

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. Typically silicon is used as the main semiconductor substrate. Currently other semiconducting materials such as SiGe and SiC are being used in source-drain junction areas and materials such as Ge and III-V are being considered for the transistor channel region of future generation devices.

The ninth international symposium on Ultra Clean Processing of Semiconductor Surfaces (UCPSS 2008) was held in Bruges, Belgium on September 22-24, 2008. The symposium was preceded by a tutorial session given on September 21st by leading experts: Jakub Nalaskowski (IBM), Martin Knotter (NXP), Joel Barnett (Sematech), Martin Frank (IBM), Guy Vereecke (IMEC) and Bart Swinnen (IMEC).

These symposium proceedings cover all 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. This included studies on general topics such as particle removal using various kinds of mechanical enhancement, drying, contamination control, contamination metrology. FEOL and BEOL contributions cover: surface chemistry of silicon and related semiconductors such as SiGe and Ge, 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 approximately 290 participants from all over the world. This large attendance is an indication for the huge cleaning challenges in future technologies. An increase in the number of contribution from PhD students was noticed in comparison with the previous edition. For the fourth time a best student paper award contest was organized. The winner of the 2008 award was Guillaume Briend. These proceedings consist of five invited contributions and eighty eight contributed papers.

Continuous scaling and broadening of the field involves new materials and approaches, each leading to new cleaning challenges, with tighter specifications. We believe UCPSS and similar symposia UCPSS contribute significantly to the search for new solutions to these new challenges. In this perspective we invite you to the 10th edition of this symposium to be held in 2010. Information concerning future and past editions of this symposium can be found on www.ucpss.org.

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Proceeding editors