PROFILE

Name	Dr Bitan De
Position & Affiliation	Associate Professor, Department of ECE
Areas of Interest	Quantum Simulations, Quantum Transport, Nanoelectronics
Email	bitan.ece@cambridge.edu.in
LinkedIn ID	https://www.linkedin.com/in/dr-bitan-de-9a248a50/
Google Scholar ID	https://scholar.google.co.in/citations?user=1BK2atQAAAAJ&hl=en
Orchid ID	
Vidwan ID	
Scopus ID	
Professional Webpage (if any)	

Educational Qualifications:

Ph.D	IIT Bombay	India	2019
MTech	Jadavpur University, Kolkata	India	2013
BE	West Bengal University of Technology	India	2011

Areas of Research:

Quantum Simulations, Quantum Transport, Nanoelectronics

Brief Profile: (write about yourself)

Dr. Bitan De has completed his B.Tech (in 2010) and M.Tech(in 2013) from West Bengal University of Technology and Jadavpur University respectively. In those qualifications, his major was Electronics and Communication Engineering (ECE). Followed by that, he joined the doctoral program of the EE Department in IIT Bombay in the Microelectronics and VLSI specialization. He worked with Dr.Bhaskaran Muralidharan who is currently serving as Professor in IIT Bombay. His PhD thesis encompasses an in-detail study of quantum transport in CNT-Quantum Dots and explores the possible applicability in thermoelectric energy conversion. After successful completion of Phd in 2019, Dr Bitan De served as Assistant Professor (Research) in Jagielonian University, Poland and designed numerous quantum simulation techniques in Q bits, the building block of quantum photonics and information processing devices. In the upcoming venture, he looks forward to excel in teaching engineering courses and roll out his own research group.

Add about setting up labs and consultancy (if any)

Guiding students at various levels (BE, MTech and PhD)

Awards/Achievements/Others:

1. **DST fellowship while pursuing MTech.**
2. **Doctoral fellowship from CEN, IIT Bombay.**
3. **Post-Doctoral fellowship from NCN Poland.**
4. **Excellence of Teaching Assistant Award by EE Department, IIT Bombay.(2015)**
5. **Excellence of Teaching Assistant Award by EE Department, IIT Bombay.(2017)**

Courses Taught:

Analog IC Design, Digital System Design, Network Theory, Signal and Systems, Electromagnetic Theory, Analog and Digital VLSI, Basics of programming (C, C++, Python).

Publications/Patents:

Publications	1. De, B. and Muralidharan, B., 2016. Thermoelectric study of dissipative quantum-dot heat engines. *Physical Review B*, *94*(16), p.165416. 2. De, B. and Muralidharan, B., 2018. Non-linear phonon Peltier effect in dissipative quantum dot systems. *Scientific Reports*, *8*(1), p.5185. 3. Mukherjee, S., De, B. and Muralidharan, B., 2020. Three-terminal vibron-coupled hybrid quantum dot thermoelectric refrigeration. *Journal of Applied Physics*, *128*(23). 4. De, B., Sierant, P. and Zakrzewski, J., 2021. On intermediate statistics across many-body localization transition. *Journal of Physics A: Mathematical and Theoretical*, *55*(1), p.014001. 5. De, B. and Muralidharan, B., 2019. Manipulation of non-linear heat currents in the dissipative anderson–holstein model. *Journal of Physics: Condensed Matter*, *32*(3), p.035305. 6. De, B., Wójtowicz, G., Zakrzewski, J., Zwolak, M. and Rams, M.M., 2023. Transport in a periodically driven tilted lattice via the extended reservoir approach: Stability criterion for recovering the continuum limit. *Physical Review B*, *107*(23), p.235148. 7. Das, A., Khan, A.A., Mishra, S.D., Solanki, P., De, B., Muralidharan, B. and Vinjanampathy, S., 2022. Steady-state tunable entanglement thermal machine using quantum dots. *Quantum Science and Technology*, *7*(4), p.045034. 8. De, B., Wójtowicz, G., Rams, M.M., Zwolak, M. and Zakrzewski, J., 2024. Confluence of fractured resonances at points of dynamical many-body flare. *Physical Review B*, *110*(15), p.155146.
Patents	***Kindly add the details about the patents granted and published***

Book/Book Chapters	

Research and Consultancy: