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ON ARCHITECTURES,
STRATEGIES AND
THEORIES FOR
INTEGRATING RENEWABLE
ENERGY SOURCES

Abstract:

Renewable energy sources such as solar and wind are time-varying. To enhance their usage, demand will need to be adjusted to meet supply, rather than the other way around as is traditional. This raises several issues lying at the confluence of economic behavior and elasticity, demand pooling, implicit or explicit storage, information availability, privacy, adaptation and control. This talk will propose several architectures, strategies and theories for addressing these issues.



Biography:

P. R. Kumar obtained his B. Tech. degree in Electrical Engineering (Electronics) from I.I.T. Madras in 1973, and the M.S. and D.Sc. degrees in Systems Science and Mathematics from Washington University, St. Louis, in 1975 and 1977, respectively. From 1977-84 he was a faculty member in the Department of Mathematics at the University of Maryland Baltimore County. From 1985-2011 he was a faculty member in the Department of Electrical and Computer Engineering and the Coordinated Science Laboratory at the University of Illinois. Currently he is at Texas A&M University, where he is a University Distinguished Professor and holds the College of Engineering Chair in Computer Engineering. Kumar has worked on problems in game theory, adaptive control, stochastic systems, simulated annealing, neural networks, machine learning, queueing networks, manufacturing systems, scheduling, wafer fabrication plants and information theory. His research is currently focused on energy systems, wireless networks, secure networking, automated transportation, and cyberphysical systems. He is a member of the National Academy of Engineering of the USA.