Alexandros PITILAKIS

Publications (October 2023)

A. Peer-reviewed journals

[J.01] Tsilipakos O., **Pitilakis A.**, Tasolamprou A. C., Yioultsis T. V., and Kriezis Em. E., "Computational Techniques for the Analysis and Design of Dielectric-Loaded Plasmonic Circuitry," *Optical and Quantum Electronics*, **vol. 42**, pp. 541-555, (2011). [DOI Link]

[J.02] **Pitilakis A.**, Zografopoulos D. C, and Kriezis Em. E., "In-line Polarization Controller Based on Liquid Crystal Photonic Crystal Fibers," *IEEE/OSA Journal of Lightwave Technology*, **vol. 29**, No. 17, pp. 2560-2569, (2011). [DOI Link]

[J.03] Papaioannou S., Vyrsokinos K., Tsilipakos O., Pitilakis A., Hassan K., Weeber J.-C., Markey L., Dereux A., Bozhevolnyi S. I., Miliou A., Kriezis Em. E., and Pleros N., "A 320Gb/s-throughput capable 2x2 Silicon-Plasmonic Router Architecture for Optical Interconnects," *IEEE/OSA Journal of Lightwave Technology*, **vol. 29**, No. 21, pp. 3185-3195, (2011). [DOI Link]

[J.04] **Pitilakis A.** and Kriezis Em. E., "Longitudinal 2x2 Switching Configurations Based on Thermo-Optically Addressed Dielectric-Loaded Plasmonic Waveguides," *IEEE/OSA Journal of Lightwave Technology*, **vol. 29**, No. 17, pp. 2636-2646, (2011). [DOI Link]

[J.05] Hassan K, Weeber J.-C., Markey L., Dereux A., **Pitilakis A.**, Tsilipakos O., and Kriezis Em. E., "Thermo-optic plasmo-photonic mode interference switches based on dielectric loaded waveguides," *Applied Physics Letters*, **vol. 99**, 241110, (2011). [DOI Link]

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[J.07] Tsilipakos O., **Pitilakis A.**, Yioultsis T. V., Papaioannou S., Vyrsokinos K., Kalavrouziotis D., Giannoulis G., Apostolopoulos D., Avramopoulos H., Tekin T., Baus M., Karl M., Hassan K., Weeber J.-C., Markey L., Dereux A., Kumar A., Bozhevolnyi S. I., Pleros N., and Kriezis Em. E., "Interfacing Dielectric-Loaded Plasmonic and Silicon Photonic Waveguides: Theoretical Analysis and Experimental Demonstration," *IEEE Journal of Quantum Electronics*, **vol. 48**, No. 5, pp. 678-687, (2012). [DOI Link]

[J.08] Kalavrouziotis D., Papaioannou S., Giannoulis G., Apostolopoulos D., Hassan K., Markey L., Weeber J.-C., Dereux A., Kumar A., Bozhevolnyi S. I., Baus M., Karl M., Tekin T., Tsilipakos O., **Pitilakis A.**, Kriezis Em. E., Avramopoulos H., Vyrsokinos K., and Pleros N., "0.48Tb/s (12x40Gb/s) WDM transmission and high-quality thermo-optic switching in dielectric loaded plasmonics," *Optics Express*, **vol. 20**, No. 7, pp. 7655-7662, (2012). [DOI Link]

[J.09] **Pitilakis A.** and Kriezis Em. E., "Highly-nonlinear hybrid silicon-plasmonic waveguides: analysis and optimization," *Journal of the Optical Society of America B*, **vol. 30**, No. 7, pp. 1954-1965, (2013). [DOI Link]

[J.10] Zografopoulos D. C., **Pitilakis A.**, and Kriezis Em. E., "Dual-Band Tunable Polarization Splitter Based on Dual-Core Liquid-Crystal Photonic Crystal Fibers," *Applied Optics*, **vol. 52**, No. 26, pp. 6439-6444, (2013). [DOI Link]

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[J.13] **Pitilakis A.**, Chatzidimitriou D., and Kriezis Em. E., "Theoretical and numerical modeling of linear and nonlinear propagation in graphene waveguides," *Optical and Quantum Electronics*, **vol. 48**, Art. No. 243, pp. 1-22, (2016). [DOI Link]

[J.14] Sinatkas G., **Pitilakis A.**, Zografopoulos D. C., Beccherelli R., and Kriezis Em. E., "Transparent conducting oxide electro-optic modulators on silicon platforms: A comprehensive study based on the drift-diffusion semiconductor model," *Journal of Applied Physics*, **vol. 121**, 023109, (2017). [DOI Link]

[J.15] Liu, F., Tsilipakos, O., **Pitilakis, A.**, Tasolamprou, A.C., Mirmoosa, M.S., Kantartzis, N.V., Kwon, D.-H., Kafesaki, M., Soukoulis, C.M., and Tretyakov, S.A., "Intelligent Metasurfaces with Continuously Tunable Local Surface Impedance for Multiple Reconfigurable Functions", *Physical Review Applied*, **vol. 11**, No. 4, Art. No. 044024 (2019). [DOI Link]

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[J.17] Kossifos, K.M., Petrou, L., Varnava, G., **Pitilakis, A.**, Tsilipakos, O., Liu, F., Karousios, P., Tasolamprou, A.C., Seckel, M., Manessis, D., Kantartzis, N.V., Kwon, D.-H., Antoniades, M.A. & Georgiou, J., "Toward the Realization of a Programmable Metasurface Absorber Enabled by Custom Integrated Circuit Technology", *IEEE Access*, **vol.** 8, pp. 92986-92998 (2020). [DOI Link]

[J.18] Taghvaee, H., Abadal, S., **Pitilakis, A.**, Tsilipakos, O., Tasolamprou, A.C., Liaskos, C., Kafesaki, M., Kantartzis, N.V., Cabellos-Aparicio, A. & Alarcon, E., "Scalability Analysis of Programmable Metasurfaces for Beam Steering", *IEEE Access*, **vol.** 8, pp. 105320-105334 (2020). [DOI Link]

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[J.21] C. Liaskos, G. G. Pyrialakos, **A. Pitilakis**, A. Tsioliaridou, M. Christodoulou, N. Kantartzis, S. Ioannidis, A. Pitsillides, I. F. Akyildiz, "The Internet of MetaMaterial Things and their software enablers," *ITU Journal of Future and Evolving Technologies*, **vol. 1**, no. 1, (2020). [DOI Link]

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[J.25] **A. Pitilakis**, M. Seckel, A. C. Tasolamprou, F. Liu, A. Deltsidis, D. Manessis, A. Ostmann, N. V. Kantartzis, C. Liaskos, C. M. Soukoulis, S. A. Tretyakov, M. Kafesaki, and O. Tsilipakos, "Multi-functional metasurface architecture for amplitude, polarization and wavefront control", *Phys. Rev. Applied*, **vol. 17**, no. 6., 064060 (2022). [DOI Link]

[J.26] **A. Pitilakis** and E. E. Kriezis, "Ultrafast pulse propagation in graphene-comprising nanophotonic waveguides considering nonperturbative electrodynamic nonlinearity", *Journal of the Optical Society of America B*, **vol. 39**, no. 9, pp. 2723-2734, September (2022). [DOI Link]

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B. Book Chapters

[B.1] Papaioannou S., Vyrsokinos K., Kalavrouziotis D., Giannoulis G., Apostolopoulos D., Avramopoulos H., Zacharatos F., Hassan K., Weeber J.-C., Markey L., Dereux A., Kumar A., Bozhevolnyi S. I., Suna A, Gili de Villasante O., Tekin T., Waldow M., Tsilipakos O., **Pitilakis A.**, Kriezis Em. E., and Pleros N., "Merging Plasmonics and Silicon Photonics towards Greener and Faster "Network-on-Chip" Solutions for Data Centers and High-Performance Computing Systems," pp. 26, chapter 21 in *Plasmonics – Principles and Applications* (edited by Ki Young Kim), InTechOpen, 2012. [DOI Link (Chapter)]

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[B.4] F. Liu, X. Wang, M.S. Mirmoosa, S. Tretyakov, O. Tsilipakos, A.C. Tasolamprou, M. Kafesaki, **A. Pitilakis**, N.V. Kantartzis, D.-H. Kwon, "Electromagnetic Specifications and Prototype Designs of Software-Defined Surfaces", pp. 1-69, chapter 3 in *The Internet of Materials* (edited by C. Liaskos), CRC press, 2020. [DOI Link (Book)]

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[B.6] H. Taghvaee, S. Abadal, E. Alarcon, A. Cabellos-Aparicio, T. Saeed, A. Pitsillides, O. Tsilipakos, C. Liaskos, A. Tasolamprou, M. Kafesaki, **A. Pitilakis,** N.V. Kantartzis, V. Soteriou, M. Lestas, "The Scaling Laws of HyperSurfaces", pp. 1-41, chapter 8 in *The Internet of Materials* (edited by C. Liaskos), CRC press, 2020. [DOI Link (Book)]

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C. Conference Proceedings

[C.01] Antona J.-C., Sève E., Pitilakis A., Ramantanis P., and Bigo S., "Design and performance prediction in meshed networks with mixed fiber types," *Conference on Optical Fiber Communication* and *National Fiber Optic Engineers Conference, OFC/NFOEC 2008*, (San Diego, USA), (2008). [DOI Link]

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[C.24] **Pitilakis A.**, Tsilipakos O., Tasolamprou A.C., Liaskos C., Kantartzis N.V., Economou E.N., Kafesaki M., and Soukoulis C.M., "Modeling and Simulation of Tunable Software-Defined Metasurfaces", *15th International Conference on Nanosciences & Nanotechnologies, Nanotexnology NN18*, (Thessaloniki, Greece), (2018). [Program Link]

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[C.26] O. Tsilipakos, F. Liu, A. Pitilakis, A. C. Tasolamprou, D. -. Kwon, M. S. Mirmoosa, N. V. Kantartzis, E. N. Economou, M. Kafesaki, C. M. Soukoulis, and S. A. Tretyakov, "Tunable Perfect Anomalous Reflection in Metasurfaces with Capacitive Lumped Elements", *12th International Congress on Artificial Materials for Novel Wave Phenomena, Metamaterials 2018*, (Espoo, Finland), (2018). [DOI Link]

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D. Doctoral Dissertation

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