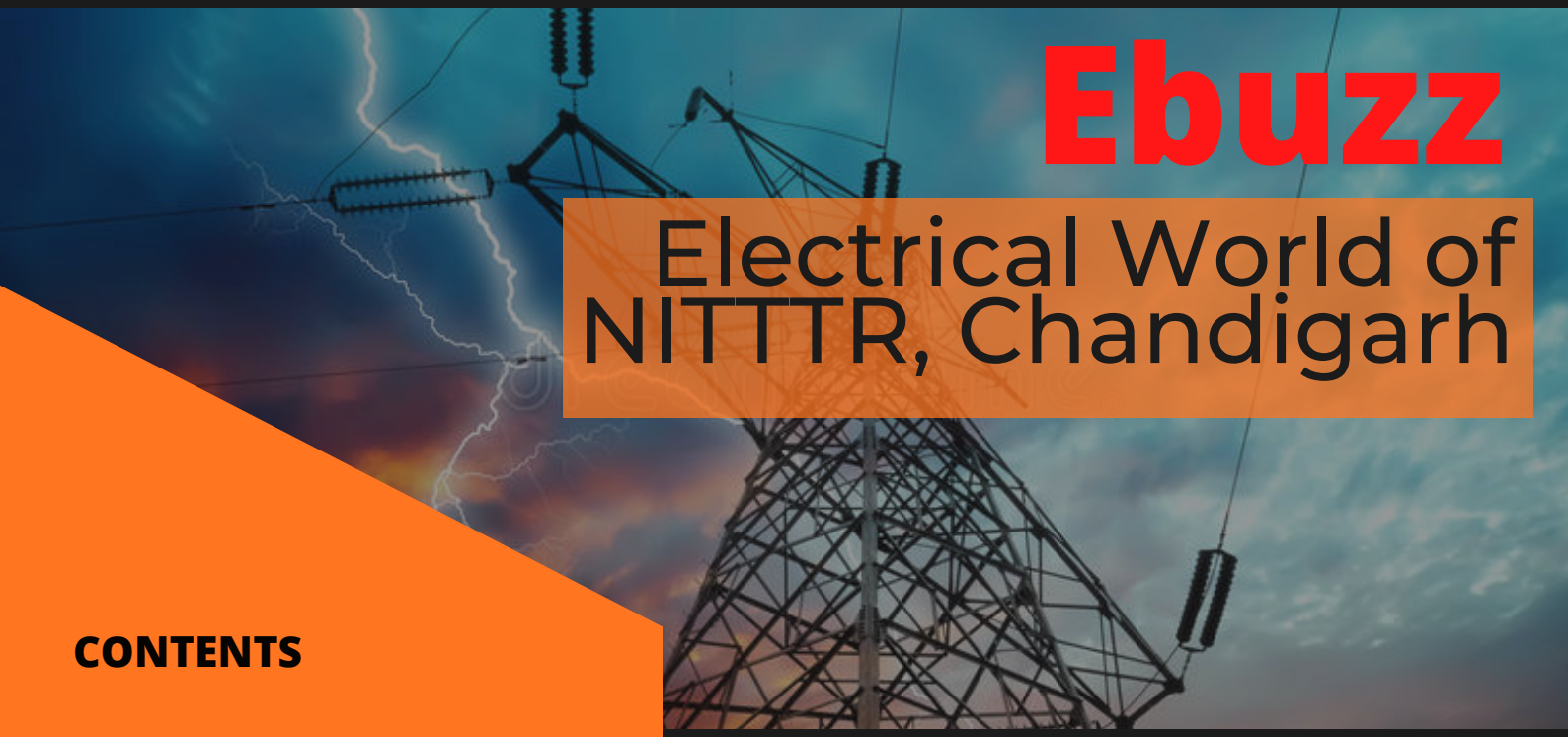
Forth Edition

2021- 2022

Ebuzz

Electrical World of NITTTR, Chandigarh



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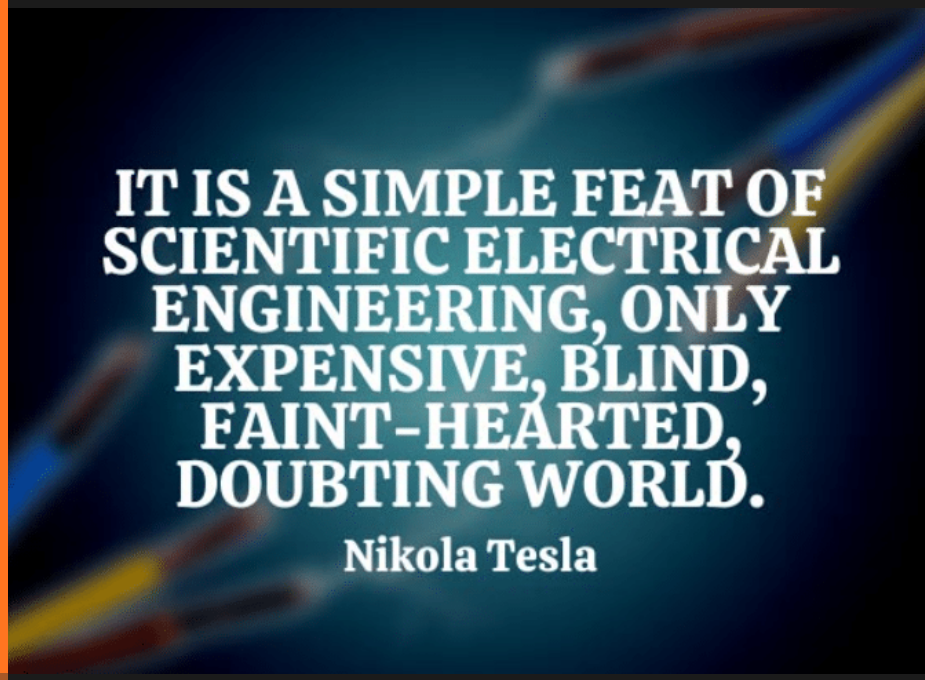


ELECTRICAL ENGINEERING DEPARTMENT

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, CHANDIGARH

More Information:

http://www.nitttrchd.ac.in/sitenew1/elect/elect.php#page=page-

FROM THE DIRECTOR

It gives me immense pleasure to know that the Department of Electrical Engineering, NITTTR, Chandigarh is releasing the departmental newsletter for the academic year 2021-22. This newsletter gives the students opportunity not only to provide articles of interest on technical topics but to help keep the readers informed of recent news and upcoming technologies being developed at our institution. The department newsletter provides a platform for exposing the merits and academic achievements of the faculty and students. I hope that this culture of releasing newsletter continues forever and becomes a coated example for others to follow. I congratulate the faculty and the students for their effort to achieve excellence and wish them all the best for their future.

Dr. Shyam Sundar Pattnaik
Director,NITTTR CHD

FROM THE HEAD OF DEPARTMENT

We are delighted to launch our third edition of the EE Students' Newsletter. This newsletter is a testament to the department's commitment to imparting quality education in academia. This encompasses the right balance between research & development and teaching & learning and is very much in line with the vision and mission of NITTTR Chandigarh. This newsletter highlights many latest wonderful achievements that have brought laurels to the department both by students and staff. This newsletter will provide a glimpse of our student achievements during the period 2021-22. True education should deepen our insight, widen our horizons and create a meaningful outlook. Equally the students are fortunate enough to have been born in a free nation, with all the facilities to shape their career in such a way, that they should be part of a good and healthy society with a progressive attitude towards divinity.

Dr. Lini Mathew
HOD EE, NITTTR CHD

FACULTY CORNER

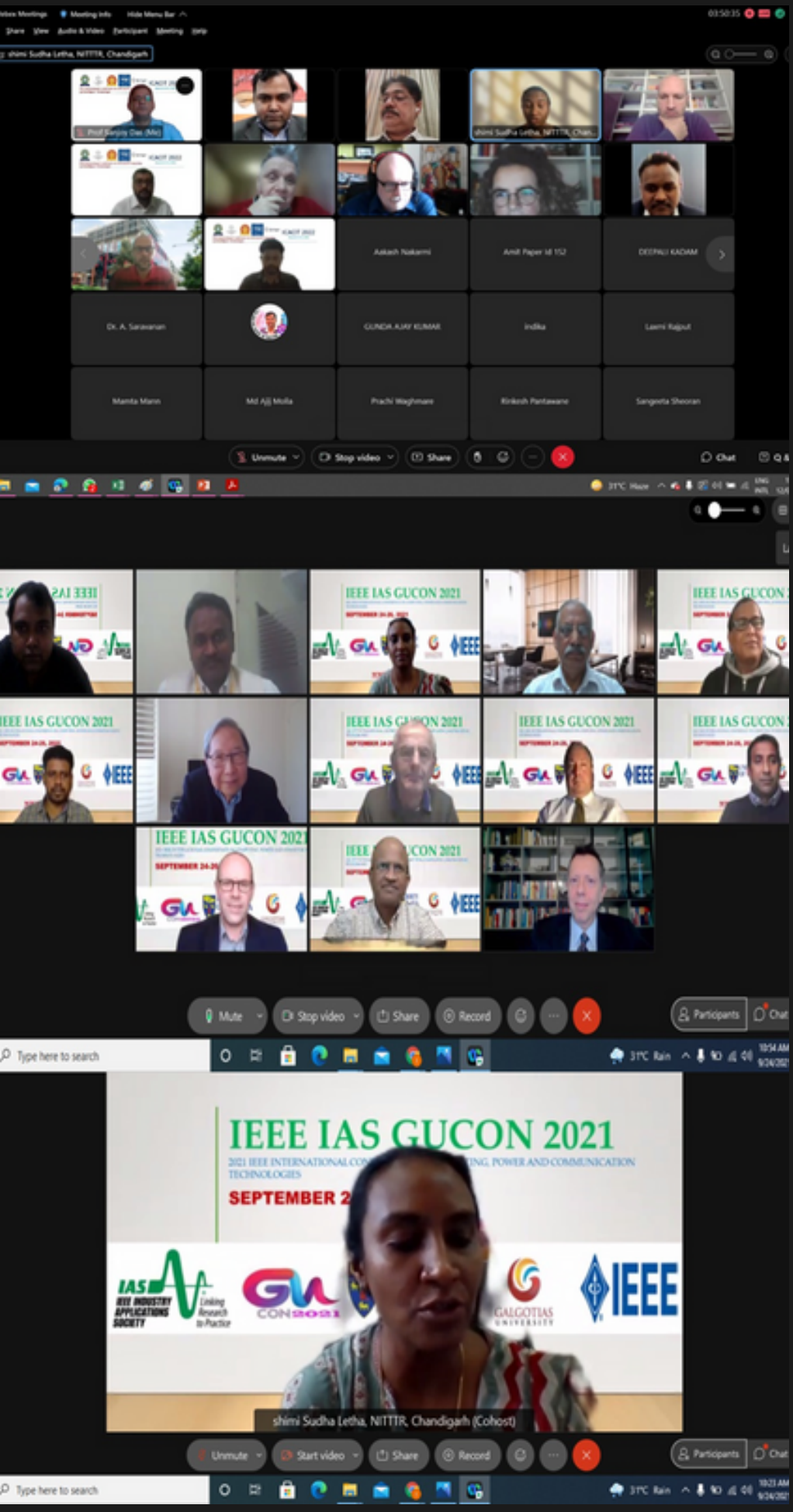
Dr. Shimi Sudha Letha completed her Post Doctoral research in the electric power engineering group at Luleå University of Technology, Skellefteå Campus, Sweden under the leadership of Prof. Math Bollen (IEEE Fellow), Professor and Chair, LTU, Sweden.

She worked on the Swedish Energy agency funded research project during the period August 2019 to August 2021 (two years) and successfully completed the project and submitted the report after disseminating the results by organizing an IEEE workshop. During her postdoctoral period she worked on the projects (i) Electro-mobility, (iii) supraharmonics and (iiii) accelerated ageing of LED. Her research papers on superharmonics and LED ageing was published in Energies, SCI publication. She published several other SCI journal and conference papers along with her research team.

Dr. Ritula Thakur delivered an online expert talk on "Role of AI in achieving Los Angeles' dream of 100% Renewable Energy by 2035" at Ready to Help Organisation, Los Angeles, USA on 23rd June 2021.

She was invited by MKAI, a UK-based AI forum as keynote speaker for their technical event " MKAI AI TECHNICAL FORUM MARCH 2021: TRUST IN THE AGE OF AI – PART 3: AI FOR SMARTER ENERGY MANAGEMENT" on 24th march, 2021. Delivered a talk on "Big Data Analytics for Smart grid".

Dr. Ritula Thakur, Associate Professor at NITTTR Chandigarh - Big Data Analytics for Smart Grid



Acted as Session Coordinator in 2nd International Conference on Advanced Computing and Intelligent Technologies Jointly organized by Universita Di Siena, Italy, IGNTU, Manipur, India, and BIHER, Chennai, India during 12-13 March 2022.

Acted as Session Chair for the Technical Session Track 8: Power, Energy, and Power Electronics Power Generation in the 4th 2021 IEEE International Conference on Computing, Power and Communication Technologies (GUCON) hosted by University of Malaya, Kuala Lumpur & Galgotias University, India on 24-26 September 2021

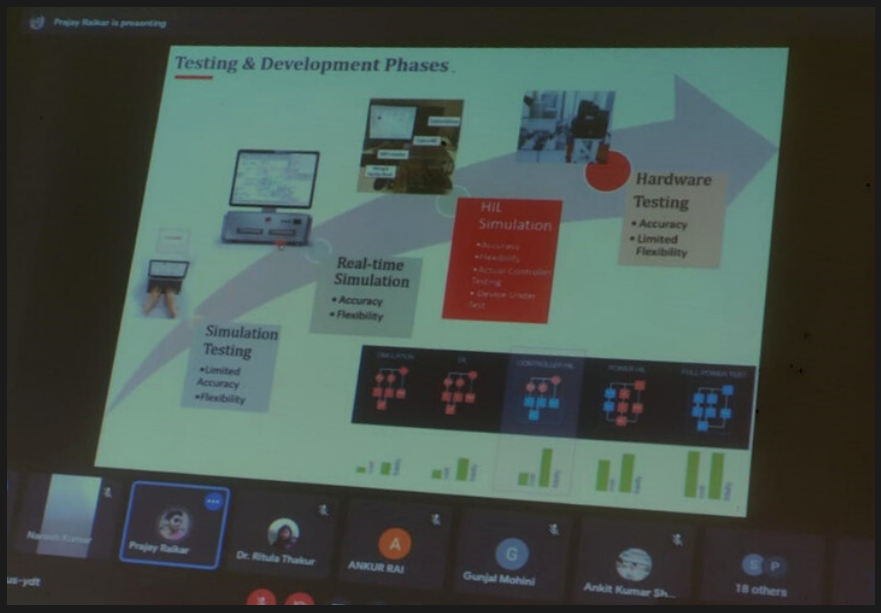
Dr. Shimi S.L attended an Industrial Training at 220 KV Substation, HVPNL, Madanpur, Panchkula during 25th October –8th November, 2021. She took specific training in load forecasting and Designcalculation for earthing mat of substation. An overall knowledge about Air Insulated Substation (AIS) and GasInsulated Substation (GIS) was also covered as part of the training. She presented her report for the faculty and students of ME 2020 and 2021 batch on 26th November, 2021.

ROAD SHOW FOR PROMOTION OF ELECTRIC VEHICLES ON 10TH DECEMBER, 2021 AT GMADA OFFICE, MOHALI

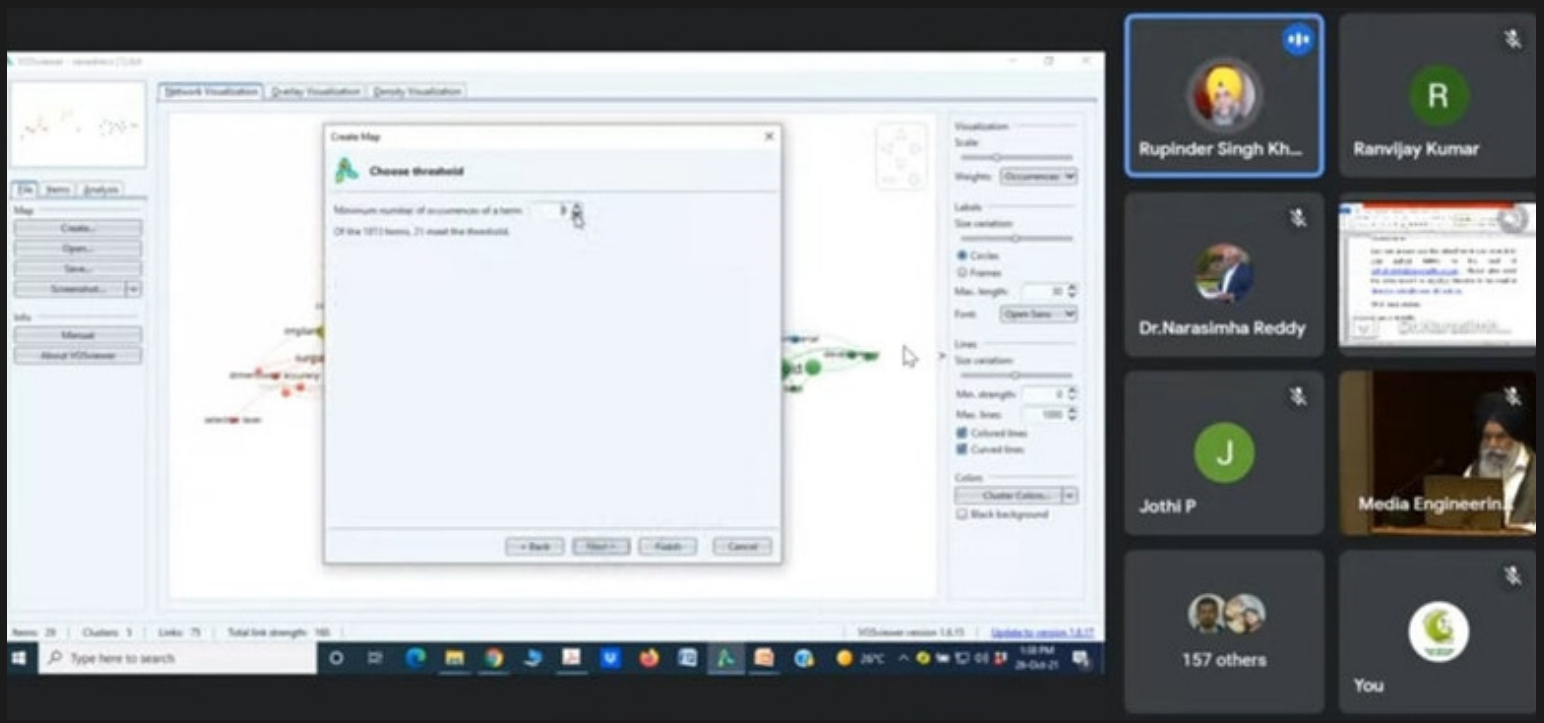
Dr. Ritula Thakur, Dr. Shimi S.L and Mr. Vinod Sharma attended a road show for promotion of electric vehicles on 10th December, 2021 at GMADA office, Mohali. They explored the possibility of setting up and Electric Vehicle Laboratory in the Electrical Engineering Department of NITTTR, Chandigarh.

TECHNICAL EVENTS

An online one week short term course was organized on Microgrid Protection (in collaboration with Typhoon HIL) from 25th Oct 2021 to 29th Oct 2021 for ME regular 2020 and 2021 batch students.

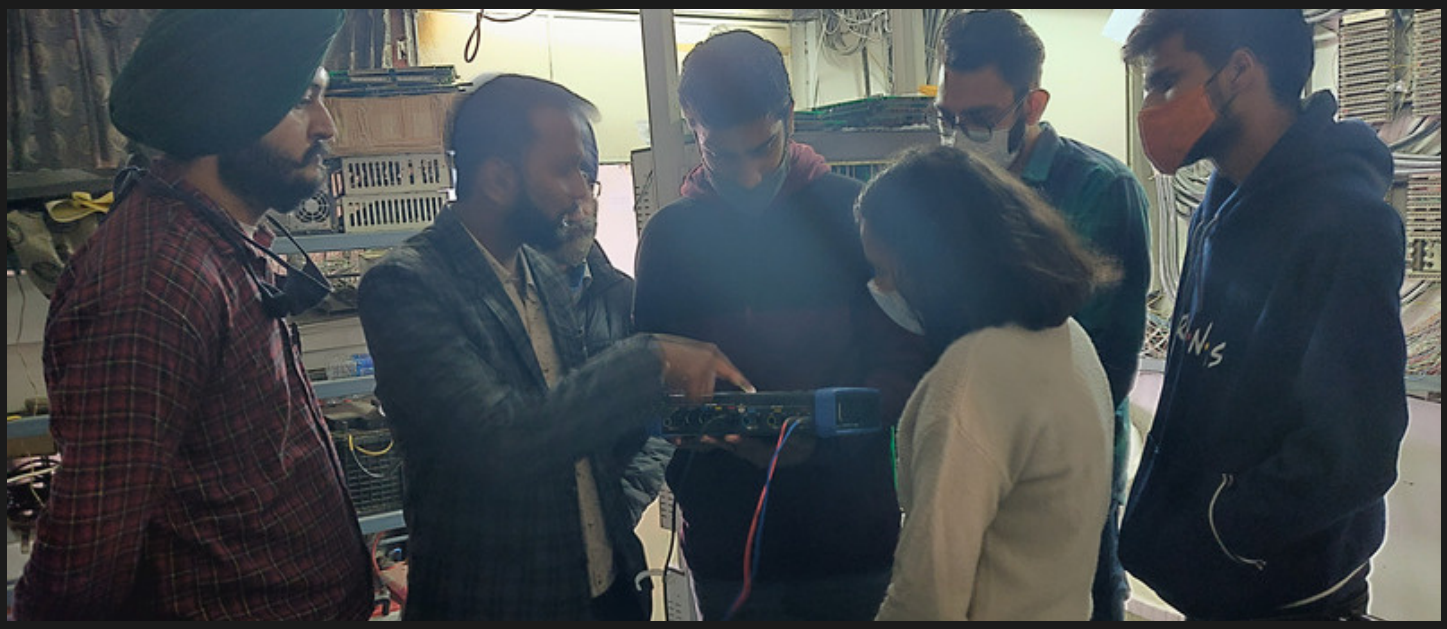


Dr. Ritula Thakur, Associate Professor, NITTTR CHD coordinated the course. Dr. Gayadhar Panda, Professor EE (NIT Meghalaya), and Mr. Deepak Sharma Executive Engg. (UHBVN, Haryana) delivered lectures on microgrid fundamentals and distribution, generation, and RE Integration respectively.



Experts from Typhoon HIL Ms. Khushboo Purwar and Mr. Prajay Raikar delivered lectures on modeling and simulation of feeder protection relay, overcurrent relay, ac, and dc microgrid protection schemes, freq control of microgrid using Typhoon HIL, etc.

WORKSHOP ON MEASUREMENTS WITH POWER QUALITY ANALYSER



The ELECTRINCON student chapter of the Electrical Engineering department organised a workshop titled **'Measurements with power quality analyzer'** on 18-11-2021 at 11.00 am in collaboration with Hioki India Private Limited. The following topic were covered,

(i) Measurements on multilevel inverter for power quality analysis.
(ii) Measurements on Electrical Vehicle for power quality analysis.

INTERNATIONAL CONFERENCE ON EMERGING TECHNOLOGIES (6-7 TH SEPTEMBER) AT NITTTR, CHANDIGARH

Two days online International Conference on Emerging Technologies: Artificial Intelligence (IA), Internet of Things (IoT), and Cyber-Physical Systems (CPS) for Science & Technology Applications (6-7 th September 2021) was jointly organized by the Department Electrical and Department of Electronics Engineering, NITTTR Chandigarh. Chief Guest Prof. Rajeev Ahuja, Director, IIT Ropar inaugurated the Conference. Guest of honor Dr. Biplab Sikdar, Vice-Dean & Area Director (Communications & Networks), from the National University of Singapore, delivered the keynote address and emphasized the importance of AI and machine learning in various current and prospective applications. After the rigorous review process, out of received 115 research papers within and outside the country, 85 papers have been selected for oral presentation. The presented papers were published in Scopus Indexed Conference proceedings and some of the best papers were considered for publication in prestigious book series of Taylor & Francis and Scopus indexed journals.

SHORT TERM COURSES ORGANIZED

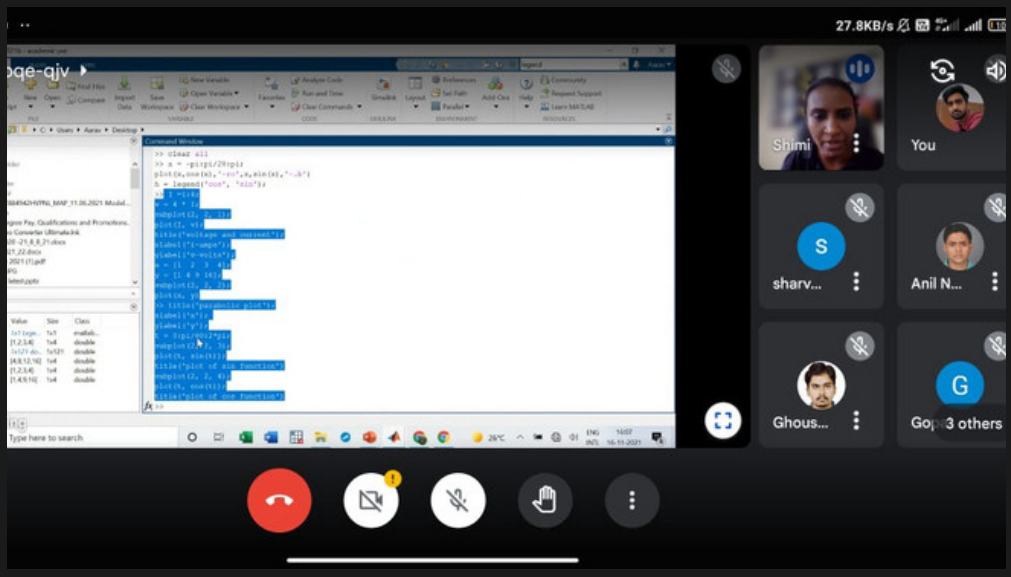
Sr.No.	Title	Start Date	End Date	Coordinator	Total participants
1	Basics of MATLAB and Simulink	19.07.2021	23.07.2021	LM	45
2	Renewable and Clean Energy	09.08.2021	13.08.2021	PV/BR	37
3	Embedded C Programming of Microcontroller	16.08.2021	20.08.2021	RT	15
4	Artificial Neural Network and Fuzzy Logic	27.09.2021	01.10.2021	LM	32
5	Teaching and Learning for Accreditation in Technical Education	27.10.2021	01.11.2021	PV/BR	48
6	LabVIEW Programming	06.12.2021	10.12.2021	LM	03
7	Research Trends in Electrical and Electronics Engg	20.12.2021	24.12.2021	PV/BR	24
8	MATLAB / Simulink and its Hardware Interface	17.01.2022	21.01.2022	SSL	44
9	Electric Vehicle Technology	14.02.2022	18.02.2022	SSL	58
10	Image processing Techniques and Application	21.02.2022	25.02.2022	PV/BR	29
11	Diagnostic Study of Transformer	07.03.2022	11.03.2022	PV/BR	87
12	Artificial Intelligence and Big Data Analytics for Electrical Engineering	07.03.2022	11.03.2022	SSL	251
13	Mechatronics and Robotics	26.04.2021	30.04.2021	PV/BR	52
14	IoT and Cyber Security	17.05.2021	21.05.2021	PV	32
15	FACTS and Smart Grid	24.05.2021	28.05.2021	LM	31
16	Development of Residential Micro grid (in collaboration with Typhoon)	07.06.2021	11.06.2021	RT	74
17	Real Time Simulation: Roadmap for RE Grid Integration in Micro grid and Smart Grid	28.06.2021	02.07.2021	RT	84
18	Distributed Generation and Microgrid	9.08.2021	13.08.2021	LM	117
19	Micro grid Protection(in collaboration with Typhoon)	25.10.2021	29.10.2021	RT	30
20	Development of Smart Electric Vehicles as per Indian Scenario (with Typhoon HIL)	15.11.2021	19.11.2021	LM	33
21	Power Quality and Harmonics(with Lulea Technical University, Sweden and Typhoon HIL)	29.11.2021	03.12.2021	SSL	53
22	Real Time Simulations Applications in Cyber Security	13.12.2021	17.12.2021	RT	18
23	Bio Inspired Optimization Techniques	17.01.2022	22.01.2022	LM	21
24	Power Quality issues and Solutions in Grid Connected Electric Vehicles	14.03.2022	18.03.2022	RT	113
				Total	1331

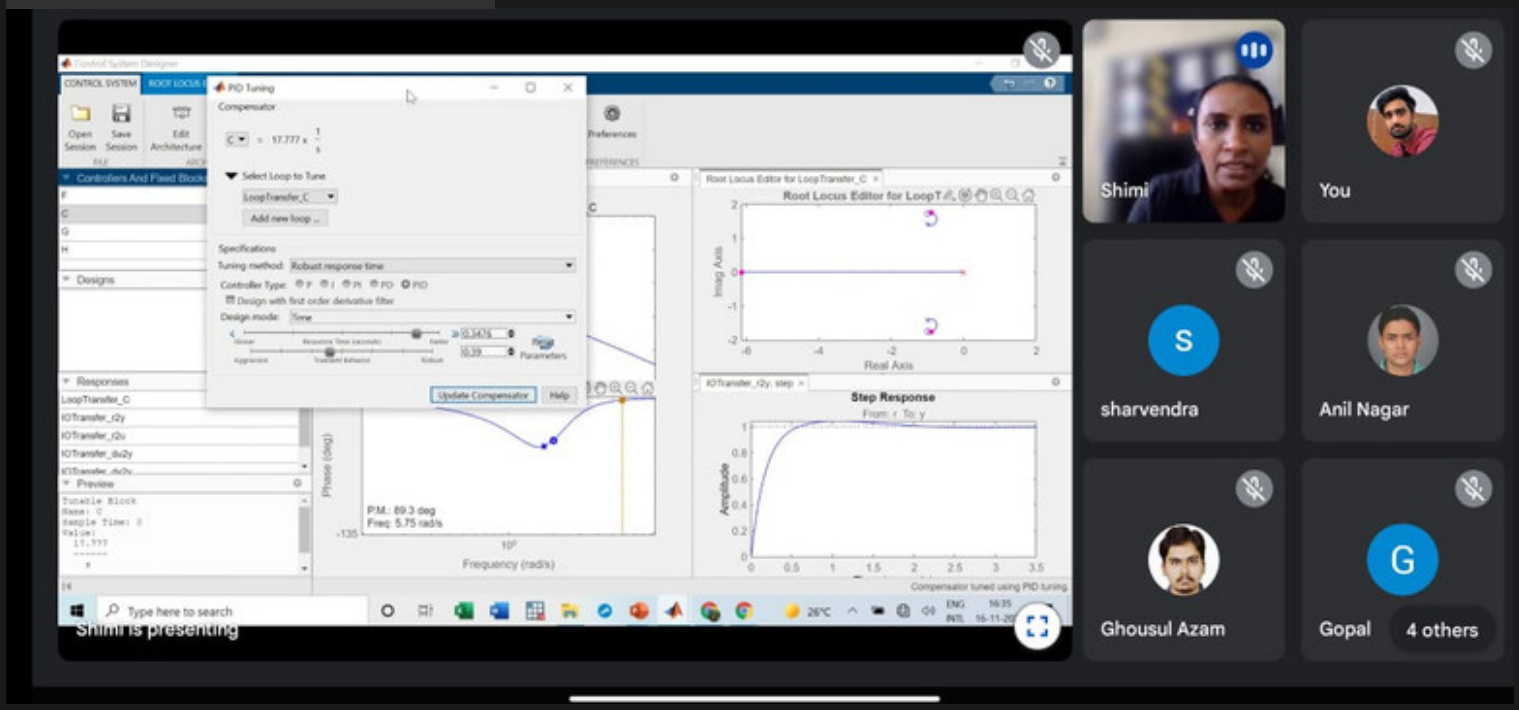
STC on Lab VIEW

Mr. Ajay Godara, Founder, Enovate-Skill, trained students and gave hands-on Lab View and Tinker CAD software training on the date 25/11/2021. Students of ME Regular 1st year and 2nd year attended this program.

STC ON MATLAB / SIMULINK

Expert lecture on MATLAB /SIMULINK programs from 16/11/2021 to 20/11/2021 by Assistant Professor Dr. Shimi S.L Department of Electrical Engineering NITTTR Chandigarh, India

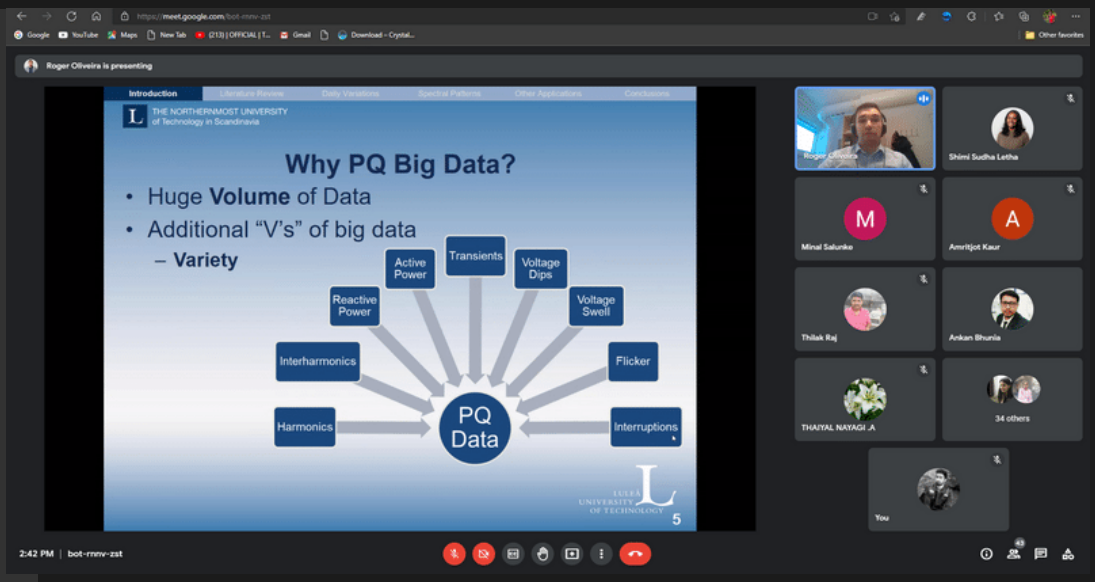


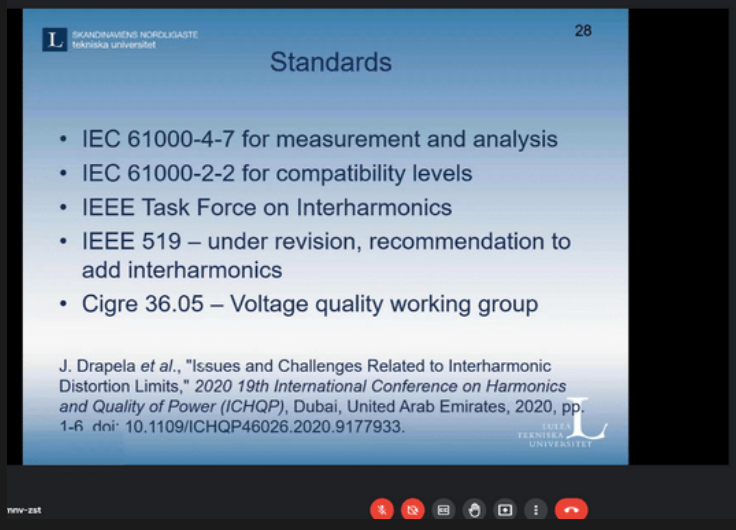


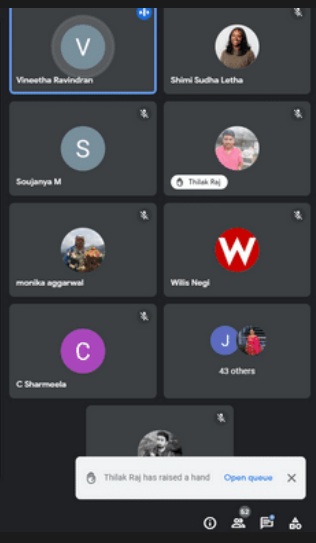
STC ON POWER QUALITIY

International and Industry expert lectures on UTILITY SYSTEM , POWER QUALITY, HARMONICS during 29/11/2021 TO 3/11/2021

Expert lecture on 'BIG DATA ANALYSIS , by Dr. Roger Oliveira Luleå University of Technology, Sweden



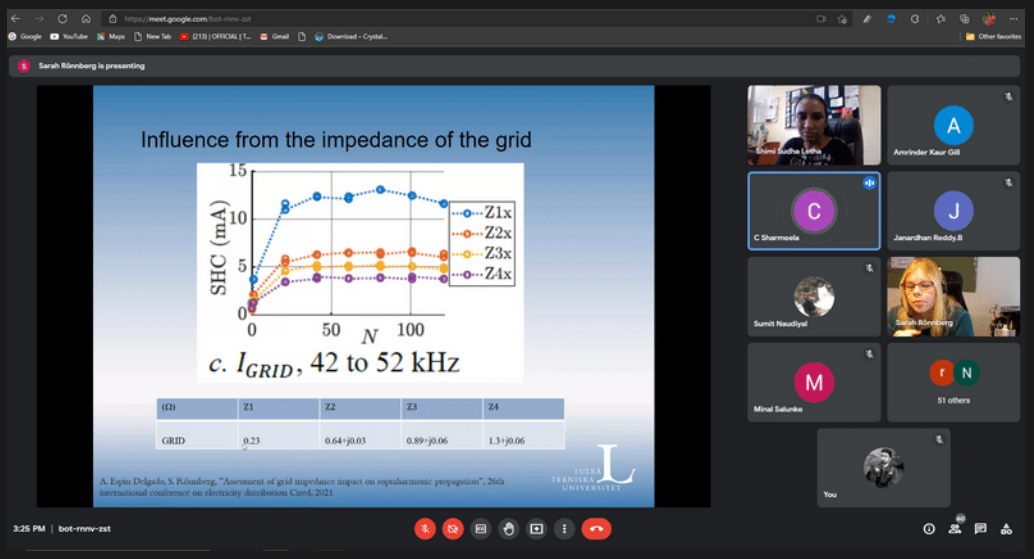




Expert lecture on 'ISSUE AND CHALLANGE RELATED TO HARMONICS' by Vineetha Ravindran , SCANIA, Sweden

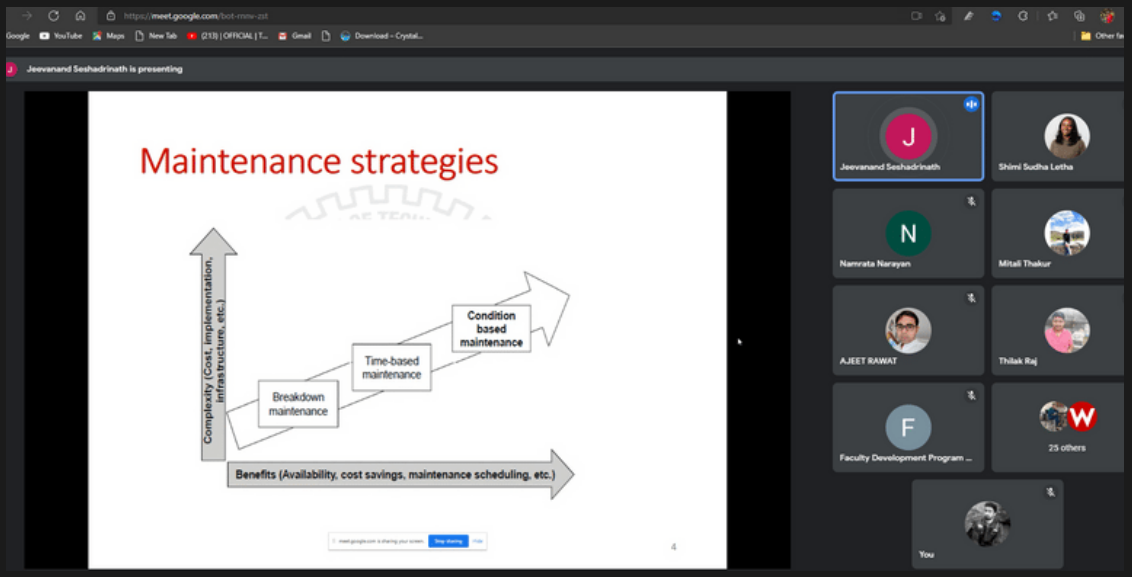
Expert lecture on harmonics by Professor Dr. Math Bollen Department of Electrical Engineering Luleå University of Technology, Sweden

Expert lecture on 'Assessment of grid impedance impact on supraharmonic propagation' by Dr. Sarah Ronnberg Luleå University of Technology, Sweden

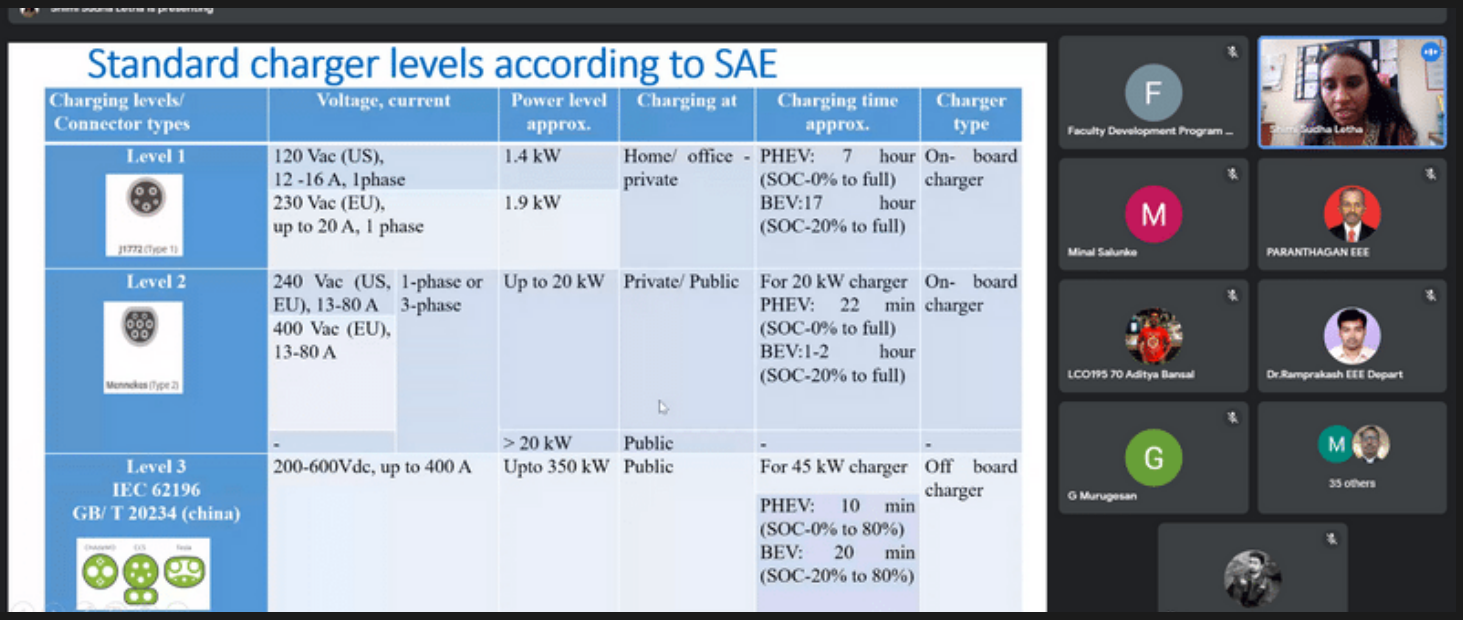


Expert lecture on 'AI BASED GRID INTEGRATED SOLAR ENERGY CONVERSION SYTEMEM' given by Dr. Nishant Kumar Assistant Professor Department of Electrical Engineering IIT Jodhpur, India

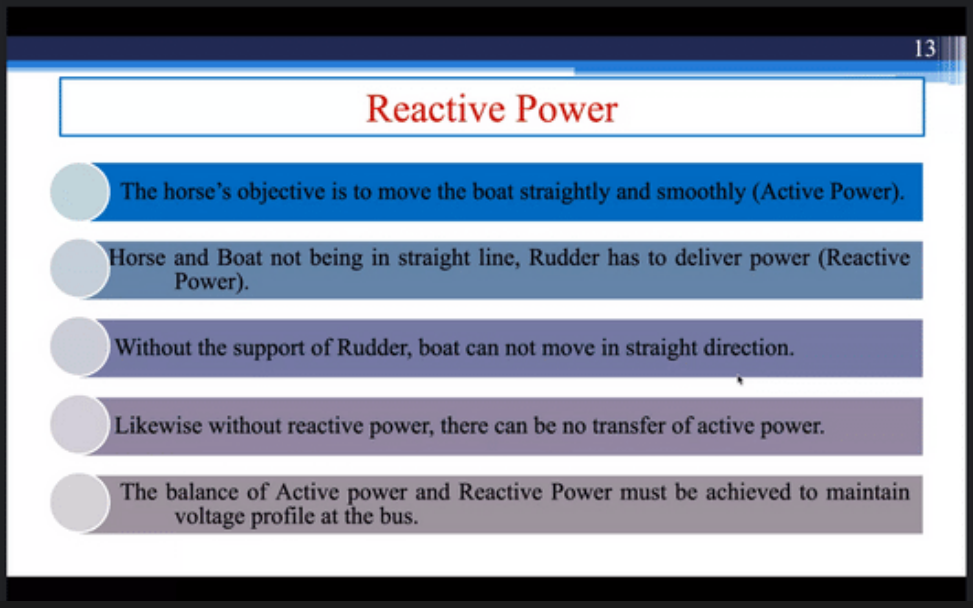
Expert lecture on 'SYSTEM MAINTAINCE AND MONITORING' by Dr. Jeevanand Seshadrinath



Expert Lecture on 'SELECTIVE HARMONICS ELEMINATION IN SOLAR POWERED MULTIPLE LEVEL INVERTER' by Dr. Shimi S.L

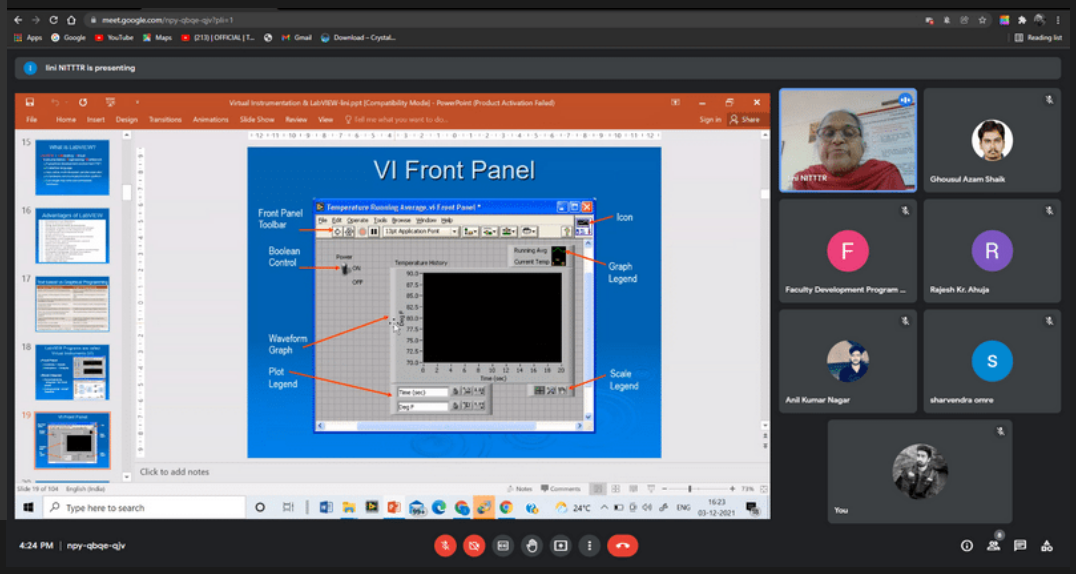


Expert Lecture on 'Real-Time Simulation of FACTS for Reactive Power Compensation' by Anjali Atul Bhandarkar



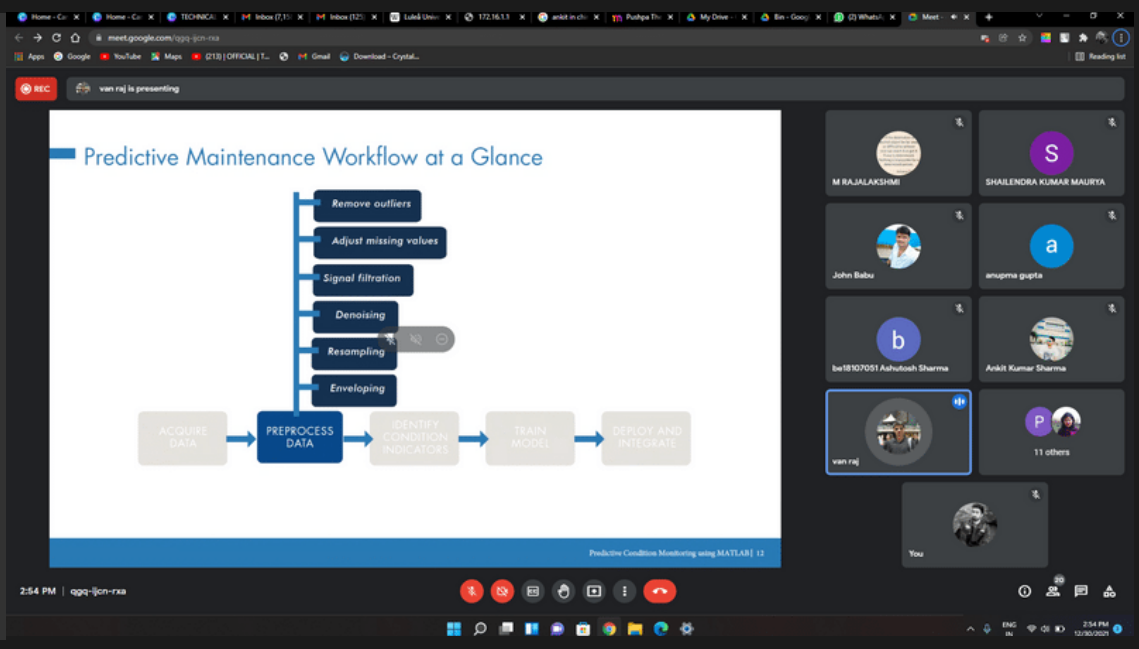
VIRTUAL INSTRUMENTATION ON & LABVIEW

Expert Lecture by Dr. Lini Mathew HOD of Electrical Engineering on 'VIRTUAL INSTRUMENTATION & LabVIEW' on 12-03-12.



IOT TECHNOLOGIES FOR SMART CITIES

Mr. Manvendra Singh, Network Operations engineering, SenRa Tech, New Delhi delivered an expert Talk on 'IoT Technologies for Smart Cities' With Focus on low Power WAN (LoRawAN) on Thursday, 30-12-2021



Event on Ansys Solution for EV

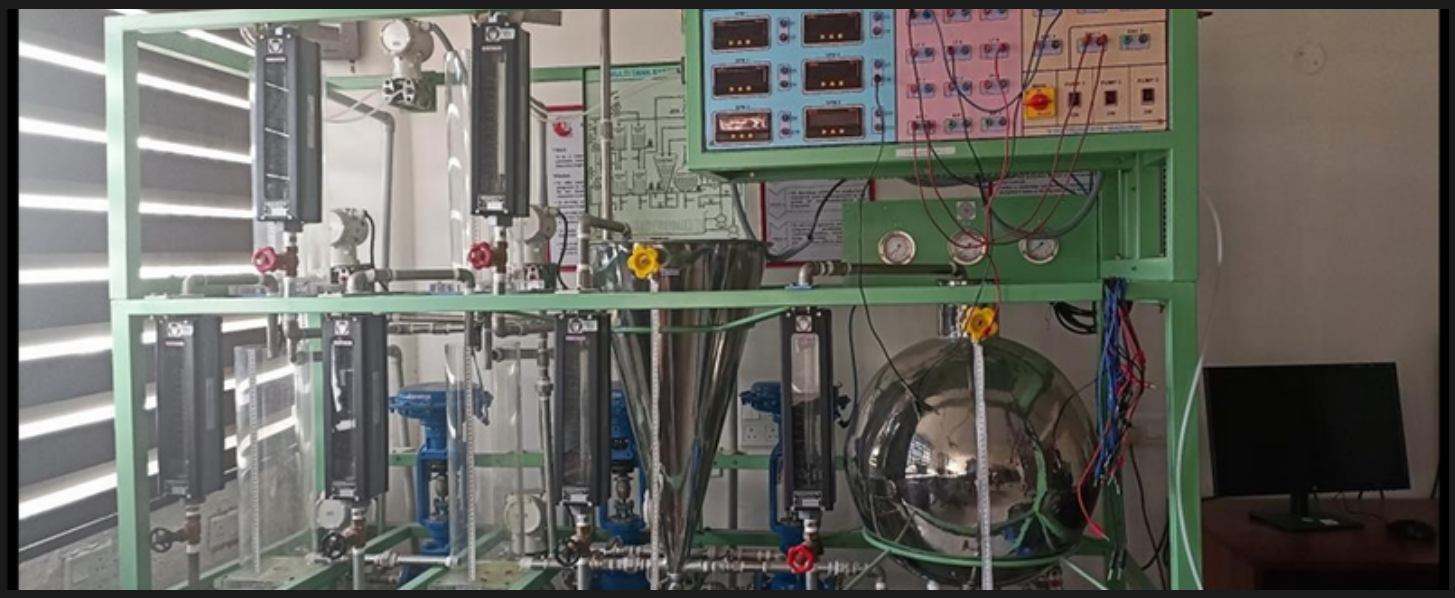
One day event was organized on Ansys Solutions for Electric Vehicle at NITTTR, Chandigarh in association with ARK & Ansys on 17 December 2021 by Electrical Engineering Department. Dr. Shimi SL was the coordinator of the event. The Director of the institute Dr. SS Patnaik inaugurated the event and gave his valuable views to the students. HOD of Electrical Department Dr. Lini Mathew addressed the student. Various design aspects related to EV(s) and their components were discussed in the event.

WORKSHOP ON PLC

An one-day workshop was organized by scientech Technologies Pvt Ltd. on 24th Feb 2022 under the leadership of Dr. Ritula Thakur, Associate Professor, EE Department, NITTTR, Chandigarh. In this workshop, the students were taught the basics of PLC.

Mr. Dhirendra Kumar from Scientech Technologies Pvt Ltd gave a demonstration on Scientech 2400 Universal PLC Platform. The ladder logic programming of PLC on RS Logix 500 software was taught to students by Dr. Ritula Thakur.

WORKSHOP ON MULTI-TANK SYSTEM

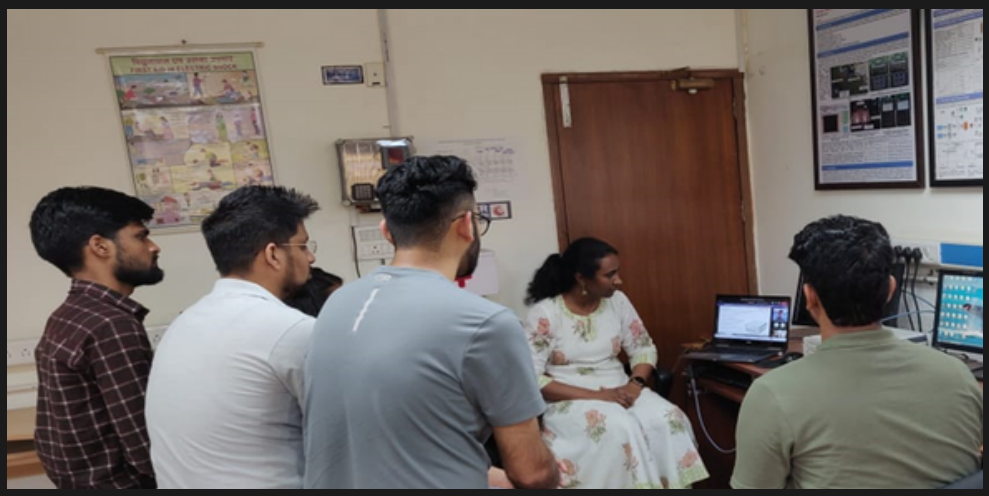


An one-day workshop was organized by Vi Microsystem Pvt. Ltd. on 23 March 2022 under the leadership of Dr. Shimi S L, Assistant Professor, EEE, NITTTR.

The students of ME (I&C), batch 2020 & 2021 attended the workshop. Mr. S Vivek and Mr. Manoj Kumar from Vi Microsystem Pvt Ltd demonstrated the multi-tank system for various industrial applications.

WORKSHOP ON 'D-SPACE FOR CONTROL APPLICATIONS'

Expert lecture and demo session on dSPACE by SAGAR CHAKRABORTY. ON DATE: - 22/03/2022



DEMO SESSION ON DSPACE: -

Topic covered: -

1) dSPACE software and its integration with MATLAB for DS1104.

2) dSPACE software and its integration with MATLAB for MicroLabBox.

INDUSTRIAL VISIT TO PEC, CHANDIGARH

A visit to Punjab Engineering College, Chandigarh was coordinated by Dr. Shimi S.L, Assistant Professor, Electrical Engineering Department, NITTTR, Chandigarh on 3rd March 2022 for ME EE (I&C) 2021 students. Students visited the Center of Excellence at PEC, Chandigarh set up in collaboration with M/s Siemens Industry Software (India) Pvt. Ltd. (SISW) to understand the latest world-class technologies used in industry for designing, testing, and optimizing the products in different domains.

CULTURAL EVENT

The inauguration of the Culture Club of the college took place on the date 22 November 2021, in which students performed various activities such as skits based on corruption and other cultural events. Director S S Patnaik guided students about the evils present in society and how to overcome them. Other faculty and student registered their presence.

SUPPORTING STAFF CORNER

WORKSHOP ON RECRUITMENT PROCEDURE, PROMOTION RULES, DPC, MACP & MTC. OF SERVICE BOOK AT GOA

Mrs. Meena Sharma attended a Workshop on Recruitment Procedure, Promotion Rules, DPC, MACP & Mtc. Of Service Book at Goa from 22nd to 24th November 2021

EBUZZ WELCOMES OUR NEW TECHNICAL STAFFS

Mr. Gopal

Mr. Anil Kumar Nagar

Forth Edition

2021- 2022

Our Team

Note From the Editor

I am very happy to present the 4rd edition of of the newsletter of Electrical Department of NITTTR, E-buzz. This newsletter is a collective effort of the students of our department to bring out to the world the various advancements and achievements. I hope that you like our work and appreciate the efforts done by our students.

Ashutosh Sharma
M.E E.E.(I&C)
2021

Mitali Thakur
M.E E.E.(I&C)
2021

Ankit Kumar Sharma
M.E E.E.(I&C)
2021

Sharvendra Omre
M.E E.E.(I&C)
2021

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