Device Options and Tradeoffs

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- IV Theory of Nanotransistors
- III-V MOSFETs
- Nanowire FETs
- Band-to-Band Tunnel FETs
- 2D channel Materials

Mark Lundstrom is the Don and Carol Scifres Distinguished Professor of Electrical and Computer Engineering at Purdue University. He received Ph.D. from Purdue University in 1980 and BEE and MSEE degrees from the University of Minnesota in 1973 and 1974. Between his MSEE and Ph.D. degrees. he worked at Hewlett-Packard Corporation on integrated circuit process development and manufacturing. At Purdue, his research has explored a wide range of semiconductor devices, the physics of carrier transport, and the modeling and numerical simulation of devices. His current focus is on energy conversion devices such as solar cells and thermoelectric devices and on the ultimate transistor. Lundstrom was the founding director of the Network for Computational Nanotechnology and nanoHUB.org, a science gateway that now serves a worldwide nanotechnology community of more that 300,000 individuals. He currently leads NEEDS, an NSF and industry-funded, multi-university initiative focused on new-era electronics, and he leads the nanoHUB-U initiative for on-line education. Dr. Lundstrom is a fellow of the Institute of Electrical and Electronic Engineers (IEEE), the American Physical Society, and the American Association for the Advancement of Science (AAAS). He has received several awards for his teaching and research, is a Thompson-Reuters Highly Cited Researcher in Engineering and is a member of the U.S. National Academy of Engineering.