**Large-area nanostructured electronics manufactured at a flash**

**Prof. Thomas Anthopoulos**

King Abdullah University of Science and Technology (KAUST), KAUST Solar Centre, Division of Physical Sciences and Engineering, Kingdom of Saudi Arabia

thomas.anthopoulos@kaust.edu.sa

In traditional electronics the ability to downscale critical dimensions of its building block, the transistor, has proven extremely successful in advancing the computational power of modern-day microelectronics. However, the adaptation of existing manufacturing techniques in emerging technologies, such as large-area printed electronics, has proven challenging both in terms of technology and economics. Despite the difficulties new forms of electronics have been gaining ground, transforming both the research and development landscape as well as the broader marketplace of electronics and the relevant manufacturing infrastructure. In this talk I will discuss our recent efforts towards downscaling emerging forms of large-area, nanostructured electronics through the combination of new fabrication paradigms and advanced materials. Particular emphasis will be placed on the development and evolution of adhesion lithography (a-Lith) and its use in an expanding library of applications ranging from ultra-fast, solid-state opto/electronic devices to new forms of nano-reactors for solar fuel generation and energy storage.

**Short Bio**

**Thomas D. Anthopoulos** is a Professor of Material Science and Engineering at King Abdullah University of Science and Technology (KAUST) in Saudi Arabia. He received his B.Eng. and D.Phil. degrees from Staffordshire University in UK. He then spent two years at the University of St. Andrews (UK) where he worked on organic semiconductors for application in light-emitting diodes before join Philips Research Laboratories in The Netherlands to focus on printable microelectronics. From 2006 to 2017 he held faculty positions at Imperial College London (UK), first as an EPSRC Advanced Fellow and later as a Reader and full Professor of Experimental Physics. His research interests are diverse and cover the development and application of novel processing paradigms and the physics, chemistry & application of functional materials.

