

# Curriculum Vitae

**Name** : Yajvender Pal Verma  
**Designation** : Professor  
**Department** : Electrical & Electronics Engineering  
**Institute Name:** University Institute of Engineering & Technology  
**Address** : Panjab University, Sector-25, Chandigarh. 160014  
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## Academic Qualifications:

1. **B. Tech.** in Electrical Engineering National Institute of Technology, Hamirpur (H.P.) India, 2000
2. **M.E.** (Power Systems) Punjab Engineering College, Chandigarh, 2002
3. **Ph.D.** (Electrical Engineering) National Institute of Technology, Kurukshetra, 2015.

## Administrative Experience:

### 1. Registrar Panjab University Chandigarh

- Holding the additional Charge of the Registrar since 11/05/2022
- Formation of Syndicate, Board of Studies and Academic Councils etc. post Covid
- Implementation of Roster for Various Teaching Positions
- Implementation of Man Power Audit for Non-Teaching Staff at PU Chandigarh
- Initiation of Recruitment Process for various Teaching and Non-Teaching Positions
- NAAC Accreditation of Panjab University Chandigarh
- Organization of Annual Convocation
- Conduct of Senate, Syndicate and Board of Finance as Secretary
- Convener of Regulation Committee, JCM etc.
- Presenting University in various Legal Issues
- Acted as Appellate Authority for RTI appeals
- Facilitation in various academic and other events at Panjab University

### 2. Coordinator Electrical & Electronics Engineering Department UIET PU Chandigarh

- Served as First Coordinator of Electrical & electronics Engineering Department at UIET Panjab University, since 2004 to Dec, 2014.
- Initiated M.E. Course in Electrical Engineering Department at UIET PU
- Member of BOS of PU, PTU, NIT, GNDEC, KU, JC Bose University, HBTU Kanpur, CIET etc.
- Served in various academic bodies Like Academic and Administrative Committee, Technical and Purchase of UIET Panjab University Chandigarh
- Served as Start-up cell Coordinator and In-charge Entrepreneurship Development Cell UIET
- Serving as Vice-Chair IEEE Chandigarh Sub-Section
- Served as Secretary IEEE Chandigarh Sub-Section
- Served as student Activity Committee In-charge UT and Punjab Region under IEEE Delhi Section
- Branch Counselor IEEE UIET Student Branch since 2007
- Served as In-charge ME and PhD at EEE Department at UIET PU Chandigarh

### 3. NSS Program coordinator of Panjab University Chandigarh

## Research Areas:

Renewable Energy Integration, Microgrid Operation, Demand Side management, Renewable promotion Policies and power system optimization.

## Patent:

**Energy Harvesting Footwear:** (Wearable Piezoelectric Shoe Powered Radiofrequency Generator and Battery Charger) Patent No. 358110 Application No. : 201713043800, **Date of Grant: 09/02/2021.**

## List of Publications and Research work done:

### 1. Journals (International)

1. Aditi Gupta, **Yajvender Pal Verma**, and Amit Chauhan. "Wind-Hydro Combined Bidding Approach for Congestion Management under Secured Bilateral Transactions in Hybrid Power System." *IETE Journal of Research* (2023): 1-14.
2. Mahajan, Shreya, and Yajvender Pal Verma. "Performance of fast responding ultra-capacitor energy storage for virtual inertia emulation control." *Energy Storage*, Vol 4, no. 5 (2022): e346.
3. Kumar, D., Dhundhara, S., **Verma, Y.P.** and Khanna, R., 2022. Impact of optimal sized pump storage unit on Microgrid operating cost and bidding in electricity market. *Journal of Energy Storage*, 51, p.104373.(SCI-I.F. 8.9)
4. Kumar, D., **Verma, Y.P.**, Dhundhara, S. and Khanna, R., 2022. Emergency services support of microgrid system to the utility grid through incentive-based demand response program. *Energy for Sustainable Development*, 68, pp.131-149.(SCI-I.F. 5.65)
5. Kumar, D., Dhundhara, S., Verma, Y.P. and Khanna, R., 2022. Role of optimal sized dual energy storage based Microgrid for ancillary service support to utility grid. *Sustainable Energy Technologies and Assessments*, 54, p.102675, (SCI-I.F. 7.36)
6. Preeti Gupta and **Yajvender Pal Verma**, "Voltage profile enhancement with demand side management under Frequency Linked Pricing Environment" *Applied Energy*, 2021. (SCI-I.F. 8.85).
7. Singh, P., Dhundhara, S., Verma, Y. P., & Tayal, N.. Optimal battery utilization for energy management and load scheduling in smart residence under demand response scheme. *Sustainable Energy, Grids and Networks*, Vol.26, 100432,(2021) (SCI-I.F. 1.2).
8. Dhundhara, Sandeep, and **Yajvender Pal Verma**. "Application of micro pump hydro energy storage for reliable operation of microgrid system." *IET Renewable Power Generation* 14, no. 8 (2020): 1368-1378.
9. Maninder Kaur, Sandeep Dhundhara, **Yajvender Pal Verma**, and Sanchita Chauhan. "Techno-economic analysis of photovoltaic-biomass-based microgrid system for reliable rural electrification." *International Transactions on Electrical Energy Systems* 30, no. 5 (2020): e12347.

10. Aditi Gupta, **Yajvender Pal Verma**, and Amit Chauhan. "Performance comparison of different materials based energy storage devices in ALFC and AVC power system under frequency linked pricing environment." ***Materials Today: Proceedings* (2020)**.
11. Aditi Gupta, **Yajvender Pal Verma**, and Amit Chauhan. "Contribution of frequency linked pricing control on alfc and avr power system integrated with DFIG based wind farms." ***Engineering Science and Technology, an International Journal*, 23, no. 2 (2020): 325-333**.
12. Maninder Kaur, **Yajvender Pal Verma**, and Sanchita Chauhan. "Effect of Chemical Pretreatment of Sugarcane Bagasse on Biogas Production." ***Materials Today: Proceedings* 21 (2020): 1937-1942**.
13. Dhundhara, Sandeep and **Verma, Yajvender**. (2020). "Grid frequency enhancement using coordinated action of wind unit with redox flow battery in a deregulated electricity market". ***International Transactions on Electrical Energy Systems*. 10.1002/2050-7038.12189. Jan 2020.(Wiley)**
14. Manoj Kumar Sharma, Deepak Kumar Sandeep Dhundhara, **Yajvender Pal Verma**, "Optimal Tilt Angle Determination for PV Panels Using Real Time Data Acquisition"***Global Challenges*, Feb, 2020 <https://doi.org/10.1002/gch2.201900109> (Wiley)**
15. Preeti Gupta and **Yajvender Pal Verma**, "Optimization of Deviation Settlement Charges using Residential Demand Response under Frequency Linked Pricing Environment" ***IET Generation, Transmission & Distribution*, 2019.DOI: 10.1049/iet-gtd.2018.7116. (SCI-I.F. 2.6)**.
16. Aditi Gupta, **Yajvender Pal Verma**, and **AmitChauhan** "Contribution of frequency linked pricing control on ALFC and AVR power system integrated with DFIG based wind farms" ***Engineering Science and Technology, an International Journal*,Vol. 29, (3), 2019, pp.1- (Elsevier) (Scopus)**
17. Aditi Gupta, **Yajvender Pal Verma**, and **AmitChauhan**, "Financial analysis of reactive power procurement in pool based deregulated power market integrated with DFIG based wind farms," ***International Transactions on Electrical Energy Systems*,Vol. 29, (3), March 2019, Article number e2739, pp.1-14 (Wiley) (IF:1.69)**.
18. Deepak Kumar,**Yajvender Pal Verma**, and Rintu Khanna," Demand Response based Dynamic Dispatch of Microgrid System in Hybrid Electricity Market", ***International Journal of Energy Sector Management (IJESM)*,Vol.13(2), pp.318-340,Aug. 2019. (Emerald, Scopus, ESCI)**
19. Sandeep Dhundhara and **Yajvender Pal Verma**, Arthur Williams, Techno-Economic Analysis of the Lithium-ion and Lead-acid Battery in Microgrid Systems. Vol.177, 2018, pp.122-142,***Energy Conversion and Management*. (SCI-IF: 7.37)**.
20. Sandeep Dhundhara and **Yajvender Pal Verma**, "Techno-Economic Analysis of AC-DC Microgrid Systems", ***Lecture Notes in Electrical Engineering*, Vol. 553,pp. 265-2802019 (Scopus)**.
21. Sandeep Dhundhara and **Yajvender Pal Verma**, Capacitive Energy Storage with Optimized Controller for Frequency Regulation in Realistic Multisource Deregulated Power System. Vol. 147, Issue 1, 2018, pp. 1108-1128. ***Energy* (SCI-IF: 5.17)**.
22. Sandeep Dhundhara and **Yajvender Pal Verma**, Evaluation of CES and DFIG unit in AGC of realistic multisource deregulated power system. ***International Transactions on Electrical***

**Energy Systems** Jan, 2017Vol. 27, (5), May 2017, Article number e2304, pp.1-14(Wiley) ( SCI-IF:1.69).

23. Sandeep Dhundhara and **Yajvender Pal Verma**, Role of storage devices in frequency regulation services of realistic multisource deregulated power system. *Journal of Electrical Engineering*, Volume 17, Issue 1, 2017, pp. 120-131.(Scopus)
24. Mishra, Ritendra, Shruti Jain, Bharat Thakur, **Yajvender Pal Verma**, and ChadalapakaDurgaprasad. "Performance analysis of piezoelectric drum transducers as shoe-based energy harvesters." *International Journal of Electronics Letters*, Vol. 5 issue 4, pp. 402-416, 2017(Taylor & Francis). (Scopus)
25. K Kulshrestha, B Thakur, **Yajvender Pal Verma**, P Jindal, "Development of Small Pressure Sensing Unit using Nano-Materials, "Materials Today: Proceedings 4 (9), pp. 10422-10426, 2017 (Elsevier) (Scopus).
26. **Yajvender Pal Verma**, and Ashwani Kumar, "Congestion Management Solution for Hybrid Electricity Market in Hydro-Thermal system," *International Journal of Electrical Power & Energy Systems*, Vol.64 (1), pp.398-407, Jan. 2015 (Elsevier)(SCI-IF-3.6)
27. **Yajvender Pal Verma**, and Ashwani Kumar," Economic-Emission Unit Commitment Solution for Wind integrated Hybrid System", *International Journal of Energy Sector Management (IJESM)*, Vol.5 (2), pp.287-303, Jul. 2011.(Emerald, Scopus, ESCI)
28. **Yajvender Pal Verma**, and Ashwani Kumar," Potential Impact of Emission Concerned Policies on Power System Operation with Renewable Energy Sources", *International Journal of Electrical Power & Energy Systems*. Vol.44 (1), pp.520-529, Jan. 2013.(Elsevier, SCI-IF-3.6).
29. **Yajvender Pal Verma**, and Ashwani Kumar," Dynamic contribution of variable-speed wind energy conversion system in system frequency regulation", *Frontier in Energy*, Vol.6 (2), pp.184-192, Jun. 2012. (Springer)(SCI-IF-0.69).
30. **Yajvender Pal Verma**, and Ashwani Kumar," Participation of DFIG based Wind Turbine in Frequency Regulation with Frequency Linked Pricing", *Electric Power Component & System*, Vol.40 (14), pp.1582-1604, Oct. 2012. (Taylor & Francis)(SCI-IF-1.8)
31. **Yajvender Pal Verma**, and Ashwani Kumar, "Load Frequency Control in Deregulated Power System with Wind Integrated System using Fuzzy Controller," *Frontiers in Energy*, Vol.7 (2), pp.245-254, Jun 2013. (Springer)(SCI-IF-0.69).
32. **Yajvender Pal Verma**, and Ashwani Kumar," Economic-Emission Load Dispatch in Renewable Integrated System under Availability Based Tariff (ABT) Environment," *Sustainable Energy Technological Assessment* Vol.4, pp.78-88, Dec, 2013(Elsevier).
33. Aditi Gupta, and **Yajvender Pal Verma**," Automatic Generation Control of Multi-Area Hybrid System using Conventional Integral Controller", *International Journal of Engineering Research & Technology (IJERT)* Vol. 1 (8), pp.1-7, Oct. 2012.
34. SimarjitKaur, **Yajvender Pal Verma**, and Sunil Agrawal, "Optimal Generation Scheduling in Power System using Frequency Prediction through ANN under ABT Environment" *Frontier in Energy*, Vol.7 (4),pp 468-478, Nov. 2013.( Springer)(SCI-IF-0.69).

35. Aditi Gupta, **Yajvender Pal Verma, and Amit Chauhan** "Effect of Physical Constraints on Load Frequency Control of Deregulated Hybrid Power System Integrated with DFIG Wind Turbine", *International Journal of Engineering & Technology (IJET)* Vol. 6 (6), pp.2629-2640, Jan.2015. (**Scopus Indexed**)
36. R. Khanna, **Y Pal Verma**, A. Gupta. "Genetic algorithm approach to optimal power flow". *Modeling Measurement and Control*, vol. 77, no. 7, pp 33-44, Dec 2004. (**AMSE France**) (**Scopus**)
37. **Yajvender Pal Verma**, and Ashwani Kumar," Profit Maximization and optimal sizing of Renewable Energy sources in a Hybrid System", *International Journal of Engineering Science and Technology (IJEST)*, Vol.2 (9), pp.4575-4584, Sept.2010.
38. Manoj Sharma, Parag Lal and **Yajvender Pal Verma**, "Optimal inclination angle of photovoltaic panels for maximum power output in Chandigarh region; A case study" *Electrical India*, Vol.55, No.4, pp-22-28, April 2015.
39. **Yajvender Pal Verma** and Sandeep Dhundhara, "Performance Analysis of Controllers for Load Frequency Control in Wind Integrated Power System," *International Journal of Computer Applications (IJCA)*, Vol 3, pp. 5-10, December 2015.

## 2. Conferences (National):

1. V.Kumar, **Y.P.Verma**, R.Khanna," Power flow control using SSSC: A FACTS controller", National Conference on ITEEP Thapar University, pp.236-243 April 6-7, 2007.
2. **Y.P.Verma** ,Priyanka , Ruchi, Sneha,Sunanda," Particle swarm Optimization (PSO) technique for economic load dispatch", National Conference on Advances in Power Systems and Energy Management CIET Rajpura in association with Institution on Engineers (IE) pp.1-7,Mar1-2<sup>nd</sup> ,2008.
3. **Y.P.Verma**,Ashwani Kumar," New Particle swarm intelligence to Economic Load Dispatch", National Power System Conference-2008 held at IIT Bombay, 17-18 Dec 2008, pp. 220-225.
4. **Y.P.Verma**, Ashwani Kumar," Operational Strategy of power system with significant of wind power", National conference on *Computation Communication and Control* held at UIET Panjab university, Chandigarh on 23-24<sup>th</sup> October 2009,
5. **Y.P.Verma**, Ashwani Kumar," Profit maximization with Renewable Energy Sources in Generation Mix", National Power System Conference (NPSC 2010) held at Osmania University, Hyderabad on 15<sup>th</sup>-17<sup>th</sup> December 2010.
6. **Y.P.Verma**" Renewable Energy Certificate and growth of Renewable Energy Sources in India", CHASCON-2011 Panjab University, Chandigarh, pp. 65-69 26<sup>th</sup>-28<sup>th</sup> Feb., 2011.
7. **Yajvender Pal Verma**," Contribution of DFIG based Wind Turbine in Primary Frequency Control", In: Proceedings of Recent trends in Engineering, pp.287-303, March, 2012.
8. Aditi Gupta, and **Yajvender Pal Verma**," Grid of the Future: Smart Grid", In: Proceedings of Recent trends in Engineering, March, 2012.
9. **Yajvender Pal Verma**," Primary Frequency Control in Two Area System with DFIG- Based Wind Turbine Support," Presented in CHASCON-2012.

10. Ishuseethi and **Yajvender Pal Verma**, "Power grid failure: a reason behind blackout in northern India on July 30, 2012," CHASCON 2013 PEC Chandigarh.
11. Anmol Kumar and **Yajvender Pal Verma**, "Wave Energy: Potential, challenges and prospects in Indian context," CHASCON 2013 PEC Chandigarh.
12. Yajvender Pal Verma, "Optimal sizing study of Wind-Photovoltaic Hybrid Energy System," **RAPS-2014**, PEC University of Technology, Chandigarh, pp.287-303, June 2014.
13. B. Alipuria, and Yajvender Pal Verma, "Basic operation and control strategies for a Micro Solar Power Plant in Smart Grids," **RAPS-2014, PEC University of Technology, Chandigarh**, pp.287-303, June 2014.
14. NishaTayal, and Yajvender Pal Verma, "Operational and Implementation Issues in smart Grid", **RAPS-2014, PEC University of Technology, Chandigarh**, pp.287-303, June 2014.
15. Yajvender Pal Verma, "Optimal Emission Trading Schedule for the Operation of Power System,"**National Conference on Innovations and Developments in Engineering and Management- April 2015, CII Chandigarh**, pp.1-6, April 2015.
16. Yajvender Pal Verma and Sandeep Dhundhara," Performance analysis of controllers for Load Frequency Control in Wind Integrated Power System", **National Conference on Advances in Alternate Energy Resources for Rural Applications AERA-2015 CU Chandigarh**, pp.225-230, August 2015.
17. Mandeep Kaur ,Yajvender Pal Verma, and Manoj Kumar Sharma, "Energy scheduling in microgrid with demand side participation"**National Conference on Advancements in Electrical Engineering and Energy Sciences (AEEES - 2016) NIT Hamirpur**, pp. 253-258,24-25<sup>th</sup>May 2016.
18. Shama Bansal and Yajvender Pal Verma, "Dynamic economic dispatch of microgrid interconnected power system"**National Conference on Advancements in Electrical Engineering and Energy Sciences (AEEES - 2016) NIT Hamirpur**, pp. 264-268,24-25<sup>th</sup>May 2016.

### 3. Conferences (International):

1. Saini, R., **Verma, Y.P.** and Saluja, K.K., 2022, December. Machine learning classifier-based detection of cyber-attack on power system: Comparative analysis. In **2022 22ndNational Power Systems Conference (NPSC)** (pp. 465-470). IEEE.
2. Gupta, P. and **Verma, Y.P.**, 2022, December. Improving Voltage Stability Margins of Radial Distribution System Using DR Based PQ Control. In **2022 22ndNational Power Systems Conference (NPSC)** (pp. 749-754). IEEE.
3. Mahajan, Shreya, and **Yajvender Pal Verma**. "Optimizing DG Parameters for Voltage Profile and Real Power Loss Improvement using Elephant Herd Optimization." In **2020 11th International Conference on Computing, Communication and Networking Technologies (ICCCNT)**, pp. 1-6. IEEE, 2020.
4. Gaur, Parul, Yajvender Pal Verma, and Preeti Singh. "Design and Analysis of a PV-Based Cascaded H-Bridge Seven-Level Inverter." In **Advances in Electrical Control and Signal Systems**, pp. 541-551. Springer, Singapore, 2020.
5. Aditi Gupta, and Yajvender Pal Verma," **Load Frequency Control of Multi-Area Hybrid System using Conventional Integral Controller**", **PEES-2012 CIET, Punjab, India** pp.287-303, Oct. 2012.

6. **Y.P.Verma, Ashwani Kumar,"Evaluation of Emission Allocation Criterion for the reduction of Emission in Hybrid Power System using PSO"**, IEEE conference NUICONE6.-2012 held at Nirma University, Ahmadabad, India, on 6<sup>th</sup>-8<sup>th</sup> December 2012, pp.1-6
7. **Y.P.Verma, Ashwani Kumar,"Influence of Renewable Promotion Policies on Power System Operation with Carbon Emission Trading"**, IEEE conference NUICONE-2012 held at Nirma University, Ahmadabad, India, on 6<sup>th</sup>-8<sup>th</sup> December 2012,pp 1-6.
8. Simarjit Kaur, Sunil Agrawal, and Yajvender Pal Verma, "**Power Grid Frequency Prediction Considering the Stochasticity of Wind Power Using ANN**," IEEE conference CICN 2013 GLA Mathura India.
9. Manoj Kumar Sharma, Yajvender Pal Verma, and Deepak Kumar "**Performance analysis of wind turbine using pitch control** ," IEEE conference RA ECS 2014 UIET Panjab University Chandigarh, 6-8<sup>th</sup> March 2014.
10. **Yajvender Pal Verma, Ashwani Kumar," Congestion Management in Hybrid Electricity Market for Hydro-Thermal System"**, ICEEE conference World Congress on Engineering 2<sup>nd</sup> - 4<sup>th</sup> July, Imperial College London 2014, pp.382-386.
11. **Yajvender Pal Verma, Ishu Sethi, Manoj Kumar Sharma, and Deepak Kumar "Power Blackouts: Causes and Preventive measures in context to Indian Blackouts,"** International conference on Recent Advances in Electrical Engineering (RATEE-2014) NITTTTR Chandigarh Dec 2014, pp.1-9.
12. Sandeep Dhundhara and **Yajvender Pal Verma, "Impact of Storage Devices in Frequency Control in a Deregulated Power System"**, IEEE conference RA ECS 2015 UIET Panjab University Chandigarh, 21<sup>st</sup> -22<sup>nd</sup> Dec 2015.
13. Sandeep Dhundhara and **Yajvender Pal Verma," Sensor less Speed Control of PMSM Using Space Vector Pulse Width Modulation Based on MRAS Method"**, IEEE conference RA ECS 2015 UIET Panjab University Chandigarh, 21<sup>st</sup> -22<sup>nd</sup> Dec 2015.
14. Parul Gaur and **Yajvender Pal Verma and Preety Singh," Maximum Power Point Tracking Algorithms for Photovoltaic Applications: A Comparative Study"**, IEEE conference RA ECS 2015 UIET Panjab University Chandigarh, 21<sup>st</sup> -22<sup>nd</sup> Dec 2015.
15. Sandeep Dhundhara and **Yajvender Pal Verma,"Performance Evaluation of Wind-Diesel Hybrid System with Capacitive Energy Storage System"**, 12<sup>th</sup> IEEE conference INDICON 2015, Jamia Millia Islamia New Delhi, 17<sup>th</sup> -20<sup>th</sup> Dec 2015.
16. Kush Kulshreshta, Bharat Thakur, **Yajvender Pal Verma and Prashant Jindal, "Development of Small Pressure Sensing Unit using Nano-Materials"**, International Conference on Recent Trends in Engineering and Material Sciences (ICEMS-2016), March 17-19, 2016, Jaipur, India.
17. Akshita Sharma and Yajvender Pal Verma, "Impact of demand side resources and carbon quota on Unit commitment"IEEE conference **on Power Electronics, Intelligent control and Energy System (ICPEICES - 2016)** DTU New Delhi, 4-5<sup>th</sup> July 2016.
18. Mandeep Kaur ,Yajvender Pal Verma, and Manoj Kumar Sharma, "Impact of demand response and pumped storage on Microgrid"IEEE conference **on Power Electronics, Intelligent control and Energy System (ICPEICES - 2016)** DTU New Delhi, 4-5<sup>th</sup> July 2016.

19. Shama Bansal and Yajvender Pal Verma, "Dynamic scheduling of microgrid connected system with storage devices" IEEE conference on **Power Electronics, Intelligent control and Energy System (ICPEICES - 2016)** DTU New Delhi, 4-5<sup>th</sup> July 2016.
20. Akshita Sharma and Yajvender Pal Verma, "Optimizing unit commitment solution in smart grid environment" IEEE conference on **communication and computing systems (ICCCS - 2016)** Dronacharya College of Engineering Gurgaon New Delhi, 26-27 Sep, 2016.
21. Mandeep Kaur, Yajvender Pal Verma, Manoj Kumar Sharma and Amit Manocha, "Generation scheduling and bidding strategies with demand response in a Microgrid System" IEEE Australasian Power Energy Conference on Smart Grid (**AUPEC 2017**) **Victoria University Melbourne Australia**, 19<sup>th</sup> -22<sup>nd</sup> November, 2017.
22. Swati Arora, **Yajvender Pal Verma**, and Manoj Kumar Sharma, "Determination of ATC using OPF technique and its enhancement in deregulated environment", International Conference on Advancements in Engineering & Technology-2017" (ICAET-2017), BGIET, Sangrur, Punjab, 24-25 March, 2017.
23. Arun Kumar Sharma, S. L. Shimi, and **Yajvender Pal Verma**. "Bidding and Generation Strategy for Hybrid System in Electricity Market", International Conference on Research Trends in Engineering, Applied Science and Management (**ICRTESSM-2018**) **ICSSR Panjab University Chandigarh**.
24. Swati Arora, **Yajvender Pal Verma**, and Manoj Kumar Sharma, "Impact of Different Types of Transactions on ATC Enhancement with IPFC ", International Conference on New Frontiers of Engineering, Science, Management and Humanities (**ICNFESMH-2017**), **IETE, CSIO Sector-30 Chandigarh** on 29th July 2017.
25. Jasjeet Singh and **Yajvender Pal Verma**, "Power flow management for grid stability using TCSC device," **2018 IEEE 8th Power India International Conference (PIICON), Kurukshetra, India, 2018**, pp.1-5.
26. Deepak Kumar, **Yajvender Pal Verma**, and R. Khanna, "Consumer Participation Based Scheduling of Microgrid System in Electricity Market," **2018 IEEE 8th Power India International Conference (PIICON), Kurukshetra, India, 2018**, pp. 1-5.
27. Paramvir Singh, **Yajvender Pal Verma**, and Nisha Tayal, "Optimum scheduling of Residential appliances along with the management of distributed energy resources using MILP," **IEEE 5<sup>th</sup> International Conference for Convergence in Technology 2019, Pune, India, 2018**, pp. 1-5.
28. Kaur, M., **Verma, Y. P.**, & Chauhan, S. (2020). Effect of chemical pretreatment of sugarcane bagasse on biogas production. **Materials Today: Proceedings**, 21, 1937-1942.
29. Gupta, P., Pahwa, V., & **Verma, Y. P.** (2020, June). Load tracking enhancement of a grid connected SOFC system using an advanced controller in real time. In **2020 First IEEE International Conference on Measurement, Instrumentation, Control and Automation (ICMICA)** (pp. 1-6). IEEE.
30. Gupta, A., **Verma, Y. P.**, & Chauhan, A. (2020). Performance comparison of different materials based energy storage devices in ALFC and AVC power system under frequency linked pricing environment. **Materials Today: Proceedings**, 28, 1546-1553.
31. Sharma, M., Dhundhara, S., Singh, S., & **Verma, Y. P.** (2021). Multi-verse optimizer based Fuzzy-PI controller for robust frequency regulation in thermal-hydro power system. In **IOP Conference Series: Materials Science and Engineering** (Vol. 1033, No. 1, p. 012033). IOP Publishing.



32. Gupta, P., Pahwa, V., & **Verma, Y. P.** (2021). Switching function based inverter modeling for a grid-connected SOFC system in real time. **In IOP Conference Series: Materials Science and Engineering** (Vol. 1033, No. 1, p. 012023). IOP Publishing.
33. Gupta, P., **Verma, Y. P.**, & Kumar, D. (2021). Optimizing load variations using demand side management in the presence of SPV generation. **In IOP Conference Series: Materials Science and Engineering** (Vol. 1033, No. 1, p. 012071). IOP Publishing
34. Binod, Suyash, Abhishek Baluni, Sudhanshu Maurya, Aayush Srivastava, Sudipto Poddar, and **Yajvender Pal Verma**. "Integration of Grid System with Single Stage PV Inverter using Hardware in the loop Simulation." In **2022 International Conference for Advancement in Technology (ICONAT)**, pp. 1-6. IEEE, 2022.
35. Gupta, Preeti, and **Yajvender Pal Verma**. "Improving Voltage Stability Margins of Radial Distribution System Using DR Based PQ Control." In **2022 22nd National Power Systems Conference (NPSC)**, pp. 749-754. IEEE, 2022.
36. Saini, Rahul, **Yajvender Pal Verma**, and Krishan Kumar Saluja. "Machine learning classifier-based detection of cyber-attack on power system: Comparative analysis." In **2022 22nd National Power Systems Conference (NPSC)**, pp. 465-470. IEEE, 2022.

#### 4. Books:

1. **"Automatic Control Engineering"** by Aditi Gupta and **Yajvender Pal Verma** ISBN: **9789384588236** 1<sup>st</sup> Ed. I. K. International Publishing House New Delhi 2015.
2. **"Energy Storage for Modern Power System Operations"** Editors; Dr. Sandeep Dhundhara and Dr.Yajvender Pal Verma Publishers: **Wiley Scrivener Publications 2022**. ISBN: **9781119760337**
3. **"Energy Storage for Grid Modernization"** Editors; Dr. Sandeep Dhundhara Dr.Yajvender Pal Verma and Dr. Ashwani Kumar Sharma Publishers: **Wiley scrivener Publications 2023**. ISBN: **9781119872115**.

#### 5. Chapter in Books:

1. ***E-waste: Environmental Challenges and Management***: in Current Issues and Solutions on Environmental sciences. (Ed. D.V.Rai), (2007), **Yajvender Pal Verma, D.V.Rai** **Ideal Ideas Publishers**, Chandigarh, India pp. 94-112.
2. ***"Virtual Instrumentation: Potential Applications"*** :Trends in Medical Physics and Biomedical Instrumentation (Ed. D.V.Rai), (2009), **Yajvender Pal Verma, D.V.Rai**, and Deepak Kumar **I.K International Publishing House Pvt. Ltd, New Delhi**, India pp 205-215.
3. ***"Energy sources and health Effects"*** : in Emerging Trends in Biomedical Science and Health (Ed. D.V.Rai), (2009), **Yajvender Pal Verma, D.V.Rai**, and L.M.Aggarwal **I.K International Publishing House Pvt. Ltd, New Delhi**, India, pp.207-222.
4. ***"Retention of faculty members in Institutions of Higher Education"***: Challenges in Higher Education: An Inclusive Perspective (2014), **Yajvender Pal Verma, Neha International Publishers New Delhi**.
5. Gaur, Parul, **Yajvender Pal Verma**, and Preeti Singh. **"A Particle Swarm Optimization Based Switching Scheme for Seven-Level Cascaded Hybrid Bridge Inverter."** *Proceeding of International Conference on Intelligent Communication, Control and Devices*. Springer Singapore, 2017.

## Research Guidance

### PhD Students

Sr. No	Name	Title	Supervisor	Year	Status
1.	Sandeep Dhundhara	Evaluation of energy storage systems in modern power system	Dr.Yajvender Pal Verma	2015-2019	Awarded
2.	Aditi Gupta	Ancillary services management and in deregulated hybrid power systems with significant wind power	Dr.Yajvender Pal Verma & Dr. Amit Chauhan	2015-2019	Awarded
3.	Maninder Kaur	Study of biogas production from crop residue and optimizing the cost of biomass-based hybrid power plant	Dr. Yajvender Pal Verma and Prof. Sanchita Chauhan	2015-2021-	Awarded
4.	Deepak Kumar	Performance analysis of microgrid in modern electricity market	Dr. Yajvender Pal Verma and Dr. Rintu Khanna	2013-2022	Awarded
5.	Parul Gaur	Multilevel inverter for integration of renewable energy sources	Dr. Yajvender Pal Verma	2013-2022-	Awarded
6.	Shreya Mahajan	Virtual inertia emulation to improve operation and control in low inertia power system	Dr. Yajvender Pal Verma	2017-2023-	Awarded
7.	Preeti Gupta	Role of demand side management in modern power system	Dr. Yajvender Pal Verma	2017-2024-	Awarded
8.	Preeti Gupta	Performance analysis of renewable energy-based power systems using intelligent controllers	Dr. Vivek Pahwa and Dr. Yajvender Pal Verma	2017-2023-	Awarded
9.	Garima Malik	Electrical Market models in presence of Electric Vehicle	Prof. Yajvender Pal Verma, Dr. Deepak Kumar	2019	Pursuing
10.	Radhika	Role of Virtual Synchronous Generator in frequency Stability	Yajvender Pal Verma	2022	Pursuing
11.	Shivam Gupta	Ancillary Services in renewable Integrated System	Prof. Yajvender Pal Verma, Dr. Deepak Kumar	2023	Pursuing
12.	Rahul Singh	Cyber Security issues in Power System	Prof. Yajvender Pal Verma	2023	Pursuing

## M.Tech Scholars

Sr. no	Name	Title	Status	Supervisor	Year
1.	Jai Kumar	Released Feeder Capacity with DG and D-STATCOM for Distribution System	Submitted	Dr. Yajvender Pal Verma and Dr. Deepak Kumar	2022-23
2.	Awantika Sethi	Islanding Detection in Microgrid Systems	Completed	Dr. Yajvender Pal Verma	2020-22
3.	Shivam Gupta	Optimal scheduling of micro-grid with Contract-based utilization of PEVs Batteries in energy markets	Completed	Dr. Yajvender Pal Verma	2019-21
4.	PoonamKumar	Designing optimal Charging system for Residential Area	Completed	Dr. Yajvender Pal Verma	2018-20
5.	Arun Kumar Sharma	Bidding and generation scheduling strategy for hybrid system in electricity market	Completed	Dr. (Mrs.) Shimi S.L. and Dr. Yajvender Pal Verma	2016-18
6.	Jasjeet Singh	Role of TCSC in power management and loss reduction	Completed	Dr. Yajvender Pal Verma and Dr. Deepak Kumar	2016-18
7.	Hardeep Singh	Unit commitment solution in renewable integrated system with grey wolf optimization	Completed	Dr. Yajvender Pal Verma	2015-17
8.	Swati Arora	Determination and enhancement of available transfer capability in deregulated environment	Completed	Mr. Manoj Kumar Sharma and Dr. Yajvender Pal Verma	2015-17
9.	Shama Bansal	Investigation on operational aspects of microgrid interconnected system	Completed	Mr. Manoj Kumar Sharma and Dr. Yajvender Pal Verma	2014-16
10.	Mandeep kaur	Scheduling and bidding strategies for microgrid with demand response in electricity market	Completed	Mr. Manoj Kumar Sharma and Dr. Yajvender Pal Verma	2014-16
11.	Akshita Sharma	Unit commitment solution considering the impact of emission trading and demand side resources	Completed	Dr. Yajvender Pal Verma	2014-16
12.	Navdeep Batish	Optimal generation scheduling and market clearing price determination in a wind integrated hybrid power system	Completed	Er. Sunny Vig and Dr. Yajvender Pal Verma	2012-14
13.	Simarjit Kaur	Optimization of general scheduling and spinning reserve in power system based on frequency prediction using ANN under ABT regime	Completed	Mr. Sunil Agrawal and Dr. Yajvender Pal Verma	2011-13

## Research Projects carried out /awarded:

	<b>Title</b>	<b>Funding Agency</b>	<b>Amount in INR</b>	<b>Status</b>
1.	Energy Auditing of Schools in U.T. Chandigarh	<b>Department of Science &amp; Technology Govt. of India Chandigarh (2010-2012)</b>	2.0 Lakh	Completed
2.	Performance enhancement of solar photo voltaic system using multi mirror arrangement and to find optimum angle of inclination of solar panel in Chandigarh	<b>Department of Science &amp; Technology Govt. of India Chandigarh (2013-2014)</b>	3.0 Lakh	Completed
3	Modeling and Analysis of Renewable (wind solar) integrated Hybrid system for Indian Power Sector	<b>PURSE Grant DST Govt.of India 2015-18</b>	10 Lakh	Completed
4	Designing and development of power conditioning circuit suitable for piezoelectric energy harvester developed by DIHAR	<b>Defence Research &amp;Development Organization (DRDO) Grant 2015-16</b>	3.65 Lakh	Completed
5	Study of Effect of tilt angle on the power output of Photovoltaic panels in Chandigarh using smart meter	<b>Department of Science &amp; Technology Govt. of India Chandigarh (2015-2016)</b>	3.25 Lakhs	Completed
6	Design Innovation Centre Energy harvesting & Management Technologies	<b>MHRD Sep-2015-Mar 2026</b>	10Crore	On-Going
7	Solar pump-based village microgrids –potential for tackling the energy/water nexus in Punjab	<b>Birmingham City University GCRF QR Funding Sep 2019-July 2020</b>	£ 15K	Completed
8	Indo-UK Joint Workshop Solar pump-based village microgrids –potential for tackling the energy/water nexus in Punjab	<b>DST GoI and UKIERI UK</b>	2.8 Lakhs	Completed

## Editorial Work:

1. **Guest Editor** of journal entitled “**Sustainable Energy Technologies Assessments (Elsevier) SCIE Indexed I.F. 8.3**” for its Special Issue on “*Utilization of Energy Storage for Reliable Operation of Modern Power Systems*”
2. **Guest Editor** of journal entitled “**Neural Computing and Applications (Springer) SCIE Indexed I.F. 6**” for its Special Issue on “*AI Techniques for optimal Operation and control of Power Systems*”

## Review work done for Journals & Conferences (selected)

1. Electric Power Components and Systems (Taylor & Francis)
2. Frontiers in Energy (Springer)
3. IEEE ACCESS
4. IET GTD
5. Journal of Modern Power Systems and Clean Energy (Springer)
6. Applied Energy
7. International Transactions on Electrical Energy Systems (Wiley)
8. International Journal Electrical Power & Energy Systems (IJEPES) Elsevier
9. Energy (Elsevier)
10. Sustainable Energy Technologies Assessments (Elsevier)

## Areas of Specialization and Interest:

1. Power Systems Restructuring and optimization
2. Distributed Generation and Renewable Energy Systems
3. Demand Side Management
4. Power System Dynamics
5. Micro/Smart Grid
6. Congestion Management
7. Unit Commitment and emission Trading Schemes.

## Lab. Development :

1. Developed Virtual Instrumentation Laboratory for undergraduate and Post Graduates students.
2. Design Innovation Lab (Energy management & Harvesting Technologies)

## Courses Taught:

PG Courses	UG Courses
Power System Operation and Control	Electric Machinery-I
Advanced Power System Analysis	Power System Protection and Switchgear
Power System Dynamics and Stability	Control System
Power Electronics	Computer methods in Power Systems
	Basic Electrical Engineering
	Network Analysis & Synthesis
	Virtual Instrumentation System

## **International Collaborations/ Visits:**

1. Joint Research project on Solar Pump Based Village Microgrid Systems with Birmingham City University UK 2019-2022.
2. Joint Research work on AC-DC Microgrid Systems with Nottingham University UK 2017.
3. Served as International faculty for Sunny Oneonta State College of New York State University USA in 2019.
4. Attended and presented paper in IEEE international Conference AUPEC 2017 at Victoria University Australia Melbourne in Nov, 2017.
5. Attended and presented paper in World Congress in 2014 at Imperial College London UK in Jul, 2014.

## **Membership of Professional Bodies:**

1. Member IEEE (Membership No: 90721606)
2. Life Member of Computer Society of India (CSI)
3. Life Member of IAENG(Membership No. 141611)
4. Life Member of Institution of Microelectronics Society (Membership No.464LM)

## **Industrial Tie-ups**

### **Research Agreements and MoUs:**

1. Research Collaboration with DIHAR DRDO
2. SETNET Partner institute of National Institute of Solar Energy (MNRE)
3. Partner of Solar Radiation Resource Assessment (SRRA) station ( NIWE- Chennai).
4. BCU Birmingham UK.

## **Academic Activities Organized and Participated (Selected):**

- Coordinator Entrepreneurship Fest “UDYAMI 2018 and UDYAMI 2019” organized at Panjab University Chandigarh.
- Technical Chair and Co-chair of IEEE sponsored International Conferences (RAECS’ 2014) & (RAECS’2015).
- Local Chair and member of 5th IEEE India Council International Subsections Conference (INDISCON 2024) from August 22-24, 2024, in association with IEEE India Council.
- Faculty In-Charge National Level Student conference under IEEE student chapter of UIET, 2010, 2011, 2012, 2013, 2014.
- Coordinator UGC sponsored Seminar on Active Noise Control 2014
- Convener of Children Science Congress during CHASCON 2012 and 2013.
- **Co-Coordinator** of TEQIP Sponsored Two Week National Level Faculty Development Programme on “MATLAB Fundamentals and Neural Networks & Fuzzy Logic Toolboxes” from 3-14 December 2012 at UIET.
- Faculty Coordinator for MARUTI and SAE sponsored Effy-Cycle Event at UIET in 2012.
- Faculty In-charge IEEE Technical Fest AARAMBH held at UIET 2011.
- Coordinator of Energy Audit Workshop held at UIET under DST Project in Feb 2011.
- Co-convener for National Conference on Computing, Communication & Control held at UIET in 2009.

- Coordinator of One Week Short Term Course on Pedagogy in Teaching and Research in 2007.
- Coordinator of Aavishkar Technical Fest of UIET Panjab University, October 2011.
- In charge for (50 +) workshops and expert lectures under IEEE student Chapter at UIET PU Chandigarh
- Expert Lectures Delivered in ( NITs, NITTTR, PEC, PTU, GCET, AMITY etc.): 50+
- Workshop / FDP / Seminars/ Refresher courses Attended : 50 +
- Examination Duties: Superintendent (3), Deputy Superintendent (4), Assistant Superintendent (100+)
- On expert panel for conducting Interviews in UTU Dehradun, TBRL, HPPSC, PEC, KU, J C Bose University Noida, Chandigarh Electricity Department, Pushpa Gujral Science City etc.
- Paper Setting: For Around 15+ different subjects including M.E.,PhD for PU. For about 17+ different subjects for other universities
- Paper Setter for competitive examination for HPPSC, PGI, PU, CHB, HPSSB, IGNOU.

**Prof. (Dr). Y.P.Verma**