

Special Issue on
Beyond the Planar Silicon MOSFET: Modeling and Fabrication

CALL FOR PAPERS

Given that the downscaling of the classical planar bulk MOSFET started to present its vulnerabilities in terms of short channel effects, alternative architecture started to be assessed as potential replacement or evolution. For almost three decades, the innovation in transistor scaling consisted in ensuring that the manufacturing tools would allow achieving the desired figures in terms of MOSFET parameters for smaller, faster, and cheaper integrated circuits.

Even though industry is approaching the end of physical gate length scaling, the quest for new transistor designs and materials is far from over. In this context of difficult downscaling, alternative architecture and new materials (such as high- κ gate dielectrics and metal gate electrodes) have been proposed and developed in different research laboratories.

The purpose of this special issue is to publish high-quality contributions addressing the modeling, simulation, and fabrication process of advanced FETs. A wide range of topics will be covered. Original, high-quality contributions that are not yet published or that are not currently under review by other journals or peer-reviewed conferences are sought.

Potential topics include but are not limited to the following:

- ▶ Ultrathin body silicon on insulator (SOI) field effect transistors
- ▶ Junctionless field effect transistors (double-gate and si-nanowire GAA FETs)
- ▶ Double-gate transistors and FinFETs
- ▶ Single Electron Transistor (SET): theory, fabrication, and modeling
- ▶ Resistive switching electronics
- ▶ 3D FETs such as vertical slit field effect transistor (VeSFET)
- ▶ 3D packaging and 3D monolithic fabrication
- ▶ FinFET fabrication process flow
- ▶ Tunnel FET
- ▶ Negative gate capacitance FETs
- ▶ Carbon nanotubes
- ▶ Organic field effect transistors

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/jnm/bpsm/>.

Lead Guest Editor

Farzan Jazaeri, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland
farzan.jazaeri@epfl.ch

Guest Editors

Alessandro Pezzotta, University of Milano-Bicocca, Milan, Italy
alessandro.pezzotta@mib.infn.it

Mehrdad Azizighannad, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland
mehrdad.ghanad@epfl.ch

Manuscript Due

Friday, 24 February 2017

First Round of Reviews

Friday, 19 May 2017

Publication Date

Friday, 14 July 2017