CURRICULUM VITAE

Dr. Christos Riziotis

Director of Research

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Research Activity's Web Page: Applied Photonics - Materials & Devices

EDUCATION

- Ph.D. in Photonics, Optoelectronics Research Centre ORC, University of Southampton, UK (2001)
- M.Sc. in Electronics and Telecommunications, National and Kapodistrian University of Athens (Physics and Informatics Departments), Greece (1995).
- B.Sc. Honors Degree in Physics, National and Kapodistrian University of Athens, Greece (1993).

PROFESSIONAL EXPERIENCE AND APPOINTMENTS

- 5/2025 - : Director of Research at TPCI/NHRF
- 9/2020 – 4/2025: Senior Researcher / Research Associate Professor TPCI/NHRF, Athens, Greece
- 10/2020 - : Member of TPCI's Scientific Council
- 2019 - : Honorary DSRI Fellow, Defence & Security Research Institute - DSRI, University of Nicosia, Cyprus
- 12/2012- 8/2020: Associate Researcher, TPCI/NHRF, Athens, Greece
- 6/2008 - 11/2012: Assistant Researcher, TPCI/NHRF, Athens, Greece
- 9/2007 – 5/2008: Adj. Assistant Professor, University of Western Macedonia, Department of Informatics and Telecommunications Engineering
- 9/2003-8/2007: Adj. Assistant Professor, University of Peloponnese, Department of Telecommunications Science and Technology

- 4/2002–7/2004: Technical Consultant and Project Manager. OTE Consulting/TEMAGON S.A., Hellenic Telecommunications Organization -OTE Group.
- 9/2000-3/2002: Research Fellow, University of Southampton, Optoelectronics Research Centre, UK
- 2/1999- 3/2000: Technical Consultant, Southampton Photonics Inc, Pirelli Cavi S.p.A
- 9/1998-7/2000: Teaching Assistant, Physics Department, University of Southampton
- 3/1996-9/1997: Hellenic Army Aviation, General Staff of Army (Military Service)

MAIN RESEARCH INTERESTS

Photonic devices, Optoelectronics, Optical materials, Integrated optical circuits, Bragg-Grating based devices, UV written structures and photosensitivity, Micromachining and Direct Laser writing, Plasmonic devices, Polymer Optical Fibers, Design and modelling of photonic devices, Optimization strategies, Integrated and optical fiber sensors, Photonics components for telecommunications and WDM networks, Structural Health Monitoring, Industrial sensors, Biosensors and medical applications, Quantum Technologies in computing and sensing.

The current research directions are included and implemented within TPCI/NHRF's activity: **Applied Photonics - Materials & Devices**

PROJECTS MANAGEMENT, FUNDING and RESEARCH NETWORKING

Investigator in more than 10 national and international research projects in collaboration with academia and industry. Recent research funding and networking projects include:

- InPhoQuC: "Integrated Photonic Quantum Circuits" funded by Hellenic Foundation for Research and Innovation -HFRI. (PI: C. Riziotis)
- RocketSens: "Cooperation for Photonic Sensors for Solid Rocket Motors Condition Monitoring", Funded by Bayern Chemie GmbH and MBDA Missile Systems. (PI: C. Riziotis)
- WelCOM: "Wireless Sensors for Engineering Asset Life Cycle Management" - funded by the Hellenic General Secretariat for Research and Technology- GSRT http://welcom-project.ipet.gr/ (PI: C. Riziotis)
- SESAMO (A-0931-RT-GC-EDA): "Sensors for Structural Monitoring" –funded by European Defence Agency-EDA (PI: G. Kakarantzas, C. Riziotis)

- COST Action TD1001- "Novel and Reliable Optical Fibre Sensor Systems for Future Security and Safety Applications" (OFSeSa), (C. Riziotis, Greek National Delegate and Management Committee Member)
- NANOMACRO: "Functional Self-assembled Nanostructures from Block Copolymers and Proteins", GSRT (PI: S. Pispas)
- POLYNANO: "Novel Multifunctional Nanostructured Materials and Devices" funded by the Hellenic General Secretariat for Research and Technology- GSRT Polynano- Kripis 447963. (PI: E.I. Kamitsos)
- BM1401 "Raman-based Applications for Clinical Diagnostics (Raman4clinics)"
- MP1206 "Electrospun Nano-Fibres for Bio Inspired Composite Materials and Innovative Industrial Applications" (C. Riziotis, National Delegate & MC Member)
- CM1403 "The European Upconversion Network - From the Design of Photon Upconverting Nanomaterials to Biomedical Applications" (C. Riziotis, National Delegate & MC Member)
- MP1401 "Advanced Fibre Laser and Coherent Source as Tools for Society, Manufacturing and Lifescience" (C. Riziotis, National Delegate & MC Member)

PROFESSIONAL ACTIVITIES

1. Vice President, Micro & Nano Scientific Society https://www.micro-nano.gr/en/board-2025-2028/
2. Associate Editor, *Journal of Sensors,* http://www.hindawi.com/journals/js/
3. Associate Editor, *Instruments*, http://www.mdpi.com/journal/instruments
4. Advisory Board Member, *Journal Hardware* (ISSN 2813-6640) https://www.mdpi.com/journal/hardware
5. Editorial Board Member, Optics & Physical Chemistry, *The Open Access Journal of Science and Technology",* http://www.agialpress.com/journals/oajost/
6. Advisory Board of the New Multidisciplinary Journal Sci (ISSN 2413-4155, mdpi.com/journal/sci)
7. Lead Guest Editor, Instruments (ISSN 2410-390X) "Photonic Devices Instrumentation and Applications" http://www.mdpi.com/journal/instruments/special_issues/photonics_ins
8. Guest Editor, Molecules MDPI (ISSN 1420-3049), "Electrochemical Applications of Carbon-Based Nanomaterials" https://www.mdpi.com/journal/molecules/special_issues/Electrochemical_Nano
9. Lead Guest Editor, *Sensors MDPI*, Organizer of the Special Issue: "Materials and Applications for Sensors and Transducers"
10. Lead Guest Editor, *Journal of Sensors*. Organizer of the Special Issue (Oct. 2009): Special Issue: "Fiber and Integrated Waveguide-Based Optical Sensors"
11. Lead Guest Editor, *Journal of Computational and Theoretical Nanoscience* (www.aspbs.com/ctn). Organizer of the Special Issue: "Technology Trends and

Theory of Nanoscale Devices for Quantum Applications" (Vol. 7, No. 9, Sep. 2010)

12. CLEO Sub-committee Member for the topic area CE "Optical Materials, Fabrication and Characterisation" in Conference on Lasers and Electro-Optics Europe CLEO/Europe) and European Quantum Electronics Conference (EQEC) 2025, Munich, Germany, June 23 - 25, 2025.
13. Technical Committee Member, IEEE SENSORS 2019 (IEEE Sensors Council), Montreal, Canada, October 27 to 30, 2019.
14. Chair, 6th International Conference on Materials and Applications for Sensors and Transducers, IC-MAST, Athens 27-30 September 2016.
15. Scientific Committee Member, International Conference on Strategic Innovative Marketing, IC-SIM, Athens 23-26 September 2016.
16. Workshop Chair: "Development and Marketing Strategies in Innovative Technological Enterprises" IC-SIM 2016
17. International Program Committee Member for various conferences: IEEE SENSORS, ALLSENSORS, SENSORDEVICES SENSORCOMM, SEIA, ICSSIS, etc.
18. Reviewer for a wide range of international technical journals: IEEE/OSA Journal of Lightwave Technology, IEEE Photonics Technology Letters, IEE Proceedings Circuits Devices & Systems, IEE Proceedings in Optoelectronics, Optics Communications, Applied Optics, Information Sciences, IEEE Transactions on Systems Man and Cybernetics, Telecommunications Systems Journal, Journal of Optical Networking, Optics Express, Optics Letters, Sensors MDPI, Optics & Laser Technology, Materials MDPI, IEEE Sensors Journal, Polymers MDPI, IEEE Transactions on Industrial Electronics, Applied Sciences MDPI, Sensors & Actuators B: Chemical, etc.
19. Technical Expert, Member of International Technical Commission for Fiber Optics Sensors' Standardization: Technical Committee No. 86 "Fibre Optics" / Subcommittee 86C "Fibre Optic Systems and Active Devices"/ Working Group WG2 "Fibre Optic Sensors", IEC International Electrotechnical Commission.
20. Official Representative of NHRF/TPCI in the Hellenic Semiconductor Industry Association –HSIA
21. Official Representative of NHRF/TPCI in the technological innovation cluster: mi-Cluster - "Nano/Microelectronics and Embedded Systems"
22. Evaluator for the General Secretariat for Research and Technology GSRT http://www.gsrt.gr/ and the Hellenic Technology Clusters Initiative- Corallia. http://www.corallia.org
23. Member of the European Photonics Platform, PHOTONICS 21. http://www.photonics21.org/

TEACHING ACTIVITIES

Microwaves and Waveguides, Optical Fiber Communication Systems, Photonics Engineering, Physics and Electromagnetic Theory, Electronics, Digital Communications, Electrical Circuits. Supervision of Diploma, Masters and PhD Theses.

PROFESSIONAL AFFILIATIONS

Member, Institute of Electrical and Electronics Engineers (IEEE), Member of Photonics Society IEEE/LEOS, Member of Optical Society of America OSA, Member of Association of Computing Machinery -ACM

PUBLICATIONS

Over 100 technical papers in international journals and conference proceedings. Two appearances in international magazines: Fiber Systems (Aug. 2003), Photonics Spectra (Nov. 2003) featuring novel research results on photonics devices fabrication techniques. A number of technical reports, and deliverables for industrial projects. Three international patents and patent applications, in the area of design and fabrication of photonics devices and structures.

SELECTED PUBLICATIONS

- "Photophysical investigation of dyes and dye-PMMA systems: insights into absorption, emission, and charge transfer mechanisms", C. Kolokytha, A. Sinani, T. Manouras, E. Angelakos, P. Argitis, N. Lathiotakis, C. Riziotis, D. Tzeli, J. Phys. Chem. A 2025, 129, 5, 1219–1232 (2025)
- "Coupling nanowire quantum dots to optical waveguides by microsphere-induced photonic nanojet", S.I. Tsintzos, K. Tsimvrakidis, J.C. Gates, P.G.R. Smith, A.W. Elshaari, V. Zwiller, and C. Riziotis*, Photonics 11(4), 343, (2024).
- "Nanowire integration in silica based integrated optical circuits: limitations and challenges towards quantum computing", K. Tsimvrakidis, S.I. Tsintzos, J.C. Gates, P.G.R. Smith, A.W. Elshaari, V. Zwiller, and C. Riziotis*, Optics & Laser Technology, vol. 170 110276 (2024)
- "Crack identification in solid rocket motors through the Neyman-Pearson signal detection theory", N. Cholevas, K.N. Anyfantis, G. Mussbach, G. Korompili, and C. Riziotis, AIAA Journal, vol. 61, No. 5, pp. 2241-2254 (2023)
- "Structural health monitoring of solid rocket motors: from destructive testing to perspectives of photonic-based sensing", G. Korompili, G. Mussbach, and C. Riziotis*, Instruments 8(1), 16 (2024).
- "Structural diagnosis of solid rocket motors using neural networks and embedded optical strain sensors". G. Korompili, N. Cholevas, K.N. Anyfantis, G. Mußbach, and C. Riziotis*, Photonics 11(9), 799 (2024).
- "Laser processing of intraocular lenses", A. Sinani, D. Palles, C. Bacharis, D. Mouzakis, M. Kandyla, and C. Riziotis*, Applied Sciences, 14(14), 6071 (2024).

- "Comparative assessment and experimental validation of a prototype phase-optical time-domain reflectometer for distributed structural health monitoring", M.L. Filograno, G. Piniotis, V. Gikas, V. Papavasileiou, C.J. Gantes, M. Kandyla, and C. Riziotis, Journal of Sensors, vol. 2022, 6856784, (2022)
- "Multifunctional gas and pH fluorescent sensors based on cellulose acetate electrospun fibers decorated with rhodamine B-functionalised core -shell ferrous nanoparticles", A. Petropoulou, S. Kralj, X. Karagiorgis, I. Savva, E. Loizides, M. Panagi, T. Krasia-Christoforou*, and C. Riziotis*, Scientific Reports. vol. 10, 367, (2020)
- "Microspheres formation in a glass–metal hybrid fiber system: application in optical microwires", A. Petropoulou, D. Drikakis and C. Riziotis*, Materials 2019, vol. 12, no. 12, 1969, (2019)
- "All-Fiber plasmonic platform based on hybrid composite metal/glass microwires", A. Petropoulou, G. Antonopoulos, P. Bastock, G. Kakarantzas, C. Craig, D.W. Hewak, M.N. Zervas, and C. Riziotis*, J. Phys. Chem. C, vol. 22, no. 45. pp. 26169-26176 (2018)
- "Comparative p16(IKN4A) expression in laryngeal carcinoma and cervical cancer precursors: a real-Time grid based immunocytochemistry analysis", E. Tsiambas*, C. Riziotis*, N. S. Mastronikolis, D. Peschos, A. Mortakis, G. Kyroysis, S.N. Mastronikolis, A. Batistatou, A. C Lazaris, E. Patsouris, V. Ragos, Anticancer Research 38: 5805-5810 (2018).
- "Development of amphiphilic block copolymers as silica optical fiber overlayers for BSA protein detection" , A. Petropoulou, T. J. Gibson, E. Themistou, S. Pispas, and C. Riziotis, Materials Chemistry and Physics, 216, 421-428 (2018)
- "Design considerations for quasi-phase-matching in doubly resonant Lithium Niobate hexagonal micro-resonators", T.J. Sono, C. Riziotis*, S. Mailis, and R.W. Eason, Journal of Optics 19(2017) 095505 (2017).
- "Characterization of industrial coolant fluids and continuous ageing monitoring by wireless node-enabled fiber optic sensors", A. El Sachat, A. Meristoudi, C. Markos, A. Papadopoulos, S. Katsikas, and C. Riziotis*, Sensors MDPI 17, 568 (2017).
- "Design optimization of gold-coated fiber tips with embedded plasmonic slot nano-resonators", A. Petropoulou, M.N. Zervas, and C. Riziotis*, Journal of Optics 19, 055002 (2017).
- "Implementation of a real-time reference and calibration grid platform for improved screening - mapping in Pap test slides", E. Tsiambas and C. Riziotis, Pathology International (Wiley) 67, 24 (2017).
- "Assessment of block and random copolymer overlayers on polymer optical fibers towards protein detection through electrostatic interaction", A. El Sachat, A. Meristoudi, S. Pispas, and C. Riziotis, Journal of Polymer Science Part B: Polymer Physics 53, 327 (2015).
- "ArF excimer laser microprocessing of polymer optical fibers for photonic sensor applications", L. Athanasekos, M. Vasileiadis, A. El Sachat, N.A. Vainos, and C. Riziotis, Journal of Optics 17, 015402 (2015).

- "Flat fibre and femtosecond laser technology as a novel photonic integration platform for optofluidic based biosensing devices and lab-on-chip applications: current results and future perspectives", K. Kalli*, C. Riziotis*, A. Posporis, C. Markos, C. Koutsides, S. Ambran, A.S. Webb, C. Holmes, J.C. Gates, J.K. Sahu, P.G.R. Smith, Sensors and Actuators B. Chemical, 209, 1030 (2015).
- "Amphiphilic diblock copolymer based multi-agent photonic sensing scheme", L. Athanasekos, A. El Sachat, S. Pispas, and C. Riziotis, Journal of Polymer Science Part B: Polymer Physics 52, 46 (2014)
- "Fiber optic architectures for strain monitoring of solid rocket motors' propellant", C. Riziotis, L. Eineder, L. Bancallari, G. Tussiwand, Sensor Letters, 11, 1403 (2013)