



**IEEE Gujarat Section Jt. Chapter of
IEEE Industrial Electronics Society, Industry
Applications Society & Power Electronics Society**

in association with

Department of Electrical & Computer Engineering, IITRAM

brings you an Expert Talk on

Role of Digital Technology in Green Energy Transition

by

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Role of Digital Technology in Green Energy Transition

Abstract

Due to the increased interconnections and loading of the network with liberalization and environmental pressure, the power systems have become complex and are facing many challenges in their optimal, secure and efficient operation. Green energy initiatives seem to provide remedial measures to these problems by computational intelligence, automation, advanced measurements and application of digital technology (DiTech). Future power system will be quite different from the existing one as it will foresee large market players with direct involvement of end users, more renewable energy sources and trading of electricity using DiTech.

Increased integration of new and renewable energy sources in the existing grid is one of the major concerns in the recent years which will have a significant influence on the operation and control of power systems. The main objective of this talk is to discuss the key issue in the green energy transition. The role of DiTech will also be discussed. The talk will provide a platform to an in-depth discussion on the various challenges and their possible remedies in green energy transition and digital energy transformation which will benefit participants from academic and R&D institutions, engineers of utilities and policy makers.

Speaker's Bio

Prof S. N. Singh obtained his M. Tech. and Ph. D. in Electrical Engineering from IIT Kanpur, in 1989 and 1995. Presently, Prof. Singh is Director, Atal Bihari Bajpayee - Indian Institute of Information Technology and Management Gwalior while being on leave from the position of Professor (HAG), Department of Electrical Engineering, IIT Kanpur. Before joining IIT Kanpur as Associate Professor, Dr. Singh worked with UP State Electricity Board as Assistant Engineer from 1988 to 1996, with Roorkee University (now IIT Roorkee) as Assistant Professor from 1996 to 2000 and with Asian Institute of Technology, Bangkok, Thailand as Assistant Professor from 2001 to 2002. He was the Vice-Chancellor of Madan Mohan Malviya University of Technology Gorakhpur during April 2017 to July 2020.

Dr. Singh received several awards including Young Engineer Award 2000 of Indian National Academy of Engineering, Khosla Research Award of IIT Roorkee, and Young Engineer Award of CBIP New Delhi, 1996. Prof. Singh is recipient of Humboldt Fellowship of Germany (2005, 2007) and Ottomonssted Fellowship of Denmark (2009-10). He became the first Asian to receive 2013 IEEE Educational Activity Board Meritorious Achievement Award in Continuing Education. He is also recipients of INAE Outstanding Teacher Award 2016 and IEEE Region-10 (Asia-Pacific) Outstanding Volunteer Award 2016. Dr. Singh is appointed as IEEE Distinguish Lecturer of Power & Energy Society from 2019 and Industry Applications Society for 2019-2021. He is also recipient of NPSC 2020 Academic Excellence Award, 2021 IEEE IAS Outstanding Educator/ Mentor Award and Prof. GK Dubey Life-time Achievement Award.

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Speaker's Bio (contd..)

His research interests include power system restructuring, FACTS, power system optimization & control, security analysis, wind power, etc. Prof. Singh has published more than 550 papers (h-index=59, Citation=14k+) in International/national journals/conferences and supervised 41 PhD (7 PhD under progress). He has also written 31 book chapters, 8 edited books and 2 text-books one on Electric Power Generation, Transmission and Distribution and second is Basic Electrical Engineering, published by PHI, India. Prof. Singh has completed 36 technical projects in India and abroad. His two NPTEL (YouTube) video lectures on HVDC Transmission and Power System Operation & Control are very popular.

Prof. Singh was Chairman, IEEE UP Section for 2013 & 2014, IEEE R10 (Asia-Pacific) Conference & Technical Seminar Coordinator (2015-2018) and R10 Vice-Chair, Technical Activities (2019-2020), IEEE India Council Chair (2019-2020). He was Chairman, JEE (Advance) 2016 and Head of Electrical Engineering Department of IIT Kanpur.

Dr. Singh is Fellow of IEEE (USA), IET (UK), NAE, AAIA, IE(I), IETE, AvH.