

## List of Publications

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### Journal Publications

The following works included in this thesis have been published/ communicated in the following journals:

1. Ashish Patel, Hitesh Datt Mathur and Surekha Bhanot, "An improved control method for Unified Power Quality Conditioner with unbalanced load", International Journal of Electrical Power and Energy Systems, vol. 100, pp. 129-138, 2018. (SCI journal, Publisher- Elsevier, DOI: <https://doi.org/10.1016/j.ijepes.2018.02.035>)
2. Ashish Patel, Hitesh Datt Mathur and Surekha Bhanot, "A new SRF based power angle control method to integrate solar PV into grid", International Transaction on Electrical Energy Systems, vol. 29, pp. e2667, 2019. (SCI journal, Publisher- Wiley, DOI: <https://doi.org/10.1002/etep.2667>)
3. Ashish Patel, Hitesh Datt Mathur and Surekha Bhanot, "Enhancing VA sharing between shunt and series APFs of UPQC with a modified SRF-PAC method", IET Power Electronics, vol.13, issue. 2, pp. 275-285, 2020. (SCI journal, Publisher- IET, DOI: <https://doi.org/10.1049/iet-pel.2018.6329>)
4. Ashish Patel, Sisir K. Yadav, Hitesh Datt Mathur, Surekha Bhanot and Ramesh C. Bansal, "Optimum Sizing of PV based UPQC-DG with Improved Power Angle Control", Electric Power Systems Research. (Accepted, available online)

### Conferences

The following works included in this thesis have been presented in the following conferences:

1. Ashish Patel, Hitesh Datt Mathur and Surekha Bhanot, "A simple approach to improvement in performance of UPQC-DG in presence of unbalanced load", in

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- 2017 9th Asia Pacific Power and Energy Conference (APPEEC), IEEE, 2017, Bangalore, India.
2. Ashish Patel, Hitesh Datt Mathur and Surekha Bhanot, "A new and simple SRF based power angle control method to integrate solar PV into grid", in 2017 7th International Conference on Power Systems (ICPS), IEEE, 2017, Pune, India.
  3. Ashish Patel, Hitesh Datt Mathur and Surekha Bhanot, "Improving Performance of UPQC-DG for Compensation of Unbalanced Loads", in 2018 8th India International Conference on Power Electronics (IICPE), IEEE, 2018, Jaipur, India.
  4. Ashish Patel and Pradyumn Chaturvedi, "Performance of SRF-UVTG based UPQC-DG for integration of solar PV with non-linear loads", in 2016 7th IEEE Conference on Power Electronics, Drives and Energy (PEDES), IEEE, 2016, Trivandrum, India.

## Brief Biography of the Candidate

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Ashish Patel received the B.Tech. degree from Indian Institute of Technology, Banaras Hindu University, Varanasi, India in 2011 and M.Tech. degree from Indian Institute of Technology, Bombay, India in 2015. He is currently working as assistant professor (grade-II) at department of Electrical and Electronics Engineering, Birla Institute of Technology and Science, Pilani-Rajasthan, India, where, he is also working towards his PhD. His research interests include microgrids, renewable energy integration, power quality and power electronics for renewable energy. He has authored four research papers in peer-reviewed international journals of repute and his four papers have been presented in international conferences. He is co-principal investigator of a research project entitled, "Development of Improved Design and Control Strategies for UPQC-DG" funded by Central Power Research Institute, Bangalore under RSoP scheme.

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## **Brief Biography of the Supervisor**

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Hitesh Datt Mathur received B.E. degree from Nagpur University, Nagpur, India, in 1998; M.E. degree from Malaviya Regional Engineering College, Jaipur, India, in 2000; and the Ph. D. degree from Birla Institute of Technology and Science (BITS), Pilani, India in 2007 and He was Post-Doctoral Fellow in Supelec, Paris, France in 2013. He was also visiting scientist to Centralesupelec, France in May- June of 2015 and May- June of 2019.

Currently, He is Associate Professor in the Department of Electrical and Electronics Engineering, Birla Institute of Technology and Science, Pilani. He is having teaching and research experience of more than 20 years. Dr. Mathur is Associate Editor of IET Renewable Power Generation as well as in editorial board and reviewer of various journals mainly in field of electrical power system, renewable energy.

He is a Senior member IEEE, Fellow of Institution of Engineers (India), Chartered Engineer and life member of Indian Society of Technical Education. He has published more than 65 papers in national/international journals and conference proceedings. His research interests include power system control of isolated and interconnected power systems, power system optimization, automatic generation control and artificial intelligence techniques applications in power systems and distributed generation (DG) with grid interconnection issues. He is handling research projects related to area of Electrical power system, renewable energy etc.

## **Brief Biography of the Co-Supervisor**

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Professor Surekha Bhanot obtained B.E. (Hons) Mechanical Engineering and MPhil (instrumentation) from BITS, Pilani., and PhD from IIT Roorkee(then University of Roorkee). She has 17 years of teaching experience in BITS Pilani, and 19 years in Thapar University. She is presently Professor at EEE Department BITS Pilani,. Her teaching and research areas are sensors, industrial instrumentation & automation, biomedical instrumentation, application of AI techniques in process modeling, control, image processing. She has been guiding projects/theses at first degree, high degree and phd level and has published papers in international, national journals and conferences. She has published a book “Process Control, Principles and applications” with Oxford University press. She is Reviewer of many books, research papers and sponsored projects. She received best teacher award at Thapar university and nominated by globally dispersed BITS alumni as a teacher that they would specially like to recognise.

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