Journal of
Micro/Nanolithography,
MEMS, and MOEMS

Nanolithography.SPIEDigitalLibrary.org

Novel Patterning Technologies

Eric Panning
Martha Sanchez

SPIE.

Eric Panning, Martha Sanchez, "Novel Patterning Technologies," *J. Micro/Nanolith. MEMS MOEMS* **17**(3), 031201 (2018), doi: 10.1117/1.JMM.17.3.031201.

Novel Patterning Technologies

Eric Panning
Intel
Hillsboro, Oregon
United States

Martha Sanchez
IBM Research — Almaden
San Jose, California
United States

Novel patterning technology covers a wide range of patterning applications and solutions, which is reflected in the diversity of papers in this special section. The ongoing growth of MEMS/MOEMS devices, advanced packaging, and integrated device performance continues to drive an expansion of techniques and applications.

The traditional semiconductor industry now drives subnanometer precision, whereas many large-area nanopatterning applications require subdollar per square meter cost targets. Included in this list are patterned media for hard disk drives, photonic structure-enhanced high-brightness light-emitting diodes, optical waveguides for see-through augmented reality glasses, diffractive optical elements for three-dimensional (3-D) display, and more. It is now possible to unlock value from almost all nanoscale patterning techniques when matched to the correct applications, including EUV lithography, directed self-assembly, nanoimprint, interference lithography, two-wavelength optical STED direct-write, multi-e-beam direct write, and others.

The call for papers invited submissions over a broad range of techniques and applications for realizing nanoscale patterning. This special section includes papers on 3-D characterization of DSA and optimizing alignment, direct write tools and techniques including data processing, and high performance ink jet printing.

The editors would like to thank the authors for their submissions, and we look forward to future special sections on novel patterning.