CURRICULUM VITAE

Odysseas TSILIPAKOS



Associate Researcher (Assist. Prof. level)
Theoretical and Physical Chemistry Institute
National Hellenic Research Foundation
48 Vassileos Constantinou Avenue
Athens 11635, Greece

Phone: +30 210 7273797
E-mail: otsilipakos@eie.gr
Google Scholar
ORCID: 0000-0003-4770-0955
ResearcherID: C-1275-2011

Education

Ph.D. in Electrical and Computer Engineering, Aristotle University of Thessaloniki, Greece (2013)
Diploma in Electrical and Computer Engineering, Aristotle University of Thessaloniki, Greece (2008)

Research and Teaching Appointments

10/2022 – present	Associate Researcher (Grade C), Group Leader Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Greece
2016 – 2022	Postdoctoral Fellow, Institute of Electronic Structure & Laser, Foundation for Research and Technology – Hellas, Greece
2020 – 2022	Adjunct Lecturer, Department of Materials Science and Technology, University of Crete, Greece
11/2021	Visiting Researcher, Istituto per la Microelettronica e Microsistemi, Consiglio Nazionale delle Ricerche, Rome, Italy
06/2016 – 08/2016	Visiting Researcher, Ames Laboratory–U.S. DOE and Iowa State University, Ames, IA, USA
2014 – 2015	Postdoctoral Fellow, School. of Electrical and Computer Engineering, Aristotle University of Thessaloniki, Greece

2008-2013 Research and Teaching Assistant, School. of Electrical and Computer Engineering, Aristotle University of Thessaloniki, Greece

Main Research Interests

- Metasurfaces, metamaterials, and photonic crystals
- Dispersive, diffractive, tunable and reconfigurable photonic components
- Integrated and guided-wave nanophotonics: silicon photonics, plasmonics
- Nonlinear optics in resonant structures and waveguides
- 2D materials for photonics, nonlinear optics, and optoelectronics
- Lasers, pulsed and CW, integrated and free space
- Leaky cavities and quasi-normal modes
- Computational and theoretical electromagnetics

External Funding

- Principal investigator in 2 European (Pathfinder Open, EDF) and 1 national (HFRI) project. Total budget for NHRF ~1M€.
- Researcher in 10 European (Horizon Europe, H2020, ERC, FP7) and 3 national research projects (HFRI, NSRF 2014-2020, NSRF 2007-2013)

Conferences and Invited Talks

- 119 announcements in international conferences (28 invited)
- 8 announcements in national conferences
- 10 invited seminars

Teaching activities

- (2020-2022) Adjunct Lecturer in Department of Materials Science and Technology, University of Crete: "Mechanical and Thermal Properties of Materials"; "Advanced Computational Materials Science"
- (2009-2013) Teaching Assistant in School of Electrical and Computer Engineering, Aristotle University of Thessaloniki: "Optical Communications", "Microwave Engineering I", "Microwave Engineering II", "Photonics Technology"
- Supervision of 4 postdoctoral researchers, (co-)supervision of 4 PhD students, 14 Master-level (MSc and diploma degrees) thesis projects, 3 Undergraduate (bachelor) thesis projects and 1 internship.

Research Management & Evaluation

- Reviewer for over 57 journals in the fields of photonics, optics, applied physics, electrical engineering, condensed matter physics, materials science (AAAS, Nature, APS, ACS, Wiley, OSA, IEEE, IOP)

- Reviewer for national and international research proposals
- Guest editor for special issues
- Management Committee member in EU Cost Action CA18223: Future communications with higher-symmetric engineered artificial materials

Honors and Awards

- Included in the Top 2% Scientists Worldwide in subfield "Photonics & Optoelectronics" for 2021, 2022, 2023, 2024 and 2025 according to the Stanford list by J. P. A. Ioannidis, Elsevier Data Repository, DOI: https://doi.org/10.17632/btchxktzyw
- Awarded the Optica Senior Member grade (class of 2025) by the international scientific society and publisher Optica.
- Included in the top 200 reviewers of IEEE Transactions on Antennas and Propagation for the period June 2023 – May 2024
- Best paper award (third place) at SPIE Optical Systems Design on Computational Optics 2024 (April 2024, Strasbourg, France)
- Awarded IEEE Senior Member grade (08/2019)
- Stavros Niarchos Foundation – FORTH postdoctoral research fellowship within project ARCHERS (03/2019 – 02/2020)
- Postdoctoral excellence research fellowship from Research Committee of the Aristotle University of Thessaloniki (01/2014 – 12/2014)
- Best student paper award in the conference SPIE Photonics Europe 2012 – Nanophotonics (04/2012)
- "Heracleitus II" research scholarship for Ph.D. studies (03/2011 – 08/2013)
- Scholarship from the Greek State Scholarships Foundation (IKY) for Ph.D. studies after written exams. Three scholarships awarded nationwide for Electrical Engineering (11/2009 – 02/2011)

Professional Affiliations and Memberships

- (2005 - present) Member of Institute of Electrical and Electronics Engineers (IEEE). Awarded Senior Member grade in 2019.
- (2019 - present) Member of Optica (formerly, The Optical Society, OSA)
- (2020 – present) Member of the Hellenic Society for the Science and Technology of Condensed Matter (HSSTCM)
- (2024 - present) "Micro & Nano" Greek scientific society. Member of the Management Board (2025-2028)
- (2012 - 2017) Member of the SPIE society

Publications

- 76 original research papers in peer-reviewed journals, 3 review articles and 1 tutorial, 61 papers in international conference proceedings, and 5 book chapters.
- Distinctions: 4 journal articles highlighted as "Editor's Suggestion", 2 cover pages, 1 highly-cited paper (top 1% of the academic field of Physics) according to data from Essential Science Indicators, 2 best paper awards in international conferences.
- Citations: More than 3,870 citations and h-index = 33 (Google Scholar, 11/2026).

Selected Recent Publications

1. "Efficient Lasing in MoS2/WSe2-Based Metasurfaces Enabled by Quasi-Dark Magnetic Dipole Resonance," G. Nousios, T. Christopoulos, E. E. Kriezis, and O. Tsilipakos, ACS Applied Nano Materials 9(5), 2301-2308 (2026)
2. "Film-Based Multi-Photon Lithography for Efficient Printing of Electromagnetic Surface Structures," G. Zyla, S. Papamakarios, D. C. Zografopoulos, A. Christoforidou, G. Kenanakis, M. Farsari, and O. Tsilipakos, *Adv. Mater. Technol.* 2025, 2402137 (2025)
3. "Quasinormal mode theory for multiresonant metasurfaces with superwavelength periodicity involving two-dimensional materials", T. Christopoulos, G. Nousios, E. E. Kriezis, and O. Tsilipakos, Phys. Rev. B 110, 245407 (2024)
4. "Theoretical Analysis of Integrated Nanophotonic Q-Switched Laser Based on Gain and Saturable Absorption by Two-Dimensional Materials", G. Nousios, T. Christopoulos, O. Tsilipakos, and E. E. Kriezis, Adv. Photonics Res. 2024, 2300249 (2024)
5. "Multiresonant metasurfaces for arbitrarily broad bandwidth pulse chirping and dispersion compensation," O. Tsilipakos and T. Koschny, Phys. Rev. B 107, 165408 (2023)
6. "Recent advances in strongly-resonant and gradient all-dielectric metasurfaces," D. C. Zografopoulos and O. Tsilipakos, Mater. Adv. 4, 11-34 (2023)
7. "Multi-functional metasurface architecture for amplitude, polarization and wavefront control," 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, Phys. Rev. Appl. 17, 064060 (2022)

8. "Experimental Implementation of Achromatic Multiresonant Metasurface for Broadband Pulse Delay," O. Tsilipakos, L. Zhang, M. Kafesaki, C. M. Soukoulis, T. Koschny, ACS Photonics 8, 1649 (2021)
9. "Electro-optic modulation in integrated photonics," G. Sinatkas, T. Christopoulos, O. Tsilipakos, E. E. Kriezis, J. Appl. Phys. 130, 010901 (2021)
10. "Squeezing a prism into a surface: Emulating bulk optics with achromatic metasurfaces," O. Tsilipakos, M. Kafesaki, E. N. Economou, C. M. Soukoulis, T. Koschny, Adv. Optical Mater. 8, 2000942 (2020)
11. "Nonlinear Perturbation Theory for Leaky Cavities," T. Christopoulos, O. Tsilipakos, E. E. Kriezis, Opt. Lett. 45, 6442 (2020)
12. "Toward Intelligent Metasurfaces: The Progress from Globally-Tunable Metasurfaces to Software-Defined Metasurfaces with an Embedded Network of Controllers," O. Tsilipakos, A. C. Tasolamprou, A. Pitilakis, F. Liu, X. Wang, M. S. Mirmoosa, D. C. Tzarouchis, S. Abadal, H. Taghvaee, C. Liaskos, A. Tsioliaridou, J. Georgiou, A. Cabellos-Aparicio, E. Alarcón, S. Ioannidis, A. Pitsillides, I. F. Akyildiz, N. V. Kantartzis, E. N. Economou, C. M. Soukoulis, Maria Kafesaki, S. Tretyakov, Adv. Optical Mater. 8, 202000783 (2020)
13. "On the calculation of the Quality Factor in contemporary photonic resonant structures," T. Christopoulos, O. Tsilipakos, G. Sinatkas and E. E. Kriezis, Opt. Express 27, 14505 (2019)
14. "Intelligent Metasurfaces with Continuously Tunable Local Surface Impedance for Multiple Reconfigurable Functions," F. Liu, O. Tsilipakos, A. Pitilakis, A. C. Tasolamprou, M. S. Mirmoosa, N. V. Kantartzis, D.-H. Kwon, J. Georgiou, K. Kossifos, M. A. Antoniades, M. Kafesaki, C. M. Soukoulis, S. A. Tretyakov, Phys. Rev. Applied 11, 044024 (2019)
15. "Antimatched Electromagnetic Metasurfaces for Broadband Arbitrary Phase Manipulation in Reflection," O. Tsilipakos, T. Koschny, C. M. Soukoulis, ACS Photonics 5, 1101 (2018)
16. "Pairing toroidal and magnetic dipole resonances in elliptic dielectric rod metasurfaces for reconfigurable wavefront manipulation in reflection," O. Tsilipakos, A. C. Tasolamprou, Th. Koschny, M. Kafesaki, E. N. Economou and C. M. Soukoulis, Adv. Optical Mater. 6, 1800633 (2018)