MICROELECTRONIC ENGINEERING

Nanotechnology and Processing — Electronics, photonics, MEMS and Life Sciences

AUTHOR INFORMATION PACK

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DESCRIPTION

Microelectronic Engineering has an open access mirror journal Micro and Nano Engineering, sharing the same aims and scope, editorial team, submission system and rigorous peer review.

Microelectronic Engineering is the premier **nanoprocessing**, and **nanotechnology** journal focusing on fabrication of electronic, photonic, bioelectronic, electromechanic and fluidic devices and systems, and their applications in the broad areas of electronics, photonics, energy, life sciences, and environment. It covers also the expanding interdisciplinary field of "more than Moore" and "beyond Moore" integrated nanoelectronics / photonics and micro-/nano-/bio-systems. Through its unique mixture of peer-reviewed articles, reviews, accelerated publications, short and Technical notes, and the latest research news on key developments, *Microelectronic Engineering* provides comprehensive coverage of this exciting, interdisciplinary and dynamic new field for researchers in academia and professionals in industry.

The journal addresses the following topics and considers mostly experimental work, or theoretical / simulation work directly linked and supporting experiments in the fields: Microelectronics processing & materials (Lithography, Self-assembly, Plasma Processing, Metallization, 3D Integration, Related Materials.) Micro-/Nano-engineering / fabrication / technology / manufacturing Nanoelectronic and photonic devices and their fabrication Microsystems, microdevices (e.g., sensors and nanoenergy devices) and their fabrication Microfluidics, life science devices /sensors, as well as integrated Lab-on-a-chip and their fabrication

In detail the topics covered are as follows:

1. Nanolithography and Nanopatterning: Optical Lithography Electron Optical Methods and Systems X-ray Optical Methods and Systems Resists Limits of Nanolithography Nanoimprint Lithography EUV Lithography and Masks Charged Particle Based Lithography and Patterning Nanoimprint Lithography Techniques and Templates Maskless Lithography Emerging Nanopatterning Methods Limits of Nanopatterning

2. Pattern Transfer Ion Technology Plasma Processing Transfer of Pattern with Other Methods Plasma Etching Plasma Nanotechnology Plasma / beam Nanopatterning Plasma Surface Modification of Devices Wet transfer methods

3. Materials Metallization and Barrier Materials Silicon on Insulators Dielectrics (low K and high K) Interconnects New Resist Materials Nanomaterials for Device Fabrication Block Copolymers Polymers and Flexible Substrates Layered (2D) Materials and Related Transferring Techniques

4. Nanometrology, Inspection and Testing Electron Beam Testers Laser Probes Signal and Image Processing Nanometrology AFM and Scanning Probe Measurements

5. Advanced Processing and Nanofabrication Process Integration Three Dimensional Integration Other / Emerging Manufacturing and Fabrication Techniques 3D Printing Rapid Thermal Processing Process Modelling and Simulation Equipment Modelling Laser Assisted Processing Top-Down / Bottom-Up (Self-Assembly) Nanofabrication Growth, Planarization, Cleaning Techniques for Devices Plasma deposition MBE Other growth techniques Planarization and cleaning techniques

6. Advanced Nanoelectronic, Photonic, Sensing, Energy Harvesting, and Fluidic Devices Nanoelectronic, Optoelectronic and Photonic Devices Memristive devices for neuromorphic computing Steep slope or fast switching devices Photonic devices Optoelectronic devices Dimension-sensitive Device Properties Memory Devices Magnetic and spintronic devices Advanced MOS Devices Vacuum Nanoelectronics Flexible / Organic / Molecular Electronics Organic and molecular electronics Flexible electronics Wearable electronics Paper electronics Printed electronics Microdevices, Energy Harvesting Devices and Sensors Physical sensors and actuators Energy harvesting devices

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Micro and Nano Fluidic Devices Pumping / valving devicesMixing devicesSeparation devicesMicroreactorsSample preparation devicesFluidic interfaces and integration

Miniaturized Devices for Biology, Chemistry, MedicineBiosensorsChemical sensorsBiomimetic properties incorporated into devicesBioelectronic devicesMicro / nano / bio interface and interconnection devices

Lab-on-a-chip, bioMEMS, microTASDNA / protein chipsCell on chipOrgan on chipBiomimetic properties incorporated into systemsBioanalytic, diagnostic systemsMicroseparation, pretreatment systemsOn-chip detection systemsEnvironmental and food monitoring systemsMicroreactors

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