

# CURRICULUM VITAE

## Athanasios N. KANAPITSAS

**Position:** Professor, Electronics Engineering Department,  
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**Date and place of birth :** April 14, 1968 (Lamia, Greece)  
**Nationality :** Greek

### **Education :**

1991 *B.Sc.*, Physics Department, University of Athens, Greece  
1997 *Ph.D.*, Physics Department, National Technical University of Athens, Greece  
1997 - 2004 Postdoctoral researcher, Department of Physics, NTUA, Zografou Campus  
Assistant professor, Electronics Department, Technological Educational Institute of Lamia, Lamia Greece.

### **Present Position :**

2012 - Professor, Electronics Engineering Department, Technological Educational Institute Stereas Elladas, Lamia Greece.  
2004 - 2012 Associate professor, Electronics Department, Technological Educational Institute of Lamia, Lamia Greece.

### **Field of research :**

Investigation of the molecular mobility mechanisms and the degree of microphase separation in multicomponent segmented polyurethane systems, composites, nanocomposite materials and biological systems (plant seeds, cells).

Main interest focused on applying the Dielectric Relaxation Spectroscopy methods, in wide frequency and temperature range (by means of Thermally Stimulated Depolarization Currents (TSDC) and ac spectroscopy) in addition with Differential Scanning Calorimetry (DSC), Thermogravimetry (TGA) and Equilibrium and Dynamic water Sorption Isotherm (ESI, DSI) measurements in order to study the molecular mobility, microphase separation, structure-properties and the effects of sorbed water in molecular mobility of the materials under investigation.

**Currently research interests** focus on the investigation of the structure – property relationships of polymer nanocomposites and nanostructured materials with a variety of experimental techniques in collaboration with several research groups. This research work contributes in various fields of material science, including : the development of methodologies for using dielectric techniques for structural and morphological characterization, the investigation of conductivity mechanisms of technological materials, the investigation of the hydration properties and thermal properties of polymers, biomaterials and electronic materials.

The research interests include:

- the investigation of the structure-properties relationships in various polymer-based nanostructured materials
- the development of methodologies for using dielectric techniques for structural and morphological characterisation in nanostructured materials
- measurements and modeling of electrical conductivity and molecular mobility in microelectronic materials and nanocomposites consisting of conducting and insulating regions
- the investigation of effects on the structure and local dynamics of polymers and glass-forming liquids induced by confinement in small volumes of nanometer size
- the investigation of the hydration properties of polymers, composites and nanostructured polymer-based materials including both the various forms of organisation of water in these materials and the effects of water on the structure and local dynamics of the matrix material
- relaxation phenomena of glassy polymers and composites
- yield and post-yield behaviour of amorphous and semicrystalline polymers-constitutive equations

Keywords: *dielectric relaxation spectroscopy, polyurethanes, interpenetrating polymer networks, hybrid composites, nanocomposites, microelectronic materials*

#### **Participation in Research Projects :**

1. 1993 - 95 VolksWagen – Stiftung, “Mesoscopic two-phased systems”
2. 1994 - 95 I.N.T.A.S, “International Network for structure –properties study of polymeric and composite materials”
3. 1992 - 93 Greece – Germany, “Molecular Mobility and Morphology of New Polyurethane Systems”
4. 1994 - 95 Greece - Germany “Ageing and environmental condition effects in Structure and Morphology of new polyurethane systems”
5. 1996 - 97 Greece - Czech, “Hydration Properties of Biotechnological materials”
6. 2000 - 01 NTUA-PENED, “ Study of nanostructured particles in liquid crystals and polymer melts”
7. 2001 - 02 NTUA – IKYDA, “Structure-property relationships of ferroelectric polyamides”
8. 2003 - 04 NTUA, “Comparative study of leukemic cells with dielectric and biochemic methods”
9. 2004 - 09 NTUA-TEI LAMIAS-TEI KOZANHS- Strathclyde University-University of Thessalonica-University of Ioannina  
“ARXIMEDES I & ARXIMEDES II”  
“High technology polymeric coatings”,  
“High technology materials for electrostatic shielding”
10. 2012 – 2015 “THALIS” NSRF TEI of LAMIA- TEI of ATHENS-University of Patras- DEMOKRITOS  
“Research and Development of Novel Multifunctional Polymer Nanocomposites”

**Publications** : 47 refereed papers, 60 in refereed proceedings

**Conference participation** : 126 international conferences , 4 international seminars, 30 national conferences.

**Citations** : > 600

Member of : 1. «Greek Physicists Union» from 1991,

2. «International Dielectrics Society» from 2001.

3. «Institute of Electrical and Electronic Engineers» (IEEE) from 2006

Reviewer in scientific journals:

1. Journal of Applied Polymer Science
2. Journal of Polymer Science part B: Polymer Physics
3. Advanced Materials Forum, Trans. Tech. Publ.
4. Materials Chemistry and Physics
5. IEEE Sensors Journal
6. Soft Matter
7. Journal of Materials Chemistry
8. Macromolecular Symposia
9. Materials Science in Semiconductor Processing
10. Journal of Alloys and Compounds