E - Newsletter

Issue No. II



School of Electrical Engineering (SELECT)



Vision

To offer an education in electrical engineering that provides strong fundamental knowledge, skills for employability, cross-disciplinary research and creates leaders who provide technological solutions to societal and industry problems.

Mission

- Provide personalized experiential learning in industry sponsored labs to prepare students in electrical engineering with strong critical thinking and employability skills.
- Foster design thinking, creativity and cross-disciplinary research with highly qualified faculty to create innovators and entrepreneurs in the broad area of electrical engineering.
- Collaborate with national and international partners to provide innovative solutions to societal and industry challenges.

Dean's Message



Dr. Mathew M. Noel Professor and Dean School of Electrical Engineering Vellore Institute of Technology, Vellore

'Develop skilled engineers to meet industry needs and thereby develop responsible citizens for our country and society'

The School of Electrical Engineering (SELECT) has over 93 faculty members who pursued their UG, PG and Doctoral degrees from top-notch universities. The faculty members are consistently performing well in teaching and research. Faculty members and students frequently receive awards, laurels and prizes for outstanding research contributions in their respective fields.

The school offers B.Tech. (Electrical and Electronics Engineering), B.Tech. (Electronics and Instrumentation Engineering), M.Tech. (Power Electronics and Drives), M. Tech. (Control and Automation), Ph.D and Integrated Ph.D in Engineering. Both B.Tech. and M.Tech. programmes attract the Intelligent students from the country and abroad. The B.Tech. Electrical and Electronics Engineering and B.Tech. Electronics and Instrumentation Engineering Programmes are accredited by the Engineering Accreditation Commission of ABET. All UG & PG programmes of the school are accredited by the Institution of Engineering and Technology (IET), U.K.

The placement record of the school has always been impressive. Almost 100% of the students secure job from the campus placement and many of them are recruited in core companies. We encourage our students to carry out industry based projects during their B.Tech and M.Tech degrees. The School has state-of-the art laboratories in almost all the areas of Electrical, Electronics and Instrumentation Engineering. The School has the latest simulation tools to cater various specializations and is equipped with facilities for measurement, characterization and synthesis of experimental as well as theoretical results. SELECT has industry sponsored advanced laboratories for performing world class research and consultancy. Danfoss Advance Drives Lab, Schneider Electric Smart Energy Monitoring Lab, Fluke Testing and Calibration Lab, Q-Max Automated Test Engineering Lab (Alumni Sponsored Lab) and NxP Semiconductors, India, have established Centre of Excellence for students R&D activities under the guidance of faculty members and industry experts.



1) Value Added Program on exploring MATLAB/Simulink

Date: 19th May to 23rd May, 2022

Control Systems, Sensors, Process Control and Automation are the core specialization areas in instrumentation engineering. Control systems are used to enhance production, safety and efficiency in various fields. Sensor data plays vital role for the effective functioning of control systems. Selection of proper sensors and designing the signal conditioning plays critical role in industrial applications. Process control deals with the science of maintaining the output of a specific process within a desired range. Process control is commonly used for mass production. Due to its precise nature, it enables the automation of industrial processes. The purpose of this VAP is to provide students a grasp of the fundamental concepts and operational characteristics of various sensors, designing controllers and programming PLCs. This skill will uplift the student's employability ratio.





2) Value Added Program on Circuit Simulation using ORCAD/MULTISIM

Date: 30th May to June 10th, 2022

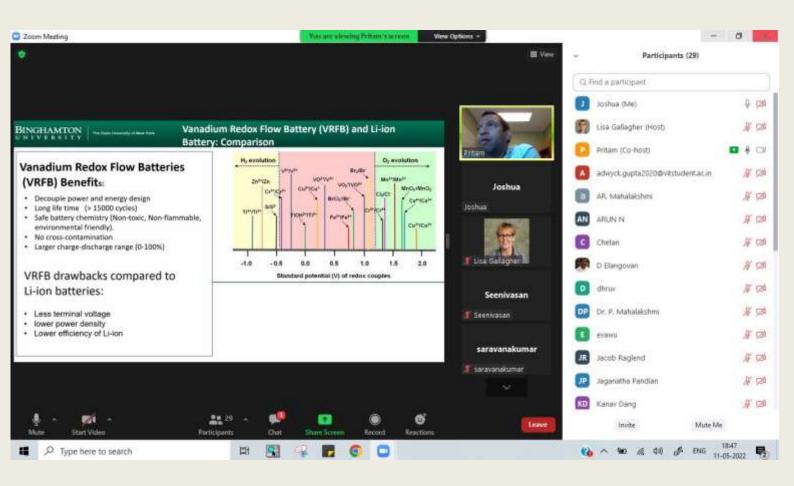
Simulation software plays a vital role in industry4.0 that allows you to evaluate, compare and optimize alternative designs, plans and policies. As such, it provides a tool for designing and developing major circuits and allows to make decisions as per the requirement. OrCAD Spice Designer, an advanced circuit simulation and analysis for analogue and mixed-signal circuits. OrCAD® PSpice® and OrCAD Capture combine to provide industry-leading, schematic entry, native analog, mixed signal, and analysis engines to deliver a complete circuit simulation and verification solution. The software is used mainly by electronic design engineers and electronic technicians to create electronic schematics, perform mixed-signal simulation and electronic prints for manufacturing printed circuit boards. The value-added program aims to impart knowledge on applications of OrCAD for solving various electrical and electronics engineering problems.





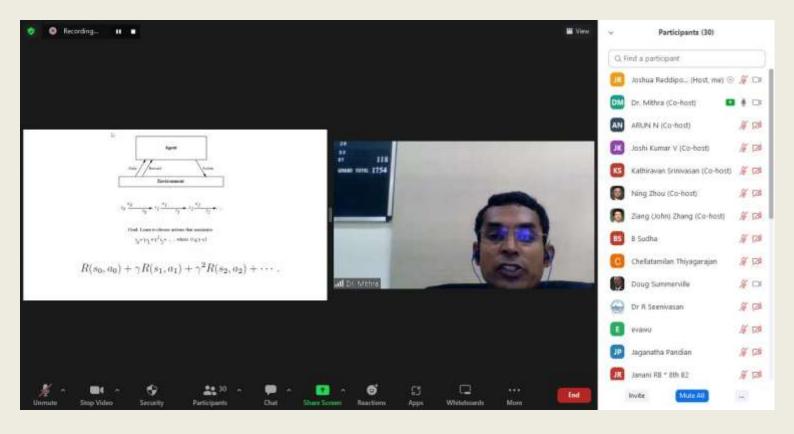
Seminar 1: Fast Charging of Vanadium Redox Flow Batteries **Speaker:** Dr. Pritam Das, Assistant Professor, Binghamton University

This lecture was the first in a joint webinar series between VIT University, Vellore and Binghamton University, USA. The speaker was Dr. Pritam Das who is an Assistant Professor at Binghamton University. Dr. Das present his research on the topic "Fast Charging of Vanadium Redox Flow Batteries". It was well attended by students, research scholars and faculty from both VIT and Binghamton University. The session was very interactive and there were many questions from Research scholars working in this area.



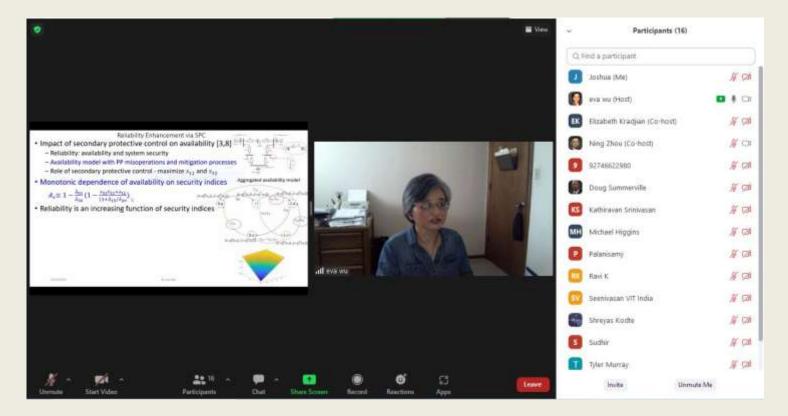
Seminar 2: "Reinforcement Learning Control of Nonlinear Dynamical Systems" Speaker: Dr Mathew M. Noel, Professor, VIT Vellore

This lecture was the second in a joint webinar series between VIT University, Vellore and Binghamton University, USA. The speaker was Dr. Mathew Noel who serves as the Dean of SELECT at VIT. Dr. Mathew, who is an expert in Machine Learning, discussed about "Reinforcement Learning Control of Nonlinear Dynamical Systems". It was well attended by students, research scholars and faculty from both VIT and Binghamton University. The session was very interactive and there were many questions from Research scholars working in this area.



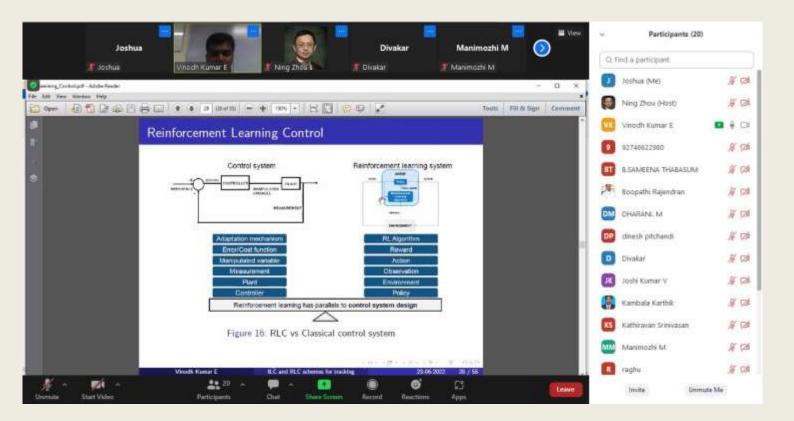
Seminar 3: Enhancement of Power System Reliability via Secondary Protective Control **Speaker:** Dr N. Eva Wu, Professor, Binghamton University

This lecture was the third in a joint webinar series between VIT University, Vellore and Binghamton University, USA. The speaker was Dr N. Eva Wu who serves as a Professor at Binghamton University. Dr Wu presented her research on "Enhancement of Power System Reliability via Secondary Protective Control". It was well attended by students, research scholars and faculty from both VIT and Binghamton University. The session was very interactive and there were many questions from Research scholars working in this area.



Seminar 4: "Learning Control Schemes for Flexible Manipulators" **Speaker:** Dr. Vinodh Kumar E, Associate Professor, VIT Vellore

This lecture was the fourth in a joint webinar series between VIT University, Vellore and Binghamton University, USA. The speaker was Dr Vinodh Kumar who serves as an Asoociate Professor at VIT. Dr Vinodh presented his research on "Learning Control Schemes for Flexible Manipulators". It was well attended by students, research scholars and faculty from both VIT and Binghamton University. The session was very interactive and there were many questions from Research scholars working in this area.





1) Pandiyan P., Sitharthan R., Saravanan S., Prabaharan N., Ramji Tiwari M., Chinnadurai T., Yuvaraj T., Devabalaji K.R., A comprehensive review of the prospects for rural electrification using stand-alone and hybrid energy technologies, Sustainable Energy Technologies and Assessments, **I.F.** 5.353

2) Sharma J., Sundarabalan C.K., Sitharthan R., Balasundar C., Srinath N.S., Power quality enhancement in microgrid using adaptive affine projection controlled medium voltage distribution static compensator, Sustainable Energy Technologies and Assessments, **I.F.** 5.353

3) Thirunavukkarasu M., Sawle Y., An Examination of the Techno-Economic Viability of Hybrid Grid-Integrated and Stand-Alone Generation Systems for an Indian Tea Plant, Frontiers in Energy Research, **I.F.** 4.008

4) Salehuddin N.F., Omar M.B., Ibrahim R., Bingi K., A Neural Network-Based Model for Predicting Saybolt Color of Petroleum Products, Sensors, **I.F.** 3.576

5) Manna S., Geetha M., Ghildiyal S., Stonier A.A., Peter G., Ganji V., Murugesan S., Ant Colony Optimization Tuned Closed-Loop Optimal Control Intended For Vehicle Active Suspension System, IEEE Access, I.F. 3.367

6) Kumar N.K., Gopi R.S., Kuppusamy R., Nikolovski S., Teekaraman Y., Vairavasundaram I., Venkateswarulu S., Fuzzy Logic-Based Load Frequency Control in an Island Hybrid Power System Model Using Artificial Bee Colony Optimization, Energies, **I.F.** 3.004

7) Raju K.U., Prabha N.A., Error-free and mean value based reversible data hiding using gravitational search algorithm in encrypted images, Multimedia Tools and Applications, **I.F.** 2.757

8) Joseph Raj A.N., Junmin C., Nersisson R., Mahesh V.G.V., Zhuang Z., Bilingual text detection from natural scene images using faster R-CNN and extended histogram of oriented gradients, Pattern Analysis and Applications, **I.F.** 2.580

9) Sarin C.R., Mani G., Stonier A.A., Arivarasu M., Samikannu R., Murugesan S., Multithreaded Multiswarm Model for Intelligent Economic Prosumer Load Dispatch for Battery Supported DC Microgrid, Mathematical Problems in Engineering , **I.F.** 1.305



1) Singirikonda S., Obulesu Y.P., Adaptive secondary loop liquid cooling with refrigerant cabin active thermal management system for electric vehicle, Journal of Energy Storage, **I.F.** 6.583

2) Mujeeb Rahman K.K., Monica Subashini M., A Deep Neural Network-Based Model for Screening Autism Spectrum Disorder, Journal of autism and developmental, **I.F.** 4.291

3) Selvakumar K., Vinodh Kumar E., Sailesh M., Varun M., Allan A., Biswajit N., Namrata P., Upasana S., Realtime PPG based respiration rate estimation for remote health monitoring applications, Biomedical Signal Processing and Control, **I.F.** 3.880

4) Basha C.H.H., Rani C., A New single switch DC-DC converter for PEM fuel cell-based electric vehicle system with an improved beta-fuzzy logic MPPT controller, Soft Computing, **I.F.** 3.643

5) Singh R.R., Baranidharan M., Subramaniam U., Bhaskar M.S., Rangarajan S.S., Abdelsalam H.A., Collins E.R., Senjyu T., An Energy-Efficient Start-Up Strategy for Large Variable Speed Hydro Pump Turbine Equipped with Doubly Fed Asynchronous Machine, Energies, **I.F.** 3.004

6) Ranganathan E., Natarajan R., Spotted Hyena Optimization Method for Harvesting Maximum PV Power under Uniform and Partial-Shade Conditions, Energies, **, I.F.** 3.004

7) Robert F., Uma Sathyakam P., Perspective - Demystifying the Power Withstanding Capabilities of CNT Bundle Interconnects, ECS Journal of Solid State Science and Technology, **I.F.** 2.070

8) Muneappa Reddy J., Rajaram T., Xu Y., Modal Analysis on Control Impact of Fully Rated Converters-Based PMSG-WECS Connected to Turbine-Generator, Electric Power Components and Systems, **I.F.** 1.071

9) Karn A.L., Sachin V., Sengan S., Indra G.V., Ravi L., Sharma D.K., Subramaniyaswamy V., DESIGNING A DEEP LEARNING-BASED FINANCIAL DECISION SUPPORT SYSTEM FOR FINTECH TO SUPPORT CORPORATE CUSTOMER'S CREDIT EXTENSION, Malaysian Journal of Computer Science, **I.F.** 0.622

10) Karn A.L., Ateeq K., Sengan S., Indra G.V., Ravi L., Sharma D.K., Subramaniyaswamy V., B-LSTM-NB BASED COMPOSITE SEQUENCE LEARNING MODEL FOR DETECTING FRAUDULENT FINANCIAL ACTIVITIES, Malaysian Journal of Computer Science, **I.F.** 0.622



1) Harish S., Sathyakam P.U., A review of tin selenide-based electrodes for rechargeable batteries and supercapacitors, Journal of Energy Storage, **I.F.** 6.583

2) Mohanraj J., Valliammai M., Sridevi S., Kanimozhi T., Vinodhkumar N., Sivabalan S., All Fiber-Optic Multi-Gas (NH3, NO2 and CO) Sensor based on MoWS2 coated Fiber, IEEE Sensors Journal, **I.F.** 3.301

3) Ramadevi B., Bingi K., Chaotic Time Series Forecasting Approaches Using Machine Learning Techniques: A Review, Symmetry, I.F. 2.713

4) Praiselin W.J., Edward J.B., Enhancement of Power-Sharing Using Multivariable Angle Droop Control for Inverter Interfaced Distributed Generations in a Micro-Grid, Journal of Electrical Engineering and Technology, **I.F.** 1.069

5) Subramanian V., Vairavasundaram I., Comparative analysis of dual second-order generalized integrator-phase locked loop based series hybrid filter and static synchronous compensator for load voltage compensation and power quality improvement with grid synchronization in islanded microgrid, Circuit World, **I.F.** 0.875

6) Mani G., Joshi Kumar V., Stonier A.A., Prediction and forecasting of air quality index in Chennai using regression and ARIMA time series models, Journal of Engineering Research (Kuwait) **, I.F.** 0.620

7) Upendra Raju K., Prabha Nagarajan A., A Steganography Embedding Method Based on CDF-DWT Technique for Reversible Data Hiding Application Using Elgamal Algorithm, International Journal of Foundations of Computer Science, **I.F.** 0.416



Prof. Joshua Reddipogu, Assistant Professor Sr.

