

CURRICULUM VITAE & LIST OF PUBLICATIONS

Emmanuel KYMAKIS

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Director of the Institute of Emerging Technologies,
HMU University Center for Research & Innovation

Director of the Nano@HMU group



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1. EDUCATION

Cambridge University, Cambridge, UK (1999-2003)
Ph. D. in Electrical Engineering (Department of Engineering)
Thesis Title: Organic Photovoltaic Devices Based on Conjugated Polymers & Carbon Nanotubes
Advisor: Professor Gehan A.J. Amaratunga

Liverpool University, Liverpool, UK (1995 - 1999)
Bachelor of Engineering (Electrical Engineering & Electronics)
First Class Honours, Graduated Valedictorian
Diploma Thesis: A Multifunctional, Personal & Mobile Spiral Antenna for Satellite Communications

2. AWARDS, DISTINCTIONS, AND FELLOWSHIPS

Elected Fellow of the European Academy of Sciences (EuRASc) 2025-
Director of the HMU Institute of Emerging Technologies 2023 –
Top 2% Scientist (Career-long & Single year), Stanford University / Elsevier (Multiple Years: 2019–2025)
ScholarGPS Lifetime Highly Ranked Scholar, placed in the **top 0.05%** in the field of **Photovoltaics**
Associate editor of *Advanced Composites & Hybrid Materials* and **Editorial Board Member** of *Discover Materials* (2021-) of Springer Nature.
Vice-President of the Hellenic Mediterranean University Research Center 2020-2022
Leader of Energy Generation WP of the Graphene Flagship 2020-2023
Member of Engineering Sciences board of the **Greek National Council** for Research & Innovation 2018-2020
Elected member of the General Assembly of the Greek Foundation of Research & Innovation, 2017-2019
Excellence (ARISTEIA II) Award by the General Secretariat of Research & Technology, 2014
Emerging Investigator – RSC Chemical Communications, 2014
National Representative and Member of the Management Committee of the COST actions MP1307, MP1202, MP0902
Member of the Steering committee of the ESF research programme ‘New generation of organic based photovoltaic devices (ORGANISOLAR)’.
Honorary Lecturer, University of Connecticut, Institute of Material Sciences
Cambridge European Trust Fellowship
Isaac Newton Research Studentship for PhD at Cambridge University
EPSRC Research Scholarship, for study towards a PhD

3. AREAS OF INTEREST

Research Topics

Graphene, 2D Materials & Nanomaterial Engineering
3rd Generation Photovoltaics (Perovskite & Organic)
Printed & Flexible Electronics (Lab-to-Fab, R2R/S2S)
PV Reliability, Degradation Science & Outdoor Testing
Neuromorphic Computing, Memristors & Edge AI

Engineering & Consultancy Topics

Design and Implementation of photovoltaic power plants
Grid connection study of power plants
Due diligence analysis of renewable energy projects
Environmental study of PV plants
Solar thermal power systems

4. PUBLICATIONS – PRESENTATIONS – OTHER ACTIVITIES (Synopsis)

Prof. Emmanuel Kymakis has authored 176 peer-reviewed journal articles (including 10 journal covers), 5 book chapters, and 13 refereed conference proceedings, accumulating over 15,000 citations and an h-index of 65. His pioneering work on carbon nanotube-based organic photovoltaics (*Applied Physics Letters*, 2002) constituted one of the earliest demonstrations of CNT-polymer solar cells and has become a seminal reference in the field. Prof. Kymakis has presented his research 126 times at international meetings, including 64 invited talks, and has delivered 16 invited lectures at leading academic and industrial institutions worldwide. He has secured and managed 29 competitive research and industrial projects totaling over €10.7 million in funding, demonstrating sustained capacity to attract resources from Horizon Europe, EIC Pathfinder, national programmes, and industry. His leadership roles include serving as Work Package Leader for “Energy Generation” (2020–2023) within the EU Graphene Flagship—Europe’s largest-ever research initiative (€1B)—where he directed the deployment of the world’s first graphene-enhanced perovskite solar farm, and coordinating the EIC Pathfinder Challenge project ELEGANCE on green neuromorphic processing engines. He also brings significant industrial expertise, having overseen the design and commissioning of 67 MWp of operational photovoltaic parks and served as strategic advisor to deep-tech start-ups. In recognition of his sustained excellence, he was elected Fellow of the European Academy of Sciences (EurASc) in 2025, is a ScholarGPS Lifetime Highly Ranked Scholar (top 0.05% in Photovoltaics), and has been consistently ranked among the top 2% of scientists worldwide (Stanford/Elsevier, 2019–2025).

5. EXPERIENCE

Hellenic Mediterranean University (HMU), Dept of Electrical & Computer Engineering, Heraklion, Greece
Full Professor (Tenured) | May 2019 – Present

- **Director**, Institute of Emerging Technologies (i-MEET): Defining the Institute's strategic research agenda across nanotechnology, printed electronics, additive manufacturing, and IoT; building European and international research partnerships; securing over €5M in EU funding during tenure.
- **Director**, Nano@HMU Group: Leading a multidisciplinary team of 30+ researchers (postdoctoral fellows, PhD and MSc students, and research engineers) spanning materials synthesis, device fabrication, characterisation, and outdoor PV testing.
- **Vice-President**, HMU Research Center (2020–2022): Oversaw institutional research strategy, infrastructure investment, and EU funding development across six research Institutes; coordinated the preparation and submission of large-scale Horizon Europe proposals.
- **Director**, Center of Materials Technology & Photonics

TEI of Crete, Department of Electrical Engineering, Heraklion, Greece

- Full Professor (tenured), Dept. of Electrical Engineering (Dec 2016- May 2019)
- Head of Electrical Engineering Dept. (Sep 2018 - May 2019).
- Associate Professor (tenured), Dept. of Electrical Engineering (Dec 2012-Dec 2016)
- Assistant Professor (tenure track), Dept. of Electrical Engineering (Apr 2009-Dec 2012)
- Adjunct Assistant Professor, Dept. of Electrical Engineering (Sep 2005-Apr 2009)

Teaching activities: >20 years of teaching experience in electrical engineering. Courses included: Electronics I and II, Electrical circuits, Telecommunications, Renewable energy systems, Advanced Materials & Microelectronics, Energy Materials & Devices -Author of lecture notes for Electronics I, Telecommunications, Renewable energy systems and Advanced Materials & Microelectronics.

Research interests: Synthesis, functionalization, and scalable solution processing of graphene, carbon nanotubes, and 2D layered materials for the development of next-generation electronic and energy devices. Research spans the full innovation chain from nanoscale material discovery to roll-to-roll (R2R) manufacturing, with a focus on perovskite and organic photovoltaics, neuromorphic computing, printed sensors, and flexible electronics for IoT and Industry 4.0. - **Supervisor of 18 Postdocs, 10 Ph.D. students, 16 M.Sc students and 40 B.Eng students**

Consultant Engineer in the field of Photovoltaics and Solar Thermal (Jun 2006 – 2009)

Engineering and consultancy services in the field of photovoltaic power plants.

Solar potential site evaluation, preparation and issuance of production, grid connection, environmental and installation licenses. (Issuance of Production licenses for 67,57 MWp)

Engineering services and implementation studies of PV plants

Technical due diligence analysis of PV projects

Engineering and consultancy services in the field of solar thermal power plants.

Feasibility Study of Solar Thermal Parks

Environmental study of Solar Thermal Parks

Measurements and analysis of direct normal irradiance.

Cambridge University, Department of Engineering, Cambridge, UK

Visiting Research Associate, Center of Advanced Electronics & Photonics (Nov 2004 – 2010)

Soldier in the Greek Army, Telecommunications Division (Aug 2003 - Aug 2004)

Cambridge University, Department of Engineering, Cambridge, UK

Teaching Assistant, undergraduate laboratory course in Electrical Engineering (Oct 2000 – Feb 2003)

6. PROFESSIONAL AFFILIATIONS

Chartered Electrical Engineer in Greece

IEEE, Institute of Electrical and Electronics Engineers

IET, Institution of Engineering and Technology

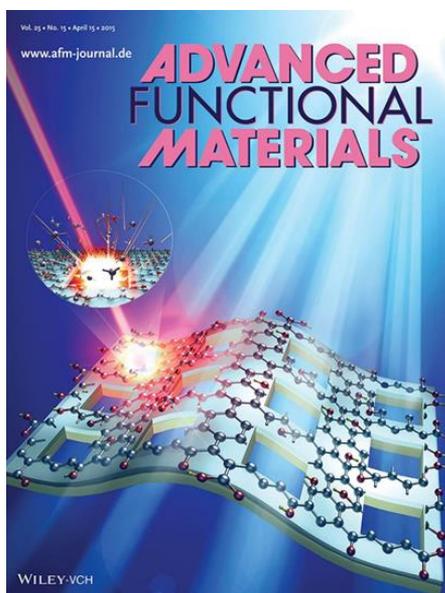
MRS, Materials Research Society

ACS, American Chemical Society
Technical Chamber of Greece

Regular evaluator for: European Commission; Horizon Europe (Clusters 4 & 5); FP7 (Organic Large Area Electronics), Marie Curie Actions; Department of Energy, U.S.A.; National Science Foundation, U.S.A.; ACS Petroleum Research Fund; Research Promotion Foundation of Cyprus; General Secretariat for Research and Technology, Greece, Research Council of Canada; National Research Council of Romania; The French National Research Agency ; German Research Foundation ; Foundation for Polish Science; Italian Ministry for Education, University and Research; Khalifa University of Science and Technology, Swiss National Science Foundation
Regular referee for: Nature Energy, Advanced Materials, Advanced Functional Materials, Advanced Energy Materials, ACS Nano, Energy & Environmental Science, Nano Energy, Solar RRL, Applied Physics Letters, Organic Electronics, Carbon, Journal of Applied Physics, Journal of Physical Chemistry, Progress in Photovoltaics, Solar Energy Materials & Solar Cells, Nanotechnology; IEEE Nanotechnology, etc.

7. PUBLISHED WORK

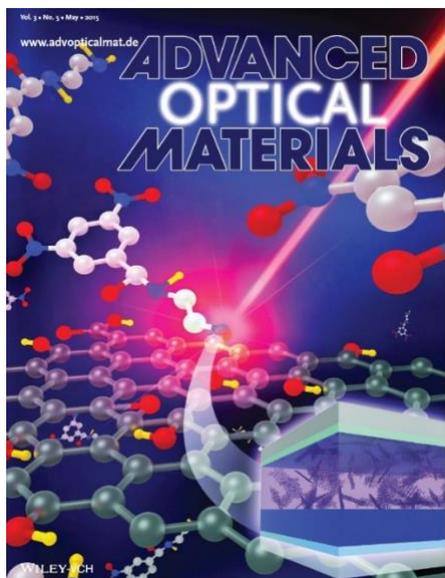
7.1 COVERS



1. Inside Front Cover

Reduced Graphene Oxide Micromesh Electrodes for Large Area, Flexible, Organic Photovoltaic Devices (Adv.Funct.Mater. 25,15, page 2206
APR 2015 | DOI: 10.1002/adfm.201570101

A facile, one step, roll-to-roll compatible laser patterning technique to improve and simultaneously tune the optoelectronic properties of graphene based transparent conductive electrodes (TCE) is demonstrated by E. Stratakis, E. Kymakis, and colleagues on page 2213. In order to overcome the trade-off between the sheet resistance and transparency, reduced graphene oxide micromeshes are laser-patterned on plastic substrate and incorporated in flexible organic photovoltaic devices as the TCE.



2. Inside Front Cover

Photochemical Synthesis of Solution-Processable Graphene Derivatives (Adv. Optical Mater. 3, 5, page 596)
MAY 2015 | DOI: 10.1002/adom.201570027

The artwork represents the photochemical reaction for the synthesis of a graphene-based electron-accepting derivative. Ethylene-dinitrobenzoyl small molecules are shown in the vicinity of a graphene oxide nanosheet, one of which is preferentially bonded to the graphene oxide lattice under the photochemical action of a laser beam. On page 658, E. Kymakis, E. Stratakis, and co-workers use this photochemical synthetic route to create graphene-based electron acceptors with tunable bandgaps for organic solar cells.

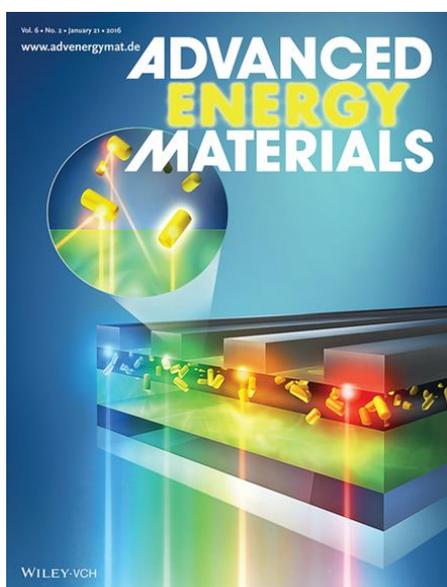


3. Back Cover

Ternary Organic Solar Cells with Reduced Graphene Oxide–Sb₂S₃ Hybrid Nanosheets as the Cascade Material (ChemNanoMat 1,5, page 364)

SEP 2015 | DOI: 10.1002/cnma.201500117

The Back Cover illustrates the use of reduced graphene oxide-antimony sulfide (rGO-Sb₂S₃) hybrid nanosheets as the cascade material in ternary organic solar cells. Their utilization in PCDTBT:PC71BM blend leads to power conversion efficiency of 6.81%; a value 23% higher than the efficiency of the binary devices. The results demonstrate that the exploitation of on-demand functionalized graphene derivatives as electron cascade materials is a promising way towards improving the performance of organic photovoltaics. More details can be found in the Full Paper by E. Kymakis et al. on page 346 in Issue 5, 2015

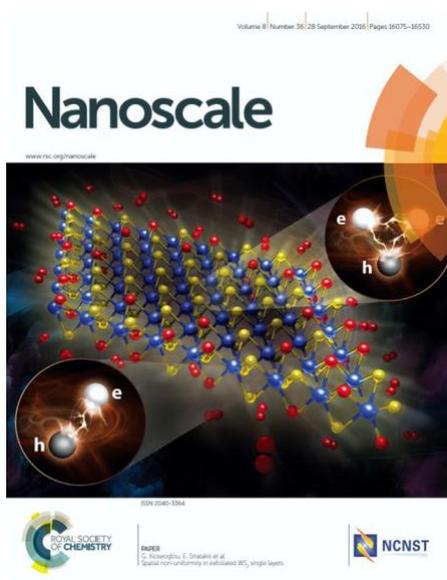


4. Back Cover

Plasmonic Backscattering Effect in High Efficient Organic Photovoltaic Devices (Adv. Energy Mater 6,2 2016)

JAN 2015 | DOI: 10.1002/aenm.201670013

A new light trapping architecture to enhance the power conversion efficiency of organic photovoltaics is proposed and implemented. In article number 1501640, Emmanuel Kymakis and co-workers demonstrate that the incorporation of gold nanorods inside the rear buffer layer, leads to the redistribution of photons inside the active medium mainly through efficient light back-scattering, simultaneously increasing the exciton generation and charge collection.

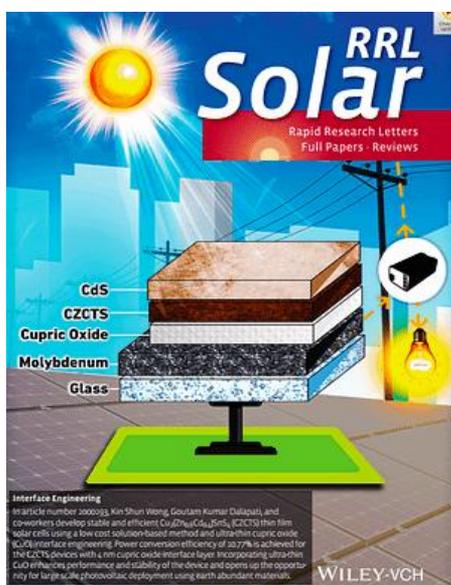


5. Front cover

Spatial non-uniformity in exfoliated WS₂ single layers (Nanoscale, 2016,8, 16075-16076)

SEP 2016 | DOI: 10.1039/C6NR90196D

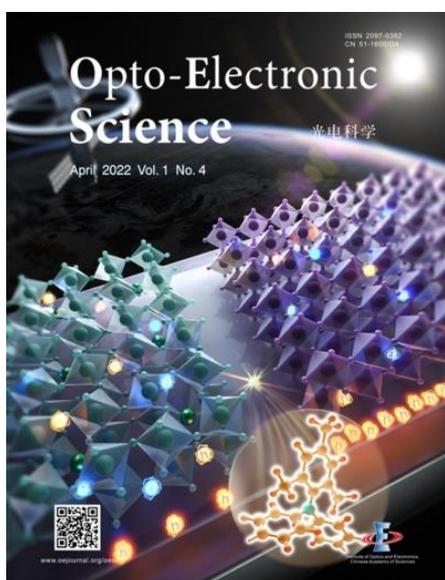
Extraordinary spatial non-uniformity of the photoluminescence (PL) and strain properties of exfoliated WS₂ monolayers. PL enhancement of the outer regions is attributed to the pronounced oxygen chemisorption and physisorption.



6. Frontispiece

Solution-Processed Pure Sulfide $\text{Cu}_2(\text{Zn}_{0.6}\text{Cd}_{0.4})\text{SnS}_4$ Solar Cells with Efficiency 10.8% Using Ultrathin CuO Intermediate Layer (Solar RRL 2020,4,9, 2070096)
 SEP 2020 | DOI: 10.1002/solr.202070096

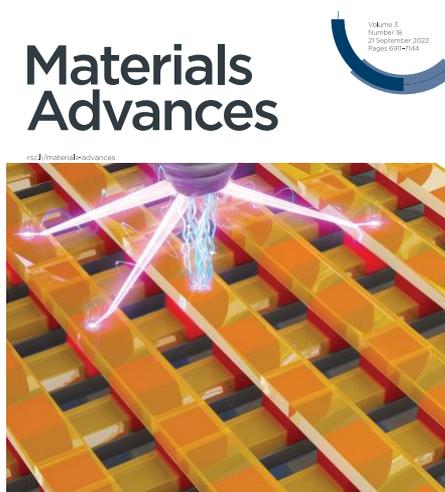
Development of stable and efficient $\text{Cu}_2(\text{Zn}_{0.6}\text{Cd}_{0.4})\text{SnS}_4$ (CZCTS) thin film solar cells using a low cost solution-based method and ultrathin cupric oxide (CuO) interface engineering. Power conversion efficiency of 10.77% is achieved for the CZCTS devices with 4 nm cupric oxide interface layer. Incorporating ultra-thin CuO enhances performance and stability of the device and opens up the opportunity for large scale photovoltaic deployment using earth abundant materials.



7. Front cover

Charge carrier dynamics in different crystal phases of $\text{CH}_3\text{NH}_3\text{PbI}_3$ perovskite (Opto-Electron Sci 2022, 1, 210005)
 APR 2022 | DOI: 10.29026/oes.2022.210005

This cover paper provides an overview on how the charge carrier dynamics vary with respect to the crystalline phase of the organic-inorganic perovskite. It presents micro photoluminescence (μPL) and ultrafast time resolved absorption spectroscopy (TAS) results in a reference Glass/Perovskite architecture and two different Glass/ITO/HTL/Perovskite configurations at temperatures below room temperature. The objective of this work is to probe and shed light on the charge carrier dynamics of different perovskite crystalline phases, while considering also the effect of the employed HTL polymer.



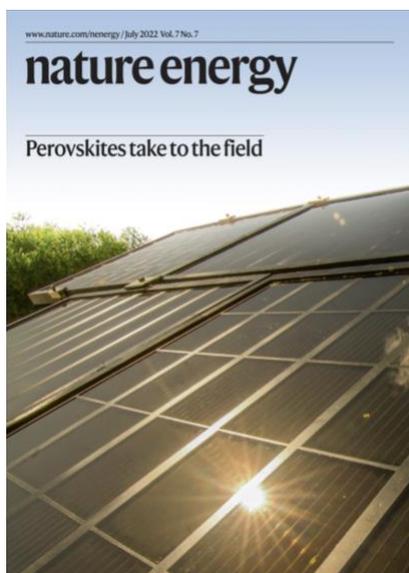
8. Inside front cover

Memristive perovskite solar cells towards parallel solar energy harvesting and processing-in-memory computing (Materials Advances, 2022,18, 7002-7014)
 SEP 2022 | DOI: 10.1039/D2MA90091B

Konstantinos Rogdakis, Emmanuel Kymakis et al. Memristive perovskite solar cells towards parallel solar energy harvesting and processing-in-memory computing



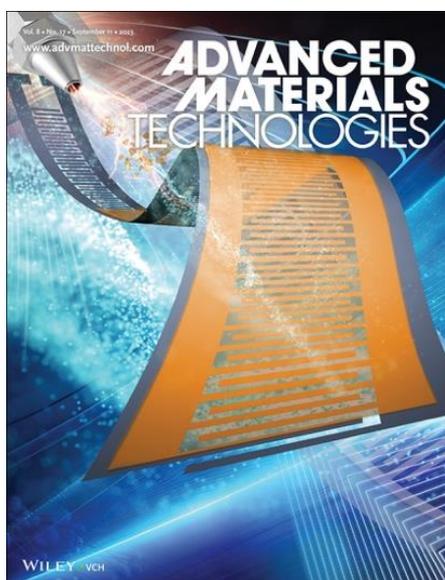
PAPER
 Konstantinos Rogdakis, Emmanuel Kymakis et al.
 Memristive perovskite solar cells towards parallel solar
 energy harvesting and processing-in-memory computing



9. *Front Cover*

Perovskites take to the field (Nature Energy, 2022, 7, 7)
 JUL 2022 | DOI: /10.1038/s41560-022-01035-4

Demonstration of manufacturability and outdoor operation of large-scale perovskite solar cells is key to improving their technological maturity. Now, Pescetelli et al. fabricate a large number of perovskite photovoltaic modules and integrate them into a 4.5-m² outdoor solar farm, whose operation is monitored for 12 months.



10. *Back Cover*

Piezo-Phototronic In₂Se₃ Nanosheets as a Material Platform for Printable Electronics toward Multifunctional Sensing Applications (Adv. Mater. Technol. 17, 11, 2370088) SEP 2023 | DOI: 10.1002/admt.202370088

In article 22300203, Konstantinos Rogdakis, Emmanuel Kymakis, and co-workers demonstrate the exploitability of defect-free In₂Se₃ nanosheets for dual use in photo-sensing and strain sensing applications by involving facile, low-capex fabrication and industrially available materials. The resulting strain-tuneable photosensors exhibit excellent ambient stability and good light sensitivity. Finally, the realisation of a weight sensor further adds prospects to employing In₂Se₃ as the functional material.

7.2. PUBLICATIONS IN REFEREED JOURNALS

1. **Kymakis, E.***, Amaratunga, G.A.J. Single-wall carbon nanotube/conjugated polymer photovoltaic devices (2002) *Applied Physics Letters*, 80 (1), pp. 112-114.ⁱ [DOI:10.1063/1.1428416](https://doi.org/10.1063/1.1428416)
2. Alexandrou, I., **Kymakis, E.**, Amaratunga, G.A.J. Polymer-nanotube composites: Burying nanotubes improves their field emission properties (2002) *Applied Physics Letters*, 80 (8), pp. 1435-1437. [DOI:10.1063/1.1449537](https://doi.org/10.1063/1.1449537)
3. **Kymakis, E.***, Alexandrou, I., Amaratunga, G.A.J. Single-walled carbon nanotube-polymer composites: Electrical, optical and structural investigation (2002) *Synthetic Metals*, 127 (1-3), pp. 59-62.ⁱⁱ [DOI:10.1016/S0379-6779\(01\)00592-6](https://doi.org/10.1016/S0379-6779(01)00592-6)
4. **Kymakis, E.***, Alexandrou, I., Amaratunga, G.A.J. High open-circuit voltage photovoltaic devices from carbon-nanotube-polymer composites (2003) *Journal of Applied Physics*, 93 (3), pp. 1764-1768. [DOI:10.1063/1.1535231](https://doi.org/10.1063/1.1535231)

* Asterisks denote the corresponding author

ⁱ Virtual Journal of Nanoscale Science and Technology, 5, 2 (2002).

ⁱⁱ Scienccdirect Top 25 Hottest Articles, July - September 2008

5. **Kymakis, E.***, Amaratunga, G.A.J. Photovoltaic cells based on dye-sensitisation of single-wall carbon nanotubes in a polymer matrix (2003) *Solar Energy Materials and Solar Cells*, 80 (4), pp. 465-472. ⁱⁱⁱ [DOI:10.1016/j.solmat.2003.08.013](https://doi.org/10.1016/j.solmat.2003.08.013)
6. **Kymakis, E.***, Amaratunga, G.A.J. Optical properties of polymer-nanotube composites (2004) *Synthetic Metals*, 142 (1-3), pp. 161-167. ^{iv} [DOI:10.1016/j.synthmet.2003.08.011](https://doi.org/10.1016/j.synthmet.2003.08.011)
7. Bhattacharyya, S., **Kymakis, E.**, Amaratunga, G.A.J. Photovoltaic properties of dye functionalized single-wall carbon nanotube/conjugated polymer devices (2004) *Chemistry of Materials*, 16 (23), pp. 4819-4823. [DOI:10.1021/cm0496063](https://doi.org/10.1021/cm0496063)
8. **Kymakis, E.***, Amaratunga, G.A.J. Carbon nanotubes as electron acceptors in polymeric photovoltaics (2005) *Reviews on Advanced Materials Science*, 10 (4), pp. 300-305.
9. **Kymakis, E.***, Koudoumas, E., Franghiadakis, I., Amaratunga, G.A.J. Post-fabrication annealing effects in polymer-nanotube photovoltaic cells (2006) *Journal of Physics D: Applied Physics*, 39 (6), art. no. 010, pp. 1058-1062. [DOI:10.1088/0022-3727/39/6/010](https://doi.org/10.1088/0022-3727/39/6/010)
10. **Kymakis, E.***, Amaratunga, G.A.J. Electrical properties of single-wall carbon nanotube-polymer composite films (2006) *Journal of Applied Physics*, 99 (8), art. no. 084302. ^v [DOI:10.1063/1.2189931](https://doi.org/10.1063/1.2189931)
11. **Kymakis, E.***, Koudoumas, E., Franghiadakis, I. Bi-layer photovoltaic devices with PPQ as the electron acceptor layer (2006) *Solar Energy Materials and Solar Cells*, 90 (12), pp. 1705-1714. [DOI:10.1016/j.solmat.2005.09.006](https://doi.org/10.1016/j.solmat.2005.09.006)
12. **Kymakis, E.***, Klapsis, G., Koudoumas, E., Stratakis, E., Kornilios, N., Vidakis, N., Franghiadakis, Y. Carbon nanotube/PEDOT:PSS electrodes for organic photovoltaics (2006) *EPJ Applied Physics*, 36 (3), pp. 257-259. [DOI:10.1051/epjap:2006148](https://doi.org/10.1051/epjap:2006148)
13. Vaddiraju, S., Mathai, M., **Kymakis, E.**, Papadimitrakopoulos, F. Radical salt-doped hole transporters in organic photovoltaic devices (2007) *Chemistry of Materials*, 19 (16), pp. 4049-4055. [DOI:10.1021/cm070744c](https://doi.org/10.1021/cm070744c)
14. **Kymakis, E.***, Stratakis, E., Koudoumas, E. Integration of carbon nanotubes as hole transport electrode in polymer/fullerene bulk heterojunction solar cells (2007) *Thin Solid Films*, 515, pp. 8598-8600. ^{vi} [DOI:10.1016/j.tsf.2007.03.173](https://doi.org/10.1016/j.tsf.2007.03.173)
15. Vernardou, D., Kenanakis, G., Couris, S., Koudoumas, E., **Kymakis, E.**, Katsarakis, N. pH effect on the morphology of ZnO nanostructures grown with aqueous chemical growth (2007) *Thin Solid Films*, 515, pp. 8764-8767. [DOI:10.1016/j.tsf.2007.03.108](https://doi.org/10.1016/j.tsf.2007.03.108)
16. **Kymakis, E.***, Servati, P., Tzanetakis, P., Koudoumas, E., Kornilios, N., Rompogiannakis, I., Franghiadakis, Y., Amaratunga, G.A.J. Effective mobility and photocurrent in carbon nanotube-polymer composite photovoltaic cells (2007) *Nanotechnology*, 18 (43), art. no. 435702. [DOI:10.1088/0957-4484/18/43/435702](https://doi.org/10.1088/0957-4484/18/43/435702)
17. **Kymakis, E.***, Kornilios, N., Koudoumas, E. Carbon nanotube doping of P3HT:PCBM photovoltaic devices (2008) *Journal of Physics D: Applied Physics*, 41 (16), art. no. 165110 [DOI:10.1088/0022-3727/41/16/165110](https://doi.org/10.1088/0022-3727/41/16/165110)
18. Stratakis, E., **Kymakis, E.**, Spanakis, E., Tzanetakis, P., Koudoumas, E. Polymer-nanotube composite mats with improved field emission performance and stability (2009) *Physical Chemistry Chemical Physics*, 11 (4), pp. 703-709. [DOI:10.1039/b813198h](https://doi.org/10.1039/b813198h)
19. **Kymakis, E.***, Kalykakis, S., Papazoglou, T.M. Performance analysis of a grid connected photovoltaic park on the island of Crete (2009) *Energy Conversion and Management*, 50 (3), pp. 433-438. [DOI:10.1016/j.enconman.2008.12.009](https://doi.org/10.1016/j.enconman.2008.12.009)
20. Vernardou, D., Vlachou, K., Spanakis, E., Stratakis, E., Katsarakis, N., **Kymakis, E.**, Koudoumas, E. Influence of solution chemistry on the properties of hydrothermally grown TiO₂ for advanced applications (2009) *Catalysis Today*, 144 (1-2), pp. 172-176. [DOI:10.1016/j.cattod.2009.02.009](https://doi.org/10.1016/j.cattod.2009.02.009)
21. Stylianakis, M.M., Mikroyannidis, J.A., **Kymakis, E.*** A facile, covalent modification of single-wall carbon nanotubes by thiophene for use in organic photovoltaic cells (2010) *Solar Energy Materials and Solar Cells*, 94 (2), pp. 267-274. [DOI:10.1016/j.solmat.2009.09.013](https://doi.org/10.1016/j.solmat.2009.09.013)

ⁱⁱⁱ Fuel and Energy Abstracts, 45, 6, 382, (2004)

^{iv} Scencedirect Top 25 Hottest Articles, July - September 2004

^v Virtual Journal of Nanoscale Science and Technology, 13, 17 (2006).

^{vi} Scencedirect Top 25 Hottest Articles, October - December 2007 & January - March 2008

22. Stratakis, E., Giorgi, R., Barberoglou, M., Dikonimos, Th., Salernitano, E., Lisi, N., **Kymakis, E.** Three-dimensional carbon nanowall field emission arrays (2010) *Applied Physics Letters*, 96 (4), art. no. 043110.^{vii} [DOI:10.1063/1.3298648](https://doi.org/10.1063/1.3298648)
23. **Kymakis, E.***, Stratakis, E., Koudoumas, E., Fotakis, C. Plasmonic organic photovoltaic devices on transparent carbon nanotube films (2011) *IEEE Transactions on Electron Devices*, 58 (3), art. no. 5701662, pp. 860-864. [DOI:10.1109/TED.2010.2102630](https://doi.org/10.1109/TED.2010.2102630)
24. Spyropoulos, G.D., Stylianakis, M., Stratakis, E., **Kymakis, E.*** Plasmonic organic photovoltaics doped with metal nanoparticles (2011) *Photonics and Nanostructures - Fundamentals and Applications*, 9 (2), pp. 184-189.^{viii} [DOI:10.1016/j.photonics.2010.09.001](https://doi.org/10.1016/j.photonics.2010.09.001)
25. Paci, B., Spyropoulos, G.D., Generosi, A., Bailo, D., Albertini, V.R., Stratakis, E., **Kymakis, E.** Enhanced structural stability and performance durability of bulk heterojunction photovoltaic devices incorporating metallic nanoparticles (2011) *Advanced Functional Materials*, 21 (18), pp. 3573-3582. [DOI:10.1002/adfm.201101047](https://doi.org/10.1002/adfm.201101047)
26. **Kymakis, E.***, Stratakis, E., Stylianakis, M.M., Koudoumas, E., Fotakis, C. Spin coated graphene films as the transparent electrode in organic photovoltaic device (2011) *Thin Solid Films*, 520 (4), pp. 1238-1241. [DOI:10.1016/j.tsf.2011.04.208](https://doi.org/10.1016/j.tsf.2011.04.208)
27. **Kymakis, E.***, Stylianakis, M.M., Spyropoulos, G.D., Stratakis, E., Koudoumas, E., Fotakis, C. Spin coated carbon nanotubes as the hole transport layer in organic photovoltaics (2012) *Solar Energy Materials and Solar Cells*, 96 (1), pp. 298-301. [DOI:10.1016/j.solmat.2011.09.046](https://doi.org/10.1016/j.solmat.2011.09.046)
28. Stylianakis, M.M., **Kymakis, E.*** Efficiency enhancement of organic photovoltaics by addition of carbon nanotubes into both active and hole transport layer (2012) *Applied Physics Letters*, 100 (9), art. no. 093301.^{ix} [DOI:10.1063/1.3690056](https://doi.org/10.1063/1.3690056)
29. Spyropoulos, G.D., Stylianakis, M.M., Stratakis, E., **Kymakis, E.*** Organic bulk heterojunction photovoltaic devices with surfactant-free Au nanoparticles embedded in the active layer (2012) *Applied Physics Letters*, 100 (21), art. no. 213904. [DOI:10.1063/1.4720510](https://doi.org/10.1063/1.4720510)
30. Stratakis, E., Eda, G., Yamaguchi, H., **Kymakis, E.**, Fotakis, C., Chhowalla, M. Free-standing graphene on microstructured silicon vertices for enhanced field emission properties (2012) *Nanoscale*, 4 (10), pp. 3069-3074. [DOI:10.1039/c2nr32799f](https://doi.org/10.1039/c2nr32799f)
31. Stylianakis, M.M., Stratakis, E., Koudoumas, E., **Kymakis, E.***, Anastasiadis, S.H. Organic bulk heterojunction photovoltaic devices based on polythiophene-graphene composites (2012) *ACS Applied Materials and Interfaces*, 4 (9), pp. 4864-4870. [DOI:10.1021/am301204g](https://doi.org/10.1021/am301204g)
32. Stylianakis, M.M., Spyropoulos, G.D., Stratakis, E., **Kymakis, E.*** Solution-processable graphene linked to 3,5-dinitrobenzoyl as an electron acceptor in organic bulk heterojunction photovoltaic devices (2012) *Carbon*, 50 (15), pp. 5554-5561. [DOI:10.1016/j.carbon.2012.08.001](https://doi.org/10.1016/j.carbon.2012.08.001)
33. Paci, B., Generosi, A., Albertini, V.R., Spyropoulos, G.D., Stratakis, E., **Kymakis, E.** Enhancement of photo/thermal stability of organic bulk heterojunction photovoltaic devices via gold nanoparticles doping of the active layer (2012) *Nanoscale*, 4 (23), pp. 7452-7459. [DOI:10.1039/c2nr32799f](https://doi.org/10.1039/c2nr32799f)
34. Petridis, C., Lin, Y.-H., Savva, K., Eda, G., **Kymakis, E.**, Anthopoulos, T.D., Stratakis, E. Post-fabrication, in situ laser reduction of graphene oxide devices (2013) *Applied Physics Letters*, 102 (9), art. no. 093115. [DOI:10.1063/1.4794901](https://doi.org/10.1063/1.4794901)
35. Stratakis, E., **Kymakis, E.*** Nanoparticle-based plasmonic organic photovoltaic devices (2013) *Materials Today*, 16 (4), pp. 133-146.^x [DOI:10.1016/j.mattod.2013.04.006](https://doi.org/10.1016/j.mattod.2013.04.006)
36. Stratakis, E., Stylianakis, M.M., Koudoumas, E., **Kymakis, E.*** Plasmonic organic photovoltaic devices with graphene based buffer layers for stability and efficiency enhancement (2013) *Nanoscale*, 5 (10), pp. 4144-4150. [DOI:10.1039/c3nr00656e](https://doi.org/10.1039/c3nr00656e)
37. **Kymakis, E.***, Savva, K., Stylianakis, M.M., Fotakis, C., Stratakis, E. Flexible organic photovoltaic cells with in situ nonthermal photoreduction of spin-coated graphene oxide electrodes (2013) *Advanced Functional Materials*, 23 (21), pp. 2742-2749. [DOI:10.1002/adfm.201202713](https://doi.org/10.1002/adfm.201202713)
38. Beliatis, M.J., Henley, S.J., Han, S., Gandhi, K., Adikaari, A.A.D.T., Stratakis, E., **Kymakis, E.**, Silva, S.R.P. Organic solar cells with plasmonic layers formed by laser nanofabrication (2013) *Physical Chemistry Chemical Physics*, 15 (21), pp. 8237-8244. [DOI:10.1039/c3cp51334c](https://doi.org/10.1039/c3cp51334c)

^{vii} Virtual Journal of Nanoscale Science and Technology, 21, 6 (2010).

^{viii} ScienDirect Top 25 Hottest Articles, July - September 2011 [1st], Jan - Dec 2011 [2nd]

^{ix} Virtual Journal of Nanoscale Science and Technology, 25, 11 (2012)

^x Most Cited Materials Today Articles

39. Paci, B., Bailo, D., Albertini, V.R., Wright, J., Ferrero, C., Spyropoulos, G.D., Stratakis, E., **Kymakis, E.** Spatially-resolved in-situ structural study of organic electronic devices with nanoscale resolution: The plasmonic photovoltaic case study (2013) *Advanced Materials*, 25 (34), pp. 4760-4765. [DOI:10.1002/adma.201301682](https://doi.org/10.1002/adma.201301682)
40. Kakavelakis, G., Stratakis, E., **Kymakis, E.*** Aluminum nanoparticles for efficient and stable organic photovoltaics (2013) *RSC Advances*, 3 (37), pp. 16288-16291. [DOI:10.1039/c3ra42792g](https://doi.org/10.1039/c3ra42792g)
41. **Kymakis, E.***, Petridis, C., Anthopoulos, T.D., Stratakis, E. Laser-assisted reduction of graphene oxide for flexible, large-area optoelectronics (2014) *IEEE Journal on Selected Topics in Quantum Electronics*, 20 (1), art. no. 6573325 [DOI:10.1109/JSTQE.2013.2273414](https://doi.org/10.1109/JSTQE.2013.2273414)
42. Viskadourous, G.M., Stylianakis, M.M., **Kymakis, E.**, Stratakis, E. Enhanced field emission from reduced graphene oxide polymer composites (2014) *ACS Applied Materials and Interfaces*, 6 (1), pp. 388-393. [DOI:10.1021/am4044618](https://doi.org/10.1021/am4044618)
43. Kakavelakis, G., Stratakis, E., **Kymakis, E.*** Synergetic plasmonic effect of Al and Au nanoparticles for efficiency enhancement of air processed organic photovoltaic devices (2014) *Chemical Communications*, 50 (40), pp. 5285-5287.^{xi} [DOI:10.1039/c3cc49004a](https://doi.org/10.1039/c3cc49004a)
44. Stratakis, E., Savva, K., Konios, D., Petridis, C., **Kymakis, E.*** Improving the efficiency of organic photovoltaics by tuning the work function of graphene oxide hole transporting layers (2014) *Nanoscale*, 6 (12), pp. 6925-6931. [DOI:10.1039/c4nr01539h](https://doi.org/10.1039/c4nr01539h)
45. Viskadourous, G., Zak, A., Stylianakis, M., **Kymakis, E.**, Tenne, R., Stratakis, E. Enhanced field emission of WS₂ nanotubes (2014) *Small*, 10 (12), pp. 2398-2403. [DOI:10.1002/sml.201303340](https://doi.org/10.1002/sml.201303340)
46. Paradisanos, I., **Kymakis, E.**, Fotakis, C., Kioussoglou, G., Stratakis, E. Intense femtosecond photoexcitation of bulk and monolayer MoS₂ (2014) *Applied Physics Letters*, 105 (4), art. no. 041108. [DOI:10.1063/1.4891679](https://doi.org/10.1063/1.4891679)
47. Savva, K., Lin, Y.-H., Petridis, C., **Kymakis, E.**, Anthopoulos, T.D., Stratakis, E. In situ photo-induced chemical doping of solution-processed graphene oxide for electronic applications (2014) *Journal of Materials Chemistry C*, 2 (29), pp. 5931-5937. [DOI:10.1039/c4tc00404c](https://doi.org/10.1039/c4tc00404c)
48. Konios, D., Stylianakis, M.M., Stratakis, E., **Kymakis, E.*** Dispersion behaviour of graphene oxide and reduced graphene oxide (2014) *Journal of Colloid and Interface Science*, 430, pp. 108-112.^{xii} [DOI:10.1016/j.jcis.2014.05.033](https://doi.org/10.1016/j.jcis.2014.05.033)
49. Kakavelakis, G., Konios, D., Stratakis, E., **Kymakis, E.*** Enhancement of the efficiency and stability of organic photovoltaic devices via the addition of a lithium-neutralized graphene oxide electron-transporting layer (2014) *Chemistry of Materials*, 26 (20), pp. 5988-5993. [DOI:10.1021/cm502826f](https://doi.org/10.1021/cm502826f)
50. Pattanasattayavong, P., Sygletou, M., **Kymakis, E.**, Stratakis, E., Yan, F., Gregoriou, V.G., Anthopoulos, T.D., Chochos, C.L. The role of the ethynylene bond on the optical and electronic properties of diketopyrrolopyrrole copolymers (2014) *RSC Advances*, 4 (102), pp. 58404-58411. [DOI:10.1039/c4ra11487f](https://doi.org/10.1039/c4ra11487f)
51. Viskadourous, G., Konios, D., **Kymakis, E.**, Stratakis, E. Direct laser writing of flexible graphene field emitters (2014) *Applied Physics Letters*, 105 (20), art. no. 203104. [DOI:10.1063/1.4902130](https://doi.org/10.1063/1.4902130)
52. Balis, N., Konios, D., Stratakis, E., **Kymakis, E.*** Ternary Organic Solar Cells with Reduced Graphene Oxide–Sb₂S₃ Hybrid Nanosheets as the Cascade Material (2015) *ChemNanoMat*, 1 (5), pp. 346-352. ^{xiii} [DOI:10.1002/cnma.201500044](https://doi.org/10.1002/cnma.201500044)
53. Stylianakis, M.M., Sygletou, M., Savva, K., Kakavelakis, G., **Kymakis, E.**, Stratakis, E. Photochemical Synthesis of Solution-Processable Graphene Derivatives with Tunable Bandgaps for Organic Solar Cells (2015) *Advanced Optical Materials*, 3 (5), pp. 658-666. [DOI:10.1002/adom.201400450](https://doi.org/10.1002/adom.201400450)
54. Sygellou, L., Viskadourous, G., Petridis, C., **Kymakis, E.**, Galiotis, C., Tasis, D., Stratakis, E. Effect of the reduction process on the field emission performance of reduced graphene oxide cathodes (2015) *RSC Advances*, 5 (66), pp. 53604-53610. [DOI:10.1039/c5ra08633g](https://doi.org/10.1039/c5ra08633g)
55. Paci, B., Kakavelakis, G., Generosi, A., Rossi Albertini, V., Wright, J.P., Ferrero, C., Konios, D., Stratakis, E., **Kymakis, E.** Stability enhancement of organic photovoltaic devices utilizing partially reduced graphene oxide as the hole transport layer: Nanoscale insight into structural/interfacial properties and aging effects (2015) *RSC Advances*, 5 (129), pp. 106930-106940. [DOI:10.1039/c5ra24010g](https://doi.org/10.1039/c5ra24010g)
56. Lin, Y.-H., Faber, H., Labram, J.G., Stratakis, E., Sygellou, L., **Kymakis, E.**, Hastas, N.A., Li, R., Zhao K., Amassian, A., Treat, N.D., McLachlan, M., Anthopoulos, T.D. High Electron Mobility Thin-Film

^{xi} 2014 Emerging Investigators Issue

^{xii} J. Colloid Interface Sci.Top Cited Article

^{xiii} Appeared in the back cover of ChemNanoMat

- Transistors Based on Solution-Processed Semiconducting Metal Oxide Heterojunctions and Quasi-Superlattices (2015) *Advanced Science*, 2 (7), art. no. 1500058. DOI:10.1002/advs.201500058
57. Konios, D., Dr., Petridis, C., Dr., Kakavelakis, G., Sygletou, M., Savva, K., Stratakis, E., **Kymakis, E.*** Reduced graphene oxide micromesh electrodes for large area, flexible, organic photovoltaic devices (2015) *Advanced Functional Materials*, 25 (15), pp. 2213-2221.^{xiv} DOI:10.1002/adfm.201404046
 58. **Kymakis, E.***, Spyropoulos, G.D., Fernandes, R., Kakavelakis, G., Kanaras, A.G., Stratakis, E. Plasmonic Bulk Heterojunction Solar Cells: The Role of Nanoparticle Ligand Coating (2015) *ACS Photonics*, 2 (6), pp. 714-723. DOI:10.1021/acsp Photonics.5b00202
 59. Bonaccorso, F., Balis, N., Stylianakis, M.M., Savarese, M., Adamo, C., Gemmi, M., Pellegrini, V., Stratakis, E., **Kymakis, E.** Functionalized Graphene as an Electron-Cascade Acceptor for Air-Processed Organic Ternary Solar Cells (2015) *Advanced Functional Materials*, 25 (25), pp. 3870-3880. DOI:10.1002/adfm.201501052
 60. Quesnel, E., Roux, F., Emieux, F., Faucherand, P., **Kymakis, E.**, Volonakis, G., Giustino, F., Martín-García, B., Moreels, I., Gürsel, S.A., Yurtcan, A.B., Di Noto, V., Talyzin, A., Baburin, I., Tranca, D., Seifert, G., Crema, L., Speranza, G., Tozzini, V., Bondavalli, P., Pognon, G., Botas, C., Carriazo, D., Singh, G., Rojo, T., Kim, G., Yu, W., Grey, C.P., Pellegrini, V. Graphene-based technologies for energy applications, challenges and perspectives (2015) *2D Materials*, 2 (3), art. no. 030204. DOI:10.1088/2053-1583/2/3/030204
 61. Krassas, M., Kakavelakis, G., Stylianakis, M.M., Vaenas, N., Stratakis, E., **Kymakis, E.** Efficiency enhancement of organic photovoltaic devices by embedding uncapped Al nanoparticles in the hole transport layer (2015) *RSC Advances*, 5 (88), pp. 71704-71708. DOI:10.1039/c5ra14017j
 62. Heuer-Jungemann, A., Kiessling, L., Stratakis, E., **Kymakis, E.**, El-Sagheer, A.H., Brown, T., Kanaras, A.G. Programming the assembly of gold nanoparticles on graphene oxide sheets using DNA (2015) *Journal of Materials Chemistry C*, 3 (36), pp. 9379-9384. DOI:10.1039/c5tc01999k
 63. Sygletou, M., Kakavelakis, G., Paci, B., Generosi, A., **Kymakis, E.**, Stratakis, E. Enhanced Stability of Aluminum Nanoparticle-Doped Organic Solar Cells (2015) *ACS Applied Materials and Interfaces*, 7 (32), pp. 17756-17764. DOI:10.1021/acsaami.5b03970
 64. Stylianakis, M.M., Konios, D., Kakavelakis, G., Charalambidis, G., Stratakis, E., Coutsolelos, A.G., **Kymakis, E.**, Anastasiadis, S.H. Efficient ternary organic photovoltaics incorporating a graphene-based porphyrin molecule as a universal electron cascade material (2015) *Nanoscale*, 7 (42), pp. 17827-17835. DOI:10.1039/c5nr05113d
 65. Vaenas, N., Konios, D., Stergiopoulos, T., **Kymakis, E.*** Slow photocharging and reduced hysteresis in low-temperature processed planar perovskite solar cells (2015) *RSC Advances*, 5 (130), pp. 107771-107776. DOI:10.1039/c5ra23845e
 66. Viskadourous, G., Konios, D., **Kymakis, E.**, Stratakis, E. Electron field emission from graphene oxide wrinkles (2016) *RSC Advances*, 6 (4), pp. 2768-2773. DOI:10.1039/c5ra23031d
 67. Konios, D., Kakavelakis, G., Petridis, C., Savva, K., Stratakis, E., **Kymakis, E.** Highly efficient organic photovoltaic devices utilizing work-function tuned graphene oxide derivatives as the anode and cathode charge extraction layers (2016) *Journal of Materials Chemistry A*, 4 (5), pp. 1612-1623. DOI:10.1039/c5ta09712f
 68. Pylarinos, D., Siderakis, K., Thalassinakis, E., Mavrikakis, N., Koudoumas, E., Drakakis, E., **Kymakis, E.** A new approach for open air insulator test stations: Experience from talos and the polydiagno project (2016) *Journal of Electrical Engineering*, 16 (2), pp. 269-274.
 69. Kakavelakis, G., Vangelidis, I., Heuer-Jungemann, A., Kanaras, A.G., Lidorikis, E., Stratakis, E., **Kymakis, E.*** Plasmonic backscattering effect in high-efficient organic photovoltaic devices (2016) *Advanced Energy Materials*, 6 (2), art. no. 1501640. DOI:10.1002/aenm.201501640
 70. Sygletou, M., Tzourmpakis, P., Petridis, C., Konios, D., Fotakis, C., **Kymakis, E.**, Stratakis, E. Laser induced nucleation of plasmonic nanoparticles on two-dimensional nanosheets for organic photovoltaics (2016) *Journal of Materials Chemistry A*, 4 (3), pp. 1020-1027. DOI:10.1039/c5ta09199c
 71. Noori, K., Konios, D., Stylianakis, M.M., **Kymakis, E.**, Giustino, F. Energy-level alignment and open-circuit voltage at graphene/polymer interfaces: Theory and experiment (2016) *2D Materials*, 3 (1), art. no. 015003. DOI:10.1088/2053-1583/3/1/015003
 72. Noori, K., Hübener, H., **Kymakis, E.**, Giustino, F. Modelling graphene quantum dot functionalization via ethylene-dinitrobenzoyl (2016) *Applied Physics Letters*, 108 (12), art. no. 123902. DOI:10.1063/1.4944906

^{xiv} Appeared in the inside front cover of Adv.Funct. Mater

73. Agresti, A., Pescetelli, S., Cinà, L., Konios, D., Kakavelakis, G., **Kymakis, E.**, Carlo, A.D. Efficiency and Stability Enhancement in Perovskite Solar Cells by Inserting Lithium-Neutralized Graphene Oxide as Electron Transporting Layer (2016) *Advanced Functional Materials*, 26 (16), pp. 2686-2694. [DOI:10.1002/adfm.201504949](https://doi.org/10.1002/adfm.201504949)
74. Petridis, C., Konios, D., Stylianakis, M.M., Kakavelakis, G., Sygletou, M., Savva, K., Tzourmpakis, P., Krassas, M., Vaenas, N., Stratakis, E., **Kymakis, E.*** Solution processed reduced graphene oxide electrodes for organic photovoltaics (2016) *Nanoscale Horizons*, 1 (5), pp. 375-382. [DOI:10.1039/c5nh00089k](https://doi.org/10.1039/c5nh00089k)
75. Paradisanos, I., Pliatsikas, N., Patsalas, P., Fotakis, C., **Kymakis, E.***, Kioseoglou, G., Stratakis, E. Spatial non-uniformity in exfoliated WS₂ single layers (2016) *Nanoscale*, 8 (36), pp. 16197-16203. [DOI:10.1039/c6nr03597c](https://doi.org/10.1039/c6nr03597c)
76. Cho, K.T., Grancini, G., Lee, Y., Konios, D., Paek, S., **Kymakis, E.**, Nazeeruddin, M.K. Beneficial Role of Reduced Graphene Oxide for Electron Extraction in Highly Efficient Perovskite Solar Cells (2016) *ChemSusChem*, 9 (21), pp. 3040-3044. [DOI:10.1002/cssc.201601070](https://doi.org/10.1002/cssc.201601070)
77. Balis, N., Stratakis, E., **Kymakis, E.*** Graphene and transition metal dichalcogenide nanosheets as charge transport layers for solution processed solar cells (2016) *Materials Today*, 19 (10), pp. 580-594. [DOI:10.1016/j.mattod.2016.03.018](https://doi.org/10.1016/j.mattod.2016.03.018)
78. Kakavelakis, G., Petridis, K., **Kymakis, E.*** Recent advances in plasmonic metal and rare-earth-element upconversion nanoparticle doped perovskite solar cells (2017) *Journal of Materials Chemistry A*, 5 (41), pp. 21604-21624. [DOI:10.1039/c7ta05428a](https://doi.org/10.1039/c7ta05428a)
79. Kakavelakis, G., Alexaki, K., Stratakis, E., **Kymakis, E.*** Efficiency and stability enhancement of inverted perovskite solar cells via the addition of metal nanoparticles in the hole transport layer (2017) *RSC Advances*, 7 (21), pp. 12998-13002. [DOI:10.1039/c7ra00274b](https://doi.org/10.1039/c7ra00274b)
80. Paci, B., Kakavelakis, G., Generosi, A., Wright, J., Ferrero, C., Stratakis, E., **Kymakis, E.*** Improving stability of organic devices: a time/space resolved structural monitoring approach applied to plasmonic photovoltaics (2017) *Solar Energy Materials and Solar Cells*, 159, pp. 617-624. [DOI:10.1016/j.solmat.2016.01.003](https://doi.org/10.1016/j.solmat.2016.01.003)
81. Agresti, A., Pescetelli, S., Palma, A.L., Del Rio Castillo, A.E., Konios, D., Kakavelakis, G., Razza, S., Cinà, L., **Kymakis, E.**, Bonaccorso, F., Di Carlo, A. Graphene Interface Engineering for Perovskite Solar Modules: 12.6% Power Conversion Efficiency over 50 cm² Active Area (2017) *ACS Energy Letters*, 2 (1), pp. 279-287. [DOI:10.1021/acsenergylett.6b00672](https://doi.org/10.1021/acsenergylett.6b00672)
82. Petridis, C., Savva, K., **Kymakis, E.**, Stratakis, E. Laser generated nanoparticles based photovoltaics (2017) *Journal of Colloid and Interface Science*, 489, pp. 28-37. [DOI:10.1016/j.jcis.2016.09.065](https://doi.org/10.1016/j.jcis.2016.09.065)
83. Drakakis, E., **Kymakis, E.**, Tzagkarakis, G., Louloudakis, D., Katharakis, M., Kenanakis, G., Suche, M., Tudose, V., Koudoumas, E. A study of the electromagnetic shielding mechanisms in the GHz frequency range of graphene based composite layers (2017) *Applied Surface Science*, 398, pp. 15-18. [DOI:10.1016/j.apsusc.2016.12.030](https://doi.org/10.1016/j.apsusc.2016.12.030)
84. Kakavelakis, G., Maksudov, T., Konios, D., Paradisanos, I., Kioseoglou, G., Stratakis, E., **Kymakis, E.*** Efficient and Highly Air Stable Planar Inverted Perovskite Solar Cells with Reduced Graphene Oxide Doped PCBM Electron Transporting Layer (2017) *Advanced Energy Materials*, 7 (7). [DOI:10.1002/aenm.201602120](https://doi.org/10.1002/aenm.201602120)
85. Kakavelakis, G., Del Rio Castillo, A.E., Pellegrini, V., Ansaldo, A., Tzourmpakis, P., Brescia, R., Prato, M., Stratakis, E., **Kymakis, E.***, Bonaccorso, F. Size-Tuning of WSe₂ Flakes for High Efficiency Inverted Organic Solar Cells (2017) *ACS Nano*, 11 (4), pp. 3517-3531. [DOI:10.1021/acsnano.7b00323](https://doi.org/10.1021/acsnano.7b00323)
86. Paradisanos, I., Germanis, S., Pelekanos, N.T., Fotakis, C., **Kymakis, E.**, Kioseoglou, G., Stratakis, E. Room temperature observation of biexcitons in exfoliated WS₂ monolayers (2017) *Applied Physics Letters*, 110 (19), art. no. 193102. [DOI:10.1063/1.4983285](https://doi.org/10.1063/1.4983285)
87. Sygletou, M., Petridis, C., **Kymakis, E.**, Stratakis, E. Advanced Photonic Processes for Photovoltaic and Energy Storage Systems (2017) *Advanced Materials*, 29 (39), art. no. 1700335. [DOI:10.1002/adma.201700335](https://doi.org/10.1002/adma.201700335)
88. Stylianakis, M.M., Konios, D., Viskadourous, G., Vernardou, D., Katsarakis, N., Koudoumas, E., Anastasiadis, S.H., Stratakis, E., **Kymakis, E.*** Ternary organic solar cells incorporating zinc phthalocyanine with improved performance exceeding 8.5% (2017) *Dyes and Pigments*, 146, pp. 408-413. [DOI:10.1016/j.dyepig.2017.07.032](https://doi.org/10.1016/j.dyepig.2017.07.032)
89. Biccari, F., Gabelloni, F., Burzi, E., Gurioli, M., Pescetelli, S., Agresti, A., Del Rio Castillo, A.E., Ansaldo, A., **Kymakis, E.**, Bonaccorso, F., Di Carlo, A., Vinattieri, A. Graphene-Based Electron Transport Layers in Perovskite Solar Cells: A Step-Up for an Efficient Carrier Collection (2017) *Advanced Energy Materials*, 7 (22), art. no. 1701349. [DOI:10.1002/aenm.201701349](https://doi.org/10.1002/aenm.201701349)

90. Stylianakis, M.M., Konios, D., Petridis, C., Kakavelakis, G., Stratakis, E., **Kymakis, E.*** Ternary solution-processed organic solar cells incorporating 2D materials (2017) *2D Materials*, 4 (4), art. no. 042005. [DOI:10.1088/2053-1583/aa8440](https://doi.org/10.1088/2053-1583/aa8440)
91. Serpetzoglou, E., Konidakis, I., Kakavelakis, G., Maksudov, T., **Kymakis, E.**, Stratakis, E. Improved Carrier Transport in Perovskite Solar Cells Probed by Femtosecond Transient Absorption Spectroscopy (2017) *ACS Applied Materials and Interfaces*, 9 (50), pp. 43910-43919. [DOI:10.1021/acsami.7b15195](https://doi.org/10.1021/acsami.7b15195)
92. Kostopoulou, A., **Kymakis, E.**, Stratakis, E. Perovskite nanostructures for photovoltaic and energy storage devices (2018) *Journal of Materials Chemistry A*, 6 (21), pp. 9765-9798. [DOI:10.1039/c8ta01964a](https://doi.org/10.1039/c8ta01964a)
93. Chocho, C.L., Katsouras, A., Drakopoulou, S., Miskaki, C., Krassas, M., Tzourmpakis, P., Kakavelakis, G., Sprau, C., Colsmann, A., Squeo, B.M., Gregoriou, V.G., **Kymakis, E.**, Avgeropoulos, A. Effects of alkyl side chains positioning and presence of fused aromatic units in the backbone of low-bandgap diketopyrrolopyrrole copolymers on the optoelectronic properties of organic solar cells (2018) *Journal of Polymer Science, Part A: Polymer Chemistry*, 56 (1), pp. 138-146. [DOI:10.1002/pola.28901](https://doi.org/10.1002/pola.28901)
94. Kakavelakis, G., Gagaoudakis, E., Petridis, K., Petromichelaki, V., Binas, V., Kiriakidis, G., **Kymakis, E.*** Solution Processed CH₃NH₃PbI₃-xCl_x Perovskite Based Self-Powered Ozone Sensing Element Operated at Room Temperature (2018) *ACS Sensors*, 3 (1), pp. 135-142. [DOI:10.1021/acssensors.7b00761](https://doi.org/10.1021/acssensors.7b00761)
95. Petridis, K., Kakavelakis, G., Stylianakis, M.M., **Kymakis, E.*** Graphene-Based Inverted Planar Perovskite Solar Cells: Advancements, Fundamental Challenges, and Prospects (2018) *Chemistry - An Asian Journal*, 13 (3), pp. 240-249. [DOI:10.1002/asia.201701626](https://doi.org/10.1002/asia.201701626)
96. Kakavelakis, G., Paradisanos, I., Paci, B., Generosi, A., Papachatzakis, M., Maksudov, T., Najafi, L., Del Rio Castillo, A.E., Kioseoglou, G., Stratakis, E., Bonaccorso, F., **Kymakis, E.*** Extending the Continuous Operating Lifetime of Perovskite Solar Cells with a Molybdenum Disulfide Hole Extraction Interlayer (2018) *Advanced Energy Materials*, 8 (12), art. no. 1702287. [DOI:10.1002/aenm.201702287](https://doi.org/10.1002/aenm.201702287)
97. Papazoglou, S., Petridis, C., **Kymakis, E.**, Kennou, S., Raptis, Y.S., Chatzandroulis, S., Zergioti, I. In-situ sequential laser transfer and laser reduction of graphene oxide films (2018) *Applied Physics Letters*, 112 (18), art. no. 183301. [DOI:10.1063/1.5021862](https://doi.org/10.1063/1.5021862)
98. Petridis, C., Kakavelakis, G., **Kymakis, E.** Renaissance of graphene-related materials in photovoltaics due to the emergence of metal halide perovskite solar cells (2018) *Energy and Environmental Science*, 11 (5), pp. 1030-1061. [DOI:10.1039/c7ee03620e](https://doi.org/10.1039/c7ee03620e)
99. Ciammaruchi, L., Oliveira, R., Charas, A., Tulus, Von Hauff, E., Polino, G., Brunetti, F., Hansson, R., Moons, E., Krassas, M., Kakavelakis, G., **Kymakis, E.**, Sánchez, J.G., Ferre-Borrull, J., Marsal, L.F., Züfle, S., Fluhr, D., Roesch, R., Faber, T., Schubert, U.S., Hoppe, H., Bakker, K., Veenstra, S., Zanotti, G., Katz, E.A., Apilo, P., Romero, B., Tumay, T.A., Parlak, E., Stagno, L.M., Turkovic, V., Rubahn, H.-G., Madsen, M., Kazukauskas, V., Tanenbaum, D.M., Shanmugam, S., Galagan, Y. Stability of organic solar cells with PCDTBT donor polymer: An interlaboratory study (2018) *Journal of Materials Research*, 33 (13), pp. 1909-1924. [DOI:10.1557/jmr.2018.163](https://doi.org/10.1557/jmr.2018.163)
100. Konidakis, I., Maksudov, T., Serpetzoglou, E., Kakavelakis, G., **Kymakis, E.**, Stratakis, E. Improved Charge Carrier Dynamics of CH₃NH₃PbI₃ Perovskite Films Synthesized by Means of Laser-Assisted Crystallization (2018) *ACS Applied Energy Materials*, 1 (9), pp. 5101-5111. [DOI:10.1021/acsaem.8b01152](https://doi.org/10.1021/acsaem.8b01152)
101. Kakavelakis, G., **Kymakis, E.**, Petridis, K. 2D Materials Beyond Graphene for Metal Halide Perovskite Solar Cells (2018) *Advanced Materials Interfaces*, 5 (22), art. no. 1800339. [DOI:10.1002/admi.201800339](https://doi.org/10.1002/admi.201800339)
102. Stylianakis, M.M., Viskadourous, G., Polyzoidis, C., Veisakis, G., Kenanakis, G., Kornilios, N., Petridis, K., **Kymakis, E.** Updating the role of reduced graphene oxide ink on field emission devices in synergy with charge transfer materials (2019) *Nanomaterials*, 9 (2), art. no. 137. [DOI:10.3390/nano9020137](https://doi.org/10.3390/nano9020137)
103. Anagnostou K., Stylianakis M., Petridis K., **Kymakis E.** * Building an Organic Solar Cell: Fundamental Procedures for Device Fabrication, (2019) *Energies* 12 (11), 2188 [DOI:10.3390/en12112188](https://doi.org/10.3390/en12112188)
104. Petrović M., Maksudov T., Panagiotopoulos A., Serpetzoglou E., Konidakis I., Stylianakis M., Stratakis E., **Kymakis E.*** Limitations of polymer-based hole transporting layer for application in planar inverted perovskite solar cells (2019) *Nanoscale Advances*, 2019, 1, 3107-3118 [DOI:10.1039/c9na00246d](https://doi.org/10.1039/c9na00246d)
105. Petrović M., Rogdakis K., **Kymakis E.*** Beneficial impact of materials with reduced dimensionality on the stability of perovskite-based photovoltaics (2019) *Journal of Physics: Energy* 1, 044001 [DOI:10.1088/2515-7655/ab3585](https://doi.org/10.1088/2515-7655/ab3585)
106. Meitzner R. et al. Impact of P3HT Materials Properties and Layer Architecture on OPV Device Stability (2019) *Solar Energy Materials and Solar Cells*, 202, 11015 [DOI:10.1016/j.solmat.2019.110151](https://doi.org/10.1016/j.solmat.2019.110151)

107. Serpetzoglou E., Konidakis I., Maksudov T., Panagiotopoulos A., **Kymakis E.** Stratakis E. In situ monitoring of the charge carrier dynamics of CH₃NH₃PbI₃ perovskite crystallization process (2019) *Journal of Materials Chemistry C*, 7, 12170-12179 [DOI:10.1039/c9tc04335g](https://doi.org/10.1039/c9tc04335g)
108. Perrakis G., Kakavelakis G., Kenanakis G., Petridis C., Stratakis E., **Kymakis E.** Efficient and environmental-friendly perovskite solar cells via embedding plasmonic nanoparticles: an optical simulation study on realistic device architectures *Optics Express* (2019) 27, 22, 31144-31163 [DOI:10.1364/OE.27.031144](https://doi.org/10.1364/OE.27.031144)
109. Bidikoudi M., **Kymakis E.***, Novel approaches and scalability prospects of copper based hole transporting materials for planar perovskite solar cells (2019) *Journal of Materials Chemistry C*, 7, 13680-13708 [DOI:10.1039/c9tc04009a](https://doi.org/10.1039/c9tc04009a)
110. Gagaoudakis, E., Panagiotopoulos, A., Maksudov, T., Moschogiannaki, M., Katerinopoulou, D., Kakavelakis, G., Kiriakidis, G., Binas, V., **Kymakis, E.**, Petridis, K., Self-powered, flexible and room temperature operated solution processed hybrid metal halide p-type sensing element for efficient hydrogen detection (2020) *Journal of Physics: Materials* 3, 014010 [DOI:10.3390/en13020450](https://doi.org/10.3390/en13020450)
111. Krassas, M., Polyzoidis, C., Tzourmpakis, P., Kosmidis, D.M., Viskadourous, G., Kornilios, N., Charalambidis, G., Nikolaou, V., Coutsolelos, A.G., Petridis, K., Stylianakis, M.M., **Kymakis, E.***, Benzothiadiazole Based Cascade Material to Boost the Performance of Inverted Ternary Organic Solar Cells (2020) *Energies* 1, 13 (2), 450 [DOI:10.3390/nano9020137](https://doi.org/10.3390/nano9020137)
112. Zhao, D., Jiang, K., Li, J., Zhu, X., Ke, C., Han, S., **Kymakis, E.**, Zhuang, X., Supercapacitors with alternating current line-filtering performance (2020) *BMC Materials* 2, 3 [DOI:10.1039/c9na00246d](https://doi.org/10.1039/c9na00246d)
113. Stylianakis, M.M., Kosmidis, D.M., Anagnostou, K., Polyzoidis, C., Krassas, M., Kenanakis, G., Viskadourous, G., Kornilios, N., Petridis, K., **Kymakis, E.***, Emphasizing the Operational Role of a Novel Graphene-Based Ink into High Performance Ternary Organic Solar Cells (2020) *Nanomaterials* 10(1), 89 [DOI:10.1039/c9na00246d](https://doi.org/10.1039/c9na00246d)
114. Zervos, C., Tountas, M., Chatzimanolis, K., Polyzoidis, C., **Kymakis, E.***, Evaluating the role of phenethylamine iodide as a novel anti-solvent for enhancing performance of inverted planar perovskite solar cells (2020), *Journal of Materials Chemistry C*, 8, 7143-7148 [DOI: 10.1039/D0TC01244K](https://doi.org/10.1039/D0TC01244K)
115. Kim, H.-S., Yang, B., Stylianakis, M.M., **Kymakis, E.**, Zakeeruddin, S.M., Grätzel, M., Hagfeldt, A., Improved Moisture- and Thermal-Stability of Perovskite Solar Cells by Incorporating Reduced Graphene Oxide, *Cell Reports Physical Science* (2020), 1, 5, 100053 [DOI:10.1016/j.xcrp.2020.100053](https://doi.org/10.1016/j.xcrp.2020.100053)
116. Tsikritzis, D., Rogdakis, K., Chatzimanolis, K., Petrović, M., Tzoganakis, N., Najafi, L., Martín-García, B., Oropesa-Nuñez, R., Bellani, S., Del Rio Castillo, A.E., Prato, M., Stylianakis, M.M., Bonaccorso, F., **Kymakis, E.***, Two-fold engineering approach incorporating metallic Bi₂Te₃ flakes towards efficient and stable inverted perovskite solar cells (2020) *Materials Advances*, 1, 450-462 [DOI: 10.1039/D0MA00162G](https://doi.org/10.1039/D0MA00162G)
117. Huang, J., Huang, S., Zhao, Y., Feng, B., Jiang, K., Sun, S., Ke, C., **Kymakis, E.**, Zhuang, X., Azulene-Based Molecules, Polymers, and Frameworks for Optoelectronic and Energy Applications, *Small methods* (2020) 4, 10, 2000628 [DOI:10.1002/smt.202000628](https://doi.org/10.1002/smt.202000628)
118. Zhuk, S., Wong, T.K.S., Petrović, M., **Kymakis, E.**, Hadke, S.S., Lie, S., Wong, L.H., Sonar, P., Dey, A., Krishnamurthy, S., Dalapati, G.K., Solution Processed Pure Sulfide CZCTS Solar Cells with Efficiency 10.8% using Ultra-thin CuO Intermediate Layer, *Solar RRL* (2020) 4, 9, 2000293 [DOI:10.1002/solr.202000293](https://doi.org/10.1002/solr.202000293)
119. Kakavelakis, G., Gedda, M., Panagiotopoulos, A., **Kymakis, E.**, Anthopoulos, T.D., Petridis, K., Metal Halide Perovskites for High-Energy Radiation Detection, *Advanced Science* (2020) 7, 22, 2002098 [DOI:10.1002/advs.202002098](https://doi.org/10.1002/advs.202002098)
120. Anagnostou, K., Stylianakis, M.M., Atsalakis, G., Kosmidis, D.M., Skouras, A., Stavrou, I.J., Petridis, K., **Kymakis, E.***, An Extensive Case Study on the Dispersion Parameters of HI-assisted Reduced Graphene Oxide and its Graphene Oxide Precursor, *Journal of Colloid and Interface Science*, 2020, 580, 332-344 [DOI:10.1016/j.jcis.2020.07.040](https://doi.org/10.1016/j.jcis.2020.07.040)
121. Yu, T., Wang, Y., Jiang, K., Zhai, G., Ke, C., Zhang, J., Li, J., Tranca, D., **Kymakis, E.**, Zhuang, X., Catechol-coordinated framework film-based micro-supercapacitors with AC line filtering performance, *Chemistry - A European journal*, 2021, [DOI:10.1002/chem.202100171](https://doi.org/10.1002/chem.202100171)
122. Ouyang, Z., Tranca, D., Zhao, Y., Chen, Z., Fu, X., Zhu, J., Zhai, G., Ke, C., **Kymakis, E.**, Zhuang, X., Quinone-Enriched Conjugated Microporous Polymer as an Organic Cathode for Li-Ion Batteries, *ACS Applied Materials and Interfaces*, 2021, 13, 7, 9064–9073 [DOI:10.1021/acsami.1c00867](https://doi.org/10.1021/acsami.1c00867)
123. Jiang, P., Jiang, K., Tranca, D., Zhu, J., Qiu, F., Ke, C., Lu, C., **Kymakis, E.**, Zhuang, X., Rational Control of Topological Defects in Porous Carbon for High-Efficiency Carbon Dioxide Conversion, *Advanced Materials Interfaces*, 2021, 2100051 [DOI:10.1002/admi.202100051](https://doi.org/10.1002/admi.202100051)

124. Castriotta, L.A., Matteocci, F., Vesce, L., Cinà, L., Agresti, A., Pescetelli, S., Ronconi, A., Löffler, M., Stylianakis, M.M., Di Giacomo, F., Mariani, P., Stefanelli, M., Speller, E.M., Alfano, A., Paci, B., Generosi, A., Di Fonzo, F., Petrozza, A., Rellinghaus, B., **Kymakis, E.**, Di Carlo, A., Air-Processed Infrared-Annealed Printed Methylammonium-Free Perovskite Solar Cells and Modules Incorporating Potassium-Doped Graphene Oxide as an Interlayer, *ACS Applied Materials and Interfaces*, 2021, 13, 10, 11741–11754 [DOI:10.1021/acsami.0c18920](https://doi.org/10.1021/acsami.0c18920)
125. Karalis, G., Tzounis, L., Mytafides, C.K., Tsirka, K., Formanek, P., Stylianakis, M., **Kymakis, E.**, Paipetis, A.S., A high performance flexible and robust printed thermoelectric generator based on hybridized Te nanowires with PEDOT:PSS, *Applied Energy*, 2021, 294, art. no. 117004, [DOI: 10.1016/j.apenergy.2021.117004](https://doi.org/10.1016/j.apenergy.2021.117004)
126. Chatzimanolis, K., Rogdakis, K., Tsikritzis, D., Tzoganakis, N., Tountas, M., Krassas, M., Bellani, S., Najafi, L., Martín-García, B., Oropesa-Nuñez, R., Prato, M., Bianca, G., Plutnarova, I., Sofer, Z., Bonaccorso, F., **Kymakis, E.***, Inverted perovskite solar cells with enhanced lifetime and thermal stability enabled by a metallic tantalum disulfide buffer layer, *Nanoscale Advances*, 2021, 3 (11), pp. 3124-3135. [DOI: 10.1039/d1na00172h](https://doi.org/10.1039/d1na00172h)
127. Huang, J., Jiang, K., Tranca, D., Ke, C., Zhang, L., Li, J., Li, J., Tong, G., **Kymakis, E.**, Zhuang, X., Perovskite oxide and polyazulene-based heterostructure for high-performance supercapacitors, *Journal of Applied Polymer Science*, 2021, 138, 41, 51198 [DOI: 10.1002/app.51198](https://doi.org/10.1002/app.51198)
128. Ding, J., Wu, D., Huang, S., Lu, C., Chen, Y., Zhang, J., Zhang, L., Li, J., Ke, C., Tranca, D., **Kymakis, E.**, Zhuang, X., Topological defect-containing Fe/N co-doped mesoporous carbon nanosheets as novel electrocatalysts for the oxygen reduction reaction and Zn-air batteries, *Nanoscale*, 2021, 13, 13249-13255 [DOI:10.1039/D1NR03147C](https://doi.org/10.1039/D1NR03147C)
129. Wen, J., Chen, Z., Han, S., Zhu, J., Ke, C., Kymakis, E., Zhuang, X., Poly(2-aminoazulene) Filler-Improved PEO-Based Electrolyte for Highly Stable Solid-State Li-Metal Batteries, *Journal of the Electrochemical Society*, 2021 168 (9), art. no. 090545
130. Tzoganakis, N., Feng, B., Loizos, M., Krassas, M., Tsikritzis, D., Zhuang, X., **Kymakis, E.***, Ultrathin PTAA interlayer in conjunction with azulene derivatives for the fabrication of inverted perovskite solar cells, *Journal of Materials Chemistry C*, 2021, 9 (41), 14709-14719 [DOI:10.1039/D1TC02726C](https://doi.org/10.1039/D1TC02726C)
131. Rogdakis, K., Karakostas, N., **Kymakis, E.***, Up-scalable emerging energy conversion technologies enabled by 2D materials: From miniature power harvesters towards grid-connected energy systems, *Energy and Environmental Science*, 2021, 14 (6), pp. 3352-3392. [DOI: 10.1039/d0ee04013d](https://doi.org/10.1039/d0ee04013d)
132. Bellani, S., Bartolotta, A., Agresti, A., Calogero, G., Grancini, G., Di Carlo, A., **Kymakis, E.**, Bonaccorso, F., Solution-processed two-dimensional materials for next-generation photovoltaics, *Chemical Society Review*, 2021, 50, 11870-11965, [DOI:10.1039/D1CS00106J](https://doi.org/10.1039/D1CS00106J).
133. Polyzoidis, C., Rogdakis, K., **Kymakis, E.***, Indoor Perovskite Photovoltaics for the Internet of Things- Challenges and Opportunities toward Market Uptake, *Advanced Energy Materials*, 2021, 2101854 [DOI:10.1002/aenm.202101854](https://doi.org/10.1002/aenm.202101854).
134. Serpetzoglou E., Konidakis I., Kourmoulakis G., Demeridou I., Chatzimanolis K., Zervos C., Kioseoglou, G., **Kymakis E.**, Stratakis E., Charge carrier dynamics in different crystal phases of CH₃NH₃PbI₃ perovskite, *Opto-Electron Sci*, 2022, 1, 210005^{xv} [DOI:10.29026/oes.2022.210005](https://doi.org/10.29026/oes.2022.210005)
135. Soultati, A., Tountas, M., Fakharuddin, A., Skoulikidou, M.-C., Verykios, A., Armadorou, K.-K., Tzoganakis, N., Vidali, V.P., Sakellis, I., Koralli, P., Chochos, C.L., Petsalakis, I., Nikoloudakis, E., Palilis, L.C., Filippatos, P.-P., Argitis, P., Davazoglou, D., Mohd Yusoff, A.R.b., **Kymakis, E.**, Coutsolelos, A.G., Vasilopoulou, M., *Sustainable Energy & Fuels*, 2022, 6, 2570-2580, [DOI: 10.1039/D2SE00384H](https://doi.org/10.1039/D2SE00384H)
136. Soultati, A., Nunzi, F., Fakharuddin, A., Verykios, A., Armadorou, K.K., Tountas, M., Panagiotakis, S., Polydorou, E., Charisiadis, A., Nikolaou, V., Papadakis, M., Charalambidis, G., Nikoloudakis, E., Yannakopoulou, K., Bao, X., Yang, C., Dunbar, A.D.F., **Kymakis, E.**, Palilis, L.C., Mohd Yusoff, A.R.B., Argitis, P., Coutsolelos, A.G., De Angelis, F., Nazeeruddin, M.K., Vasilopoulou, M., Functionalized BODIPYs as tailor-made and universal interlayers for efficient and stable organic and perovskite solar cells, *Advanced Materials Interfaces*, 2022, 9, 21, 2102324 [DOI:10.1002/admi.202102324](https://doi.org/10.1002/admi.202102324)
137. Loizos, M., Tountas, M., Tzoganakis, N., Chochos, C.L., Nega, A., Schiza, A., Polyzoidis, C., Gregoriou, V.G., **Kymakis, E.***, Enhancing the lifetime of inverted perovskite solar cells using a new hydrophobic hole transport material, *Energy Adv.*, 2022, 1, 312-320, [DOI:10.1039/D2YA00067A](https://doi.org/10.1039/D2YA00067A)

^{xv} Appeared in the front cover of Opto-Electronic Science

138. Jiang, K., Peng, P., Tranca, D., Tong, G., Ke, C., Lu, C., Hu, J., Liang, H., Li, J., Zhou, S., **Kymakis, E.**, Zhuang, X., Covalent Triazine Frameworks and Porous Carbons: Perspective from an Azulene-Based Case, *Macromolecular Rapid Communications*, 2022, 43, 20, 2200392 [DOI: 10.1002/marc.202200392](https://doi.org/10.1002/marc.202200392)
139. Pescetelli, S., Agresti, A., Viskadourous, G., Razza, S., Rogdakis, K., Kalogerakis, I., Spiliariotis, E., Leonardi, E., Mariani, P., Sorbello, L., Pierro, M., Cornaro, C., Bellani, S., Najafi, L., Martín-García, B., Del Rio Castillo, A.E., Oropesa-Nuñez, R., Prato, M., Maranghi, S., Parisi, M.L., Sinicropi, A., Basosi, R., Bonaccorso, F., **Kymakis, E.***, Di Carlo, A., Integration of two-dimensional materials-based perovskite solar panels into a standalone solar farm, *Nature Energy* 2022, 7, 597–607 [DOI: 10.1038/s41560-022-01035-4](https://doi.org/10.1038/s41560-022-01035-4)^{xvi}
140. Carlo A.D., Bonaccorso F. , **Kymakis E.**, Outdoor performance evaluation of a 2D materials-based perovskite solar farm, *Nature Energy* 7, 580-581, 2022, [DOI: 10.1038/s41560-022-01037-2](https://doi.org/10.1038/s41560-022-01037-2)
141. Rogdakis, K., Loizos, M., Viskadourous, G., **Kymakis, E.*** Memristive perovskite solar cells towards parallel solar energy harvesting and processing-in-memory computing, *Materials Advances*, 2022, 3, 7002-7014 [DOI: 10.1039/D2MA00402J](https://doi.org/10.1039/D2MA00402J)^{xvii}
142. Tsikritzis, D., Chatzimanolis, K., Tzoganakis, N., Bellani, S., Zappia, M.I., Bianca, G., Curreli, N., Buha, J., Kriegel, I., Antonatos, N., Sofer, Z., Krassas, M., Rogdakis, K., Bonaccorso, F., **Kymakis, E.**, Two-dimensional BiTeI as a novel perovskite additive for printable perovskite solar cells, *Sustainable Energy & Fuels*, 2022, 6, 5345-5359, [DOI: 10.1039/D2SE01109C](https://doi.org/10.1039/D2SE01109C)
143. Loizos, M, Rogdakis, K., **Kymakis, E.*** An electronic synaptic memory device based on four-cation mixed halide perovskite, *Discover Materials*, 2022, 3, 7002-7014 [DOI:10.1007/s43939-022-00032-4](https://doi.org/10.1007/s43939-022-00032-4)
144. Anagnostou K., Veisakis G., Kalogerakis I., Viskadourous G., Rogdakis K., **Kymakis, E.*** Geometric Tuning for Enhanced Moisture-Driven Electricity Generation Enabled by Graphene-Oxide Flakes, *Coatings*, 2022, 3, 7002-7014 [DOI: 10.3390/coatings12121970](https://doi.org/10.3390/coatings12121970)
145. Fakharuddin, A., Armadorou, K.-K., Zorba, L.P., Tountas, M., Seewald, T., Soultati, A., Tsiapas, P., Schütz, E.R., Tzoganakis, N., Panagiotakis, S., Yannakopoulou, K., Dimoulas, A., Psycharis, V., **Kymakis, E.**, Yusoff, A.R.B.M., Aidinis, K., Schmidt-Mende, L., Vougioukalakis, G.C., Nazeeruddin, M.K., Vasilopoulou, M, A Triethyleneglycol C60 Mono-adduct Derivative for Efficient Electron Transport in Inverted Perovskite Solar Cells, *Chinese Journal of Chemistry*, 2023, 41 (4), 431-442 [DOI: 10.1002/cjoc.202200542](https://doi.org/10.1002/cjoc.202200542)
146. Tzoganakis, N., Feng, B., Loizos, M., Chatzimanolis, K., Krassas, M., Tsikritzis, D., Zhuang, X., **Kymakis, E.***, Performance and Stability Improvement of Inverted Perovskite Solar Cells by Interface Modification of Charge Transport Layers Using an Azulene–Pyridine Molecule, *Energy Technology*, 2023, 11, 22201017, [DOI: 10.1002/ente.202201017](https://doi.org/10.1002/ente.202201017)
147. Tzoganakis, N., Tsikritzis, D., Chatzimanolis, K., Zhuang, X., **Kymakis, E.*** A Low-Cost and Lithium-Free Hole Transport Layer for Efficient and Stable Normal Perovskite Solar Cells, *Nanomaterials*, 2023, 13 (5), art. no. 883, [DOI:10.3390/nano13050883](https://doi.org/10.3390/nano13050883)
148. Polyzoidis P., Rogdakis K., Veisakis G., Tsikritzis D., Hashemi P., Yang H., Sofer Z., Nia A.S., Feng X., **Kymakis E.*** Piezo-Phototronic In₂Se₃ Nanosheets as a Material Platform for Printable Electronics toward Multifunctional Sensing Applications, *Advanced Materials Technologies*, 2023, [DOI:10.1002/admt.202300203](https://doi.org/10.1002/admt.202300203)
149. Tzoganakis N., Chatzimanolis K., Spiliariotis E., Veisakis G., Tsikritzis D., **Kymakis E.**, An Efficient Approach for Controlling the Crystallization, Strain, and Defects of the Perovskite Film in Hybrid Perovskite Solar Cells Through Antisolvent Engineering, *Sustainable Energy & Fuels*, 7 (17), 4136-4149, 2023 [DOI: 10.1039/D3SE00435J](https://doi.org/10.1039/D3SE00435J)
150. Rogdakis, K., Chatzimanolis, K., Psaltakis, G., Tzoganakis, N., Tsikritzis, D., Anthopoulos, T.D., **Kymakis E.***, Mixed-Halide Perovskite Memristors with Gate-Tunable Functions Operating at Low-Switching Electric Fields, *Advanced Electronic Materials*, 9 (12), art. no. 2300424, 2023 DOI: [10.1002/aelm.202300424](https://doi.org/10.1002/aelm.202300424)

^{xvi} Appeared in the front cover of Nature Energy

^{xvii} Appeared in the inside front cover of Materials Advances

151. Tountas, M., Polyzoidis, C., Loizos, M., Rogdakis, K., **Kymakis E.***, Improved Performance of Hole-Transporting Material-Free Perovskite Solar Cells Using a Low-Temperature Printed Carbon Paste, *ACS Applied Electronic Materials*, 5 (11), pp. 6228-6235, 2023, DOI: [10.1021/acsaelm.3c01132](https://doi.org/10.1021/acsaelm.3c01132)
152. Loizos, M., Tountas, M., Mangelis, P., Rogdakis, K., **Kymakis E.***, Surface Passivation of Sequentially Deposited Perovskite Solar Cells by Octylammonium Spacer Cations, *APL Energy*, 1 (2), p. 26102 2023, DOI: [10.1063/5.0144330](https://doi.org/10.1063/5.0144330)
153. Rogdakis, K., **Kymakis E.***, Interface engineering toward efficient carbon-based perovskite solar cells, *Device* 1 (5), art. no. 100123, 2023, DOI: [10.1016/j.device.2023.100123](https://doi.org/10.1016/j.device.2023.100123)
154. Jovanović, D., Petrović, M., Tomašević-Ilić, T., Matković, A., Bokalić, M., Spasenović, M., Rogdakis, K., **Kymakis, E.**, Knežević, D., Cinà, L., Gajić, R., Long-term stability of graphene/c-Si Schottky-junction solar cells, *Solar Energy Materials and Solar Cells*, 258, art. no. 112414, 2023, DOI: [10.1016/j.solmat.2023.112414](https://doi.org/10.1016/j.solmat.2023.112414)
155. Rogdakis, K., Psaltakis, G., Fagas, G., Quinn, A., Martins, R., **Kymakis, E.**, Hybrid chips to enable a sustainable internet of things technology: opportunities and challenges, *Discover Materials* 4 (1), art. no. 4, 2024, DOI: [10.1007/s43939-024-00074-w](https://doi.org/10.1007/s43939-024-00074-w)
156. Psaltakis, G., Rogdakis, K., Loizos, M., **Kymakis E.***, One-vs-One, One-vs-Rest, and a novel Outcome-Driven One-vs-One binary classifiers enabled by optoelectronic memristors towards overcoming hardware limitations in multiclass classification, *Discover Materials* art. no. 7, 2024, DOI: [10.1007/s43939-024-00077-7](https://doi.org/10.1007/s43939-024-00077-7)
157. Tsikritzis, D., Chatzimanolis, K., Tzoganakis, N., Rogdakis, K., Zappia, M.I., Martín-García, B., Bagheri, A., Beydaghi, H., Děkanovský, L., Sofer, Z., Bellani, S., Bonaccorso, F., **Kymakis E.***, Engineering of the perovskite/electron-transporting layer interface with transition metal chalcogenides for improving the performance of inverted perovskite solar cells, *Sustainable Energy Fuels*, 2024, DOI: [10.1039/d4se00212a](https://doi.org/10.1039/d4se00212a)
158. Psaltakis, G., Rogdakis, K., Chatzimanolis, K., **Kymakis, E.**, Dataset of Perovskite Memristive Current-Voltage Characteristics for Pattern Recognition, *IEEE Journal on Flexible Electronics*, 2024, DOI: [10.1109/JFLEX.2024.3390671](https://doi.org/10.1109/JFLEX.2024.3390671)
159. Loizos M., Rogdakis K., **Kymakis E.**, Sustainable Mixed-Halide Perovskite Resistive Switching Memories Using Self-Assembled Monolayers as the Bottom Contact, *Journal of Physical Chemistry Letters*, 15 (30), pp. 7635 - 7644, 2024, DOI: [10.1021/acs.jpcclett.4c01664](https://doi.org/10.1021/acs.jpcclett.4c01664)
160. Loizos M., Rogdakis K., Luo W., Zimmermann P., Hinderhofer A., Lukić J., Tountas M., Schreiber F., Milić J.V., **Kymakis E.**, Resistive switching memories with enhanced durability enabled by mixed-dimensional perfluoroarene perovskite heterostructures, *Nanoscale Horizons*, 9 (7), pp. 1146 - 1154, 2024, DOI: [10.1039/d4nh00104d](https://doi.org/10.1039/d4nh00104d)
161. Tzoganakis N., Spiliarotis E., Tsikritzis D., **Kymakis E.**, 4F-Phenethylammonium chloride as a key component for interfacial engineering of wide-bandgap perovskite absorber, *Nano Energy*, 128, art. no. 109914, 2024, DOI: [10.1016/j.nanoen.2024.109914](https://doi.org/10.1016/j.nanoen.2024.109914)
162. Almalki M., Anagnostou K., Rogdakis K., Eickemeyer F.T., Othman M., Stylianakis M.M., Tsikritzis D., Alanazi A.Q., Tzoganakis N., Pfeifer L., Therisod R., Mo X., Wolff C.M., Hessler-Wyser A., Zakeeruddin S.M., Zhang H., **Kymakis E.**, Grätzel M., Improving the operational stability of perovskite solar cells with cesium-doped graphene oxide interlayer, *Journal of Energy Chemistry*, 96, pp. 483-490, 2024, DOI: [10.1016/j.jechem.2024.04.037](https://doi.org/10.1016/j.jechem.2024.04.037)
163. Furasova A., Krassas M., Tountas M., Khmelevskaia D., Logunov L., Zhirihin D., **Kymakis E.**, Makarov S., Photovoltaic parameters improvement via size control of monodisperse Mie-resonant nanoparticles in perovskite solar cells, *Chemical Engineering Journal*, 493, art. no. 152771, 2024, DOI: [10.1016/j.cej.2024.152771](https://doi.org/10.1016/j.cej.2024.152771)
164. Tountas M., Anagnostou K., Sotiropoulos E., Polyzoidis C., **Kymakis E.***, Spray-Coated Transition Metal Dichalcogenides as Hole Transport Layers in Inverted NFA-Based Organic Photovoltaics with Enhanced Stability under Solar and Artificial Light, *Nanoenergy Advances*, 4 (3), pp. 221-234, 2024, DOI: [10.3390/nanoenergyadv4030014](https://doi.org/10.3390/nanoenergyadv4030014)
165. Fagas G., O'Murchu C., Rogdakis K., Kymakis E., Fortunato E., Rodrigo M., The INFRACHIP European research infrastructure for emerging and responsible electronics, *Nature Reviews Electrical Engineering*, 1, pp 354–355, 2024, DOI: [10.1038/s44287-024-00064-3](https://doi.org/10.1038/s44287-024-00064-3)
166. Tountas M., Anagnostou K., Polyzoidis C., Sotiropoulos E., **Kymakis E.***, Enhanced efficiency and stability in indoor organic photovoltaics with spray-deposited, liquid-processable MoS₂ and WS₂ hole transport layers, *Discover Materials*, 5 (1), art. no. 85, 2025, DOI: [10.1007/s43939-025-00270-2](https://doi.org/10.1007/s43939-025-00270-2)

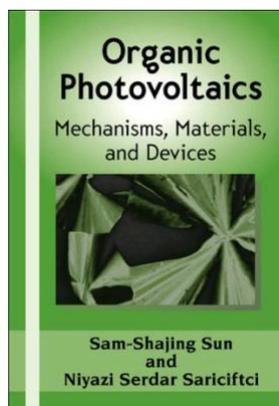
167. Loizos M., Chatzimanolis K., Anagnostou K., Rogdakis K., **Kymakis E.***, Threshold Resistive Switching in Inorganic Lead-Free Cesium-Bismuth Iodide Perovskite for Neuron Emulation, *ACS Applied Electronic Materials*, 7 (8), pp. 3610 - 3619, 2025, [DOI: 10.1021/acsaelm.5c00516](https://doi.org/10.1021/acsaelm.5c00516)
168. Anagnostou K., Sotiropoulos E., Tzoganakis N., Polyzoidis C., Rogdakis K., Katsari A., Achilleos K., Triantafyllou E., Landrou G., Nikoloudakis E., Charalambidis G., Coutsolelos A.G., **Kymakis E.**, Enhancing the Dispersibility and Stability of Graphene in Water Using Porphyrin-Based Compounds, *Small Methods*, 2025, [DOI:10.1002/smt.202401431](https://doi.org/10.1002/smt.202401431)
169. Nikbakht H., Mariani P., Vesce L., Giacomo F.D., Leonardi E., Viskadourous G., Spiliarotis E., Rogdakis K., Pescetelli S., Agresti A., Bellani S., Bonaccorso F., **Kymakis E.**, Carlo A.D., Upscaling Perovskite Photovoltaics: from 156 cm² Modules to 0.73 m² Panels, *Advanced Science*, 12, 22, 2416316, 2025, [DOI: 10.1002/advs.202416316](https://doi.org/10.1002/advs.202416316)
170. Spiliarotis E., Viskadourous G., Rogdakis K., Pescetelli s., Agresti A., Tzoganakis N., Di Carlo A., **Kymakis E.***, Long-term outdoor performance of a solar farm enabled by graphene-perovskite panels: investigating degradation mechanisms, dark storage recovery, and visual defects, *EES Solar*, 1, 295-309, 2025 [DOI: 10.1039/D5EL00042D](https://doi.org/10.1039/D5EL00042D)
171. Đapović, M.; Cvetanović, K.; Postić, V.; Jovanov, V.; Bošković, M.V.; Polyzoidis, C.; Tzoganakis, N.; Rogdakis, K.; **Kymakis, E.**; Maslak, V.; Mitrović, A., Early-stage analysis of PET – fullerene derivatives for electron transport in photovoltaics, *Phys. Chem. Chem. Phys.*, 2025, 27, 18256-18262 [DOI:10.1039/d5cp02623g](https://doi.org/10.1039/d5cp02623g)
172. Anagnostou K., Urban M., Sotiropoulos E., Polyzoidis C., Kavalieraki K., Mouratis K., Rosati G., Merkoçi A., Rogdakis K., **Kymakis E.***, Water-based graphene oxide inks for inkjet-printed flexible moisture energy generators, *Scientific Reports*, 15, 24685, 2025 [DOI:10.1038/s41598-025-09628-1](https://doi.org/10.1038/s41598-025-09628-1)
173. Vasilopoulou, M.; Huang, D.; Gong, J.; Li, F.; Zhang, H.; Sun, Y.; Mao, L.; Polydorou, E.; Aviziotis, I.G.; Palilis, L.C.; Kaya, O.; Roche, S.; Arbiol, J.; Davazoglou, D.; **Kymakis, E.**; Liu, L.; Sun, K.; Mohd Yusoff, A.R.B.M.; Liu, M.; Nazeeruddin, M.K., Tandem Takeoff: Powering Tomorrow with Industrial-Grade Perovskite/Silicon Solar Cells, *Advanced Energy Materials*, 2026, e04478 [DOI:10.1002/aenm.202504478](https://doi.org/10.1002/aenm.202504478)
174. Rogdakis, K.; Psaltakis, G.; Chatzimanolis, K.; Blazakis, K.; Spachis, L.; **Kymakis, E.*** Opto-Electronic Tuning of Neuron Emulation in Perovskite Volatile Memristive Transistors, *Advanced Electronic Materials*, 2026, 12, 1, e00488 [DOI:10.1002/aelm.202500488](https://doi.org/10.1002/aelm.202500488)
175. Loizos, M.; Rogdakis, K.; Chatzimanolis, K.; Anagnostou, K.; **Kymakis, E.*** Electrode-Engineered Dual-Mode Multifunctional Lead-Free Perovskite Optoelectronic Memristors for Neuromorphic Computing, *Advanced Electronic Materials*, 2026, e00713 [DOI:10.1002/aelm.202500713](https://doi.org/10.1002/aelm.202500713)
176. Agresti, A.; Pescetelli, S.; Viskadourous, G.; Pazniak, A.; Leonardi, E.; Di Vito, A.; Amiri, P.; Auf Der Maur, M.; Menchini, F.; Del Gobbo, S.; Di Giacomo, F.; Bengasi, G.; Connelli, C.; Sorbello, L.; Foti, M.; Bonaccorso, F.; **Kymakis, E.**; Di Carlo, A., MXene-driven nanoscale field-effect junction for advanced 4-terminal perovskite/silicon tandem solar panels, *Nature Communications*, 2026, in press.

7.3. MONOGRAPHS

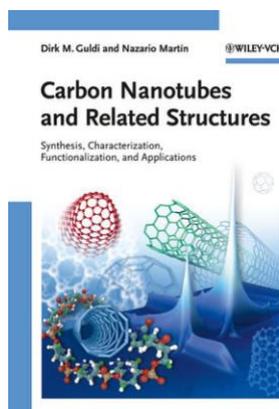
E. Kymakis “*The Impact of Carbon Nanotubes on Solar Energy Conversion*” Nanotechnology Law & Business, 3,4, 405-410 (2006)^{xviii}.

^{xviii} Invited contribution.

7.4. INVITED CHAPTERS IN BOOKS



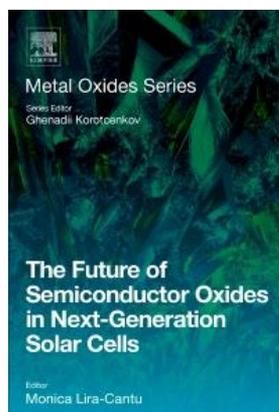
1. E. Kymakis and G.A.J Amaratunga “Solar Cells Based on Composites of Donor Conjugated Polymers and Carbon Nanotubes “ in “Organic Photovoltaics: Mechanism, Materials, and Devices”, Editors S.Sun and N.S Sariciftci. Dekker/CRC Press, US. ISBN: 082475963X (2005).



2. E. Kymakis “Photovoltaic Devices Based on Carbon Nanotubes and Related Structures“in “Carbon Nanotubes & Related Structures”, Editors D. Guldi and N. Martin Wiley – VCH, ISBN: 978-3-527-32406-4 (2009)



3. M. Stylianakis, D. Konios, C. Petridis, E. Kymakis “Solution-Processed Graphene-Based Transparent Conductive Electrodes as Ideal ITO Alternatives for Organic Solar Cells“ in “Graphene Materials - Advanced Applications”, Editors G Kyzas, A. Mitropoulos, InTech ISBN 978-953-51-3142-7, Print ISBN 978-953-51-3141-0 (2017)



4. D. Konios, E. Kymakis “Graphene Oxide like materials in organic and perovskite solar cells “in “The Future of Semiconductor Oxides in Next-Generation Solar Cells”, Editor M. Lira-Cantu, Elsevier ISBN 9780128111659 (2017)

7.5. PUBLICATIONS IN REFEREED CONFERENCE PROCEEDINGS

1. **Kymakis, E.**, Amaratunga, G.A.J., Alexandrou, I., Chhowalla, M., Milne, W.I. Photovoltaic response in poly(3-octylthiophene) based metal-semiconductor-metal diodes. (2001) *Proceedings of SPIE - The International Society for Optical Engineering*, 4108, pp. 112-116.
2. Vohra A., Flewitt A.J., **Kymakis E.**, Chhowalla M., Vardoulakis G., Amaratunga G.A.J., Milne W.I. Tetrahedrally bonded Amorphous Carbon/a-Si:H Heterojunction Solar Cells, (2001) *Proceedings of the 16th European Photovoltaics Conference*, 1, pp.526-528
3. **Kymakis E.**, Bhattacharyya S., Amaratunga G.A.J. Photovoltaic cells based on dye functionalized single-wall carbon nanotubes (2005) *POLY Division Preprints*, 46 (1), pp. 213-214
4. Vaddiraju, S., Mathai, M., **Kymakis, E.**, Papadimitrakopoulos, F. Efficient photovoltaic devices based on blends of C60 and radical salt doped hole transporters (2007) *Proceedings of SPIE - The International Society for Optical Engineering*, 6656, art. no. 66561B.
5. **Kymakis, E.**, Koudoumas, E. P3HT/PCBM/SWNTs photovoltaic devices (2008) *Proceedings of SPIE - The International Society for Optical Engineering*, 6999, art. no. 69991N.
6. Spanou E., Kyprianou A., Georgiou G.E., Vernardou D., Kenanakis G., **Kymakis E.**, Katsarakis N., Koudoumas E. Metal oxide nanostructures for use inorganic photovoltaic cells (2008) *Proc. of Conference on Deregulated Electricity Market Issues in South-Eastern Europe*
7. Stratakis, E., Stylianakis, M.M., Savva, K., Fotakis, C., **Kymakis, E.** Pulsed laser generation of novel nanomaterials for organic electronics (2013) *Optics InfoBase Conference Papers*.
8. Stylianakis M.M., Stratakis E., Kymakis E., Chemical and Photochemical functionalization of graphene oxide and its use in organic photovoltaic applications (2013) *Proceedings of the 9th Panhellenic Scientific Chemical Engineering Congress*.
9. Savva, K., Kakavelakis, G., Sigletou, M., Konios, D., Paradissanos, I., Stylianakis, M.M., Petridis, C., Kioseoglou, G., Fotakis, C., **Kymakis, E.**, Stratakis, E. Pulsed laser processing of graphene and related two-dimensional materials (2014) *Optics InfoBase Conference Papers*, 1 p.
10. Paci, B., Generosi, A., Stratakis, E., **Kymakis, E.** Stability enhancement in OPV: In-situ studies of plasmonic devices (2017) *Proceedings of the World Congress on New Technologies*, 2 p.
11. Paradissanos, I., Germanis, S., Pliatsikas, N., Pelekanos, N.T., Patsalas, P., Fotakis, C., **Kymakis, E.**, Kioseoglou, G., Stratakis, E. Spatial nonuniformity of excitonic properties in exfoliated WS2 monolayers (2017) *Optics InfoBase Conference Papers*, Part F81-EQEC 2017, 1 p.
12. Petridis, K., **Kymakis, E.**, Stratakis, E. Advanced laser processes for photovoltaic energy production (2017) *Proceedings - 2016 3rd International Conference on Mathematics and Computers in Sciences and in Industry, MCSI 2016*, art. no. 7815112, pp. 1-6.
13. Savva, K., Kakavelakis, G., Sigletou, M., Konios, D., Paradissanos, I., Stylianakis, M.M., Petridis, C., Kioseoglou, G., Fotakis, C., **Kymakis, E.**, Stratakis, E. Pulsed laser processing of graphene and related two-dimensional materials (2019) *Proceedings 2015 European Conference on Lasers and Electro-Optics - European Quantum Electronics Conference, CLEO/Europe-EQEC 2015*.

8. CONFERENCES/SEMINARS PRESENTATIONS

8.1. INVITED TALKS

1. "Photovoltaic Devices Based on Dye-Functionalized Carbon Nanotubes" 229th American Chemical Society Annual Meeting, San Diego, USA, March 2005
2. "Solar cells based on conjugated polymer / single wall carbon nanotube bulk heterojunctions" European Workshop on Carbon Nanotubes: Present and Future, Amalfi, Italy, May 2002.
3. "Organic Electronics Processing and Manufacturing" 1st Erasmus Intensive Programme: Org. Electronics and Applications, Chania, Crete, Jul 2010

4. *“Carbon nanotubes and graphene-based Photovoltaics”* 2nd Erasmus Intensive Programme: Org. Electronics and Applications, Chania, Crete, Jul 2011
5. *“Organic Photovoltaic Devices”*, 1st International Conference on Bioinspired Materials for Solar Energy Utilization, Chania, Greece, Sep 2011
6. *“Engineering plasmonic nanostructures for applications in OPVs*, Conference and Workshop on Nanostructured Ceramics and other Nanomaterials (ICWNCN), Delhi, India, Mar 2012
7. *“Carbon nanotubes and graphene-based Photovoltaics”* 3rd Erasmus Intensive Programme: Org. Electronics and Applications, Chania, Crete, Jul 2012
8. *“Organic Photovoltaics”* Erasmus Intensive Programme: Bioinspired Materials for Solar Energy Utilization, Heraklion, Crete, Jul 2012
9. *“Solution Processable Graphene Derivatives in Organic Photovoltaics”* 9th International Conference on Nanosciences & Nanotechnologies, Thessaloniki, Greece, July 2012
10. *“Combining organic photovoltaics with metal nanoparticles*, Inter-Continental Advanced Materials & Photonics – NANOPV Workshop, Boulder, USA, Aug 2012
11. *“Solution processed graphene and noble nanoparticles for organic photovoltaics”* XI International Conference on Nanostructured Materials, Rhodes, Greece, Aug 2012
12. *“Application of graphene in optoelectronics”*, Summer School on Graphene: Properties and Applications, Patra, Greece, Jun 2013.
13. *“OPV devices: fabrication and characterization”*, Erasmus Intensive Programme: Bioinspired Materials for Solar Energy Utilization, Heraklion, Greece, Jul 2013
14. *“Polymer Solar Cells: Materials, processes, challenges”*, Erasmus Intensive Programme: Transparent Electronics: From Materials & Devices to Devices & Systems, Chania, Greece, Jul 2013.
15. *“Pulsed Laser Generation of Novel Nanomaterials for Organic Electronics”*, 6th International Symposium on Flexible Organic Electronics, Thessaloniki, Greece, Jul 2013
16. *“Solution processable graphene-based materials for organic photovoltaic devices”*, EMN Fall Meeting (Energy Materials Nanotechnology) Orlando, USA, Dec 2013
17. *“Current progress in organic PV materials and devices”*, Industrial Technologies 2014, WS21, Athens, Greece, Apr 2014.
18. *“Solution processable graphene in organic photovoltaic cells”*, Israel-Greece Joint Meeting on Nanotechnology & Bionanoscience, Rehovot Israel, Oct 2014
19. *“Organic Photovoltaics”*, Graphene Connect – Energy Applications, Dresden, Oct 2014
20. *“Graphene-based materials for organic photovoltaic devices”*, E-MRS Spring Meeting, Lille, May 2015
21. *“Solution processable graphene derivatives and related 2D crystals for high efficient organic and perovskite solar cells”*, 12th International Conference on Nanosciences & Nanotechnologies Thessaloniki, Jul 2015.
22. *“Organic Photovoltaics Engineering: Plasmonic Nanoparticles and Graphene based materials for enhanced performance and stability”* 9th International School on Hybrid and Organic Photovoltaics, Tuscany Italy, Sep 2015.
23. *“Graphene and other 2D materials for organic and hybrid solar cells”* Symposium on Current trends and perspectives in organic materials and processes for high performance organic electronic applications, Athens Greece, May 2016
24. *“Graphene related materials in organic and inverted perovskite solar cells”* 13th International Conference on Nanosciences & Nanotechnologies, Thessaloniki, Jul 2016.
25. *“Graphene and other 2D-based materials for high efficient, stable organic and perovskite solar cells”* 2nd EU-Korea workshop on graphene and 2D materials, Copenhagen, Aug 2016.
26. *“Graphene and other 2D-based materials for organic and hybrid solar cells”*, XXXII Panhellenic Conference on Solid State Physics & Materials Science, Ioannina, Sep 2016
27. *“Graphene and transition metal dichalcogenide nanosheets as charge transport layers for organic and perovskite solar cells”* Israel - Greece Joint Meeting on Nanotechnology and BioNanoscience, Heraklion, Greece, Oct 2016

28. *“Efficient and highly air stable organic and perovskite solar cells with graphene and related 2D materials as the charge transport layers”*, 7th European conference in Graphene and 2D Materials (Graphene2017), Barcelona, Mar 2017.
29. *“Solution processable graphene-like 2D materials as building blocks in organic and perovskite solar cells”* 1st China-EU Graphene Flagship Workshop on Graphene and 2D Materials, Beijing, Jun 2017
30. *“2D materials interface engineering for efficient and stable organic and perovskite solar cells”* 1st European Conference on Chemistry of Two-Dimensional Materials (Chem2DMat), Strasbourg, Aug 2017
31. *“Graphene and other 2D related materials interface engineering for highly efficient and stable organic and perovskite solar cells”* 3rd EU-Korea workshop on graphene and 2D materials, Jeju island, Korea, Dec 2017.
32. *“Graphene related materials in perovskite solar cells”* International Graphene Innovation Conference (GRAPCHINA 2018), Xi’an, China, Sept 2018
33. *“Graphene and Related 2D Crystals for Photovoltaic Applications”* 12th International Conference on Physics of Advanced Materials (ICPAM-12), Heraklion, Greece, Sept 2018.
34. *“Graphene and related 2D materials interfacial and device engineering for perovskite cells and modules”*, Symposium on Application of Graphene and Related 2D Materials, Tokyo, Japan, Nov 2018
35. *“Graphene and related 2D materials interfacial and device engineering for perovskite photovoltaics”*, 3rd EU-Japan Workshop on Graphene and Related 2D Materials, Sendai, Japan, Nov 2018
36. *“Graphene and related 2D solution processed interfacial materials for efficient and stable perovskite solar cells”*, KAUST Research Conference: 3rd Generation photovoltaic technologies and beyond”, Saudi Arabia, Feb 2019.
37. *“Beneficial impact of 2D materials on the performance and stability of perovskite-based photovoltaics”*, International Graphene Innovation Conference (GRAPCHINA 2019), Xi’an, China, Sept 2019
38. *“Solution processed 2D materials for perovskite photovoltaics”* Translational Perovskite Research Council, Online, Jun 2020
39. *“2D interfacial engineering for perovskite PVs: from small devices to solar systems”*, 2nd School on Hybrid, Organic and Perovskite Photovoltaics (HOPE-PV20), Online, Nov 2020
40. *“Graphene-perovskite PVs from lab solar cells to solar farms”*, 2nd Workshop Innovative Materials for Energy, Online, Dec 2020
41. *“A Perovskite Solar Farm at Crete Enabled By the Utilization of 2D Layered Materials”*, 239 ECS meeting, Online, Jun 2021.
42. *“An autonomous perovskite solar park enabled by 2D materials interface engineering”*, Trends in Nanotechnology International Conference (TNT2021), Tirana, Albania, Oct 2021.
43. *“Solar cells based on 2D materials – a tutorial”*, 2nd ULTIMATE School “Optoelectronic and Energy Applications of 2D Materials, Online, Jan 2022
44. *“A perovskite solar farm enabled by 2D materials”*, Graphene Flagship Energy Innovation Workshop, Catania, Italy, Apr 2022.
45. *“An autonomous perovskite solar farm enabled by 2D materials “*, 12th European Conference in Graphene & 2D materials, Aachen, Germany, Jul 2022.
46. *“Mixed-Halide Perovskites meet 2D materials: An ideal materials platform for efficient energy harvesting and neuromorphic computation”*, 22nd edition of the Trends in Nanotechnology International Conference, Tirana, Albania, Oct 2022
47. *“Perovskite PVs enabled by 2D materials for self-powered, miniaturized IoTs devices and solar farms”*, 13th International Conference & Exhibition on Green Flexible Printed Electronics Industry (ICEFPE23), Athens, Greece, Nov 2023.
48. *“Solar Energy activities in Crete”*, Emerging PV Technologies Platform, Industry Day, Athens, Nov 2023.
49. *“Interface engineering utilising 2D materials for performance and durability enhancement of perovskite photovoltaics and memristors”*, International Conference on Next-Generation Electronics & Photonics (INGEP 2024), Hangzhou, China, Apr 2024.
50. *“Outdoor evaluation of perovskite photovoltaics”*, E-MRS Spring Meeting 2024, Strasbourg, France, May 2024

51. “*Outdoor evaluation of perovskite modules and panels enabled by 2D materials interface engineering*”, 14th European Conference in Graphene and 2D Materials (Graphene 2024), Madrid, June 2024
52. “Perovskite PV industrialization via 2D materials interface engineering”, International Conference on Physics of Two-Dimensional Crystals, Belgrade, Jul 2024,
53. “*Revolutionizing Indoor and Outdoor Photovoltaics with 2D Materials: Boosting Efficiency, Stability, and Scalability*”, 2nd NanoBalkan International Conference, Tirana, Oct 2024.
54. “*Advancements in perovskite solar cells and optoelectronic memristors*”, 11th International Conference on Micro-Nanoelectronics, Nanotechnology and MEMS, Limnos, Oct 2024.
55. “*Sustainable printable memristive solar cells for self-powered IoT edge computing enabled by halide perovskite*” 14th International Conference & Exhibition on Green Flexible Printed Electronics Industry, Athens, Nov 2024
56. “*Solar Energy activities in Crete*”. Emerging PV Technologies Platform, Industry Day Second Event. Athens, Nov 2024.
57. “*From Lab to Field: Overcoming Challenges in Perovskite Photovoltaics Commercialization through 2D Interface Engineering*”, I²DM, Abu Dhabi, Nov 2024
58. “*Long-Term Outdoor Performance of Perovskite Photovoltaics*”, MATSUS 2025, Seville, March 2025.
59. “*Long-Term Outdoor Performance of Perovskite Photovoltaics: Evaluating Measurement Protocols and Investigating Degradation Mechanisms*”, Future-Proofing Perovskite PV: Innovations in Upscaling, Reliability, and Circularity Workshop, Nicosia, May 2025.
60. “*Emerging Photovoltaics*”, SFHMMY 16, Thessaloniki, Jun 2025.
61. “*Advancements in Sustainable Perovskite-Based Memristive Devices for Neuromorphic Computing*”, 18th International Symposium on Flexible Organic Electronics (ISFOE25), Thessaloniki, Jul 2025.
62. “*Perovskite Photovoltaics: Addressing Stability Challenges for Real-World Applications*” X International School and Conference on Photonics - PHOTONICA2025, Belgrade, August 2025.
63. “*The Synergy of Perovskite and 2D Materials: Enabling Sustainable Photovoltaics and Responsible Electronics*”, 9th International Nanoscience and Nanotechnology Conference (NanoTR-19), Ankara, Aug 25.
64. “*Outdoor Reliability and Metastability of Perovskite Photovoltaics*”, 15th International Conference & Exhibition on Green Flexible Printed Electronics Industry, Athens, Oct 2025

8.2. INVITED SEMINARS

1. *Carbon Nanotube Based Photovoltaic Devices*, University of London, Queen Mary College, Physics Dept, Molecular and Materials Physics Group, UK May 2003.
2. *Can carbon nanotubes replace fullerenes in polymeric solar cells?* Department of Material Science & Engineering, Rutgers University, USA Mar 2005.
3. *Nanotube Based Polymer Photovoltaics*, Institute of Materials Science, University of Connecticut, USA Sep 2005.
4. *Organic Photovoltaics: Mechanisms, Materials and Devices*, Department of Electrical Engineering, University of Cyprus, Oct 2005.
5. *Smart Photovoltaic Applications*, Municipality of Latsia, Nicosia, Cyprus Jun 2008
6. *Integration of Photovoltaics in Buildings*, Workshop on regional clustering development in the construction sector, Heraklion Crete, Nov 2008.
7. *Photovoltaics Technology Review*, Technical Chamber of Greece, East Crete Branch, Heraklion Crete, Jul 2009.
8. *Nanostructured Photovoltaics*, Center of Advanced Materials & Photonics, University of Cambridge, Jul 2010.
9. *Enhanced efficiency and stability in organic photovoltaic cells*, A day on solar energy utilization, Chemistry Department, University of Crete, Oct 2012.
10. *Organic Photovoltaics Engineering*, Department of Materials Science & Technology, University of Crete.

11. *Solution processable graphene and other 2D crystals in organic and perovskite solar cells*, Institute of Chemical Engineering Sciences, FORTH, Patras, October 2015
12. *Graphene and other 2D related materials interface engineering for highly efficient and stable organic and perovskite solar cells*, Istituto Italiano di Tecnologia, Genova, Nov 2017
13. *Efficient and stable perovskite solar cells and modules enabled by work function tunable graphene derivatives and related 2D materials*, Shaanxi Normal University, Xi'an, Oct 2019
14. *An autonomous perovskite solar park enabled by 2D materials interface engineering*, NREL, webinar, Jun 2021.
15. "Assembly of an autonomous solar farm integrating perovskite photovoltaic panels enabled by the utilization of 2D materials", International PV Quality Assurance Task Force Seminar, Online, Jun 2022.
16. "Perovskite photovoltaics enabled by 2D materials as energy harvesters for miniaturized IoT devices and solar farms", Zhejiang University, Hangzhou, Apr 2024.

8.3. CONTRIBUTED PRESENTATIONS

1. **E. Kymakis**, G.A.J. Amaratunga, W.I. Milne "Photovoltaic response in poly (3-octylthiophene), poly (phenylquinoxaline) heterojunctions" 45th SPIE Annual Meeting, San Diego, USA, August 2000.
2. **E. Kymakis**, G. Vardoulakis, A.J. Flewitt, G.A.J. Amaratunga, W.I. Milne "Tetrahedral amorphous carbon as the p layer of a hydrogenated amorphous silicon (a-Si:H) solar cell" 11th European Conference on Diamond, Porto, Portugal, September 2000.
3. **E. Kymakis**, G.A.J. Amaratunga "Carbon nanotube functionalization" Chelsea Meeting on Amorphous & Organic Semiconductors, Cambridge, U.K, May 2001.
4. **E. Kymakis**, G.A.J. Amaratunga, W.I. Milne "Single-Walled Carbon Nanotube-Polymer Composites: Electrical, optical, structural investigation and incorporation in photovoltaic devices." EMRS Spring Meeting Strasbourg, France, June 2001.
5. **E. Kymakis**, C. Gurkan, G.A.J. Amaratunga, W.I. Milne "Photovoltaic Cells Based on Dye-Sensitisation of Single-Wall Carbon Nanotubes in a Polymer Matrix", 17th European Photovoltaic Solar Energy Conference Munich, Germany, Oct 2001.
6. I. Alexandrou, **E. Kymakis**, C. Ducati, G.A.J. Amaratunga "Field Emission Behaviour of Carbon Nanotube-polymer Composites" 1st Conference on Organic Electronics and Related Phenomena, Potsdam, Germany, November 2001.
7. **E. Kymakis**, G.A.J. Amaratunga "High open-circuit voltage from carbon nanotube polymer composites" MRS Spring Meeting San Francisco, USA, April 2002.
8. **E. Kymakis**, I. Alexandrou, G.A.J. Amaratunga "Photovoltaic devices based on dispersed polymer nanotube heterojunctions" 18th Photovoltaic Conference in Europe, Rome, Italy, October 2002.
9. S. Bhattacharyya, **E. Kymakis**, G.A.J. Amaratunga "Photovoltaic properties of dye functionalised single-wall carbon nanotube /conjugated polymer devices" , 2nd European Conference on Organic Electronics and Related Phenomena, London, UK, Sep 2003.
10. **E. Kymakis**, G.A.J. Amaratunga "Dye sensitization of carbon nanotubes and their incorporation in polymeric solar cells" 3rd World Conference on Photovoltaic Energy Conversion, May 2003, Osaka, Japan
11. **E. Kymakis**, E. Koudoumas, I. Franghiadakis, G.A.J. Amaratunga "Photovoltaic cells based on dispersed polymer-carbon nanotube heterojunctions" 2nd International Conference on Nanomaterials & Nanotechnologies, Hersonnisos, Crete, Greece, June 2005.
12. **E. Kymakis**, G. Klapsis, E. Koudoumas, Y. Franghiadakis, "Integration of Carbon Nanotubes in Organic Photovoltaic Devices" European Conference on Hybrid and Organic Solar Cells, Paris, France, June 2006.
13. **E. Kymakis**, E. Stratakis, E. Koudoumas, Y. Franghiadakis, "Transparent conductive electrodes based on carbon nanotubes-PEDOT:PSS blends for use in organic photovoltaics", 1st International Symposium on Transparent Conducting Oxides, Hersonnisos, Greece, October 2006.
14. S. Vaddiraju, M.K. Mathai, **E. Kymakis**, F. Papadimitrakopoulos, "Radical Salt-Doped Hole Transporters In Organic Photovoltaic Devices", MRS Fall Meeting Boston, USA, November 2006.
15. **E. Kymakis**, P. Servati, E. Koudoumas, G.A.J. Amaratunga, "Carbon nanotubes and nanohors for organic photovoltaics", SPIE Europe Photonics, Strasbourg April 2008.

16. **E. Kymakis**, S. Kalykakis, T.M. Papazoglou, “*Performance analysis of a photovoltaic park on the island of Crete*”, International Conference on Deregulated Electricity Market Issues in South-Eastern Europe, Nicosia, Cyprus, September 2008.
17. K. Kuo, P. Hiralal, H.E. Unalan, H. Zhou, Y. Hayashi, **E. Kymakis**, G.A.J. Amaratunga, “*Plastic photovoltaic device Based on P3HT and carbon nanomaterials*” International Conference on Materials for Advanced Technologies, Singapore, July 2009.
18. **E. Kymakis**, E. Stratakis, S. Ioannou, E. Koudoumas, “*Plasmonic nanoparticles for enhanced performance of organic photovoltaics*”, Emerging trends & novel materials in photonics, Delphi, Greece, October 2009.
19. A.G. Tsikalakis, N.D. Hatziaargyriou, E. Karapidakis, **E. Kymakis**, “*Economic Evaluation of Low Photovoltaics (PV) penetration in Island Power Systems, Application to Crete*”, 5th International Conference on Deregulated Electricity Market issues in South-Eastern Europe, Sitia, Greece, September 2010.
20. **E. Kymakis**, E. Stratakis, E. Koudoumas, C. Fotakis, “*Incorporation of metallic nanoparticles in organic photovoltaic devices using carbon nanotubes transparent electrodes*”, X International Conference on Nanostructured Materials, Rome, Italy, September 2010.
21. E. Stratakis, T. Dikodimos, M. Barberoglou, R. Giorgi, E. Salernitano, N. Lisi, N. Kornilios, **E. Kymakis**, “*Three-dimensional carbon nanowall field emission arrays*”, X International Conference on Nanostructured Materials, Rome, Italy, September 2010.
22. **E. Kymakis**, E. Stratakis, E. Koudoumas, C. Fotakis “*Thin transparent graphene films for organic photovoltaic devices*”, 3rd International Symposium Transparent Conductive Materials, Hersonissos, Crete, Greece, October 2010
23. **E. Kymakis** “*Incorporation of metallic nanoparticles into polymer/fullerene photovoltaic cells*”, 1st COINAPO Topical Meeting, Zaragoza, Spain, October 2010
24. **E. Kymakis**, E. Stratakis, G.D. Spyropoulos, E. Koudoumas, C. Fotakis “*Strategies for performance improvement of organic photovoltaic devices*” 4th International Conference on Micro-Nanoelectronics, Nanotechnologies, Athens, December 2010
25. M.M. Stylianakis, G.D. Spyropoulos, E. Stratakis, E. Koudoumas, S.H. Anastasiadis, **E. Kymakis** “*Graphene oxide in organic photovoltaics*” 4th International Symposium on Flexible Organic Electronics (ISFOE11), Thessaloniki, Greece, July 2011.
26. G.D. Spyropoulos, M.M. Stylianakis, E. Stratakis, **E. Kymakis** “*Incorporation of Metallic Nanoparticles in Bulk Heterojunction Organic Photovoltaic Devices*”, 3rd International Conference from Nanoparticles and Nanomaterials to Nanodevices and Nanosystems, Hersonissos, Greece, Jun 2011
27. M. Stylianakis, G. Spyropoulos, E. Stratakis, E. Koudoumas, S. Anastasiadis, **E. Kymakis** “*Expandable graphene linked with small molecule as electron acceptor*”, 3rd International Conference from Nanoparticles and Nanomaterials to Nanodevices and Nanosystems, Hersonissos, Greece, Jun 2011
28. M.M. Stylianakis, E. Stratakis, E. Koudoumas, S.H. Anastasiadis, **E. Kymakis**, “*Solution-processed graphene content as electron acceptor in organic photovoltaics*” E-MRS Spring Meeting, Strasbourg, France, Jun 2012.
29. K. Savva, M. Stylianakis, C. Petridis, C. Fotakis, **E. Kymakis**, E. Stratakis, “*Pulsed laser assisted photochemical reduction and doping of graphene oxide*” E-MRS Spring Meeting, Strasbourg, France, Jun 2012.
30. **E. Kymakis**, G.D. Spyropoulos, E. Stratakis, “*Efficiency enhancement of organic bulk heterojunction photovoltaic devices by incorporating metallic nanoparticles into the active layer*” E-MRS Spring Meeting, Strasbourg, France, Jun 2012.
31. E. Stratakis, K. Savva, M. Stylianakis, C. Petridi, P. Tzanetakis, C. Fotakis, **E. Kymakis**, “*Laser assisted photochemical modification of graphene*”, 9th International Conference on Nanosciences & Nanotechnologies, Thessaloniki, Greece, July 2012
32. M.M. Stylianakis, E. Stratakis, E. Koudoumas, S.H. Anastasiadis, **E. Kymakis**, “*Synthesis of Solution Processable Graphene Derivatives as Electron Acceptors in Organic photovoltaic applications*” European Conference on the Synthesis Characterization and Application of Graphene, Mykonos Greece, Sep 2012.
33. E. Stratakis, K. Savva, M. Stylianakis, C. Petridis, **E. Kymakis**, C. Fotakis, “*Pulsed laser assisted photochemical reduction and doping of graphene oxide*”, European Conference on the Synthesis Characterization and Application of Graphene, Mykonos Greece, Sep 2012.
34. E. Stratakis, G. Eda, H. Yamaguchi, M. Chhowalla, C. Fotakis, **E. Kymakis**, “*Free-standing graphene on microstructured silicon vertices for enhanced field emission properties*”, European Conference on the Synthesis Characterization and Application of Graphene, Mykonos Greece, Sep 2012.

35. G.D. Spyropoulos, M.M. Stylianakis, E. Stratakis, **E. Kymakis**, "Enhanced efficiency and stability in organic photovoltaic cells using surfactant free gold nanoparticles as additives", 5th International Conference on Micro - Nanoelectronics, Nanotechnologies and MEMS, Heraklion Greece, Oct 2012
36. M.M. Stylianakis, K. Savva, C. Fotakis, **E. Kymakis**, E. Stratakis "Pulsed laser assisted reduction and functionalization of graphene oxide for organic photovoltaic applications", 5th International Conference on Micro - Nanoelectronics, Nanotechnologies and MEMS, Heraklion Greece, Oct 2012
37. E. Stratakis, G. Viskadourous, E. Koudoumas, **E. Kymakis**, "Laser photochemical reduction and doping of graphene oxide for organic electronics" Graphene 2013, Bilbao, Spain, Apr 2013
38. M. Stylianakis, E. Stratakis, G. **E. Kymakis**, "Covalent Functionalization of Graphene Oxide via a Chemical and Photochemical Method for Organic Photovoltaic Applications" Graphene 2013, Bilbao, Spain, Apr 2013
39. D. Konios, G. Viskadourous, N. Kornilios, P. Tzanetakakis, E. Stratakis, **E. Kymakis**, "Field emission properties of reduced graphene oxide", 9th PanHellenic Scientific Chemical Engineering Congress, Athens, May 2013.
40. M.M. Stylianakis, E. Stratakis, **E. Kymakis**, "Chemical and Photochemical functionalization of graphene oxide and its use in organic photovoltaics", 9th PanHellenic Scientific Chemical Engineering Congress, Athens, May 2013.
41. E. Stratakis, M.M. Stylianakis, K. Savva, C. Fotakis, **E. Kymakis**, "Pulsed Laser Generation of Novel Nanomaterials for Organic Electronics" E-MRS Spring Meeting, Strasbourg, France, Jun 2013.
42. E. Stratakis, G. Kakavelakis, E. Koudoumas, **E. Kymakis**, "Enhanced performance in organic photovoltaic cells using surfactant free nanoparticles as additive" E-MRS Spring Meeting, Strasbourg, France, Jun 2013.
43. E. Stratakis, C. Petridis, **E. Kymakis** "Laser generation of graphene-based nanomaterials for flexible organic electronics", International symposium on Flexible Electronics, Erlangen, Germany, Jun 2013.
44. **E. Kymakis**, G. Viskadourous, E., Stratakis, "Field emission properties of polymer-graphene nanocomposites", Flatlands beyond Graphene" conference, Bremen, Germany, Jun 2013.
45. E. Stratakis, M.M. Stylianakis, **E. Kymakis** "Laser photochemical reduction and doping of graphene oxide for organic electronics", Flatlands beyond Graphene conference, Bremen, Germany, Jun 2013
46. **E. Kymakis**, G. Kakavelakis, E. Koudoumas, "Enhancement of organic photovoltaic devices performance and stability by addition of nanoparticles" Solar Energy for World Peace Congress, Istanbul, Turkey, Aug 2013.
47. **E. Kymakis**, E. Stratakis, "Graphene Based Plasmonic Organic Photovoltaics", MRS Fall Meeting, Boston, U.S.A., Dec 2013
48. E. Stratakis, K. Savva, M. Stylianakis, M. Sygletou, C. Petridis, C. Fotakis, **E. Kymakis** "Laser photochemical synthesis of novel graphene oxide derivatives for organic electronics", Graphene 2014, Toulouse France, May 2014.
49. Paradissanos, M. Sigletou, K. Savva, C. Alexaki, C. Petridis, G. Kioseoglou, E. Kymakis, C. Fotakis, E. Stratakis, "Pulsed Laser Processing of Two-Dimensional Materials" EMRS Spring Meeting, Lille France, May 2014
50. D. Konios, G. Viskadourous, C. Petridis, M.M. Stylianakis, E. Stratakis, **E. Kymakis**, "Polymer-graphene hybrids for 3D field emission elements", EMRS Spring Meeting, Lille France, May 2014.
51. E. Stratakis, M. Sigletou, C. Petridis, G. Kakavelakis, C. Fotakis, **E. Kymakis**, "Enhanced stability of photoactive polymers blended with plasmonic nanoparticles", EMRS Spring Meeting, Lille France, May 2014.
52. G. Kakavelakis, D. Konios, E. Stratakis, E. Koudoumas, **E. Kymakis**, "Plasmonic engineering for performance and stability enhancement of air processed organic photovoltaics", EMRS Spring Meeting, Lille France, May 2014
53. D. Konios, G. Kakavelakis, E. Stratakis, **E. Kymakis** "Graphene-based buffer layers for improved Bulk Heterojunction Solar Cell", Graphene Week, Gothenburg, Jun 2014
54. D. Konios, K. Savva, G. Kakavelakis, C. Petridis, E. Stratakis, **E. Kymakis**, "Work-function tuned Graphene oxide as a cathode/anode interfacial layer in organic photovoltaics with high efficiency and stability", 11th Conference on Nanosciences & Nanotechnologies, Thessaloniki, Greece, Jul 2014.
55. D. Konios, G. Viskadourous, M.M. Stylianakis, E. Stratakis, **E. Kymakis** "The effect of different reduction methods in the Field Emission properties of Reduced Graphene Oxide Polymer composites" 11th Conference on Nanosciences & Nanotechnologies, Thessaloniki, Greece, Jul 2014.
56. G. Kakavelakis, M. Krassas, N. Vaenas, E. Stratakis, **E. Kymakis**, Plasmonic Organic Photovoltaic devices overcoming the critical barrier of 10% Power Conversion Efficiency, International Conference on Hybrid and Organic Photovoltaics 2015, Rome, Italy, May 2015

57. G. Kakavelakis, C. Petridis, M. Krassas, K. Savva, E. Stratakis, **E. Kymakis**, *Performance and stability enhancement of organic photovoltaics incorporating plasmonic nanoparticles into the photoactive layer*, EMRS Spring Meeting, Lille France, May 2015
58. G. Kakavelakis, M. Krassas, M.M. Stylianakis, N. Vaenas, K. Savva, E. Stratakis, **E. Kymakis**, *Nanoparticles-based Plasmonic Organic Photovoltaic Devices for Enhanced Performance and Stability*, Nanotech France 2015 International Conference & Exhibition, Paris, Jun 2015
59. M. Krassas, E. Stratakis, **E. Kymakis**, *Metal Nanoparticles in Organic Photovoltaic Applications*, 8th International Symposium on Flexible Organic Electronics, Salonica, Jul 2015
60. G. Kakavelakis, E. Stratakis, **E. Kymakis**, *A Universal Strategy for efficiency enhancement of Organic Photovoltaic Devices via incorporation of Plasmonic metal Nanoparticles*, 8th International Symposium on Flexible Organic Electronics, Salonica, Jul 2015
61. G. Kakavelakis, C. Petridis, E. Stratakis, **E. Kymakis**, *High performance organic solar cells via the simultaneously incorporation of metallic nanospheres and nanorods*, Next Generation Organic Photovoltaics Conference II, Groningen, Jul 2015.
62. G. Kakavelakis, T. Maksudov, C. Petridis, **E. Kymakis**, *Extending the continuous operating lifetime of perovskite solar cells with graphene and related 2D materials*, Conference on the stability of emerging photovoltaics from fundamentals to applications (SEPV2018), Barcelona, Mar 2018.

9. CITATION METRICS

Citations: 15.0120 (*Google Scholar*)

h-index:

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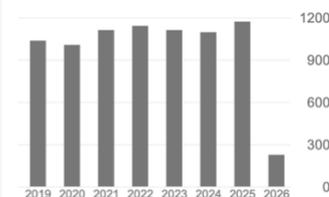
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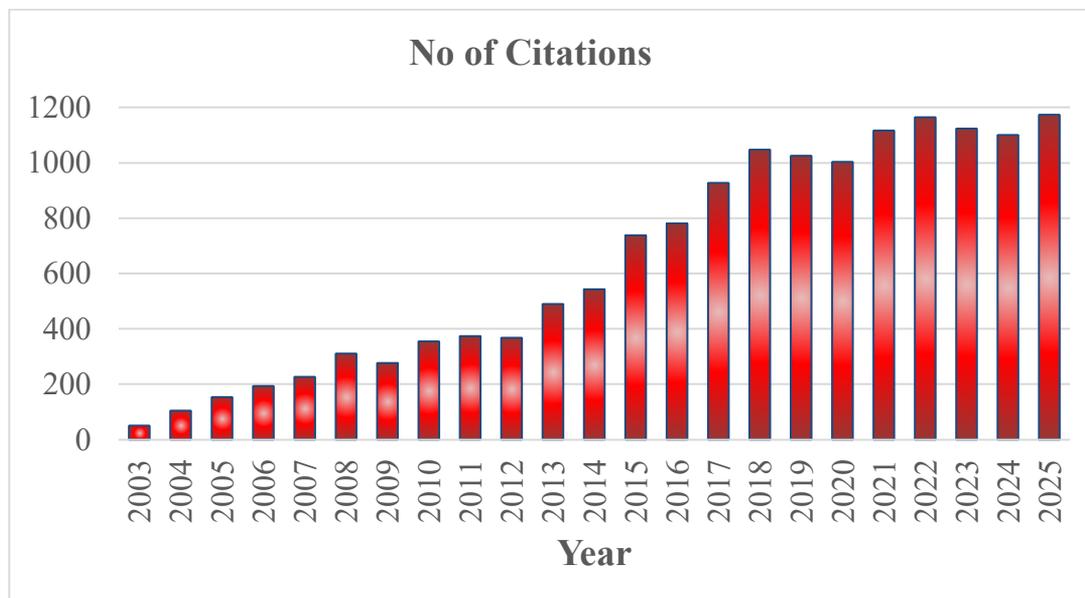
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<input type="checkbox"/>	Dispersion behaviour of graphene oxide and reduced graphene oxide D Konios, MM Stylianakis, E Stratakis, E Kymakis Journal of Colloid and Interface Science 430, 108-112	1153	2014
<input type="checkbox"/>	Single-wall carbon nanotube/conjugated polymer photovoltaic devices E Kymakis, GAJ Amaratunga Applied Physics Letters 80, 112	1094	2002

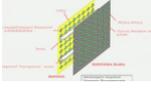
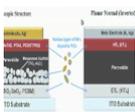
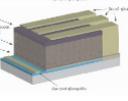




10. FUNDED RESEARCH PROJECTS AS PI

Project (Period)	Title	Funding Agency & Grant ID	Budget
Solar Thermal (2009)	Visibility Study of a Solar Thermal Park in Crete	Industry	12.000 €
Enerman (2009)	Energy Management of Public Buildings	Public Sector	30.000 €
Solar Atlas (2011)	Study of Solar Potential and Development of the Solar Atlas	Industry	12.000 €
FLEXFED (2012–15)	Flexible field emission elements based on micro/nano grap	Ministry of Education [Archimedes]	80.500 €
National Grant (2014–16)	National Contribution Grant Projects	GSRT	50.548 €
Graphene (2013–16)	Graphene-Based Revolutions in ICT	EU (FP7) [#604391]	660.000 €
PENELOPE (2014–15)	Plasmonic nanoparticles for efficient, stable, and low-cost	GSRT [ARISTEIA II]	216.000 €
National Grant (2017)	National Contribution Grant Projects	GSRT	82.215 €
Facade (2015)	Design and Development of an Integrated Facade for Ene	Industry	15.000 €
National Grant (2018)	National Contribution Grant Projects	GSRT	21.368 €
PEROPV (2016–17)	Hybrid Organic-Inorganic Perovskite Photovoltaics of Hig	IKY-Siemens [Excellence]	60.000 €
GrapheneCore 1 (2016–18)	Graphene-based disruptive technologies	EU (Horizon 2020) [#696656]	498.000 €
EMERGE (2018–20)	Emerging Printed Electronics Infrastructure	EU (Horizon 2020) [#1010087]	542.500 €
GrapheneCore 2 (2018–20)	Graphene-based disruptive technologies	EU (Horizon 2020) [#785219]	910.750 €
EOF (2018–21)	Alternative smart ocular implants with controlled ophthal	Research-Crete [#T1EDK-015]	265.000 €
PRINTWIN (2018–21)	Low-cost printable Perovskite solar windows	Research-Crete [#T1EDK-007]	220.000 €
National Grant (2019)	National Contribution Grant Projects	GSRT	26.335 €
GRAPERO (2019)	Graphene materials in perovskite PVs	Industry	36.000 €

CALYPSO (2019–21)	Carrier transport behavior of 2D polymers based heterostructure	Bi-lateral [#T7ΔKI-00039]	200.000 €
GrapheneCore 3 (2020–23)	Graphene-based disruptive technologies	EU (Horizon 2020) [#881603]	1.152.000 €
PVID (2021–23)	PV Inspection Drone	Industry	33.000 €
IntoPV (2022–24)	Incorporating Non-Fullerene Acceptors and Two-Dimensions	H.F.R.I. [#02712]	188.000 €
PHOTOGREEN (2024–25)	Aesthetic Photo-rechargeable Storage Cell	National (Greece 2.0) [#14791]	180.000 €
INTELLECT (2024–25)	Printable memristive solar cells for IoT	National (Greece 2.0) [#TAEDR-0537347]	400.000 €
3GPV-4Industry (2024–25)	PV materials & 3rd gen devices for green energy	National (Greece 2.0) [#14728]	430.000 €
SOLARUP (2024–26)	Sustainable Semiconductors for Scalable Solar Cells	EU (EIC) [#101046297]	432.000 €
INFRACHIP (2024–27)	European Research Infrastructure on Semiconductor Chips	EU (Horizon Europe) [#101131822]	1.395.000€
LAPERITIVO (2024–28)	Large-Area Perovskite Solar Module Manufacturing	EU (Horizon Europe) [#101147311]	660.000 €
ELEGANCE (2024–28)	Green SELF-Powered NEuromorphic Processing ENgines with Integrated VisuAI and FuNctional SENSing	EU (EIC Pathfinder) [#101161114]	491.875 €
HISENS (2025–27)	High-Resolution Sensors for the Life of Citizens and Businesses	Regional (Crete) [#OPS 6000]	600.000 €
BiPSC4Agri (2022–24)	Bifacial Perovskite Panels for Greenhouses	Ministry of Education [Research]	276.000 €
HYPERSONIC (2025–28)	High mobility Printed nEtworks of 2D Semiconductors for advanced electrONICs	EU (EIC Pathfinder) [#101129613]	528.750 €

<p>FLEXFED 2012-2013 <i>NSRF 2007-2013</i> Flexible field emission elements based on micro/nano graphitic nanostructures</p> 	<p>GRAPHENECOMP 2012-2014 <i>NSRF 2007-2013</i> Graphene and its nanocomposites: production, properties and applications</p> 	<p>GRAPHENE 2013-2016 <i>EU FP7</i> Graphene-Based Revolutions in ICT And Beyond</p> 	<p>PEROPV 2016-2017 <i>NSRF 2007-2013</i> Efficient and stable perovskite solar cells</p> 	<p>GRAPHENECORE1 2016-2018 <i>EU H2020</i> Graphene-based disruptive technologies</p> 	<p>GRAPHENECORE2 2018-2020 <i>EU H2020</i> Graphene based technologies towards integrating components in larger systems</p> 
<p>PRINTWIN 2019-2021 <i>NSRF 2014-2020</i> Low-cost inkjet printable perovskite solar glass panels</p> 	<p>EOF 2019-2021 <i>NSRF 2014-2020</i> Alternative smart ocular implants with controlled ophthalmic pharmacokinetics</p> 	<p>CALYPSO 2019-2022 <i>NSRF 2014-2020</i> Carrier transport behavior of 2D polymers based heterostructures and their perovskite solar cells</p> 	<p>GRAPHENECORE2 2020-2023 <i>EU H2020</i> Bringing graphene innovation out of the lab and into commercial applications by 2023</p> 	<p>PVID 2021-2022 <i>NSRF 2014-2020</i> Photovoltaic Parks Inspection Drone</p> 	<p>EMERGE 2021-2025 <i>EU H2020</i> Emerging Printed Electronics Research Infrastructure</p> 
<p>INFRACHIP 2024-2027 <i>EU Horizon Europe</i> European Research Infrastructure on Semiconductor Chips</p> 	<p>LAPERITIVO 2024-2028 <i>EU Horizon Europe</i> Large-Area Perovskite Solar Module Manufacturing With High Efficiency, Long-Term Stability And Low Environmental Impact</p> 	<p>3GPV-4Industry 2024-2025 <i>Greece 2.0 NextGenerationEU</i> Development of efficient PV materials and third-generation devices for support competitiveness of the production sector in green energy</p> 	<p>INTELLECT 2024-2025 <i>Greece 2.0 NextGenerationEU</i> Printable memristive solar cells for self-powered Internet of Things edge computing</p> 		
<p>SOLARUP 2024-2026 <i>EU Horizon Europe - EIC</i> Advanced Strategies for Development of Sustainable Semiconductors for Scalable Solar Cell Applications</p> 	<p>PHOTOGREEN 2024-2025 <i>Greece 2.0 NextGenerationEU</i> Aesthetic PHOTO-rechargeable Storage cEll FABricated via pREcision laser manufacturing</p> 	<p>HYPERSONIC 2025-2028 <i>EU Horizon Europe - EIC</i> High mobility Printed nEtworks of 2D Semiconductors for advanced electrONICs</p> 	<p>BiPSC4Agri 2025-2026 <i>Greece 2.0 NextGenerationEU</i> Bifacial Photovoltaic modules made of perovskite materials with variable transparency for greenhouse applications.</p> 	<p>ELEGANCE 2024-2028 <i>EU Horizon Europe - EIC</i> Processing ENgines with Integrated VisuAI and FuNctional SENSing</p> 	

11. MAJOR CONTRIBUTIONS TO THE EARLY CAREERS OF EXCELLENT RESEARCHERS

- ✓ Dr. George Viskadourous (PhD 2022): CEO of Synergy IKE; Technical Advisor to the Prefecture of Crete on energy and sustainability policy.
- ✓ Dr. George Kakavelakis (PhD 2018): Junior Research Fellow, Wolfson College, University of Cambridge; Marie Skłodowska-Curie Fellow, EPFL; now Assistant Professor, Hellenic Mediterranean University. <https://scholar.google.gr/citations?hl=en&user=eaAotvQAAAAJ>
- ✓ Dr. Dimitrios Konios (PhD 2016): Production Manager, CH & CH Inline Plastics LTD (industry transition).
- ✓ Dr. Minas Stylianakis (PhD 2014): now Assistant Professor, Hellenic Mediterranean University. <https://scholar.google.gr/citations?hl=en&user=sm7rTB4AAAAJ>
- ✓ Dr. George Spyropoulos (PhD 2012): Human Frontier Science Program Fellow, Columbia University; now Associate Professor, Ghent University. <https://scholar.google.gr/citations?hl=en&user=-PARGuUAAAAJ>

12. LEADERSHIP IN INDUSTRIAL INNOVATION

- ✓ Technology transfer and industrial adoption of lithium-functionalized graphene oxide (developed by the PI's group) (*Chemistry of Materials* (2014) 26, 5988–5993; *Advanced Functional Materials* (2016) 26, 2686-2694) as an interfacial layer in the prototype demonstrators and pilot line protocol of PV manufacturers for the mass production of perovskite solar modules and panels.
- ✓ Establishment of performance analysis protocols for grid-connected PV parks (based on *Energy Conv. Man* 2009, 50, 433), now the standard template for due diligence by Greek banking and engineering sectors
- ✓ Strategic Advisor to Deep-Tech Start-ups (2022–present): Providing scientific and strategic guidance on R&D roadmaps, technology commercialization, and market positioning for two spin-off ventures aligned with the EU deep-tech innovation agenda: (1) PDOT Technologies (pdot.tech) – Nanotechnology-enabled printed electronics and energy harvesting solutions for IoT and sustainable devices; (2) e-Synrg (e-synrg.com) – Energy-efficient engineering, smart microgrids, and IoT-based energy management systems.

13. ORGANISATION OF INTERNATIONAL CONFERENCES

- 1st International Symposium on Transparent Conducting Oxides, Heraklion, Crete, Oct 2006 *Organizing committee*
- COINAPO Topical Meeting on Polymer-Nanoparticles Composites, Heraklion, Crete, Oct 2013, *Co-Chairman*
- Organic & Hybrid Solar Cells Conference, Oct 2016, Heraklion, Crete (<http://solar.teicrete.gr>) *Chairman*
- Graphene Week, Athens, Sep 2017 *Programme Committee* (<http://grapheneflagship.eu/grapheneweek>)
- 1st International Conference of Nanotechnologies and Bionanosciences, Heraklion, September 2018 (<http://nanobioconf.com>) *Co-chairman*
- Graphene 2019, Rome, Jun 2019 *International Scientific Committee* <http://www.grapheneconf.com/2019/>
- PIERS 2019, Photonics & Electromagnetics Research Symposium. Graphene 2D Materials for Photonics, Plasmonics and Metamaterials. *Session Co-organiser* <http://piers.org/piers2019Rome/session.php>
- FEMS EUROMAT 2023, Sep 2023, *Symposium organiser* <https://dgm.de/euromat/2023?id=2632>
- 2nd International Conference of Nanotechnologies and Bionanosciences, Heraklion, September 2023 (<http://nanobioconf.com>) *Co-chairman*
- 3rd International Conference of Nanotechnologies and Bionanosciences, Heraklion, September 2025 (<http://nanobioconf.com>) *Co-chairman*

14. CONSULTANCY AND ENGINEERING

- ✓ Development of an energy policy assessment utility for the non-interconnected electric system of Crete.
- ✓ Design optimization for the installation of open field PV systems
- ✓ Development of GIS-oriented computational systems for the study of Direct Normal Irradiation (DNI) and Global Horizontal Irradiation (GHI)
- ✓ Energy and financial simulation of RES Projects.
- ✓ Development of simulation algorithms for Energy Projects.

- ✓ Study and design of Concentrating Solar Power (CSP) and Photovoltaic (PV) projects (licensing of many CSP incorporating Stirling – dish technology (~25MW) and a 25MW CSP with Power Tower project of Abengoa Solar Ltd at the region of Crete, licensing and design of several PV Stations all over Greece).
- ✓ Project management and supervision of the implementation of several RES projects.

15. SPECIAL REFERENCES/INTERVIEWS

- ✓ Electrical Engineering Times, "[Carbon nanotubes to improve solar cells](#)", 16 Jan 2002.
- ✓ Photovoltaics Bulletin, "Single wall carbon nanotube doping improves performance", Vol. 3, pp. 1-16, Mar 2002.
- ✓ One of the most promising young researchers in Greece, according to the Greek daily newspaper *Imerisia* (magazine issue vol. 74, 10/12/2005).
- ✓ Nanowerk Spotlight, "[The impact of carbon nanotubes on the use of solar energy](#)", 22 Feb 2007.
- ✓ Nanomaterials News, Intertech Pera, Vol 2, 26, Mar 2007.
- ✓ Information Bulletin of the Municipality of Nea Alikarnassos, Dec 2007.
- ✓ Vertical News, "[Findings from E. Kymakis and co-researchers advance knowledge in applied physics](#)", Nov 2008.
- ✓ Electronics Newsweekly, "[Study findings on energy research are outlined in reports from E. Kymakis](#)", April 2009.
- ✓ Electronics Newsweekly, "[Research from E. Kymakis and Co-Authors Yields New Data on Nanotechnology - Nanotubes](#)", April 2011.
- ✓ Organic Photovoltaics, *Enimerosi* Magazine, Oct-Dec 2009.
- ✓ Ecotec, "Organic Photovoltaics", Oct 2011.
- ✓ MaterialsViews, "[Flexible graphene oxide films for new organic solar cells](#)", Jan 2013.
- ✓ PHYSORG, "[Flexible organic photovoltaic cells with in-situ non-thermal photoreduction of spin coated graphene oxide electrodes](#)", Jan 2013.
- ✓ Cretalive, "[Major success for Cretan researchers in the development of flexible plastic photovoltaics](#)", Jan 2013.
- ✓ Patris Newspaper, "[Major success for two Cretan researchers from FORTH and TEI of Crete](#)".
- ✓ Patris Newspaper, "[Scientists from Crete research Graphene, the emerging technological milestone](#)".
- ✓ E&T Newsletter, "[Pioneering discovery in the development of flexible plastic photovoltaics](#)".
- ✓ Eleutheros Typos Newspaper, "[The Greeks who are writing history on electronic... paper](#)".
- ✓ Spotlight on Science, ESRF, "[Organic photovoltaic device local structure revealed by combined X-ray diffraction and fluorescence](#)".
- ✓ TEI of Crete: [Innovative light-trapping technique in semi-transparent plastic photovoltaics](#).
- ✓ GF News: [Graphene Interface Engineering for Large Area, High Efficiency Solar Cells](#).
- ✓ Patris Newspaper, "[HMU Professor among the world's top scientists](#)".
- ✓ Patris Newspaper, "[E. Kymakis in 'P': 'Investment in research is a one-way street'](#)".
- ✓ Chemistry World, "[World's first graphene-enabled perovskite solar farm trial up and running](#)".
- ✓ Renewable Energy Magazine, "[Graphene-enabled solar farm in Crete demonstrates exceptional performance](#)".
- ✓ Graphene Flagship (GF): [Graphene-enabled solar farm shines in performance](#).
- ✓ Dnews: [Global leadership by Greek researchers in photovoltaic systems](#).
- ✓ Patris Newspaper, "[E. Kymakis in 'P': 'Investment in research is the only way'](#)".
- ✓ Neakriti newspaper, "[Nanotechnology is already here](#)".

16. PERSONAL

Date of Birth: 18th of April 1977 Place of Birth: Heraklion, Crete, Greece
 Marital Status: Married (1 son, 2 daughters)