PRESENTATION

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Dr. Giorgos Gakis is a chemical engineer, currently working as a research assistant at the National Technical University of Athens (NTUA), Greece. He obtained his PhD from NTUA and Institut National Polytechnique de Toulouse (INPT), France. His main research work is focused on the combined experimental and computational analysis of Atomic Layer Deposition (ALD) and Chemical Vapor Deposition (CVD) processes, for the production of thin films.

"Computational modelling of ALD reactors: Linking transport phenomena with surface mechanisms"

March 25, 2021 | 16:30 – 16:50

During the last decades, Atomic Layer Deposition (ALD) has emerged as the appropriate process to produce conformal nanometric films, thus answering to the requirements of micro- and opto-electronic devices.

The ALD process is complex since it involves transport phenomena occurring inside the reactor chamber and numerous surface phenomena taking place simultaneously in short time scales. This makes the understanding of the ALD process a challenge, due to the difficulty of experimental measurements.

In this context, physical based computational modelling has emerged as a tool to provide the required understanding of the different mechanisms and phenomena that take place within the ALD process as well as their effect on the deposited film.

The aim of this presentation is to provide a framework for the computational modelling of ALD reactors, combined with experimental analysis of the process, for the case study of alumina ALD.