

Dr. NAQUI ANWER

Ph.D(EE), M.Tech(I&C), B.Tech(EE)

Professional Member: IEEE

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Address for correspondence: F-288/C (Second Floor), Shaheen Bagh,
Abul Fazal Enclave – II, Jamia Nagar,
New Delhi – 110025, India**PROFESSIONAL EXPERIENCE (more than 20 Years):****April 06, 2015 till date [TERI School of Advanced Studies (earlier TERI University), New Delhi]**

- Head of the Department of Sustainable Engineering w.e.f December 28, 2022
- Professor in Department of Sustainable Engineering from January 01, 2020
- Department of Energy and Environment
 - Associate Professor from January 01, 2017 to December 31, 2019
 - Assistant Professor from April 06, 2015 to December 31, 2016
- Coordinator of Internal Quality Assurance Cell (IQAC)
- Member of Academic Council
- Member of Board of Management
- Placement Coordinator of M.Tech (Renewable Energy Engineering & Management)
- Member of AICTE Infrastructure Compliance Committee
- Member of Students' Complaint Redressal Committee
- Ex-Programme Coordinator of M.Tech (Renewable Energy Engineering & Management)
- Ex-Member of Library Committee

August 09, 2011 to April 02, 2015 [Galgotias College of Engineering & Technology, Gr. Noida]

- Department of Electrical Engineering
 - Assistant Professor in the Department of Electrical Engineering
 - Officiating Head of Department

October 18, 2010 to August 09, 2011 [CET-IILM Academy of Higher Learning, Gr. Noida]

- Department of Electrical Engineering
 - Associate Professor
- Coordinator of academic activities for 1st year

November 24, 2007 to October 17, 2010 [Al-Falah School of Engg. & Technology, Faridabad]

- Department of Electrical & Electronics Engineering
 - Head of Department from January 2010 to October 2010
 - Assistant Professor from September 2009 to August 2010
 - Senior Lecturer from November 2007 to August 2009

January 03, 2006 to November 23, 2007 [Apeejay College of Engineering, Gurgaon]

- Department of Electrical Engineering
 - Lecturer
- Coordinator of Renewable Energy Club

October 11, 2002 to January 08, 2006 [GLA Institute of Technology & Management, Mathura]

- Department of Electrical & Electronics Engineering
 - Lecturer
 - Programme coordinator

VISITING/GUEST FACULTY:

- Linnaeus University, Sweden (Under Linnaeus-Palme Programme)
- Jamia Millia Islamia, New Delhi (Central University) for M.Tech (Energy Science)
- Amity University, Noida for M.Tech (Power Systems) weekend classes
- Al-Falah University, Faridabad for M.Tech (Power Systems) weekend classes

EDUCATIONAL SCHOLASTICS:

- Ph.D. in Electrical Engineering from Department of Electrical Engineering, Jamia Millia Islamia (Central University), New Delhi in March 2016. Research thesis is “FACTS Controllers for Smart Grid Management”.
- M.Tech in Electronics Instrumentation & Control with 1st division from U.P. Technical University, Lucknow in 2009 with a CPI of 8.0.
- B.Tech in Electrical Engineering with 1st division from Aligarh Muslim University, Aligarh in 2002, with a CPI of 7.026.
- Diploma Engineering in Electrical Instrumentation with 1st division (Hons.) from Aligarh Muslim University, Aligarh in 1998, secured 85.8% marks.

TEACHING PROFICIENCY:

- Basics of Electrical Engineering
- Power Electronics and Electric Drives
- Electrical Machines
- Conventional and digital protection of Power System
- Power system engineering
- Grid integration of renewable energy
- Smart Grid
- Flexible AC transmission systems
- Renewable energy hybrid systems
- Renewable energy technologies
- Wind Energy Conversion Systems
- Renewable energy resource characteristics

LABS DEVELOPED AND ESTABLISHED:

UG level

- Electric engineering lab
- Electric drives lab
- Electrical machines lab

PG level

- Renewable Energy Lab
- Energy simulation lab
- Micro grid lab

DOCTORAL RESEARCH GUIDANCE:

Completed: 03

- Performance Evaluation of a Novel Transformerless Z-Source Solar Photovoltaic Multilevel Inverter
 - Name of Student: Saad Nazif Ahamad Faruqui
 - Enrolment Year: 2015; **Degree Awarded: 2020**
- A study of cross subsidy impact on electricity demand of DISCOMs in India
 - Name of Student: Naveen Agarwal
 - Enrolment Year: 2013; **Degree Awarded: 2021**
- Development of robust power sharing scheme for multiple islanded microgrids
 - Name of Student: Prasada Kumari Krishan Nair Saradamma
 - Affiliation: Deakin University, Australia [as Lead Indian Supervisor]
 - Enrolment Year: 2018; **Degree Awarded: 2021**

Ongoing: 07

- Electrical Energy Storage in Grid Balancing in View of Increased Penetration of Variable Renewable Energy Sources
 - Name of Student: Asif Nazar
 - Enrolment Year: 2016
- Developing Transmission Line Designing Optimization Tool based on Indian Standards
 - Name of Student: Malar Kodi
 - Enrolment Year: 2016
- A study of necessity, challenges and framework of electric vehicles in India
 - Name of Student: Shivanshu Sharma
 - Enrolment Year: 2017

- Optimization and Techno-Economic Feasibility Analysis of Solar PV, Wind and Bio-energy Hybrid Standalone Renewable Energy
 - Name of Student: Ameer Faisal
 - Enrolment Year: 2018
- A study on Sustainability Reporting Process and Practices of Energy Sector Companies in India
 - Name of Student: Himanshu Arora
 - Enrolment Year: 2015
- Design and Development of Phase Change Material Based Thermal Energy Storage System for Thermal Application
 - Name of Student: Chhabishwar Patel
 - Enrolment Year: 2017
- Policy and Regulatory Interventions for grid integration of Variable Renewable Energy Sources
 - Name of Student: Sanjay Prakash Bhagat
 - Enrolment Year: 2016

Outside TERI School of Advanced Studies: 01

- Controller design for grid connected renewable energy sources
 - Name of Student: Akansha Sinha
 - Affiliation: Amity University, Noida [as external supervisor]
 - Enrolment Year: 2016

RESEARCH PROJECT(S):

Project Title: Mobile Substation and Grid Storage System (MOBISUB)

Project summary: MOBISUB is researching, designing, developing, testing and piloting a dual function mobile substation maintenance system which can also be deployed as a modular, grid-scale storage asset. The project will develop and pilot a containerized solution, based on cutting edge battery technology (including research into both flow and solid state options) along with hardware, software and test protocols to test the dual function system in situ in India.

The project aims to show the potential of the system to support a dual use business case at scale in the Indian market. The dual use case mitigates the weak business case in the Indian market for a grid scale storage. Developing these assets as part of a substation maintenance strategy however both meets this immediate need and creates a scalable storage platform for a smarter more flexible grid which can help meet the need for storage and flexibility as renewable assets increase and India moves toward electric vehicles over the next decade.

Funding agency: DST, GoI Total Budget: ₹2,46,00,264/-

Date of start: 11th June 2021 Status: Ongoing

Indian Partner(s): TERI School of Advanced Studies, IIT Roorkee, TERI, Tata Power DDL

Foreign Partner(s): StorTera, Cleantech International, PNDC

INTERNATIONAL ASSIGNMENT:

1. Received and administered a grant of 30,000 EURO at TERI University jointly with Eindhoven University of Technology (TUE), Netherlands for a research project titled “Developing & Implementing Smart Grids in India (DISGI)”. The duration of the project was two years (August

2016 to August 2018) and is funded under the Netherlands Organization for Scientific Research (NWO) Societally Responsible Innovation (MVI) programme [Project no. 313-99-307].

Project outcomes:

- Developed the model of smart micro grid with peer to peer energy sharing
 - Introduced the concept of block chain for trading of electricity in the model
2. Recipient of international grant of SEK 273000 [₹ 22,06,194/- approx.] under Linnaeus-Palme program and visited Linnaeus University, Sweden during 12th to 19th May 2019 for one week as planning visit followed by two visits under faculty exchange programme. The first exchange visit was from 4th May to 17th May 2022 and the second visit was from 28th September 2022 to 11th October 2022 for two weeks. The programme is administered by the “International Programme Office for Education and Training” and financed by “Swedish International Development Co-operation Agency (SIDA)” as an initiative for identifying (during planning visit) and implementing (during exchange programme) areas of collaboration for student and faculty exchange. The exchange aims at strengthening co-operation between institutions of higher education in Sweden and developing countries and thereby increasing global contacts in the world of higher education.
 3. National coordinator of “Doctoral School in Sustainable Engineering (SEED)” funded by Swedish Research Council (VR) with a grant of SEK 7.4 million [₹ 5,98,0000/- approx.] established by a consortium of six universities which include Royal Institute of Technology (KTH), Linnaeus University (LNU) and Lund University (LTH) from Sweden in association with Kathmandu University-Nepal, TERI School of Advanced Studies-India and Universidad Mayor de San Simon-Bolivia. [Sustainable Energy Engineering Doctoral Programme](#)

RESEARCH & PUBLICATIONS:

INTERNATIONAL JOURNAL [16]

1. Ban Hamdan, Naqui Anwer, “An Integrated Hybrid Power System Based on Solar PV Array and Wind Turbine Doubly Fed Induction Generator for Basrah, Iraq”, International Journal of Science & Technology (ISSN: 2250-141X), Vol. 2 Issue 3, June 2012, pp 11-20.
2. Naqui Anwer, Anwar S. Siddiqui, Ahmad S. Anees, “A Lossless Switching Technique for Smart Grid Applications”, **Elsevier** International Journal of Electrical Power and Energy Systems (ISSN: 0142-0615), Vol. 49, July 2013, pp 213-220 (DOI: <https://doi.org/10.1016/j.ijepes.2012.12.012>).
3. Anwar S. Siddiqui, Naqui Anwer, Abdullah Umar, “Power Flow Management using FACTS Controllers for Smart Grid Applications”, International Journal of Innovative Research in Science, Engineering and Technology (ISSN: 2319-8753), Vol 3, Issue 3, March 2014, pp 10626-10631.
4. Abdullah Umar, Anwar S. Siddiqui, Naqui Anwer, “Generation Fuel Cost Minimization of Power Grid Using Primal Dual Interior Point OPF (Optimal Power Flow) Method”, International Journal of Innovative Research in Science, Engineering and Technology (ISSN: 2319-8753), Vol 3, Issue 4, April 2014, pp 11014-11024.
5. Saad Nazif Ahamad Faruqui, Naqui Anwer, “A review analysis of inverter topologies for solar PV applications focused on power quality issues”, Journal of The Institution of Engineers (India): Series B – **Springer** (ISSN: 2250-2114, Journal No. 40031), October 2017, Vol 98, Issue 5, pp 517-525 (DOI: <https://doi.org/10.1007/s40031-017-0284-6>).
6. Misbah, Aziz Ahmad, Naqui Anwer, “A novel approach for modelling of small renewable energy hybrid micro grid with storage”, International Journal of Emerging Technologies and Innovative

Research (ISSN: 2349-5162/UGC approved Journal No. 63975), Vol 5, Issue 5, May-2018, pp 193-205 (<http://www.jetir.org/papers/JETIR1805457.pdf>).

7. V.S.K.V. Harish, Naqui Anwer, Amit Kumar, "Modelling of Peer to Peer Sharing of Power within Solar Based DC Microgrids", STM Journal Trends in Mechanical Engineering & Technology (ISSN: 2347-9965, eISSN: 2231-1793), Vol 8, No 3, 2018, pp 44-48, (DOI: <https://doi.org/10.37591/tmet.v8i3.1432>).
8. Malar Kodi, Naqui Anwer and M. Tamil Selvan, "Analysis of Frequently Failed Transmission Lines in India and Innovative Solutions for the Better Operation and Maintenance of the Towers", International Journal of Emerging Technologies and Innovative Research (www.jetir.org), (ISSN:2349-5162, UGC Approved Journal no 63975), Vol. 6, Issue 1, pp 574-579, January-2019, (<http://www.jetir.org/papers/JETIR1901G77.pdf>)
9. Saad Nazif Ahamad Faruqi, Naqui Anwer, "Performance Evaluation of Z-Source Inverter and Voltage Source Inverter for Renewable Energy Applications", International Journal of Energy and Water Resource – Springer (ISSN: 2522-0101, Journal No. 42108), February 2019, pp 43-53 (DOI: <https://doi.org/10.1007/s42108-019-00011-1>).
10. Naveen Agarwal, Naqui Anwer, "An Analytical Study of Cross Subsidy Impact on Electricity Demand from Industries: Case of Electricity Distribution Utilities in India", International Journal of Energy Economics and Policy (ISSN: 2146-4553), Vol 9, No 6, August 2019, pp 305-309 (DOI: <https://doi.org/10.32479/ijeep.8111>).
11. Naveen Agarwal, Naqui Anwer, "Exploring the impact of cross subsidy on growth of renewable energy generation capacity in India", Interdisciplinary Environmental Review, Inderscience (ISSN: 2042-6992/1521-0227), Vol. 20, Nos. 3/4, 05 January 2021, pp 255-265 (DOI: <https://doi.org/10.1504/IER.2020.112592>).
12. Asif Nazar, Naqui Anwer "Performance Analysis of Analytical Tools in the Techno-Economic Assessment of Electrical Energy Storage and Grid Balancing", International Journal of Engineering Trends and Technology, Published by Seventh Sense Research Group™ (ISSN: 2231 – 5381), Vol. 69, issue 7, July 2021, pp 150-158 (DOI: <https://10.14445/22315381/IJETT-V69I7P221>).
13. V.S.K.V. Harish, Naqui Anwer, Amit Kumar, "Applications, planning and socio-techno-economic analysis of distributed energy systems for rural electrification in India and other countries: A review", Elsevier Sustainable Energy Technologies and Assessments (ISSN: 2213-1388), Volume 52, Part A, August 2022, pp 01-22 (DOI: <https://doi.org/10.1016/j.seta.2022.102032>).
14. Akanksha Sharma, H.P Singh, Rajkumar Viral , Naqui Anwer, "Techno- Economical Planning of an Off-Grid Integrated Renewable Energy System", U.Porto Journal of Engineering (ISSN 2183-6493) [Accepted for publication]
15. Himanshu Arora, Naqui Anwer, Sapna A Narula, "Corporate Sustainability Reporting Practices in Indian Energy sector", SPECIALUSIS UGDYMAS/SPECIAL EDUCATION (ISSN: 1392-5369), Vol. 1, No. 43, 2022, pp 981-1002 (<https://www.sumc.lt/index.php/se/article/view/113/100>).
16. Prashant Singh, Naqui Anwer, J.S. Lather, "Energy management and control for direct current microgrid with composite energy storage system using combined cuckoo search algorithm and neural network", Elsevier Journal of Energy Storage (ISSN 2352-152X), Volume 55, Part C, Nov. 2022, (DOI: <https://doi.org/10.1016/j.est.2022.105689>).

NATIONAL JOURNAL/Magazines [03]

1. Ban Hamdan, Naqui Anwer, Khwaja M.Rafi, "Design, Simulation and Performance Analysis of Solar Photovoltaic Panel using MATLAB", Invertis Journal of Renewable Energy (ISSN: 2454-7611), Vol. 2, No. 2, 2012, pp 69-74.
2. Abdullah Umar, Aziz Ahmad, Naqui Anwer, Md. Ilyas, "Comparative Performance Analysis of FACTS Controllers in Congestion Management of Transmission System", Global Sci-Tech: Al-Falah's Journal of Science & Technology (ISSN: 0975-9638), Vol. 4, No. 4, December 2012, pp 239-252.

3. V.S.K.V. Harish, Naqui Anwer, Amit Kumar, "Solving rural electrification problems through peer to peer sharing of energy", 21st century energy renaissance through renewables: REMag – 2017 (The Annual RETOPIA souvenir of 7th technical symposium of TERI University), pp. 26 – 27, Sept 2017.

INTERNATIONAL CONFERENCE [18]

1. Naqui Anwer and Md. Masihuzzaman, "Reduction of Voltage Stress and Switching Losses in ZVS-PWM Active Clamp/Reset Forward Converter", Proceedings International Conference on Emerging & Futuristic System and Technology, LIET, April 09-11, 2009.
2. Naqui Anwer, Anwar S. Siddiqui, Abdullah Umar, "Analysis of UPFC, SSSC with and without POD in Congestion Management of Transmission System", 5th IEEE International Conference on Power Electronics, Delhi Technological University, New Delhi, India, December 06-08, 2012 (DOI: 10.1109/IICPE.2012.6450489).
3. Abdullah Umar, Anwar S. Siddiqui, Naqui Anwer, "Security Challenges in Realising Smart Grid: An Overview and Issues", 2nd International Conference on Emerging Trends in Computer Science and Information Technology (ITETCSIT-2014), Al-Falah University, Faridabad (India), April 17, 2014.
4. Majid Jamil, Ahmed Sharique Anees, Mona Subramaniam, Naqui Anwer, "Reduction of Power Fluctuation in Grid Connected SPV Plant through Aggregate Distributed Generation", 6th IEEE Power India International Conference (PIICON2014), Delhi Technological University, New Delhi, India, December 05-07, 2014 (DOI: 10.1109/POWERI.2014.7117750).
5. Naqui Anwer, Anwar S. Siddiqui, Sanjay Bhatnagar, "Phasor Measurement Unit: Making the Grid Smarter. A Case Study of Voltage Dip on 11kV Feeders During Fault at 220kV Samaypur Station, Faridabad (India) of BBMB Dated May 21, 2013 (23:55:06hrs)", IEEE International Conference on Computing, Communication and Automation (ICCCA), Galgotias College of Engineering & Technology, Greater Noida, India, April 29-30, 2016 (DOI: 10.1109/CCTA.2016.7813854).
6. Saad Nazif Ahamad Faruqui, Naqui Anwer, Basudev Prasad, "Z-source based PWM controlled solar photovoltaic inverter", 2nd IEEE International Conference for Convergence in Technology (I2CT), Pune, India, April 07-09, 2017.
7. V.S.K.V. Harish, Naqui Anwer and Amit Kumar "Optimal energy sharing within a solar based DC micro grid," 7th International Conference Soft Computing for Problem Solving (SocProS 2017) , 23-24 Dec. 2017, Indian Institute of Technology Bhubaneswar.
8. V.S.K.V. Harish, Naqui Anwer and Amit Kumar "Modelling of peer to peer sharing of power within solar based DC microgrids," International Conference on Advances in Business and Engineering for Sustainability (ABES-2018), 27-28 March 2018, ABES Engineering College, Ghaziabad.
9. Saad Nazif Ahamad Faruqui, Naqui Anwer, Basudev Prasad, "3- Φ Z-Source PWM Controlled Solar Photovoltaic Inverter", 3rd IEEE International Conference for Convergence in Technology (I2CT), Pune, India on April 06-08, 2018 (DOI: 10.1109/I2CT.2018.8529509).
10. Saad Nazif Ahamad Faruqui, Naqui Anwer, "Single Phase-Single Stage Z-Source Solar PV Inverter", 1st IEEE International Conference on Power Energy, Environment and Intelligent Control (PEEIC), Greater Noida, India, April 13-14, 2018 (DOI: 10.1109/PEEIC.2018.8665439).
11. A. Sharma, M. Mathew, I. Mitra and N. Anwer, "Approaches Leading to Different Definitions of Smart Grid: A Review," 2018 IEEE International Conference on Power Energy, Environment and Intelligent Control (PEEIC), April 13-14, 2018, pp. 600-606, (DOI: 10.1109/PEEIC.2018.8665663).
12. Naveen Agarwal, Dr Naqui Anwer, "An analysis of Industry's perspective and determinants influencing elasticity of electricity demand in context of cross subsidy in India: Taking case of Rajasthan and Haryana states", 2019 IEEE International Conference on Sustainable Energy Technologies and Systems (ICSETS), Bhubaneswar, India, 26 February-1 March 2019 (DOI: 10.1109/ICSETS.2019.8745193).

13. Naveen Agrawal, Naqui Anwer, "Exploring the Impact of Cross Subsidy on Growth of Renewable Energy Generation Capacity in India", 2nd International Conference on New and Renewable Energy Resources for Sustainable Future 2019, SKIT, Jaipur.
14. V. S. K. V. Harish, N. Anwer and A. Kumar, "Development of a Peer to peer electricity exchange model in micro grids for rural electrification," 2nd International Conference on Power Energy, Environment and Intelligent Control (PEEIC), Greater Noida, India, February 2020, pp 259-263 (DOI: 10.1109/PEEIC47157.2019.8976848).
15. A. Sharma, H. P. Singh, S. K. Sinha, N. Anwer and R. K. Viral, "Renewable Energy Powered Electrification in Uttar Pradesh State", 3rd International Conference on Recent Developments in Control, Automation & Power Engineering (RDCAPE), NOIDA, India, February 2019, pp. 443-447 (DOI: 10.1109/RDCAPE47089.2019.8979128).
16. Asif Nazar and Naqui Anwer, "Accommodative Energy Market for Battery Energy Storage and Grid Balancing," 2020 International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), NIT Patna, India, July 10, 2020 (DOI: 10.1109/ICEFEET49149.2020.9186970).
17. Shivanshu Sharma and Naqui Anwer, "Electric Vehicles Adoption in India: A Comparative Data Analysis of Different States", International Conference on Efficient Engineering Systems 2020, Association of Engineering Researchers in association with Jaihind College of Engineering, Pune (India), October 01-02, 2020.
18. Himanshu Arora, Sapna A Narula and Naqui Anwer, "Sustainability Reporting by Top Indian Energy sector companies: Motivation and Perception", International Conclave on Globalizing Indian Thought, IIM Kozhikode, Kerala, December 16-18, 2021 [pp 561-571, Conference Proceeding ISBN: 978-93-5493-297-7]

NATIONAL CONFERENCE [10]

1. N.Anwer and A.Bansal, "Widespread use of fractional horsepower motors in industrial automation", Proceedings Regional Conference on Emerging Trends in Technology, GLAITM, 2003, pp 69-70.
2. Naqui Anwer, "Electronic Waste: Causes, Effects and Remedies", National Seminar NSD- 2008 AFSET, February 28, 2008.
3. Naqui Anwer and Bhasker Sharma, "Electrical Pollution: Health Effects and Solution", Proceedings National Conference on Pollution and Its Control: Recent Advances, AFSET, May 07, 2008, pp 42.
4. M.Nizamuddin, Naqui Anwer, Jawaid Alam, Malik Azizullah, "Modeling of Power Line Channel Equalizer using Feedforward Artificial Neural Network (ANN)", Proceedings National Conference on Trends in Instrumentation and Control Engineering, THAPAR University, October 29-30, 2009, pp 277-278.
5. Anwar S. Siddiqui, Naqui Anwer, Abdullah Umar, "Reducing Parametric Limitations of Transmission Lines Using Series FACTS Controllers", IEEE sponsored National Conference on Energy, Power and Intelligent Control Systems, Galgotias College of Engineering & Technology, Greater Noida, India, March 28-29, 2014.
6. V.S.K.V. Harish, Naqui Anwer, Amit Kumar, "Peer to peer electricity exchange among rural households", "Uttar Pradesh Electricity Regulatory Commission Conference 2018 - Creation of Eco System Using Block Chain Technology for Renewable Energy Distributed Energy Generation & Supply", 10 October 2018, Vidyut Niyamak Bhawan, Lucknow.
7. V.S.K.V. Harish, Naqui Anwer, Amit Kumar, "Peer to peer electricity exchange within solar based DC micro grids for rural electrification," National Conference on Renewable Energy Technologies and Its Integration with Grid", Organized by Society of Power Engineers, 20-21 December 2018, Vadodara, Gujarat.

8. Naveen Agarwal, Naqui Anwer, "Impact assessment of cross subsidy surcharge on electricity demand in Short term power market in India", National Conference On Renewable Energy and Sustainable Environment, National Institute of Technology Kurukshetra, August 30-31, 2019.
9. Asif Nazar, Naqui Anwer, "Electrical Energy Storage Influencing Shift in Grid Balancing Approach", National Conference on Renewable Energy and Sustainable Environment, National Institute of Technology Kurukshetra, August 30-31, 2019.
10. Himanshu Arora, Sapna A Narula, Naqui Anwer, "Sustainability Reporting by Indian Oil & gas public sector companies: Motivation and Perception", Doctoral Research Conference 2021, Department of Business and Sustainability, TERI School of Advanced Studies, New Delhi, August 27-28, 2021

BOOKS/CHAPTERS [10]

1. Naqui Anwer, "Electrical Automation: PLCs & SCADA", Arihant Publication Pvt. Ltd., 2010 (ISBN: 8190982885)
2. Shivanshu Sharma and Naqui Anwer, "Chapter 07: Electric Vehicles Adoption in India: A Comparative Data Analysis of Different States", Advances in Electrical and Electronics Engineering, Grinrey Publications, Pune (ISBN: 978-81-948951-1-4), Vol. 1, January 2021, pp 97-106
3. Asif Nazar, Naqui Anwer, "Electrical Energy Storage Influencing Shift in Grid Balancing Approach", Latest Trends in Renewable Energy Technologies – Lecture Notes in Electrical Engineering, **Springer**, Singapore (ISBN: 978-981-16-1186-5), Vol. 760, July 2021, pp 77-83. (DOI: https://doi.org/10.1007/978-981-16-1186-5_7).
4. Naveen Agarwal, Naqui Anwer, and Gopal K. Sarangi, "Impact Assessment of Cross-Subsidy Surcharge on Electricity Demand in Short-Term Power Market in India", Latest Trends in Renewable Energy Technologies – Lecture Notes in Electrical Engineering, **Springer** (ISBN: 978-981-16-1186-5), Vol. 760, July 2021, pp 35-48. (DOI: https://doi.org/10.1007/978-981-16-1186-5_4).
5. Nazar A., Anwer N., "The Economic Viability of Battery Storage: Revenue from Arbitrage Opportunity in Indian Electricity Exchange (IEX) and NYISO", Machine Learning, Advances in Computing, renewable Energy and Communication – Lecture Notes in Electrical Engineering, **Springer**, Singapore (ISBN: 978-981-16-2354-7), vol. 768, August 2021, pp 305-314 (DOI: https://doi.org/10.1007/978-981-16-2354-7_28)
6. Dhankhar H, Anwer N, "A Critical Analysis of Present Net Metering Regulatory Framework and Identification of Potential Barriers in the Growth of Rooftop Market", Applications of Computing, Automation and Wireless Systems in Electrical Engineering – Lecture Notes in Electrical Engineering, **Springer** Nature (ISBN: 978-981-13-6772-4/ISSN: 1876-1100), vol 553, June 2019, pp 825-835 (DOI: https://doi.org/10.1007/978-981-13-6772-4_71).
7. Pankadan S., Nikam S., Anwer N., "An Analysis for Management of End-of-Life Solar PV in India", Lecture notes in Energy, Springer Singapore (ISBN: 978-981-15-5955-6/ ISSN: 2195-1284), vol 29, October 2020, pp 1361-1371 (DOI: https://doi.org/10.1007/978-981-15-5955-6_129).
8. Kumari G., Sharma A., Singh H.P., Viral R.K., Sinha S.K., Anwer N., "Energy Management System for Hybrid Energy System: Renewable Integration, Modeling and Optimization, Control Aspects and Conceptual Framework", Metaheuristic and Evolutionary Computation: Algorithms and Applications. Studies in Computational Intelligence, **Springer** Singapore (ISBN: 978-981-15-7571-6/ ISSN: 1860-949X), vol 916, October 2020, pp 195-206. (DOI: https://doi.org/10.1007/978-981-15-7571-6_9).
9. V.S.K.V. Harish, Naqui Anwer and Amit Kumar, "Optimal energy sharing within a solar based DC micro grid," Soft Computing for Problem Solving, Advances in Intelligent Systems and Computing, **Springer** Nature (ISBN 978-981-13-1595-4/ ISSN: 2194-5357), 31 October 2018, Vol 817, pp 635-644, (DOI: https://doi.org/10.1007/978-981-13-1595-4_50).

10. Akanksha Sharma, H.P. Singh, R.K. Viral, Naqui Anwer, “Chapter 1 - Integration of distributed energy resources in power systems: Issues, challenges, technology options, and the need for resilience”, Control of Standalone Microgrid (ISBN 978-0-12-823022-0), ScienceDirect Academic Press, 2021, pp 3-24, (DOI: <https://doi.org/10.1016/B978-0-12-823022-0.00001-5>).

PATENTS [01]

Publication type : International
Publisher : The Patent Office, Government of India
Date of Publication : 25-09-2020
Patent Application No. : 202011037155 A
Inventors : Dr. Saad Nazif Ahamad Faruqui, Dr. Mohd Tariq, Dr. Naqui Anwer
Title : A NOVEL Z-SOURCE MODIFIED CASCADED H-BRIDGE SOLAR PHOTOVOLTAIC MULTILEVEL INVERTER

EXPERT TALKS/INVITED LECTURES DELIVERED:

1. Delivered a lecture as guest speaker on February 07, 2023 titled “Energy Conservation for Sustainability” in National Seminar on “Energy Conservation for a Sustainable Future & Mitigating Climate Change” organized by Haldia Development Authority and Haldia Energy Limited, West Bengal.
2. Delivered an expert lecture on "Overview of PV technology, PV Solar energy systems, Wind turbine technology, Types of wind turbine and their characteristics. Overview of other RE resources: Small Hydro, Biomass, Green Hydrogen and Hybrid RE technology" on 2nd December 2022 from 10.00 am to 01.00 pm as part of 8-weeks training program of ETs of POSOCO at National Power Training Institute, Faridabad.
3. Delivered a talk on “Energy Conservation and Sustainability” as keynote speaker in Webcast on ‘National Energy Conservation Day’ organized by IIMT University, Meerut on 14th December 2021.
4. Delivered a talk “Grid Integration of Renewables” on 16th October 2021 in the IEEE – WePower Energy Practitioners Web Series Second Webinar organized by IEEE & Princess Nourah University, Saudi Arabia.
5. Delivered a talk ‘Policy and regulatory framework of Indian Power Sector reinforcing Renewable Energy’ on 04th Jun 2021 in the Online Faculty Development Programme on “Advances in Renewable Energy & Smart Grid Integration” organized by Department of Electrical & Electronics Engineering, Amity School of Engineering & Technology, Amity University, Noida, India, from 31st May 2021 to 04th Jun 2021.
6. Delivered an expert lecture titled “Regulatory Structure & Policy Landscape of Indian Power Sector” on December 18, 2020 in the AICTE sponsored Short Term Training Program on “Solar PV and Storage Systems” through online mode organized by the Department of Electrical and Electronics Engineering at JSS Academy of Technical Education, Noida from 14th to 19th December 2020.
7. Delivered a special talk titled “Indian Power Sector and Rise of Renewable Energy” on December 10, 2020 in the AICTE sponsored Short Term Training Program on “Solar PV and Storage Systems” through online mode organized by the Department of Electrical and Electronics Engineering at JSS Academy of Technical Education, Noida from 7th to 12th December 2020.
8. Delivered an expert lecture titled “Energy Conservation for Sustainable Development” on September 11, 2020 in the Five Days (07-11 September 2020) online Faculty Development Programme under ATAL Scheme of AICTE on Sustainable Development and Green Energy at Zakir Husain College of Engineering & Technology, Aligarh Muslim University (AMU) Aligarh.

9. Expert lecture titled “Energy Audit and Energy Conservation” on 27th August 2020 in the online Workshop on Energy Conservation & Control organized by Department of EEE and ECE, Mewat Engineering College, Haryana from 27 to 28 August 2020. The workshop is catalyzed and supported by Haryana Renewable Energy Development Agency (HAREDA), Govt. of Haryana.
10. Expert lecture titled “Energy Audit and Management” on June 12, 2020 in Five Day Faculty Development Programme on Energy Conservation and Renewable Energy (June 08-12, 2020) organized by School of Engineering & Technology, IGNOU, New Delhi
11. Keynote address titled “Microgrid: New Change in Market” in All India Seminar on Recent Trends and Development in National and International Power Sector jointly organized by The Institution of Engineers (India) and ABES Engineering College, Ghaziabad.
12. Expert lecture titled “Policies and Regulatory Framework of Indian Power Sector Promoting Renewable Energy” on 12th July 2019 in One Week Faculty Development Programme on “Power Electronics in Renewable Energy” sponsored by Dr. A.P.J. Abdul Kalam Technical University, Lucknow under TEQIP-III at ABES Engineering College, Ghaziabad (U.P.).
13. Expert lecture titled “Policy & Regulatory Framework of Indian Power Sector and Rise of Renewable Energy” on 4th July 2019 to the faculty participants during AICTE sponsored Short Term Training Programme on “Emerging Trends and Challenges in Grid Connected Renewable Power Generation” held from 1st to 6th July 2019 at KIET, Ghaziabad (U.P.).
14. Invited lecture titled “Indian Power Sector and Renewable Energy” delivered at Galgotias College of Engineering and Technology, Greater Noida on April 05, 2019.
15. Expert lecture delivered at NPTI, Faridabad on December 20, 2018 on “Wind Power Generation” covering Policy & Regulations, Control & Protection, Issues in Grid Integration and Past & Recent Trends in a training programme for CEA officials.
16. Invited expert lecture on June 09, 2018 titled “Indian Power Sector and Rise of Renewable Energy” at Dayal Singh College, Delhi University in Faculty Development Programme on “Environment Sustainability and Higher Education” held during 4 – 11 June, 2018.
17. Expert lecture on “Power Grid and Renewable Energy Resources Interfacing for EV Development (ICT Services for EV Ecosystem)” in a One-Day Workshop on “E-Mobility Mission of India: Concepts & Implications” @ NPTI Campus, Faridabad, New Delhi on April 23, 2018.
18. Two expert lectures in “Training of Trainers programme for BCCL Officers on Eco-Restoration and Sustainable Livelihood Promotion in Coal Mining Areas: Opportunities and Challenges” held from February 14-15, 2018. The titles of the lectures are “Indian Power Sector and Rise of Renewable Energy” and “Renewable Energy Applications in Coal Mine: Solar PV, Wind and Hybrid Energy Systems”.
19. Expert lecture titled “Indian Power Sector and Grid Integration of Renewable Energy Sources” on January 22, 2018 in FDP programme Intelligent Management of Renewable Energy Technologies held from January 18-23, 2018 at YMCA University of Science & Technology, Faridabad, India.
20. Invited guest lecture on November 09, 2016 titled “Issues in Renewable Energy Grid Integration” at Bharati Vidyapeeth’s College of Engineering, New Delhi organized in association with MNRE, Govt. of India.

FDPS / TRAINING PROGRAMMES – ONE WEEK OR MORE

1. Successfully completed one week Online AICTE-QIP Sponsored Short Term Course on “ISSUES AND CHALLENGES OF GRID CONNECTED RENEWABLE ENERGY SOURCES (ICGRE-22)” Organized by the Department of Electrical Engineering, Jamia Millia Islamia, New Delhi from 21st to 25th February, 2022.
2. Participated in one week online FDP on “Real Time Hardware-in-the-Loop (HIL) Simulation for Power Electronics & Power Systems”, organized by Department of Electrical Engineering, Rajkiya Engineering College Mainpuri in association with OPAL-RT Technologies & IEEE STB

REC MAINPURI from June 22nd - 26th, 2020. The FDP was conducted online from 05:30PM to 08:30PM.

3. Attended the one week online Faculty Development Program on “Electric Vehicles: New Trends and Technologies” from 22nd June to 26th June, 2020 organized by Department of Electrical & Electronics Engineering, ABES Engineering College, Ghaziabad. The FDP was conducted online from 10:00AM to 01:00PM.
4. Attended the Five Day online Faculty Development Programme on “Energy Conservation and Renewable Energy” during June 08-12, 2020 organized by School of Engineering & Technology, IGNOU, New Delhi
5. Attended and completed one week training course on “Energy Efficiency in Emerging Economies” during 10 – 13 December 2018 jointly conducted by IEA (International Energy Agency) and BEE (Bureau of Energy Efficiency).
6. Completed two week ISTE STTP on "Electrical Power System" from June 12, 2017 to July 15, 2017. This workshop was held under National Mission on Education through ICT (MHRD) at Dronacharya College of Engineering, Greater Noida.
7. Successfully completed a two weeks AICTE sponsored staff development programme on “Recent Advances in Electrical Power & Energy Systems” organized by Department of Electrical Engineering, Faculty of Engineering & Technology, Jamia Millia Islamia, New Delhi during December 09-22, 2011.

TRAINING PROGRAMMES / WORKSHOPS – LESS THAN A WEEK

1. Attended “Brainstorming workshop on the innovative solar PV technology and possibilities of their commercialization for large area PV modules in collaboration with industries” as panelist organized by Department of Applied Sciences and Humanities, Jamia Millia Islamia, New Delhi and sponsored by Department of Science and Technology (DST), Ministry of Science and Technology, Government of India on December 21, 2022.
2. Participated in two day national seminar titled “विज्ञान और प्रौद्योगिकी में वैज्ञानिक और तकनीकी शब्दावली का उपयोग” jointly organized by Commission for Scientific and Technical Terminology, MHRD, Gol and School of Engineering & Technology, IGNOU, New Delhi during November 25 – 26, 2019.
3. Attended round table on solar energy being organized by HCL Foundation in association with MART and Great Lakes, Gurgaon on April 18, 2019 as delegate. Topic of round-table is "Transforming Rural Lives by Converting Energy Poverty into Energy Prosperity through Solar Energy".
4. Attended the round table discussion on “Future of Energy Research and Education” at IIT, Bombay on 14th December 2018 as a part of their Diamond Jubilee Workshop.
5. Attended “4th Annual Power Summit (Theme: 24 by 7 power for all)” on 5th October 2018 as special invitee organized by Diligentia Advisors in association with ICF International as a knowledge partner in New Delhi.
6. Attended a Seminar on “Transition to a Clean Power Generation-Mix – Challenges and Opportunities” on April 12, 2018 organized by CEEW (Council on Energy, Environment and Water) at Silver Oak Hall, India Habitat Centre, New Delhi.
7. Attended the corporate conclave (Solar Revolution: The New Global Norm) at the World Sustainable Development Summit 2018 organized by Ministry of New and Renewable Energy, International Solar Alliance and TERI on February 16, 2018 at Stein Auditorium, India Habitat Centre.
8. Attended the round table discussion as expert on “Progress and Challenges in The Field of Energy Education” at IIT, Bombay on December 13, 2017 in the 6th International Conference on Advances in Energy Research (ICAER) 2017.
9. Attended a workshop on “Integration Challenges and Roadmap to foster large scale RE” on May 23-24, 2016 as part of Indo German Energy Program – Green Energy Corridor Project (IGEN-

GEC), jointly implemented by the Ministry of New and Renewable Energy (MNRE) and Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ) GmbH, a global consulting consortium (Ernst & Young, Fraunhofer IWES, Oldenburg University and Fichtner).

10. Attended TLA (Trans India Law Associates) International Energy Conference as delegate on April 15, 2016 at India Habitat Centre, New Delhi.
11. Participated in one day workshop titled "Adding Sustainability to Engineering Courses" organized by TERI University, New Delhi (India) and Center for Sustainable Engineering, Syracuse University (New York) on January 12, 2015. Resource Persons were Dr Cliff Davidson (Syracuse University, New York) and Dr Ted Russell (Georgia Tech, Atlanta).
12. Participated in the IEEE and ISTE sponsored workshop on "Research Issues in Power, Signal & Communication Engineering (RISPSCE-2014)" at ITS Engineering College, Greater Noida during 18-19 December, 2014.
13. Attended a one day workshop on "MATLAB & SIMULINK" held on August 27, 2013 at Galgotias College of Engineering & Technology, Greater Noida conducted by CETPA INFOTECH PVT. LTD.
14. Attended a one day workshop titled "Energy Conservation and Renewable Energy" at School of Engineering & Technology, IGNOU, New Delhi on April 22, 2013.
15. Attended an expert lecture on March 29, 2012 titled "Smart Grid and Renewable Energy Sources: Solar and Wind Technologies" organized by IEEE Jamia Millia Islamia in association with Department of Electrical Engineering, F/o Engineering & Technology, Jamia Millia Islamia, New Delhi. The lecture was delivered by Prof. Saifur Rahman, Director ARI, Virginia Tech USA.
16. Participated in AICTE sponsored two days seminar titled "Applications of Signal Processing in Electrical and Electronics Engineering" on February 24-25, 2012 at ITS Engineering College, Greater Noida.
17. Attended a guest lecture on "Smart Grid" at GCET, Gr. Noida on February 13, 2012. The lecture was delivered by Dr. Iqbal Ali, Associate Professor, Electrical Engineering, Jamia Millia Islamia, New Delhi.
18. Organized an expert lecture on "Power Scenario of the Country and Thermal Power Generation" on April 14, 2010 at AFSET, Faridabad. The lecture was delivered by Mr.B.Basu Roy, NTPC, Himachal Pradesh.
19. Organized a workshop on "Industrial Applications of PLCs, SCADA and Embeded Systems" by Prolific Systems Pvt. Ltd., NOIDA at CET-IILMAHL, Gr. Noida.
20. Organized a three day workshop on "Detection of Adulteration in Food Stuff" at AFSET, Faridabad catalyzed and supported by RVPSP, DST, New Delhi during 27th - 29th January, 2010.
21. Arranged one day workshop on "Familiarization of PLC, SCADA and Embeded System" at Prolific Systems Pvt. Ltd., NOIDA on February 27, 2009.
22. Coordinator of "National Science Day - 2008" celebration at AFSET on February 28, 2008. The Programme was catalyzed and supported by RVPSP, DST, New Delhi and HSCST, Chandigarh.
23. Organized a one day Lecture on "Energy Problems Facing by the 3rd World & their Probable Solutions" delivered by Dr.D.P.Kothari, Director (Administration), IIT, Delhi on 9th February 2007 at ACE, Sohna.
24. Participated in a workshop on "Production and Utilization of Bio - Diesel" at ACE, Sohna on 9th January 2007.
25. Attended an International Conference on "Challenges and Strategies for Sustainable Energy, Efficiency and Environment" at U.P.T.U, Lucknow held during 10th - 11th June 2006.
26. Organizing Secretary of the National Conference held at GLAITM, Mathura during 17th - 18th April 2005 titled "Unearthing Technological Developments and their Transfer for Serving Masses".

ADMINISTRATIVE ACTIVITIES:

- HoD of Department of Sustainable Engineering at TERI SAS

- Coordinator of IQAC at TERI SAS
- Member of Board of Management at TERI SAS
- Placement Coordinator of M.Tech (REEM) at TERI SAS
- Programme Coordinator of M.Tech (REEM) at TERI SAS
- Invited member of Academic Council at TERI SAS, New Delhi
- Member of Library Committee and Students' Complaint Redressal Committee at TERI SAS
- Convener of Outreach & Website Committee at TERI SAS, New Delhi
- Officiating Head (EE) at GCET, Gr. Noida
- 1st year academic coordinator at CET-IILMAHL, Gr. Noida
- Head of Department (EEE) at AFSET, Faridabad
- Member of Academic Council at AFSET, Faridabad
- Chairman of Board of Studies at AFSET, Faridabad
- Coordinator of M.Tech (Power Systems). Being coordinator, the onus of managing the theory & lab classes, monitor the performance of the students etc. is on me
- Member of Syllabus Review Committee at ACE, Gurgaon
- Member of "Renewable Energy Club" working within the framework of guidelines issued by Ministry of Non – Conventional Energy Sources, Govt. of India at ACE, Sohna
- Editor of college magazine of GLAITM, Mathura
- Member of Academic Council at GLAITM, Mathura
- Member of Governing Council of Electrical Society (E - SOC) at GLAITM, Mathura

ACHIEVEMENTS:

- Member of technical committee of International Conference on Machine learning, Advances in computing, Renewable & Communication (MARC) sponsored by Springer for 2018 & 2020
- Member of international technical committee of 2nd International Conference on Global Warming and Climate Change 2019 (GlobeWarm '19) to be held on the 03rd – 04th October 2019 in Hotel Windsor Suites & Convention, Bangkok, Thailand under the theme "Global Warming and Planning the Sustainable future" organized by The International Institute of Knowledge Management (TIKM) in collaboration with Faculty of Science, Alexandria University, Egypt and Center for Sustainability, Department of Forestry and Environmental Sciences, University of Sri Jayewardenepura, Sri Lanka.
- Invited member at IIT, Bombay as a member of the committee for research in energy education.
- Reviewer of Elsevier Journals
- Reviewer of Springer Journals
- Reviewer of IEEE conference papers.
- Got the best student feedback (9.6/10.0) at TERI SAS
- Got the best student feedback (9.4/10.0) at GCET, Gr. Noida.
- Got the best student feedback (4.7/5.0) at CET-IILMAHL, Gr. Noida.
- Restructured and designed the entire course curriculum (credit distribution, outlines and detailed syllabi) of M.Tech (Renewable Energy Engineering and Management) for TERI School of Advanced Studies as per industry requirement commensurate with R&D.
- Designed the entire course curriculum (credit distribution, schemes and detailed syllabi) of M.Tech (Power Systems) for M.D. University, Rohtak.
- Adjudged best teacher by the students at GLAITM, Mathura.
- Designed the syllabi of 'PLC & SCADA'. Later it was introduced in the curriculum of final year Electrical & Electronics Engineering in M.D. University, Rohtak.



(NAQUI ANWER, PhD)