

Debmalya Banerjee, received the B.E. degree from Bengal Engineering and Science University, Kolkata, India, in 2001. He received M.E. and PhD degrees from Indian Institute of Science (IISc), Bangalore, in 2003 and 2008 respectively. His area of research is Load Commutated Inverter for Induction Motor Drive. This research fetched him a granted US patent.

He has gained industrial experience mainly in Regenerative Induction Motor Drives for high inertia, flywheel type of load from Integrated Electric Power Technologies, Bangalore. His main industrial research interest is the development of position sensor less field-oriented controls for Induction and Permanent Magnet Motors, Active front end converters, Battery Charging applications for isolated soft switching technology.

He worked as a Research Engineer on behalf of Hella Electronics, Pune in Advanced Power Electronics Laboratory, IEST, Shibpur prior to joining CHARGE laboratory, Dept. of ECE, University of Windsor, Canada.

He has been working in the capacity of technologically leading inverter design for high speed PM motor drive with a team of Post-doctoral, Doctoral level with domain knowledge, and Masters by research level candidates to produce results toward the industry partners in EV and Renewable Energy. He has worked towards SOFC applications with Wind Power in focus with Bloom Energy and Suzhou Green Energy.

In this process, he has secured several patent applications, granted US patent, conference publication with industry partners.

He supervised students working with MATLAB Embedded controllers with TI-DSP and OPAL RT, PSpice based circuit simulation and Altium based PCB design.

Additionally, he has supervised students with MATLAB-Simulink, PLECS based Power inverter efficiency calculation with drive cycle analysis.

Career Goal: To move through cutting edge research and technology in the broader area of Power Electronics and Motor Drives.

Aiming to contribute to organizational requirements and publications through patents and peer reviewed research.

Financial model:

With this experience, the applicant can suggest to take the safe (in terms of simple design of gate drive) and economic and project need based selection of semiconductor devices in industrial research of modular multilevel converters with diode switch and shunt passive filter based application and new product introduction in terms of flywheel and energy storage based microgrid systems in different applications including hybrid aviation systems.