

Χρήστος Κουλουμέντας

Καθηγητής Τμήματος Πληροφοριακών και Επικοινωνιακών Συστημάτων,
Πολυτεχνική Σχολή - Πανεπιστήμιο Αιγαίου

Διδάκτωρ Ηλεκτρολόγος Μηχανικός και Μηχανικός Υπολογιστών ΕΜΠ

ΒΙΟΓΡΑΦΙΚΟ ΣΗΜΕΙΩΜΑ

Περιεχόμενα

ΣΠΟΥΔΕΣ.....	3
ΕΠΑΓΓΕΛΜΑΤΙΚΗ ΚΑΙ ΕΡΕΥΝΗΤΙΚΗ ΕΜΠΕΙΡΙΑ	3
ΔΙΑΚΡΙΣΕΙΣ.....	3
ΕΜΠΕΙΡΙΑ ΩΣ ΚΡΙΤΗΣ ΣΕ ΕΠΙΣΤΗΜΟΝΙΚΑ ΠΕΡΙΟΔΙΚΑ	4
ΕΜΠΕΙΡΙΑ ΩΣ ΑΞΙΟΛΟΓΗΤΗΣ ΕΡΕΥΝΗΤΙΚΩΝ ΠΡΟΤΑΣΕΩΝ.....	5
ΣΥΜΜΕΤΟΧΗ ΣΕ ΕΠΙΜΕΛΗΤΗΡΙΑ ΚΑΙ ΟΡΓΑΝΙΣΜΟΥΣ	5
ΣΥΓΓΡΑΦΙΚΟ ΕΡΓΟ: ΕΠΙΣΤΗΜΟΝΙΚΕΣ ΔΗΜΟΣΙΕΥΣΕΙΣ ΚΑΙ ΔΙΠΛΩΜΑΤΑ ΕΥΡΕΣΙΤΕΧΝΙΑΣ	5

ΣΠΟΥΔΕΣ

- Νοέ. 2006 έως Νοέ. 2010** **Διδακτορικό Δίπλωμα**
Εθνικό Μετσόβιο Πολυτεχνείο (ΕΜΠ), Αθήνα
Σχολή Ηλεκτρολόγων Μηχανικών και Μηχανικών Υπολογιστών (ΣΗΜΜΥ)
Εργαστήριο Οπτικών Επικοινωνιών
Τίτλος διδακτορικής διατριβής: Οπτικά Κυκλώματα μη Γραμμικών Ινών για την Υλοποίηση Σύνθετων Διαδικασιών Επεξεργασίας Σήματος σε Οπτικά Δίκτυα Επικοινωνιών
Επιβλέπων: Καθ. Ηρακλής Αβραμόπουλος
- Σεπ. 2002 έως Ιούν. 2004** **Μεταπτυχιακό Δίπλωμα Ειδίκευσης στην Μικροηλεκτρονική-Οπτοηλεκτρονική**
Πανεπιστήμιο Κρήτης, Σχολή Θετικών και Τεχνολογικών Επιστημών, Τμήμα Φυσικής
Τίτλος μεταπτυχιακής διατριβής: Απεικόνιση δομών και διεργασιών του νηματοειδούς *C. elegans* με χρήση μη γραμμικής μικροσκοπίας
Επιβλέπων: Καθ. Κώστας Φωτάκης
- Σεπ. 1995 έως Σεπτ. 2000** **Δίπλωμα Ηλεκτρολόγου Μηχανικού και Μηχανικού Υπολογιστών**
Εθνικό Μετσόβιο Πολυτεχνείο (ΕΜΠ), Αθήνα
Κατεύθυνση Επικοινωνιών
Βαθμός Διπλώματος: **8.30/10**
Τίτλος διπλωματικής εργασίας: Ανάλυση σκέδασης από ορθογώνια διηλεκτρική στήλη σε ορθογώνιο κυματοδηγό
Επιβλέπων: Καθ. Νικόλαος Ουζούνoglou

ΕΠΑΓΓΕΛΜΑΤΙΚΗ ΚΑΙ ΕΡΕΥΝΗΤΙΚΗ ΕΜΠΕΙΡΙΑ

- Σεπ. 2025 έως σήμερα** Πανεπιστήμιο Αιγαίου
Πολυτεχνική Σχολή, Τμήμα Μηχανικών Πληροφοριακών & Επικοινωνιακών Συστημάτων
Καθηγητής: Φωτονικά Κυκλώματα και Συστήματα
- Οκτ. 2016 έως Αύγ. 2025** Ortagon Photonics Ιδιωτική Κεφαλαιουχική Εταιρεία
Συνιδρυτής - υπεύθυνος λειτουργίας
- Απρ. 2008 έως Ιούν. 2025** Ερευνητικό Πανεπιστημιακό Ινστιτούτο Συστημάτων Επικοινωνιών και Υπολογιστών ΕΠΙΣΕΥ-ΕΜΠ, Αθήνα
Εργαστήριο Φωτονικών Επικοινωνιών
Επιστημονικός συνεργάτης - ερευνητής
- Σεπ. 2005 έως Απρ. 2008** Εταιρεία Έρευνας και Επιμόρφωσης στις Τεχνολογίες της Πληροφορίας (ΕΕΕΤΠ), Athens Information Technology (AIT), Αθήνα
Ερευνητική ομάδα Υψίρρυθμων Δικτύων και Οπτικών Επικοινωνιών
Επιστημονικός συνεργάτης - ερευνητής
- Αύγ. 2001 έως Ιούλ. 2002** Technical University Hamburg-Harburg (TUHH), Αμβούργο Γερμανία
Εργαστήριο Οπτικών Επικοινωνιών
Επιστημονικός συνεργάτης - ερευνητής
- Ιαν. 2001 έως Ιούν. 2001** Deutsches Elektronen Synchrotron (DESY), Αμβούργο Γερμανία
Επισκέπτης ερευνητής

ΔΙΑΚΡΙΣΕΙΣ

- **2023:** Μέλος την επιτροπής τεχνικού προγράμματος (TPC member) στο συνέδριο MWP 2023 International Topical Meeting on Microwave Photonics, το οποίο θα πραγματοποιηθεί από τις 15 έως τις 18 Οκτωβρίου 2023 (<https://www.researching.cn/conference/MWP2023>).
- **2023:** Ανακήρυξη ως Senior Editor στην επιστημονική ομάδα σύνταξης του επιστημονικού περιοδικού PhotoniX του εκδοτικού οίκου Springer με Impact Factor 16.5 (<https://photonix.springeropen.com/>).
- **2022:** Εκλογή στο Board of Stakeholders (BoS) της Ευρωπαϊκής Τεχνολογικής Πλατφόρμας Photonics21 (<https://www.photonics21.org/>).
- **2021:** Μέλος την επιτροπής τεχνικού προγράμματος (TPC member) στο συνέδριο MWP 2021 International Topical Meeting on Microwave Photonics, το οποίο θα πραγματοποιηθεί από τις 15 έως τις 17 Νοεμβρίου 2021 (<https://mwp2021.org/>).

- **2019:** Ένταξη ως Topical Editor στην επιστημονική ομάδα σύνταξης του επιστημονικού περιοδικού PhotoniX του εκδοτικού οίκου Springer με Impact Factor 16.5 (<https://photonix.springeropen.com/>).
- **2018:** Ανάδειξη της επιστημονικής εργασίας Σ42 με τίτλο «Optical Terabit Transmitter and Receiver Based on Passive Polymer and InP Technology for High-Speed Optical Connectivity Between Datacenters» ως Best Student Paper στο επιστημονικό συνέδριο SPIE Photonics WEST: Next-Generation Optical Communication: Components, Sub-Systems, and Systems VII που έλαβε χώρα στο Σαν Φραντσίσκο των Ηνωμένων Πολιτειών τον Ιανουάριο του 2018.
- **2017:** Ανάδειξη ως αναπληρωματικού εκπροσώπου της Ελλάδας στη διοικούσα επιτροπή (Management Committee) της δράσης COST 16220 με αντικείμενο τα φωτονικά ολοκληρωμένα κυκλώματα για εφαρμογές μικροκυματικής φωτονικής: European Network for High Performance Integrated Microwave Photonics (Διάρκεια: 2017-2021) (<https://www.cost.eu/actions/CA16220/>).
- **2016:** Πρόσκληση παρουσίασης ερευνητικής δραστηριότητας στον τομέα των φωτονικών τεχνολογιών ολοκλήρωσης για εφαρμογές στην τεχνολογία επικοινωνιών και αισθητήρων, που ελήφθη από την οργανωτική επιτροπή του διεθνούς συνεδρίου «14th International Conference on Nanosciences & Nanotechnologies (NN17)». Το συνέδριο διεξήχθη τον Ιούλιο του 2017 στη Θεσσαλονίκη. (<http://www.nanotextnology.com/index.php/nn>).
- **2016:** Παρουσίαση ερευνητικής δραστηριότητας στον τομέα της τεχνολογίας πομποδεκτών πολλαπλών ροών δεδομένων σε ελαστικά δίκτυα επόμενης γενιάς, κατόπιν προσκλήσεως στα πλαίσια της ειδικής ημερίδας που διοργανώθηκε από την επιτροπή του υψηλού κύρους επιστημονικού συνεδρίου European Conference on Optical Communications (ECOC), το οποίο πραγματοποιήθηκε στο Ντύσσελτορφ Γερμανίας, τον Σεπτέμβριο του 2016 (<http://conference.vde.com/ecoc-2016/Programme/Pages/Workshops.aspx>).
- **2015:** Ανάδειξη της επιστημονικής εργασίας Σ35 με τίτλο «Tunable Transmitter for Serial 100 Gb/s Connectivity Inside Flexible Data Centers Using Hybrid Polymer Integration», ανάμεσα στις δημοσιεύσεις με την υψηλότερη βαθμολογία (Top-scoring paper) στο υψηλού κύρους επιστημονικό συνέδριο Conference on Optical Fiber Communications (OFC), στο οποίο υποβλήθηκε και δημοσιεύθηκε, και πρόσκληση για την υποβολή εκτεταμένης περιγραφής της συγκεκριμένης εργασίας στο επιστημονικό περιοδικό IEEE/OSA Journal of Lightwave Technology.
- **2012:** Δημοσίευση της επιστημονικής εργασίας Σ31 με τίτλο «Integrated Transmitter for 100 Gb/s OOK Connectivity Based on Polymer Photonics and InP-DHBT Electronics» ως post-deadline paper (PDP) στο επιστημονικό συνέδριο European Conference on Optical Communications (ECOC), το οποίο πραγματοποιήθηκε στο Άμστερνταμ Ολλανδίας, τον Σεπτέμβριο του 2012, και πρόσκληση για υποβολή εκτεταμένης περιγραφής της εργασίας στο περιοδικό OSA Optics Express.
- **2011:** Ανάδειξη της επιστημονικής εργασίας Σ24 με τίτλο «Large-scale photonic integrated circuit for multi-format regeneration and wavelength conversion» ως Best Student Paper Award στο επιστημονικό συνέδριο Conference on Optical Fiber Communications (OFC) που έλαβε χώρα στο Λος Άντζελες των Ηνωμένων Πολιτειών το Μάρτιο του 2011.
- **2010:** Πρόσκληση από τον τομέα φωτονικής της Ευρωπαϊκής επιτροπής έρευνας για το συντονισμό της συνεδρίας που αφορούσε τη σύνδεση μεταξύ της φωτονικής τεχνολογίας και της τεχνολογίας των δικτύων νέας γενιάς κατά τη διάρκεια ειδικής ημερίδας (http://cordis.europa.eu/fp7/ict/photonics/docs/concertation/conc20102010-agenda-bu33_en.pdf).
- **2009:** Δημοσίευση της επιστημονικής εργασίας Σ11 με τίτλο «First Demonstration of WDM-enabled All-Optical Wavelength Conversion with a SOA and a 2nd Order Microring Resonator ROADMs» ως post-deadline paper (PDP) στο επιστημονικό συνέδριο OFC που έλαβε χώρα στο Λος Άντζελες των Ηνωμένων Πολιτειών το Μάρτιο του 2011, και πρόσκληση για την υποβολή αναλυτικής περιγραφής της συγκεκριμένης εργασίας και των αποτελεσμάτων της στο περιοδικό IEEE/OSA Journal of Lightwave Technology.
- **2001:** Βραβείο ΒΑΣΙΛΕΙΟΥ ΞΑΝΘΟΠΟΥΛΟΥ ΚΑΙ ΣΤΕΦΑΝΟΥ ΠΝΕΥΜΑΤΙΚΟΥ κατά τις εξετάσεις του Σχολείου Προχωρημένης Φυσικής Ηρακλείου που οργανώθηκε από το Ίδρυμα Τεχνολογίας και Έρευνας (ΙΤΕ).

ΕΜΠΕΙΡΙΑ ΩΣ ΚΡΙΤΗΣ ΣΕ ΕΠΙΣΤΗΜΟΝΙΚΑ ΠΕΡΙΟΔΙΚΑ

- SpringerOpen PhotoniX (Senior editor)
- IEEE Photonics Journal
- IEEE/OSA Journal of Lightwave Technology
- IEEE Photonics Journal

- IEEE Photonics Technology Letters
- Elsevier Optics Communications
- Elsevier Optical Fiber Technology

ΕΜΠΕΙΡΙΑ ΩΣ ΑΞΙΟΛΟΓΗΤΗΣ ΕΡΕΥΝΗΤΙΚΩΝ ΠΡΟΤΑΣΕΩΝ

Αξιολόγηση προτάσεων που υποβλήθηκαν στον Ολλανδικό οργανισμό έρευνας STW (<http://www.stw.nl/en/content/about-stw>) στον τομέα των τεχνολογιών πληροφορίας και επικοινωνιών (ICT).

ΣΥΜΜΕΤΟΧΗ ΣΕ ΕΠΙΜΕΛΗΤΗΡΙΑ ΚΑΙ ΟΡΓΑΝΙΣΜΟΥΣ

- Μέλος του Τεχνικού Επιμελητηρίου Ελλάδος (ΤΕΕ).
- Μέλος του Συμβουλίου (Board of Stakeholders) της Ευρωπαϊκής Τεχνολογικής Πλατφόρμας Photonics21.
- Μέλος της επαγγελματικής ένωσης Optica (πρώην Optical Society of America – OSA).
- Μέλος της Ελληνικής Πλατφόρμας Φωτονικής.

ΣΥΓΓΡΑΦΙΚΟ ΕΡΓΟ: ΕΠΙΣΤΗΜΟΝΙΚΕΣ ΔΗΜΟΣΙΕΥΣΕΙΣ ΚΑΙ ΔΙΠΛΩΜΑΤΑ ΕΥΡΕΣΙΤΕΧΝΙΑΣ

Το συγγραφικό μου έργο περιλαμβάνει εκτός της διδακτορικής μου διατριβής, της μεταπτυχιακής μου διατριβής και της διπλωματικής μου εργασίας, 50 πρωτότυπες δημοσιεύσεις σε διεθνή επιστημονικά περιοδικά, 68 πρωτότυπες δημοσιεύσεις σε διεθνή επιστημονικά συνέδρια, ένα άρθρο σε τεχνικό περιοδικό, ένα κεφάλαιο επιστημονικού βιβλίου, 5 εργασίες και ανακοινώσεις που δεν καταγράφονται σε κύριες μηχανές αναζήτησης, ένα ελληνικό δίπλωμα ευρεσιτεχνίας από τον Οργανισμό Βιομηχανικής Ιδιοκτησίας (OBI), ένα Ευρωπαϊκό δίπλωμα ευρεσιτεχνίας από το European Patent Office (EPO), μία δημοσιευμένη διεθνή αίτηση διπλώματος ευρεσιτεχνίας μέσω του Patent Cooperation Treaty (PCT) και μία αίτηση διπλώματος ευρεσιτεχνίας προς το US Patent and Trademark Office.

Αναφορές στις επιστημονικές μου δημοσιεύσεις

Η αναζήτηση των αναφορών τον Νοέμβριο του 2025 επέστρεψε **1205 αναφορές** με δείκτη αναφερισιμότητας (h-index) ίσο με **19** από την εφαρμογή Google scholar, και **941 αναφορές** με δείκτη αναφερισιμότητας (h-index) ίσο με **16** από τον δικτυακό τόπο www.scopus.com.

Πρωτότυπες δημοσιεύσεις σε διεθνή επιστημονικά περιοδικά

- [P150] E. Loukisa, E. Andrianopoulos, G. Megas, A. Raptakis, D. Gounaridis, A. Grammatikaki, R.B. Timens, P. van Dijk, P. Groumas, C. Tsokos, Ch. Kouloumentas, H. Avramopoulos, C.G.H. Roeloffzen, “Blass Matrix-Based Optical Beamforming Network for Single- and Multi-Beam Operation on a Silicon Nitride Photonic Integrated Circuit,” accepted for publication in IEEE/OSA Journal of Lightwave Technology.
- [P149] E. Andrianopoulos, K. Tokas, D. de Felipe, M. Theurer, M. Weigel, A. Pagano, K. Kanta, M. Kresse, G. Megas, C. Tsokos, Ch. Kouloumentas, A. Chiadò Piat, Z. Tegegne, M. Massauti, P. Bakopoulos, M. Moehrle, P. Runge, N. Keil, P. Groumas, and H. Avramopoulos, “Integrated 800 Gb/s O-band WDM optical transceiver enabled by hybrid InP-polymer photonic integration,” J. Opt. Commun. Netw. 16, D44-D52 (2024).
- (Θεματικό τεύχος του περιοδικού στην επίδραση της φωτονικής τεχνολογίας στις οπτικές διασυνδέσεις).
- [P148] A. Raptakis, G. Lympirakis, L. Gounaridis, M. Weigel, M. Kleinert, C. Tsokos, P. Groumas, E. Andrianopoulos, N. Keil, H. Avramopoulos, and Ch. Kouloumentas, “Sparse Aperiodic Optical Phased Arrays on Polymer Integration Platform,” in IEEE Photonics Technology Letters, Vol. 36, Issue 7, pp. 469-472, Apr. 2024.
- [P147] A. Raptakis, L. Gounaridis, J. P. Epping, T. L. A. Tran, T. Aukes, M. Kleinert, M. Weigel, M. Wolfer, A. Draebenedt, C. Tsokos, P. Groumas, E. Andrianopoulos, N. Lyras, D. Nikolaidis, E. Mylonas, N. Baxevanakis, R. Pessina, E. Schreuder, M. Dekkers, V. Seyfried, N. Keil, R. G. Heideman, H. Avramopoulos, and Ch. Kouloumentas, “Integrated Heterodyne Laser Doppler Vibrometer Based on Stress-Optic Frequency Shift in Silicon Nitride,” Photonix 4, 30 (2023).
- [P146] D. Zavitsanos, A. Ntanos, T. Stathopoulos, A. Raptakis, F. Setaki, G. Lyberopoulos, Ch. Kouloumentas, G. Giannoulis, and H. Avramopoulos, “Feasibility Analysis of QKD Integration in Real-World FTTH Access Networks,” in IEEE/OSA Journal of Lightwave Technology, Vol. 42, Issue 1, pp. 4-11, Jan. 2024.
- [P145] E. Andrianopoulos, N. Lyras, E. Pikasis, G. Schwanke, M. Deumer, S. Nellen, T. Qian, G. D. Ntouni, E. C. Loghis, E. D. Tsirbas, P.-K. Chartsias, D. de Felipe, P. Groumas, M. Massauti, C. Tsokos, Ch.

- Kouloumentas, D. Kritharidis, R. B. Kohlhaas, N. Keil, M. Schell, H. Avramopoulos, “Real-Time Sub-THz Link Enabled Purely by Optoelectronics: 90–310 GHz Seamless Operation,” in *IEEE Photonics Technology Letters*, vol. 35 (5), March 2023.
- [Π44] D. Nikolaidis, P. Groumas, Ch. Kouloumentas, H. Avramopoulos, “High-Throughput Bit-Pattern Matching under Heavy Interference on FPGA,” in *Electronics* 12 (803) 2023.
- [Π43] E. Andrianopoulos, N. Lyras, C. Tsokos, T. Qian, S. Nellen, D. de Felipe, P. Groumas, A. Raptakis, L. Gounaridis, Lefteris, N. Keil, Ch. Kouloumentas, H. Avramopoulos, “Optical Generation and Transmission of mmWave Signals in 5G ERA: Experimental Evaluation Paradigm,” in *IEEE Photonics Technology Letters*, vol. 34 (19), Oct 2022.
- [Π42] D. Nikolaidis, P. Groumas, Ch. Kouloumentas, H. Avramopoulos, “Novel Benes Network Routing Algorithm and Hardware Implementation,” *Technologies* 10 (16) 2022.
- [Π41] A. Raptakis, L. Gounaridis, M. Weigel, M. Kleinert, M. Georgiopoulos, E. Mylonas, P. Groumas, C. Tsokos, N. Keil, H. Avramopoulos, and Ch. Kouloumentas, “2D Optical Phased Arrays for Laser Beam Steering Based on 3D Polymer Photonic Integrated Circuits,” in *IEEE/OSA Journal of Lightwave Technology*, Vol. 39, Issue 20, pp. 6509 - 6523, Oct. 2021.
- [Π40] C. Tsokos, E. Andrianopoulos, A. Raptakis, N. Lyras, L. Gounaridis, P. Groumas, R. Timens, I. Visscher, R. Grootjans, L. Wefers, D. Gekus, E. Klein, H. Avramopoulos, R. Heideman, Ch. Kouloumentas, C. Roeloffzen, “True Time Delay Optical Beamforming Network Based on Hybrid InP-Silicon Nitride Integration,” in *IEEE/OSA Journal of Lightwave Technology*, doi: 10.1109/JLT.2021.3089881.
- [Π39] M. Chatzipetrou, L. Gounaridis, G. Tsekenis, M. Dimadi, R. Vestering-Stenger, E. F Schreuder, A. Trilling, G. Besselink, L. Scheres, A. van der Meer, E. Lindhout, R. G Heideman, H. Leeuwis, S. Graf, T. Volden, M. Ningler, Ch. Kouloumentas, C. Strehle, V. Revol, A. Klinakis, H. Avramopoulos, and I. Zergioti, “A Miniature Bio-Photonics Companion Diagnostics Platform for Reliable Cancer Treatment Monitoring in Blood Fluids,” *Sensors* 2021, 21 (6), 2230.
- [Π38] C. Papapanos, D. Zavitsanos, A. Raptakis, G. Giannoulis, Ch. Kouloumentas and H. Avramopoulos, “Studies on the readability and on the detection rate in a Mach-Zehnder interferometer-based implementation for high-rate, long-distance QKD protocols,” *Eur. Phys. J. D* 75, 93 (2021).
- [Π37] Ch. Kouloumentas, C. Tsokos, P. Groumas, L. Gounaridis, A. Raptakis, E. Mylonas, E. Andrianopoulos, K. Wörhoff, K. Ławniczuk, A. Leinse, and H. Avramopoulos, “Multi-Rate and Multi-Channel Optical Equalizer Based on Photonic Integration,” *IEEE Photonics Technology Letters*, Vol. 32, Issue 23, pp. 1465-1468, Dec. 2020.
- [Π36] C. Tsokos, E. Mylonas, P. Groumas, L. Gounaridis, H. Avramopoulos, and Ch. Kouloumentas, “Optical Beamforming Network for Multi-Beam Operation with Continuous Angle Selection,” *IEEE Photonics Technology Letters*, Vol. 31, Issue 2, pp. 170-180, Jan. 2019.
- [Π35] V. Katopodis, H. Mardoyan, C. Tsokos, D. Felipe, A. Konczykowska, P. Groumas, M. Spyropoulou, L. Gounaridis, P. Jenneve, F. Boitier, F. Jorge, T. Keinicke Johansen, M. Tienforti, J.-Y. Dupuy, A. Vannucci, N. Keil, H. Avramopoulos, and Ch. Kouloumentas, “Multiflow Transmitter with Full Format and Rate Flexibility for Next Generation Networks,” *IEEE/OSA Journal of Lightwave Technology*, Vol. 36, Issue 17, pp. 3785-3393, Sep. 2018.
- [Π34] C. Tsokos, E. Mylonas, P. Groumas, V. Katopodis, L. Gounaridis, R. B. Timens, R. M. Oldenbeuving, C. G. H. Roeloffzen, H. Avramopoulos, and Ch. Kouloumentas, “Analysis of a Multibeam Optical Beamforming Network Based on Blass Matrix Architecture,” *IEEE/OSA Journal of Lightwave Technology*, Vol. 36, Issue 16, pp. 3354-3372, Aug. 2018.
- [Π33] L. Gounaridis, P. Groumas, E. Schreuder, G. Tsekenis, A. Marousis, R. Heideman, H. Avramopoulos, and Ch. Kouloumentas, “High performance refractive index sensor based on low Q-factor ring resonators and FFT processing of wavelength scanning data,” *OSA Optics Express*, Vol. 25, Issue 7, pp. 7483-7495, April 2017.
- [Π32] V. Katopodis, D. Felipe, C. Tsokos, P. Groumas, M. Spyropoulou, A. Beretta, A. Dede, M. Quagliotti, A. Pagano, A. Vannucci, N. Keil, H. Avramopoulos, and Ch. Kouloumentas, “Multi-Flow Transmitter Based on Polarization and Optical Carrier Management on Optical Polymers,” *IEEE Photonics Technology Letters*, Vol. 28, Issue 11, pp. 1169-1172, June 2016.
- [Π31] L. Gounaridis, P. Groumas, E. Schreuder, R. Heideman, H. Avramopoulos, and Ch. Kouloumentas, “New set of design rules for resonant refractive index sensors enabled by FFT based processing of the measurement data,” *OSA Optics Express*, Vol. 24, Issue 7, pp. 7611-7632, March 2016.

- [Π130] V. Katopodis, P. Groumas, Z. Zhang, R. Dinu, E. Miller, A. Konczykowska, J-Y. Dupuy, A. Beretta, A. Dede, J-H. Choi, P. Harati, F. Jorge, V. Nodjiadjim, M. Riet, G. Cangini, A. Vannucci, N. Keil, H-G. Bach, N. Grote, H. Avramopoulos, and Ch. Kouloumentas, “Polymer enabled 100 Gbaud connectivity for datacom applications,” Elsevier Optics Communications, Vol. 362, pp. 13-21, March 2016.
(Κατόπιν προσκλήσεως στο θεματικό τεύχος για τα οπτικά πολυμερή και τις σχετικές εφαρμογές).
- [Π129] P. Groumas, Z. Zhang, V. Katopodis, A. Konczykowska, J-Y. Dupuy, A. Beretta, A. Dede, J-H. Choi, P. Harati, F. Jorge, V. Nodjiadjim, M. Riet, R. Dinu, G. Cangini, E. Miller, A. Vannucci, N. Keil, H-G. Bach, N. Grote, M. Spyropoulou, H. Avramopoulos, and Ch. Kouloumentas, “Tunable 100 Gbaud Transmitter Based on Hybrid Polymer-to-Polymer Integration for Flexible Optical Interconnects,” IEEE/OSA Journal of Lightwave Technology, Vol. 34, Issue 2, pp. 407-418, January 2016.
(Κατόπιν προσκλήσεως στο θεματικό τεύχος που αφιερώθηκε στο συνέδριο OFC 2015).
- [Π128] Z. Zhang, D. Felipe, V. Katopodis, P. Groumas, Ch. Kouloumentas, H. Avramopoulos, J-Y. Dupuy, A. Konczykowska, A. Dede, A. Beretta, A. Vannucci, G. Cangini, R. Dinu, D. Schmidt, M. Moehrl, P. Runge, J-H. Choi, H-G. Bach, N. Grote, N. Keil and M. Schell, “Hybrid Photonic Integration on a Polymer Platform,” MDPI Photonics, Vol. 2, Issue 3, pp. 1005-1026, September 2015.
- [Π127] L. Gounaridis, P. Groumas, E. Schreuder, R. Heideman, V. Katopodis, Ch. Kouloumentas, and H. Avramopoulos, “Design of grating couplers and MMI couplers on the TriPleX platform enabling ultra-compact photonic-based biosensors,” Elsevier Sensors and Actuators B: Chemical, Vol. 209, pp. 1057-1063, March 2015.
- [Π126] P. Groumas, V. Katopodis, J-H. Choi, H-G. Bach, J-Y. Dupuy, A. Konczykowska, Z. Zhang, P. Harati, E. Miller, A. Beretta, L. Gounaridis, F. Jorge, V. Nodjiadjim, A. Dede, A. Vannucci, G. Cangini, R. Dinu, N. Keil, N. Grote, H. Avramopoulos, and Ch. Kouloumentas, “Multi-100 GbE and 400 GbE Interfaces for Intra-Data Center Networks Based on Arrayed Transceivers with Serial 100 Gb/s Operation,” IEEE/OSA Journal of Lightwave Technology, Vol. 33, Issue 4, pp. 943-954, February 2015
(Θεματικό τεύχος του περιοδικού στην τεχνολογία των οπτικών διασυνδέσεων).
- [Π125] V. Katopodis, P. Groumas, Z. Zhang, J-Y. Dupuy, E. Miller, A. Beretta, L. Gounaridis, J-H. Choi, D. Pech, F. Jorge, V. Nodjiadjim, R. Dinu, G. Cangini, A. Dede, A. Vannucci, A. Konczykowska, N. Keil, H-G. Bach, N. Grote, Ch. Kouloumentas, and H. Avramopoulos, “2x100 Gb/s NRZ-OOK Integrated Transmitter for Intra Data Center Connectivity,” IEEE Photonics Technology Letters, Vol. 26, Issue 20, pp. 2078-81, Oct. 2014.
- [Π124] C. Reis, G. Parca, M. Bougioukos, A. Maziotis, S. Pinna, G. Giannoulis, H. Brahmi, P. André, N. Calabretta, V. Vercesi, G. Berrettini, Ch. Kouloumentas, A. Bogoni, T. Chattopadhyay, D. Erasme, H. Avramopoulos, A. Teixeira, “Experimental analysis of an all-optical packet router,” IEEE/OSA Journal of Optical Communications and Networking, Vol. 6, Issue 7, pp. 629-634, July 2014.
- [Π123] H. Brahmi, G. Giannoulis, M. Menif, V. Katopodis, D. Kalavrouziotis, Ch. Kouloumentas, P. Groumas, G. Kanakis, C. Stamatidis, H. Avramopoulos, D. Erasme, “On the fly all-optical packet switching based on hybrid WDM/OCDMA labeling scheme,” Elsevier Optics Communications, Vol. 312, pp. 175-184, February 2014.
- [Π122] C. Reis, A. Maziotis, Ch. Kouloumentas, T. Chattopadhyay, N. Calabretta, P. André, G. Berrettini, G. Meloni, A. Bogoni, H.J.S. Dorren, H. Avramopoulos, A. Teixeira, “Performance comparison of all-optical clocked S-R and D type flip-flops,” Elsevier Optik-International journal for Light and Electron Optics, Vol. 24, Issue 16, pp. 2327-2333, August 2013.
- [Π121] V. Katopodis, Ch. Kouloumentas, A. Konczykowska, F. Jorge, P. Groumas, Z. Zhang, A. Beretta, A. Dede, J-Y. Dupuy, V. Nodjiadjim, Giulio Cangini, G. Von Büren, E. Miller, R. Dinu, J. H. Choi, D. Pech, N. Keil, H.-G. Bach, N. Grote, A. Vannucci, and H. Avramopoulos, “Serial 100 Gb/s connectivity based on polymer photonics and InP-DHBT electronics,” OSA Optics Express, Vol. 20, Issue 27, pp. 28538-28543, December 2012.
(Κατόπιν προσκλήσεως στο θεματικό τεύχος που αφιερώθηκε στο συνέδριο ECOC 2012).
- [Π120] C. Reis, L. Costa, A. Bogoni, A. Maziotis, A. Teixeira, Ch. Kouloumentas, D. Apostolopoulos, D. Erasme, G. Berrettini, G. Meloni, G. Parca, H. Brahmi, I. Tomkos, L. Poti, M. Bougioukos, P. S. André, P. Zakynthinos, R. Dionisio, T. Chattopadhyay, H. Avramopoulos, “Evolution of All-Optical Flip-Flops and Their Applications in Optical Communications Networks”, IET Optoelectronics, Vol. 6, Issue 6, pp. 263-276, December 2012.
- [Π119] P. Groumas, Z. Zhang, V. Katopodis, Ch. Kouloumentas, D. de Felipe, R. Dinu, E. Miller, J. Mallari, G. Cangini, N. Keil, H. Avramopoulos, and N. Grote, “Complex monolithic and InP hybrid

integration on high bandwidth electro-optic polymer platform,” OSA Optics Letters, Vol. 37, Issue 16, pp. 3465-3467, August 2012.

- [Π18] H. Brahmi, G. Giannoulis, M. Menif, V. Katopodis, D. Kalavrouziotis, C. Stamatiadis, Ch. Kouloumentas, H. Avramopoulos and D. Erasme, “Experimental Demonstration of an Elastic Packet Routing Node Based on OCDMA Label Coding,” IEEE Photonics Technology Letters, Vol. 24, Issue 9, pp. 721-723, May 2012.
- [Π17] P. Groumas, V. Katopodis, Ch. Kouloumentas, M. Bougioukos, and H. Avramopoulos, “All-Optical RZ-to-NRZ Conversion of Advanced Modulated Signals,” IEEE Photonics Technology Letters, Vol. 24, Issue 3, pp. 179-181, February 2012.
- [Π16] M. Bougioukos, T. Richter, Ch. Kouloumentas, V. Katopodis, R. Harmon, D. Rogers, J. Harrison, A. Poustie, G. Maxwell, C. Schubert, and H. Avramopoulos, “Phase-Incoherent DQPSK Wavelength Conversion Using a Photonic Integrated Circuit,” IEEE Photonics Technology Letters, Vol. 23, Issue 22, pp. 1649-1651, November 2011.
- [Π15] Christos Kouloumentas, “Theoretical analysis of the all-fiberized, dispersion-managed regenerator for simultaneous processing of WDM channels,” Elsevier Optics Communications, Vol. 284, Issue 19, pp. 4340-4349, September 2011.
- [Π14] K. Vyrsoinos, A. Maziotis, Ch. Kouloumentas, C. Stamatiadis, N. Pleros, “An optical MEMS-based dynamic capacity allocation scheme for handoff using moving extended cells in radio-over-fiber networks,” Elsevier Optics Communications, Vol. 284, Issue 19, pp. 4390-4393, September 2011.
- [Π13] C. Reis, A. Maziotis, C. Kouloumentas, C. Stamatiadis, M. Bougioukos, N. Calabretta, P. Andre, R. Dionisio, B. Neto, H.J.S. Dorren, H. Avramopoulos, and A. Teixeira, “All-Optical Clocked D Flip-Flop Memory Using a Hybrid Integrated S-R Latch,” Wiley Microwave and Optical Technology Letters, Vol. 53, Issue 6, pp. 1201-1204, June 2011.
- [Π12] M. Bougioukos, Ch. Kouloumentas, M. Spyropoulou, G. Giannoulis, D. Kalavrouziotis, A. Maziotis, P. Bakopoulos, R. Harmon, D. Rogers, J. Harrison, A. Poustie, G. Maxwell, and H. Avramopoulos, “Multi-format all-optical processing based on a large-scale, hybridly integrated photonic circuit,” OSA Optics Express, Vol. 19, Issue 12, pp. 11479-11489, May 2011.
- [Π11] Ch. Kouloumentas, M. Bougioukos, A. Maziotis, and H. Avramopoulos, “DPSK Regeneration at 40 Gb/s and Beyond Using a Fiber-Sagnac Interferometer,” IEEE Photonics Technology Letters, Vol. 22, Issue 16, pp. 1187-1189, August 2010.
- [Π10] C. Reis, A. Maziotis, Ch. Kouloumentas, C. Stamatiadis, M. Bougioukos, N. Calabretta, P. Andre, R. Dionisio, B. Neto, H.J.S. Dorren, H. Avramopoulos, A. Teixeira, “All-optical synchronous S-R flip-flop based on active interferometric devices,” IET Electronics Letters, Vol. 46, Issue 10, pp. 709-710, May 2010.
- [Π9] L. Stampoulidis, D. Petrantonakis, C. Stamatiadis, E. Kehayas, P. Bakopoulos, Ch. Kouloumentas, P. Zakyntinos, K. Vyrsoinos, R. Dekker, E.J. Klein, “Microring-Resonator-Assisted, All-Optical Wavelength Conversion Using a Single SOA and a Second-Order Si3N4-SiO2 ROADM,” IEEE/OSA Journal of Lightwave Technology, Vol. 28, Issue 4, pp. 476-483, February 2010.
(Κατόπιν προσκλήσεως στο θεματικό τεύχος που αφιερώθηκε στο συνέδριο OFC 2009).
- [Π8] Ch. Kouloumentas, C. Stamatiadis, P. Zakyntinos, and H. Avramopoulos, “Repetition Rate Multiplication of Pseudo-Random Bit Sequences,” IEEE Photonics Technology Letters, Vol. 21, Issue 27, pp. 456-458, April 2009.
- [Π7] Ch. Kouloumentas, P. Vorreau, L. Provost, P. Petropoulos, W. Freude, J. Leuthold, I. Tomkos, “All-Fiberized Dispersion-Managed Multichannel Regeneration at 43 Gb/s,” IEEE Photonics Technology Letters, Vol. 20, Issue 22, pp. 1854-1856, November 2008.
- [Π6] A.D. Ellis, D. Cotter, S. Ibrahim, R. Weerasuriya, C.W. Chow, J. Leuthold, W. Freude, S. Sygletos, P. Vorreau, R. Bonk, D. Hillerkuss, I. Tomkos, A. Tzanakaki, Ch. Kouloumentas, D.J. Richardson, P. Petropoulos, F. Parmigiani, G. Zarris, D. Simeonidou, “Optical interconnection of core and metro networks,” OSA Journal of Optical Networking, Vol. 7, Issue 11, pp. 928-935, 2008.
(Κατόπιν προσκλήσεως)
- [Π5] Ch. Kouloumentas, L. Provost, F. Parmigiani, S. Tsolakidis, P. Petropoulos, I. Tomkos, D.J. Richardson, “Four-Channel All-Fibre Dispersion-Managed 2R Regenerator,” IEEE Photonics Technology Letters, Vol. 20, Issue 13, pp. 1169-1171, July 2008.
- [Π4] Ch. Kouloumentas, N. Pleros, P. Zakyntinos, D. Petrantonakis, D. Apostolopoulos, O. Zourarakis, A. Tzanakaki, H. Avramopoulos, I. Tomkos, “Packet Clock Recovery Using a Bismuth Oxide Fiber-based Optical Power Limiter,” OSA Optics Express, Vol. 15, Issue 16, pp. 9948-9953, August 2007.

- [P13] Ch. Kouloumentas, A. Tzanakaki, and I. Tomkos, "Clock Recovery at 160 Gb/s and beyond, using a Fiber-Based Optical Power Limiter," IEEE Photonics Technology Letters, Vol. 18, Issue 22, pp. 2365-2367, November 2006.
- [P12] G. Filippidis, Ch. Kouloumentas, D. Kapsokalyvas, G. Voglis, N. Tavernarakis, and T. G. Papazoglou, "Imaging of Caenorhabditis elegans samples and sub/cellular localization of new generation photo-sensitizers for photodynamic therapy, using non-linear microscopy," Journal of Physics D: Applied Physics, Vol. 38, Number 15, pp. 2625-32, August 2005.
- [P11] G. Filippidis, Ch. Kouloumentas, G. Voglis, F. Zacharopoulou, T. G. Papazoglou, N. Tavernarakis, "Imaging of Caenorhabditis elegans neurons by second-harmonic generation and two-photon excitation fluorescence," SPIE Journal of Biomedical Optics, Vol. 10, Issue 2, pp. 024015-1-024015-8, March/April 2005.

Άρθρα σε τεχνικά περιοδικά

- [TP11] Christos Kouloumentas, Dimitrios Klonidis, Colja Schubert, Reza Nejabati, Jose Lazaro, Didier Erasme, Marco Forzati, Eduward Tangdiongga, Per Olof Hedekvist, Juerg Leuthold, Andrea Carena, Bob Manning, Claudio Porzi, Pere Perez Millan, Xing-Zhi Qiu, Antonio Teixeira, Jorge Seoane, and Hercules Avramopoulos, "EURO-FOS: Towards a Pan-European Laboratory for Lightwave Communications," IEEE Photonics Society News, Vol. 25, Issue 2, pp. 4-8, April 2011.

Πρωτότυπες δημοσιεύσεις σε διεθνή επιστημονικά συνέδρια

- [Σ68] G. Megas, E. Andrianopoulos, M. Weigel, P. Groumas, S. Mejri, Z. G Tegegne, M. Milosevic, E. Loukisa, C. Tsokos, D. de Felipe, M. Massaouti, N. Keil, Ch. Kouloumentas, H. Avramopoulos, "Demonstration of an Optical 16×16 Benes Switch based on 3D Photonic Integration," in Proc. 25th Anniversary International Conference on Transparent Optical Networks (ICTON), July 2025.
- [Σ67] E. Loukisa, E. Andrianopoulos, A. Raptakis, G. Megas, D. Gounaridis, A. Grammatikaki, R.B. Timens, P. Van Dijk, L. Gounaridis, P. Groumas, C. Tsokos, Ch. Kouloumentas, H. Avramopoulos, C.G.H. Roeloffzen, "Demonstration of a silicon nitride optical beamforming network based on Blass-matrix architecture," in Proc. Optical Fiber Communication Conference, paper M4D. 7, March 2025.
- [Σ66] E. Loukisa, E. Andrianopoulos, A. Raptakis, G. Megas, D. Gounaridis, A. Grammatikaki, R.B. Timens, P. Van Dijk, L. Gounaridis, P. Groumas, C. Tsokos, Ch. Kouloumentas, H. Avramopoulos, C.G.H. Roeloffzen, "Demonstration of a silicon nitride optical beamforming network based on Blass-matrix architecture," in Proc. Optical Fiber Communication Conference, paper M4D. 7, March 2025.
- [Σ65] A.M. Grammatikaki, L. Gounaridis, D. Gounaridis, K. Obara, A. Everhardt, A. Raptakis, T.G. van Leeuwen, E. van der Pol, H. Avramopoulos, Ch. Kouloumentas, "Development of 3D-printed microlenses at the edge of waveguides of flow cytometry and optical coherence tomography photonic integrated circuits," in Proc. Integrated Optics: Devices, Materials, and Technologies XXIX, SPIE 2025.
- [Σ64] S. Nellen, M. Deumer, G. Schwanke, E. Andrianopoulos, N.K. Lyras, G. Megas, E. Pikasis, D. Kritharidis, E.D. Tsirbas, E.C. Loghis, T. Qian, D. de Felipe, M. Massaouti, Ch. Kouloumentas, P. Groumas, H. Avramopoulos, M. Schell, N. Keil, R.B. Kohlhaas, "Photonic Mixers as Tx and Rx in a Bidirectional mmWave Real-Time Link," in Proc. 54th European Microwave Conference (EuMC), pp. 624-627, Sep. 2024.
- [Σ63] E. Andrianopoulos, S. Niu, J. Van Kerrebrouck, M. Weigel, Z. G Tegegne, D. De Felipe, Y.D. Gupta, K. De Bruyn, J. Lambrecht, G. Coudyzer, M. Verbeke, M. Theurer, M. Kresse, E. Kyriazi, G. Megas, C. Tsokos, Ch. Kouloumentas, M. Massaouti, M. Moehrle, P. Runge, X. Yin, J. van Kerkhof, N. Keil, P. Groumas, H. Avramopoulos, J. Bauwelinck, "A packaged 1.6 Tb/s O-band optical transceiver based on the hybrid integration of SiGe electronics and InP-polymer photonics," in Proc. 50th European Conference on Optical Communication (ECOC), Sep. 2024.
- [Σ62] E. Loukisa, C. Tsokos, P. Groumas, A. Raptakis, G. Megas, E. Andrianopoulos, L. Liebermeister, R. B. Kohlhaas, Ch. Kouloumentas, and H. Avramopoulos, "Analysis of Photonics-Enabled FMCW THz Spectrometers for Non-Destructive Thickness Measurements," 2024 24th International Conference on Transparent Optical Networks (ICTON), Bari Italy, 2024, pp. 1-6.
- [Σ61] N. Saba, E. Andrianopoulos, N. Lyras, S. Katta, M. Abdulkadir, E. Pikasis, G. Schwanke, T. Qian, M. Deumer, S. Nellen, E. Tsirbas, E. Loghis, G. Megas, C. Tsokos, P. Groumas, D. de Felipe, R. B. Kohlhaas, M. Massaouti, Ch. Kouloumentas, D. Kritharidis, N. Keil, H. Avramopoulos, J. Costa-Requena, R. Jäntti, "An Experiment on 5G Open-RAN Platform with Sub-THz Backhauling," 2024 IEEE Wireless Communications and Networking Conference (WCNC), Dubai, United Arab Emirates, 2024, pp. 01-06, doi: 10.1109/WCNC57260.2024.10571291.

- [Σ60] E. Andrianopoulos, N. K. Lyras, T. Qian, M. Deumer, G. Megas, G. Schwanke, Y. D. Gupta, P. Groumas, Z. G. Tegegne, B. Schuler, M. Ali, B. Snyder, S. Nellen, C. Tsokos, D. de Felipe, M. Massaouti, G. Carpintero, R. B. Kohlhaas, J. van Kerkhof, N. Keil, Ch. Kouloumentas, and H. Avramopoulos, “Demonstration of On-Chip Optical Frequency Comb Generation and Optical Injection Locking,” in Optical Fiber Communication Conference (OFC) 2024, Technical Digest Series (Optica Publishing Group, 2024), paper Th1F.5.
- [Σ59] L. Gounaridis, J. Gran, E. Katsaouni, C. Zervos, A. Raptakis, E. Kyriazi, G. Brestas, A. M. Grammatikaki, D. Geuzebroek, H. Avramopoulos, C. Kouloumentas, “A novel photonic integrated optical divider based on cascaded multimode interference (MMI) couplers, achieving a splitting ratio of 1:10⁻⁹,” Proceedings Volume 12889, Integrated Optics: Devices, Materials, and Technologies XXVIII; 128890Z (2024) <https://doi.org/10.1117/12.3002772>.
- [Σ58] E. Andrianopoulos, A. Pagano, P. Groumas, A. Chiadó Piat, D. de Felipe, U. Troppenz, M. Weigel, M. Kresse, M. Theurer, Ch. Kouloumentas, C. Tsokos, Z. Tegegne, P. Bakopoulos, M. Moehrle, M. Massaouti, G. Megas, P. Runge, N. Keil, H. Avramopoulos, “Hybrid Integration of Polymer PICs and InP Optoelectronics for WDM and SDM Terabit Intra-DC Optical Interconnects,” 2023 SBMO/IEEE MTT-S International Microwave and Optoelectronics Conference (IMOC), Castelldefels, Spain, 2023, pp. 259-261, doi: 10.1109/IMOC57131.2023.10379696.
- [Σ57] A. Raptakis, L. Gounaridis, M. Kleinert, M. Weigel, J. P. Epping, E. Schreuder, M. Wolfer, A. Draebenstedt, R. Pessina, P. Groumas, T. Aukes, V. Seyfried, N. Keil, R. Heideman, H. Avramopoulos, and Ch. Kouloumentas, “Fully integrated Laser Doppler Vibrometer (LDV) based on hybrid 3D integration of silicon nitride and polymer photonic circuits with operation in the kHz regime,” Proceedings Volume 12424, Integrated Optics: Devices, Materials, and Technologies XXVII; 124240A (2023).
- [Σ56] E. Andrianopoulos, M. Deumer, T. Qian, N. Lyras, S. Nellen, E. Pikasis, G. Ntouni, E. Loghis, E. Tsirbas, D. de Felipe, P. Groumas, C. Tsokos, M. Massaouti, Ch. Kouloumentas, D. Kritharidis, R. B. Kohlhaas, N. Keil, M. Schell, H. Avramopoulos, “Photonic Integrated Circuits for 5G-and-Beyond Networks: Enabling the mmWave Band and Beyond with InP-based Photomixers in Integrated Transceivers,” Proc. SPIE 12429, Next-Generation Optical Communication: Components, Sub-Systems, and Systems XII, 1242904 (March 2023).
- [Σ55] D. Zavitsanos, A. Ntanos, P. Toumasis, A. Raptakis, Ch. Kouloumentas, T. Stathopoulos, F. Setaki, E. Theodoropoulou, G. Lyberopoulos, G. Giannoulis, and H. Avramopoulos, “Coexistence Studies for DV-QKD Integration in Deployed RAN Infrastructure,” in Proc. 2022 International Workshop on Fiber Optics in Access Networks (FOAN), Valencia, Spain, 2022, pp. 6-9.
- [Σ54] E. Andrianopoulos, M. Massaouti, P. Groumas, A. C. Piat, A. Pagano, M. Verbeke, Ch. Kouloumentas, R. Dekker, Z. Tegegne, M. Kresse, P. Bakopoulos, H. Avramopoulos, “Terabit direct-detection optical engines and switching circuits in multi-chip modules for Datacenter networks and the 5G optical fronthaul,” in Proc. 2022 Italian Conference on Optics and Photonics (ICOP), Trento, Italy, 2022, pp. 1-4.
- [Σ53] A. M. Grammatikaki, A. Raptakis, L. Gounaridis, A. Athanasopoulos, D. Gounaridis, P. Groumas, A. Dadoukis, E. Maltezos, L. Karagiannidis, E. Ouzounoglou, A. Amditis, H. Avramopoulos, and Ch. Kouloumentas, “Portable FT-NIR spectroscopic sensor for detection of chemical precursors of explosives using advanced prediction algorithms,” in Proc. SPIE 12139, Optical Sensing and Detection VII, 1213916 (17 May 2022).
- [Σ52] D. Zavitsanos, A. Ntanos, P. Toumasis, A. Raptakis, K. Tokas, K. Kanta, Ch. Kouloumentas, G. Giannoulis, and H. Avramopoulos, “On the Impact of Center Frequency Drifts on QKD Performance in WDM-based Nodes,” in Proc. 2021 Conference on Lasers and Electro-Optics Europe & European Quantum Electronics Conference (CLEO/Europe-EQEC), Munich, Germany, 2021, pp. 1-1.
- [Σ51] E. Maltezos, L. Karagiannidis, A. Dadoukis, K. Petousakis, F. Misichroni, E. Ouzounoglou, L. Gounaridis, D. Gounaridis, Ch. Kouloumentas, and A. Amditis, “Public safety in smart cities under the edge computing concept,” in Proc. of the IEEE International Mediterranean Conference on Communications and Networking (MeditCom), Athens, Greece, 7-10 September 2021.
- [Σ50] D. Gounaridis, L. Gounaridis, S. Giannikou, P. Groumas, C. Tsokos, A. Raptakis, E. Ouzounoglou, H. Avramopoulos, and Ch. Kouloumentas, “High performance refractive index sensor for real time monitoring of water composition change,” in Proc. of the Virtual Conference Aqua 360: Water for All - Emerging Issues and Innovations, Exeter UK, Aug. 31 - Sep. 2, 2021.
- [Σ49] C. Tsokos, E. Andrianopoulos, A. Raptakis, N. Lyras, L. Gounaridis, P. Groumas, H. Avramopoulos, and Ch. Kouloumentas, “Optical Beamforming Networks Supporting Multibeam and Multicast Operation,” in Proc.

2020 22nd International Conference on Transparent Optical Networks (ICTON), Bari, Italy, 2020, pp. 1-5, doi: 10.1109/ICTON51198.2020.9203380.

(Κατόπιν προσκλήσεως)

- [Σ48] P. Groumas, C. Tsokos, D. Felipe, U. Troppenz, R. Hersent, P. Bakopoulos, B. Atias, J. Y. Dupuy, A. Pagano, A. Chiado Piat, S. Kibben, L. Gounaridis, A. Raptakis, M. Seyfried, M. Moehrl, C. Kouloumentas, N. Keil and H. Avramopoulos, “Enabling low-cost, high-volume production compatible Terabit transceivers with up to 1.6 Tbps capacity and 100 Gbps per lane PAM-4 modulation for intra-data center optical interconnects up to 2 km: The TERIPHIC project approach,” In Proc. SPIE 11308, Metro and Data Center Optical Networks and Short-Reach Links III; 113080C (2020) <https://doi.org/10.1117/12.2545352>.
- [Σ47] D. Zavitsanos, G. Giannoulis, A. Raptakis, C. Kouloumentas, and H. Avramopoulos, “On the Filter Issues in Multiplexing Classical and QKD Links through WSS-based Nodes,” in Proc. Asia Communications and Photonics Conference (ACP) 2019, Chengdu, China, 2019, pp. 1-3, INSPEC Accession Number: 19343039.
- [Σ46] Dimitris Zavitsanos, Giannis Giannoulis, Adam Raptakis, Christos Papapanos, Fotini Setaki, Eleni Theodoropoulou, George Lyberopoulos, Christos Kouloumentas, and Hercules Avramopoulos, “Coexistence of Discrete-Variable QKD with WDM Classical Signals in the C-Band for Fiber Access Environments,” 2019 21st International Conference on Transparent Optical Networks (ICTON), Angers, France, 2019, pp. 1-5, doi: 10.1109/ICTON.2019.8840255.

(Κατόπιν προσκλήσεως)

- [Σ45] Lefteris Gounaridis, Panos Groumas, Erik Schreuder, Christos Tsokos, Elias Mylonas, Adam Raptakis, Rene Heideman, Hercules Avramopoulos, Christos Kouloumentas, “Design of ultra-compact multimode interference (MMI) couplers and high efficiency grating couplers in TriPleX platform as part of a photonic based sensor,” in Proc. SPIE 10921, Integrated Optics: Devices, Materials, and Technologies XXIII; 1092127 (2019), doi.org/10.1117/12.2510053.
- [Σ44] A. Romero, A. Ninot, J.F. Hermoso, I. Zergioti, Ch. Kouloumentas, H. Avramopoulos, H. Leeuwis, E. Schreuder, S. Graf, H. Knapp, L. Barthelmebs, T. Noguer, G. Tsekenis, L. Scheres, M. Smulders, H. Zuilhof, G. Heesink, L. Reguillo and A. Riskey, “BIOFOS: micro-ring resonator-based biophotonic system for food analysis. Nut mycotoxin detection,” Acta Horticulturae, Proc. VII International Symposium on Almonds and Pistachios Vol. 1219, 339-344, doi: 10.17660/ActaHortic.2018.1219.51.
- [Σ43] A. Romero, A. Ninot, J.F. Hermoso, I. Zergioti, C. Kouloumentas, H. Avramopoulos, H. Leeuwis, E. Schreuder, S. Graf, H. Knapp, L. Barthelmebs, T. Noguer, G. Tsekenis, L. Scheres, M. Smulders, H. Zuilhof, G. Heesink and L. Reguillo, “BIOFOS: a micro-ring resonator-based biophotonic system for food analysis - application to olive oil contaminants,” Acta Horticulturae, Proc. VIII Int. Olive Symposium Vol. 1219, pp. 339-343, doi 10.17660/ActaHortic.2018.1199.80.
- [Σ42] V. Katopodis, C. Tsokos, D. Felipe, M. Spyropoulou, A. Konczykowska, A. Aimone, P. Groumas, J.-Y. Dupuy, F. Jorge, H. Mardoyan, R. Rios-Müller, J. Renaudier, P. Jennevé, F. Boitier, A. Pagano, M. Quagliotti, D. Roccato, T. K. Johansen, M. Tienforti, A. Vannucci, H.-G. Bach, N. Keil, H. Avramopoulos, and Ch. Kouloumentas, “Optical Terabit Transmitter and Receiver Based on Passive Polymer and InP Technology for High-Speed Optical Connectivity Between Datacenters,” Proc. SPIE 10561, Next-Generation Optical Communication: Components, Sub-Systems, and Systems VII, 1056107 (29 January 2018); doi.org/10.1117/12.2290258

(Best Student Paper Award)

- [Σ41] P. Groumas, C. Tsokos, M. Kleinert, D. Marchenko, V. Katopodis, M. Dekkers, M. Falcucci, R. B. Timens, L. Gounaridis, C. G. Roeloffzen, A. Vannucci, R. G. Heideman, N. Keil, Ch. Kouloumentas, and H. Avramopoulos, “Photonic integration technology for the interface between the optical and wireless part in 5G networks: the H2020-ICT-HAMLET approach,” 2017 IEEE Photonics Society Summer Topical Meeting Series (SUM), San Juan, 2017, pp. 57-58, doi: 10.1109/PHOSST.2017.8012649.
- [Σ40] C. Tsokos, P. Groumas, V. Katopodis, H. Avramopoulos, and Ch. Kouloumentas, “Enabling Photonic Integration Technology for Microwave Photonics in 5G Systems,” 2017 19th International Conference on Transparent Optical Networks (ICTON), Girona, 2017, pp. 1-4, doi: 10.1109/ICTON.2017.8024906.

(Κατόπιν προσκλήσεως)

- [Σ39] M. Quagliotti, A. Pagano, D. Roccato, V. Katopodis, M. Spyropoulou, A. Beretta, A. Dede, A. Vannucci, Ch. Kouloumentas, and H. Avramopoulos, “Power and cost savings in metro and data center networks using optical transceivers based on a polymeric substrate,” 19th Italian National Conference on Photonic Technologies (Fotonica 2017), Padua, 2017, pp. 1-4, doi: 10.1049/cp.2017.0180.

- [Σ38] L. Gounaridis, P. Groumas, E. Schreuder, G. Tsekenis, R. Heideman, H. Avramopoulos, and Ch. Kouloumentas, “Low Q-factor ring resonators with ultra-low limit of detection based on FFT processing of spectral scanning data,” in Conference on Lasers and Electro-Optics, OSA Technical Digest (online) (Optical Society of America, 2017), paper JW2A.78.
- [Σ37] V. Katopodis, M. Spyropoulou, C. Tsokos, P. Groumas, D. Felipe, N. Keil, A. Beretta, A. Vannucci, T. K. Johansen, M. Quagliotti, A. Pagano, J.-Y. Dupuy, A. Konczykowska, C. Delezoide, H. Mardoyan, Ch. Kouloumentas, and H. Avramopoulos, “Polarization-, carrier-, and format-selectable optical flow generation based on a multi-flow transmitter using passive polymers,” in Proc. of International Conference on Transparent Optical Networks 2016 (ICTON’16), Article Number 7550583, Trento, Italy, July 2016, doi: 10.1109/ICTON.2016.7550583.
- (Κατόπιν προσκλήσεως)**
- [Σ36] Z. Zhang, V. Katopodis, P. Groumas, A. Konczykowska, J.-Y. Dupuy, A. Beretta, A. Dede, E. Miller, J.-H. Choi, P. Harati, F. Jorge, V. Nodjiadjim, R. Dinu, G. Cangini, A. Vannucci, D. Felipe, A. Maese-Novo, N. Keil, H.-G. Bach, M. Schell, H. Avramopoulos, and Ch. Kouloumentas, “Passive and electro-optic polymer photonics and InP electronics integration,” in Proc. SPIE 9516, Integrated Optics: Physics and Simulations II, 951603, Prague, Czech Republic, May 2015, doi:10.1117/12.2179221.
- [Σ35] V. Katopodis, Z. Zhang, P. Groumas, A. Konczykowska, J.-Y. Dupuy, A. Beretta, A. Dede, E. Miller, J.-H. Choi, P. Harati, F. Jorge, V. Nodjiadjim, R. Dinu, G. Cangini, A. Vannucci, N. Keil, H.-G. Bach, N. Grote, H. Avramopoulos, and Ch. Kouloumentas, “Tunable Transmitter for Serial 100 Gb/s Connectivity Inside Flexible Data Centers Using Hybrid Polymer Integration,” in Proc. Optical Fiber Communication Conference 2015 (OFC’15), paper Tu2A.3, Los Angeles, USA, March 2015, doi: 10.1364/OFC.2015.Tu2A.3.
- (Βράβευση ως top-scoring paper)**
- [Σ34] H. Avramopoulos, V. Katopodis, P. Groumas, L. Gounaridis, A. Konczykowska, Z. Zhang, G. De Valicourt, R. Dinu, A. Vannucci, T.K. Johansen, A. Pagano, and Ch. Kouloumentas, “Passive and electro-optic polymer photonics and InP electronics integration for multi-flow terabit transceivers at edge SDN switches and data-center gateways,” in Proc. of International Conference on Transparent Optical Networks 2014 (ICTON’14), Article Number 6876540, Graz, Austria, July 2014, doi: 10.1109/ICTON.2014.6876540.
- (Κατόπιν προσκλήσεως)**
- [Σ33] N. Vainos, D. Alexandropoulos, T. Politi, C. Matrakidis, G. Dede, T. Kamalakis, Ch. Kouloumentas, H. Avramopoulos, S. Couris, T. Rokkas, D. Varoutas, M. Vasilopoulou, D. Davazoglou, G. Pistolis, P. Argitis, “Polymer photonic technologies for optical communications,” in Proc. of International Conference on Transparent Optical Networks 2013 (ICTON’13), Article Number 6603053, Cartagena, Spain, June 2013, doi: 10.1109/ICTON.2013.6603053.
- (Κατόπιν προσκλήσεως)**
- [Σ32] M. Moehrle, Z. Zhang, H. Klein, D. de Felipe, W. Rehbein, W. Brinker, C. Zawadzki, N. Keil, N. Grote, P. Groumas, Ch. Kouloumentas, R. Dinu, E. Miller, “Thermo-optically Tunable Polymer-based Waveguide Bragg-Grating Lasers for the C-Band Domain”, Techn. Dig. Latin America Optics & Photonics Conf. (LAOP 2012), paper LS4A.2, Sao Sebastiao, Brazil, November 2012. doi: 10.1364/LAOP.2012.LS4A.2.
- [Σ31] V. Katopodis, Ch. Kouloumentas, A. Konczykowska, F. Jorge, P. Groumas, Z. Zhang, A. Beretta, A. Dede, J.-Y. Dupuy, V. Nodjiadjim, Giulio Cangini, G. Von Büren, E. Miller, R. Dinu, N. Keil, H.-G. Bach, N. Grote, A. Vannucci, and H. Avramopoulos, “Integrated Transmitter for 100 Gb/s OOK Connectivity Based on Polymer Photonics and InP-DHBT Electronics,” in Proc. of European Conference on Optical Communications 2012 (ECOC’12), paper Th.3.B.4, Amsterdam, The Netherlands, September 2012, doi: 10.1364/ECEOC.2012.Th.3.B.4.
- (ECOC Post-Deadline Paper)**
- [Σ30] P. Groumas, Z. Zhang, D. de Felipe, V. Katopodis, Ch. Kouloumentas, R. Dinu, E. Miller, J. Mallari, G. Cangini, N. Keil, H. Avramopoulos, and N. Grote, “Novel Photonic Integration Platform Based on Electro-Optic Polymers,” in Proc. of European Conference on Optical Communications 2012 (ECOC’12), paper P2.05, Amsterdam, The Netherlands, September 2012. doi: 10.1364/ECEOC.2012.P2.05.
- [Σ29] M. Bougioukos, L. Gleeson, P. Zakynthinos, M. Spyropoulou, S. Dris, R. Magri, M. Camera, D. Klonidis, I. Tomkos, B. Schrenk, P. Bakopoulos, D. Apostolopoulos, Ch. Kouloumentas, D. Rogers, A. Poustie, G. Maxwell, R. Stoffer, T. Korthorst, K-O Velthaus, Ronald Kaiser, Ludwig Moerl, Katarina Boustedt, and Hercules Avramopoulos, “Transmission performance of mixed line-rate and format DWDM traffic using a 10x10Gb/s photonic integrated transceiver array for low-cost metro networks,” in Proc. Optical Fiber

Communication Conference 2012 (OFC'12), paper OTu1G.2, Los Angeles, USA, March 2012, doi: 10.1364/OFC.2012.OTu1G.2.

- [Σ28] M. Bougioukos, B. Schrenk, A. Maziotis, M. Spyropoulou, Ch. Kouloumentas, K.-O. Velthaus, R. Kaiser, A. Poustie, G. Maxwell, K. Boustedt, R. Magri, and H. Avramopoulos, "Dense WDM-PON with 23(46) Gb/s/λ D(Q)PSK Aggregation in the Feeder and Micro-Ring Resonator Assisted ONUs," in Proc. Optical Fiber Communication Conference 2012 (OFC'12), paper OW1B.6, Los Angeles, USA, March 2012, doi: 10.1364/OFC.2012.OW1B.6.
- [Σ27] M. Bougioukos, D. Klonidis, A. Maziotis, M. Spyropoulou, P. Gkroumas, D. Apostolopoulos, C. Kouloumentas, P. Bakopoulos, R. Harmon, D. Rogers, J. Harrison, A. Poustie, G. Maxwell, I. Tomkos, and H. Avramopoulos, "Simultaneous multi-format regeneration in a large-scale photonic integrated circuit," in Proc. of European Conference on Optical Communications 2011 (ECOC'11), paper We.10.P1.38, Geneva Switzerland, September 2011.
- [Σ26] Ch. Kouloumentas, M. Bougioukos, M. Spyropoulou, D. Klonidis, G. Giannoulis, D. Kalavrouziotis, A. Maziotis, P. Gkroumas, D. Apostolopoulos, P. Bakopoulos, A. Poustie, G. Maxwell, K.O. Velthaus, R. Kaiser, L. Moerl, I. Tomkos, and H. Avramopoulos, "Agile photonic integrated systems-on-chip enabling WDM terabit networks," in Proc. of International Conference on Transparent Optical Networks 2011 (ICTON'11), paper Tu.D6.3, Stockholm, Sweden, June-July 2011, doi: 10.1109/ICTON.2011.5971010. **(Κατόπιν προσκλήσεως)**
- [Σ25] J. Lazaro, V. Polo, B. Schrenk, F. Bonada, I. Cano, E. Lopez, C. Kazmierski, G. de Valicourt, R. Brenot, J. Bauwelinck, X. Qiu, P. Ossieur, M. Forzati, P. Rigole, I. Monroy, Eduward Tangdiongga, M. Morant, L. Nicolau, A. Teixeira, D. Erasme, D. Klonidis, I. Tomkos, J. Prat, Ch. Kouloumentas, H. Avramopoulos, "Optical Subsystems for Next Generation Access Networks," in Proc. of Access Networks and In-House Communications 2011 (ANIC'11), paper AMD4, Toronto, Canada, June 2011, doi: 10.1364/ANIC.2011.AMD4. **(Κατόπιν προσκλήσεως)**
- [Σ24] M. Spyropoulou, M. Bougioukos, G. Giannoulis, Ch. Kouloumentas, D. Kalavrouziotis, A. Maziotis, P. Bakopoulos, R. Harmon, D. Rogers, J. Harrison, A. Poustie, G. Maxwell, and H. Avramopoulos, "Large-scale photonic integrated circuit for multi-format regeneration and wavelength conversion," in Proc. Optical Fiber Communication Conference 2011 (OFC'11), paper OThY2, San Diego, USA, March 2011, doi: 10.1364/OFC.2011.OTHy2. **(Student Paper Award)**
- [Σ23] H. Brahmi, M. Bougioukos, M. Menif, A. Maziotis, C. Stamatiadis, Ch. Kouloumentas, D. Apostolopoulos, H. Avramopoulos, and D. Erasme, "Experimental demonstration of an all-optical packet forwarding gate based on a single SOA-MZI at 40 Gb/s," in Proc. Optical Fiber Communication Conference 2011 (OFC'11), paper OMK5, San Diego, USA, March 2011, doi: 10.1364/OFC.2011.OMK5.
- [Σ22] C. Reis, P. Andre, R. Dionisio, B. Neto, A. Teixeira, A. Maziotis, Ch. Kouloumentas, C. Stamatiadis, M. Bougioukos, H. Avramopoulos, N. Calabretta, H.J.S. Dorren, "Experimental evaluation of all-optical asynchronous and synchronous memories," in Proc. of International Computer Engineering Conference 2010 (ICENCO'10), pp. 26-28, Giza, Egypt, December 2010, doi: 10.1109/ICENCO.2010.5720420.
- [Σ21] E. Tipsuwannakul, M. Galili, M. Bougioukos, Maria Spyropoulou, J. Seoane, B. Zsigri, C. Peucheret, C. Lundström, G.-Wei Lu, P. O. Hedekvist, Ch. Kouloumentas, H. Avramopoulos, C. Ware, D. Erasme, P. Andrekson, "0.87 Tbit/s 160 Gbaud Dual-Polarization D8PSK OTDM Transmission over 110 km," in Proc. of European Conference on Optical Communications 2010 (ECOC'10), paper We.6.C.4, Turin, Italy, September 2010, doi: 10.1109/ECOC.2010.5621495.
- [Σ20] J. Lazaro, J. Fabrega, Ch. Kouloumentas, J. Prat, "Enhancing Dynamic Student Learning by Teamwork in Innovative Projects at an Erasmus Mundus Master Subject Adapted to the EHEA (EEES)," in Proc. of VI International Congress of University Teaching and Innovation 2010 (CIDUP'10), pp. Doc668-1-Doc668-23, Barcelona Spain, June-July 2010, url: <http://hdl.handle.net/2117/12036>.
- [Σ19] Ch. Kouloumentas, M. Bougioukos, A. Maziotis, and H. Avramopoulos, "Phase-incoherent DPSK regeneration using a fiber-Sagnac interferometer," in Proc. Optical Fiber Communication Conference 2010 (OFC'10), paper OMT5, San Diego, USA, March 2010, doi: 10.1364/OFC.2010.OMT5.
- [Σ18] J. Leuthold, R. Bonk, P. Vorreau, S. Sygletos, D. Hillerkuss, W. Freude, G. Zarris, D. Simeonidou, Ch. Kouloumentas, M. Spyropoulou, I. Tomkos, F. Parmigiani, P. Petropoulos, D.J. Richardson, R. Weerasuriya, S. Ibrahim, A.D. Ellis, R. Morais, P. Monteiro, S. Ben Ezra, S. Tsadka, "All-optical grooming for 100 Gbit/s

Ethernet,” in Proc. of SPIE 7621, Optical Metro Networks and Short-Haul Systems II, paper 762107, San Francisco, USA, Jan. 2010, doi: 10.1117/12.849029.

- [Σ17] P. Zakyntinos, Ch. Kouloumentas, M. Bougioukos, P. Bakopoulos, E. Kehayas, A. Poustie, G. Maxwell and H. Avramopoulos, “Multi-format all-optical 40Gb/s regeneration using an integrated SOA-MZI,” in AIP Conf. Proc. 1288, 93, Delphi Greece, October 2009, doi: 10.1063/1.3521381.
- [Σ16] A. Maziotis, C. Stamatiadis, Ch. Kouloumentas, K. Vysokinos and N. Pleros, “Dual-User Wireless Heterogeneous Services over a Single Optical Carrier using Optical Frequency Multiplication,” in IEEE LEOS Annual Meeting Conference Proceedings, pp. 691-692, Belek-Antalya, Turkey, October 2009, doi: 10.1109/LEOS.2009.5343383.
- [Σ15] K. Vysokinos, L. Stampoulidis, Z. Sheng, E. Kehayas, P. Bakopoulos, D. Petrantonakis, C. Stamatiadis, Ch. Kouloumentas, P. Zakyntinos, R. Dekker, E.J. Klein, D.V. Thourhout, M.T. Korthorst, H. Avramopoulos, “High-order micro-ring resonator assisted wavelength converters for scalable and power efficient photonic routers,” in Proc. of European Conf. on Optical Comm. 2009 (ECOC’09), paper P2.08, Vienna, Austria, Sept. 2009, url: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5287341&isnumber=5286960>.
- [Σ14] P. Bakopoulos, P. Zakyntinos, E. Kehayas, L. Stampoulidis, F. Fresi, C. Porzi, N. Calabretta, Ch. Kouloumentas, D. Petrantonakis, A. Maziotis, C. Stamatiadis, D. Apostolopoulos, M. Guina, D. Klonidis, L. Poti, E. Tangdionga, A. Poustie, G. Maxwell, I. Tomkos, A. Bogoni, H.J.S. Dorren and H. Avramopoulos, “160 Gb/s All-Optical Contention Resolution with Prioritization using Integrated Photonic Components,” in Proc. of European Conference on Optical Communications 2009 (ECOC’09), paper 6.3.5, Vienna, Austria, Sept. 2009, url: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5287142&isnumber=5286960>.
- [Σ13] J. Leuthold, R. Bonk, P. Vorreau, S. Sygletos, D. Hillerkuss, W. Freude, G. Zarris, D. Simeonidou, Ch. Kouloumentas, M. Spyropoulou, I. Tomkos, F. Parmigiani, P. Petropoulos, D.J. Richardson, R. Weerasuriya, S. Ibrahim, A.D. Ellis, C. Meuer, D. Bimberg, R. Morais, P. Monteiro, S. Ben Ezra, S. Tsadka, “An all-optical grooming switch with regenerative capabilities,” in Proc. of International Conference on Transparent Optical Networks 2009 (ICTON’09), paper We.A3.4, Azores, Portugal, June-July 2009, doi: 10.1109/ICTON.2009.5185189.
- [Σ12] C. Stamatiadis, Ch. Kouloumentas, P. Zakyntinos, and H. Avramopoulos, “Rep Rate Multiplication of Pseudo-Random Bit Sequences,” in Proc. Optical Fiber Communication Conference 2009 (OFC’09), paper OThF1, San Diego, USA, March 2009, doi: 10.1364/OFC.2009.OThF1.
- [Σ11] C. Stamatiadis, D. Petrantonakis, P. Bakopoulos, E. Kehayas, P. Zakyntinos, Ch. Kouloumentas, L. Stampoulidis, R. Dekker, E. J. Klein and H. Avramopoulos, “First Demonstration of WDM-enabled All-Optical Wavelength Conversion with a SOA and a 2nd Order Microring Resonator ROADM,” in Proc. Optical Fiber Communication Conference 2009 (OFC’09), paper PDPA8, San Diego, USA, March 2009, url: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5033003&isnumber=5032267>.

(OFC Post-Deadline Paper)

- [Σ10] P. Petropoulos, L. Provost, F. Parmigiani, Ch. Kouloumentas, C. Finot, K. Mukasa, P. Vorreau, I. Tomkos, S. Sygletos, W. Freude, J. Leuthold, A.D. Ellis, D.J. Richardson, “Simultaneous 2R regeneration of WDM signals in a single optical fibre,” in Proc. IEEE/LEOS Winter Topicals Meeting Series, paper WC2.2, pp. 252-253, Innsbruck, Austria, January 2009, doi: 10.1109/LEOSWT.2009.4771753.

(Κατόπιν προσκλήσεως)

- [Σ9] P. Vorreau, Ch. Kouloumentas, L. Provost, I. Tomkos, W. Freude, J. Leuthold, “Simultaneous processing of 43 Gb/s WDM channels by a fiber-based dispersion-managed 2R regenerator,” in Proc. of European Conference on Optical Communications 2008 (ECOC’08), paper Th.1.B.3, Brussels, Belgium, September 2008, doi: 10.1109/ECOC.2008.4729369.
- [Σ8] L. Provost, Ch. Kouloumentas, F. Parmigiani, S. Tsolakidis, I. Tomkos, P. Petropoulos, D. J. Richardson, “Experimental Investigation of a Dispersion-Managed Multi-Channel 2R Optical Regenerator,” in Proc. Optical Fiber Communication Conference 2008 (OFC’08), paper OThJ3, San Diego, USA, February 2008, doi: 10.1109/OFC.2008.4528478.
- [Σ7] Ch. Kouloumentas, N. Pleros, P. Zakyntinos, D. Petrantonakis, D. Apostolopoulos, O. Zouraraki, A. Tzanakaki, H. Avramopoulos, I. Tomkos, “Packet clock recovery at 40 Gb/s and beyond, using a Fabry-Perot filter and an optical power limiter based on a bismuth oxide fiber,” in Proc. of European Conference on Lasers and Electro-Optics and the International Quantum Electronics Conference 2007 (CLEOE-IQEC), Article Number 4386413, Munich, Germany, Jun 2007, doi: 10.1109/CLEOE-IQEC.2007.4386413.

- [Σ6] Ch. Kouloumentas and I. Tomkos, “Fiber-based in-line regeneration scheme for multichannel operation at 40 Gb/s,” in Proc. of European Conference on Lasers and Electro-Optics and the International Quantum Electronics Conference 2007 (CLEOE-IQEC), Article Number 4386416, Munich, Germany, Jun 2007, doi: 10.1109/CLEOE-IQEC.2007.4386416.
- [Σ5] G. Giuliani, S. Donati, A. Villafranca, J. Lasobras, I. Garces, M. Chacinski, R. Schatz, Ch. Kouloumentas, D. Klonidis, I. Tomkos, P. Landais, R. Escorihuela, J. Rorison, J. Pozo, A. Fiore, P. Moreno, M. Rossetti, W. Elsässer, J.-V. Staden, G. Huyet, M. Saarinen, M. Pessa, P. Leinonen, V. Vilokkinen, M. Sciamanna, J. Danckaert, K. Panajotov, T. Fordell, A. Lindberg, J.-F. Hayau, J. Poette, P. Besnard, F. Grillot, M. Pereira, R. Nelander, A. Wacker, A. Tredicucci, R. Green, “Round-Robin measurements of linewidth enhancement factor of semiconductor lasers in cost 288 action,” in Proc. of European Conference on Lasers and Electro-Optics and the International Quantum Electronics Conference 2007 (CLEOE-IQEC), Article Number 4385967, Munich, Germany, Jun 2007, doi: 10.1109/CLEOE-IQEC.2007.4385967.
- [Σ4] A. Villafranca, J. Lasobras, I. Garces, G. Giuliani, S. Donati, M. Chacinski, R. Schatz, Ch. Kouloumentas, D. Klonidis, I. Tomkos, P. Landais, R. Escorihuela, J. Rorison, J. Pozo, A. Fiore, P. Moreno, M. Rossetti, W. Elsässer, J. Von Staden, G. Huyet, M. Saarinen, M. Pessa, P. Leinonen, V. Vilokkinen, M. Sciamanna, J. Danckaert, K. Panajotov, T. Fordell, A. Lindberg, J.-F. Hayau, J. Poette, P. Besnard, F. Grillot, “Linewidth Enhancement Factor of Semiconductor Lasers: Results from Round-Robin Measurements in COST 288,” in Proc. of Conference on Lasers and Electro-Optics 2007 (CLEO’07), paper CThK1, Baltimore, USA, May 2007, doi: 10.1109/CLEO.2007.4452795.
- [Σ3] Ch. Kouloumentas, A. Tzanakaki, and I. Tomkos, “All-Optical Multicasting Subsystem with Regenerative Capabilities,” in Proc. of International Symposium on Communication Systems, Networks and Digital Signal processing 2006 (CSNDSP’06), paper B3.1, Patras, Greece, July 2006.
- [Σ2] Ch. Kouloumentas, A. Tzanakaki, and I. Tomkos, “All-Optical Clock Recovery at 160 Gb/s and beyond, based on a Fabry-Pérot Filter and Self-Phase Modulation Effect,” in Proc. of International Conference on Transparent Optical Networks 2006 (ICTON’06), Article number 4013654, Nottingham, UK, June 2006, doi: 10.1109/ICTON.2006.248240.
- [Σ1] S. Psilodimitrakopoulos, G. Filippidis, Ch. Kouloumentas, D. Yova, “Combined two-photon excited fluorescence and second harmonic generation imaging microscopy of collagen structures,” in Proc. SPIE 6089, Multiphoton Microscopy in the Biomedical Sciences VI, 6089 1P, San Jose, USA, January 2006, doi:10.1117/12.644478.

Επιπλέον δημοσιεύσεις μη καταγεγραμμένες σε κύριες μηχανές αναζήτησης

- [EΔ5] I. Nellas, Ch. Kouloumentas, I. Tomkos, “Performance optimization study of a fiber-based all optical multi-wavelength 2R regenerator at 10 Gb/s,” in Proc. of European Conference on Networks and Optical Communications 2009 (NOC’09), pp. 369-374, 2009.
- [EΔ4] Ch. Kouloumentas, A. Barlas, A. Tzanakaki, and I. Tomkos, “Performance Evaluation of 2R regenerator based on SPM in HNL fibers”, in Proc. of workshop on the Design of next generation optical networks within the framework of COST 289 action, Brussels, Belgium, November 2006.
- [EΔ3] George Filippidis, Christos Kouloumentas, Giannis Voglis, Nektarios Tavernarakis, Theodore G. Papazoglou, “Imaging of Caenorhabditis elegans neurons by second-harmonic generation and two-photon excitation fluorescence,” Laser Olympics Conference, Hellenic Scientific Society of Laser’s Medical Applications, Eugenides Foundation, Athens, Greece, October 2004.
- [EΔ2] George Filippidis, Christos Kouloumentas, George Skalkos, Giannis Voglis, Nektarios Tavernarakis, Theodore G. Papazoglou, “Imaging of Caenorhabditis elegans samples and sub/cellular localization of new generation photo-sensitizers for photodynamic therapy, using non-linear microscopy,” Laser Olympics Conference, Hellenic Scientific Society of Laser’s Medical Applications, Athens, Greece, Eugenides Foundation, October 2004.
- [EΔ1] Christos Kouloumentas and Fuhai Lu, “Design of a 10 MW T-Combiner,” Internal Deutsches Elektronen SYnchrotron (DESY) Post, Hamburg, Germany, June 2001.

Συγγραφή κεφαλαίων επιστημονικών βιβλίων

- [B01] P. Cousin, A. Moumtzidou, A. Karakostas, L. Gounaridis, Ch. Kouloumentas, M. F. Pereira, A. Apostolakis, P. Gorrochategui, G. Aoust, and B. Lebental, “Instrumentation and Measurement Technologies for Water Cycle Management,” Chapter 11: Improving Water Quality and Security with Advanced Sensors and Indirect Water Sensing Methods, Springer Water, ISBN 978-3-031-08262-7, 2022.

Διπλώματα ευρεσιτεχνίας και αιτήσεις διπλωμάτων ευρεσιτεχνίας

ΔΕ 20180100487: Ελληνικό Δίπλωμα Ευρεσιτεχνίας από τον Οργανισμό Βιομηχανικής Ιδιοκτησίας.

Τίτλος: Οπτικό φίλτρο πεπερασμένης κρουστικής απόκρισης με ευελιξία ως προς τον ρυθμό λειτουργίας και δυνατότητα πολυκυματικής λειτουργίας, βασιζόμενο σε ολοκληρωμένες γραμμές καθυστέρησης με μικροδακτύλιους συντονισμού.

Εφευρέτες: X. Κουλουμέντας, X. Τσώκος, Π. Γκρούμας, Ε. Γουναρίδης, Η. Μυλωνάς.

EP3874327: Ευρωπαϊκό Δίπλωμα Ευρεσιτεχνίας από τον Ευρωπαϊκό Οργανισμό Ευρεσιτεχνιών (European Patent Office). Σχετίζεται με την ίδια εφεύρεση του ΔΕ 20180100487.

Τίτλος: Optical finite impulse response filter with rate flexibility and multi-wavelength operation capability based on integrated delay lines with micro-ring resonators.

Εφευρέτες: Ch. Kouloumentas, C. Tsokos, P. Gkroumas, E. Gounaridis, E. Mylonas.

PCT WO/2023/144590: Διεθνής αίτηση στα πλαίσια της συνθήκης συνεργασίας ευρεσιτεχνιών International Patent Cooperation Treaty (PCT).

Τίτλος: Active optical sensors for 1D and 2D imaging based on optical phased arrays, broadband input light from incoherent light sources and spectral analysis of the back-reflected light.

Εφευρέτες: Ch. Kouloumentas, A. Raptakis, P. Gkroumas

US 2025/0208354 A1: Αίτηση για χορήγηση διπλώματος ευρεσιτεχνίας προς το US Patent and Trademark Office (USPTO).

Τίτλος: Waveguide-Grating Coupler Comprising a Vertically Tapered Region

Εφευρέτες: Ch. Kouloumentas, Lefteris Gounaridis, Philip Paul Joao Schrinner, Panagiotis Gkroumas.