

# Curriculum vitae

**Name:** Nikos Aravantinos-Zafiris

**Date of birth:** 2 May 1979

**Place of birth:** Argostoli, Kefalonia

**Citizenship:** Hellenic

**Marital status:** Married, 1 children

**Work address:** Sound and Musical Instruments Technology Department  
Ionian Islands Technological Educational Institute  
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## UNIVERSITY EDUCATION

3/2009 – 7/2014: PhD in Materials Science, Materials Science Department, University of Patras, Greece. Title of Thesis: Photonic and Phononic Materials. Supervisor: Associate Professor Michael Sigalas.

10/2004 – 9/2007: MSc in Applied Physics, Physics Department, University of Patras, Greece

9/1999 – 4/2004: 4-year BSc (Ptyxion) in Physics, Physics Department, University of Patras, Greece (Ranked first in my year)

## EMPLOYMENT

10/2014 – present: Adjunct Assistant Professor, Sound and Musical Instruments Technology Department, Ionian Islands Technological Educational Institute, Lixouri, Greece

10/2010 – 2/2011: Lecturer (fixed term), Sound and Musical Instruments Technology Department, Ionian Islands Technological Educational Institute, Lixouri, Greece

10/2009 – 7/2010: Lecturer (fixed term), Sound and Musical Instruments Technology Department, Ionian Islands Technological Educational Institute, Lixouri, Greece

10/2007 – 7/2008: Lecturer (fixed term), Sound and Musical Instruments Technology Department, Ionian Islands Technological Educational Institute, Lixouri, Greece

11/2006 – 11/2007: Compulsory Military Service

## **TEACHING EXPERIENCE**

I have fully taught 3 undergraduate courses at the Sound and Musical Instruments Technology Department of the Ionian Islands Technological Educational Institute.

## **RESEARCH INTERESTS**

- Computational study of Phononic and Photonic Materials
- Metamaterials
- Optical interconnects
- Acoustic properties of materials
- Electromagnetically induced transparency
- Practical systems for quantum computation

## **REFEREEING SERVICES**

Scientific Journals: Journal of Applied Physics

## **RESEARCH PROJECTS**

1/2005 – 4/2005: Research Project Arhemedes II “Optical Transparency and Applications in Systems of Semiconductor Quantum Wells and Quantum Dots”, Ministry of Education and Religion. Research team member. Project leader Prof. J. Boviatsis. Budget 60.000€.

4/2005 – 12/2005: Research Project Pythagoras II “Controlled Dynamics of Nanostructures and Applications in Quantum Computation”. Ministry of Education and Religion. Research team member. Project leader Associate Prof. E. Paspalakis. Budget 84.900€.

3/2011 – 12/2013: Research Project “Support of Research, Technology and Innovation Services of University of Patras: Photonic materials and Structures for Optical Interconnects”. Regional Administration of West Greece and Ionian Islands. Research team member. Project leader Associate Prof. M. Sigalas. Budget 33.000€.

## **PUBLICATIONS IN INTERNATIONAL REFEREED SCIENTIFIC JOURNALS**

1. **N. Aravantinos-Zafiris** and E. Paspalakis, ‘*Influence of the asymmetry of the potential in the dynamics of a two-level SQUID qubit*’, *Physical Review A* **72**, 014303 (2005).
2. **N. Aravantinos-Zafiris** and M.M. Sigalas, “Band gaps in phononic strip waveguides”, *Journal of Applied Physics* **111**, 123516 (2012)
3. **N. Aravantinos-Zafiris** and M.M. Sigalas, “Band gaps in 3D layer-by-layer phononic crystal”, *Journal of Vibration and Acoustics* **135**, 041003 (2013)
4. **N. Aravantinos-Zafiris** and M.M. Sigalas, “Phononic Band Gaps in Graphene-Like Materials and Nanotubes”, *Journal of Surfaces and Interfaces of Materials* **1**, 184 (2013)
5. **N. Aravantinos-Zafiris** and M.M. Sigalas, “Light Confinement in Low Index Nanometer Areas”, *World Academy of Science Engineering and Technology* **6**, (2012)
6. **N. Aravantinos-Zafiris**, M.M. Sigalas and E.N. Economou, “Elastodynamic behavior of the three dimensional layer-by-layer metamaterial structure”, *Journal of Applied Physics* **116**, 133503 (2014)
7. Aris P. Sgouros, Mahesh R. Neupane, M. M. Sigalas, **N. Aravantinos-Zafiris** and Roger K. Lake, “Nanoscale Phononic Interconnects in THz frequencies”, *Physical Chemistry Chemical Physics* **16**, 23355 (2014)
8. **N. Aravantinos-Zafiris**, M. M. Sigalas, M. Kafesaki and E. N. Economou, “Phononic crystals and elastodynamics: Some relevant points”, *AIP Advances* **4**, 124203 (2014)
9. **N. Aravantinos-Zafiris** and M.M. Sigalas, “Large scale phononic metamaterials for seismic isolation”, *Journal of Applied Physics* **118**, 064901 (2015)

## **PUBLICATIONS IN EXTENDED REFEREED CONFERENCE PROCEEDINGS**

1. **N. Aravantinos-Zafiris** and E. Paspalakis, “Dynamics of a two-level SQUID qubit: effects of the asymmetry of the potential”, Workshop on Quantum Probability and Information, Patras May 20-21 2005
2. **N. Aravantinos-Zafiris** and E. Paspalakis, “Effects of the asymmetry of the potential on the dynamics of a two-level SQUID qubit”, *21<sup>st</sup> Panhellenic Conference on Solid State Physics and Materials Science*, Nicosia, Cyprus, August 28-31 2005
3. **N. Aravantinos-Zafiris** and M.M. Sigalas, “Phononic crystal sensors”, *1st International Conference on Phononic Crystals, Metamaterials & Optomechanics, Phononics 2011*, Santa Fe, New Mexico USA

4. **N. Aravantinos-Zafiris** and M.M. Sigalas, “Phononic band gaps in grapheme with germanium defects”, *XXVIII Panhellenic Conference on Solid State Physics and Materials Science*, Patras 2012
5. **N. Aravantinos-Zafiris** and M.M. Sigalas, “Light Confinement in Low Index Nanometer Areas”, *International Conference on Optics and Photonics, World Academy of Science Engineering and Technology*, Venice (2012)
6. **N. Aravantinos-Zafiris** and M.M. Sigalas, “Bandgaps in phononic strip waveguides with defects”, *2nd International Conference on Phononic Crystals/Metamaterials, Phonon Transport & Optomechanics, Phononics 2013*, Sharm El-Sheikh, Egypt
7. **N. Aravantinos-Zafiris** and M.M. Sigalas, “Phononic Band Gaps in Graphene-Like Materials and Nanotubes”, *2nd International Conference on Phononic Crystals/Metamaterials, Phonon Transport & Optomechanics, Phononics 2013*, Sharm El-Sheikh, Egypt