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CETB Distinguished Alumni Internationally Collaborate on Global Alliance Mission Innovation (MI) Research Projects to Build Smart Energy Technology

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In a recent news which should bring strong pride for Government Autonomous College of Engineering and Technology Bhubaneswar, 2 distinguished alumni collaborate on high profile Global Alliance Mission Innovation Projects.

In a project, IIT Kanpur Electrical Engineering Professor Dr. Santanu Mishra (1998 CETB alumnus) and University of North Texas (UNT) Professor Dr. Saraju Mohanty (1995 CETB alumnus) collaborate on a Mission Innovation, a Global Alliance project. The Mission Innovation (MI), which is a Global Alliance of 23 countries and the European Union

(<http://mission-innovation.net>), funded the following project under their Smart Energy Program: Mix-Energy-Source Electric Vehicle Charging System Design and its Impact on Indian Smart-Distribution-Grid, Mission Innovation - India, 2018-2021. The project has been funded for an amount estimated INR 3.5 Crores or US\$ 518,000. Professor Santanu K. Mishra from the Indian Institute of Technology Kanpur, India as the Principal Investigator with Professor Saraju Mohanty is a Senior Personnel on this project. The project plans to a smart charging system that can simultaneously charge 4 cars taking energy from grid and sunlight (solar) (<http://dst.gov.in/sites/default/files/Smart-grids-Brochure-22nd-May-2018.pdf>).

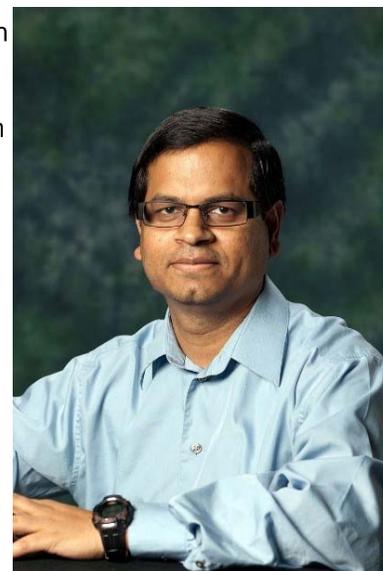
It is a high profile and high impact project. The project will have direct scientific and social impact. The project contributes to the India's dream of becoming 100 % EV by 2030 and it is a huge challenge for our distribution grid. This proposal aims at studying the technical feasibility of this approach and proposes development of feasible, robust, and cost-effective technologies and methodologies to facilitate this

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plan, using a hybrid-energy-mix approach. Factors that affect the choice of an EV charger include battery size, charging connection supported by the car, and capacity of the power supply infrastructure. An Electric Vehicle Supply Equipment (EVSE) is used to maintain compatibility and protection while charging a car from utility input. Its output is 230-V/50-Hz and it is fed to the on-board charger (rectifier) inside the car. This on-board charger is connected to the battery pack.

Prof. Santanu K. Mishra is a 1998 Electrical Engineering of CETB who has a Ph.D. degree from the University of Florida, USA. He worked as a senior application engineer with the International Rectifier Corporation in Rhode Island, USA, from 2004 to 2008. Currently, he is a Professor at the Indian Institute of Technology, Kanpur, India. He was a visiting professor at Center for Power Electronics Systems (CPES) at Virginia Tech. during fall of 2017. His research interests include power converter design, implementation, control, and applications in rural scenario. He serves as an associate editor of several journals including IEEE Transactions on Industry Applications, IEEE Transactions on Power Electronics, IEEE Consumer Electronics Magazine, and IET Power Electronics.

Prof. Saraju Mohanty is a 1995 batch EE alumnus of CETB with Ph.D. from University of South Florida, USA. Prof. Mohanty is a globally renowned researcher in "Smart Electronic Systems" who has attracted funding from agencies including National Science Foundation (NSF), Semiconductor Research Corporation (SRC), US Air Force, and Indo-US Technology Forum. Prof. Mohanty has received 4 best paper awards. He has delivered 4 keynotes. Prof. Mohanty is an author of 280 peer-reviewed articles and 3 books, and an inventor of 4 US patents. His Google Scholar h-index is 29 and i10-index is 90. He is Editor-in-Chief of IEEE Consumer Electronics Magazine. He was recently conferred IEEE Distinguished Leadership award for his sustained research and services in hardware area.



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