**DESCRIPTION**

*Microelectronic Engineering* is the premier journal focused on the fabrication and characterization of micro/nano-electronic materials, devices and circuits (including novel electronic nanomaterials), as well as the understanding of their working mechanisms, performance, yield, variability, stability, and reliability. The journal also focuses on the techniques that make possible the fabrication and characterization of such devices and circuits, and on the materials involved in them. Occasionally, outstanding papers on simulation of materials properties, device figures-of-merit or compact modeling of circuits and systems may be accepted. The following topics are of special interest:

**Devices** Photonic and optoelectronic devices (including, sensors, actuators, phototransistors) Transistors (including ultra-scaled, thin film, organic, ferroelectric) Resistive switching devices (memristors, RRAM, PCRAM, FeRAM, MRAM) Magnetic and spintronic devices MEMS and NEMS (including power, RF, magnetic, organic) Flexible electronic devices (including wearable, printed, paper) Devices for energy harvesting (piezoelectric, flexoelectric, photovoltaic, solar cells) Bioelectronic devices (molecular detection, biomimetic, diagnosis) Device-level simulations (including variability and reliability)

**Materials** Wide bandgap semiconductors Dielectrics (low K and high K) Two-dimensional (2D) Materials and related transferring techniques Nanotubes, nanowires, and other nanomaterials and nanostructures for device fabrication Interconnects, metallization and barrier materials New Resist Materials Silicon on insulators Polymers and flexible substrates, including biocompatible materials Atomistic simulations of materials properties

**Fabrication and characterization processes** Thin films deposition techniques (CVD, ALD, evaporation, sputtering, MBE, plasma) Lithography (including optical, EUV, electron beam, nanoimprinting, particle-assisted, mask less, X-ray optical methods, emerging methods and limits, as well as resists) Pattern transfer (including ion, plasma and wet transfer, as well as transfer of 2D materials) Integration processes (including inkjet printing, 3D printing, 3D integration) Top-down and bottom-up self-assembly processes Annealing and its effect in the materials (including crystallization, wrinkling, de-wetting) Nanometrology (TEM, SEM, EDX, EELS, STM, AFM and related setups)

**Circuits and applications** Sensing and actuation, including bio-compatible applications Signal souring and transfer Logic operations and data processing Electronic memories and information storage Artificial neural networks and neuromorphic computing Compact modeling of electronic circuits Quantum computing

**Five different types of articles are considered:** Research articles that report regular original research that produces significant advancement. Accelerated Publications (Letters) that feature exciting research breakthroughs. Review Articles that inform readers of the latest research and advances in a topic within the broad field of microelectronic engineering. This includes roadmaps and guides proposing the recommended methods in a specific field. Short / Technical notes intended for original limited investigations or short description of original industrial or industrially-related research.
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3.5
0.26

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