

## Nikolaos A. Poulakis, Ph.D.

### Short C.V.

Dr. Nikolaos Poulakis has a degree in Physics from the University of Athens, Greece (1988) and a doctorate degree from the National Technical University of Athens, Greece (1997). His doctoral thesis, titled "Raman spectroscopic study of YBCO superconductors", focused on the relation between the structural and electrical properties of high temperature superconductors (HTS).

In 1991, he won a four years research scholarship for the Institute of Materials Science of the National Center of Scientific Research "Demokritos" in Athens, Greece. In 1999, he joined the National Centre for Scientific Research (CNRS) in Grenoble, France, as a post-doctoral researcher, under a European "Marie Curie" grant to study the magnetic properties of superconductors and organic conductors with NMR/NQR spectroscopy. Between 2001 and 2002, he worked as a researcher at the Aristotle University of Thessaloniki (AUTH) on the deposition and in-situ characterization via spectroscopic ellipsometry of Si and Ti oxides on flexible PET membranes (Laboratory of Thin Films, Nanosystems, and Nanometrology, Department of Physics).

In 2003, he was appointed a position of Assistant Professor with the Electrical Engineering Department of the Technological Educational Institute of Western Macedonia (TEIWM), at Kozani, Greece. Since 2009, he is an Associate Professor of the department. His teaching assignment includes the undergraduate courses of Electrotechnics, Electromagnetism, Measurement Systems, and SCADA systems (Supervisory Control And Data Acquisition).

He has participated in 7 national and European funded research projects on physical properties and applications of HTS. He has published 25 works in international journals and 15 works in proceedings of international conferences (h-factor = 7, source "Web of Science"). He has transferred D. Nesculescu's book "Mechatronics" in greek, Tziola publications. He is a member of [MEANDER](#) group for research in the area of eddy current non-destructive testing.

### Research interests

- Eddy current measurements in non-destructive testing applications (ECNDT)
- Electromagnetic applications of High Temperature Superconductors (HTS)
- Use of HTS SQUID magnetometers in eddy current non destructive testing (ECNDT)
- Development of measurement and load control applications for the management of smart electric grids.

### Recent publications

1. Roberto Miorelli, Christophe Reboud, Theodoros Theodoulidis, John Martinos, Nikolaos Poulakis, and Dominique Lesselier, "**Coupled approach VIM-BEM for efficient modeling of ECT signal due to narrow cracks and volumetric flaws in planar layered media**", NDT&E International, Vol. 62, pp. 178-183, 2014.
2. Ch. Voulgaraki, N. Poulakis, T. Theodoulidis, "**Theoretical simulations and quantitative magnetic field measurements for eddy-current testing using an HTS SQUID system**", IEEE Transactions on Applied Superconductivity, Vol.23, No.4, pp.1603012(1-12), 2013.
3. R. Miorelli, Ch. Reboud, T. Theodoulidis, N. Poulakis, D. Lesselier, "**Efficient modeling of ECT signals for realistic cracks in layered half-space**", IEEE Transactions on Magnetics, Vol.49, No.6, pp.2886-2892, 2013.

4. John R. Bowler, Theodoros P. Theodoulidis, and Nikolaos Poulakis, **“Eddy Current Probe Signals Due to a Crack at a Right-Angled Corner”**, IEEE Transactions on Magnetism, Vol.48, No.12, pp.4735-4746, 2012.