

The 19th U.S.–Korea Forum on Nanotechnology

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Professor Jin-Seong Park holds positions as a professor in the Division of Material Science and Engineering, as well as in the Division of Nano-scale Semiconductor Engineering at Hanyang University. His research group is primarily dedicated to Semiconductor Materials & Devices utilizing Atomic Layer Process (ALP), with a focus on Oxide Semiconductor channel layers (both n and p type), Gate Insulators (including SiO₂, SiN_x, and high-k dielectrics), Area-Selective Atomic Layer Deposition, and Atomic Layer Etching, among other areas of study. During the period spanning 2005 to 2009, he was engaged in pioneering work at Samsung SDI, concentrating on the development of innovative active-matrix devices employing IGZO semiconductor technology for AMOLED applications. His contributions were instrumental in the realization of mass-produced AMOLED televisions and flexible AMOLED displays utilizing IGZO transistors. From 2003 to 2005, Professor Park served as a post-doctoral researcher in the chemistry department of Harvard University. During this time, his focus was on the development of novel precursors and the advancement of oxide & metal Atomic Layer Deposition (ALD) processes. Professor Park earned his Ph.D. degree from KAIST in 2002, with a dissertation titled "TiN, TiSiN, and TaN for Cu Diffusion Barriers using Plasma Enhanced ALD." His academic achievements include the publication of over 300 SCI(E) papers and the acquisition of more than 100 issued patents related to active-matrix devices and ALD materials. In addition to his research and academic pursuits, Professor Park contributes to the scholarly community as an Associate Editor for the IEEE Transactions on Electronic Devices and holds the position of executive director within the Thin Film Division of the American Vacuum Society.