

Biography:

Kaustav Banerjee is a Professor of Electrical and Computer Engineering at the University of California, Santa Barbara, and is one of the world's leading innovators in the field of nanoelectronics. His current research focuses on the physics, technology, and applications of van der Waals materials and heterostructures for next-generation electronics, photonics, and bioelectronics. Initially trained as a physicist, he graduated from UC Berkeley with a PhD in electrical engineering in 1999. Professor Banerjee is a Fellow of IEEE, American Physical Society (APS), Japan Society for the Promotion of Science (JSPS), and the American Association for the Advancement of Science (AAAS). His technical contributions are chronicled in over 300 research papers (including over 40 IEDM papers) with >19,000 citations and *h*-index of 68, many of which have been highlighted by leading STEM organizations including the NAE, NEDO, and the NSF, as well as by numerous technical and popular press worldwide including *IEEE Spectrum*, *Science World Report*, *EE Times*, and *The Economist*. His most recent invention of the *kinetic inductor* using intercalated-graphene has been called "[a great leap in nanomaterials](#)" by *Forbes*.

A Distinguished Lecturer of the IEEE Electron Devices Society since 2008, Professor Banerjee has delivered over 300 plenary/keynote/invited talks at leading venues around the world. Among the dozen-odd PhD students he has mentored, three are recipients of the *IEEE EDS PhD Student Fellowship Award*. In 2011, he was among five engineers worldwide to receive the prestigious *Bessel Prize* from the Humboldt Foundation for his contributions to nanoelectronics and his proposed research on tunnel-field-effect transistors. Professor Banerjee's contributions to energy-efficient electronics, including seminal work on interconnects, 3D ICs, and thermal-aware VLSI design, have been recognized by the IEEE with a Technical Field Award - *2015 Kiyoo Tomiyasu Award* - one of the institute's highest honors. More information about him and his research is available at: <https://nrl.ece.ucsb.edu/>