Ioannis Paradisanos

Assistant Professor, Department of Materials Science and Engineering, University of Crete & Affiliated Faculty Member of IESL/FORTH

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Date of birth: 19/09/1984
Place of birth: Heraklion, Crete, Greece
Languages: Greek (native), English (C2)

EDUCATIONAL QUALIFICATIONS

03/2018	University of Crete, Ph.D. Department of Physics
09/2014	University of Crete, M.Sc. in Micro-Optoelectronics Department of Physics
07/2012	University of Crete, B.Sc. Department of Materials Science and Technology

ACADEMIC EMPLOYMENT

11/2025 – present	**Assistant Professor**, Department of Materials Science and Engineering, University of Crete
10/2022 – 11/2025	**H.F.R.I. Research Fellow**, Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology – Hellas (FORTH)
10/2019 – 09/2022	**Senior Research Associate**, National Institute of Applied Sciences (INSA), French National Centre for Scientific Research (CNRS), Quantum Optoelectronics Group PI: Professor Xavier Marie
04/2018 – 09/2019	**Research Associate**, **University of Cambridge** Department of Electrical Engineering, PI: Professor Andrea C. Ferrari

RESEARCH EXPERIENCE

Projects	Techniques
Light-matter interactions in 2D semiconductors	Photoluminescence spectroscopy & imaging
Exciton formation and relaxation	Raman spectroscopy
Spin-valley polarization phenomena	Time-resolved spectroscopy
Intervalley scattering effects	Differential reflectivity
Exciton-exciton interactions	Nonlinear spectroscopy
Stark and Zeeman effects	Magneto-optics
Interlayer coupling in 2D heterostructures	Fabrication techniques including assembly of
Lattice vibrations and phonons	2D heterostructures and field-effect devices
Near-field interactions	

TEACHING EXPERIENCE

1. Teaching assistant in the undergraduate course *"Electromagnetic Fields and Waves"* (University of Cambridge, Department of Electrical Engineering, Pembroke College, 2019)

2. Teaching assistant in the undergraduate course *"Physics Laboratory III - Optics"*, (University of Crete, Department of Physics, 2012-2017)

PUBLICATIONS

PREPRINTS

53. "Valleytronics in 2D Materials Roadmap"
K. L. Seyler, G. Soavi, B. Weber, S. Das, A. Agarwal, **I. Paradisanos**, M. M. Glazov, O. Dogadov, F. Gucci, G. Cerullo, S. Dal Conte, S. Biswas, J. Wilhelm, I. Žutić, K. S. Denisov, T. Zhou, H. Zheng, W. Yao, H. Yu, T. Cao, D. Waters, M. Yankowitz, G. Burkard, A. Denisov, T. Ihn, K. Ensslin, L. Gaudreau, J. Boddison-Chouinard, Z. Fedorova, I. Staude, K. E. J. Goh, Z. Zhou and X. Li
(2026) arXiv:2603.01427

52. *"Wide field of view crystal orientation mapping of layered materials"*
A. Orekhov, D. Jannis, N. Gauquelin, G. Guzzinati, A. Nalin Mehta, S. Psilodimitrakopoulos, L. Mouchliadis, P. K. Sahoo, **I. Paradisanos**, A.C. Ferrari, G. Kioseoglou, E. Stratakis and J. Verbeeck
(2021) arXiv:2011.01875v1

PEER-REVIEWED JOURNAL ARTICLES

51. "Alloy engineering of excitonic properties in TMD monolayers"
E. Katsipoulaki, A. Smiri, P. Spiliotakis, K. Mourzidis, D. Katrisioti, T. Taniguchi, K. Watanabe, G. Kopidakis, Z. Sofer, G. Wang, E. Stratakis, G. Kioseoglou, I. C. Gerber, X. Marie and **I. Paradisanos***
Phys. Rev. Materials 10, 104010 (2026), **Editors' suggestion**, *corresponding author,

50. "Backbone Chemistry Determines Ion Dissociation and Nanostructure Morphology in Charged-Neutral Blends with Low-Molecular-Weight PEO"
G. Nikolakakou, D. Katrisioti, **I. Paradisanos**, B. Loppinet and E. Glynos
Macromolecules https://doi.org/10.1021/acs.macromol.6c01839 (2026)

49. "Highly Efficient Exciton Modulation in $MoSe_2$/$PdSe_2$ Heterostructures"
P. Rozhin, M. S. Ramzan, E. Contin, D. Katrisoti, T. Weickhardt, M. Bertolotti, N. Loudhaief, B. Wu, Z. Sofer, T. Taniguchi, K. Watanabe, L. Puppulin, S. Dal Conte, C. Cocchi, **I.Paradisanos**, G. Soavi, S. Dal Conte, G. A. Salvatore and D. De Fazio
Nano Letters https://doi.org/10.1021/acs.nanolett.6c02581 (2026)

48. "Dipolar interlayer excitons in transition metal dichalcogenide alloy heterobilayers"
E. Katsipoulaki, N.G. Chatzarakis, E. Rigoutsou, D. Katrisioti, T. Taniguchi, K. Watanabe, S. Psilodimitrakopoulos, N.T. Pelekanos and **I. Paradisanos***
J. Phys. Mater. 9 03LT01 (2026), *corresponding author

47. *"Vibrational mode evolution in WSe_2 under pressure: Thermodynamic insights from grüneisen parameters"*
E. Evlyukhin, K. Katsara, A. Zerr, G. Kenanakis, **I. Paradisanos**, V. M. Papadakis, P. K. Bhowmik and Emmanuel Stratakis
Physica B: Condensed Matter, 735, 418707 (2026)

46. *"2D Excitonics with Atomically Thin Lateral Heterostructures"*
S. Shradha, R. Rosati, H. Lamsaadi, J. Picker, **I. Paradisanos**, Md T. Hossain, L. Krelle, L. F. Oswald, N. Engel, D. I. Markina, K. Watanabe, T. Taniguchi, P. K. Sahoo, L. Lombez, X. Marie, P. Renucci, V. Paillard, J.-M. Poumirol, A. Turchanin, E. Malic and B. Urbaszek
Reports on Progress in Physics (2026), 10.1088/1361-6633/ae530c

45. *"Silicon nanoantennas for tailoring the optical properties of MoS_2 monolayers"*
D. Katrisioti, P. R. Wiecha, A. Cuche, S. Psilodimitrakopoulos, G. Larrieu, J. Müller, V. Larrey, B. Urbaszek, X. Marie, E. Stratakis, G. Kioseoglou, V. Paillard, J.-M. Poumirol and **I. Paradisanos***
Applied Physics Letters, 127, 181101 (2025), * corresponding author

44. *"Spin-valley polarization control in WSe_2 monolayers using photochemical doping"*
E. Katsipoulaki, K. Mourzidis, V. Jindal, D. Lagarde, T. Taniguchi, K. Watanabe, G. Kopidakis, X. Marie, M.M. Glazov, E. Stratakis, G. Kioseoglou and **I. Paradisanos***
Advanced Optical Materials, 13, e00575 (2025) * corresponding author

43. "*Comprehensive benchmarking and user guide for the characterization of CVD-grown transition metal chalcogenides*"
B. Tywoniuk, M. J. Mohn, Y. Zhao, B. M. Szydłowska, O. Hartwig, S. Pace, P. Caban, C. P. Cullen, T. Lehnert, J. Schulz, P. K. Sahoo, S. M. Shinde, A. R. Cadore, **I. Paradisanos**, O. Balci,

A. C. Ferrari, C. Coletti, N. McEvoy, C. Backes, A. Kis, U. Kaiser, M. Garcia Hernandez and G. S. Duesberg
Academia Nano: Science, Materials, Technology, 2 (2) doi.org/10.20935/AcadNano7714 (2025)

42. "*Nonlinear valley selection rules and all-optical probe of broken time-reversal symmetry in monolayer WSe_2*"
P. Herrmann, S. Klimmer, Thomas Lettau, T. Weickhardt, A. Papavasileiou, K. Mosina, Z. Sofer, **I. Paradisanos**, D. Kartashov, Jan Wilhelm and G. Soavi
Nature Photonics, https://doi.org/10.1038/s41566-024-01591-z (2025)

41. "*Exciton Collimation, Focusing and Trapping Using Complex Transition Metal Dichalcogenide Lateral Heterojunctions*"
H. Lamsaadi, A. Cuche, G. Agez, **I. Paradisanos**, D. Beret, L. Lombez, P. Renucci, D. Lagarde, X. Marie, Z. Gan, A. George, K. Watanabe, T. Taniguchi, A. Turchanin, N. Combe, B. Urbaszek, V. Paillard and J.-M. Poumirol
Advanced Optical Materials, https://doi.org/10.1002/adom.202403009 (2024)

40. *"Graphene-perovskite fibre photodetectors"*
S. Akhavan, A. Taheri Najafabadi, S. Mignuzzi, M. Abdi Jalebi, A. Ruocco, **I. Paradisanos**, O. Balci, Z. Andaji-Garmaroudi, I. Goykhman, L. G. Occhipinti, E. Lidorikis, S.D. Stranks and A. C. Ferrari
Advanced Materials, https://doi.org/10.1002/adma.202400703 (2024)

39. *"Ultrafast Charge Transfer and Recombination Dynamics in Monolayer–Multilayer WSe_2 Junctions Revealed by Time-Resolved Photoemission Electron Microscopy"*
C. Xu, N. Barden, E. M. Alexeev, X. Wang, R. Long, A. R. Cadore, **I. Paradisanos**, A. K. Ott, G. Soavi, S. Tongay, G. Cerullo, A. C. Ferrari, O. V. Prezhdo and Z.-H. Loh
ACS Nano, https://doi.org/10.1021/acsnano.3c06473 (2024)

38. *"Monolayer WS_2 electro- and photo-luminescence enhancement by TFSI treatment"*
A.R. Cadore, B.L.T. Rosa, **I. Paradisanos**, S. Mignuzzi, D. De Fazio, E.M. Alexeev, A. Dagkli, J.E. Muench, G. Kakavelakis, S.M. Shinde, D. Yoon, S. Tongay, K. Watanabe, T. Taniguchi, E. Lidorikis, I. Goykhman, G. Soavi and A. C. Ferrari
2D Materials, 11, 025017 (2024)

37. *"Biaxial strain tuning of exciton energy and polarization in monolayer WS_2"*
G. Kourmoulakis, A. Michail, **I. Paradisanos**, X. Marie, M.M. Glazov, B. Jorissen, L. Covaci, E. Stratakis, K. Papagelis, J. Parthenios and G. Kioseoglou
Appl. Phys. Lett., 123, 223103 (2023)

36. *"Kapitza-resistance-like exciton dynamics in atomically flat $MoSe_2$-WSe_2 lateral heterojunction"*
H. Lamsaadi, D. Beret, **I. Paradisanos**, P. Renucci, D. Lagarde, X. Marie, B. Urbaszek, Z. Gan, A. George, K. Watanabe, T. Taniguchi, A. Turchanin, L. Lombez, N. Combe, V. Paillard and J.-M. Poumirol
Nature Communications 14, 5881 (2023)

35. *"Electrostatic modulation of excitonic fluid in GaN/AlGaN quantum wells by deposition of few-layered graphene and nickel/gold films"*
R. Aristegui, P. Lefebvre, C. Brimont, T. Guillet, M. Vladimirova, **I. Paradisanos**, C. Robert, X. Marie, B. Urbaszek, S. Chenot, Y. Cordier and B. Damilano

Phys. Rev. B, 108, 125421 (2023)

34. *"Ultrafast Electronic Relaxation Dynamics of Atomically Thin MoS_2 Is Accelerated by Wrinkling"*
C. Xu, G. Zhou, E. M. Alexeev, A. R. Cadore, **I. Paradisanos**, A. K. Ott, G. Soavi, S. Tongay, G. Cerullo, A. C. Ferrari, O. V. Prezhdo, and Z.-H. Loh
ACS Nano, 17, 16682–16694 (2023)

33. *"Electron density control in tungsten diselenide monolayers via photochlorination"*
E. Katsipoulaki, G. Vailakis, I. Demeridou, D. Karfaridis, P. Patsalas, K. Watanabe, T. Taniguchi, **I. Paradisanos**, G. Kopidakis, G. Kioseoglou and E. Stratakis
2D Materials, 10 045008 (2023)

32. "*Nonlinear All-Optical Coherent Generation and Read-Out of Valleys in Atomically Thin Semiconductors*"
P. Herrmann, S. Klimmer, T. Lettau, M. Monfared, I. Staude, **I. Paradisanos**, U. Peschel and G. Soavi
Small, 2301126 (2023)

31. "*Probing the optical near-field interaction of Mie nanoresonators with atomically thin semiconductors*"
A. Estrada-Real,* **I. Paradisanos,*** P. R. Wiecha,* J.-M. Poumirol,* A. Cuche, G. Agez, D. Lagarde, X. Marie, V. Larrey, J. Muller, G. Larrieu, V. Paillard and B. Urbaszek
Communications Physics 6, 102 (2023), * corresponding author

30. "*Interface engineering of charge-transfer excitons in 2D lateral heterostructures*"
R. Rosati, **I. Paradisanos**, L. Huang, Z. Gan, A. George, K. Watanabe, T. Taniguchi, L. Lombez, P. Renucci, A. Turchanin, B. Urbaszek and E. Malic
Nature Communications 14, 2438 (2023)

29. "*Excitons dance as light conducts*"
I. Paradisanos* and B. Urbaszek
Nature Physics 19, 149–150 (2023), *News & Views*, *corresponding author

28. "*Graphene-Black Phosphorus Printed Photodetectors*"
S. Akhavan, A. Ruocco, G. Soavi, A. Taheri, S. Mignuzzi, S. Doukas, A. Cadore, Y. Samad, L. Lombardi, K. Dimos, **I. Paradisanos**, J. Muench, H. Watson, S. Hodge, L. Occhipinti, E. Lidorikis, I. Goykhman and A. C. Ferrari
2D Materials, 10 035015 (2023)

27. "*Exciton spectroscopy and diffusion in $MoSe_2$-WSe_2 lateral heterostructures encapsulated in hexagonal boron nitride*"
D. Beret,* **I. Paradisanos,*** Z. Gan, E. Najadehaghani, A. George, T. Lehnert, J. Biskupek, S. Shree, A. Estrada-Real, D. Lagarde, J.-M. Poumirol, V. Paillard, K. Watanabe, T. Taniguchi, X. Marie, U. Kaiser, P. Renucci, L. Lombez, A. Turchanin and B. Urbaszek
npj 2D Materials and Applications 6, 84 (2022) *joint first author

26. "*Capacitively-coupled and inductively-coupled excitons in bilayer MoS_2*"
L. Sponfelder, N. Leisgang, S. Shree, **I. Paradisanos,** K. Watanabe, T. Taniguchi, C. Robert, D. Lagarde, A. Balocchi, X. Marie, I. C. Gerber, B. Urbaszek and R. J. Warburton,
Phys. Rev. Lett. 129, 107401 (2022)

25. "*One pot chemical vapor deposition of high optical quality large area monolayer Janus transition metal dichalcogenides*"
Z. Gan,* **I. Paradisanos,*** A. Estrada-Real, J. Picker, E. Najafidehaghani, F. Davies, C. Neumann, C. Robert, P. Wiecha, K. Watanabe, T. Taniguchi, X. Marie, A. V. Krasheninnikov, B. Urbaszek, A. George and A. Turchanin,
Advanced Materials https://doi.org/10.1002/adma.202205226 (2022) *joint first author

24. "*Second harmonic generation control in twisted bilayers of transition metal dichalcogenides*"
I. Paradisanos,* A. M. Saiz Raven, T. Amand, C. Robert, P. Renucci, K. Watanabe, T. Taniguchi, I. C. Gerber, X. Marie and B. Urbaszek
Phys. Rev. B, 105, 115420 (2022) *corresponding author

23. "*Electrically-tuneable non-equilibrium optical response of graphene*"
E. A. A. Pogna, A. Tomadin, O. Balci, G. Soavi, **I. Paradisanos**, M. Guizzardi, P. Pedrinazzi, S. Mignuzzi, K.-J. Tielrooij, M. Polini, A. C. Ferrari and G. Cerullo
ACS Nano https://doi.org/10.1021/acsnano.1c04937 (2022)

22. "*Interlayer exciton mediated second harmonic generation in bilayer MoS_2*"
S. Shree, D. Lagarde, L. Lombez, C. Robert, A. Balocchi K. Watanabe, T. Taniguchi, X. Marie, I. C. Gerber, M.M. Glazov, L. E. Golub, B. Urbaszek and **I. Paradisanos***
Nature Communications 12, 6894 (2021) *corresponding author

21. "*Confinement of long-lived interlayer excitons in WS_2/WSe_2 heterostructures*"
A. R.-P. Montblanch, D. M. Kara, **I. Paradisanos**, C. M. Purser, M. S. G. Feuer, E. M. Alexeev, L. Stefan, Y. Qin, M. Blei, G. Wang, A. R. Cadore, P. Latawiec, M. Lončar, S. Tongay, A. C. Ferrari and M. Atatüre
Communications Physics, 4, 119 (2021)

20. "*Low-loss integrated nanophotonic circuits with layered semiconductor materials*"
T. Liu,* **I. Paradisanos,*** J. He, A. R. Cadore, J. Liu, M. Churaev, R. N. Wang, A. S. Raja, C. Javerzac-Galy, P. Rölli, D. De Fazio, B. L. T. Rosa, S. Tongay, G. Soavi, A. C. Ferrari and T. J. Kippenberg
Nano Letters, 21, 7, 2709 (2021), *joint first author

19. "*Efficient phonon cascades in WSe_2 monolayers*"
I. Paradisanos,* G. Wang, E. M. Alexeev, A. R. Cadore, X. Marie, A. C. Ferrari,* M. M. Glazov* and Bernhard Urbaszek*
Nature Communications, 12, 538 (2021), *corresponding author,
work highlighted by the editors of *Nature Communications* in Condensed matter

18. "*Controlling interlayer excitons in MoS_2 layers grown by chemical vapor deposition*"
I. Paradisanos, S. Shree, A. George, N. Leisgang, C. Robert, K. Watanabe, T. Taniguchi, R. J. Warburton, A. Turchanin, X. Marie, I. C. Gerber and B. Urbaszek
Nature Communications, 11, 2391 (2020)
work highlighted by the editors of *Nature Communications* in Condensed matter

17. "*Giant Stark splitting of an exciton in bilayer MoS_2*"
N. Leisgang,* S. Shree,* **I. Paradisanos,*** L. Sponfelder,* C. Robert, D. Lagarde, A. Balocchi, K. Watanabe, T. Taniguchi, X. Marie, R. J. Warburton, I. C. Gerber and Bernhard Urbaszek
Nature Nanotechnology, 15, 901 (2020) *joint first author

16. "*Guide to optical spectroscopy of layered semiconductors*"
S. Shree,* **I. Paradisanos,*** C. Robert, X. Marie and Bernhard Urbaszek*
Nature Reviews Physics, 3, 39 (2020), *corresponding author

15. *"Prominent room temperature valley polarization in WS_2/graphene heterostructures grown by chemical vapor deposition"*
I. Paradisanos, K. M. McCreary, D. Adinehloo, L. Mouchliadis, J. T. Robinson, H.-J. Chuang, A. T. Hanbicki, V. Perebeinos, B. T. Jonker, E. Stratakis and G. Kioseoglou
Appl. Phys. Lett., 116, 203102 (2020)

14. *"Weak Distance Dependence of Hot-Electron-Transfer Rates at the Interface between Monolayer MoS_2 and Gold"*
C. Xu, H. W. Yong, J. He, R. Long, A. R. Cadore, **I. Paradisanos**, A. K. Ott, G. Soavi, S. Tongay, G. Cerullo, A. C Ferrari, O. V. Prezhdo and Z.-H. Loh
ACS Nano, 15, 1, 819 (2020)

13. "*Unveiling the optical emission channels of monolayer semiconductors coupled to silicon nanoantennas*"
J.M. Poumirol, **I. Paradisanos,** S. Shree, G. Agez, X. Marie, C. Robert, N. Mallet, P. R. Wiecha, G. Larrieu, V. Larrey, F. Fournel, K. Watanabe, T. Tanigushi, A. Cuche, V. Paillard and Bernhard Urbaszek
ACS Photonics, 7, 11, 3106 (2020)

12. "*Transform-Limited Photons From a Coherent Tin-Vacancy Spin in Diamond*"
M. E. Trusheim, B. Pingault, N. H. Wan, M. Gündoğan, L. De Santis, R. Debroux, D. Gangloff, C. Purser, K. C. Chen, M. Walsh, J. J. Rose, J. N. Becker, B. Lienhard, E. Bersin, **I. Paradisanos**, G. Wang, D. Lyzwa, A. R-P. Montblanch, G. Malladi, H. Bakhru, A. C. Ferrari, I. A. Walmsley, M. Atatüre, and D. Englund
Phys. Rev. Lett., 124, 023602 (2020)

11. *"Hot electrons modulation of third harmonic generation in graphene"*
G. Soavi, G. Wang, H. Rostami, A. Tomadin, O. Balci, **I. Paradisanos**, E.A.A. Pogna, G. Cerullo, E. Lidorikis, M. Polini and A. C. Ferrari
ACS Photonics, 6, 11, 2841 (2019)

10. *"Twist Angle mapping in layered WS_2 by Polarization-Resolved Second Harmonic Generation"*
S. Psilodimitrakopoulos, L. Mouchliadis, **I. Paradisanos**, A. Lemonis, G. Kioseoglou and E. Stratakis
Scientific Reports, 9, 14285 (2019)

9. *"Imaging the crystal orientation of 2D transition metal dichalcogenides using polarization resolved second-harmonic generation"*
G. M. Maragkakis, S. Psilodimitrakopoulos, L. Mouchliadis, **I. Paradisanos**, A. Lemonis, G. Kioseoglou and E. Stratakis
Opto-electronic Advances, 2, 11 (2019)

8. *"Spatially Selective Charge Carrier Density Tuning in WS_2 Monolayers via Photochlorination"*
I. Demeridou, **I. Paradisanos**, N. Pliatsikas, Y. Liu, P. Patsalas, W. A. Goddard, G. Kioseoglou and Emmanuel Stratakis
2D Materials, 6, 1 (2018)

7. *"Ultrahigh-resolution non-linear optical imaging of armchair orientation in 2D transition metal dichalcogenides"*
S. Psilodimitrakopoulos, L. Mouchliadis, **I. Paradisanos**, A. Lemonis, G. Kioseoglou and E. Stratakis
Light: Science & Applications, 7,18005 (2018)

6. *"Extending the continuous operating lifetime of perovskite solar cells with a molybdenum disulfide hole extraction interlayer"*
G. Kakavelakis, **I. Paradisanos**, B. Paci, A. Generosi, M. Papachatzakis, T. Maksudov, A. E. Del Rio Castillo, L. Najafi, G. N. Kioseoglou, E. Stratakis, F. Bonaccorso and E. Kymakis
Advanced Energy Materials, 8, 12, 1702287 (2018)

5. *"Efficient and Highly Air Stable Planar Inverted Perovskite Solar Cells with Reduced Graphene Oxide doped PCBM Electron Transporting Layer"*
G. Kakavelakis, T. Maksudov, D. Konios, **I. Paradisanos**, G. Kioseoglou, E. Stratakis, E. Kymakis
Advanced Energy Materials, 7 (7), 1602120 (2017)

4. *"Room temperature observation of biexcitons in exfoliated WS_2 monolayers"*
I. Paradisanos, S. Germanis, N. T. Pelekanos, C. Fotakis, E. Kymakis, G. Kioseoglou and E. Stratakis
Appl. Phys. Lett., 110, 193102 (2017)

3. *"Spatial Non-Uniformity in Exfoliated WS_2 Single Layers"*
I. Paradisanos, N. Pliatsikas, P. Patsalas, C. Fotakis, E. Kymakis, G. Kioseoglou and E. Stratakis
Nanoscale, 8, 16197-16203 (2016) (Front Cover)

2. *"Gradient induced liquid motion on laser structured black Si surfaces"*
I. Paradisanos, C. Fotakis, S.H. Anastasiadis and E. Stratakis
Appl. Phys. Lett., 107, 111603 (2015)

1. *"Intense femtosecond photoexcitation of bulk and monolayer MoS_2"*
I. Paradisanos, E. Kymakis, C. Fotakis, G. Kioseoglou and E. Stratakis,
Appl. Phys. Lett., 105, 041108 (2014)

ORAL, INVITED TALKS & SEMINARS

31. Invited talk: *"Exciton Engineering in Mo-Based TMD Alloys"*, Journées de la Matière Condensée (JMC), Toulouse, France, October 26-30 (2026)

30. Invited Seminar: *"Tailoring light-matter interactions in layered van der Waals materials"*, Department of Molecular Sciences and Nanosystems, Ca' Foscari University of Venice, Venice, Italy, September 17 (2026)

29. Invited Seminar: *"Twistronics and Exciton Engineering in 2D Semiconductors"*, Department of Physics, University of Cyprus, Nicosia, Cyprus, June 9 (2026)

28. Invited Seminar: *"Tailoring light-matter interactions in layered van der Waals materials"*, Institute of Electronic Structure & Laser (IESL), Foundation for Research & Technology-Hellas (FORTH), Heraklion, Greece, January 8 (2026)

27. Invited Seminar: *"Tailoring light-matter interactions in layered van der Waals materials"*, Institute of Photonics and Quantum Sciences, Heriot-Watt University, Edinburgh, UK, December 10 (2025)

26. Invited talk: *"Alloy-Driven Tuning of Bandgap, Spin-Orbit Splitting and Phonon Energy in 2D Mo-Based TMDs"*, NanoBio 2025, Heraklion, Greece, September 08-12 (2025)

25. Invited Seminar: "Optical Spectroscopy and Twistronics: Engineering Novel States in Atomically Thin Materials" Materials Science & Engineering department, University of Crete, December 20th (2024)

24. Invited talk: *"Tailoring Optical Properties and Beyond: Recent Advances in van der Waals Semiconductors and Collaborative Research at FORTH"*, FORTH Retreat, Ancient Olympia, Greece, October 11-13 (2024)

23. Oral presentation: *"Second harmonic generation spectroscopy in van der Waals materials"*, NanoBio 2023, Heraklion, Greece, September 11-15 (2023)

22. Oral presentation: *"Second harmonic generation spectroscopy in van der Waals homo- and heterobilayers"*, APS March meeting, Las Vegas, US, March 05-10 (2023)

21. Invited Seminar: *"Exciton optics in atomically thin semiconductors"*, Institute of Electronic Structure & Laser (IESL), Foundation for Research & Technology-Hellas (FORTH), Heraklion, Greece, February 22 (2023)

20. Oral talk: *"Efficient phonon cascades in an atomically thin semiconductor"*, XXXVI Pan-Hellenic conference on Solid-State Physics and Materials Science, Heraklion, Greece, 26-28 September (2022)

19. Invited talk: *"Hot Photoluminescence and Raman processes in symmetric and asymmetric monolayer semiconductors"*, RamanFest22, Paris, France, September 15-16 (2022)

18. Keynote talk: *"Optical spectroscopy of atomically thin semiconductors"*, DokDok conference in Optics and Photonics, Arnstadt, Germany, August 29 – September 02 (2022)

17. Invited Seminar: *"Engineering light-matter interaction in atomically thin semiconductors"*, Physics department, University of Crete, February 24th (2022)

16. Oral presentation: *"Engineering quantum states in atomically-thin semiconductors"*, Stavros Niarchos ARCHERS final conference, December 06-08 (2021)

15. Invited Seminar: *"Excitonic effects in layered materials"*, Summer school in Erasmus Strategic Partnership Project Critical Skills for electronic Engineers, ATHENA European University, July 12th (2021)

14. Invited Seminar: *"Atomically-thin materials for optics"*, INSA-CNRS, Toulouse, France, March 25th (2021)

13. Oral presentation: *"Controlling interlayer excitons in MoS2 layers grown by CVD"*, APS March meeting, March 15-19 (2021)

12. Invited Seminar: *"Light-matter interactions in atomically thin semiconductors"*, Hellenic Mediterranean University, Heraklion, Greece, February 26th (2021)

11. Invited Seminar: *"Linear spectroscopy in transition metal dichalcogenide semiconductors"*, University of Jena, Jena, Germany, November 13th (2020)

10. Oral presentation: *"Controlling interlayer excitons in MoS2 layers grown by chemical vapor deposition"*, International conference on Nonlinear Optics and Excitation Kinetics in Semiconductors (NOEKS 15), Münster, Germany, September 13-17 (2020)

9. Invited Seminar: *"Strong light-matter interaction in layered transition metal dichalcogenide structures"*, J. Herovsky Institute of Physical Chemistry, Prague, Czech, February 5th (2020)

8. Oral presentation: *"Interlayer quantum-confined photon emission in transition metal dichalcogenide heterobilayers"*, Graphene Week 2019, Helsinki, Finland, September 23-27 (2019)

7. Oral presentation: *"Spin-Valley polarization in WS_2 heterostructures"*, Graphene Week 2017, Athens, Greece, September 25-29 (2017)

6. Oral presentation: *"Spatial non-uniformity and Photochemical Doping in Exfoliated WS_2 monolayers"*, DPG Spring Meeting 2017, Mainz, Germany, March 05-10 (2017)

5. Invited speaker:*"Spatial Non-Uniformity in Exfoliated WS_2 Single Layers"*, Light Conference, ICOME-T 2016, Tainan, Taiwan (2016)

4. Oral presentation:*"Spatial Non-Uniformity in Exfoliated WS_2 Single Layers"*, Graphene 2016, Genova, Italy (2016)

3. Oral presentation:*"Ultrafast Laser Interaction with Transition Metal Dichalcogenides"*, Light Conference, ICOME-T 2015, Tainan, Taiwan (2015)

2. Oral Presentation: *"Intense femtosecond photoexcitation of bulk and monolayer MoS_2"*, Joint meeting "Nanotechnology and BioNanoscience", Weizmann Institute of Science, Rehovot, Israel, October 20-23, (2014)

1. Oral presentation:*"Intense femtosecond photoexcitation of bulk and monolayer MoS_2"*, 30th Panhellenic Solid State Physics and Materials Science Conference, Heraklion, Greece, September 21-24, (2014)

SUPERVISION

Supervisor

Ms. Danae Katrisioti, PhD candidate in Near-field effects of 2D excitons, Materials Science department, University of Crete, Greece (2023-)

Co-supervised

Mr. Konstantinos Mourzidis, MSc in Excitons in TMD Lateral Heterostructures, Department of Materials Science & Technology, University of Crete, Greece (2023)

Dr. Georgios Kourmoulakis, PhD in Optical and Electronic Properties of Transition Metal Dichalcogenides on Pre-patterned surfaces, Department of Materials Science & Technology, University of Crete (2023)

Mr. Andres Saiz, MasterII Internship in Optical Spectroscopy of novel 2D semiconductors, INSA/CNRS, France (2021)

Dr. Shivangi Shree, PhD in Optical spectroscopy of monolayer and multilayer semiconductors, INSA/CNRS, France (2020)

Mr. Nathaniel Tye, EPSRC, Centre for Doctoral Training, Photoluminescence from Transverse Excitons in 2D Perovskites, University of Cambridge, UK (2019)

PEER REVIEW

Nature, Nature Physics, Nature Materials, Nature Nanotechnology, Nature Communications, Physical Review Letters, Physical Review B, ACS Nano, Advanced Materials, 2D Materials, Journal of Physics D, Nanotechnology, Nanoscale, Journal of Physical Chemistry, ACS Applied Electronic Materials

PROFESSIONAL MEMBERSHIP

- American Physical Society (APS)
- American Chemical Society (ACS)

GRANTS

- ΕΛ.ΙΔ.Ε.Κ. 2022, 3rd Call for H.F.R.I. Research Projects to Support Post-Doctoral Researchers, 120K euros
  "*Tailoring optical properties of 2D monolayers and their heterostructures with dielectric nanoresonators*" (*2DARE*)
  score **98.2%** ranked **1st** out of 131 proposals
- Theodore Papazoglou FORTH Synergy Grant, 2026, 80K euros
  "Magnetoelastic Control in Ultrathin van der Waals Ferromagnets" (ELASTOMAG-vdW)

EDITOR

- Guest editor in Nanomaterials (IF 5.719), in special issue "Recent Advances in Optical Spectroscopy of Layered Materials"

BOOK CHAPTERS

- Two dimensional semiconductors: optical and electronic properties,

Comprehensive Semiconductor Science and Technology, second edition, Elsevier (in print), 2024 https://doi.org/10.1016/B978-0-323-96027-4.00028-0

REVIEWER IN SCIENTIFIC PANELS

- Croatian Science Foundation – HRZZ
- Swiss National Science Foundation – SNSF

HONORS AND AWARDS

September 2017	State Scholarships Foundation (I.K.Y. ΕΠ ΑΝΑΔΕΔΒΜ/ΕΣΠΑ 2014-2020) - Ph.D. Fellowship, September 2017
July 2017	Stavros Niarchos Foundation – FORTH Ph.D. Fellowship (ARCHERS project)
March 2017	PhD Grant award: International conference "DPG Spring Meeting 2017", Mainz, Germany
April 2016	PhD Grant award: International conference "Graphene 2016", Genova, Italy
October 2014	Oral & Poster presentation 1st place award: "Intense femtosecond photoexcitation of bulk and monolayer MoS_2", Joint meeting "Nanotechnology and BioNanoscience", Weizmann Institute of Science, Rehovot, Israel

PATENTS

- *Measuring crystal quality in low dimensional TMD materials*,
  Stratakis Emmanuel, Psilodimitrakopoulos Sotiris, Lemonis Andreas, Kioseoglou George, Mouchliadis Leonidas, **Paradisanos Ioannis**

Applicant: FORTH
Patent No: PCT/GR2018/000014
Filling Date: 2018
Valid In: Hellenic Industrial Property Organization