CURRICULUM VITAE

Name : **Nikolaos Merlemis**
e-mail : merlemis@uniwa.gr

Education

9/12/2002 **Ph.D** - 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, Greece.

5/12/1995 **MSc -** Atomic & Molecular Physics.
Physics Department, University of Crete, Greece.

25/5/1993 **BSc -** Physics.
Physics Department, University of Patras, Greece.

Languages

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

Current Academic Position

20/6/2023 - Today **Associate Professor**, Department of Surveying and Geoinformatics Engineering, University of West Attica.

26/9/2018 – 19/6/2023 **Assistant Professor**, Department of Surveying and Geoinformatics Engineering, University of West Attica.

Experience in Teaching Undergraduate Courses

2023 – Today
Associate Professor
Courses: Physics II (Electromagnetism & Optics), Physics I (Mechanics), Applied Optics and laser technologies.
Department of Surveying and Geoinformatics Engineering, University of West Attica.

2019 – 2023
Assistant Professor
Courses: Physics II (Electromagnetism & Optics), Physics I (Mechanics), Applied Optics and laser technologies.
Department of Surveying and Geoinformatics Engineering, University of West Attica.

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

2016 – 2018
Adjunct Assistant Professor
Courses: Physics, Department of Energy Technology Engineering.
Faculty of Technological Applications, Technological Education Institute (TEI) of Athens.

2013 – 2018	Adjunct Assistant Professor Courses: Physics laboratories «I, II, III». Department of Energy Technology Engineering, Faculty of Technological Applications, Technological Education Institute (TEI) of Athens.
2009 – 2014	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.
2003 – 2013	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.
2007 – 2013	Adjunct Assistant Professor Courses: Physics laboratories «I». Department of Physics, Chemistry & Materials Technologies, Faculty of Technological Applications, Technological Education Institute (TEI) of Piraeus.
2009 – 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.

Experience in Teaching Postgraduate Courses

2021 – 2023	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.
2016 – 2017	Course: "Laser and Ophthalmology". MSc program "Investigative Techniques in Optometry", Department of Optics & Optometry, TEI of Athens.
2003 – 2013	Course: "Broadband & Mobile networks". 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.

2012 –2014	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/Mentorship

1. Member of the supervision committee for the doctoral thesis entitled *"Nonlinear quantum processes in the interaction of laser light and potassium atoms"*, George Papademetriou, Physics Department, University of Patras, Greece, 2019.
2. Supervised 27 postgraduate/undergraduate theses across various topics within laser technologies, e-commerce and data communications fields.

Professional & Research experience

01/3/2012 – 30/6/2014	Research associate 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.
01/4/2014 – 4/07/2014	Research associate 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.
1/03/2006 – 8/09/2009	Research associate Development of two remote controlled Physics laboratory experiments. Company: "Microtechniki – Manousos Derleres".
1/3/2004 – 31/12/2004	Postdoctoral Research fellow 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	Postdoctoral Research fellow Research project: "Development of a coherent ultraviolet radiation system for photolithography applications". Research Program: "02ΠΡΑΞΕ217" – "Spin off, Phase A". Laboratory of Laser and nonlinear optics, Department of Physics, University of Patras.
01/3/2004 – 31/8/2006	Postdoctoral Research fellow Research project: "Study of the generation of radiation in the EUV spectral region (Extreme Ultraviolet λ<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 Program, 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 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.
1/8/1996 – 30/6/2000	System Administrator & Web developer System and Network administrator, web developer and project manager for several E-commerce projects. Research associate and consultant for the establishment of the "Technology transfer center". Science & Technology Park of Crete, Foundation of Research & Technology of Crete.
06/1992 – 07/1993	Employee - programmer 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

Research Scholarships during MSc & PhD studies:

- Department of Physics, University of Crete
- Institute of Electronic Structure and Lasers, Foundation of Research & Technology 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.
- Educational experiments in Physics and Optics.
- Uncertainty Quantification.
- Applications of Lasers and Optics in Geospatial technologies.

Research appointments in the EU

- 27/7/2024 – 2/8/2024, group leader, research title: «Customization of biocompatible polymers and Intraocular lenses IOLs by femtosecond Laser Ablation», Vilnius University Laser Center (VULRC), Vilnius, Lithuania, χρηματοδότηση από το LASERLAB-EUROPE (PID: 22069).
- 11/7/2010 – 23/7/2010, group leader, research title: "Investigation of the laser-potassium atom interaction", Vilnius University Laser Center (VULRC), Vilnius, Lithuania, funded by Laserlab-Europe network (grant agreement n° 228334, EC's 7th Framework Programme, Proj. No. vulrc001570).
- 8/11/2008 – 19/11/2008, research 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 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 Overview:

Publications in International peer-reviewed scientific journals: **23**
Publications in International conferences proceedings (peer-reviewed full text): **11**
Chapters in scientific Handbooks: **3**
Presentations in international conferences (peer-reviewed Abstract): **7**
Publications/ Announcements in national conferences: **7**
Publications in other scientific or technical journals: **3**
Patents: **1**
Reviewer: J. Phys. B: Atomic, Molecular and Optical Physics, Optics Communications, Optical Engineering, The European Physical Journal D, Photochem
Citations (Google Scholar, ID:SPpZ-F8AAAAJ): **241**, h-index: **8**
Citations (Scopus Author ID: 7801570909): **164**, h-index: **7**
Web of Science (ResearcherID: AAR-9354-2020): **155**, h-index: **7**
ORCID iD: *https://orcid.org/0000-0002-7697-4202*

Publications in international peer-reviewed scientific journals

J1. N. Merlemis, E. Drakaki, E. Zekou, G Ninos, A. L. Kesidis, "Laser induced fluorescence and machine learning: a novel approach to microplastic identification.", *Appl. Phys. B*, 130, 168, https://doi.org/10.1007/s00340-024-08308-8, 2024.

J2. V. Bartzis, N. Merlemis, G. Ninos, I.E. Sarris, "Exploring the Impact of Steric Effects on Ion Removal of Water Solutions under the Influence of an Electric Field", *Water*, 16(14):1983, https://doi.org/10.3390/w16141983, 2024.

J3. L.-M. Misthos, V. Krassanakis, N. Merlemis, A. L. Kesidis, "Modeling the Visual Landscape: A Review on Approaches, Methods and Techniques", *Sensors* 23, 8135. https://doi.org/10.3390/s23198135, 2023.

J4. A.L Kesidis, V. Krassanakis, L.-M. Misthos, N. Merlemis, "patchIT: A Multipurpose Patch Creation Tool for Image Processing Applications", *Multimodal Technologies and Interaction* 6, no. 12: 111, https://doi.org/10.3390/mti6120111, 2022.

J5. V. Pagounis, N. Merlemis, D. Anastasiou, O. Arabatzi, V. Zacharis, M. Tsakiri, "Compact Testing of Total Station Instruments Using Folded Optics", *Journal of Applied Engineering Sciences (JAES*), vol.12, no.1, pp.71-76. https://doi.org/10.2478/jaes-2022-0011, 2022.

J6. 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.

J7. 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.

J8. 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.

J9. 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.

J10. 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.

J11. 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.

J12. 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.

J13. 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.

J14. 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.

J15. 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.

J16. D. Pentaris, T. Marinos, 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.

J17. 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.

J18. 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.

J19. 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.

J20. 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.

J21. 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.

J22. 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.

J23. 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 full text)

C1. E. Drakaki, E. Zekou, M. Serris, N. Merlemis, "The Detection of Plastic and Petroleum Hydrocarbon Pollution at Sea with Laser-Induced Fluorescence", *Environ. Sci. Proc.* 26, 12. https://doi.org/10.3390/environsciproc2023026012, 2023.

C2. 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, http://wiete.com.au/journals/WTE&TE/Pages/Vol.17,%20No.3%20(2019)/33-Bartzis-V.pdf, 2019.

C3. 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); https://doi.org/10.1117/12.2175647, 2015.

C4. 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, https://ojs.dpg-physik.de/index.php/phydid-b/article/view/541, 2014.

C5. Sianoudis, Ioannis, Nikolaos Merlemis, and Efstathios Kamaratos. "An educational experiment on optical phenomena associated with an electrical discharge, plasma creation and light emission.", DPG Spring Meeting of the DPG Divisions Educational Physics and Hadronic and Nuclear Physics, DD 18.6, p38, Muenster, Germany, March 21-25, 2011, PhyDid B - Didaktik der Physik - Beiträge zur DPG-Frühjahrstagung, (18 Juli 2011), http://phydid.physik.fu-berlin.de/index.php/phydid-b/article/view/255, 2011.

C6. 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" 2009, AIP Conf. Proc. 1288, 147 (2010); https://doi.org/10.1063/1.3521378, 2010.

C7. 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", ICO-PHOTONICS-"Emerging Trends and Novel Materials in Photonics" 2009, AIP Conf. Proc. 1288, 80 (2010); https://doi.org/10.1063/1.3521378, 2010.

C8. D. Pentaris, N. Merlemis, A. Lyras and T. Efthimiopoulos, "Parametric Four-Wave Mixing in low atomic densities of potassium vapor", Proceedings of the International Conference on Computational Methods in Science and Engineering 2007 (ICCMSE 2007), AIP Conference Proceedings 963 (Vol. 2B), 788-791; https://doi.org/10.1063/1.2836209, 2007.

C9. N. Merlemis, M. Katharakis, E. Koudoumas and T. Efthimiopoulos, "Wave mixing and quantum interference effect in Potassium atoms", Proc. SPIE 5131, Third GR-I International Conference on New Laser Technologies and Applications, (9 April 2003), https://doi.org/10.1117/12.513509, Vol 5131, 83-90, 2003.

C10. M. Katharakis, N. Merlemis, A. Serafetinides, and T. Efthimiopoulos, “Four Wave Mixing near the 4P-4S transition of Potassium atoms”, Proc. SPIE 5131, Third GR-I International Conference on New Laser Technologies and Applications, (9 April 2003), https://doi.org/10.1117/12.513498, Vol 5131, 73-77, 2003.

C11. T. Efthimiopoulos, M. Katharakis, N. Merlemis and M.E. Movsessian, “Action of Counter-Propagating Waves on two Photon Excitation Processes in Potassium Vapor”, 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”, In: Daras, N.J., Rassias, T.M. (eds) Approximation and Computation in Science and Engineering. Springer Optimization and Its Applications, vol 180, pp. 91-102. *Springer, Cham.* https://doi.org/10.1007/978-3-030-84122-5_6, 2022.

B2. Nikolaos Merlemis, Andreas Lyras, Dionysios Pentaris, Georgios Papademetriou and Thomas Efthimiopoulos, “Numerical calculations on multi-photon processes in alkali metal vapors”, In: Daras, N.J., Rassias, T.M. (eds) Approximation and Computation in Science and Engineering. Springer Optimization and Its Applications, vol 180, pp. 627-642. *Springer, Cham.* https://doi.org/10.1007/978-3-030-84122-5_34, 2022.

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, https://doi.org/10.4018/978-1-60566-108-7.CH004, 2008.

Presentations in international conferences (peer-reviewed Abstract):

P1. Merlemis, N., Kesidis, A., Misthos, L.-M., and Krassanakis, V., “Leveraging machine learning and spectroscopic techniques towards estimating paper map scale levels”, Abstr. Int. Cartogr. Assoc., 7, 104, https://doi.org/10.5194/ica-abs-7-104-2024,2024.

P2. Merlemis, N., Kesidis, A., Misthos, L.-M., Zekou, E., Drakaki, E., and Krassanakis, V., “Quantifying visual heterogeneity of paper maps using diffuse reflectance spectroscopy”, Abstr. Int. Cartogr. Assoc., 5, 60, https://doi.org/10.5194/ica-abs-5-60-2022, 2022.

P3. Kesidis, A. L., Krassanakis, V., Merlemis, N., and Misthos, L.-M., “A multipurpose patch creation tool for efficient exploration of digital cartographic products”, Abstr. Int. Cartogr. Assoc., 5, 56, https://doi.org/10.5194/ica-abs-5-56-2022, 2022.

P4. Pentaris D., Merlemis N., Vaicaitis V. and Efthimiopoulos T. “Coherent emissions from K atoms - two-photon $4S_{1/2}$-$6S_{1/2}$ femtosecond single laser interaction” 17th International Laser Physics Workshop, June 30-July 4, Trondheim, Norway, 2008.

P5. N. Merlemis, T. Efthimiopoulos, M. Katharakis and A. Lyras, “Electromagnetically induced transparency by internally generated fields under two-photon excitation”, EQEC '05 - European Conference on Quantum Electronics (EQEC), doi: 10.1109/EQEC.2005.1567255, 2005.

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), Ελούντα, Κρήτη, 18th - 22nd Οκτωβρίου 2002.

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

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.

Publications/ Announcements in national conferences:

CE1. V. Krassanakis, A. Kesidis, N. Merlemis, L.-M. Misthos, A. Pappa, D. Liaskos, N. Pinirou, “Methods and Techniques for Recording, Analyzing and Modeling the Visual Perception and Cognition of Cartographic Stimuli”, 6th Panhellenic Conference on Cognitive Science, Hellenic Cognitive Science Society, 21-24 Sept. 2023, Xilokastro, Peloponnese, Greece.
CE2. 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.
CE3. 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.
CE4. 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.
CE5. 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.
CE6. 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.
CE7. Μερλέμης Ν., Τσαμπούλα Ξ., Λύρας Α., Καθαράκης Μ. και Ευθυμιόπουλος Θ., “Δημιουργία ακτινοβολίας Ενισχυμένης Αυθόρμητης Εκπομπής από επαγωγή ηλεκτρομαγνητικής Διαφάνειας μέσω εσωτερικά παραγόμενων πεδίων”, Laser Olympics 2004, 15-17 Οκτωβρίου 2004, Ίδρυμα Ευγενίδου, Αθήνα.

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.

Professional Affiliations

- Greek Physical Society, since 2002.