

1. Name

Somnath Chattopadhyay, Faculty, full time

2. Education:

- 1989 Ph.D. in Electronics Engineering, Department of Electronics Engineering, Indian Institute of Technology, Banaras Hindu University
- 1984 M. Tech. in Microelectronics Engineering, Department of Electronics Engineering, Indian Institute of Technology, Banaras Hindu University
- 1981 B.E. in Electronics Engineering, M.M.M. Engineering College, University of Gorakhpur

3. Academic Experience

- 2005 – present Teaching experience as lecturer in CSU Northridge
- 2002—2004 Teaching experience as lecturer in CSU Fresno

4. Non-Academic Experience

- 2018 Invited peer reviewer of Journal of Computational Electronics, Springer.
- 2017 Invited reviewer of text book titled *CMOS Circuit Design, Layout, and Simulation*, Wiley-IEEE Press.
- 2017 Served as Ph.D. foreign examiner of Sastra University, India.
- 2016 Served as Ph.D. foreign examiner of Sastra University, India.
- 2014 Invited reviewer the book titled *Microwave Semiconductor Devices: Physics of Semiconductors and Quantum Nanostructures*”, CRC Press, Taylor and Francis Group. 2
- 2010 Invited panel reviewer of research grant award for Army Research Office, US Department of Defense
- 2009 Invited member of the peer review committee of Army Research Office, Department of Defense to evaluate the research grant proposals.
- 2008 Invited panel reviewer of research grant award for National Science Foundation
- 2007 Consulting and visiting the OSI Electronics, Hawthorne, CA
Consulting and visiting the Solar Cell & LED LLC, Thousand Oak, CA
Consulting and visiting the Opto-Photo Diode, Thousand Oak, CA
- 2005 Invited panel reviewer of research grant award for Army Research Office, US Department of Defense.
- 2005- Research interaction with the Microelectronics Research Center, University of Texas 2008 Austin for optically controlled MESFET fabrication in 2005-2008.

5. Certifications or Professional Registrations

None.

6. Current Membership in Professional Organizations

None.

7. Honors and Awards

- Fellowship awarded by the Alexander von Humboldt Foundation, Germany for pursuing research work on epitaxial growth of InP material and FET fabrication by MBE at the Institute of High Frequency Technique, TH-Darmstadt, Germany from March 1993 to February 1995.

- Research grant of approximately half million dollars awarded by the U.S. Department of Defense for pursuing the research work on the innovative development of silicon based Avalanche Photodiode / OPFET Photo-detectors for optical modulators and optical interconnects in the Department of Electrical and Computer Engineering, California State University, Northridge from January 2005 to December 2008.
- Research grant of approximately half million dollars awarded by the U.S. Department of Defense for pursuing the research work on the innovative development of optically control SiC and GaN based MESFET for high power switching for actuator applications in the Department of Electrical and Computer Engineering, California State University, Northridge from 2012 to 2016.

8. Service Activities

- Arranged a visit of Dr. Kang L. Wang, Raytheon Chair, Professor of Physical Electronics, Directors, Marco Focus Center on Functional Engineered Nano Architectonics-FENA, Western Institute of Nano Electronics – WIN, Department of Electrical Engineering, University of California Los Angeles for special lecture on CMOS nanotechnology in 2013.
- Serving as judge in IEEE CSUN student's competition in 2007, 2012 and 2018.
- Presented a technical speech on high power and high frequency 4H-SiC MESFET device in IEEE CSUN in 2007.
- Collaborative research with the Nano Lab, Department of Electrical Engineering for development of compound semiconductor MOSFET (COSMOS) by engaging UCLA students and CSUN students and faculty in 2009-continuing.
- Conducted the classes on Synopsys Sentaurus TCAD to train the students in CSUN in 2006-2011.
- Arranged for higher training in Synopsys Sentaurus TCAD for CSUN students
- Actively engaged with applying the research grant for National Science Foundation, DARPA, DOD in 2010.
- Presented a technical speech on SiC based actuator at CSU LA organized the conference on SBIR by the Boeing.
- Arranged a visit of Dr. Sanjay Banerjee, Cockrell Family Regents Chair Professor of Electrical and Computer Engineering and Director, Microelectronics Research Center, at the University of Texas at Austin for mentoring the research work under DoD program and also special lecture on nanotechnology in 2006.
- Arranged a visit of Program Manager of Army Research Office, Department of Defense to monitor the DoD project and program manager completely satisfied to observe the complete cleanroom operational and successful device development in 2007.
- Actively involved in graduate project and thesis. A large number graduate students are involved in graduate project/thesis and independent study. All conducted graduate project/thesis contributed original and fundamental research performed by the graduate students and their publications reflected in the reputed journals.
- Growing the students' conceptual understanding of state-of-art of modern device physics and devices such as heterojunction and heterojunction devices, band gap engineering, compound semiconductor wide band gap materials based on recent development of semiconductor industries so that the students can build their own employment and academic careers.
- Diversification of microelectronics laboratory to nanotechnology laboratory.

9. Principal Publications

S.R. Kodigala, S.N. Chattopadhyay, et al, “Design and function of GaN MESFET terahertz signal generator by finite difference method”, Microelectronics Journal, Vol. 62, p.126, 2017

S.R. Kodigala, S.N. Chattopadhyay, et al, “Fowler-Nordheim electron tunneling mechanism in Ni/SiO₂/n-4H-SiC MOS Devices”, Solid State Electronics, vol. 114, p. 104, 2015.

S.R. Kodigala, S.N. Chattopadhyay, et al, “Growth and surface analysis of SiO₂ on 4H-SiC for MOS devices”, Applied Surface Science, Vol. 330, p. 465, 2015.

S.N. Chattopadhyay, et al, “Optically Controlled silicon MESFET fabrication and characterization for optical modulator/demodulator”, Journal of Semiconductor Technology and Science, Vol.10, No.3, pp.213-224, 2010.

S.N. Chattopadhyay, et al, “Simulation of 4H-SiC MESFET for High Power and High Frequency Response”, Journal of Semiconductor Technology and Science, Vol.8, No.3, pp.251-263, 2008.

S.N. Chattopadhyay, et al, “Optically Controlled Silicon MESFET Modeling Considering Diffusion Process”, Journal of Semiconductor Technology and Science, Vol.7, No.3, pp.196-208, 2007.

10. Professional Development Activities

- Recently published some research papers in the Applied Surface Science, Solid State Electronics, Microelectronics Journals, and Journal of Semiconductor Technology and Science.
- Latest research works were presented in the semiconductor industries and laboratories.