

## Panagiotis Dallas

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### Experience

- Senior Researcher (B'). Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation. 12/2024-present
- Research Associate. Institute of Nanoscience and Nanotechnology, NCSR "Demokritos" 2018-present
- Postdoctoral Research Assistant. Department of Materials, University of Oxford, United Kingdom. 2013-2018
- Postdoctoral Research Associate. Department of Materials Science and Engineering, Cornell University, U.S.A. 2010-2013
- Scientific Worker. Department of Physical Chemistry, Palacky University, Czech Republic. 2009-2010
- Research Associate. Institute of Materials Science, NCSR "Demokritos". 2008-2009
- PhD Fellow. Institute of Materials Science, NCSR "Demokritos". 2002-2007

### Education

- PhD. Department of Chemistry, National and Kapodistrian University of Athens. 2008
- MSc. Department of Chemistry, National and Kapodistrian University of Athens. 2004
- BSc. Department of Chemistry, University of Ioannina. 2002

### Teaching activities

- Mentor and Supervisor, Integrative Graduate Education and Research Traineeship (IGERT) and "Research experience for undergraduates" programs of National Science Foundation, Cornell University, USA
- Academic supervisor of Part II students, Department of Materials, University of Oxford
- Lecturer, Elementary Quantum Theory and Bonding, Department of Materials, University of Oxford

### Activities as evaluator

- Petroleum Research Fund, American Chemical Society
- Science Fund of the Republic of Serbia
- Hellenic Foundation for Research and Innovation
- Czech Science Foundation

### Funding

- "2-D semiconductors coupled with plasmonics as advanced photocatalysts and light emitters" Hellenic Foundation for Research and Innovation, 9/2018-3/2022. Role: Principal Investigator. Budget: 190.000 €
- «Advanced nanocomposite materials for oil wastewater treatment through selective adsorption of heavy metals and crude oil» Operational Program ATTIKA 2014-2020, Research and Innovation Cooperations in the region of Attica (ATTP4-0359579), 6/2023-6/2025. Role: Principal Investigator. Budget: 149.517 €
- "Optimized, large-scale, synthesis of ternary chalcogenide nanocrystals for optoelectronics and photocatalytic applications" 2025-2026 "Partenariat Hubert Curien, France-Greece". Role: Principal Investigator. Budget: 10.000 €

### Publications

#### Original research papers

1. "Magnetically controllable sponges for crude oil, mercury, and arsenic removal" P.Bika, N. Todorova, M.-A. Gatou, M. Pissas, E. Devlin, E. Sakellis, N. Boukos,

- N. Lagopati, T. Lympelopoulou, L.-A. Tsakanika, E. A. Pavlatou, V. K. Tzitzios and P. Dallas [Environ. Sci.: Nano, 2026 DOI: 10.1039/D5EN00549C](#)
2. S. Orfanoudakis, P. Dallas, N. Zacharopoulos, P. Tsipas, A. Banis, L. Tsetseris, A. Kontos, T. Stergiopoulos. Shell-free CuInS<sub>2</sub> Nanocrystals with Near-Unity Photoluminescence for Deep-Red LEDs [ACS Applied Optical Materials 2026, DOI: 10.1021/acsaom.5c00499](#)
  3. "Detection and Selective Sorption of Copper Ions by a COF-Modified Melamine Sponge" P. Bika, N. Ioannidis, P. Tsipas, S. Papagiannis, M-A. Gatou, E.A Pavlatou, A.G. Karydas, T. Stergiopoulos, P. Dallas [ACS Omega 2025, 10\(21\), 21755-21756](#) DOI: 10.1021/acsomega.5c01393
  4. "Effects of ligand coordination on Ag<sub>8</sub>SnS<sub>6</sub> as a photoabsorber for thin film solar cells" P.Dallas, V.K Tzitzios, L. Givalou, P. Tsipas, G. Basina, E. Sakellis, N. Boukos, T. Stergiopoulos [J.Mater.Chem.C. 2025, 13, 7996-8005](#) DOI: 10.1039/D5TC00397K
  5. "Influence of TFSI post-treatment on surface doping and passivation of lead halide perovskites" K. Gkini, S. Orfanoudakis, F. Harlaftis, P. Dallas, C. Kouzios, P. Tsipas, A.G Kontos, M. Konstantakou, T. Stergiopoulos [J.Mater.Chem.A. 2024, 12, 31291-31300](#)
  6. "Electron transfer and energy exchange between a covalent organic framework and CuFeS<sub>2</sub> nanoparticles" P. Bika, V. Tzitzios, I. Sakellis, S. Orfanoudakis, N. Boukos, S.M. Alhassan, P. Tsipas, V. Psycharis, T. Stergiopoulos, P. Dallas. [J.Mater.Chem.C. 2024, 12, 10475](#)
  7. "Enhancing the Visible Light Photocatalytic Activity of TiO<sub>2</sub>-Based Coatings by Addition of Exfoliated g-C<sub>3</sub>N<sub>4</sub>" I. Papailias, N. Todorova, T. Giannakopoulou, N. Plakantonaki, M. Vagenas, G. Anyfantis, P. Dallas, I. Arabatzis, C. Trapalis. [Catalysts 2024, 14, 333](#)
  8. "Exploring the potential of powder-to-film processing for proof-of-concept BaZrS<sub>3</sub> perovskite solar cells" P. Dallas, K. Gkini, A. Kaltzoglou, L. Givalou, M. Konstantakou, S. Orfanoudakis, N. Boukos, E. Sakellis, P. Tsipas, A. Kalafatis, A.G. Karydas, A. Lagogiannis, P. Falaras, V. Psycharis, and T. Stergiopoulos [Materials Today Communications 2024, 39, 108608](#)

9. "Prominent COF, g-C<sub>3</sub>N<sub>4</sub> and Their Heterojunction Materials for Selective Photocatalytic CO<sub>2</sub> Reduction". P. Bika, I. Papailias, T. Giannakopoulou, C. Tampaxis, T.A. Steriotis, C. Trapalis, P. Dallas. [Catalysts. 2023, 13, 1331](#)
10. "Photocatalytic degradation of organic micropollutants under UV-A and visible light irradiation by exfoliated g-C<sub>3</sub>N<sub>4</sub> catalysts". M. Antonopoulou, P. Bika, I. Papailias, S-K. Zervou, A. Vrettou, I. Efthimiou, G. Mitrikas, N. Ioannidis, C. Trapalis, P. Dallas, D. Vlastos, A. Hiskia. [Science of The Total Environment 2023, 892. 164218](#)
11. "Exploring seebeck-coefficient fluctuations in endohedral-fullerene, single-molecule junctions". A.K. Ismael, L. Rincon-Garcia, C. Evangelis, P. Dallas, T. Alotaibi, A.A. Al-Jobory, G. Rubio-Bollinger, K. Porfyrakis, N.s Agrait, C.J. Lambert. [Nanoscale Horizons 2022, 7, 616.](#)
12. "Copper Coordination and the Induced Morphological Changes in Covalent Organic Frameworks". P. Bika, N. Ioannidis, M-A. Gatou, Y. Sanakis, P. Dallas. [Langmuir 2022, 38, 3082-3089](#)
13. "Photocatalytic Reduction of CO<sub>2</sub> over Iron-Modified g-C<sub>3</sub>N<sub>4</sub> Photocatalysts". M. Edelmannová, M. Reli, K. Kočí, I. Papailias, N. Todorova, T. Giannakopoulou, P. Dallas, E. Devlin, N. Ioannidis, C. Trapalis. [Photochem 2021, 1, 462-476](#)
14. "An insight study into the parameters altering the emission of a covalent triazine framework". P. Bika, V. Osokin, T. Giannakopoulou, N. Todorova, M. Li, A. Kaidatzis, R.A. Taylor, C. Trapalis, P. Dallas. [J.Mater.Chem.C. 2021, 9, 13770](#)
15. "Electrochemical Deposition of Highly Hydrophobic Perfluorinated Polyaniline Film for Biosensor Applications." E. Tomšík, P. Dallas, I. Šeděnková, J. Svoboda, Martin Hrubý. [RSC Advances, 2021, 11, 18852](#)
16. "Photocatalytic H<sub>2</sub> Evolution, CO<sub>2</sub> Reduction, and NO<sub>x</sub> Oxidation by Highly Exfoliated g-C<sub>3</sub>N<sub>4</sub>". N. Todorova, I. Papailias, T. Giannakopoulou, N. Ioannidis, N. Boukos, P. Dallas, M. Edelmannová, M. Reli, K. Kočí, C. Trapalis. [Catalysts. 2020, 10, 1147](#)
17. "Torus Shaped g-C<sub>3</sub>N<sub>4</sub> by Flame Spray Pyrolysis" I. Papailias, N. Todorova, T. Giannakopoulou, N. Ioannidis, P. Dallas, D.Dimotikali, C.Trapalis. [Applied Catalysis B: Environmental, 2020, 268, 118733](#)

18. "Electrochemically active water repelling perfluorinated polyaniline films" P. Dallas\*, E. Tomšík, R.S. Jones, A. Xiao, E. Milnes-Smith, N. Grobert, K.Porfyraakis. [Chemical Physics 2020, 528, 110540](#)
19. "Detecting the photosensitization from fullerenes and their dyads with gold nanoparticles with singlet oxygen sensor green" P. Dallas\*, P.Q. Velasco, M. Lebedeva, K. Porfyraakis. [Chemical Physics Letters 2019, 730, 130-137](#)
20. "Assembly and Interaction of Polyaniline Chains: Impact on Electro- and Physical-Chemical Behavior" E.N. Tomšík, O. Kohut, I. Ivanko, M. Pekárek, I. Bieloshapka, P. Dallas. [Journal of Physical Chemistry C. 2018, 122 \(14\), 8022–8030](#)
21. "CF<sub>2</sub>-bridged C<sub>60</sub> dimers and their optical transitions" P.Dallas\*, S.Zhou, S.Cornes, H.Niwa, Y.Nakanishi, T.Puchtler, Y.Kino, R.A.Taylor, H.Shinohara, K.Porfyraakis. [ChemPhysChem 2017, 730, 130-137.](#)
22. "Long Stokes shifts and vibronic couplings in perfluorinated polyanilines" P.Dallas\*, I.Rašović, T.Puchtler, R.A.Taylor, K.Porfyraakis. [Chem.Commun. 2017, 53, 2602-2605.](#)
23. "Ultra-stiff large-area carpets of carbon nanotubes". S.S.Meysami, P.Dallas, J. Britton, J.G Lozano, A.T Murdock, C.Ferraro, E.S.Gutierrez, N.Rijnveld, P.Holdway, K.Porfyraakis, N.Grobert. [Nanoscale 2016, 8, 11993-12001.](#)
24. "Mapping and Tuning the Fluorescence of Perfluorinated Polyanilines Synthesized through Liquid-Liquid interfaces". P.Dallas\*, I.Rašović, K.Porfyraakis. [J.Phys.Chem.B. 2016, 120\(13\), 3441-3454](#)
25. "Classification of carbon nanostructure families occurring in a chemically activated arc discharge reaction" P.Dallas, S.S.Meysami, N.Grobert, K.Porfyraakis [RSC Advances 2016, 6, 24912-24920](#)
26. "Charge separated states and singlet oxygen generation of Mono and Bis Adducts of C<sub>60</sub> and C<sub>70</sub>" P.Dallas\*, G.Rogers, B.Reid, R.Taylor, H.Shinohara, A.Briggs, K.Porfyraakis. [Chem.Phys. 2016, 465, 28-39](#)
27. "Redox-dependent Franck-Condon blockade and avalanche transport in a graphene-fullerene nanoelectromechanical oscillator" C.S.Lau, H.Sadeghi, G.Rogers, S.Sangtarash, P. Dallas, K.Porfyraakis, J.Warner, C.Lambert, A.G.Briggs, J.Mol. [Nano Letters. 2016, 16\(1\), 170.](#)

28. "Self-suspended permanent magnetic FePt ferrofluids" P.Dallas, A.Kelarakis, R.Sahore, F.J.DiSalvo, S.Livi, E.P.Giannelis. [J.Coll.Int.Sci. 2013, 407, 1-7](#)
29. "Formation mechanism of carbogenic nanoparticles with dual photoluminescence emission" M.Krysmann, A.Kelarakis, P.Dallas, E.P.Giannelis. [J.Am.Chem.Soc. 2012, 134\(2\), 747-750](#)
30. "Magnetic nanoparticles for tunable microwave metamaterials" N.Noginova, Q.L. Williams, P.Dallas, E.P.Giannelis. [Proceedings of SPIE - The International Society for Optical Engineering 2012, 8455, 845531](#)
31. "Pyrolytic formation of a carbonaceous solid for heavy metal adsorption" A.B.Bourlinos, M.A.Karakassides, P.Stathi, Y.Deligiannakis, R.Zboril, P.Dallas, T.A.Steriotis, A.K.Stubos, C.Trapalis. [J.Mater.Sci. 2011, 46, 975-982](#)
32. "Effect of Surface Modification on Fluorescence and Morphology of CdSe Nanoparticles Embedded in 3D Phosphazene-Based Matrix: Nanowire-like Quantum Dots" K.Siskova, M.Kubala, P.Dallas, D.Jancik, A.Thorel, P.Ilik, R.Zboril. [J.Mater.Chem.C. 2011. 21, 1086-1093](#)
33. "Electrogenerated chemiluminescence from carbon dots" L.Sun, T.H.Teng, Md.H.Rashid, M.Krysmann, P.Dallas, Y.Wang, B.R.Hyun, A.C.Bartnik, G.Malliaras, F.W.Wise, E.P.Giannelis, [Materials Research Society Symposium Proceedings 2011, 1284, 131-136](#)
34. "Fullerol ionic liquids" N.Fernandes, P.Dallas, R.Rodriguez, A.B.Bourlinos, V.Georgakilas, E.P.Giannelis. [Nanoscale 2010, 2, 1653-1656](#)
35. "Cornet-like phosphotriazine/diamine polymer as reductant and matrix for the synthesis of silver nanocomposites with antimicrobial activity" P.Dallas\*, R.Zboril, A.B. Bourlinos, D.Jancik, D.Niarchos, A.Panacek, D.Petridis. [Macromol. Mater. Eng. 2010 295\(2\), 108](#) - featured on the front cover of Vol.295, Issue 2.
36. "Magnetically controllable silver nanocomposite with multifunctional phosphotriazine matrix and high antimicrobial activity". P.Dallas\*, J.Tucek, D.Jancik, M.Kolar, A.Panacek, R.Zboril. [Adv.Funct.Mater. 2010, 20\(14\), 2347-2354.](#)
37. "Organic functionalization of graphenes" V.Georgakilas, A.B.Bourlinos, R.Zboril, T.Steriotis, P.Dallas, A.Stubos, C.Trapalis. [Chem.Commun. 2010, 46, 1766-1768.](#)

38. "Polypyrrole/MWNT nanocomposites synthesized through interfacial polymerisation" V.Georgakilas, P.Dallas, Ch.Trapalis, D.Niarchos. [Synth.Metals 2009, 159, 632-636](#)
39. "Silver nanoparticles and graphitic carbon through thermal decomposition of a silver/acetylenedicarboxylic salt" P.Dallas, A.B.Bourlinos, Ph.Komninou, M.Karakassides, D.Niarchos. [Nanoscale Res. Lett. 2009, 4, 1358-1364.](#)
40. "One step solid state synthesis of capped  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub> nanocrystallites" R.Zboril, A.Bakandritsos, M.Mashlan, V.Tzitzios, P.Dallas, Ch.Trapalis, D.Petridis. [Nanotechnology 2008, 19, 096602-095610](#)
41. "Synthesis and characterization of 2-D and 3-D covalent networks derived from triazine central cores and bridging aromatic diamines" P.Dallas\*, A.B.Bourlinos, D.Petridis, N.Boukos, K.Papadokostaki, D.Niarchos, N.Guskos. [Polymer 2008, 49\(5\), 1137-1144](#)
42. "Synthesis of tunable sized capped magnetic iron oxide nanoparticles highly soluble in organic solvents" P.Dallas, A.B. Bourlinos, D. Petridis, D. Niarchos. [J. Mater. Sci. 2007, 42, 4996-5002](#)
43. "Characterization, magnetic and transport properties of polyaniline synthesized through interfacial polymerization" P.Dallas, D.Stamopoulos, N.Boukos, V.Tzitzios, D.Niarchos, D.Petridis. [Polymer 2007, 48, 3162-3169](#)
44. "Silicone-functionalized carbon nanotubes for the production of new carbon based fluids" A.B.Bourlinos, V.Georgakilas, N.Boukos, P.Dallas, Ch.Trapalis, E.P.Giannelis. [Carbon 2007, 45, 1583-1585](#)
45. "Preparation of water-dispersible carbon nanotubes-silica hybrid" A.B.Bourlinos, V.Georgakilas, R.Zboril, P.Dallas. [Carbon 2007, 45 \(10\), 2136-2139](#)
46. "Interfacial polymerization of pyrrole and in situ synthesis of polypyrrole/silver nanocomposites" P.Dallas, D.Niarchos, D.Vrbanic, N.Boukos, St.Pejovnik, Ch.Trapalis, D.Petridis. [Polymer 2007, 48, 2007-2013](#)
47. "Synthesis and characterization of a  $\pi$ -conjugate, covalent network derived from condensation polymerization of the 4,4'-bipyridine-cyanuric chloride couple" A.B.Bourlinos, P.Dallas, Y.Sanakis, D.Stamopoulos, Ch.Trapalis, D.Niarchos. [Eur.Pol.J. 2006, 42, 2940-2948](#)

48. "Characterization, electrical and magnetic properties of polyaniline/maghemite nanocomposites" P.Dallas, N.Moutis, E.Devlin, D.Niarchos, D.Petridis. [Nanotechnology 2006, 17, 5019-5026](#)
49. "Synthesis, characterization and thermal properties of polymer/iron oxide nanocomposites" P.Dallas, V.Georgakilas, D.Niarchos, Ph.Komninou, Th.Kehagias, D.Petridis. [Nanotechnology 2006, 17, 2046-2053](#)
50. "Crystal Structure and Solid-State Reactivity of a Cd (II) Polymeric Complex with Acetylenedicarboxylic Acid" St.Skoulika, P.Dallas, M.G.Siskos, Y.Deligiannakis, A.Michaelides. [Chem.Mater. 2003, 15, 4576-4582](#)

### **Review articles and editorials**

51. "Process parameter optimization for endohedral metallofullere synthesis via the arc discharge method" S. Sinha, K. Sanfo, P. Dallas, S. Kumar, K. Porfyrakis. [Inorganics 2024, 12, 38](#)
52. "Recent Advances in Covalent Organic Frameworks for Heavy Metal Removal Applications." M-A. Gatou, P. Bika, T. Stergiopoulos, P. Dallas, E.A. Pavlatou. [Energies, 2021, 41, 3197](#)
53. "Sensors for Environmental Monitoring" L.Fu, P.Dallas, V.K. Sharma, K. Zhang. [Journal of Sensors 2016](#), Editorial for special issue on sensors.
54. "Silver polymeric nanocomposites as advanced antimicrobial agents: classification, synthetic paths, applications and perspectives" P.Dallas, V.Sharma, R.Zboril. [Adv.Coll.Int.Sci. 2011, 166, 119-135](#)
55. "Interfacial polymerization of conductive polymers: generation of polymeric nanostructures in a 2-D space" P.Dallas\*, V.Georgakilas. [Adv.Coll.Int.Sci. 2015, 224, 46](#)

### **Books and book chapters**

56. "Magnetic properties of endohedral fullerenes: applications and perspectives" P. Dallas, R. Harding, S. Cornes, S. Sinha, S. Zhou, I. Rašović, E. Laird, K. Porfyrakis. "21st Century Nanoscience – A Handbook: Low-Dimensional Materials and Morphologies (Volume Four)", CRC Press, Taylor and Francis. Editor: Klaus Sattler. June 2020.

57. "Generation of polymers and nanomaterials at liquid-liquid interfaces" book by P.Dallas, Elsevier, 2020, second edition.
58. "Polymers and Nanomaterials from Liquid-Liquid Interfaces: Synthesis, Self-Organization and Applications"; book by P.Dallas. Smithers Rapra, April 2017, 254 σελίδες.
59. "Endohedral metallofullerenes: optical properties and biomedical applications" P.Dallas, I.Rašović, G.Rogers, K.Porfyrakis. "Carbon nanomaterials sourcebook" Taylor & Francis Publisher, Editor: Klaus Sattler 2016, 255-271
60. "Nanostructured materials for environmentally conscious applications" P.Dallas, A.Kelarakis, E.P.Giannelis "Sustainable Nanotechnology and the Environment" ACS Symposium Book Series 2013, 1124, 59-72

#### **Conference and symposia participation**

1. "Τροποποιημένοι σπόγγοι μελαμίνης για απομάκρυνση αργού πετρελαίου και βαρέων μετάλλων" Πράσινη Χημεία και Τεχνολογία (ημερίδα) Διοργάνωση: Ελληνικό Δίκτυο Πράσινης Χημείας σε συνεργασία με το Τμήμα Χημείας ΑΠΘ. 28-29 Νοεμβρίου 2025
2. "Permanent magnetic ferrofluids: FePt functionalized with ionic liquids". Invited (oral) presentation in the 243rd American Chemical Society Meeting, San Diego CA, USA, 24-29 March 2012.
3. "2-D and 3-D triazine based polymers and their silver and magnetic composites" oral presentation in NANOCON, Czech Republic, 20-22 October 2009.
4. "π-conjugate, covalent layered networks derived from cyanuric chloride and certain aromatic diamines" poster presentation at the 47th Microsymposium Advanced polymer materials for photonics and electronics" Prague, Czech Republic, 15-19 July 2007.
5. "Interfacial polymerization of pyrrole and aniline. In situ synthesis of silver/polypyrrole nanocomposites" poster presentation at the 45th Microsymposium Structure and dynamics of selforganized macromolecular systems Prague, Czech Republic, 9-13 July 2006.

6. "Preparation of ferrofluids and the effect of the organic molecules absorption in the magnetic properties of magnetite nanoparticles" oral presentation at the 6th Ferrofluid Workshop, Saarbrucken, Germany, 20-22 July 2005
7. "Study of the electrical and structural properties of polyaniline/magnetite nanocomposites" oral presentation at the IV Symposium of science and technology of nanomaterials in Slovenia, Jožef Stefan Institute, Ljubljana, Slovenia, 24-25 October, 2005.
8. "Crystal Architecture of Cd(II) coordination polymers with unsaturated dicarboxylic acids" poster presentation at the 4th Conference of Chemistry Department, Ioannina, Greece, 18-21 May 2001