



Professor Changhwan Choi

(Hanyang University, Korea)

[Education]

- B.S, Materials Science and Engineering, Hanyang University, 2000
 - M.S, Materials Science and Engineering, The University of Texas at Austin, 2002
 - Ph.D, Electrical and Computer Engineering, The University of Texas at Austin, 2006
- [Dissertation: The effects of Si, N and O incorporation and oxygen-scavenging technique on performance of Hf-based gate dielectric MOSFETs (Advisor: Jack C. Lee)]

[Work Experience]

- 2010 - current Professor, Materials Science & Engineering, Hanyang University
 Professor, Nanoscale Semiconductor Engineering, Hanyang University
 Professor, Semiconductor Engineering, Hanyang University
- 2024 - current Head Professor & Director, Semiconductor Specialized Graduate School,
 Hanyang University
- 2019 - current Director, Industrial Materials and Technology Research Center, Hanyang
 University
- 2023 - current Advisory Professor, Logic Semiconductor Technology, Samsung
 Electronics R&D Center
- 2023 - 2024 Visiting Professor, Microelectronics Research Center, The University of
 Texas at Austin, Austin, TX, USA
- 2016 - 2017 Visiting Professor, Center for Spintronics, Post-Silicon Semiconductor
 Institute, Korea Institute of Science and Technology (KIST)
- 2006 - 2010 Research Staff Member, IBM Thomas J. Watson Research Center,
 Yorktown Heights, NY, USA

[Research Interests]

- ALD HKMG-based Advanced Logic & Memory Device & Process
(i.e, ALD High-K Gate Dielectric, Metal Gate, Oxide Semiconductor, Si-based Thin film, AS-ALD/ALE, Post-Metallization Metal/Dielectrics, Metal Contacts/Barrier etc)
- Ferroelectric Thin Film-based Device & Process (i.e, FeFET, FeRAM, FTJ, FE-VNAND Flash Memory etc)
- Neuromorphic Device, Process & System (i.e., 2-terminal & 3-terminal based Devices for Artificial Synaptic Device & Array System etc)
- 3D Heterogeneous Integration Device & Process (i.e, Monolithic & Sequential 3D Process etc)
- Advanced Semiconductor Packaging Materials & Process (i.e., Wafer Bonding, RDL, TGV, Electroplating, Build-up Materials, High Thermal Conductivity Materials, Signal Integrity etc)