



Prof. Sangwoo Lim

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Prof. Sangwoo Lim received his Ph.D. in Chemical System Engineering from the University of Tokyo, Japan in 1998 with his thesis “Study on the Preparation and Dielectric Constant Decrease Mechanism of PECVD F-doped SiO₂ Films” after B.S. and M.S. degrees in Chemical Engineering from Yonsei University, Seoul, Korea in 1992 and 1995, respectively.

He was a postdoctoral research associate at the Department of Electrical Engineering and Department of Chemistry at Stanford University in 1998-2000. He worked on several projects such as silicon wafer surface preparation and photoresist stripping process in the NSF/SRC Engineering Research Center for Environmentally Benign Semiconductor Manufacturing and Silicon Wafer Engineering & Defect Science Center.

He was a Principal Scientist at Motorola (later Freescale Semiconductor) in 2001-2005. His main responsibility and accomplishments were to launch the plasma oxynitride integration technology to reduce gate leakage current density with EOT scaling down of CMOS 90 and 65 gate stacks.

He has been a professor at the Department of Chemical and Biomolecular Engineering, Yonsei University (Seoul, Korea) since 2005. He was a Visiting Professor at the Mechanical and Aerospace Engineering Department, UCLA in 2011-2012 and a Courtesy Professor at School of Chemical, Biological and Environmental Engineering, Oregon State University in 2018-2019. Prof. Lim’s major research interest is to develop various chemical processes to fabricate semiconductor, photovoltaic, and nano devices. His representative research projects are: Highly selective Si₃N₄ etching for 3D NAND fabrication, Highly selective SiO₂ etching for 3D DRAM fabrication, Selective SiGe etching for GAA and DRAM, III-V semiconductor surface preparation, Ge surface preparation, Particle removal using polymer films, Highly ion implanted photoresist stripping process, selective Al₂O₃/La₂O₃ etching process on HfSiO and HfSiON High-K gate stacks, Ru-capped EUV photomask fabrication and cleaning, MoSiON PSM fabrication and cleaning, etc.

Currently Prof. Lim is a Lead Organizer of the International Symposium on Semiconductor Cleaning Science and Technology, committee member of SEMICON KOREA SPS, committee member of Korean CMP User's Group Meeting, and committee member of Korea Semiconductor Cleaning User's Group Meeting.