

Dr. Christos Riziotis

PUBLICATIONS LIST

A. ACADEMIC THESES

Honors Thesis

"Digital Multi-Channel Spectral Analysis and Pattern Recognition of Solar Radio-Signals", September 1993, Dissertation for the Degree of Physics at National and Kapodistrian University of Athens

Masters' Theses

"Study and Comparison of Radio-Coverage Models for Mobile Communication Systems" September 1994, Masters' Thesis (First Year), University of Athens

"Modelling of Single and Double Heterostructure Distributed Feedback (DFB) Lasers" September 1995, Masters' Thesis (Second Year), University of Athens

Doctoral Thesis

"Advanced Bragg Grating Based Integrated Optical Devices for Wavelength Division Multiplexing (WDM) Communication Systems", Ph.D. Thesis, Department of Electronics and Computer Science, Optoelectronics Research Centre, Faculty of Engineering, University of Southampton, 2001. (OCLC: 59474595)
<http://eprints.soton.ac.uk/15489/>

B. PEER REVIEWED JOURNAL PUBLICATIONS

1. "Growth and characterization of pulsed laser deposited lead-germanate glass optical waveguides", S. Mailis, C. Riziotis, J. Wang, B. Taylor, A. Anderson, S. Barrington, H.N. Rutt, R.W. Eason, N. Vainos, C. Grivas, *Optical Materials*, 12, 27 (1999).
[DOI:10.1016/S0925-3467\(98\)00065-2](https://doi.org/10.1016/S0925-3467(98)00065-2)
2. "Design considerations of optical add-drop filters based on grating assisted mode conversion in null couplers", C. Riziotis, M.N. Zervas, *IEEE/OSA Journal of Lightwave Technology*, 19, 92 (2001).
[DOI:10.1109/50.914490](https://doi.org/10.1109/50.914490)
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4. "Novel photosensitive glasses", H. Ebendorff-Heidepriem, C. Riziotis, E. Taylor, *International Journal of Glass Science and Technology (Glastechnische Berichte)*, 75 C2, 54 (2002).

5. "Development of channel waveguide lasers in Nd³⁺-doped chalcogenide (Ga:La:S) glass through photoinduced material modification", A.K. Mairaj, C. Riziotis, A.M. Chardon, P.G.R. Smith, D.P. Sepherd, D.W. Hewak, Applied Physics Letters, 81, 3708, (2002).
[DOI:10.1063/1.1520698](https://doi.org/10.1063/1.1520698)
6. "UV Written waveguides using crosslinkable PMMA-based copolymers", J. Koo, P.G.R. Smith, R.B. Williams, C. Riziotis, M.C. Gossel, Optical Materials, 23, 583 (2003).
[DOI:10.1016/S0925-3467\(03\)00025-9](https://doi.org/10.1016/S0925-3467(03)00025-9)
7. "Continuous wave ultra violet radiation induced frustration of etching in lithium niobate single crystals", S. Mailis, C. Riziotis, P.G.R. Smith, J.G. Scott, R.W. Eason, Applied Surface Science, 206, 46 (2003).
[DOI:10.1016/S0169-4332\(02\)01117-0](https://doi.org/10.1016/S0169-4332(02)01117-0)
8. "Direct ultraviolet writing of channel waveguides in congruent lithium niobate single crystals", S. Mailis, C. Riziotis, I.T. Wellington, P.G.R. Smith, C.B.E. Gawith, R.W. Eason, OSA Optics Letters, 28, 1433(2003).
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9. "Novel full-cycle-coupler-based optical add/drop multiplexer and performance characteristics at 40Gbit/s WDM networks", C. Riziotis, M.N. Zervas, IEEE/OSA Journal of Lightwave Technology, 21, 1828 (2003).
[DOI:10.1109/50.914490](https://doi.org/10.1109/50.914490)
10. "Design and demonstration of direct UV-written small angle X-Couplers in silica-on-silicon for broadband operation", F.R.Mahamd Adikan, C.B.E. Gawith, P.G.R. Smith, I.J.G. Sparrow, G.D. Emmerson, C. Riziotis, H. Ahmad, Appl. Opt. 45, 6113 (2006).
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[DOI:10.1016/j.ins.2007.06.012](https://doi.org/10.1016/j.ins.2007.06.012)
12. "Fiber and integrated waveguide-based optical sensors" (Editorial Paper), V. Pruneri, C. Riziotis, P.G.R. Smith, and A. Vasilakos, Journal of Sensors, Article ID 171748 (2009).
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13. "Planar Bragg grating sensors—fabrication and applications: A review", I.J.G. Sparrow, P.G.R. Smith, G. D. Emmerson, S. P. Watts, and C. Riziotis, Journal of Sensors, Article ID 607647 (2009).
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14. "Technology trends and theory of nanoscale devices for quantum applications", A.C. Cefalas, C. Riziotis, A. Vasilakos and A. Vourdas, J. Comput. Theor. Nanosci. 7, 1631 (2010).
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16. *"Laser microstructuring of polymer optical fibres for enhanced and autonomous sensor architectures"*, L. Athanasekos, D. Dimas, S. Katsikas, S. Pispas, N. Vainos, A.C. Boucouvalas, and C. Riziotis, *Procedia Engineering Elsevier*, 25, pp.1593-1596 (2011).
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17. *"Structural health monitoring of solid rocket motors' propellant using polymer optical fibers"*, C. Riziotis, L. Eineder, L. Bancallari, G. Tussiwand, *Key Engineering Materials*, 543, 360-363, (2013).
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18. *"Ultra low cost rapid prototyping of diffraction grating remote point sensors"*, N. Aspiotis, M. Vasileiadis, A. El Sahat, L. Athanasekos, G. Mousdis, N.A. Vainos, and C. Riziotis, *Key Engineering Materials*, 543, 377-380, (2013).
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22. *"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).
[DOI:10.1002/polb.23388](https://doi.org/10.1002/polb.23388)
23. *"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, 1030-1040 (2015).
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24. *"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, 327-334 (2015).
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26. "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), vol 67, no1, pp.24-31, (2017).
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27. "Cost-effective polymethacrylate-based electrospun fluorescent fibers toward ammonia sensing", A. Petropoulou, K. Christodoulou, C. Polydorou, T. Krasia-Christoforou, and C. Riziotis, *Macromolecular Materials and Engineering* 2017, 302, 1600453 (2017).
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28. "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(3), 568 (2017).
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30. "Novel techniques for morphometrical and geometrical analysis in squamous intraepithelial lesions on cervical smears" E. Tsiambas, C. Riziotis, I. Mavrikos, E. Armatas, E. Patsouris, *Official Journal of the Balkan Union of Oncology -JBUON* 22(4) 1081-1083, (2017) (PubMed)
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31. "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).
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33. "Nanogenerators Begin to Light up: A Novel Poling-Free Piezoelectric System with Multicolour Photoluminescence as an Efficient Mechatronics Development Platform", S. Ma, L. Jin, X. Huang, C. Riziotis, R. Huang, C. Zhang, W. Yang, J. Lu, *Advanced Materials Interfaces*, 1800587, (2018)
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 36. "*Fluorescent electrospun PMMA microfiber mats with embedded NaYF₄ : Yb/Er upconverting nanoparticles*", M. Antoniadou, A. Pilch-Wrobel, C. Riziotis*, A. Bednarkiewicz, E. Tanasă, T. Krasia-Christoforou, *IOP Methods and Applications in Fluorescence*, vol. 7, no. 3 034002 (2019)
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 37. "*Microspheres Formation in a Glass–Metal Hybrid Fiber System: Application in Optical Microwires*", A. Petropoulou, D. Drikakis and C. Riziotis*, In Special Issue Novel Optical Fibers, Devices and Applications, *Materials* 2019, vol. 12, no. 12, 1969, (2019)
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 39. "*Cyclin D1 Gene Numerical Imbalances in Laryngeal Squamous Cell Carcinoma: A Tissue Microarray Grid Based Analysis*", E. Kyrodimos, V. Papanikolaou, E. Tsiambas*, D. Kikidis*, D. Peschos, V. Ragos, N. Mastronikolis, C. Riziotis*, A. Chrysovergis, *Asian Pacific Journal of Cancer Prevention - APJCP*, vol. 20, pp. 253-258, (2020).
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44. *"Regulating MDA-MB-231 breast cancer cell adhesion on laser-patterned surfaces with micro- and nanotopography"*, M. Kanidi, A. Papadimitropoulou, C. Charalampous, Z. Chakim, G. Tsekenis, A. Sinani, C. Riziotis, M. Kandyla, *Biointerphases* vol. 17, 021002 (2022).
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C. PEER REVIEWED CONFERENCE PROCEEDINGS PAPERS

1. "Photosensitive lead germanate glass waveguides grown by pulsed laser deposition", S. Mailis, C. Riziotis, J. Wang, B. Taylor, A. Anderson, S. Barrington, R.W. Eason, N. Vainos, C. Grivas, Paper CWF51 in *Proceedings of Laser and Electro-Optics Conference (CLEO)*, Scotland, UK; 13-18 September 1998.
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3. "Characterization of optical add drop multiplexers in high bit-rate WDM networks", C. Riziotis, M.N. Zervas, *Proceedings of the 2nd IEEE International Symposium on Communication Systems, Networks and Digital Signal Processing, (IEEE CSNDSP 2000)*, July 2000, Bournemouth, U.K., pp. 102-107 (2000)
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8. "Continuous wave ultraviolet laser induced frustration of etching in congruent lithium niobate", S. Mailis, C. Riziotis, R.W. Eason, Proceedings of Pacific Rim Conference on Lasers and Electro-Optics, CLEO 2002, 19-24 May 2002, Long Beach Convention Center, California, USA. Paper CFE6, pp. 645-646 (2002)
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 17. "Second harmonic generation via total internal reflection quasi-phase-matching in a hexagonal nonlinear optical microresonator", T.J. Sono, C. Riziotis, S. Mailis, R.W. Eason, Proceedings of the ECIO 2007, European Conference on Integrated Optics, 25-27 April 2007, Copenhagen, Denmark, pp. 120-123 (2007).
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51. "Laser based microstructuring of polymer optical fibers for sensors optimization", L. Athanasekos, M. Vasileiadis, A. El Sachat, N.A. Vainos, and C. Riziotis*, SPIE Photonics West 2015 Conference, SPIE LASE, Laser-based Micro- and Nanoprocessing IX Conference, San Francisco, California, USA; 7-12 February 2015 (Oral).
52. "Flat mid-infrared supercontinuum generation in tapered fiber with thin coating of highly nonlinear glass", P. Velanas, G. Kakarantzas, and C. Riziotis*, SPIE Photonics West 2015, SPIE LASE, Nonlinear Frequency Generation and Conversion: Materials, Devices, and Applications XIV Conference, San Francisco, California USA; 7-12 February 2015. (Poster)
53. "Study and optimization of tapered plasmonic waveguides for light nanofocusing", A. Petropoulou, M. N. Zervas, and C. Riziotis*, 11th International Conference of Computational Methods in Sciences and Engineering, "Nonlinear Optics and Lasing in Complex Media", Athens, Greece; 20-23 March 2015 (**Invited Oral Presentation**).
54. "Engineering and assessment of diblock copolymers for the development of fiber optic sensors for proteins fast detection", C. Riziotis*, Proteins in the World of Synthetic Polymers Workshop, Athens, Greece; 19-20 March 2015 (Oral).
55. "Hybrid silica nanowires with a highly nonlinear glass thin coating", G. Antonopoulos*, P. Velanas, C. Riziotis, G. Kakarantzas, in Spatiotemporal Complexity in Nonlinear Optics, Lake Como School of Advanced Studies, 31 August – 4 September 2015. (Oral)
56. "Evaluation of fluorescent nanocomposite grids and membranes based on polymeric electrospun nanofibres towards ammonia sensing", A. Petropoulou*, K. Christodoulou, T. Krasia Christoforou, and C. Riziotis, 5th International Conference on Materials and Applications for Sensors and Transducers, IC-MAST, Mykonos, Greece, 27-30 September, 2015. (Oral)
57. "Engineering of composite metallic microfibers towards development of plasmonic devices for sensing applications", A. Petropoulou*, G. Antonopoulos, G. Kakarantzas, D.W. Hewak, M.N. Zervas, and C. Riziotis, 5th International Conference on Materials and Applications for Sensors and Transducers, IC-MAST, Mykonos, Greece, 27-30 September, 2015. (Oral))
58. "Amphiphilic block copolymer based photonic platform towards efficient protein detection", A. Petropoulou, T.J. Gibson, E. Themistou, S. Pispas, C. Riziotis*, SPIE COS Photonics Asia, Beijing, China, 12-14 October 2016. (Oral)
59. "Optimized design of metal coated optical fiber tips with embedded plasmonic slot nano-resonators for maximum field enhancement", A. Petropoulou, M.N. Zervas, C. Riziotis*, SPIE COS Photonics Asia, Beijing, China, 12-14 October 2016.(Poster)

60. "Grid-based visual aid for enhanced microscopy screening in diagnostic cytopathology", C. Riziotis*, E. Tsiambas, SPIE COS Photonics Asia, Beijing, China, 12-14 October 2016. (Poster)
61. "Robust plasmonic tips fabricated by the tapering of composite hybrid silicate microfibers with metallic core", A. Petropoulou, G. Antonopoulos, P. Bastock, C. Craig, G. Kakarantzas, D.W. Hewak, M.N. Zervas, and C. Riziotis*, SPIE COS Photonics Asia, Beijing, China, 12-14 October 2016. (**Invited Oral Presentation**)
62. "Anthracene-containing Electrospun fibers for ammonia gas sensing", K. Christodoulou, A. Petropoulou, C. Polydorou, T. Krasia Christoforou, and C. Riziotis, Electrospinning Conference: From Design and Processing to Advanced Nanomaterials and Applications, Cyprus 19-21 April 2017, Nicosia, Cyprus (Oral)
63. "Fluorescent polymer-based nanocomposite electrospun fibers as optical sensors for ammonia and pH", X. Karagiorgis, A. Petropoulou, I. Savva, C. Riziotis, S. Kralj, T. Krasia-Christoforou, XXXIII Panhellenic Conference on Solid State Physics and Materials Science, University of Cyprus, 17-19 September 2018, Nicosia, Cyprus (Poster)
64. "Fluorescent polymer-based nanocomposite electrospun fibers as optical sensors for ammonia and pH", X. Karagiorgis, A. Petropoulou, I. Savva, Ch. Riziotis, S. Kralj, T. Krasia-Christoforou, International Conference on Nanotechnologies and Bionanoscience, Heraklion, Crete, Sep 2018, Greece. (Poster)
65. "Experimental validation of a prototype photonic Phase Optical Time Domain Reflectometer for SHM in large-scale infrastructures", M.L. Filograno, G. Piniotis, V. Gikas, V. Papavassiliou, Ch. Gantes, M. Kandyla, and C. Riziotis, 4th Joint International Symposium on Deformation Monitoring (JISDM), Athens, Greece; May 15-17, 2019 (Oral).
66. "Design and Implementation of Fiber-Embedded Plasmonic Structures in Microwires", A. Petropoulou, G. Antonopoulos, P. Bastock, G. Kakarantzas, C. Craig, D. Drikakis, D.W. Hewak, M.N. Zervas, and C. Riziotis* Photonics & Electromagnetics Research Symposium (Progress In Electromagnetics Research Symposium), 41st PIERS, Rome, Italy, 17-20 June, 2019. (**Invited**)
67. "Engineering photonic structures and functional optical materials: From structural health monitoring to biomedical applications", C. Riziotis*, 21st International Conference on Transparent Optical Networks (ICTON) 21st International Conference of Transparent Optical Network and 11th Sub-Wavelength Photonics Conference SWP 2019, 9-13 July 2019 Angers, France (**Invited**)
68. "Engineering Photonic Structures and Functional Materials Towards Smart Physical and Chemical Sensors", C. Riziotis, 5th Ed. Smart Materials and Surfaces - SMS Conference, SMS 2019, Smart Sensors Focused Session. 23 Oct - 25 Oct 2019, Lisbon - Portugal, (**Invited Keynote Talk**)

E. OTHER INTERNATIONAL CONFERENCE TALKS

1. "Low cost integrated optical components", C. Riziotis*, RESEAU OPTIQUE MEDITERRANEEN, 2nd Trade Mission "Harnessing Light in Photonic Applications", Athens, Greece; 6-7 July 2006 (**Invited Talk**)
2. "Novel integrated photonic platforms towards lab-on-chip based point of care diagnostics", C. Riziotis*, in 4th International Congress on Biophotonics (ICOB 2015), and COST Action BM1401 "Raman for Clinics" Joint Meeting, Florence, Italy; 18-20 May 2015 (**Invited Talk**).
3. "Research for BSI in Europe", C. Riziotis*, in 6th European Conference on Bloodstream Infections, Mare Nostrum Hotel, Vravrona, Athens, Greece; 6-7 June 2015 (**Invited Panel Member**).
<http://www.ischemo.org/admin/js/libs/tinymce/plugins/moxiemanager/data/files/BSI.pdf>
4. "Development of devices and structures by femtosecond fiber laser based micromachining for sensing and biomedical applications", C. Riziotis*, COST Action MP1401, WG3 Meeting WG 3 "Applications of fibre lasers in healthcare, life science and conservation of cultural heritage", Polytechnico di Milano, Milan, Italy, 11-12 June 2018.
5. "Design and Direct Laser Inscription of Integrated Optical Circuits for Quantum Computing", A. Sinani* and C. Riziotis*, 1st Summit on Gender Equality in Computing (GEC 2019) June 7, 2019, Athens, Greece
6. "Εφαρμογή καινοτόμου πλέγματος χαρτογράφησης πλακιδίων ανοσοκυτταροχημείας στη διερεύνηση της έκφρασης του ογκοκατασταλτικού γονιδίου p16 σε κολποτραχηλικά επιχρίσματα με HPV λοίμωξη", Ε. Τσιάμπας*, Χρ. Ριζιώτης*, Α. Αλεξοπούλου, Γ. Κυρούσης, Α. Μορτάκης, Γ. Βηλαράς, Α. Καραμέρης, Α. Μελάς, Ε. Πατσούρης, 27ο Ιατρικό Συνέδριο Ενόπλων Δυνάμεων, 18-20 Οκτ. 2018, Ξενοδοχείο Macedonia Palace, Θεσσαλονίκη. (**1ο Βραβείο Καλύτερης Εργασίας**)
7. "Engineering Photonic Structures and Functional Optical Materials: From Structural Health Monitoring to Biomedical Applications", C. Riziotis*, Skoltech-Skolkovo Institute of Science & Technology, Moscow, Russia (1 July 2019) (**Invited Seminar**)
8. "Καινοτόμος Τεχνολογία Πλέγματος στη Μικροσκοπική Διάγνωση πλακιδίων PAP Test", Ε. Τσιάμπας* και Χ. Ριζιώτης*, Δημερίδα ΑΚΟΣ - Ακτινοθεραπευτική Ογκολογική Συνεργασία, "Στόχος: η Ποιότητα στη Διάγνωση στη Θεραπεία στη Ζωή", 22-23 Φεβ. 2019, Αίγλη Ζαπφείου (**Προσκεκλημένη Συμμετοχή και Ομιλία**)

F. BOOK CHAPTERS

1. "Wireless Condition Monitoring Integrating Smart Computing and Optical Sensor Technologies", C. Emmanouilidis and C. Riziotis. Engineering Asset Management - Systems, Professional Practices and Certification, P.W. Tse J. Mathew, K. Wong, R. Lam, C.N. Ko (Eds), Lecture Notes in Mechanical Engineering; Springer International Publishing, 2015, pp. 1389-1400. ISBN: 978-3-319-09507-3
[DOI:10.1007/978-3-319-09507-3_118](https://doi.org/10.1007/978-3-319-09507-3_118)

2. "Multianalytes Gas Sensors by Soft Lithography Induced Gratings with Sol-Gel and Copolymers Nanocomposites", A. El Sachat, N. Aspiotis, M. Vasileiadis, G. Mousdis, S. Pispas, N. Vainos, and C. Riziotis, *Nanotechnology in the Security Systems, NATO Science for Peace and Security Series C: Environmental Security*, Springer, Dordrecht, Germany; 2015, pp. 181-192. ISBN: 978-94-017-9005-5,
[DOI:10.1007/978-94-017-9005-5_16](https://doi.org/10.1007/978-94-017-9005-5_16)
3. "*Communicating Strategically for Improving Team Effectiveness in ICTs Organizations*". I.C Drivas, D.P. Sakas, and C. Riziotis, *Strategic Innovative Marketing*, pp 125-132, Kavoura A., Sakas D., Tomaras P. (eds). *Springer Proceedings in Business and Economics*. Springer, Cham. Online ISBN 978-3-319-56288-9 (2017)
[DOI:10.1007/978-3-319-56288-9_18](https://doi.org/10.1007/978-3-319-56288-9_18)

G. OTHER PUBLICATIONS (Featured Articles in Scientific Magazines)

1. "Directly UV-written Optical Waveguides in Congruent Undoped Lithium Niobate", *PHOTONICS SPECTRA*, November 2003
2. "Directly UV-Written Planar Channel Waveguides with Simultaneously Defined Bragg Gratings", *FIBRE SYSTEMS*, August 2003

H. PATENTS & PATENT APPLICATIONS

1. C. Riziotis, M.N. Zervas, "*Waveguide Coupler Optical Add/Drop Multiplexer*", sponsored by PIRELLI CAVI, S.p.A., Milano, Italy. (Filing date: 05/2002), European Patent Office (EPO) Patent No. EP1359444A1.
2. R.W. Eason, S. Mailis, and C. Riziotis, "*Optically Induced Refractive Index Modification in Optical Materials*", University of Southampton and STRATOPHASE Ltd, Patent No. WO2004/010181A1, PCT/GB03/03242, GB 0217047 (International filing date 23/06/2003).
3. C. Riziotis, and E. Tsiambas, "*Reference and Calibration Grid For Improved Real Time Detection Of Biological Entities in Microscopy Diagnostic Techniques*", Hellenic Industrial Property Organization, Patent No#: 1008931 (16/7/2015).
4. C. Riziotis, E. Tsiambas, "*Reference and Calibration Grid for Medical Diagnostic Microscopy*", 2016 International PCT Patent Application, Patent Pending. PCT/GR2016/000032, WO2017/009673.
<https://www.google.com/patents/WO2017009673A1?cl=en&hl=el>