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Report on "Non Idealities in Short Channel MOS Devices"

Organised by Dept of ECE, 8 July 2020

Submitted by: Dr. Upendra Kumar Verma, Sr. Assistant Professor, Dept. of ECE

ECE Department conducted a webinar on "Non Idealities in Short Channel MOS Devices" on 08-07-2020.

The resource person was: **Dr. Satyendra Maurya, Assistant Professor at Birla Institute of Technology and Science Pilani INDIA.**

Dr. Satyendra Kumar Mourya is presently associated with the Birla Institute of Technology and Science Pilani, India as an Assistant Professor in the dept. of Electrical and Electronics Engineering. He received Ph.D. from IIT Roorkee, India and M. Tech. from NIT Kurukshetra, India in the domain of Nanoelectronics. His research focuses on Design and fabrication of Nanoelectronic devices for various applications. In particular, he has a significant contribution towards the development of SiC based electronic devices for extreme environmental applications. He has contributed some notable works in the domain of optoelectronics & gas sensing technology and published his work in some reputed journals of IEEE, Springer, Elsevier, etc. He has 20 publications in peer-reviewed international journals, conferences. Currently he has a strong research team at BITS Pilani and is working on research projects such as, Advance VLSI devices, UV sensors based on advance functional materials, Supercapacitors, Design and development of highly selective and sensitive electronic nose based on Gallium Oxide.

The main focus of the program was to motivate and create awareness among the students on basic challenges in short channel MOS Devices. The talk was focus towards recent and emerging technologies in the domain of Microelectronics. Recent advances and their alternatives for short channel MOS devices will be discussed to encourage the students towards this field and main emphasis will be provided on the evolution of recent technology and its role in building more advanced VLSI devices. Main points of the event can sorted as

- To enhance basic knowledge of Semiconductor Physics and MOSFETs.
- To motivate the students towards emerging technologies
- To understand the challenge of short channel effects in MOS devices