CURRICULUM VITAE

Antonios M. Douvas
Researcher Grade C (Assistant Researcher)
Institute of Nanoscience & Nanotechnology (INN)
National Centre for Scientific Research (NCSR) "Demokritos"
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1. Personal Info

Date of birth: 1970
Nationality/citizenship: Greek
Marital status: Married with three children (born 2016, 2018, 2021)

2. Education

2003 - 2004 Attendance of 6 advanced postgraduate courses in polymer synthesis and physical chemistry at the Department of Chemistry, National Kapodistrian University of Athens, Greece.

1996 - 2003 PhD in photolithography; PhD Thesis Title: *"New Photosensitive Polymeric Materials and Processes for Fabrication of Bio-microsystems"*; Department of Chemical Engineering, National Technical University of Athens (NTUA), Greece;
PhD supervisors: Prof. D. Dimotikali (Department of Chemical Engineering, NTUA, Greece) and Dr. P. Argitis (Institute of Microelectronics, NCSR "Demokritos", Athens, Greece).

1996 - 1997 Attendance of 13 advanced postgraduate courses in physical chemistry and photochemistry of photosensitive polymeric materials for applications in micro- nanoelectronic devices at NCSR "Demokritos".

1989 - 1995 Diploma in chemical engineering (equal to Master), Department of Chemical Engineering, National Technical University of Athens (NTUA), Greece.

3. Positions

2017 - today Researcher grade C (Assistant Researcher), Institute of Nanoscience and Nanotechnology, NCSR "Demokritos", Athens, Greece.

2013 - 2017 Scientific Staff, Institute of Nanoscience and Nanotechnology (INN), NCSR "Demokritos", Athens, Greece.

2007 - 2013 Scientific Staff, Institute of Microelectronics (IMEL), NCSR "Demokritos", Athens, Greece.

2004 - 2007 Collaborating Researcher Grade D, Institute of Microelectronics, NCSR "Demokritos", Athens, Greece.

4. Fellowships – Praises

2004 - 2007 Postdoctoral fellowship as a Collaborating Researcher grade D, Institute of Microelectronics, NCSR "Demokritos", Athens, Greece.

2002 Praise from the Hellenic Industrial Property Organization (Greek Patent Office), Athens, Greece.

5. Research Profile

Research Team

Principal member of the Research Team *"Materials for Nanolithography and Organic Electronics"*, (part of the Research Program "Nanoelectronics, Photonics and Microsystems"), Institute of Nanoscience and Nanotechnology (INN), NCSR "Demokritos", Athens, Greece.

Research Field

"Development of nanostructured materials, with emphasis on hybrid materials and metal oxides/polyoxometalates, for applications in micro- nanodevices".

Research Interests

1. Development of advanced materials (with emphasis on hybrid materials and metal oxides/polyoxometalates, including synthesis/characterization of these materials) and processes for applications in micro- nanoelectronic and photocatalytic devices.
2. Physicochemical investigation of advanced materials films (with emphasis on hybrid materials and metal oxides/polyoxometalates), mainly at material interfaces for applications in micro-nanoelectronic (including photovoltaic) and photocatalytic devices, as well as in conservation of works of art.
3. Nanostructure fabrication technologies (including nanolithography and layer-by-layer (LBL) assembly method) and physicochemical investigation of photopolymeric materials (based on metal oxides/polyoxometalates, etc.) for applications in micro- nanoelectronic and photocatalytic devices, as well as in conservation of works of art.

6. Publications/Patents Record

- 67 scientific publications (peer-reviewed):
  - 61 publications in international scientific journals,
  - 6 publications in international scientific conference proceedings.
- 3 scientific patents (peer-reviewed): 2 international patents and 1 national patent.
- 2,036 total citations (1,633 hetero-citations); *h*-index 24 (source: **Scopus**).
- 6 publications in national scientific journals and conference proceedings.
- 73 presentations-abstract publications in international scientific conferences.

7. Research Overview

His research activity is divided in two major parts:

1. Development of hybrid materials based on transition metal oxides, polyoxometalates or sulfonium salts, dispersed within polymeric films or dissolved in solution, for *photochemical processes of nanostructuring and photocatalysis*. These materials were used for the following applications:
   - Fabrication of bio-microsystems and bioanalytical micro- nanodevices through photolithographic patterning of biomolecules onto solid support under biocompatible process conditions (PhD Thesis);
   - Fabrication of nanoelectronic devices through photolithography;
   - Photocatalytic production of hydrogen in solution;
   - Cleaning of urban artworks with various materials including photocatalysts.

2. Development of hybrid materials based on transition metal oxides, polyoxometalates or sulfonium salts, in the form of thin films, molecular layers or dispersed within polymeric films, for *photophysical processes as materials of devices*. These materials were used for the following applications:
   - Improvement of charge transport (electrons or holes) to electrodes in organic optoelectronic devices (i.e. organic photovoltaics, OPVs, and organic light emitting diodes, OLEDs);
   - Fabrication of molecular nanoelectronic devices through nanostructuring with the layer-by-layer (LBL) assembly method;
   - Fabrication of proton memory nanodevices;
   - Fabrication of UV- and gamma-radiation sensors.

Ten Selected Journal Publications

10. "Multi-Electron Reduction of Wells-Dawson Polyoxometalate Films onto Metallic, Semiconducting and Dielectric Substrates", **A. M. Douvas**, D. Tsikritzis, C. Tselios, A. Haider, A. S. Mougharbel, U. Kortz, A. Hiskia, A. G. Coutsolelos, L. C. Palilis, M. Vasilopoulou, S. Kennou, P. Argitis, *Physical Chemistry Chemical Physics*, 21, 427-437, 2019. 10.1039/C8CP07101B
9. "Porphyrin Sensitized Evolution of Hydrogen using Dawson and Keplerate Polyoxometalate Photocatalysts", A. Panagiotopoulos, **A. M. Douvas**, P. Argitis, A. G. Coutsolelos, *ChemSusChem*, 9, 3213-3219, 2016. https://doi.org/10.1002/cssc.201600995
8. "Old Metal Oxide Clusters in New Applications: Spontaneous Reduction of Keggin and Dawson Polyoxometalate Layers by a Metallic Electrode for Improving Efficiency in Organic

Optoelectronics", M. Vasilopoulou, **A. M. Douvas**, L. Palilis, S. Kennou, P. Argitis, *Journal of the American Chemical Society*, 137, 6844-6856, 2015. https://doi.org/10.1021/jacs.5b01889

7. "Annealing-free highly crystalline solution-processed molecular metal oxides for efficient single-junction and tandem polymer solar cells", M. Vasilopoulou, E. Polydorou, **A. M. Douvas**, L. Palilis, S. Kennou, P. Argitis, *Energy & Environmental Science*, 8, 2448-2463, 2015. https://doi.org/10.1039/C5EE01116G
6. "Sol-gel synthesized, low-temperature processed, reduced molybdenum peroxides for optoelectronics applications", **A. M. Douvas**, M. Vasilopoulou, D. G. Georgiadou, A. Soultati, D. Davazoglou, N. Vourdas, K. Giannakopoulos, A. Kontos, S. Kennou, P. Argitis, *Journal of Materials Chemistry C*, 2, 6290-6300, 2014. 10.1039/C4TC00301B
5. "Solution-processed hydrogen molybdenum bronzes as highly conductive anode interlayers in efficient organic photovoltaics", A. Soultati, **A. M. Douvas**, D. G. Georgiadou, L. C. Palilis, T. Bein, J. M. Feckl, S. Gardelis, M. Fakis, S. Kennou, P. Falaras, T. Stergiopoulos, N. A. Stathopoulos, D. Davazoglou, P. Argitis, M. Vasilopoulou, *Advanced Energy Materials*, 4, 1300896, 2014. https://doi.org/10.1002/aenm.201300896
4. "Solution processable tungsten polyoxometalate as highly effective cathode interlayer for improved efficiency and stability polymer solar cells", L. C. Palilis, M. Vasilopoulou, **A. M. Douvas**, D. G. Georgiadou, S. Kennou, N. A. Stathopoulos, V. Constantoudis, P. Argitis, *Solar Energy Materials & Solar Cells*, 114, 205-213, 2013. http://dx.doi.org/10.1016/j.solmat.2013.02.034
3. "The influence of hydrogenation and oxygen vacancies on molybdenum oxides work function and gap states for application in organic optoelectronics", M. Vasilopoulou, **A. M. Douvas**, D. G. Georgiadou, L. C. Palilis, S. Kennou, L. Sygellou, I. Kostis, A. Soultati, G. Papadimitropoulos, D. Davazoglou, P. Argitis, *Journal of the American Chemical Society*, 134, 16178-16187, 2012. https://doi.org/10.1021/ja3026906
2. "Thermally-induced acid generation from 18-molybdodiphosphate and 18-tungstodiphosphate within poly(2-hydroxyethyl methacrylate) films", **A. M. Douvas**, K. Yannakopoulou, P. Argitis, *Chemistry of Materials*, 22, 2730-2740, 2010. https://doi.org/10.1021/cm9030655
1. "Polyoxometalate-based layered structures for charge transport control in molecular devices", **A. M. Douvas**, E. Makarona, N. Glezos, P. Argitis, J. A. Mielczarski, E. Mielczarski, *ACS Nano*, 2, 733-742, 2008. https://doi.org/10.1021/nn700333j

8. Educational Activities

Teaching

2012 — Supplementary teaching of 1 postgraduate course titled *"Organic Electronics"*, Inter-Institutional Master co-organized by Department of Informatics, University of Athens and Institute of Microelectronics, NCSR "Demokritos", Athens, Greece.

2007 - 2010 — Teaching of 1 postgraduate laboratory course titled *"Fabrication of Protein Microarrays using Lithography"*, International Summer School titled *"Nano2Life Summer School: Methods in Micro-Nanotechnology & Nanobiotechnology"*, Institute of Microelectronics, NCSR "Demokritos", Athens, Greece.

Supervision

2004 - today — Supervision of 1 PhD student; very important help in the experimental part - co-supervision of 7 PhD students; supervision of 1 Master student; very important help in the experimental part - co-supervision of 4 Master students; supervision of 2 undergraduate students; Institute of Nanoscience and Nanotechnology (and former Institute of Microelectronics), NCSR "Demokritos", Athens, Greece, in collaboration with National Technical University of Athens, National Kapodistrian University of Athens, University of West Attica, and University of Crete.

Seminars

He gave several seminars in INN (and IMEL), NCSR "Demokritos", and in some Universities in Greece.

Invited Presentations to International Conferences

5. "Incorporation of polyoxometalates in polymeric films for device microfabrication and use of polyoxometalate layers in organic optoelectronic devices", *(invited)*, **A. M. Douvas**, COST Action

CM1203, *Polyoxometalate Chemistry for Molecular Nanoscience* (*PoCheMoN)*, Workshop WG2&3, *Toward Polyoxometalate based molecular devices*, October 30-31, 2015, University Pierre et Marie Curie, Paris, France.

4. "Spontaneous reduction of solution-processed polyoxometalate layers by a metal electrode: an intelligent interfacial engineering strategy to improve efficiency in organic optoelectronic devices", *(invited),* L. C. Palilis, M. Vasilopoulou, **A. M. Douvas**, S. Kennou, P. Argitis, *11th International Conference on Organic Electronics (ICOE)*, June 15-17, 2015, Erlangen, Germany.
3. "Efficient organic solar cells by using polyoxometalate-based cathode interfacial layers", *(invited)*, M. Vasilopoulou, **A. M. Douvas**, D. G. Georgiadou, L. C. Palilis, A, Soultati, D. Davazoglou, P. Argitis, *European Materials Research Society (E-MRS), Spring Meeting, Symposium B: Organic and hybrid interfaces in excitonic solar cells: from fundamental science to applications*, May 27–31, 2013, Strasbourg, France.
2. "Interface engineering in organic optoelectronic devices using polyoxometalate transport layers", *(invited)*, M. Vasilopoulou, **A. M. Douvas**, D. G. Georgiadou, L. Sygellou, S. Kennou, L. C. Palilis, P. Argitis, *(oral, invited)*, *1st International Conference on Bioinspired Materials for Solar Energy Utilization (BIOSOL)*, September 12-17, 2011, Chania, Crete, Greece.
1. "Proton transport in polyoxometalate-embedded polymeric films: towards the development of novel proton memory devices", *(invited)*, **A. M. Douvas**, E. Kapetanakis, P. Goupidenis, K. Beltsios, D. Velessiotis, E. Makarona, N. Glezos, P. Normand, P. Argitis, *International Polyoxometalate Symposium*, July 28 – August 1, 2009, Bremen, Germany.

9. Research Project Participation

- Participation as a member of NCSRD Research Team in 18 funded research projects:
  - 11 projects funded by the European Union (EU) and International Organizations,
  - 7 projects funded by the Greek Ministry of Education and Religious Affairs, and the General Secretariat for Research and Technology (GSRT).
- Submission of several research proposals in EU, Hellenic Foundation for Research and Innovation (HFRI) and the General Secretariat for Research and Innovation (GSRI) as PI.

Research Projects funded by European Union and International Organizations

11. ***"Resist materials for transition to green processing in semiconductor industry" (RESIN GREEN)***. HORIZON-CL4-2023-DIGITAL-EMERGING-01-11 (2024-2027, 42 months). Total Budget: ~3,778,000€. *Member of the Coordinator Research Team.*
10. ***"Room temperature perovskite superradiant laser" (SUPERLASER)***. EIC PATHFINDER CHALLENGES (2024-2027, 36 months). Total Budget: ~4,000,000 €. *Member of the Coordinator Research Team.*
9. ***"Micro- and Nano- Systems Center of Excellence" (MiNaSys-CoE)***. EU-FP7-Capacities (REGPOT) Support for Institute of Microelectronics-NCSRD. Contract No 245040 (2009-2012). Budget for IMEL-NCSRD: ~2,000,000 €. *Member of IMEL-NCSRD scientific staff.*
8. ***"Tools and Technology for the Analysis and Synthesis of Nanostructures" (TASNANO)***. EU-FP6-NMP-STREP. Contract No 516865 (2005-2007). Budget for IMEL-NCSRD: 400,000 €. *Member of research team.*
7. ***"Unidirectional Nanoscale Supramolecular Wires Assembled by Photo-and Electro-Active Metallocyclodextrine Cups" (NANO2LIFE)***. EU-FP6-NMP-NoE, on NanoBiotechnology. Contract No 500057 (2004-2008). Budget for IMEL-NCSRD: ~80,000 €. *Member of research team.*
6. ***"Novel Molecules for EUV Lithography: A new approach to photoresist design, coupled with fractal description and molecular simulation of roughness" (MolEUV)***. Contract with INTEL Company, USA (2003-2006). Coordinator: IMEL-NCSRD. Total budget: 450,000 $. Budget for IMEL-NCSRD: ~300,000 $. *Member of research team.*
5. ***"Micrometer Scale Patterning of Protein and DNA Chips" (MICROPROTEIN)***. EU-FP5-GROWTH. Contract No G5RD-CT-00744 (2002-2005). Coordinator: IMEL-NCSRD.
   Total budget: 3,332,000 €. Budget for IMEL-NCSRD: ~350,000 €. *Member of research team.*
4. ***"Critical resist and process issues for 157 nm lithography" (CRISPIES)***. EU-FP5-IST. Contract No 30143 (2001-2004). Budget for IMEL-NCSRD: ~500,000 €. *Member of IMEL-NCSRD research team.*
3. ***"A Bioanalytical Microsystem Based on Optical Microchip" (BIOMIC)***. EU-FP5-IST. Contract No 28214 (2001-2004). Coordinator: IMEL-NCSRD. Budget for IMEL-NCSRD: ~377,000 €. *PhD student.*

2. ***"Biologically and optically engineered materials for immunosensors" (BOEMIS)***. EU-BRITE-EURAM (DGXII). Contract No BRPR CT970393 (1997-2000). Coordinator: IMEL-NCSRD. Total budget: 1,500,000 ECU. Budget for IMEL-NCSRD: 150,000 ECU. *PhD student.*
1. ***"Nanolithography using chemically amplified resists" (NANCAR)***. FP4-ESPRIT 4. Contract No 20084 (1996-1998). Coordinator: CCLRC Rutherford Appleton Laboratory (RAL), UK. Total budget: 1,730,200 €. Budget for IMEL-NCSRD. *PhD student.*

Research Projects funded by Greek Ministry of Education and Religious Affairs, and General Secretariat for Research and Technology (GSRT)

7. ***"Advanced Materials and Devices for Energy Collection and Management"***, Project: KRIPIS, Ministry of Education (2013-2015). Coordinator: INN-NCSRD. Budget for INN-NCSRD: 883,200 €. *Member INN-NCSRD research team.*
6. ***"Implementing advanced interfacial engineering strategies for highly efficient hybrid solar cells" (IMAGINE-HYSOL)***, Research Grants ARISTEIA II, Ministry of Education (2013-2015). Coordinator: University of Patras. Budget for INN-NCSRD: 150,000 €. *Member of research team*.
5. ***"Polymeric photonic systems for application in information technologies" (PHOTOPOLIS)***, Research Grants THALES, Ministry of Education, Project code: MIS 377358 (2012-2015). Coordinator: University of Patras. Total Bubget: ~520,000 €. Budget for INN-NCSRD: 150,000 €. *Member of research team.*
4. ***"Novel and highly efficient Hybrid organic photovoltaic cells" (NHyOPV)***, Research Grants ARCHIMEDES III, Ministry of Education, Project code: MIS383575-Y06 (2012-2015). Coordinator: Technological Educational Institute of Piraeus. Total Budget: 100,000 €. Budget for INN-NCSRD: 50,000 €. *Member of research team.*
3. ***"Novel low power consumption Hybrid OLEDs with improved operational characteristics" (NHyOLED)***, Research Grants ARCHIMEDES III, Ministry of Education, Project code: MIS383575-Y05 (2012-2015). Coordinator: Technological Educational Institute of Piraeus. Total Budget: 100,000 €. Budget for INN-NCSRD: 50,000 €. *Member of research team.*
2. ***"Organic electronic device for determining ionizing radiation using sensors based on polymer layers incorporating photoacid generator" (OEDDIR)***, Research Grants ARCHIMEDES III, Ministry of Education, Sub-project 30 (2012-2015). Coordinator: Technological Educational Institute of Crete. Total Budget: 82,000 €. Budget for INN-NCSRD: 41,000 €. *Member of research team.*
1. ***"Polymeric Materials for Nanostructure Fabrication with UV Lithography and Self-Assembling" (POLY-NANO)***, Research Grants PENED, General Secretariat for Research and Technology, (2000-2001). Coordinator: IMEL-NCSRD. Total Budget: ~50,000,000 GRD. Budget for IMEL-NCSRD: ~20,000,000 GRD. *Member of research team.*

10. Reviewing

2005 - today Reviewing of 50 articles in 17 international scientific journals.

11. Career breaks and major life events

2021	Birth of my 3rd child (one year)
2019 – 2022	Pandemic restrictions on research productivity (at least three years)
2018	Birth of my 2nd child (one year)
2016	Birth of my 1st child (one year)
1999 – 2001	Military service (two years)

12. List of Journal Publications

61. "Cleaning of Contemporary Public Murals from Unwanted Graffiti Overpaintings: A Sustainable Green Approach", V. Marazioti, **A. M. Douvas**, P. Matthiopoulou, S. Boyatzis, Y. Facorellis, *Studies in Conservation* (2025) in press.
60. "The condition of contemporary murals in sun-exposed urban environments: a model study based on spray-painted mock-ups and simulated light ageing", V. Marazioti, **A. M. Douvas**, E. C. Vouvoudi, D. Bikiaris, K. Papadokostaki, D. Nioras, E. Gogolides, S. Orfanoudakis, T. Stergiopoulos, S. Boyatzis, Y. Facorellis, *Heritage* (2024) 7, 3932–3959.

59. "Chemical characterisation of artists' spray-paints: A diagnostic tool for urban art conservation", V. Marazioti, **A. M. Douvas**, F. Katsaros, P. Koralli, C. Chochos, V. G. Gregoriou, S. Boyatzis, Y. Facorellis, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* (2023) 291, 122375.
58. "The role of Dawson Polyoxometalates as interfacial layers on the energy band alignment between indium tin oxide and poly(3-hexylthiophene) films", D. Tsikritzis, C. Tselios, **A. M. Douvas**, S. Kennou, *Thin Solid Films* (2019) 676, 92–99.
57. "A self-assembly study of PNA–porphyrin and PNA–BODIPY hybrids in mixed solvent systems", E. Nikoloudakis, K. Karikis, J. Han, C. Kokotidou, A. Charisiadis, F. Folias, **A. M. Douvas**, A. Mitraki, G. Charalambidis, X. Yan, A. G. Coutsolelos, *Nanoscale* (2019) 11, 3557–3566. **Cover of *Nanoscale*, Issue 18, 2019.**
56. "Multi-Electron Reduction of Wells-Dawson Polyoxometalate Films onto Metallic, Semiconducting and Dielectric Substrates", **A. M. Douvas,** D. Tsikritzis, C. Tselios, A. Haider, A. S. Mougharbel, U. Kortz, A. Hiskia, A. G. Coutsolelos, L. C. Palilis, M. Vasilopoulou, S. Kennou, P. Argitis, *Physical Chemistry Chemical Physics* (2019) 21, 427-437.
55. "Guided cell adhesion, orientation, morphology and differentiation on silicon substrates photolithographically micropatterned with a cell-repellent cross-linked poly(vinyl alcohol) film", A. Bourkoula, E. Mavrogonatou, P. Pavli, P. Petrou, **A. Douvas**, P. Argitis, D. Kletsas, S. Kakabakos, *Biomedical Materials* (2019) 14, 014101-014118.
54. "Self-assembling study of nanometric spheres from polyoxometalate-phenylalanine hybrids, an experimental and theoretical approach", E. Nikoloudakis, K. Karikis, M. Laurans, C. Kokotidou, A. Solé-Daura, J. J. Carbó, A. Charisiadis, G. Charalambidis, G. Izzet, A. Mitraki, **A. M. Douvas**, J. M. Poblet, A. Proust, A. G. Coutsolelos, *Dalton Transactions* (2018) 47, 6304–6313. **Cover of *Dalton Transactions*, Issue 18, 2018.**
53. "Size-dependent Single Electron Transfer and Semimetal-to-Insulator Transitions in Molecular Metal Oxide Electronics", A. Balliou, M. Bouroushian, **A. M. Douvas**, G. Skoulatakis, S. Kennou, N. Glezos, *Nanotechnology* (2018) 29, 275204-275217.
52. "Plasma Induced Degradation and Surface Electronic Structure Modification of Poly(3-hexylthiophene) Films", M. Tountas, D. G. Georgiadou, A. Zeniou, K. Seintis, A. Soultati, E. Polydorou, S. Gardelis, **A. M. Douvas**, T. Speliotis, D. Tsikritzis, S. Kennou, M. Fakis, E. Gogolides, D. Tsoukalas, P. Argitis, M. Vasilopoulou, *Polymer Degradation and Stability* (2018) 149, 162-172.
51. "The effect of TiO_2 component on the properties of acrylic and urea-aldehyde resins under accelerated ageing conditions", H. V. Farmakalidis, S. Boyatzis, **A. M. Douvas**, I. Karatasios, S. Sotiropoulou, P. Argitis, Y. Chryssoulakis, V. Kilikoglou, *Pure and Applied Chemistry* (2017) 89, 1659-1671.
50. "Surface Modification of ZnO Layers via Hydrogen Plasma Treatment for Efficient Inverted Polymer Solar Cells", V. Papamakarios, E. Polydorou, A. Soultati, N. Droseros, D. Tsikritzis, **A. M. Douvas**, L. Palilis, M. Fakis, S. Kennou, P. Argitis, M. Vasilopoulou, *ACS Applied Materials & Interfaces* (2016) 8, 1194-1205.
49. "Porphyrin Sensitized Evolution of Hydrogen using Dawson and Keplerate Polyoxometalate Photocatalysts", A. Panagiotopoulos, **A. M. Douvas**, P. Argitis, A. G. Coutsolelos, *ChemSusChem* (2016) 9, 3213-3219.
48. "Direct Current Conductivity of Thin-Film Ionic Conductors from Analysis of Dielectric Spectroscopic Measurements in Time and Frequency Domains", E. Kapetanakis, P. Gkoupidenis, V. Saltas, **A. M. Douvas**, P. Dimitrakis, P. Argitis, K. Beltsios, S. Kennou, C. Pandis, A. Kyritsis, P. Pissis, P. Normand, *Journal of Physical Chemistry C* (2016) 120, 21254-21262.
47. "Impact of microwave post-deposition annealing on the crystallization of amorphous hydrogenated perovskites. The case of the three-dimensional tungsten and of the two-dimensional molybdenum oxide films", A. Soultati, M. Vasilopoulou, G. Papadimitropoulos, **A. Douvas**, I. Kostis, I. Karystinos, S. Kennou, G. Skoulatakis, D. Davazoglou, *Thin Solid Films* (2016) 615, 329–337.
46. "Accelerated Thermal Ageing of Acrylic Copolymers, Cyclohexanone-Based and Urea-Aldehyde Resins Used in Paintings Conservation", H. V. Farmakalidis, **A. M. Douvas**, I. Karatasios, S. Sotiropoulou, S. Boyatzis, P. Argitis, Y. Cryssoulakis, V. Kilikoglou, *Mediterranean Archaeology and Archaeometry* (2016) 16, 213-228.
45. "Annealing-free highly crystalline solution-processed molecular metal oxides for efficient single-junction and tandem polymer solar cells", M. Vasilopoulou, E. Polydorou, **A. M. Douvas**, L. Palilis, S. Kennou, P. Argitis, *Energy & Environmental Science* (2015) 8, 2448-2463.
44. "Old Metal Oxide Clusters in New Applications: Spontaneous Reduction of Keggin and Dawson Polyoxometalate Layers by a Metallic Electrode for Improving Efficiency in Organic

Optoelectronics", M. Vasilopoulou, **A. M. Douvas**, L. Palilis, S. Kennou, P. Argitis, *Journal of the American Chemical Society* (2015) 137, 6844-6856.

43. "Solution processed multi-color organic light emitting diodes for application in telecommunications", M. Vasilopoulou, D.G. Georgiadou, A. Soultati, **A.M. Douvas**, G. Papadimitropoulos, D. Davazoglou, G. Pistolis, N. A. Stathopoulos, T. Kamalakis, D. Alexandropoulos, N. Vainos, C. T. Politi, L. C. Palilis, S. Couris, A. G. Coutsolelos, P. Argitis, *Microelectronic Engineering* (2015) 145, 21-28.
42. "Sol-gel synthesized, low-temperature processed, reduced molybdenum peroxides for optoelectronics applications", **A. M. Douvas**, M. Vasilopoulou, D. G. Georgiadou, A. Soultati, D. Davazoglou, N. Vourdas, K. Giannakopoulos, A. Kontos, S. Kennou, P. Argitis, *Journal of Materials Chemistry C* (2014) 2, 6290-6300.
41. "Influence of the oxygen substoichiometry and of the hydrogen incorporation on the electronic band structure of amorphous tungsten oxide films", M. Vasilopoulou, I. Kostis, N. Vourdas, G. Papadimitropoulos, **A. Douvas**, N. Boukos, S. Kennou, D. Davazoglou, *Journal of Physical Chemistry C* (2014) 118, 12632-12641.
40. "The role of metal/metal oxide/organic anode interfaces in efficiency and stability of bulk heterojunction organic photodetectors", A. Soultati, D. G. Georgiadou, **A. Douvas**, P. Argitis, D. Alexandropoulos, N. A. Vainos, N. A. Stathopoulos, G. Papadimitropoulos, D. Davazoglou, M. Vasilopoulou, *Microelectronic Engineering* (2014) 117, 13-17.
39. "Solution-processed hydrogen molybdenum bronzes as highly conductive anode interlayers in efficient organic photovoltaics", A. Soultati, **A. M. Douvas**, D. G. Georgiadou, L. C. Palilis, T. Bein, J. M. Feckl, S. Gardelis, M. Fakis, S. Kennou, P. Falaras, T. Stergiopoulos, N. A. Stathopoulos, D. Davazoglou, P. Argitis, M. Vasilopoulou, *Advanced Energy Materials* (2014) 4, 1300896.
38. "Porphyrin oriented self-assembled nanostructures for efficient exciton dissociation in high-performing organic photovoltaics", M. Vasilopoulou, D. G. Georgiadou, **A. M. Douvas**, A. Soultati, V. Constantoudis, D. Davazoglou, S. Gardelis, L. C. Palilis, M. Fakis, S. Kennou, T. Lazarides, A. G. Coutsolelos, P. Argitis, *Journal of Materials Chemistry A* (2014) 2, 182-192.
37. "Tungstate polyoxometalate molecules as active nodes for dynamic carrier exchange in hybrid molecular/semiconductor capacitors", A. Balliou, **A. M. Douvas**, P. Normand, D. Tsikritzis, S. Kennou, P. Argitis, N. Glezos, *Journal of Applied Physics* (2014) 116, 143703.
36. "Protein-resistant cross-linked poly(vinyl alcohol) micropatterns via photolithography using removable polyoxometalate photocatalyst", P. Pavli, P. S. Petrou, **A. M. Douvas**, D. Dimotikali, S. E. Kakabakos, P. Argitis, *ACS Applied Materials & Interfaces* (2014) 6, 17463-17473.
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