Call for Papers

JSS Focus Issue:

Semiconductor Surface Cleaning and Conditioning

Among operations performed on semiconductor wafers in the course of electronic/photonic device manufacturing—regardless of whether a device is a simple diode or multibillion transistor cutting edge microprocessor chip—surface cleaning is by far the most frequently performed processing step. Surface cleaning may include contaminants removal through cleaning operations or surface conditioning aimed at establishing desired chemical composition and/or physical properties of the surface.

Prospective authors are invited to submit original contributions reporting the most current research results or reviewing key emerging trends in semiconductor cleaning and conditioning for consideration for publication in this Focus Issue. Topics of interest include, but are not limited to:

- Cleaning/drying and surface conditioning of Si(SOI), SiC, Ge, SiGe, III-V, II-VI semiconductors
- Cleaning/drying and surface conditioning of non-semiconductors (e.g. sapphire, glass, ITO, plastic) surfaces
- Cleaning media, including non-aqueous cleaning methods and tools; FEOL and BEOL cleaning operations and pattern collapse prevention
- Integrated cleaning; cleaning of 3D transistor structures in FEOL and 3D integration in BEOL stacked ICs with TSVs
- Cleaning/drying of MEMS
- DUV and EUV mask cleaning
- Cleaning/drying and surface conditioning of high-k and porous low-k dielectrics
- Post-CMP cleaning
- Wafer bevel cleaning/polishing
- Photoresist and residue removal
- Characterization, metrology, and monitoring of cleaning and surface conditioning; correlation with device performance
- Cleaning of equipment and storage/handling hardware
- Specific issues of 450 mm wafer cleaning and drying; equipment, chemicals, methods, cleaning related issues specifically in the case of 450 mm wafers
- Surface cleaning and conditioning topics involved in large-area electronics and photonics, both non-organic and organic TFT technology, flexible substrates
- Cleaning/surface processing challenges in nano-confined material systems (nanowire, nanotubes, and nanodots cleaning
- Surface conditioning related aspects of "self-assembly-monolayer" processing

Manuscripts submitted for the focus issue will be reviewed separately and will be handled by Technical Editor **Stefan DeGendt** in collaboration with the Guest Editors listed below. ***When submitting, please be sure to explicitly state in the cover letter that the submission is intended for this focus issue, otherwise it may be considered a submission to a regular issue.***

Submit manuscripts at http://ecsjournals.msubmit.net

Deadline for submission of manuscripts: October 13, 2013

Guest Editors

Takeshi Hattori, Hattori Consulting International, Japan (hattori@alumni.stanford.edu)
Paul Mertens, IMEC, Belgium (mertensp@imec.be)
Jerzy Ruzyllo, Penn State University, USA (jruzyllo@psu.edu)