the lush green hills to Madikeri all you see is shrubs of coffee and vines of pepper entwined on silver oak trees. It left me wondering if there really was a house yonder. There is just about nothing visible - it is just trees all around- and then out of nowhere you see small pathways winding around the coffee plants.

It was summer, but as you turn into the pathways it is as if you left a season behind!! It was cool and pleasant. The tall trees against the clouds looked exotically scenic. I grew jealous of those lucky ones who waken everyday listening to the swish of the leaves as the tall silver oaks swayed in the wind.

As you move along the pathways, you see fencing along the pathways. The fencing was trampled upon by elephants in many places. The spiked fences seemed to be no deterrent. They love the jack fruits on the trees which lined the pathways as I found later. Many a time the fruits had to be plucked or destroyed well

### SPICE & COFFEE

NIRMALA JOHN

before they ripened to stop the elephants from straying over into the plantations.

Deep inside the plantations you see those scattered houses. Among them there were the deserted but well-maintained ancestral homes. As I entered the compound of one such home the silence struck me and took me to a different time- the long verandahs, sliding wooden windows, the outhouse for cooking which was still used when the family gathered to appease the souls. The quietness fills you with awe as if the happy spirits were still around. The wells in the compound still held clean water.

The evening drive on the winding roads was pleasant as we climbed up the hill to the town. The morning walk with our homestay owner was an enlightening nature walk. The fallen mangoes on the way were certainly a temptation and I collected them as I walked along.

Raja's seat was my place to sit and watch the clouds pass by. The beauty of the silver oak trees never fails to amaze me. Walking and sitting I just admired them morning and evening. The sun sets over the hills with amazing grace and beauty.

With history and beauty, Madikeri is amazing.



# ▶ **IMPORTANT HEADLINES**

- Converting body heat into electricity: A step closer towards high-performance organic thermoelectrics.
- The opto-ionic effect: Light may increase performance of fuel cells and lithium-ion batteries.
- New technology could make charging electric cars as fast as pumping gas. Quantum charging could cut the charging time of electric vehicles from ten hours to three minutes.
- India's robust plans on Electric Vehicles to ensure cleaner environment.
- EV growth may slow down as safety norms are tightened.
- Mercedes-Benz Energy returns to ESS market with second life tie-up.
- China Battery Swap Market Analysis Report 2022-2025: Growth of Traditional Electric Vehicle Charging and the Innovative Battery-as-a-Service Business Model led to Intense Competition in the Market.
- Panasonic Makes \$5 Billion Investment for EV Batteries & Management Software.

# **DATES TO REMEMBER**

- 1 March - Zero Discrimination Day
- 3 March - World Wildlife Day
- 4 March - National Safety Day
- 8 March - International Women's Day
- 14 March - Pi Day
- 15 March - World Consumer Rights Day
- 16 March - National Vaccination Day
- 20 March - International Day of Happiness
- 22 March - World Water Day
- 24 March - World Tuberculosis (TB) Day
- 26 March - Purple Day of Epilepsy
- 27 March - World Theatre Day

# ▶ **CREATIVITY CORNER**

## **POET'S CORNER**

# **EMPTY**

Sometimes,  
This mind of mine it thinks,  
(Too much id say,)  
But it thinks,  
Of a white room.  
The ceiling, the floor,  
And the walls, all four,  
White.  
A hauntingly sterile white.  
In this white room,  
My mind it sees,  
A being,  
As white as the room itself,  
Suspended, in its center,  
Floating,  
Levitating as though in space.  
Untethered, by the binds of the  
world,  
This body, with its arms at its side,  
And legs together,  
Facing the floor, it floats.  
This being however,  
Bears a torso that's different,  
For between his neck and legs,  
He bears a galaxy,

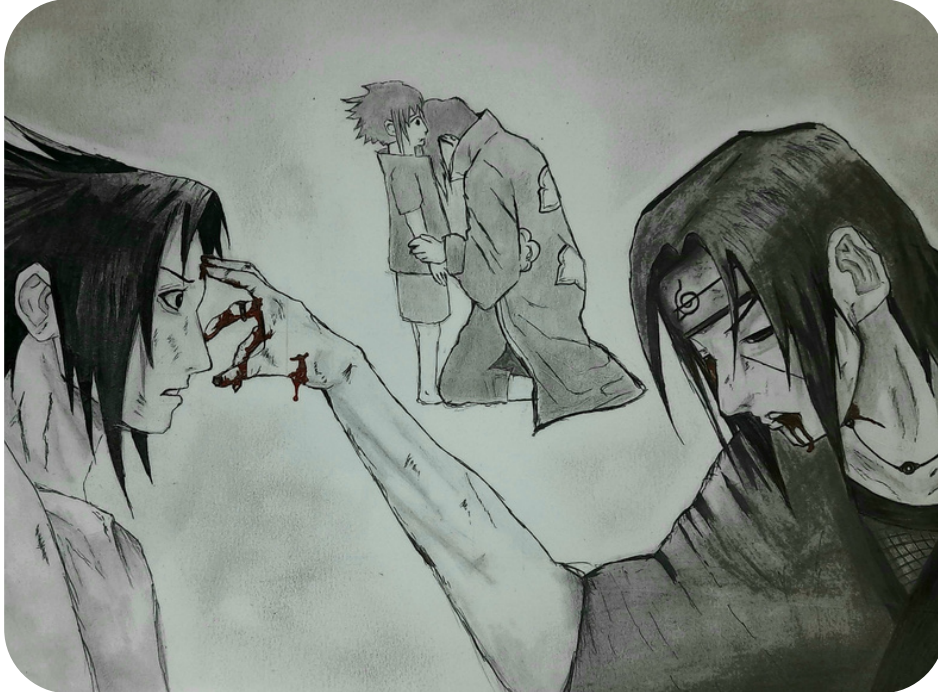
Constellations and stars,  
Outer space as a whole,  
He floats in this room,  
With the universe within him.  
This I believe,  
Is how my mind,  
Thinks best to describe,  
This emptiness,  
That fills my chest.  
This lack of emotion,  
From my lack of comprehension,  
Of what these feelings are.  
Perhaps I should not have,  
Bottled it all for all those years.

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



# ▶ EDITORIAL TEAM

## ART NOOK



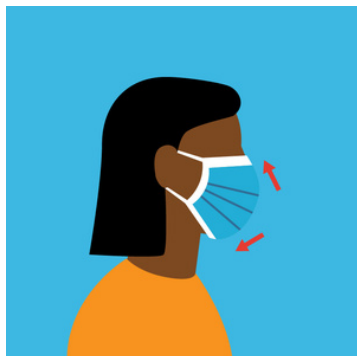
**ALLEN GEORGE**  
**4BTEE**

**ALFRED JUSTIN A**  
**4BTEE**



# **THREE GOLDEN RULES**

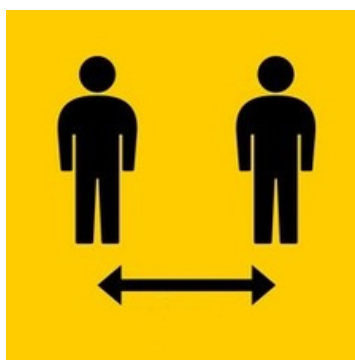
**WE EXPECT YOU TO FOLLOW ALWAYS**



**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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