

Annual Conference of the IEEE Industrial Electronics Society (IECON 2021)

Special Session on

“Modern Power Converters and Control for Renewable Energy Systems and Smart/Micro Grids”

Organized by

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Call for Papers

Non-conventional power sources, such as wind generators, photovoltaic panels, fuel-cell, biomass, and offshore renewable energy technology needed to maintain an isolated load in standalone procedures and instantly linked to the grid for co-generation. This communication is established through power electronic links that should provide power flow control, voltage principle, excessive cohesion, and low electromagnetic radiation, along with large power density, reasonable cost, and high security. In some operations where a high-power level is prescribed, the switching frequency of the power semiconductors is reduced and the adoption of multilevel or interleaved converters becomes essential. This conference special session focuses on the releases of advanced management systems employed to such power converters to enhance their practice, competence, accuracy, and cost-efficiency.

Topics of interest include, but are not limited to:

- Model-based control of power converters.
- Predictive control of power converters.
- Direct power control of power converters.
- Novel PWM Techniques for power electronics control.
- Grid connectivity control requirements.
- Control techniques of power electronic converters for biomass, offshore, and wind energy.
- Control techniques of power electronic converters for fuel cell and PV system.

1 Good quality papers may be considered for publication in the IEEE Trans. on Industrial Electronics, subject to further rounds of review.

- Advanced control of power electronics in smart grid.
- Optimal control in cogeneration systems.
- Real-time control and simulations of high-power converters Optimal design and Control of DC-DC Converter.
- Reduced voltage and current stress DC-DC Converters.

Submissions Procedure: All the instructions for paper submission are included on the conference website: <https://attend.ieee.org/iecon-2021/>

Deadlines:

Full paper submission : June 25, 2021

Paper acceptance notification : July 30, 2021

Camera-ready paper submission : Aug. 27, 2021

Organizers:



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Dr. Pandav Kiran Maroti (M'18 IEEE) received the Bachelor Degree in Electronics and Telecommunication from Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (India) in 2011 and Master of Technology in Power Electronics and Drives with distinction from Vellore Institute of Technology, Vellore (India) in 2014. He received a Ph.D. degree in the field of Power Electronics under the guidance of Prof. Sanjeevikumar Padmanaban (IEEE Senior Member) and co-guided Prof. Frede Blaabjerg (IEEE Power Electronics President and Fellow) from the University of Johannesburg in 2020. He Received GLOBAL EXPERIENCE SCHOLARSHIP (GES) for Ph.D. at the University of Johannesburg, South Africa for the academic year 2017-2020. He was working as Assistant Professor at Marathwada Institute of Technology, Aurangabad, Maharashtra (India) from 2014 to 2016. Now, he is a Research Assistant at Qatar University. He has published scientific papers in the field of power electronics, with particular reference to the Modified converter family, multilevel DC/DC and DC/AC converter, and high gain converter. He has authored 50 plus scientific papers and has received the Best Paper cum Most Excellence Research Paper Award from IEEE-ICIoT'20 and CENCON'19. Also, received two best paper awards from ETAEERE'16 sponsored Lecture note in Electrical Engineering, Springer book series. He is a member of IEEE, IEEE Industrial Electronics, Power Electronics, Industrial Application, and Power and Energy Societies. He is a reviewer member of various reputed International Conferences and journals including IEEE Access, TPEL, TIE.



Dr. A Rakesh Kumar (M'14-SM'21)

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Dr. A Rakesh Kumar (M'14-SM'21, IEEE) completed his Bachelors in Engineering with honors in "Electrical and Electronics Engineering" from Anna University, Chennai, India in 2011 and Masters in Engineering in "Power Electronics and Drives" from Anna University, Chennai, India in 2013. He worked as an Assistant Professor with the Department of EEE, Rajalakshmi Engineering College, Chennai, India from 2013 to 2015. He then went on to join for a full-time Ph.D. with the School of Electrical Engineering (SELECT), Vellore Institute of Technology (VIT) from 2015 to 2019. He was also serving as a Teaching cum Research

Assistant from 2015 to 2019 with the same. Currently, he is a Post-Doctoral Fellow with the Nano and Microgrid lab, Department of EEE, National Institute of Technology, Tiruchirappalli, India.

He is an active member of IEEE PELS and PES. He is part of the sub-committee headed by Prof. Henry Chung on “Power Electronics and Internet of Things” under the umbrella of IEEE Technical Committee (TC 6) on High Performance and Emerging Technologies. He is also a member of the IEEE Technical Committee (TC 12) on Energy Access and Off-Grid System. He is also a member of the IEEE PELS Educational Videos Committee initiative headed by Prof. Brad Lehman, Prof. Prasad Enjati and chaired by Prof. Katherine Kim. He is responsible for taking up the initiative of creating a promotional video and credits video for all the instructional videos from the IEEE PELS Educational Videos Committee. His field of interest includes multilevel inverters, inverter modulation techniques, nanogrid, and its applications.



Dr. Sanjeevikumar Padmanaban (M'12–SM'15)

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P. SANJEEVIKUMAR (M'12–SM'15, IEEE) received a Ph.D. degree in electrical engineering from the University of Bologna, Bologna, Italy 2012. He was an Associate Professor at VIT University from 2012 to 2013. In 2013, he joined the National Institute of Technology, India, as a Faculty Member. In 2014, he was invited as a Visiting Researcher at the Department of Electrical Engineering, Qatar University, Doha, Qatar, funded by the Qatar National Research Foundation (Government of Qatar). He continued his research activities with the Dublin Institute of Technology, Dublin, Ireland, in 2014.

Further, he served as an Associate Professor with the Department of Electrical and Electronics Engineering, University of Johannesburg, Johannesburg, South Africa, from 2016 to 2018. From March 2018 to February 2021, he has been a Faculty Member with the Department of Energy Technology, Aalborg University, Esbjerg, Denmark. Since March 2021, he has been with the CTIF Global Capsule (CGC) Laboratory, Department of Business Development and Technology, Aarhus University, Herning, Denmark.

P. Sanjeevikumar has authored over 300 scientific papers and was the recipient of the Best Paper cum Most Excellence Research Paper Award from IET-SEISCON'13, IET-CEAT'16, IEEE-EECSE'19, IEEE-CENCON'19 and five best paper awards from ETAERE'16 sponsored Lecture Notes in Electrical Engineering, Springer book. He is a Fellow of the Institution of Engineers, India, the Institution of Electronics and Telecommunication Engineers, India, and the Institution of Engineering and Technology, U.K. He is an Editor/Associate Editor/Editorial Board for refereed journals, in particular the IEEE SYSTEMS JOURNAL, IEEE Transaction on Industry Applications, IEEE ACCESS, IET Power Electronics, IET Electronics Letters, and Wiley-International Transactions on Electrical Energy Systems, Subject Editorial Board Member—Energy Sources—Energies Journal, MDPI, and the Subject Editor for the IET Renewable Power Generation, IET Generation, Transmission and Distribution, and FACTS journal (Canada).



Dr. Ramjee Prasad, Fellow IEEE, IET, IETE, and WWRF, is a Professor of Future Technologies for Business Ecosystem Innovation (FT4BI) in the Department of Business Development and Technology, Aarhus University, Herning, Denmark. He is the Founder President of the CTIF Global Capsule (CGC). He is also the Founder Chairman of the Global ICT Standardisation Forum for India, established in 2009. GISFI has the purpose of increasing the collaboration between European, Indian, Japanese, North-American, and other worldwide standardization activities in the area of Information and Communication Technology (ICT) and related application areas. He has been honored by the University of Rome “Tor Vergata”, Italy as a Distinguished Professor of the Department of Clinical Sciences and Translational Medicine on March 15, 2016. He is an Honorary Professor of the University of Cape Town, South Africa, and the University of

KwaZulu-Natal, South Africa. He has received the Ridderkorset of Dannebrogordenen (Knight of the Dannebrog) in 2010 from the Danish Queen for the internationalization of top-class telecommunication research and education. He has received several international awards such as IEEE Communications Society Wireless Communications Technical Committee Recognition Award in 2003 for making a contribution in the field of “Personal, Wireless and Mobile Systems and Networks”, Telenor's Research Award in 2005 for impressive merits, both academic and organizational within the field of wireless and personal communication, 2014 IEEE AESS Outstanding Organizational Leadership Award for: “Organizational Leadership in developing and globalizing the CTIF (Center for TeleInFrastruktur) Research Network”, and so on. He has been Project Coordinator of several EC projects namely, MAGNET, MAGNET Beyond, eWALL, and so on. He has published more than 50 books, 1000 plus journal and conference publications, more than 15 patents, over 145 Ph.D. Graduates, and a larger number of Masters (over 250). Several of his students are today worldwide telecommunication leaders themselves.