

CURRICULUM VITAE

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EDUCATION

- Ph.D. in Electronics and Computer Science, Department of Electronics and Computer Science, University of Southampton (2017)
- M.Sc. in Nanoelectronics and Nanotechnology, Department of Electronics and Computer Science, University of Southampton (2013)
- B.Sc. in Electronics Engineering, Electronics Engineering Department, Technological Educational Institute of Athens (now University of West Attica). (2012)

PROFESSIONAL EXPERIENCE AND APPOINTMENTS

02/2020 – present: Post-Doctoral research fellow, National Hellenic Research Foundation (“Reinforcement of Postdoctoral Researchers - 2nd Cycle” (MIS-5033021), State Scholarships Foundation (IKY), co-financed by Greece and the European Union)

06/2020 – present: Postdoctoral researcher, National Centre of Scientific Research “Demokritos”, Institute of Nanoscience and Nanotechnology, Greece

05/2019 – 02/2020: Postdoctoral researcher, Laboratory of Photonics for Nano-applications, National Hellenic Research Foundation, Greece

01/2017 – 06/2017: Postdoctoral researcher, Nanotechnology research group, University of Southampton, UK

10/2016 – 05/2017: Lab demonstrator, Electronics and Computer Science, University of Southampton, UK

11/2011 – 04/2012: Intern, Sensors and Embedded devices (microSENSES) Laboratory, Technological Educational Institute of Athens, UK

MAIN RESEARCH INTERESTS

- Chiral light-matter interactions
- Electron-photon interactions
- Nonlinear optics
- Graphene and 2D materials
- Electron spectroscopy
- Polaritons

TEACHING EXPERIENCE

- Lab demonstrator, Electronics and Computer Science, University of Southampton, UK

EXTERNAL FUNDING

- IKY Fellowship “Reinforcement of Postdoctoral Researchers - 2nd Cycle” (MIS-5033021), implemented by the State Scholarships Foundation (IKY) and co-financed by Greece and the European Union, 2020-2022.
- University of Southampton/ JAIST PhD scholarship scheme, 2014-2017.

PROFESSIONAL AFFILIATIONS & ACTIVITIES

- Collaborative research with Tokyo institute of Technology, Sannomiya group, 2018 - present.
- Reviewer for various scientific journals such as ACS applied materials and interfaces, and Photonics Technology letters.

CONFERENCES

- a. T. Matsukata, N. Matthaiakakis, T. Yano, M. Hada, T. Tanaka, N. Yamamoto & T. Sannomiya. Higher-order electric and magnetic multipole modes visualized by STEM-Cathodoluminescence. Surface Plasmon Photonics, Copenhagen, Denmark, May 2019.
- b. T. Matsukata, C. Wadell, N. Matthaiakakis, T. Okamoto, N. Yamamoto & T. Sannomiya Interference imaging of plasmonic nanoparticles to extract phase by cathodoluminescence scanning transmission electron microscopy. Surface Plasmon

Photonics, Copenhagen, Denmark, May 2019.

- c. N. Matthaiakakis, H. Mizuta, M. D. B. Charlton. (2017). Tuneable Total Optical Absorption in a Triply Resonant Metal-Insulator-Graphene Hetero-Structure Plasmonic Device. Graphene Week 2017. Athens, Greece.
- d. N. Matthaiakakis, H. Mizuta, M. D. B. Charlton. (2017). Excitation and dynamic control of plasmons in graphene by utilizing a 2-dimensional inverted pyramid array diffraction grating. CLEO®/Europe-EQEC 2017. Munich (ICM), Germany.
- e. N. Matthaiakakis, H. Mizuta, M. D. B. Charlton. (2016). Excitation and strong electrical modulation of plasmons in graphene with the use of a 2-dimensional inverted pyramid array diffraction grating. In 63rd JSAP spring meeting. Tokyo Institute of technology, Ookayama campus.
- f. Panagiotis Photopoulos, Nikolaos Matthaiakakis, Stavros Giannakopoulos, Marianthi Panagopoulou and Dimitrios Tsoukalas: "Electrical transport study of silver nanoparticle thin films", Poster and paper, Micro&Nano2012 on Micro - Nanoelectronics, Nanotechnologies and MEMS, Heraklion, 7- 10 October 2012
- g. P. Photopoulos, N. Matthaiakakis, S. Giannakopoulos and D. Tsoukalas : "Room and Low Temperature Conduction of Silver Nanoparticles", Poster and paper, XXVIII Panhellenic Conference on Solid State Physics and Materials Science, Patra, 23-26 September 2012.

SELECTED PUBLICATIONS

1. N. Matthaiakakis, & T. Sannomiya. Boundary Element Method Simulations of Tunable Chiral Radiation and Active Chirality Switching from Rectangular Graphene Nanosheets: Implications for Dynamic Control of Light Chirality. ACS applied nano materials, May 28, 2020, doi: 10.1021/acsnm.0c01202.
2. T. Matsukata, N. Matthaiakakis, T. Yano, M. Hada, T. Tanaka, N. Yamamoto & T. Sannomiya. Selection and Visualization of Degenerate Magnetic and Electric Multipoles up to Radial Higher Orders by Cathodoluminescence. ACS photonics, August, 2019, doi: 10.1021/acsp Photonics.9b00833.
3. T. Matsukata, C. Wadell, N. Matthaiakakis, N. Yamamoto & T. Sannomiya. Selected mode mixing and interference visualized within a single optical nanoantenna. ACS photonics 5, November, 2018, doi: 10.1021/acsp Photonics.8b01231.
4. N. Matthaiakakis, Y. Xingzhao, H. Mizuta, M. D. B. Charlton. Tuneable strong optical absorption in a graphene-insulator-metal hybrid plasmonic device. Sci. Rep., 2017.
5. N. Matthaiakakis, H. Mizuta, M. D. B. Charlton. Strong modulation of plasmons in graphene with the use of an Inverted pyramid array diffraction grating. Sci. Rep. 6, 1–11 2016.