KYRIACOS GEORGIOU, PhD

Current Address: 4, Pekinou street, 3021 Limassol, Cyprus
E-mail: Georgiou.Kyriacos@ucy.ac.cy
Tel: +357 99331551
Personal webpage: www.kyriacosgeorgiou-physics.com

Kyriacos is a hardworking, motivated and career-oriented researcher with expertise in Experimental Condensed Matter Physics. He holds a BSc in Physics and an MSc in Electrical and Electronic Engineering specializing in Renewable Energy and Clean Technology Systems. He has also completed a PhD in Quantum Optics, Nanophotonics and Materials Physics and worked as a postdoctoral fellow on a variety of EU, UK, CY and US-funded projects with many academic and industrial collaborators. He has more than 11 years of research experience and was recently a Marie Skłodowska-Curie Individual Fellow in the Department of Physics at University of Cyprus where he is currently a research fellow. His main research interests focus on understanding fundamental concepts in organic semiconductor physics with an aim to utilize quantum optics to develop efficient optoelectronic devices for applications in photonics, light-harvesting, communications, information processing etc. He is also interested in nano-structures for photon-assisted modification of chemical and physical properties of molecular materials, as well as photonic systems and devices for biosensing.

Academic Work Experience

University of Cyprus *Apr 2025 – date*
Department of Physics

Research Fellow in Photonics, Quantum Optics, Material Physics, Organic Optoelectronics and Biosensing.

University of Cyprus *Apr. 2023 – Mar. 2025*
Department of Physics

Marie Skłodowska-Curie Individual Fellow in Photonics, Material Physics and Organic/Hybrid Optoelectronics.

Argonne National Laboratory *Mar. 2022 – Mar. 2023*
Division of Nanoscience Technology – Center for Nanoscale Materials

Postdoctoral Scholar in Quantum Materials, Quantum Optics, Optical Engineering, Infrared Photonics.

University of Chicago *Mar. 2022 – Mar. 2023*
Pritzker School of Molecular Engineering

Postdoctoral Scholar in Quantum Materials, Quantum Optics, Optical Engineering, Infrared Photonics.

University of Cyprus *Sep. 2021 – Jan. 2022*
Department of Physics

Visiting Lecturer – Module 'PHY322 - Advanced Physics Laboratory II – Atomic and Nuclear Physics'.

University of Cyprus *Sep. 2020 – Mar. 2022*
Department of Physics

Onisilos Research Fellow in Material Physics, Quantum Optics, Organic Semiconductors and Ultrafast Spectroscopy.

The University of Sheffield *Oct. 2018 – Oct. 2020*
Department of Physics and Astronomy

Post-Doctoral Research Associate in Material and Semiconductor Physics, Photonics and Quantum Optics.

Education

The University of Sheffield *Oct. 2014 – Oct. 2018*
PhD in Physics

Thesis Title: **'**Exciton-Polaritons in BODIPY-filled Microcavities'
Thesis Defense: 05/12/2018 PhD Awarded: 15/01/2019 PhD Advisor: Prof. David G. Lidzey
Thesis Examiners: Prof. (FRS) Maurice Skolnick and Prof. William Bill Barnes

The University of Manchester *Sep. 2012 – Sep. 2013*
MSc Renewable Energy and Clean Technology

Dissertation Title: 'Effects of temperature and series resistance variation on the performance of silicon solar cells'
Grade: Distinction

University of Patras *Sep. 2007 – Feb. 2012*
BSc in Physics
Grade: Very Good

Grants and Funding

- PI – *SOLARITONICS* – Bilateral Collaborations – IδEK Grant No. 'BILATERAL/ISRAEL (MOST)/0224/0023' – €199,920.00 – (2025-2028).
- PI / Fellow – *SYZEFXIS* – Marie Skłodowska-Curie Individual Fellowship – European Commission – Grant Agreement No. '101066752' – €164,328.00 – (2023-2025).
- Co-PI / Collaborator / Participant – *HoloCIM* – CODEVELOP – RESTART RESEARCH – IδEK Grant No. 'CODEVELOP-ICT-HEALTH/0322/0047' – €599,980.80 – (2023-2025).
- Grant Holder – Royal Society International Exchanges – Exchange Researcher Grant (University of Exeter – University of Cyprus) – Grant No. 'IES\R3\213193' – £12,000.00 – (2022-2023).
- Grant Holder – Laserlab Europe Collaboration – Visiting Researcher Travel Grant (Politecnico di Milano) – Grant No. 'CUSBO002805' – (2021-2023).
- PI / Fellow – Onisilos Research Fellowship – University of Cyprus – €70,000.00 – (2020-2022).
- Grant Holder – Competitive Research Student Grant – Postgraduate Researcher Experience Program (PREP) – University of Sheffield – £1,000 – (2017).
- PhD Scholarship – EPSRC Doctoral Training Grant – (2014-2018).

Publications

2025

- Genco A. *et al.* Femtosecond switching of strong light-matter interactions in microcavities with two-dimensional semiconductors. *Nat. Comm.*, **16**, 6490 (2025).
- Manoli A. *et al.* Optical Properties of Thin Films of Tin Iodide Perovskite Nanostructures. *Adv. Opt. Mater.*, **13** (21), 2500792 (2025).

2024

- **Georgiou K.** *et al.* Orientation Sensitive SEIRA Sensors Based on Single-Walled Carbon Nanotube Near Fields, *Nano Lett.*, **24** (34), 10540-10546 (2024).
- Russo M., **Georgiou K.** *et al*. Direct Evidence of Ultrafast Energy Delocalization Between Optically Hybridized J-Aggregates in a Strongly Coupled Microcavity. *Adv. Opt. Mater*., **12** (25), 2400821 (2024).
- Sasaki Y., **Georgiou K.** *et al.* Radiative pumping in a strongly coupled microcavity filled with a neat molecular film showing excimer emission. *ChemPhys PhysChem*, **26**, 14745-14753 (2024).

2023

- **Georgiou K.** et al. Strong exciton-photon coupling in free-standing organic membranes. *J. Chem. Phys.*, **159** (23), 234303 (2023).
- McGhee K. *et al.* Ultrafast optical control of polariton energy in an organic semiconductor microcavity. *Adv. Opt. Mater.*, 11(16), 2300262 (2023).

2022

- Athanasiou M. *et al.* Flexible, Free-Standing Polymer Membranes Sensitized by CsPbX3 Nanocrystals as Gain Media for Low Threshold, Multicolor Light Amplification. *ACS Photonics*, **9** (7), 2385-2397 (2022).
- Pandya R. *et al.* Tuning the coherent propagation of organic exciton-polaritons through dark state delocalization. *Adv. Sci.*, **9** (18), 2105569 (2022).
- McGhee K. E. *et al.* Polariton condensation in a microcavity using a highly-stable molecular dye. *J. Mater. Chem. C*, **10** (11), 4187-4195 (2022).

2021

- McGhee K. E. *et al.* Polariton condensation in an organic microcavity utilising a hybrid metal-DBR mirror. *Sci. Rep.*, **11**, 20879 (2021).
- Renken S. *et al.* Untargeted Effects in Organic Exciton-Polariton Transient Spectroscopy: A Cautionary Tale. *J. Chem. Phys.*, **155**, 154701 (2021).
- **Georgiou K.** *et al.* Ultralong-range polariton-assisted energy transfer in organic microcavities. *Angew. Chem. In. Ed.,* **60** (30), 16661-16667 (2021).
- **Georgiou K.** *et al.* Observation of Photon-Mode Decoupling in a Strongly Coupled Multimode Microcavity. *J. Chem. Phys.*, **154** (12), 124309 (2021).
- Gillard D. *et al.* Strong Exciton-Photon Coupling in Large Area $MoSe_2$ and WSe_2 Heterostructures Fabricated from Two-Dimensional Materials Grown by Chemical Vapor Deposition. *2D Mater*., **8**, 011002 (2021).

2020

- **Georgiou K.** *et al.* Strong Coupling of Organic Dyes Located at the Surface of a Dielectric Slab Microcavity. *J. Phys. Chem. Lett*., **11**, 9893-9900 (2020).
- Alanazi T. I. *et al.* Potassium iodide reduces the stability of triple-cation perovskite solar cells. *RSC Advances,* **10** (66), 40341-40350 (2020).
- Jayaprakash R., *et al.* A two-dimensional organic-exciton polariton lattice fabricated using laser patterning. *ACS Photonics*, **7** (8), 2273–2281 (2020).
- Putintsev A. *et al.* Nano-second exciton-polariton lasing in organic microcavities. *Appl. Phys. Lett.*, **117** (12), 123302 (2020).
- Yagafarov T. *et al.* Mechanisms blueshifts in organic polariton condensates. *Commun. Phys.*, **3** (1), 1-10 (2020).

2019

- Al-Jashaam F. L. *et al.* The optical structure of micropillar microcavities containing a fluorescent conjugated polymer. *Adv. Quantum Technol.*, **7** (17), 1900163 (2019).
- Polak D. *et al.* Manipulating matter with strong coupling: harvesting triplet excitons in organic exciton microcavities. *Chem. Sci.,* **11**, 343-354 (2019).
- Jayaprakash R., **Georgiou K.** *et al.* A hybrid organic-inorganic polariton LED. *Light Sci. Appl.*, **8** (81), 1-11 (2019).
- Sannikov D. *et al.* Room-temperature broadband polariton-lasing from a dye-filled microcavity. *Adv. Opt. Mater.*, **7** (17) (2019).

2018

- **Georgiou K.** *et al.* Generation of anti-Stokes fluorescence in a strongly coupled organic semiconductor microcavity. *ACS Photonics*, **5** (11), 4343-4351 (2018).
- **Georgiou K.** *et al.* Control over energy transfer between fluorescent BODIPY dyes in a strongly-coupled microcavity. *ACS Photonics*, **5** (1), 258-266 (2018).

2017

- Musser, A. J., *et al.* Intermolecular states in organic dye dispersions: excimers vs. aggregates. *J. Mater. Chem. C*, **5** (33), 8380–8389 (2017).
- **Georgiou K.*** and Cookson T.* *et al.* A Yellow Polariton Condensate in a Dye Filled Microcavity. *Adv. Opt. Mater.*, **5** (18), 1700203 (2017).

2016

- Grant, R. T. *et al.* Efficient Radiative Pumping of Polaritons in a Strongly Coupled Microcavity by a Fluorescent Molecular Dye. *Adv. Opt. Mater.*, **4** (10), 1615 (2016).

Publications Under Preparation

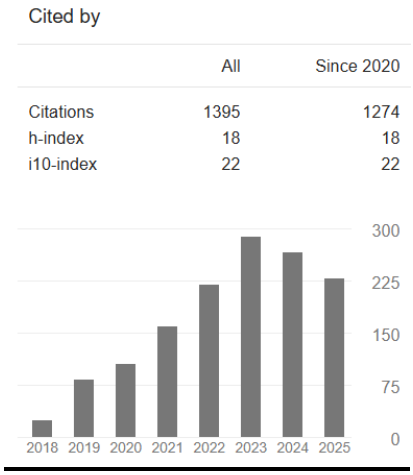
- Lidzey D., Othonos A. and **Georgiou K.*** Controlling emission stability and photobleaching using quantum optics, *In preparation*, (2025).
- Chen Y., Lioudakis E., Othonos A., Lidzey D. and **Georgiou K.*** Mapping exciton-polariton relaxation in 2D-perovskite microcavities, *In preparation*, (2025).
- Lioudakis E., **Georgiou K.** *et al*. Observation of a localized surface-related state in InAs QDs and the formation of hybridized In-Zn-S(e) states at the interlayer of InAs/ZnS(e) core/shells, *In preparation*, (2025).

Selected Conferences and Invited Talks

- EMLEM25, Crete, Greece, October 2025.
- 39th Panhellenic Conference on Solid State Physics & Materials Science, Paphos, Cyprus, September 2025.
- GRC Plasmonics and Nanophotonics, Maine, USA, July 2024.
- Invited – Kyushu University, Fukuoka, Japan, May 2024.
- UK Semiconductors, Sheffield, UK, July 2023.
- OECS18, Lecce, Italy. June 2023.
- SCOM 2021, Gothenburg, Sweden, April 2021. (Rescheduled and held online due to Covid-19)
- PLMCN 2020, Clermont-Ferrand, France, October 2020. (Rescheduled and held online due to Covid-19)

- UK Semiconductors, Sheffield, UK, July 2019.
- International School on Polaritonics and Photovoltaics, Sicily, Italy, August 2017.
- UK Semiconductors, Sheffield, UK, July 2017.
- Invited - Science of the future, Kazan, Russia, September 2016.
- EOSAM, Berlin, Germany, September 2016.
- ICSCE8, Edinburgh, UK, April 2016.
- Workshop on Condensates of Light, Buckinghamshire, UK, January 2016.
- 2nd Russian-British workshop for young scientists: Advanced Polaritonics and Photonics, Suzdal, Russia, March 2015.

Research Impact (Google Scholar)



Teaching / Supervision Experience

- Visiting Lecturer – PHY332 'Advanced Physics Laboratory II' – University of Cyprus, 2021 – 2022.
- Thesis advisor of students implementing their final-year undergraduate project within the Laboratory of Ultrafast Science – University of Cyprus, 2021 – date. (Mrs. Maria Pavlou, Mrs. Chrysoula Patsalidou)
- Semester Lecturer – 'Employability in Physics' – University of Sheffield, 2019 – 2020.
- Supervision and Mentorship of PhD and Master students – University of Sheffield, 2017 –2021. (Mrs. Harriet Coulthard, Dr. Kirsty McGhee, Dr. James Pidgeon, Dr. Yoichi Sasaki, Dr Faleh Al-Jashaam, Mrs. Yan Chen)
- Laboratory tutor on Material Physics and Photonics – University of Sheffield, 2014 – 2019.

Awards

- Nominated by the University of Cyprus Rector's Office for the Cyprus Research Awards 2025 – Young Researcher of the Year (Outcome Pending), September 2025.
- Honorary Research Fellow – University of Sheffield, September 2020 – September 2022.

- First prize award winner for the presentation 'Hybridization of Frenkel-excitons through strong coupling.' Research Away Day, Sheffield, UK, July 2016.

- Invited by the Rossotrudnichestvo to the Science of the Future – New Generation Program. The aim was to bring together the most promising young scientist from around the world and encourage collaborations, Kazan, Russia, September 2016.

Expert Committees and Editorial Services

- Expert – Proposal Evaluator – HORIZON-MSCA-2025-PF-01 – European Commission, (2025).
- Nanomaterials - Guest Editor for the special issue '*Novel Advances in Optical Nanocavities*', (2022).

Regular Peer-Review Services to Scientific Journals

- ACS Photonics
- Nano Letters
- Nature Communications
- Advanced Optical Materials
- Scientific Reports
- Chemical Physics Letters
- Optical and Quantum Electronics
- Chemistry – A European Journal
- Laser & Photonics Reviews

Science Communication, Public Engagement and Outreach Activities

- Exhibition: 'Let's Catch Spies Using Quantum Optics' – Science is Wonderful – European Commission – Booth Leader, Exhibition Organizer and Demonstrator – Brussels, Belgium, March 2024.

- Exhibition: 'European Researchers' Night 2023' – Research and Innovation Foundation of Cyprus – Participant and Demonstrator – Nicosia, Cyprus, September 2023.

- Exhibition: 'Laser Physics and VCSEL Cake', Discovery Night - University of Sheffield – Booth Leader, Exhibition Organizer and Demonstrator – Sheffield, UK, March 2019.

- Exhibition: 'Quantum Light', Cheltenham Science Festival – Demonstrator – Cheltenham, UK, June 2017.