

# CURRICULUM VITAE

**Christos A. Tsonos**

**Position:** Professor, Department of Physics, University of Thessaly,  
35100 Lamia, Greece

**E.mail:** [christostsonos@uth.gr](mailto:christostsonos@uth.gr)

**Education:**

1989 Degree in Physics, Aristotle University of Thessaloniki, Greece  
1993 Post graduate courses in Physics, N.C.S.R. DEMOKRITOS, Greece  
1998 PhD, Physics Department, National Technical University of Athens

**Professional experience:**

9/2019-today Professor, Department of Physics, University of Thessaly, Greece  
2/2019-9/2019 Professor, General Department of Lamia, University of Thessaly,  
Greece  
2005-2019 Academic staff at the former Technological Education Institute of  
Lamia and former Technological Education Institute of Sterea  
Ellada, Greece  
2000-2005 Research Fellow, former Technological Education Institute of  
Lamia, Greece  
1998-2000 Research associate, Department of Physics & Department of  
Primary Education, Aristotle University of Thessaloniki  
1992-1998 Research associate, Physics Department, National Technical  
University of Athens, Greece

**Field of research:**

The research interests include:

- Electrical and dielectric characterization of technological materials: nano-composite polymeric materials, multifunctional polymeric materials, composite polymeric materials, materials of micro-nanoelectronics, semiconductor materials and devices, ceramic materials, insulating materials, polymer electrolytes.
- Investigation of the relationship between structure and properties of materials using a variety of experimental techniques: electrical-dielectric, thermal, mechanical and morphological.
- Energy harvesting and storage in polymeric nanosystems and nanostructured systems.
- Study of the conductivity of polymeric systems.
- Study of Weyl and Dirac particles interaction with electromagnetic fields.
- Development of complex polymeric systems for electromagnetic shielding.

**Academic Appointments:**

- Head of Electronics Engineering Department, TEI of Sterea Ellada (2013-2014 and 2016-2018)
- Director of the Electronics Section and member at the Council of the Electronics Department, Technological Education Institute of Lamia (2006-2011)

**Participation in National and European Research Projects:**

Participation in 10 National and European Research Projects

**Publications:**

More than 90 publications in refereed journals and conferences

**Citations:** > 500 (*h-index* = 12 *google.scholar*)

**Additional Activities:**

- Member in Administrative Council at Hellenic NARIC (2018-2019)
- Departmental academic coordinator of Erasmus Program of the former TEI of Lamia (2010-2014)
- Examiner at National Institution for Scholarships (IKY) for scholarships to postgraduate students studying at foreign Universities in the subjects areas: Electronics (2008-2012)
- Teaching postgraduate courses in Aristotle University of Thessaloniki (1999-2000), University of West Attica (2017-2020), International Hellenic University (2018-2020), member of the supervising team for MSc students participating a joint program of TEI of Athens and Brunel University of West London (2009)

**Scientific Publications (over the last 5 years)**

**Journals:**

1. Pengfei Zhao, Gourav Bhattacharya, Sam J. Fishlock, Joseph G. M. Guy, Amit Kumar, Christos Tsonos, Zidong Yu, Shasidran Raj, James A. McLaughlin, Jikui Luo, Navneet Soin, ‘*Replacing the Metal Electrodes in Triboelectric Nanogenerators: High-Performance Laser-Induced Graphene Electrode*’, Accepted for publication in *Nano Energy* (2020).
2. Kechriniotis, C. Tsonos, K. Delibasis, G. Tsigaridas, «*On the connection between the solutions to the Dirac and Weyl equations and the corresponding electromagnetic 4-potentials*», accepted for publication in *Communications in Theoretical Physics* (2020).
3. Pengfei Zhao, Navneet Soin, Amit Kumar, Lin Shi, Shaoliang Guan, Christos Tsonos, Zidong Yu, Sekhar C Ray, James McLaughlin, Zhigang Zhu, Erping Zhou, Junfeng Geng, Chan H See, Jikui Luo, «*Expanding the portfolio of tribo-positive materials: aniline formaldehyde condensates for high charge density triboelectric nanogenerators*», *Nano Energy*, 67, 104291 (2020).
4. C. Tsonos, «*Comments on frequency dependent AC conductivity in polymeric materials at low frequency regime*», *Current Applied Physics*, 19, 491–497 (2019).
5. C. Tsonos, H. Zois, A. Kanapitsas, N. Soin, E. Siores, G.D. Peppas, E.C. Pyrgioti, A. Sanida, S.G. Stavropoulos, G.C. Psarras, «*Polyvinylidene fluoride/magnetite nanocomposites: Dielectric and thermal response*», *Journal of Physics and Chemistry of Solids*, 129, 378-386 (2019).
6. A. Sanida, Th.G. Velmachos, S.G. Stavropoulos, G.C. Psarras, C. Tsonos, A. Kanapitsas, N. Soin, E. Siores, «*Thermomechanical response of Fe<sub>3</sub>O<sub>4</sub>/PVDF nanocomposites*», *Structural Integrity Procedia*, 10, 91-96 (2018).
7. A. Kanapitsas, G.C. Psarras, C. Tsonos, A. Speliotis, A. C. Patsidis, E. Siores, D. Triantis, «*Magneto-Electric Response and Functionality in Barium Ferrite/Barium Titanate/Epoxy Resin Nanocomposites*», *Journal of Advanced Physics* 8, 69-75 (2017).
8. Navneet Soin, Pengfei Zhao, Kovur Prashanthi, Jinkai Chen, Peng Ding, Erping Zhou, Tahir Shah, Sekhar C. Ray, Christos Tsonos, Thomas Thundat, Elias Siores, and Jikui Luo, «*High performance triboelectric nanogenerators based on phase-inversion piezoelectric membranes of poly(vinylidene fluoride)-zinc stannate (PVDF-ZnSnO<sub>3</sub>) and polyamide-6 (PA6)*», *Nano Energy* 30, 470-480 (2016).
9. C. Tsonos, N. Soin, G. Tomara, B. Yang, G.C. Psarras, A. Kanapitsas, E. Siores, «*Electromagnetic wave absorption properties of ternary poly (vinylidene fluoride)/magnetite nanocomposites with carbon nanotubes and grapheme*», *RSC Advances* 6(3), 1919-1924 (2016).
10. A. Kanapitsas, C. Tsonos, G. C. Psarras, S. Kriptou, «*Barium Ferrite/Epoxy Resin Nanocomposite system: Fabrication, Dielectric, Magnetic and Hydration Studies*», *eXPRESS Polymers Letters*, 10(3), 227–236 (2016).
11. C. Tsonos, C. Pandis, N. Soin, D. Sakellari, E. Myrovali, S. Kriptou, A. Kanapitsas, E. Siores, «*Multifunctional nanocomposites of poly(vinylidene fluoride) reinforced by carbon*

*nanotubes and magnetite nanoparticles*», eXPRESS Polymers Letters, 9(12), 1104-1118 (2015).

12. C. Tsonos, A. Kanapitsas, G.C. Psarras, Th. Speliotis, «*Effect of ZnO Nanoparticles on the Dielectric/Electrical and Thermal Properties of Epoxy-Based Nanocomposites*», Science of Advanced Materials, 7(3), 588-597 (2015).

**International conferences:**

1. A. Sanida, Th. G. Velmachos, S. G. Stavropoulos, G. C. Psarras, C. Tsonos, A. Kanapitsas, N. Soin and E. Siores, «*Thermomechanical response of Fe<sub>3</sub>O<sub>4</sub>/PVDF nanocomposites*», 1<sup>st</sup> International Conference of the GSEMM, Athens, Greece, May 10-12, (2018).

2. I. Stavrakas, D. Triantis, P. Photopoulos, A. Kanapitsas and C. Tsonos, “*Thermally stimulated discharge current (TSDC) characteristics in PVDF–graphene nanocomposites*”, International Conference “*Science in Technology*” (SCinTE 2015), Athens, Greece (2015).

3. A. Kanapitsas, C. Tsonos, G. Psarras, Th. Speliotis, “*Barium Ferrite/Barium Titanate/Epoxy Resin Hybrid Nanocomposites: study of properties and functionality*”, International Conference “*Science in Technology*” (SCinTE 2015), Athens, Greece (2015).

4. C. Tsonos, E. Siores, A. Kanapitsas, G. C. Psarras, “*Multifunctionality of Fe<sub>3</sub>O<sub>4</sub>-CNT and Fe<sub>3</sub>O<sub>4</sub>-Graphene Embedded PVDF Nanocomposites*”, 10thNANOSMAT, International Conference on Surfaces, Coatings and Nanostructured Materials, Manchester, UK (2015).

5. G.C. Psarras, A. Kanapitsas, C. Tsonos, “*Ceramic Particles/Epoxy Resin Nanodielectrics: Development, Dielectric Response and Functionality*”, 10thNANOSMAT, International Conference on Surfaces, Coatings and Nanostructured Materials, Manchester, UK (2015).

6. C. Tsonos, E. Siores, A. Kanapitsas, G. C. Psarras, Th. Speliotis, “*Electrical and Dielectric Response of PVDF/CNT/Fe<sub>3</sub>O<sub>4</sub> Nanocomposites*”, 10thNANOSMAT, International Conference on Surfaces, Coatings and Nanostructured Materials, Manchester, UK (2015).

7. A. Kanapitsas, C. Tsonos, G. C. Psarras, Th. Speliotis, D. Triantis, “*Barium Ferrite/Barium Titanate/Epoxy Resin Hybrid Nanocomposites: Development, Characterization and Energy Storage*”, 10thNANOSMAT, International Conference on Surfaces, Coatings and Nanostructured Materials, Manchester, UK (2015).

8. S. Kriptou, A. Kanapitsas, C. Tsonos, G.C. Psarras, «*Dielectric Response, Functionality and Energy Storage in Perovskite Type Ceramics/Epoxy Resin Nanodielectrics*», Fourth International Conference on Multifunctional, Hybrid and Nanomaterials, Sitges, Spain, 9-13 March, (2015).

9. S. Kriptou, A. Kanapitsas, C. Tsonos, G.C. Psarras, «*Dielectric and Functional Properties of Polymer Matrix/ZnO/BaTiO<sub>3</sub>Hybrid Nano-Composites*», Fourth International Conference on Multifunctional, Hybrid and Nanomaterials, Sitges, Spain, 9-13 March, (2015).

10. A. Georgakilas, S. Kriptou, A. Kanapitsas, C. Tsonos, G. Psarras, «*Epoxy resin/barium ferrite (BaFe) nanocomposites: A study of water sorption dynamics*», Eurofillers Polymer Blends 2015, Montpellier, France, 26-30 April, (2015).

11. G.N. Tomara, G.C. Psarras, A. Kanapitsas, C. Tsonos, «*ZnO/epoxy resin and BaTiO<sub>3</sub>/epoxy resin nanocomposites: development, electrical characterization and relaxation dynamics*», Fourth International Symposium Frontiers in polymer Science, Riva del Garda, Italy, 20-22 May, (2015).