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GM UNIVERSITY

P. B. Road, Davanagere – 577 006 KARNATAKA | INDIA

GMU - Faculty & Staff Profile Templet



Contact

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Websites

Google Scholar:

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https://www.researchgate.net/profile/Raghavendra-Karasani?ev=hdr_xprf

ResearcherID: **G-3771-2016**

Scopus Author ID: **57191270172**

Dr. Raghavendra Reddy Karasani

Associate Professor in EEE

Faculty

Faculty of Engineering and Technology

School / Program

Faculty of Engineering and Technology/

B.Tech. in Electrical and Electronics Engineering

Faculty Introduction

Dr. Raghavendra Reddy Karasani is an Associate Professor in Electrical Engineering. His expertise lies in advanced power converters and multilevel inverters. A significant focus of his research is on electric and hybrid vehicle systems. His work has been disseminated through various renowned journals. He has also presented his findings at numerous international conferences. Throughout his career, he has contributed to the field across multiple academic institutions.

Qualifications

Ph.D. (Power Electronics and Renewable Energy)

Visvesvaraya National Institute of Technology (VNIT), Nagpur, Maharashtra, 2017

M. Tech. (Power Control and drives)

National Institute of Technology (NIT) Rourkela, Odisha, 2008

BE (EEE)

Jawaharlal Nehru Technological University (JNTUH) Hyderabad, Telangana 2003

Experience

Teaching

- 14 years at various institutions and levels
- 2024 – 2025; Faculty (On Contract)
National Institute of Technology Goa (NITG)
- 2018 – 2024; Associate Professor
Sreenidhi Institute of Science and Technology (SNIST),
Hyderabad



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- 2017 – 2018; Assistant Professor
Sagi Ramakrishnam Raju Engineering College (SRKR), west Godavari, Andhra Pradesh
- 2012 – 2014; Assistant Professor
Sir C R Reddy College of Engineering, Eluru, Andhra Pradesh
- 2008 - 2012; Assistant Professor
EVM College of Engineering and Technology, Narasaraopet Andhra Pradesh

Research Interest

- Power Electronics,
- Electric vehicle
- smart grid and Sustainable Energy Systems

Publication / Patents

International Journals

- [1] **Karasani, R. R.**; Borghate, V. B.; Meshram, P. M.; Suryawanshi, H. M.; Sabyasachi, S.;"A Three Phase Hybrid cascaded Modular Multilevel Inverter for Renewable Energy Environment," **IEEE Trans. Power Electron.**, Vol. 32 , No. 2, pp. 1070-1087, Feb., 2017, ISSN: 1941-0107, **Quartile: Q1; Impact Factor 8.26**
- [2] Sabyasachi, S.; Borghate, V. B.; **Karasani, R. R.**; Santosh Kumar M.; Suryawanshi, H. M.;" Hybrid Control Technique Based Three Phase Cascaded Modular Multilevel Inverter Topology", **Journal of IEEE ACCESS** ,Vol. 5 , No. 1, pp. 26912-26921, Dec 2017, ISSN: 2169-3536, **Quartile: Q1 ;Impact Factor 4.82**
- [3] Santosh Kumar, M.; Borghate, V. B.; **Karasani, R. R.**; Sabyasachi, S.; Suryawanshi, H. M.;"A Fault Tolerant modular multilevel Inverter Topology", **International Journal of Circuit Theory and Applications**, John Wiley & Sons Ltd, pp. 1-16, 2018, ISSN: 1097-007X, **Quartile: Q3; Impact Factor 2.45**
- [4] Raju D. K., Aravind Singh, Mohan P. Thakre,; **Karasani, R. R.**; Raj Nadioo;" Adaptive Digital Distance Relay For SSSC Based Double Circuit Transmmission Line Using Phasor Meausrement Unit", **International Transactions on Electrical Energy Systems**, pp. 1-19, Nov. 2018, ISSN: 2050-7038, **Quartile: Q2;Impact Factor 2.83**
- [5] **Karasani, R. R.**; Borghate, V. B.; Meshram, P. M.; Suryawanshi, H. M.;"A Modified Switched-Diode Topology Of Cascaded Multilevel Inverter", **Journal of Power Electronics**, Vol. 16 , No. 5, pp. 1706-1715, Sep., 2016, ISSN: 2093-4718, **Quartile: Q3, Impact Factor 1.69**
- [6] Hemanth Kumar, B; Lokhande, M. M.; **Karasani, R. R.**; Borghate, V. B.;" Fault Tolerant Operation of CHB Multilevel



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- Inverter Based on SVM Technique Using an Auxiliary Unit”, ***Journal of Power Electronics***, Vol. 18 , No. 1, pp. 56-69, 2018, ISSN: 2093-4718, **Quartile: Q3; Impact Factor 1.69**
- [7] **Karasani, R. R.**; Borghate, V. B.; Sabyasachi, S.; Suryawanshi, H. M.; Meshram, P. M.; “Cascaded Multilevel Inverter Topology Developed From A Modified H-Bridge” ***Electric Power Components and Systems (Taylor & Francis)***, Vol. 45 , No. 11, pp. 1191-1201, July 2017, ISSN: 5312-5016, **Quartile: Q3; Impact Factor 2.03**
- [8] Santosh Kumar, M.; Borghate, V. B.; **Karasani, R. R.**; Sabyasachi, S.; Suryawanshi, H. M.,” A Three Phase Nine Level Fault Tolerant Asymmetrical Inverter”, ***Arabian Journal for Science and Engineering, (Springer)***, pp. 1-12, 2018, ISSN: 2191-4281, **Quartile: Q1; Impact Factor 3.67**
- [9] Hemanth Kumar, B; Lokhande, M. M.; **Karasani, R. R.**; Borghate, V. B.,” A Modified Space Vector PWM approach for Nine-Level Cascaded H-bridge Inverter”, ***Arabian Journal for Science and Engineering, (Springer)***, pp. 1-19, 2018 ISSN: 2191-4281, **Quartile: Q1; Impact Factor 3.67**
- [10] Hemanth Kumar, B; Lokhande, M. M.; **Karasani, R. R.**; Borghate, V. B.,” An Improved Space Vector Pulse Width Modulation for Nine-Level Asymmetric Cascaded H-Bridge Three Phase Inverter”, ***Arabian Journal for Science and Engineering, (Springer)***, pp. 1-13, 2018, ISSN: 2191-4281, **Quartile: Q1; Impact Factor 3.67**
- [11] Santosh Kumar, M.; Borghate, V. B.; **Karasani, R. R.**; Sabyasachi, S.; Suryawanshi, H. M. ,”A Linear Generator based wave power plant model using Reliable Multilevel Inverter ” ***IEEE Transaction on Industry Applications Journal (IEEE-IAS)*** , Vol. 55, NO.3 pp. 2964-2972 **ISSN. 1939-9367, Feb, 2019, Quartile: Q1; Impact Factor 5.49**
- [12] T Abhiram , **R R Karasani** ,” Fuzzy-2 Deployment in Indirect Vector Control and Hybrid Space Vector Modulation for a Two-Level Inverter fed Induction Motor Drive”, ***Scientific Reports (Accepted), 2025*** , **Quartile: Q1; Impact Factor 3.4**

International Conferences

- [1] **K. R Reddy**; Sabyasachi, S.; Meshram, P. M.; Borghate, V. B.,”An Asymmetrical Multilevel Inverter Topology with Reduced Source Count”, ***IEEE Students' Conference on Electrical, Electronics and Computer Science, SCEECS***, ISBN: 978-1-4673-7918-2, Bhopal, March 5-6, 2016. **Quartile: Q3**
- [2] **Karasani, R. R.**; Sabyasachi, S.; Santosh Kumar M.; Borghate, V. B.” A Modified Three Phase 5-level Symmetrical Multilevel Inverter Topology”, The 8th National Power Electronics Conference (NPEC) Pune / 2017 **Quartile: Q3**
- [3] Sabyasachi, S.; Borghate, V. B.; Santosh Kumar, M; **Karasani, R. R.**; ”A Reliable Multilevel Inverter with Fault Tolerance”, ***TENCON 2017 - 2017 IEEE Region 10 Conference***, pp. 557-



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562, ISBN. 978-1-5090-1134-6, Penang, Malaysia, 5-8 Nov. 2017 **Quartile: Q2**

- [4] Santosh Kumar, M.; Borghate, V. B. Sabyasachi, S; **Karasani, R. R.**” A Fault Tolerant Cascaded Multilevel Inverter Topology For Open Circuit Faults In Switches”, IEEE International Transportation Electrification Conference (ITEC) 2017 Pune. **Quartile: Q2**
- [5] Sabyasachi, S.; Borghate, V. B.; **Karasani, R. R.**; Santosh Kumar, M.” A Single Phase Hybrid multilevel Inverter developed from Half Bridge Cells”, The 8th National Power Electronics Conference (NPEC) Pune / 2017. **Quartile: Q3**
- [6] Sabyasachi, S.; Borghate, V. B.; Santosh Kumar, M; **Karasani, R. R.**,” A Modified Reverse Voltage Inverter Topology With Inverted Sine Wave Carrier Pwm Technique”, IEEE International Transportation Electrification Conference (ITEC) 2017 Pune. **Quartile: Q2**
- [7] K Raghavendra Reddy, T Abhiram, “A Generalized Single Phase Cascaded Modular Multilevel Inverter based on Inter and Intra Module Configurations”, IEEE Conference ICICCSP, Hyderabad, SNIST, July 21-23, 2022, **Quartile: Q3**
- [8] Gayatri; Deekshit; R R Karasani; Pohan,”Series EHV Fundamentals and Future Prospects: Virtual Design Environment, IEEE 4th Conference SEFET, Hyderabad, July 31-03 Aug., 2024 **Quartile: Q4**

Professional Membership

- Student member of IEEE (2015-17)
- Member of IEEE (2017-18)

Awards & Recognitions

- Best Faculty
- Best Research Scholar

Administrative Responsibilities

- Department Level
- University Level

Workshops / FDPs / Seminars Attended

- Smart Grid Applications under TEQIP-II Condition monitoring of Transformers and Induction motors under TEQIP-II organized by VNIT Nagpur, during 8-9 January 2015
- Condition monitoring of Transformers and Induction motors under TEQIP-II organized by VNIT Nagpur, during 27-28 March 2015
- Charging systems for Electric Vehicles sponsored by GIAN organized by VNIT Nagpur, during 7-12 December 2016
- Application of Power Electronics to Renewable Energy Under NAMPET organized by NIT Goa, during 12-14 May 2016
- Electric Vehicle organized by NIT Warangal supported by MEITY during 28 May-1 June 2018



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- Control and Applications of Resonant Inverters sponsored by SERB organized by NIT Warangal, during 14-15 February 2020

Workshops / FDPs / Seminars Organized

- Emerging Technologies & Challenges in Utilizing Smart Electric Power, ETCUP-2022, 9-13 June 2022 Online mode SNIST, Hyderabad
- Recent Innovative techniques in power system applications RIPSA-2019, 22-27 July 2019, SNIST, Hyderabad