

Dr. J. Belwin Edward

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Katpadi, Vellore, Tamilnadu, INDIA – 632 014
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<http://scholar.google.co.in/citations?user=6pJW9k0AAAAJ&hl=en>



Associate Professor with more than 19 years of teaching experience - specialized in Power Systems Optimization, Optimal Power Flow, FACTS, Soft Computing Techniques, Renewable Energy Systems & IoT Devices.

Education

- Ph.D. in Faculty of Electrical Engineering, Anna University, Chennai-25, Jan 2014.
- M. E. in Power Systems, ,
CGPA: 8.58, First Class with Distinction, Nov 2002.
- B. E. in Electrical & Electronics Engineering, Manonmaniam Sundaranar University, First Class, 70.44%, April 1999.

Experience

- **Associate Professor Senior**, Jan 2014 – Till date
School of Electrical Engineering, Department of Electrical Engineering,
Vellore Institute of Technology, Vellore-14, Tamilnadu, India.
- **Assistant Professor Selection Grade**, Sep 2012 – Jan 2014.
School of Electrical Engineering, Power Systems Division, VIT University, Vellore-14, Tamilnadu, India
- **Assistant Professor Senior**, Jan 2009 – Aug 2012
School of Electrical Engineering, Power Systems Division, VIT University, Vellore-14, Tamilnadu, India
- **Senior Lecturer**, May 2008 – Dec 2008
School of Electrical Engineering, Power Systems Division, VIT University, Vellore-14, Tamilnadu, India
- **Senior Lecturer**, July 2007 – May 2008
Dept. of EEE, VMKV Engineering College, Vinayaka Mission Research Foundation, Salem, Tamilnadu, India
- **Lecturer**, April 2003 – July 2007
Dept. of EEE, Noorul Islam Research Foundation, Nagercoil, Tamilnadu, India
- **Lecturer**, Jan 2003 – April 2003
Dept. of EEE, Sri Nandhanam College of Engineering & Technology, Thirupathur,
Vellore District, Tamilnadu, India.
- **Graduate Apprentice**, April 2000 – April 2001
ISRO, LPSC, Engineering Maintenance Division, Mahendragiri, Tamilnadu, India.
- **Lecturer**, June 1999 – May 2000
Dept. of EEE, Noorul Islam Research Foundation, Nagercoil, Tamilnadu, India

Consultancy Work Completed

- Power quality measurement and fault identification for SWELECT energy systems in Integral Coach Factory (ICF), Chennai, Rs. 3,25,000, 2018.
- Power quality audit for Asia Power Quality Initiative (APQI) in Sri Muni Pachaiyappan Textiles (P) Limited [SMPT], Sholinghur, Rs. 50,000, 2017.
- Power quality audit for Asia Power Quality Initiative (APQI) in Sri Muni Pachaianman Textiles (P) Limited [SMPT], Chittoor, Rs. 50,000, 2017.

Related Course Work

- Ph.D. – Investigations on Application of Various Evolutionary Programming Techniques for Solving Optimal Power Flow Problem including FACTS and DG Devices.
- M. E. Project - A novel approach for solving Unit Commitment and Economic Dispatch using Artificial Neural Network
- B. E. Project - Multi Channel Monitoring system, ISRO, LPSC, Mahendragiri.
- In-Plant Training, BHEL, Tiruchirapalli.

Publications

International Journals

- Design and implementation of 31 level asymmetrical cascaded MLI with DC-DC flyback converter for photovoltaic system using P&O technique for electric traction application, International Journal of Heavy Vehicle Systems, 2020.
- Application of demand response and co-simulation approach for renewable integrated home energy management system: A Review, IET - Generation, Transmission & Distribution, 2019.
- A Bibliographical Survey on Integration of Hybrid Renewable Energy Sources with Diesel Generator and Storage System, Journal of Engineering Science & Technology Review, Vol. 11, No.5, 2018.
- Integrated Renewable Energy Sources with droop control techniques-based microgrid operation, Hybrid-Renewable Energy Systems in Microgrids: Integration, Developments and Control, Woodhead Publishing, pp. 39-60, 2018.
- A review on fault classification methodologies in power transmission systems: Part-II, Journal of Electrical Systems and Information Technology, Vol. 5, No. 1, pp. 61-67, 2018.
- A review on fault classification methodologies in power transmission systems: Part-I, Journal of Electrical Systems and Information Technology, Vol. 5, No. 1, pp. 48-60, 2018.

- A Review on Impacts of Power Quality, Control and Optimization Strategies of Integration of Renewable Energy Based Microgrid Operation, International Journal of Intelligent Systems and Applications, Vol. 11, No. 3, pp 67, 2018.
- Comparison of Symmetrical and Asymmetrical Cascaded H-Bridge Multilevel Inverter Using Pulse Width Modulation, International Journal of Pure and Applied Mathematics, Vol. 118, No. 17, pp. 891-901, 2018.
- Wavelet Technique-Based Fault Classification in Transmission Lines, Advances in Power Systems and Energy Management, 403-410, 2018.
- Power Quality Improvement of Microgrid with Cascaded Controller-Based PMSG Used in Wind Turbines, Advances in Smart Grid and Renewable Energy, 477-483, 2018.
- WJ Praiselin, JB Edward, Voltage Profile Improvement of Solar PV Grid-Connected Inverter with Micro Grid Operation using PI Controller, Energy Procedia 117, 104-111, 2017.
- A Prasad, JB Edward, K Ravi, Classification of Faults in Power Transmission Systems Using Modern Techniques: An Overview, Bio-Inspired Computing for Information Retrieval Applications, 181-203, 2017.
- A Prasad, JB Edward, Importance of artificial neural networks for location of faults in transmission systems: A survey, Intelligent Systems and Control (ISCO), 2017 11th International Conference, 2017.
- JG Shankar, JB Edward, Design and Implementation of 15-Level Asymmetric Cascaded H Bridge Multilevel Inverter, Journal of Electrical Engineering 17 (2), 2017.
- J Gowri Shankar, J. Belwin Edward, Implementation of 5-level cascaded h-bridge multilevel inverter with single dc source for photo voltaic system using proteus, Journal of Electrical Engineering, Dec 2016.
- A V Soumya, J. Belwin Edward, Review of Islanding Detection Techniques for Distributed Energy Sources, International Advanced Research Journal in Science, Engineering and Technology, vol. 3, issue 3, pp. 135-138, May 2016.
- A Prasad, JB Edward, Application of Wavelet Technique for Fault Classification in Transmission Systems, Procedia Computer Science Vol. 92, pp. 78-83, 2016.
- R Sarjila, K Ravi, J Belwin Edward, KS Kumar, A Prasad, Parameter Extraction of Solar Photovoltaic Modules Using Gravitational Search Algorithm, Journal of Electrical and Computer Engineering, 2016
- A Prasad, JB Edward, K Ravi, A review on fault classification methodologies in power transmission systems: Part-II, Journal of Electrical Systems and Information Technology, 2016
- R Sarjila, K Ravi, JB Edward, A Prasad, KS Kumar, An AIS Based Approach for Extraction of PV Module Parameters, Information Systems Design and Intelligent Applications, pp. 405-422, 2016

- PM Tom, JB Edward, A Prasad, AV Soumya, K Ravi, A Technical Review on LVRT of DFIG Systems, Information Systems Design and Intelligent Applications, pp. 397-404, 2016.
- JB Edward, K Ravi, R Sarjila, C Sakthigokulrajan, A Prasad, Optimal Rating and Position of Distributed Generators under Variable Loading Conditions using Bacterial Foraging Algorithm, Indian Journal of Science and Technology Vol. 8, No. 35, 2015
- Classification of Faults in Power Transmission Lines using Fuzzy-Logic Technique, Indian Journal of Science and Technology, vol. 8, No. 30, 2015
- Modeling of Photovoltaic Energy Conversion System with Integration to SubStation, Global Journal of Pure and Applied Mathematics, vol. 10, no. 3, pp. 451-464, 2014.
- Distribution System Reconfiguration for Loss Minimization Using Modified Artificial Neural Network Approach of 16 Bus and 33 Bus Standard Test Systems with an Compensator, Applied Mechanics and Materials, vol. 573, pp.767-776, 2014.
- An enhanced bacterial foraging algorithm approach for optimal power flow problem including FACTS devices considering system loadability, Elsevier - ISA Transactions, vol.52, pp.622-628, 2013.
- Solving Optimum Power Flow in Static and Dynamic Environments using Dynamic Bacterial Foraging Algorithm, Archives Des Sciences, vol.65, no.11, pp.142-153, 2012.
- Hybrid particle swarm optimization technique for optimal location of FACTS devices using optimal power flow, European Journal of Scientific Research, vol.53, no.1, pp.142-153, 2012
- A hybrid algorithm using modified LR -PSO for solving unit commitment problem with various constraints, International Review on Modelling and Simulations, vol.5, no.5, pp.2314-2320, 2012
- A new power system restoration and reconfiguration using field programmable Gate Array, Journal of Theoretical and Applied Information Technology, vol.39, no.1, pp.88-97, 2012
- A new brute-force attack method for power system restoration and reconfiguration, International Journal of Soft Computing, vol.6, no.1, pp.16-19, 2011.

International Conferences

- Implementation of Modified Gravitational Search Algorithm for Solar Panel Parameters Extraction, Innovations in Power and Advanced Computing Technologies, 2019.
- Smart Parking System Using Color QR Code, Innovations in Power and Advanced Computing Technologies, 2019.
- A PV-WEC Based Microgrid System incorporating Hybrid Islanding Detection Technique Innovations in Power and Advanced Computing Technologies, 2019.
- Implementation of Single Phase Cascaded H-Bridge Nine Level Inverter and Simulation Study with PI Controller, IEEE International Conference on Smart Grid and Clean Energy Technologies (ICSGCE) pp. 228-233, 2018.

- Requirement framework of smart grid software architecture, International conference on High Voltage Engineering and Power Systems (ICHVEPS), 2017
- A 31-level asymmetrical cascaded multilevel inverter with DC-DC flyback converter for photovoltaic system, International conference on High Voltage Engineering and Power Systems (ICHVEPS), 2017.
- Reconfiguration of distribution system for loss reduction using improved harmony search algorithm, International conference on High Voltage Engineering and Power Systems (ICHVEPS), 2017.
- A Single Phase Hybrid Multilevel Inverter with High Step up DC-DC Converter for Photovoltaic System, IEEE International Conference TENCON2016, Nov 2016.
- Comparison of Fuzzy and MPC based Flying Capacitor Multicell Inverter, IEEE International Conference TENCON2016, Nov 2016.
- A 15-level asymmetric cascaded H bridge multilevel inverter with less number of switches for photo voltaic system, International Conference on Circuit, Power and Computing Technologies (ICCPCT), 2016
- Design and Analysis of Grid Connected Wind/PV Hybrid System, Proceedings of the International Congress on Information and Communication, 2016.
- A novel approach using particle swarm optimization technique for optimum power flow problem with reduced control variables', Proceedings of the World Academy of Science, Engineering and Technology, vol.37, pp.1030-1035, 2009
- A fuzzy logic approach for speed controller design of A.C. voltage controller fed induction motor drive', Proceedings of the fifth International Conference on MEMS, NANO and Smart Systems, pp.133-136, 2009

Workshops / Seminars / Conference - Organized

- Organizing Secretary – IEEE International Conference on Power and Advanced Computing Technologies, (i-PACT-2019) – School of Electrical Engineering, VIT, Vellore – March 22-23, 2019.
- Programme Chair – International Conference on Translational Medicine and Imaging, (ICTMI-2017) – School of Electrical Engineering, VIT University, Vellore – August 28-30, 2017.
- Organizing Secretary – IEEE International Conference on Power and Advanced Computing Technologies, (i-PACT-2017) – School of Electrical Engineering, VIT University, Vellore – April 21-22, 2017.
- Faculty Organizer – National Conference on Soft Computing Techniques in Power System Operation and Control (SOFTCOMP-'09) – School of Electrical Engineering, VIT University, Vellore – July 22nd to 24th 2009.

- Accounts & Finance Committee Coordinator – National Conference on Soft Computing Techniques in Power System Operation and Control (SOFTCOMP-'11) – School of Electrical Engineering, VIT University, Vellore – July 22nd and 23rd 2011.
- Faculty Coordinator – International Techno-Management Fest, graVITas'13(Event: GEN-EN) – VIT University, Vellore - 27th to 29th September 2013.
- Faculty Coordinator – International Techno-Management Fest, graVITas'13(Event: Circuit Treasure) – VIT University, Vellore - 27th to 29th September 2013.
- MHRD Sponsored two week ISTE Workshop on 'Writing Effective Conference Papers' - Conducted by IIT Bombay – 18th and 19th February 2012.
- MHRD Sponsored two week ISTE Workshop on 'Introduction to Research Methodologies' - Conducted by IIT Bombay – 25th June to 4th July 2012.
- MHRD Sponsored two week ISTE Workshop on 'Aakash for Education' - Conducted by IIT Bombay – 10th and 11th November 2012.
- MHRD Sponsored two week ISTE Workshop on 'Software Development Techniques for Teachers of Engineering and Science Technology' - Conducted by IIT Bombay – 5th November to 4th December 2011.
- Coordinator – MHRD Sponsored workshop on 'Linux' – Organized by IIT Bombay at VIT University, Vellore – 1st May 2012.

Guest Lectures Delivered

- Two days national workshop on 'Hands on Training in Electrical Engineering' – School of Electrical Engineering, VIT University, Vellore – 7th and 8th April 2012.
- Two day workshop on 'Simulation of Electric Circuit using OrCAD Capture' – Ganadipathy Tulsi's Jain Engineering College, Kaniyambadi, Vellore – June 2011.
- One day workshop on 'Electric Circuits' – Satyam College of Engineering, Nagercoil, Tamilnadu, on 23rd December 2009.
- One-day seminar on 'Renewable Energy – Energy for the future' Sponsored by MNSE, Chennai, Organized by N.I. College of Engineering, Nagercoil, Tamilnadu, 18th August 2006.
- 'Simulation of Power Electronic Circuits Using OrCAD', Faculty Development Programme on Power Electronics Organised by Dept. of EEE, Noorul Islam College of Engineering, Kumaracoi, sponsored by Anna University, 26th Nov 2005.

Workshops / Seminars / Conference - Attended

CSIR Sponsored national workshop on 'Micro Grid Control and Power Management' - School of Electrical Engineering, VIT University, Vellore – 10th and 11th May 2013.

Refresher Program on “Effective Proctoring” – VIT University, Vellore, 2nd April 2013.

National workshop on ‘Recent Trends in Energy Management System’ - School of Electrical Engineering, VIT University, Vellore – 1st and 2nd March 2013.

Regional Workshop on ‘Industry Imperatives on Energy Efficiency’ - School of Electrical Engineering and School of Mechanical and Building Sciences, VIT University, Vellore – 22nd and 23rd October 2011.

National workshop on ‘Power Quality & Energy Management – Challenges’ - School of Electrical Engineering, VIT University, Vellore – 18th October 2011.

Faculty Development Programme on ‘Power Quality Issues and Monitoring’ School of Electrical Engineering, VIT University, Vellore – 8th August 2011.

Faculty Development Programme on ‘Advanced Mathematical methods for Electrical Engineering’ - School of Electrical Engineering, VIT University, Vellore – 27th June to 1st July 2011.

Faculty Development Programme on ‘Renewable Energy Sources’ - School of Electrical Engineering, VIT University, Vellore – 4th and 5th May 2011.

Staff training program – ‘Introduction to Electricity Distribution, Operation and Maintenance’ Organized by TNEB & VIT University, Vellore – January 27th to 29th 2011.

Mission 10X workshop – VIT University, Vellore – 4th to 8th October 2010.

Short term course on ‘Power System Protection and High Voltage Engineering’ - School of Electrical Engineering, VIT University, Vellore – 24th and 25th September 2010.

Two day workshop on ‘Application of MATLAB / Simulink to Electrical Engineering’ - School of Electrical Engineering, VIT University, Vellore – 20th to 21st 2010.

National Workshop on ‘Power System Communication, Quality and High Voltage Engineering’ - School of Electrical Engineering, VIT University, Vellore – 12th to 13th March 2010.

Faculty Development Programme on ‘Electrical Engineering and Control Systems’ – VIT University, Vellore – 29th June to 3rd July 2009.

Faculty Development Programme on ‘Creativity and Personality Traits’ – Academic Staff College, VIT University, Vellore – 25th to 26th March 2009.

Faculty Development Programme on ‘Tips for Effective Teaching’ – Academic Staff College, VIT University, Vellore – 9th to 13th June 2008.

Quality improvement programme on ‘Instructional Design and Delivery’ – ISTE Staff Chapter, VMKV Engg College, Salem – 12th to 14th November 2007.

AICTE sponsored Staff Development Programme on ‘Soft Computing Techniques for Control Design’ – Dept. of EEE, NI College of Engineering, Nagercoil – 11th to 23rd December 2006.

Participated Southern Regional Teachers Training on “Renewable Energy Technologies for Engineering and Educational Institutions”, Organized by MNES, Chennai, 3rd to 5th August 2006.

One-day seminar on ‘Renewable Energy – Energy for the future’ Sponsored by MNSE, Chennai, Organized by N.I. College of Engineering, Nagercoil, Tamilnadu, 18th August 2006.

National Conference on ‘Emerging Technologies in Electronics Systems’ – Dept. of EEE, NI College of Engineering, Nagercoil – 29th April 2006.

National Conference on ‘Emerging Technologies in Electrical Systems’ – Dept. of EEE, NI College of Engineering, Nagercoil – 10th to 11th March 2006.

National Conference on ‘Emerging Technologies in Electrical Systems’ – Dept. of EEE, NI College of Engineering, Nagercoil – 10th to 11th March 2005.

12th National Convention of Electrochemists (NCE-12) – Thiagarajar College of Engineering, Madurai – 18th to 19th February 2005.

Attended an International Conference on “Emerging Adaptive Systems and Technologies” (EAST-2005), Organized by N.I. College of Engg, Kumaracoil, 16th & 17th Dec 2005.

International Conference on ‘Emerging Adaptive Systems and Technologies’ - NI College of Engineering, Nagercoil – 16th to 17th December 2005.

Two day training on ‘AU Power Lab’ software module – Anna University – 20th to 21st May 2004.

The 19th National Convention of Electrical Engineers on ‘Challenges in Meeting the Demand for Quality in Power Supply’, Organized by Institution of Engineers, Madurai, Tamilnadu, India – 8th and 9th November 2003.

Two day seminar for ‘Advanced Leadership’ - Haggai Institute at Chidambaram, Tamilnadu – 1st to 3rd February 2002.

Awards / Prizes

- Research awards-2019, School of Electrical Engineering, VIT University, Vellore
- Research awards-2018, School of Electrical Engineering, VIT University, Vellore
- Research awards-2017, School of Electrical Engineering, VIT University, Vellore
- Research awards-2016, School of Electrical Engineering, VIT University, Vellore
- Research awards-2015, School of Electrical Engineering, VIT University, Vellore
- Research awards-2014, School of Electrical Engineering, VIT University, Vellore
- Research awards-2013, School of Electrical Engineering, VIT University, Vellore.
- Research awards-2012, School of Electrical Engineering, VIT University, Vellore.
- First Class with Distinction – M.E. (Power Systems), Annamalai University, 2002.
- First place in EEE branch of 1999 batch – B.E. (EEE), CSIIT, Nagercoil.

Subjects Handled

- Power System Protection and Switchgear
- Power System Operation and Control
- Power System Analysis
- Electric Circuit Analysis
- Special Electrical Machines
- Electronic Devices and Circuits
- Network Theory
- Electromechanical Energy Conversion
- DC Machines and Transformers
- AC Machines and Special Machines
- Electrical Measurements and Instrumentation
- Basic Electrical and Electronics Engineering

Membership in Professional Bodies

- **Senior Member** of Institute of Electrical and Electronics Engineering (IEEE)
Membership No. : 92338562
- Life Member of Soft Computing Research Society (SCRS)
<http://scrs.in/userdetail/763/dr-belwin-edward>
- **Life member** of The Indian Society for Technical Education (ISTE)
Membership No. : LM50301

Software Exposure

Technical - MATLAB, Typhoon-HIL, OrCAD 16.0 (Pspice, Capture, Layout),

Others – Oracle 8.0 and Visual Basic 6.0, Photoshop, Office 365.

Personal Details

Father's Name : Mr. G. Jeyaraj. (Retired Teacher)
Mother's Name : Mrs. R. Indira Bai (Retired Teacher)
Marital Status : Married.
Spouse Name : Mrs. R. Sarjila, M.E., M.Phil., M. Sc., B.Sc., B. Ed.
Nationality : Indian.
D.O.B. : 26th December 1977.
Passport Details : **No.: L7952659, Place of Issue: Chennai, Expiry : 23/03/2024**

Universities visited

- IUPUI, Indianapolis, USA
- NUS Singapore
- NTU Singapore
- Monash University, Malaysia
- BIT, Indonesia

Declaration

I hereby declare that all the details furnished above are true to the best of my knowledge.

Place : Vellore

Date : 06-11-2020

[J. BELWIN EDWARD]