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## RESEARCH INTERESTS

Self-excited induction generators, power electronics, wireless power transfer, power quality, renewable energy (solar, hydro), distributed generation, and active power filters.

## ACADEMICS

Qualification	Specialization	Year of completion	Institution
Ph.D.	Design and Development of VFD based Voltage and Frequency controllers for a Self-Excited Induction Generator (SEIG) in Micro-Hydro Power Generation	2014	Indian Institute of Technology Delhi
B. Tech	Electrical and Electronics Engg.	2006	Jawaharlal Nehru Technological University Hyderabad, India.

## ACADEMIC EXPERIENCE

1. **Assistant Professor at Electrical Engineering Department, Sardar Vallabhbhai Patel National Institute of Technology (Dec.2019-till date).**
2. **Postdoctoral Research Fellow at Khalifa University of Science and Technology (Aug. 2019-Nov.2019).**
3. **Research/Teaching Associate at Khalifa University of Science and Technology (Dec.2014-July 2019).**
4. **Postdoctoral Research Fellow at National University of Singapore (Nov.2013-Oct.2014).**

## INTERSHIP/INDUSTRIAL TRAINING

I was an Intern at **GE Global Research, John. F. Welch Technology Centre**, Bangalore, India (May, 2010 –Aug. 2010).

- Developed a detailed **mathematical model of three-phase induction machine including core loss component** in Matlab/Simulink.
- **A vector controlled induction motor drive** for refrigerator application has been developed in Matlab/Simulink environment.

## PUBLICATIONS

### Journals: (Published and accepted)

1. **Rajasekhareddy Chilipi**, Naji Al Sayari, and Jamal Al Sawalhi, "Control of dual converter-based grid-tied SPV system with series–shunt compensation capabilities", *IET Renewable Power Generation*, Accepted for Publication, 2019.
2. **Rajasekhareddy Chilipi**, Naji Al Sayari, and Jamal Al Sawalhi, "Control of Single-Phase Solar Power Generation System with Universal Active Power Filter Capabilities using Least Mean Mixed-Norm (LMMN)-based Adaptive Filtering Method", *IEEE Transactions on Sustainable Energy*, Accepted for Publication, 2019.
3. **Rajasekhareddy Chilipi**, Naji Al Sayari, and Abdelali El Aroudi, "Coordinated Control of Parallel Operated Renewable-Energy-Based DG Systems", *IET Renewable Power Generation*, vol.12, no.14, pp 1623-1632, Oct. 2018.
4. **Rajasekhareddy Chilipi**, Naji Al Sayari, Khalifa Al Hosani, Muhammed Fasil, and Abul R. Beig, "Third order sinusoidal integrator (TOSSI)-based control algorithm for shunt active power filter under distorted and

unbalanced voltage conditions,” *International Journal of Electrical Power & Energy Systems*, Volume 96, 2018, Pages 152-162.

5. **Rajasekhareddy Chilipi**, Naji Al Sayari, Khalifa Al Hosani, and Abdul R. Beig “Adaptive Notch Filter Based Multipurpose Control Scheme for Grid-Interfaced Three-Phase Four-Wire DG Inverter” *IEEE Transactions on Industry Applications*, vol. 53, no. 4, pp. 4015-4027, July-Aug. 2017.
6. Naji Al Sayari, **Rajasekhareddy Chilipi**, Khalifa Al Hosani, and Fahad Al Maskari “Grid Synchronization and Control of Distributed Generation Unit with Flexible Load Compensation Capabilities using Multi-Output LMS-Filter” *International Journal of Electrical Power & Energy Systems*, vol. 93, pp. 253-265, December 2017.
7. **Rajasekhareddy Chilipi**, Naji Al Sayari, Khalifa Al Hosani, and Abdul R. Beig, “A Control Scheme for Grid-Tied DG Inverter under Unbalanced and Distorted Utility Conditions with Power Quality Ancillary Services” *IET Renewable Power Generation*, vol.10, no.2, pp.140-149, 2016.
8. **Rajasekhareddy Chilipi**, Naji Al Sayari, Abdul R. Beig and Khalifa Al Hosani, “A Multitasking Control Algorithm for Grid-Connected Inverters in Distributed Generation Applications Using Adaptive Noise Cancellation Filters” *IEEE Transaction on Energy Conversion*, vol. 31, no. 2, pp. 714-727, June 2016.
9. Naji Al Sayari, **Rajasekhareddy Chilipi** and Mohamad Barara, “An adaptive control algorithm for grid-interfacing inverters in renewable energy based distributed generation systems,” *Elsevier Journal of Energy Conversion and Management*, vol. 111, pp. 443-452, March 2016.
10. Bhim Singh, S. S. Murthy, **Rajasekhareddy Chilipi**, and Prachi Arora, “Implementation of modified current synchronous detection method for voltage control of self-excited induction generator,” in *IET Power Electronics*, vol.8, no.7, pp.1146-1155, 2015.
11. **Rajasekhareddy Chilipi**, Bhim Singh and S. S. Murthy “Performance of a Self-Excited Induction Generator with DSTATCOM-DTC Drive Based Voltage and Frequency Controller,” *IEEE Transactions on Energy Conversion* vol.29, no.3, pp.545-557, Sept. 2014.
12. Bhim Singh, S. S. Murthy, **Rajasekhareddy Chilipi**, Sandeep Madishetti, and G. Bhuvaneswari, “STATCOM-VFD based voltage and frequency control of Small-Hydro Driven SEIG System,” *IET Generation, Transmission and Distribution*, vol.8, no.9, pp.1528-1538, Sept. 2014.
13. Bhim Singh, S. S. Murthy, and **Rajasekhareddy Chilipi**, “STATCOM Based Controller for a Three-Phase SEIG Feeding Single-Phase Loads,” *IEEE Transactions on Energy Conversion* vol.23, no.2, pp.320-331, June 2014.
14. **Rajasekhareddy Chilipi**, Bhim Singh, S. S. Murthy, Sandeep Madishetti, and G. Bhuvaneswari, “Design and Implementation of Dynamic Electronic Load Controller for Three-Phase SEIG in Remote Small-Hydro Power Generation,” *IET Renewable Power Generation*, vol.8, no.3, pp.269-280, April 2014.
15. **Rajasekhareddy Chilipi**, Bhim Singh and S. S. Murthy “A New Voltage and Frequency Controller for Standalone Parallel Operated Self-Excited Induction Generators,” *International Journal of Emerging Electric Power Systems*, vol. 13, no. 1, pp. 1–17, February 2012.
16. **R. S. R. Chilipi**, Bhim Singh, and S. S. Murthy, “A New Three-phase Four-wire Integrated Voltage and Frequency Controller for a Self-Excited Induction Generator Employing Water Pumping,” *Journal of The Institution of Engineers (India)*, vol. 92, pp. 3-10, June 2011.

#### Conferences: (Published)

- **R. S. R. Chilipi**, Bhim Singh, and S. S. Murthy, “A 3-leg VSC based integrated voltage and frequency controller for a self excited induction generator employing water pumping,” in *Proc. of IEEE Intl. Conf. on Industrial and Information Systems*, July -Aug. 2010, pp.580-585.
- Ujjwal Kumar Kalla, Bhim Singh, S. S. Murthy, Krishan Kant, and **Rajasekhareddy Chilipi**, “Adaptive harmonic cancellation scheme for voltage and frequency control of a single-phase two-winding SEIG,” in *IEEE Industry Applications Society Annual Meeting*, vol., no., pp.1-7, 18-22, Oct. 2015.
- **Rajasekhareddy Chilipi**, Naji Al Sayari, Khalifa Al Hosani, and Abdul R. Beig “Adaptive Notch Filter Based Multipurpose Control Scheme for Grid-Interfaced Three-Phase Four-Wire DG Inverter” 2016 IEEE Industry Applications Society Annual Meeting, Portland, OR, 2016, pp. 1-8.
- Muhammed Fasil, Abdul R Beig, **Rajasekhareddy Chilipi**, Saikrishna Kanukollu, Naji Al Sayari and Khalifa Al Hosani, “Mitigation of Harmonics in Drilling Rigs using Shunt Active Power Filters” *2016 IEEE Energy Conversion Congress and Exposition (ECCE), Milwaukee, WI, USA, 2016, pp. 1-8.*

## PATENTS

- Co-inventor of an Indian patent “A New Digital Voltage Controller for Power quality Improvement in Two-winding Single-phase Self-excited Induction Generator System Driven by Bio-diesel/gas Prime Movers,” Indian Patent No. 3115/DEL/2013. Published on 31<sup>st</sup> Oct. 2016.

## HONORS AND AWARDS

- MHRD Scholarship -Govt. of India for Ph.D. studies.
- Received award from *Indian Ministry of Energy, Department of Power for the best paper* published on Power Development and Utilization.

## PROFESSIONAL ACTIVITIES

- Reviewer for IEEE Transactions on Energy Conversion
- Reviewer for IEEE Transactions on Industry applications
- Reviewer for International Journal of Electrical Power and Energy Systems
- Reviewer for IET Renewable power generation
- Reviewer for IET Generation, Transmission and Distribution

## REFERENCES

**Dr. Najji Al Sayari** – Postdoc Supervisor

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