Preface

The International Symposium on Ultra Clean Processing of Semiconductor Surfaces (UCPSS) is a bi-annual conference organized by imec since 1992. The scope of the symposium includes all issues related to contamination, cleaning and surface preparation in mainstream large-scale Integrated Circuit manufacturing. For the first editions, typically silicon was the main semiconductor of interest. As currently other semiconducting materials such as SiGe and SiC, Ge and III-V are being considered for future generation devices, the scope was broadened to include these materials. Parallel to the fast moving CMOS industry also the photovoltaic industry has recognized the need for improvements in cleaning, and this topic was included.

The thirteenth international symposium on Ultra Clean Processing of Semiconductor Surfaces (UCPSS 2016) was held in Knokke, Belgium on September 12-14, 2016. The symposium was preceded by a tutorial session, given on September 11th by leading experts in the field.

The symposium proceedings cover different aspects of ultra-clean technology for large scale integration on semiconductors, cleaning and contamination control in both the front-end-of-line (FEOL) and the back-end-of-line (BEOL) processing as well as cleaning for semiconductor photo-voltaic applications.

This includes studies on general topics such as particle removal using acoustic enhancement, removal of metallic contamination, pattern collapse of fine flexible and fragile features, wetting and drying, contamination control and contamination metrology. FEOL and BEOL contributions cover: surface chemistry of silicon and other semiconductors, cleaning related to new gate stacks, cleaning at the interconnect level, resist strip and polymer removal, cleaning and contamination control for various new materials and cleaning after Chemical-Mechanical-Polishing (CMP).

The meeting was attended by participants from all over the world, with a representation from most of the leading cleaning equipment manufacturers and leading integrated device manufacturers as well as staff from academia and R&D-centers. This attendance is an indication of the interest in the topic and the huge cleaning challenges in future technologies. The symposium fosters also the participation of PhD students. For the seventh time a student paper award contest was organized and 2 *outstanding student contributions* and one *best student paper* were selected.

New developments in electronic micro and nano-systems evolve in increasingly diverging directions, involving nano-meter scale features and novel materials, tailored to specific applications. This leads to new tailored cleaning requirements and challenges. We believe UCPSS and similar symposia contribute significantly to the search for new solutions to these new challenges. In this perspective we invite you to the 14th edition of this symposium to be held in 2018. Information concerning future and past editions of this symposium can be found on www.ucpss.org.

Paul Mertens, Marc Meuris and Marc Heyns
Proceeding Editors

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