

Dr. Athanasios Dimoulas is Research Director at NCSR-DEMOKRITOS in Athens. He is founder and head of Epitaxy and Surface Science Lab (ESSL) of INN since 1999. He is currently member of the advisory committee of the Greek government for Physical Sciences.

Dr. Dimoulas obtained his Ph.D. in Applied Physics from the University of Crete and FORTH in Greece in 1991 on MBE heteroepitaxial growth and characterization of GaAs and related compounds on Si. He was Human Capital & Mobility Fellow of the EU at the University of Groningen in Holland until 1994, a Research Fellow at the California Institute of Technology (CALTECH), Chemical Engineering, Pasadena USA until 1996 and Research Associate at the University of Maryland at College Park (UMCP) USA, until February 1999. In addition, he was visiting research scientist at IBM Zurich Research Laboratory, Switzerland in 2006 and 2007. In the period 2016-2018, he had been appointed as LANEF Chair of Excellence at CEA-INAC and U. Grenoble Alpes, France for the development of “2D transition metal dichalcogenide materials”.

He has coordinated several European-funded projects in the areas of advanced CMOS, including DUALLOGIC, a flagship CMOS project in FP7 and an FET Open project 2D NANOLATTICES on silicene and other 2D crystal channels for post CMOS applications. Also, he has received the ERC Advanced Investigator Grant 2011 SMARTGATE and ERC Proof of Concept GR-GATE dealing with graphene and topological insulators at the gate of MOS devices for low power electronics and the Greek Excellence (ARISTEIA) project TOP ELECTRONICS. Currently, he coordinates FET PROACT SKYTOP focusing on 2D van der Waals ferromagnetic materials in combination with topological insulators for novel spintronic devices. He is also currently participating in EU collaborative projects focusing on the development of ferroelectric memristors for neuromorphic computing technologies.

He has authored or co-authored 197 technical presentations in refereed journals and archives, including 3 monographs in Springer book chapters on high-k gates on Si and high mobility channels. In addition, he has more than 80 presentations in conferences including 57 keynote and invited in conferences, tutorials and summer schools. Based on Google Scholar database, Dr. Dimoulas has 6040 citations, h-index 44, i10-index 112. He is co-editor in a Springer book on “High-k gate dielectric” and in a recently published CRC (Taylor& Francis) book on “2D Materials for Nanoelectronics ” as well as guest editor in three special volumes of international journals. He has organized relevant MRS and EMRS symposia in 2005, 2003, 2009, 2010, 2013 and 2019 and he was the general chair of INFOS 2007 conference. He has served in the steering committees of INFOS and ESSDERC/ESSCIRC conferences and he has chaired the TPC committee of ESSDERC/ESSCIRC 2009 and the Process Technology subcommittee of IEDM 2012 conferences. His expertise includes MBE growth of semiconductors, dielectrics and 2D elemental and transition metal dichalcogenide materials, CVD growth of graphene, nanodevice processing by optical and e-beam lithography, materials characterization by XPS, ARPES and STM, magneto-optical characterization by Kerr microscopy and magnetometry and ferroelectric memory electrical characterization.