

CURRICULUM VITAE

Personal Information

Name : **Nikolaos Merlemis**
Date of Birth : 25 January 1971 / Athens
Personal status : Married
e-mail : merlemis@uniwa.gr

Education

9/12/2002 **Ph.D** in Atomic, Molecular & Laser physics (experimental). Thesis title: “**Study of the coherent emission of radiation and quantum interference in potassium atoms**”.
Physics Department, University of Crete.
5/12/1995 **MSc in Atomic & Molecular Physics**.
Physics Department, University of Crete.
25/5/1993 **BSc in Physics**. Thesis: Computer Program development for the analysis and synthesis of electronic circuits with the use of signal flow graphs.
Physics Department, University of Patras.

Languages

- Greek – fluently as native language
 - English – excellent (C2)
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Current Academic position

26/9/2018 - **Assistant Professor**, Department of Surveying and Geoinformatics Engineering,
Today University of West Attica.

Teaching experience in undergraduate courses

Academic year Assistant Professor
2020/2021 Courses: Physics II (Electromagnetism & Optics), Physics I (Mechanics),
2019/2020 Applied Optics and laser technologies.
Department of Surveying and Geoinformatics Engineering, University of West Attica.

Academic year Assistant Professor
2018/2019 Courses: Physics II, Physics I, Mathematics II, Applied Optics.
Department of Surveying and Geoinformatics Engineering, University of West Attica.

29/11/2017 – 15/3/2018 Adjunct Assistant Professor
01/11/2016 – 17/2/2017 Courses: Physics (theory), Department of Energy Technology Engineering.
Faculty of Technological Applications, Technological Education Institute (TEI) of Athens.

29/11/2017 – 15/3/2018 Adjunct Assistant Professor
01/11/2016 – 17/2/2017 Courses: Physics laboratories «I, II, III».
01/11/2016 – 30/6/2017 Department of Energy Technology Engineering, Faculty of Technological

04/11/2015 – 01/7/2016 27/10/2014 – 06/7/2015 29/10/2013 – 04/7/2014	Applications, Technological Education Institute (TEI) of Athens.
17/3/2014 – 30/6/2014 22/10/2012 – 30/6/2013 24/10/2011 – 06/7/2012 04/10/2010 – 05/7/2011 01/10/2009 – 05/7/2010	Adjunct Assistant Professor Courses: Laboratory of «Optical telecommunications» and «Introduction to telecommunications». Department of Electronics Engineering, Faculty of Technological Applications, Technological Education Institute (TEI) of Piraeus.
08/10/2012 – 12/7/2013 24/10/2011 – 09/3/2012 04/10/2010 – 05/7/2011 05/10/2009 – 05/7/2010 01/10/2008 – 05/7/2009 15/10/2007 – 05/7/2008 09/10/2006 – 05/7/2007 10/10/2005 – 05/7/2006 22/10/2004 – 05/7/2005 22/10/2003 – 05/7/2004	Adjunct Assistant Professor Courses: Physics laboratories «I, II, III». Department of Physics, Chemistry & Materials Technologies, Faculty of Technological Applications, Technological Education Institute (TEI) of Athens.
22/10/2012 – 28/2/2013 24/10/2011 – 29/2/2012 04/10/2010 – 05/7/2011 01/10/2009 – 05/7/2010 01/10/2008 – 05/7/2009 15/10/2007 – 05/7/2008	Adjunct Assistant Professor Courses: Physics laboratories «I». Department of Physics, Chemistry & Materials Technologies, Faculty of Technological Applications, Technological Education Institute (TEI) of Piraeus.
12/10/2009 – 12/2/2010 4/10/2010 – July 2011	Adjunct Assistant Professor Courses: Physics laboratories. General Department, ASPETE (School of Pedagogical and Technological Education).
1993 – 1999	Teaching Assistant Courses: “Semiconductor Physics laboratory”, “Physics laboratory III (optics)”, “Advanced Physics laboratory”, “Lasers & Applications”, “Computers applications”, “Generation & Propagation of radiation”, “Computers I (Fortran programming)”, “new technologies in education” Department of Physics, University of Crete.

Teaching experience in postgraduate courses

01/03/2021 – 09/7/2021	Assistant Professor Course: “State-of-the-art technologies in Geodesy and Surveying”. Lectures title: “Laser Technologies – Applications – Laser Ranging – Laser Safety”. MSc program “Geospatial Technologies”, Department of Surveying and Geoinformatics Engineering, University of West Attica.
07/03/2016 – 01/7/2016 06/06/2017 – 30/6/2017	Adjunct Professor Course: “Laser and Ophthalmology”. MSc program “Investigative Techniques in Optometry”, Department of Optics & Optometry, TEI of Athens.

01/05/2009 – 10/7/2013
01/05/2008 – 30/9/2008
28/01/2008 – 27/2/2008
08/10/2007 – 5/11/2007
01/05/2007 – 28/9/2007
20/11/2006 – 10/1/2007
01/09/2005 – 9/11/2005
13/10/2003 – 18/2/2004

Adjunct Professor
Course: “Broadband & Mobile networks” .
Supervision of postgraduate thesis.
MSc program “E-commerce”, Department of Mathematics and
Accounting, TEI of Piraeus in cooperation with the University of
Kingston, Faculty of Technology, School of Computing and Information
Systems.

01/01/2014 – 28/2/2014
02/01/2012 – 15/2/2012

Adjunct Professor
Supervision of postgraduate thesis.
MSc program “Data Communications”, Department of Electronics
Engineering & Department of Automation Engineering, TEI of Piraeus in
cooperation with the University of Kingston, Faculty of Technology,
School of Computing and Information Systems.

Teaching experience in Adults and Graduates

01/2/1999 – 09/10/1999
8/12/1997 – 20/12/1997

Instructor of the sort courses “Introduction to Networks”, in 21 adult
education programs at the center of professional training “K.E.K.
Development of Crete”.

Instructor of the sort courses "Lasers & Physics teaching", addressed to
high school professors.
Program "ΕΠΕΑΕΚ - Mobility".
Department of Physics, University of Crete.

Professional & Research experience

01/3/2012 – 30/6/2014
01/4/2014 – 4/07/2014
1/03/2006 – 8/09/2009
1/3/2004 – 31/12/2004

Research fellow
Research project: “Photodiagnosis of skin cancer using the method of laser
induced fluorescence and dosimetry of the photodynamic therapy”.
Research Program «Archimedes III, ESPA (2007-2013), TEI of Athens.

Research fellow
Research project: “Research for the development of a prototype
methodology for cleaning of protein textured materials in cultural &
national heritage items, using laser radiation”.
Research Program «Archimedes III, ESPA (2007-2013), TEI of Athens.

Research associate
Development of two remote controlled Physics laboratory experiments to
be used by the students of the Hellenic Open University.
Company: “Microtechniki – Manousos Derleres”.

Research fellow (PostDoc)
Research project: “Radiation generation in short wavelengths (VUV and
XUV)”.
Research Program: “Karatheodoris”.
Laboratory of Laser and nonlinear optics, Department of Physics,
University of Patras.

- 1/6/2004 – 31/12/2004
 Research fellow (PostDoc)
 Research project: “Development of a coherent ultraviolet radiation system for photolithography applications”.
 Research Program: “02ΠΠΑΞΕ217” –“Spin off, Phase A”.
 Laboratory of Laser and nonlinear optics, Department of Physics, University of Patras.
- 01/3/2004 – 31/8/2006
 Research fellow (PostDoc)
 Research project: “Study of the generation of radiation in the EUV spectral region (Extreme Ultraviolet $\lambda < 150$ nm)”.
 Research Program: “Pythagoras I”.
 Laboratory of Laser and nonlinear optics, Department of Physics, University of Patras.
- 1/10/2002 – 31/5/2003
 Research fellow
 Research project: “Impact of Alternative Fluorinated Alcohols and Ethers on the Environment – a laboratory and Modeling study”.
 EU, DGXII, Fifth Framework Programme, Environment and Sustainable Development.
 Photochemistry and Kinetics Laboratory, Chemistry Department, University of Crete.
- 1/12/1999 – 23/7/2007
 Co-founder & Technical and R&D manager of the company.
 Development of laser projector systems, Optoelectronics and telecommunication systems employed for the architectural illumination of large buildings and for outdoor and indoor advertising purposes.
 Digital Promotion Services LTD.
- 01/4/1996 – 18/7/1996
 Research fellow
 Research project: “Development and applications of high temperature superconductors”.
 Research Program: “EPET”, General Secretariat of research and technology.
 Laboratory of Laser and nonlinear optics, Department of Physics, University of Crete.
- 01/7/1995 – 10/4/1996
 Research fellow
 Research project: “Development of coherent radiation in the VUV & XUV spectral region”.
 Research Program: “PENED”, General Secretariat of research and technology.
 Laboratory of Laser and nonlinear optics, Department of Physics, University of Crete.
- 1/9/1998 – 31/7/2000
 Research associate and consultant for the establishment of the Technology transfer center of the Science & Technology Park of Crete.
 Program: EPET II / “Development of IT structures - Technology Transfer Center “Technology Transfer Center”.
 Science & Technology Park of Crete, Foundation of Research & Technology of Crete.
- 1/10/1996 – 31/5/1997
 Web developer
 Web page development for the enterprises hosted in the Science & Technology Park of Crete.
 Science & Technology Park of Crete, Foundation of Research &

Technology of Crete.

1/8/1996 – 30/6/2000

System Administrator

System and Network administrator and project manager for several E-commerce projects. Participation in several EU programs and IT consultant in the development of a Technology Transfer Center in Crete. Project manager for the design and construction of several web sites (Municipality of Heraklion City, Local authorities of Crete, Mitos SA, LATO Hotel, ASPEN TRAVEL, FODELE BEACH, ESETE SA, Prefecture of Lassithi).

Science & Technology Park of Crete, Foundation of Research & Technology of Crete.

06/1992 – 07/1993

Employee - programmer

Participation in the design and development of the computer network connecting the company's central offices in Athens with all the Greek airports.

Hellenic Petroleum S.A. , Department of Programming and development.

Honors & Awards

01/7/2000 – 31/07/2000

Research Scholarship during PhD

01/8/1998 – 29/02/2000

Program: "Microelectronics – Optoelectronics postgraduate courses".

1/11/1997 – 30/11/1997

Department of Physics, University of Crete.

01/1/1994 – 31/10/1996

Research Scholarship during MSc & PhD

1/12/1996 – 31/10/1997

Institute of Electronic Structure and Lasers, Foundation of Research & Technology of Crete.

01/9/1993 – 28/2/1994

Research Scholarship during MSc

Program: "Physics department postgraduate program".

Department of Physics, University of Crete.

Research Activities & Interests

- Two-photon Laser Spectroscopy, Laser Spectroscopy & LIF (Laser Induced Fluorescence) techniques.
- Two-photon excitation of atomic systems, nonlinear optics and generation of radiation with wave-mixing mechanisms, Electromagnetically Induced Transparency (EIT) & Amplification Without Inversion (AWI). Quantum Optics.
- Development of Extreme UV coherent sources in the VUV (100-200 nm) and EUV (below 100 nm) spectral regions.
- Laser ablation processes.
- Educational experiments in Physics and Optics.
- Uncertainty Quantification.
- Applications of Laser and Optics in Geospatial technologies.

Research appointments in the EU

- 11/7/2010 – 23/7/2010, Group leader of a three-member research team to carry out research within the framework of the Laserlab-Europe network in Vilnius University, title: "Investigation of the

laser-potassium atom interaction”, Vilnius University Laser Center (VULRC), Vilnius, Lithuania, funded by LASERLAB-EUROPE (grant agreement n° 228334, EC's Seventh Framework Programme, Proj. No. vulrc001570).

- 8/11/2008 – 19/11/2008, research appointment, title: “Investigation of conical emissions in potassium atoms induced by fsec two-photon excitation», Quantum electronics department and laser research center, Vilnius University, Vilnius, Lithuania, Laserlab-Europe network, 6th framework program of EU.
- 7 July 2007 – 23 July 2007, research appointment, title: “Investigation of the amplification without population inversion in Sodium and Potassium vapour by using optical parametric amplified ultra-short laser pulses”, Quantum electronics department and laser research center, Vilnius University, Vilnius, Lithuania, Laserlab-Europe network, 6th framework program of EU.

Research work (summary):

Publications in International peer-reviewed scientific journals: **18**

Publications in International conferences proceedings (peer-reviewed): **10**

Chapters in scientific Handbooks: **3**

Presentations in international conferences (peer-reviewed): **7**

Publications/ Announcements in national conferences: **5**

Publications in other scientific or technical journals: **3**

Patents: **1**

Reviewer: Optics Communications (IF 2020: 2.51), Optical Engineering (IF 2020: 1.113)

Citations (Google Scholar, ID:SPpZ-F8AAAAJ): **172**, h-index: **7**

Citations (Scopus Author ID: 7801570909): **127**, h-index: **6**

Web of Science (ResearcherID: AAR-9354-2020): **122**, h-index: **6**

ORCID iD: <https://orcid.org/0000-0002-7697-4202>

Publications in international peer-reviewed scientific journals

- J1. G. Ninos, V. Bartzis, N. Merlemis, I. Sarris, “Uncertainty Quantification implementations in human hemodynamic flows”, *Computer Methods and Programs in Biomedicine*, 203, 106021, <https://doi.org/10.1016/j.cmpb.2021.106021>, 2021.
- J2. Nikolaos Merlemis, Anastasios L. Kesidis and Ioannis Sianoudis, “Measurement of laser beam spatial profile by laser scanning”, *European Journal of Physics*, 42, 015304, <https://doi.org/10.1088/1361-6404/abba01>, 2020.
- J3. N. Merlemis, G. Papademetriou, D. Pentaris, T. Efthimiopoulos, V. Vaicaitis, “Axial coherent emissions controlled by an internal coupling field in an open 4-level potassium system”, *Applied Physics B*, Volume 124, Issue 7, <https://doi.org/10.1007/s00340-018-7015-9>, 2018.
- J4. D. Pentaris, G. Papademetriou, T. Efthimiopoulos, N. Merlemis and A. Lyras, “Emissions enhancement in a pump–coupling V-type coherently controlled four-level atomic system”, *Journal of Modern Optics*, Volume 60, Issue 21, <https://doi.org/10.1080/09500340.2013.863985>, 2013.
- J5. D. Pentaris, T. Efthimiopoulos, N. Merlemis, V. Vaicaitis and A. Lyras, “Emissions from high density potassium atoms excited by either nanosecond or femtosecond laser pulses”, *Applied Physics B*, Volume 107, Issue 1, 71-83, <https://doi.org/10.1007/s00340-012-4910-3>, 2012.
- J6. Pentaris D, Efthimiopoulos T, Merlemis N and Lyras A “Control of the emission channels energy flow in a nonlinear laser–potassium atom Interaction”, *Journal of Physics B: Atomic, Molecular and Optical Physics*, 45, 205505, <https://doi.org/10.1088/0953-4075/45/20/205505>, 2012.
- J7. D. Pentaris, T. Efthimiopoulos, N. Merlemis & A. Lyras, “Temporal dynamics of the internally generated radiations in a two-photon excited four-level potassium atom”, *Journal of Modern Optics*, <https://doi.org/10.1080/09500340.2011.640950>, 2011.

- J8. A. Armyras, D. Pentaris, T. Efthimiopoulos, N. Merlemis and A. Lyras, "Saturation and population transfer of a two-photon excited four-level potassium atom", *Journal of Physics B: Atomic, Molecular and Optical Physics*, 44, 165401, <https://doi.org/10.1088/0953-4075/44/16/165401>, 2011.
- J9. T. Efthimiopoulos, N. Merlemis, M. E. Movsessian, D. Pentaris, and M. Katharakis, "Action of counter-propagating laser beams on two-photon excitation of potassium vapour", *Journal of Physics B: Atomic, Molecular and Optical Physics*, 43, 055401, <https://doi.org/10.1088/0953-4075/43/5/055401>, 2010.
- J10. D. Pentaris, T. Efthimiopoulos, N. Merlemis and V. Vaicaitis, "Axial and conical parametric emissions from potassium atoms under two-photon fsec excitation", *Applied Physics B*, 98, 383-390, <https://doi.org/10.1007/s00340-009-3801-8>, 2009.
- J11. D. Pentaris, T. Marinou, N. Merlemis and T. Efthimiopoulos, "Optical free induction memory in potassium vapor under a partially-truncated two-photon excitation", *Journal of Modern Optics*, 56, 840-850, <https://doi.org/10.1080/09500340802357323>, 2009.
- J12. T. Efthimiopoulos, H. Kiagias, S. Christoulakis and N. Merlemis, "Bubble creation and collapse during excimer laser ablation of weak absorbing polymers", *Applied Surface Science*, 254, 5626-5630, <https://doi.org/10.1016/j.apsusc.2008.03.053>, 2008.
- J13. N. Merlemis, E. Reppa and T. Efthimiopoulos, "Narrowband emission of Argon dimers in a DC discharge with supersonic expansion at 126 nm", *Applied Physics B*, 91, 183-188, <https://doi.org/10.1007/s00340-008-2939-0>, 2008.
- J14. N. Merlemis, A. Lyras, M. Katharakis and T. Efthimiopoulos, "Amplified spontaneous emission without population inversion in potassium vapor by internally generated fields", *Journal of Physics B: Atomic, Molecular and Optical Physics*, 39, 1913-1927, <https://doi.org/10.1088/0953-4075/39/8/009>, 2006.
- J15. N. Merlemis, M. Katharakis, E. Koudoumas and T. Efthimiopoulos, "Stimulated emissions and quantum interference in potassium-atom laser interaction", *Journal of Physics B: Atomic, Molecular and Optical Physics*, 36, 1943-1956, <https://doi.org/10.1088/0953-4075/36/10/305>, 2003.
- J16. M. Katharakis, N. Merlemis, A. Serafetinides, and T. Efthimiopoulos, "Four wave mixing and parametric four wave mixing near the 4P-4S transition of potassium atom", *Journal of Physics B: Atomic, Molecular and Optical Physics*, 35, 4969-4980, <https://doi.org/10.1088/0953-4075/35/24/302>, 2002.
- J17. T. Efthimiopoulos, M. E. Movsessian, M. Katharakis, N. Merlemis, K. Chrissopoulou, "Study of the $5p_{3/2}-4s_{1/2}$ emission in K under two photon $4s_{1/2}-6s_{1/2}$ excitation", *Journal of Physics B: Atomic, Molecular and Optical Physics*, 29, 5619-5627, <https://doi.org/10.1088/0953-4075/29/22/032>, 1996.
- J18. T. Efthimiopoulos, M. E. Movsessian, M. Katharakis and N. Merlemis, "Cascade emission and four-wave mixing parametric process in potassium", *Journal of Applied Physics*, 80 (2), 639-643, <https://doi.org/10.1063/1.362872>, 1996.

Publications in international conferences proceedings (peer-reviewed)

- C1. Vasileios Bartzis, Ioannis Vamvakas, Nikolaos Merlemis & Evangelini Zekou, "Spherical aberration experimental apparatus for undergraduate optics courses", *World Transactions on Engineering and Technology Education*, Vol.17, No.3, 2019.
- C2. E. Drakaki, M. Makropoulou, A. A. Serafetinides, N. Merlemis, I. Kalatzis, I. A. Sianoudis, O. Batsi, E. Christofidou, A. J. Stratigos, A. D. Katsambas, Ch. Antoniou, "Laser induced autofluorescence for diagnosis of non-melanoma skin cancer", *Proc. SPIE 9447, 18th International School on Quantum Electronics: Laser Physics and Applications*, 94470Y (January 8, 2015); doi: 10.1117/12.2175647
- C3. Nikolaos Merlemis, Georgios Mitsou, Eleni Drakaki and Ioannis Sianoudis, "Educational experimental setup based on laser beam scanners", *PhyDid B-Didaktik der Physik-Beiträge zur DPG-Frühjahrstagung (ISSN 2191-379X), BEITRAG DD 15.31*, 2014.
- C4. Sianoudis, Ioannis, Nikolaos Merlemis, and Efstathios Kamaratos. "An educational experiment on optical phenomena associated with an electrical discharge, plasma creation and light emission.", *PhyDid B - Didaktik der Physik - Beiträge zur DPG-Frühjahrstagung [online]*, (18 Juli 2011), <http://phydid.physik.fu-berlin.de/index.php/phydid-b/article/view/255>, 2011.

- C5. K. Pipergias, D. Yiasemides, E. Reppa, N. Merlemis, V. Giannetas and T. Efthimiopoulos, “VUV emission of Ar dimmers in a supersonic expansion excited by a low energy discharge”, AIP Conf. Proc. 1288, 147 (2010); doi: 10.1063/1.3521348, 2010.
- C6. A. Armyras, D. Pentaris, N. Merlemis, A. Lyras, and T. Efthimiopoulos, “The saturation effect of the parametric emission in potassium atoms under two photon excitation”, AIP Conf. Proc. 1288, 80 (2010); doi: 10.1063/1.3521378, 2010.
- C7. D. Pentaris, N. Merlemis, A. Lyras and T. Efthimiopoulos, “Parametric Four-Wave Mixing in low atomic densities of potassium vapor”, AIP Conference Proceedings 963 (Vol. 2B), 788-791, Proceedings of the International Conference on Computational Methods in Science and Engineering 2007 (ICCMSE 2007).
- C8. N. Merlemis, M. Katharakis, E. Koudoumas and T. Efthimiopoulos, “Wave mixing and quantum interference effect in Potassium atoms”, Proceedings of the SPIE, Vol 5131, 83-90, 2003.
- C9. M. Katharakis, N. Merlemis, A. Serafetinides, and T. Efthimiopoulos, “Four Wave Mixing near the 4P-4S transition of Potassium atoms”, Proceedings of the SPIE, Vol 5131, 73-77, 2003.
- C10. T. Efthimiopoulos, M. Katharakis, N. Merlemis and M.E. Movsessian, “Action of Counter-Propagating Waves on two Photon Excitation Processes in Potassium Vapour”, Conference on LASER PHYSICS-96, October 21-25, 26-34, 1996, Ashtarak, Armenia.

Chapters in scientific Handbooks

- B1. Vasileios Bartzis, Nikolaos Merlemis, Michalis Serris and George Ninos, “Generalized intensity dependent multiphoton Jaynes-Cummings model”, Chapter 6 in “Approximation and Computation in Science and Engineering”, Springer, in press.
- B2. Nikolaos Merlemis, Andreas Lyras, Dionysios Pentaris, Georgios Papademetriou and Thomas Efthimiopoulos, “Numerical calculations on multi-photon processes in alkali metal vapors”, Chapter 34 in “Approximation and Computation in Science and Engineering”, Springer, in press.
- B3. N. Merlemis, D. Zevgolis, “Wavelength Division Multiplexing Technologies and their applications”, Chapter IV of the “Handbook of research on Heterogeneous Next Generation Networking: Innovations and Platforms”, Editors: S A Kotsopoulos and K G Ioannou, Information Science Reference (an imprint of IGI Global), ISBN 978-1-60566-108-7, 2008.

Presentations in international conferences (peer-reviewed):

- P1. A. Almyras, D. Pentaris, N. Merlemis and T. Efthimiopoulos, “The saturation effect of the parametric emissions in potassium atoms under two-photon excitation”, ICO-PHOTONICS-“Emerging Trends and Novel Materials in Photonics”, Delphi, Greece, 7-9 Okt. 2009.
- P2. K. Pipergias, D. Yiasemides, E. Reppa, N. Merlemis, V. Giannetas and T. Efthimiopoulos, “VUV emission of Ar dimmers in a supersonic expansion excited by a low energy discharge”, ICO-PHOTONICS-“Emerging Trends and Novel Materials in Photonics” , Delphi, Greece, 7-9 Okt. 2009.
- P3. Pentaris D., Merlemis N., Vaicaitis V. and Efthimiopoulos T. “Study of the emissions in femtosecond pulse driven potassium atoms” 17th International Laser Physics Workshop, June 30-July 4, 2008, Trondheim, Norway
- P4. N. Merlemis, T. Efthimiopoulos, M. Katharakis and A. Lyras, “Electromagnetically induced transparency by internally generated fields under two-photon excitation”, Quantum Electronics Conference, EQEC '05. European, doi: 10.1109/EQEC.2005.1567255, 2005.
- P5. N. Merlemis, Tsaboula X, A. Lyras, M. Katharakis and T. Efthimiopoulos, “Amplified Spontaneous emission and Electromagnetically induced transparency in potassium by an internally generated field ”, Laser Olympics 2004, Eugenides Foundation, Athens, Greece, 15-17 Οκτωβρίου 2004.
- P6. N. Merlemis, T. Efthimiopoulos, M. Katharakis, "Quantum interference in a wave-mixing scheme with the internally generated emissions in potassium atoms ", 9th International Conference on Multiphoton Processes (ICOMP IX), 18th - 22nd October 2002, Elounda, Crete, Greece.

- P7. N. Merlemis, T. Efthimiopoulos, M. Katharakis, "Electromagnetically induced transparency in potassium by an internally generated field", Photonic Band Gap Materials, NATO ASI, 19-30 Ιουνίου 1995, Ελούντα, Κρήτη.

Publications/ Announcements in national conferences:

- CE1. E. Drakaki, I.A. Sianoudis, M. Makropoulou, N. Merlemis A.A. Serafetinides, Ch. Evangelatos Mitsou, I. Valais, E. Zois, I. Vamvakas, I. Karachalios, D. Mathes, I. Kalatzis, M Kompitsas, E. Christofidou, M. Kosmadaki, I. Stefanaki, C. Dessinioti, A.J. Stratigos, A.D. Katsambas, and Ch. Antoniou, "Light induced fluorescence and reflectance diagnostic spectroscopic technique in photodynamic therapy of skin cancer", 1st international conference "Science IN Technology" (SCINTE 2015) Athens, 5-7 November 2015.
- CE2. Ch. Samaras, N. Merlemis, "Cloud Based Security services in Smartphones", International Scientific Conference eRA – 10, The SynEnergy Forum, Piraeus University of Applied Sciences (P.U.A.S.), 2015.
- CE3. Ιωάννης Σιανούδης, Γεώργιος Μήτσου, Ελένη Δρακάκη, Νικόλαος Μερλέμης, "Πειράματα Φυσικής: Νέες τεχνολογίες, μέσα και εκπαιδευτικές προσεγγίσεις για ένα σύγχρονο εργαστήριο Φυσικής", Επιστημονική ημερίδα ΤΕΙ Αθηνών 11-6-2014, 2014.
- CE4. Eleni Drakaki, Georgios Mitsou, Nikolaos Merlemis, Ioannis Vamvakas, Ioannis Valais and Ioannis Sianoudis, "The techniques of diffuse reflectance spectroscopy (drs) and laser induced fluorescence (lif) used for investigations of skin lesions", Poster Presentation at the "2nd Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences". TEI of Athens, June 21-22, Athens, Greece, 2013.
- CE5. T. Efthimiopoulos, H. Kiagias, S. Christoulakis, N. Merlemis and D. Zevgolis, "Laser ablation of polymers under UV radiation (308 nm). The case of PMMA", 11th Hellenic Physics conference, Hellenic Physical Society, 30/3 – 2/4 2006.

Publications in National scientific or technical journals:

- E1. Evangelini Zekou, Ioannis Vamvakas, Vasileios Bartzis and Nikolaos Merlemis, "Calculation of the focal length of a two-lens system –an educational experiment", e-journal of Science & Technology, vol. 15, 1, pp 41-48, 2020.
- E2. E. Drakaki, N. Merlemis, G. Mitsou, I Vamvakas, M. Kompitsas and I. A. Sianoudis, «Portable system for the study of diffuse reflection and Laser Induced Fluorescence», e-journal of Science & Technology, vol. 10, 3, pp 65-75, 2015.
- E3. N. Merlemis, "Design of linear power supplies", Technical choice, 296, pp. 112-113, 1991.

Patents

- PA1. "Portable System for induced fluorescence and diffuse reflection measurements", I. Sianoudis, N. Merlemis, E. Drakaki, I. Vamvakas, A. P. Serafetinidis, M. Makropoulou, Utility Model Certificate, OBI 20160200058 - 01/10/2015, expiration date 02/10/2022.
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Doctoral Thesis supervision

1. "Nonlinear quantum processes in the interaction of laser light and potassium atoms", George Papademetriou, member of the supervision committee, Physics Department, University of Patras, Greece, 2019.

Postgraduate Thesis supervision (MSc)

1. *"The applications of the e-business through the mass media. The case of the iTV"*, John Halaris, MSc E-commerce, TEI Piraeus – University of Kingston, 2004.
2. *"The Local Area Networks and their impact to the Universities' functions"*, Xaris Maos, MSc E-commerce, TEI Piraeus – University of Kingston, 2004.
3. *"Architectural tenets for deployment of enterprise WLAN, including authentication, authorization, wireless link security issues and IP mobility management"*, Marios Manolas, MSc E-commerce, TEI Piraeus – University of Kingston, 2005.
4. *"E-commerce: survey of most recent market state and development tools"*, George Boros, MSc E-commerce, TEI Piraeus – University of Kingston, 2005.
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- Greek Physical Society, since 2002
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