

N. T. PELEKANOS

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Microelectronics Research Group
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CAREER OBJECTIVE:

Research & development in the fields of semiconductor optoelectronics and nanophotonics.

EDUCATION:

Ph.D. in Physics, Brown University, Providence (RI), USA, July 1991
Title of dissertation: "Exciton-phonon interaction effects in II-VI semiconductor heterostructures".
Scientific advisor: Professor A. V. Nurmikko
M.Sc. in Physics, Brown University, Providence (RI), USA, May 1987
B.Sc. in Physics, University of Athens, Athens, Greece, July 1985

PROFESSIONAL EXPERIENCE:

- 2009-present: Full Professor**, Materials Science & Technology Department, University of Crete, Heraklion, Greece, in the field of Semiconductor Nanotechnology with emphasis on Optoelectronics.
- 2003-2009: Associate Professor**, Materials Science & Technology Department, University of Crete, Heraklion, Greece, in the field of Semiconductor Nanotechnology.
- 2001-2003: Senior Researcher**, Foundation of Research and Technology-Hellas, Microelectronics Research Group, Heraklion, Greece, involved with the demonstration of novel optoelectronic devices and the study of semiconductor quantum dots.
- 1994-2001: Research Engineer** (permanent position), Commissariat à l'Energie Atomique, Laboratory of Semiconductor Physics, Grenoble, France, involved with optical characterization of semiconductor nanostructures and demonstration of novel optoelectronic devices.
- 1993-1994: Postdoctoral Researcher**, Max-Planck-Institute, Ultrafast Spectroscopy Group, Stuttgart, Germany, demonstrating an all-optical quantum well-based spatial light modulator for parallel image processing and carrying out ultrafast spectroscopy on II-VI heterostructures.
- 1992-1993: Research Engineer**, France-Telecom, Centre National d'Etudes des Télécommunications, Optical Interconnection Group, Lannion, France, designing photorefractive quantum well systems for optical switching in telecommunications.
- 1991-1992: Postdoctoral Researcher**, Commissariat à l'Energie Atomique, Laboratory of Semiconductor Physics, Grenoble, France, studying the optical properties of CdTe-based heterostructures.

RESEARCH INTERESTS:

- a) Quantum dot-based high temperature single-photon emitters and sources of entangled photons.
- b) Polariton lasing and condensates at room temperature.
- c) Next generation solar cells based on semiconductor nanowires.
- d) 2D materials for optoelectronic applications.

ACHIEVEMENTS:

RESEARCH

- A total of 234 publications, including:
 - 7 patents
 - 53 publications in peer-reviewed journals
 - 62 conference papers in peer-reviewed journals
 - 2 papers in special issues
 - 1 book chapter
 - 109 papers in conference proceedings.
- About 2830 citations and a corresponding H-factor of 27.
- 18 invited talks in conferences/workshops and 15 invited talks in academic institutions.
- Coordination/participation in 6 European, 18 national, 1 industrial, and 4 bilateral research contracts, whose total estimated budget for the home institutions is approximately 3.8 million Euros.
- Supervised 5 post-doctoral fellows, 8 PhD and 8 MSc theses. Currently supervising 2 PhD candidates and 2 MSc students.
- Evaluation expert for European and national research programs (Greece, France, Israel).
- Referee in prestigious academic journals (PRL, PRB, PRApl, APL, JAP).
- Co-organized 9 conferences/workshops.
- Participated in numerous electoral committees for professor/researcher positions.

ADMINISTRATIVE WORK

At the Department level:

- Chairman, 2007-2009.
- Vice-Chairman, 2004-2007.
- Director of undergraduate studies, 2004-2010.
- Evaluation Committee, 2012-2016.

At the University level:

- Committee of Research, 2012-2014.
- Responsible for the Final Reception Protocol of the new University buildings in Voutes, 2014.
- Member of New Technologies Committee, 2016-.
- Director of Technical Council, 2017-.

At the Region level:

- Member of the Regional Research and Innovation Council of Crete, 2017-.

AWARDS

- Chaire d'Excellence LANEF, funded by the French government, for a project entitled "*Nanowire Innovative Solar Cells*", 2014-2017.
- Solar Innovation 2010 Award, by the French Atomic Energy Commission for a proposal on "*III-V Nanowires for Next Generation Photovoltaics*", 2011-2013.
- Alexander von Humboldt-Stiftung fellowship, 1993-1994.
- Bourse du Ministère des Affaires Etrangères, 1991-1992.

DETAILED RECORD:

PATENTS:

7. Growth of nitride semiconductor heterostructures including Indium Aluminium Gallium Nitride alloy layers by Molecular Beam Epitaxy with RF-plasma source,

A. Georgakilas, N. Pelekanos, E. Dimakis, FORTH, Application for Greek Patent, Ref. N. 20020100376 (9-8-2002).

6. Optical semiconductor device with resonant cavity tunable in wavelength, application to modulation of light intensity,

V. Ortiz, N. T. Pelekanos, CEA/Grenoble, French Patent application Nr. 99 08783, filed July 7, 1999. Extended to the USA in June 2000, where it was granted as US 6,396,083 B1 (DoP: May 28, 2002).

5. Semiconductor laser with tunable gain spectrum,

N. T. Pelekanos, V. Ortiz, G. Mula, CEA/Grenoble, French Patent application Nr. 98 12558, filed Oct. 7, 1998. Extended to USA in 1999, where it was granted as US 6,353,624 B1 (DoP: March 5, 2002).

4. An educational crossword game,

J. Jorge Pelekanos, N. T. Pelekanos, U.S. Patent application, filed January 1996.

3. Optically-controlled light modulator device,

N. T. Pelekanos, European Patent Application #94107158.1, filed in 1994. Extended to USA in 1995, where it was granted as US 5,698,863 (DoP: Dec.16, 1997).

2. Ultrafast photorefractive cell operating at 1.55 μm ,

B. Deveaud, N. T. Pelekanos, B. Lambert, France Telecom, French Patent Nr. 9313718, filed in 1993, extended in USA in 1994.

1. All-optical photodiffractive device based on GaAs/AlAs quantum filters,

N. T. Pelekanos, B. Deveaud, P. Gravey, J. M. Gérard, France Telecom, French Patent Nr. 9314789, filed in 1993, extended in USA in 1994.

CITATIONS:

On September 2018, the total number of citations was about 2830, according to ISI Web of Science.

HIRSCH FACTOR ANALYSIS: $\langle H \rangle = 27$ (September 2018)

Specifically, using ISI Web of Science numbers:

1. F. Widmann et al., Phys. Rev. B. Rapid Comm. **58**, R15989 (1998). (248)
2. F. Widmann et al., J. Appl. Phys. **83**, 7618 (1998). (200)
3. N. T. Pelekanos et al., Phys. Rev. B **45**, 6037 (1992). (189)
4. R. Langer et al., Appl. Phys. Lett. **74**, 3827 (1999). (164)
5. S. Tsintzos et al., Nature **453**, 372 (2008). (150)
6. J. Simon et al., Phys. Rev. B **68**, 035312 (2003). (145)
7. F. Widmann et al., Appl. Phys. Lett. **73**, 2642 (1998). (139)
8. C. Adelmann et al., Appl. Phys. Lett. **76**, 1570 (2000). (125)
9. S. M. Durbin et al., Appl. Phys. Lett. **55**, 2087 (1989). (100)
10. J. Ding et al., Appl. Phys. Lett. **57**, 2885 (1990). (97)
11. E. Martínez-Guerrero et al, Appl. Phys. Lett. **77**, 809 (2000). (71)
12. J.L. Rouvière et al, Appl. Phys. Lett. **75**, 2632 (1999). (69)
13. R. Langer et al., Appl. Phys. Lett. **74**, 3610 (1999). (63)
14. J. Simon et al, Phys. Rev. B **61**, 7211 (2000). (48)
15. S. Haacke et al., Phys. Rev. B **47**, Rapid. Comm., 16643 (1993). (45)
16. E. J. Mayer et al, Phys. Rev. B **51**, Rapid Comm., 17263 (1995). (42)
17. A.G. Kontos et al., Phys. Rev. B **72**, 155336 (2005). (40)
18. N. Pelekanos et al., Phys. Rev. B **43**, Rapid Comm., 9354 (1991). (36)
19. S. Tsintzos et al., Appl. Phys. Lett. **94**, 071109 (2009). (34)
20. N. T. Pelekanos et al., Appl. Phys. Lett. **61**, 3154 (1992). (34)
21. K. Daskalakis et al., Appl. Phys. Lett. **102**, 101113 (2013). (33)
22. E. Iliopoulos et al., phys. stat. sol. (a) **203**, 102 (2006). (32)
23. F. Widmann et al., Microelectronics J. **30**, 353 (1999). (29)
24. N. Pelekanos et al., Phys. Rev. B **41**, 9966 (1990). (29)

25. G. Christmann et al., Phys. Rev. B **82**, 113308 (2010). (27)
26. M. Androulidaki et al., phys. stat. sol. (c) **3**, 1866 (2006). (27)
27. E. Dimakis et al., J. Cryst. Growth **251**, 476 (2003). (27)
28. M. Hocevar et al., Appl. Phys. Lett. **102**, 191103 (2013). (25)
29. B. Daudin et al., phys. stat. sol. (a) **176**, 621 (1999). (25)
30. B. Daudin et al., Jpn. J. Appl. Phys. **40**, 1892 (2001). (22)

INVITED TALKS in WORKSHOPS/CONFERENCES:

18. Ultra-low threshold GaN polariton lasing in a zero dimensional trap,
E-MRS 2016, Fall meeting, Warsaw, September 2016.

17. Νανοφωτονική με ημιαγωγικές νανοδομές,
1st Hellenic Workshop on Photonics, Athens, May 2016.

16. Ultra-low threshold GaN polariton lasing at room temperature,
31st Panhellenic Conference on Solid-State Physics and Materials Science, Thessaloniki, September 2015.

15. Piezoelectric effect for improved semiconductor optoelectronics: from laser diodes and single photon emitters to solar cells,
Workshop on “Piezoelectric nanodevices: present and future”, Accademia dei Lincei, Rome, September 2012.

14. GaAs nanowires for next generation photovoltaics: progress and challenges,
9th International Conference on Nanosciences & Nanotechnologies (NN12), Thessaloniki, July 2012.

13. Next generation nanophotonic semiconductor devices,
Workshop on “Emerging Technologies in Micro and Nano Electronics and Eco-Friendly Aspects”, Heraklion, July 2011.

12. Οπτοηλεκτρονικές Διατάξεις: Νέες Κατευθύνσεις,
Δημερίδα Micro-Nano, Athens, November 2009.

11. Room temperature GaAs polariton LED: A first step towards a polariton laser?,
ICO-Photonics 2009, Delphi, October 2009.

10. Near room temperature GaAs polariton LED,
International Conference on the Physics of Semiconductors 2008, ICPS 08, Rio de Janeiro.

9. Πιεζοηλεκτρικές κβαντικές τελείες: βασική κατανόηση και φωτονικές εφαρμογές,
Δημερίδα ITE, Ανώγεια, June 2005.

8. GaN quantum dots: from basic understanding to unique applications,
Microelectronics Microsystems and Nanotechnology Conference, MMN'04, Athens (2004).

7. Stark-tunable InGaAs laser diodes,
International Semiconductor Conference, CAS'2002, Sinaia Romania (2002).

6. Piezoelectric effects in heterostructures: consequences and applications,
Novel Index Surfaces 2001, NIS'01, Aspet (2001).

5. Growth and Comparative Optical Properties of Hexagonal and Cubic GaN QDs,
European Material Research Society meeting EMRS Strasbourg (2001).

4. Comparative study of optical properties of cubic and hexagonal GaN quantum boxes, International Workshop on Physics of Light-Matter Coupling in Nitrides, Saint-Nectaire (2000).

3. Effets de polarisation dans les nitrures,
N.T. Pelekanos, Ecole Thématique du CNRS sur les Nitrures d'Éléments III, Orcières-Merlette (2000).

2. Effets piézo-électriques géants dans les nanostructures GaN,
N.T. Pelekanos, in Workshop of Groupement de Recherches sur «Matériaux et Fonctions de l'Optique Non-Linéaire”, Saint Martin Vesubie (1999).

1. Fast Photorefractive Materials Using Quantum Wells,
N. T. Pelekanos, B. Deveaud, C. Guillemot, J. M. Gérard, P. Gravey, B. Lambert, A. Le Corre, J. E. Viallet, in European Material Research Society meeting EMRS Strasbourg (1994).

INVITED TALKS in ACADEMIC INSTITUTIONS:

15. Highly uniform GaAs/InGaAs core-shell nanowire arrays for photovoltaic applications,
Helmholtz-Zentrum Rosendorf-Dresden, January 2018.

14. Highly uniform GaAs nanowires for photovoltaic applications,
University of Crete, Department of Physics, December 2017.

13. Random and periodic arrays of strained GaAs/InGaAs core-shell nanowires for PV applications,
CEA/Grenoble, INAC, June 2017.

12. Ultra-low threshold GaN polariton lasing at room temperature,
CEA/Grenoble, INAC, January 2016.

11. GaN nanowires, membranes, microcavities, and hybrid devices,
EPFL Lausanne, Institut de Photonique et Electronique Quantique, May 2013.

10. III-V nanowires for next generation photovoltaics
CEA/Grenoble, LITEN, December 2010.

9. Room temperature GaAs polariton LEDs: a first step towards polaritronics?
University of Connecticut, Department of Electrical Engineering, August 2008.

7/8. Polarization effects in nitride nanostructures,
University of Athens, Department of Physics, and Institute of Microelectronics in National Research Center "Demokritos" in Athens, November 1999.

6. Giant piezoelectric and spontaneous polarization effects in GaN nanostructures,
University of Crete, Department of Physics, February 1999.

5. Novel Optoelectronic Devices based on the Piezoelectric Effect,
FORTH, May 1998.

4. Hot (e, A^0) photoluminescence as a method to determine relaxation times of hot electrons,
National Technical University of Athens, January 1998.

3. Photorefractive quantum wells,
Max-Planck-Institut für Festkörperforschung, January 1994.

2. Optical Spectroscopy of II-VI quantum well systems and exciton-phonon interaction,
CEA/Grenoble, Département de Recherche Fondamentale sur la Matière Condensée, November 1991.

1. II-VI heterostructures for blue optoelectronics,
University of Maryland, Physics Department, April 1991.

FUNDING:

European:

-Participation in European contract entitled CLERMONT 4, FP7-PEOPLE-ITN-235114, "Exciton-Polaritons in microcavities: physics and devices" (2009-2013). FORTH budget 314,570 €.

-Participation in European contract entitled ICARUS, FP7-PEOPLE-ITN-237900, "Hybrid organic-inorganic nanostructures for photonics and optoelectronics" (2009-2013). FORTH budget ~410,000€.

-Matching Funds: I have managed 108,572 € since 2001.

-Principal contractor and team coordinator in European contract entitled GaNano, NMP-2002-505641-1, "New Generation of GaN-based sensor arrays for nano- and pico-fluidic systems for fast and reliable biomedical testing" (2004-2006). FORTH budget 364,000€.

-Coordination of European contract entitled QN-Laser II, IST-2001-38982, "Quaternary nitride low-threshold laser II" (2003). FORTH budget 68,000€.

-Coordination of European contract entitled TUNE-Laser, IST-2000-31028, “*Tunable laser diode based on the Stark effect*” (2001-2002). FORTH budget 100,000€.

-Coordination of European contract entitled QN-Laser, IST-2000-26464, “*Quaternary nitride low-threshold laser*” (2001-2002). FORTH budget 100,000€.

National:

-Participation in Infrastructures project “INNOVATION-EL”, co-financed by Greece and the European Regional Development Fund (2018-2021). Budget 13,500€.

-Supervision of Doctoral Fellowship of G. Thyris funded by the Stavros Niarchos Foundation, entitled “*High temperature single photon emitters based on InAs piezoelectric quantum dots*” (2018-2019). Budget 11,500€.

-Participation in KRHPIS II project “AENAO”, co-financed by Greece and the European Regional Development Fund on “*Materials and Processes for Energy and Environment Applications*” (2017-2020). Budget 16,000€.

-Supervision of Doctoral Fellowship of E. Amargianitakis funded by the Hellenic Foundation for Research and Innovation, entitled “*Nitride Polariton Lasers*” (2017-2019). Budget 18,900 €.

-Coordination of LANEF Chair of Excellence 2014 project, funded by the French government, entitled “*Nanowire Innovative Solar Cells*” (2014-2017). Total budget ~300,000 €.

-Coordination of ARISTEIA II project “NILES” funded by the Greek government, on “*Nanowire Innovative Light Emitting devices and Solar cells*” (2014-2015). Total budget 245,000 €.

-Coordination of THALES project “NANOPHOS” funded by the Greek government, on “*Nanophotonic Semiconductor Devices*” (2012-2015). Total budget 540,000 €.

-Coordination of Solar Innovation 2010 Award project funded by the French government on “*III-V Nanowires for Next-generation Photovoltaics*” (2011-2013). Total budget ~250,000 €.

-Coordination of HRAKLEITOS II project funded by the Greek government, on “*Photonic Devices of Piezoelectric Quantum Dots*” (2010-2014). Total budget 45,000 €.

-Συμμετοχή στο Πρόγραμμα Πόλου Καινοτομίας Κρήτης, 2007-2008, πάνω σε χαρακτηρισμό ημιαγωγικού υλικού για χημικούς αισθητήρες. Budget 16,000 €.

-University grant from Public Investments 2006, for the purchase of a “*Femtosecond Ti:Sapphire laser system*” (2006-2007). Total budget 250,000 €.

-Coordination of PENED 2003 project funded by the Greek government, on “*Tunable wavelength semiconductor lasers*” (2006-2009). Total budget 138,480 €.

-Participation in PENED 2003 project funded by the Greek Research Council, on “*Strong coupling in GaN-based microcavities for polariton devices*” (2005-2008). Total budget 80,000 €.

-Participation in PYTHAGORAS project funded by the Greek government, on “*Exploitation of strong light-matter coupling in organic microcavities for optoelectronic devices*” (2005-2006). Total budget 80,000 €.

-Participation in PYTHAGORAS project funded the Greek government, on “*Growth and Properties on Novel III-V semiconductor heterostructures and nanostructures*” (2004-2006). Total budget 80,000 €.

-Coordination of PENED 2001 project funded by the Greek government, on “*UV-emitters*” (2003-2006). Total budget 205,430 €.

-Participation in Program of Excellence (Πρόγραμμα Αριστείας), granted to FORTH/IESL by the Greek government (2002-2006). Personal budget for building a UV micro-photoluminescence setup 100,000 €.

-Participation in program EPEAEK, funded by the Greek government in order to support the Graduate Program on Micro- and Optoelectronics of the Physics Department of the University of Crete for the period 2002-2004.

-Participation in Contrat-Région funded by the French government, on “*Cubic nitride light emitting diodes*” (1998-1999).

-Participation in Contrat-Région funded by the French government, on “*Nitride nanostructures: growth and characterisation*” (1998-1999).

-Participation in PENED with National Technical University of Athens funded by the Greek government, on “*Hot electron-acceptor luminescence as a probe of dynamic relaxation processes in semiconductor heterostructures*” (1997-1999).

Bilateral:

-Coordination of Contrat Franco-Hellenique funded by the Ministries of Foreign Affairs of France and Greece, on “*Piezoelectric quantum dots for photonic applications*” (2006-2008).

-Coordination of IKYDA exchange program between Greece and Germany (Technical University of Ilmenau), funded by IKY, on “*Study for enhancing the performance of GaN-based UV photodiodes and lasers*” (2004-2006).

-Coordination of Contrat Franco-Hellenique funded by the Ministries of Foreign Affairs of France and Greece, on “*Epitaxial growth and fabrication of quaternary nitride lasers with enhanced performance in the UV*” (2003-2005).

-Coordination of Contrat Franco-Hellenique funded by the Ministries of Foreign Affairs of France and Greece, on “*Comparative study of hexagonal and cubic GaN heterostructures*” (2000-2001).

Industrial:

-Participation in research contract funded by France Telecom, on “*Photorefractive quantum wells for optical interconnects*” (1993-1995).

EDUCATIONAL WORK:

Teaching:

-Course on “*Electromagnetism and Optics*” in the 3rd year of the undergraduate program of the Materials Science and Technology Department of Univ. of Crete (fall semester 2003-2018).

-Course on “*Principles of Semiconductor Physics*” in the 4th year of the undergraduate program of the Materials Science and Technology Department of Univ. of Crete (spring semester 2009-2018).

-Course on “*Semiconductor Optoelectronic Devices*” in the Microelectronics/Optoelectronics postgraduate program of the Physics Department and the Materials Science and Technology Department of Univ. of Crete (spring semester 2002-2018).

-Course on “*Optoelectronics and Laser*” in the 4th year of the undergraduate program of the Materials Science and Technology Department of Univ. of Crete (spring semester 2007-2008).

-Course on “*Optoelectronic and Photonic materials*” in the 4th year of the undergraduate program of the Materials Science and Technology, Department of Univ. of Crete (spring semester 2005 and 2006).

-Course on “*Microelectronic, Optoelectronic and Magnetic materials*” in the 2nd year of the undergraduate program of the Materials Science and Technology Department of Univ. of Crete (spring semester 2004).

-Series of lectures on “*Semiconductor Optical Properties and Laser Diodes*” in the Summer school of the Physics Department of Univ. of Crete (July 2002 and 2003).

-Co-directed the Microelectronics’ postgraduate program of the Physics Department of the Univ. of Crete (2001-2003).

-Teaching assistant in “*General Physics*” course in the undergraduate program of the Physics Department of Brown University, USA, (1985-1987).

Supervision:

Post-doctoral fellows:

5. **Siew Li Tan**, developing “*Innovative Nanowire Solar Cells*”, CEA/Grenoble, 2014-2016.

4. **Savvas Germanis**, performing “*Micro-photoluminescence characterization of transition metal dichalcogenides*”, FORTH, 2015-2016.

3. **Charalambos Katsidis**, on “*Simulations of semiconductor nanostructures and devices*”, University of Crete, 2013-2015.
2. **Fotis Kalaitzakis**, developing and characterizing “*Polaritonic light emitting devices in the GaAs and GaN systems*”, University of Crete/FORTH, 2012-2015.
1. **Moira Hocevar**, characterizing “*III-V Nanowires for Next Generation Photovoltaics*”, CEA/Grenoble, 2012-2013.

Ph.D thesis advisor:

12. **E. Manidakis**, on “*Innovative semiconductor double-junction photovoltaic devices*”, Materials Science, University of Crete (10/2018-).
11. **N. Chatzarakis**, on “*Single-Photon and Entangled-Photon Nanophotonic Sources Based on Innovative Semiconductor-Nanostructures*”, Materials Science, University of Crete (9/2018-).
10. **G. Thyris**, on «*High temperature single photon emitters based on InAs piezoelectric quantum dots*», Materials Science, University of Crete (11/2017-).
9. **E. Amargianitakis**, on “*Development of nitride polariton laser structures with improved characteristics*”, Materials Science, University of Crete (4/2016-).
8. **S. Germanis**, on “*Photonic devices based on piezoelectric InAs quantum dots*”, Materials Science, University of Crete (12/2010-10/2015). Subsequently, post-doc at the Pierre et Marie Curie University in Paris, developing emitters based on quantum dot molecules.
7. **R. Jayaprakash**, on “*Novel approaches for robust polaritonics*”, Materials Science, University of Crete (1/2011-10/2015). Subsequently, post-doc at the Department of Physics & Astronomy of University of Sheffield, developing hybrid polaritonic devices.
6. **F. Kalaitzakis**, on “*Development of technology for improved nitride based optoelectronic devices*”, Materials Science, University of Crete (2004-2011). Subsequently, post-doc at the Microelectronics Research Group (FORTH/IESL) developing nitride-based optoelectronic devices.
5. **S. Tsintzos**, on “*Polariton light emitting devices*”, Materials Science, University of Crete (2006-2010). Subsequently, post-doc at the Microelectronics Research Group (FORTH/IESL) developing polaritonic devices.
4. **G. Deligeorgis**, on “*Laser diodes with a variable internal electric field*”, Physics, University of Crete (2002-2008). Subsequently, post-doc at the Microelectronics Research Group (FORTH/IESL) developing e-beam nano-patterning technology, and at LAAS-Toulouse developing graphene-based electronics.
3. **N. Le Thomas**, on “*Diodes laser accordables en longueur d’onde à base de l’effet Stark quantique*”, Physics, Institut Polytechnique de Grenoble (1999-2002). Subsequently, post-doc at the group of U. Woggon in Univ. of Duisburg, and of Prof. Ilegems in EPFL Lausanne.
2. **J. Simon**, on “*Etude des propriétés optiques de nanostructures quantiques à base de nitrides d’éléments III*”, Physics, Université J. Fourier-Grenoble I (1998-2001). Subsequently hired by LETI in CEA/Grenoble.
1. **V. Ortiz**, on “*Etude de dispositifs optoélectroniques à base d’hétérostructures piézoélectriques*”, Physics, Université J. Fourier-Grenoble I (1996-1999). Subsequently hired at THALES Research Center.

M.Sc thesis advisor:

11. **E. Darivianaki**, on «*Hybrid nanowire/perovskite solar cells*», Materials Science, University of Crete (2018-).
10. **E. Manidakis**, on “*Nanowire core-shell heterostructures for photovoltaic applications*”, Materials Science, University of Crete (2017-2018).
9. **F. Miziou**, on “*Nitride microcavities for polariton devices*”, Physics, University of Crete (2016-2018).
8. **G. Thyris**, on «*Development of high temperature single photon emitters based on InAs piezoelectric quantum dots*», Physics, University of Crete (2016-2017).
7. **E. Amargianitakis**, on “*Nitride polariton structures with improved characteristics*”, Physics, University of Crete (2014-2016).

6. **S. Eftichis**, on “*Improved electrical injection of GaAs polaritonic devices*”, Physics, University of Crete (2010-2011).
5. **S. Germanis**, on “*Polarization-resolved single dot spectroscopy of (211)B InAs single quantum dots*”, Physics, University of Crete (2009-2010).
4. **S. Tsintzos**, on “*Tunable vertical-cavity surface emitting lasers*”, Physics, University of Crete (2004-2006).
3. **G. Dialynas**, on «*Influence of piezoelectric field in the lasing characteristics of InGaAs/AlGaAs quantum wells*», Physics, University of Crete (2002-2004).
2. **F. Kalaitzakis**, on “*Fabrication and optical characterisation of laser structures with InAlGaN/GaN quantum wells in the active region*”, Physics, University of Crete (2001-2003).
1. **J. Simon**, on “*Observation par spectroscopie des effets piézo-électriques géants d’hétérostructures à base de Nitrure de Gallium*”, Physics, Université J. Fourier-Grenoble I (1998).

B.Sc diploma work advisor:

3. **E. Darivianaki**, on «*Core-shell GaAs/InGaAs nanowire-based photovoltaic devices*», Materials Science, University of Crete (2017).
2. **N. Vasilantonakis**, on «*Optical characterisation of InGaAs/AlGaAs quantum wells for use in polaritonic devices*», Materials Science, University of Crete (2009).
1. **A. Pantazis**, on «*Study of InAs quantum dots self-assembled on GaAs*», Physics, University of Crete (2002).

CONFERENCE ORGANIZING:

- International Program Committee of the 34th International Conference of the Physics of Semiconductors that will be held in Montpellier in July 2018.
- Chairman of the 30th Panhellenic Conference on Solid State Physics and Materials Science, held in Heraklion Crete, September 2014. (<http://fsk30.materials.uoc.gr/>)
- Organizing and Program Committee of the Micro & Nano 2012 Conference, held in Heraklion, Kokkini Hani, October 2012.
- International Scientific Committee of the Micro & Nano 2010 Conference, held in Athens, December 2010.
- International Scientific Committee of the ICO-Photonics-Delphi2009 Conference on “Emerging Trends and Novel Materials in Photonics” in Delphi, Greece, October 7-9, 2009.
- Co-chairman of the European Workshop on III-Nitrides Semiconductors and Devices (EW3NS), held in Hersonissos Crete, September 2006.
- Programme Committee of the Microelectronics Microsystems and Nanotechnology Conference (MMN’04), held in Athens, November 2004.
- Organizing committee of the 13th Heterostructure Technology Workshop, held in Koutouloufari Crete, October 2004.
- Organizing committee of the XVIII Panhellenic Conference of Solid State Physics, held in Heraklion Crete, September 2002.

EVALUATION EXPERT:

- External Evaluator in several EC-funded projects (2006-2015), such as for instance in Integrated project ZODIAC on quantum dot lasers.
- Evaluation Expert for EC-proposals: SEE-Eranet 2007, IST-2.5.1 “Photonic Components” 2005, IST-FET 2005, INTAS 2004, INTAS 2003.
- Demokritos internal programs 2006. Pythagoras 2003 and Heraklitos 2002 programs funded by the Greek Ministry of Education.

REVIEWING:

-Referee for Phys. Rev. Applied, Phys. Rev. Lett., Phys. Rev. B, Appl. Phys. Lett., J. Appl. Phys, phys. Stat. sol., Nanoscale Research Letters, Microelectronics Engineering.

OTHER:

-Ph.D defense committee of **Kyriaki Savva**, University of Crete, July 2018, with thesis title: “Laser assisted development of Graphene and Transition Metal Dichalcogenide nanomaterials”.

-Ph.D defense committee of **George Kakavelakis**, University of Crete, May 2018, with thesis title: “Advanced interface engineering for solution-processable photovoltaics”.

-Ph.D defense committee of **Ioannis Paradisanos**, University of Crete, March 2018, with thesis title: “Excitons in atomically thin tungsten disulfide (WS₂) layers”.

-Ph.D defense committee of **Elena Papadomanolaki**, University of Crete, September 2017, with thesis title: “Epitaxial growth and characterization of III-nitride thin films and heterostructures for photovoltaic applications”.

-Ph.D defense committee of **Panagiotis Tsotsis**, University of Crete, February 2015, with thesis title: “Fabrication and Study of Novel Polaritonic Devices”.

-Rapporteur in the Ph.D defense committee of **Thanh Giang Le Thuy**, Université de Grenoble, July 2014, with thesis title: “Croissance de nanofils III-V par epitaxie par jets moléculaires”.

-Rapporteur in the Ph.D defense committee of **Aparna Das**, Université de Grenoble, June 2012, with thesis title: “Boîtes quantiques de semi-conducteurs nitrides pour des applications aux capteurs opto-chimiques”.

-Ph.D advisory committee of **E. Trichas**, University of Crete, December 2010, with thesis title: “Strong light-matter coupling in GaN microcavities”.

-Ph.D advisory committee of **N. Sofikiti**, University of Crete, December 2009, with thesis title: “Development of chemical sensors and biosensors based on III-nitride heterostructures and nanostructures”.

-Ph.D advisory committee of **Z. Viskadourakis**, University of Crete, June 2009, with thesis title: “Metal Oxides for Magnetotransport and Thermoelectric Applications”.

-Ph.D advisory committee of **E. Dimakis**, University of Crete, January 2007, with thesis title: “Physical mechanisms of molecular beam epitaxy and properties of InN thin films (0001)”.

-Ph.D defense committee of **Stephanie Blanc**, Université Paul Sabatier in Toulouse, November 2002, with thesis title: “Matériaux III-V épitaxiés sur substrats GaAs (111) pour structures lasers émettant au delà du micromètre”.

-Interview for an article appeared in the July 2002 issue of **Compound Semiconductors** regarding the FORTH activity on Quaternary Nitride Low-Threshold Lasers.

-Interview for an article in **Physics World** (May 2008) regarding the demonstration of a near room temperature GaAs polariton light emitting device.