



Oxides for Electronics

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Atomic layer deposition is one of the key enablers of modern microelectronics, where the capability of depositing ultrathin films over vertical and high aspect ratio structures has been crucial in development of tiny logic and memory devices propelling today's economy and societies.

While the ALD of high-k oxides has already been adapted into industry as a state-of-the-art methodology, could the ALD grown oxides provide even more opportunities to the electronics and next generation devices? One of the major challenges in the devices beyond CMOS semiconductor technology is to find the right materials with the right properties. Complex oxides, with their diversity in compounds, structures, and functionalities, are one of the most appealing family of materials for realizing these technologies.

In this talk I will present the potential of ALD in the field of oxide electronics. I will discuss the challenges related to the growth of complex oxide thin films and their heterostructures and show examples of promising new advances in the field.