**Panagiotis ARGITIS**

**CV including Publications List**

**January 2021**

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**1. Contact**

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**2. Education**

* B.Sc. in Chemistry, National and Kapodistrian University of Athens, Greece, 1981
* Ph.D. in Photochemistry/Photocatalysis, Institute of Physical Chemistry-NCSR Demokritos/ National and Kapodistrian University of Athens, 1987.

Ph.D. Scholarship (4 year, 1981-1985) by Greek Atomic Energy Commission, Scholarship for Winter College on Lasers, Atomic and Molecular Physics, Trieste, Italy, Jan 21-March 22, 1985, by International Centre for Theoretical Physics.

Thesis Advisor: Dr. E. Papaconstantinou, Dissertation on Multielectron Photoreduction of Polyoxometallates for Hydrogen Production

**3. Professional Positions**

* 2012 - today, Director of Research, Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Head of the Research Group on Materials for Nanolithography and Organic Electronics
* 2004 - 2012, Director of Research, Institute of Microelectronics, NCSR Demokritos,

Research on Lithographic Materials/Processes and Organic Electronics,

* 1995-2004, Researcher Grade C (1995-1999) and B (1999-2004) at the Institute of Microelectronics, NCSR Demokritos, Research on Lithographic Materials and Processes
* 1992-1995 Post-Doctoral Researcher at the Institute of Microlectronics, NCSR Demokritos (Mike Hatzakis group), Research on e-beam and deep UV resists
* 1991-1992, Teaching Associate (Visiting Assistant Professor), Department of Chemistry, University of Crete, Greece,
* 1988-1991, Post Doctoral Researcher, Department of Chemical Engineering, University of Texas at Austin, USA (Adam Heller's group), Research on Microelectronic Applications.of Polyoxometalates

**4. Research Interests**

* **Organic Electronics** - **Electron Transfer at Material Interfaces** : OLEDs and OPVs- Molecular Electronics-Solution Processed Materials-Ionic systems-Sensors
* **Energy Materials** -  **Polyoxometalates/Transition Metal Oxides** : Chemistry - Redox behaviour - Applications in Energy Devices and Catalysis
* **Nanofabrication** - **Lithography** : Development of new resists for optical and next generation lithography - Molecular resists – Polymer backbone scission - Radiation induced processes for patterning in Microsystems and Nanobiotechnology

**5. Publications/Patents Record**

Publications in total: 172 Journal papers, 6 Book Chapters, 45 papers in Int. Confer. Proceedings

Citations: >5000 (>2300 since 2017), h-index 40, i10-index 123 (Google Scholar)

See profile in Google Scholar: http://scholar.google.gr/citations?user=zAw1PK0AAAAJ&hl=el

ORCID iD: <https://orcid.org/0000-0001-7070-2006>

Patents: 12 patents or patent applications. Among them 6 US patents granted. (See list in section 12)

**6. Positions in Administration and Scientific Boards**

***Institute Level Administrative Positions***

Deputy Director of Institute of Microelectronics of NCSR Demokritos, 2007-2009

President (2011-2012) and member (2002-2006, 2009-2011) of the Internal Advisory Scientific Board of the Institute of Microelectronics of NCSR Demokritos.

Member of the Internal Advisory Scientific Board for the Institute of Nanoscience and Nanotechnology, resulted from the merging of former Institutes of Microelectronics, Materials Science and Physical Chemistry of NCSR Demokritos (2012-2014).

***Center Level (NCSR Demokritos) Administrative Positions***

Member of the following committes:

a) Research Administration Committee, 2002-2004.

b) Technology Campus Committee, 2010-2012.

c) Budget Committee, 2016-2017

***National Level Positions in Scientific Boards***

Member of the Scientific Council on Natural Sciences (Division of the National Council for Research and Innovation), 2018- 2019.

Member of the GSRT (General Secretariat for Research and Technology) Advisory Committee on Materials, 2016-2018.

Member of Committes for Researchers Promotions in Greek Research Centers and Faculty Members Promotions in Greek Universities

**7. Research Overview**

My Ph.D. research work in the area of Inorganic Photochemistry/Photocatatalysis was conducted at the Institute of Physical Chemistry of NCSR Demokritos (1981-1987) under the supervision of Dr E. Papaconstantinou. It was focussed on the photo reduction of polyoxometalates in presence of suitable organic substrates and on the catalytic activity of the reduced forms towards hydrogen production.

In 1988 I joined the group of Adam Heller in the Department of Chemical Engineering of the University of Texas at Austin where I explored applications of polyxometalate photochemistry in Photolithographic and Metallization Processes for the Semiconductor Industry.

Following this period, and after a year in a teaching position in University of Crete, I joined the Institute of Microelectronics at NCSR Demokritos in 1992, where my research activity for 15 years was primarily related to the investigation of polymeric materials applications in the area of micro/nanofabrication. In particular my research was focussed on the design and development of new polymeric (or small-organic-molecule-based) photosensitive materials for micro- nanolithography, aiming

*first*, to the miniaturization of microelectronic devices, following the guidelines of the semiconductor industry as shown at the ITRS (International Technology Roadmap for Semiconductors), and,

*second*, to the investigation of novel micro-nanofabrication processes for the broader field of Microsystems including Bio-Microsystems.

During the last 15 years my research interests have been extended in the field of organic semiconductor based electronic and photonic devices with emphasis on Organic Light Emitting Diodes and Organic Photovoltaics.

**The main research activities of the research group I currently lead, “Materials for Nanolithography and Organic Electronics”, are outlined here:**

*a Materials research for organic electronics*

* Interfaces in Organic Optoelectronic Devices.
* Micro and Nano Patterning of Organic Electronic Devices.
* Molecular Materials in Electronic Devices and Microsystems.
* Novel Energy Materials

Research priorities include investigation of transition metal oxides, polyoxometallates (POMs) and conducting molecular materials as charge transporting layers in OLEDs and OPVs, investigation of OLED emission layer modifications for performance improvement and new applications, patterning, sensing applications of organic electronics, ionic devices, molecular nanodevices, incorporation of organic electronic devices in diverse products (eg in buildings, textiles, diagnostics, packaging).

*b. Lithographic materials and micro- nanopatterning processes*

* Lithographic schemes for patterning in the areas of nanodevices, MEMs, bio-MEMs and related fields.
* Investigation of new resist chemistries.
* Advanced polymeric coatings.

Research priorities include resist chemistries based on polymer backbone scission or on organic molecular glasses, sensitization of EUV resists with metal oxide nanoparticles and related molecules, multiphoton processes for nanodevices and microsystems fabrication, green chemistries for advanced coatings.

**8. Educational and Mentoring Activities**

***Supervisor of Diploma, Master and Ph.D. Theses***

9 completed PhD Theses, 18 Master and Engineering Diploma Theses, in collaboration with

National Technical University of Athens (Department of Chemical Engineering),

National and Kapodistrian University of Athens (Department of Chemistry), and,

University of Patras (Department of Physics and Department of Materials Science)

***Lecturer of Courses in Graduate Programs***:

i. Polymers for Electronic/ Photonic Deviccs and Microsystems (2001-2021), Graduate Program “Polymer Science and Industrial Applications” organized by University of Athens, Department of Chemistry

ii. Optoelectronics (2018-2020), Graduate Program of University of Patras, Department of Materials Science

iii. Organic Electronics (2010 -2017), Graduate Program “Microelectronics”, co-organized by University of Athens (Department of Informatics) and Institute of Microelectronics/NCSR Demokritos.

iv. Polymers in Microelectronics (2005 - 2009), Graduate Program “Microelectronics”, co-organized by University of Athens (Department of Informatics) and Institute of Microelectronics/NCSR Demokritos

***Additional Experience***

-Teaching of undergraduate courses as Visiting Assistant Professor in the Department of Chemistry, University of Crete (1991-92): a. Course on Industrial Chemistry (Chemical Reaction Engineering), b. Lab course on physicochemical characterization of coordination compounds

-Lecturer in several seminars including the International Summer School in Nanobiotechnolgy organized at NCSR Demokritos in the period 2006-2010.

**9. External Funding**

***My research has been funded by National, European and other International sources. Below I list mostly collaborative projects at European level and recent funding.***

***Selection of Projects funded by external sources***

**1)*) “RESIST 193/157“, Resists for 193 nm and 157 nm lithograph***

European Union (EU) FP5 IST, Collaborative project of 2 industrial and 3 academic partners, Duration 1999-2002. Funding for IMEL- NCSR Demokritos ~450 KECU. *Leader of the Work Package on "193 nm resist development".*

**2) “*Crispies”, Critical resist and process issues for 157 nm lithography***

EU FP5 IST, Collaborative project of 2 industrial and 5 academic partners, Duration 2001-2003

Funding for IMEL- NCSR Demokritos ~500 KEuros. *Leader of the Work Package on resist development.*

**3) “*Soaring”, Source, Optical System and Resists for EUV lithography***

EU FP5 IST, Collaborative project of one company and 3 academic partners, Duration 2002-2004

Funding for IMEL-NCSR Demokritos ~350 KEuros. *Leader of resist development tasks*

***4) “Microprotein”, Micrometer scale patterning of Protein and DNA chips***

EU FP5 GROWTH, Collaborative project of 2 industrial and 7 academic partners, Duration 2002-2005

Total Budget: 3332 KEuros, Funding for IMEL- NCSR Demokritos ~350 KEuros

Project Coordinator

***5)******SubHTS "Damage Free Submicron Structures of Superconducting Thin Films"***

NATO Science for Peace, Collaborative project of 2 companies and 2 academic partners 2001-2004

Total funding ~260 ΚΕuros, Funding for IMEL- NCSR Demokritos ~110 KEuros

Project Director

***6)*** ***INTEL****,* ***New molecular resists for EUV Lithography***

Funded by INTEl (USA), Duration (2003- 2006)*,*

Total Funding 450,000 $, Funding for IMEL- NCSR Demokritos 300,000 $

*Project Co-Director, Leader of new molecular resists design and development tasks*

***7) Ναnο2Life,***

EU FP6 NMP, Network of Excellence on NanoBiotechnology, 2004-2008,

Funding for IMEL/NCSR Demokritos ~80,000 Euros

*Member of the Committee on Strategy and Foresight, Member of the European Observatory on Nanobιotechnology*

***8) Minasys, CoE, (Micro-nanosystems Center of Excellence)***

*Main activity: E-Beam lithography infrastracture*

*EU FP7 capacities (REGPOT) Support for the Institute of Microelectronics,Dec 2009-Aug 2013*

Funding for IMEL/NCSR Demokritos ~2,000,000 Euros, *I was one of the 4 Work Package leaders and Administrative Manager*

***9)* *Research Group funding from Ministry of Education and Greek Secretariat of Research and Technology(GSRT) 2012-2020***

Technology Transfer Project “Blue Ray” , 2013 - 2015

Lithographic materials developed by my group were investigated for possible transfer to the production line of Opticon, a company working on Optical Disc technology. (in the Project participated also the companies Theta metrisis and Irida labs). Funding for NCSR D 75,000 Euros

THALIS, "Polymeric photonic systems for application in information technologies”, “Photopolys”, 2012-2015, Project coordination by U of Patras, Funding for NCSR D ~120,000 Euros. *NCSRD group leader.*

Archimides III, 3 projects, 2012-2014, Total funding for the group ~ 120,000 Euros,

“Novel and highly efficient hybrid organic photovoltaics, NHyOPV”

“Novel low power consumption hybrid OLEDs with improved operational characteristics, NHyOLED”

“Organic electronic devices for radiation detection”

Aristeia II, “Implementing Advanced Interfacial Engineering Strategies for Highly Efficient Hybrid Solar Cells, IMAGINE-HYSOL”, 2014-2015, Funding for the group ~ 70,000 Euros

KRHPIS INN, 2013-2015, Solar Energy Harvesting Systems, NCSR D Funding : 870, 000 Euros, Leader of the Work Package 2 (one of the 4 WPs) on OPV Technology,

ISN Industrial Scholarship Project in collaboration with “Smirdex” company, Advanced Coatings for Abrasives, 2017-20020, 100,000 Funding, Scientific Advisor

Greek Russian Project on Quantum Tecnologies, 2018-2020, NCSR D Funding 90,000 Euros, Key Scientist on Organic Materials

**10) Ongoing projects**

i) **GSRT, Heliokeramos**, Industrial Materials Project for OPV incorporation in Buildings (OPV Tiles), 2020- 2023, NCSRD Funding 200, 000 Euros, Leader of OPV group.

ii**) GSRT, NanoMet,** Industrial Materials Project on Nanofabrication and Nanometrology, 2020- 2023, NCSRD Funding ~90, 000 Euros, Leader of NCSRD group.

iii) **ELIDEK, iPHOTO-PACK -** Basic Research on Organic Photonics for Sensing and Packaging, , 2019-202, AUA, Collaborating Researcher, Leader of NCSRD team, NCSRD Funding ~80, 000 Euros,

iv) **GSRT, OLED-LUMIN-PACK,** Ereynw Kainotomw- Industrial collaboration project for Food Packaging, 2020-2023 NCSR D Funding ~200,000 Euros, Key Scientist on OLED based sensing devices.

**10. List of publications**

***a. Journal publications***

1. P. Argitis, and E. Papaconstantinou, "Photocatalytic Multielectron Photoreduction of 18-Tungstodiphosphate in the Presence of Organic Compounds - Production of Hydrogen", **J. Photochem., 30, 445-451, 1985.**
2. P. Argitis, and E. Papaconstantinou, "Vanadium Sensitized Photochemistry of Heteropoly Compounds. Mixed Molybdo- and Tungstovanadates", **Inorg. Chem., 25, 4386-4389, 1986.**
3. J.C. Carls, P. Argitis, and A. Heller, "Deep Ultraviolet Photoresist Based on Tungsten Polyoxometalates and Poly(Vinyl Alcohol) for Bilayer Photolithography", **J. Electrochem. Soc., 139, 786-793, 1992.**
4. P. Argitis, R.A. Srinivas, J.C. Carls, and A. Heller, "Micropatterned Films of Tungsten Nuclei for Subsequent Metallization Formed of Phosphotungstic Acid-Based Negative Resist", **J. Electrochem. Soc., 139, 2889-2894, 1992**.
5. E. Papaconstantinou, A. Ioannidis, A. Hiskia, P.Argitis, D. Dimotikali, and S. Korres, "Photocatalytic Processes by Polyoxometalates. Splitting of Water. The Role of Dioxygen." **Molecular Engineering, 3, 231- 239, 1993**.
6. J. Everett, and C. Piechocki; P. Argitis and M. Hatzakis, " Surfactant Modified Epoxy Resins as Novel Negative Acting Deep UV Photoresists ", **J. Appl. Polym. Sci., 58, 179-183, 1995**.
7. P. Argitis, I. Raptis, C. J. Aidinis, N. Glezos, M. Baciocchi, J. Everett and M. Hatzakis, "An advanced epoxy novolac resist for fast high resolution e-beam lithography", **J. Vac. Sci. Technol. B, 13 (6), 3030, 1995.**
8. N. Glezos, G.P. Patsis, I. Raptis, P. Argitis, M. Gentili and L. Grella, ”Application of a reaction-diffusion model for negative chemically amplified resists to determine electron-beam proximity correction parameters”, **J. Vac. Sci. Technol. B.,** **14 (6), 4252, 1996.***]*
9. I. Raptis, L. Grella, P. Argitis, M. Gentili, N. Glezos, G. Petrocco, "Determination of acid diffusion and energy deposition parameters by point e-beam exposure in chemically amplified resists", **Microelectron. Eng., 30, 295- 299, 1996***.*
10. J.P. Everett, D.L. Schmidt, G.D. Rose, and P. Argitis, C.J. Aidinis, M. Hatzakis, “Synthesis of some onium salts and their comparison as cationic photoinitiators in an epoxy resist “, **Polymer**, **38, 1719-1723, 1997***.*
11. G. Patsis, I. Raptis, N. Glezos, P. Argitis, M. Hatzakis, C.J. Aidinis, M. Gentili, R. Maggiora, “Gel formation theory approach for the modelling of negative chemically amplified e-beam resists”, **Microelectron. Eng., 35, 157-60, 1997.**
12. G. P. Patsis, G. Meneghini, N. Glezos, P. Argitis, “Theoretical discussion of diffusion effects in negative chemically amplified resists based on contrast curve simulation “ **J. Vac. Sci. Technol. B., 15, 2561, 1997**.
13. P. Argitis, M. A. Vasilopoulou, E. Gogolides, E. Tegou, M. Hatzakis, Z. Kollia, A.C. Cefalas, "Etch resistance enhancement and absorbance optimization with polyaromatic compounds for the design of 193 nm photoresists", **Microelectron. Eng.,41/42, 355-358, 1998.**
14. D. Davazoglou, M. A. Vasilopoulou, P. Argitis, " Optical characterization of thin organic films by analysing transmission measurements with the Forouhi - Bloomer model", **Microelectron. Eng., 41/42, 619-622, 1998.**
15. I. Raptis, N.Glezos, A.Rosenbusch, G.Patsis, P.Argitis, "Calculation of energy deposition in the resist films over multilayer substrates", **Microelectron. Eng., 41/42, 171-174,** **1998***.*
16. A.C. Cefalas, P. Argitis, Z. Kollia, E. Sarantopoulou, T. W. Ford, A. D. Stead, A. Marranca, C. N. Danson, J. Knott, D. Neely, “Laser Plasma X-Ray Contact Microscopy of Living Specimens Using a Chemically Amplified Epoxy Resist”, **Appl. Phys. Letters, 72, 3258-3260, 1998*.***
17. D.Tsoukalas, P.Normand, C.Aidinis, E.Kapetanakis, P.Argitis, "Fabrication of Si nanodevices by optical lithography and anisotropic etching", **Microelectron. Eng., 41/42, 523-526, 1998**.
18. E. Tegou, E. Gogolides, P. Argitis, M. Hatzakis, "Silylation of epoxy functionalized photoresists for optical, e-beam lithography and micromachining applications", **Microelectron. Eng., 41/42, 335-338,** **1998**.
19. E. Tegou, E. Gogolides, P. Argitis, I. Raptis, M. Hatzakis, G. Meneghini, Z. Cui, "Silylation and Dry development of Chemically Resists SAL 601, AZPN 114, and EPR for High Resolution Electron-Beam Lithography", **Jpn. J. Appl. Phys., 37, 77- 80, 1998***.*
20. A. C. Cefalas, E. Sarantopoulou, P. Argitis, E. Gogolides, "Mass spectroscopic and degassing characteristics of polymeric materials for 157 nm photolithography", **Appl. Phys. A, 69S, 929-933, 1999.**
21. E. Ioakimoglou, S. Boyatzis, P. Argitis, K. Papanagiotou, A. Fostiridou and N. Yannovits, "Thin film study on the oxidation of linseed oil in the presence of selected copper pigments", **Chem. Mater., 11, 2013-2022, 1999***.*
22. Y. Seo, K. Lee, M. Yi, E. Seo, B. K. Choi, O. Kim, I. Raptis, P. Argitis, M. Hatzakis, "Evaluation of advanced epoxy novolac resist, EPR, for sub 100nm synchrotron x-ray proximity lithography", **Microelectron. Eng., 46, 461-464, 1999***.*
23. P. Argitis, N. Glezos, M. Vasilopoulou, I. Raptis, M. Hatzakis, J. Everett, G. Meneghini, A. Palumbo, M. Ardito, P. Hudek and I. Kostic, "Aqueous developable epoxy resist for high sensitivity electron beam lithography", **Microelectron. Eng., 53, 453-456, 2000***.*
24. A. C. Cefalas, E. Sarantopoulou, E. Gogolides, P. Argitis, "Absorbance and outgasssing of photoresist polymeric materials for UV lithography below 193 nm, including 157 nm lithography", **Microelectron. Eng., 53, 123-126, 2000.**
25. I.Raptis, D. Velesiotis, M. Vasilopoulou, P. Argitis, "Development mechanism study by dissolution monitoring of positive methacrylate photoresists", **Microelectron. Eng., 53, 489-492, 2000***.*
26. N. Glezos, P. Argitis, D. Velesiotis, I. Raptis, P. Hudek and I. Kostic, "Aqueous base development and acid diffusion length optimization in negative epoxy resist for electron beam lithography", **J. Vac. Sci. Technol B**., **18(6), 3431-3434, 2000.**
27. I.Raptis, N. Glezos, E.S. Valamontes, Zervas, P. Argitis, "Electron beam lithography simulation for high resolution and high-density patterns",  **Vacuum**, **62, 263-271, 2001.**
28. I. Raptis, M. Chatzichristidi, C. D. Diakoumakos, A. Douvas, D. Niakoula, P. Argitis, “Application of a novel aqueous base developable resist in micromachining”, **J. Photopol. Sci. and Tech. 14, 445-448, 2001***.*
29. E. Sarantopoulou, A.C. Cefalas, P. Argitis, E. Gogolides, “Photoresist Materials for 157-nm Photolithography”, **Mat. Sci. Eng. C, Bio S, 15, 159-161, 2001***.*
30. G. Mladenov, K. Vutova, I. Raptis, P. Argitis, I. Rangelow, R. Kaesmeier, S. Hirshler, "Simulation of Latent Image Formation for Ion Beam Projection Lithography", **Microelectron. Eng, 57-58, 335-342, 2001***.*
31. C. D. Diakoumakos, I. Raptis, A. Tserepi, P. Argitis, " Negative (meth)acrylate resist materials based on novel crosslinking chemistry", **Microelectron. Eng, 57-58, 539-545,** **2001***.*
32. A. Douvas, P. Argitis, C.D. Diakoumakos, K. Misiakos, D. Dimotikali, S.E. Kakabacos, “Photolithographic Patterning of Proteins with Photoresists Processable under Biocompatible Conditions”, **J. Vac. Sci. Technol B**.,  **vol. 19, 2820-2824, 2001***.*
33. S. Boyatzis, E. Ioakimoglou, P. Argitis, "UV Exposure and Temperature Effects on the Curing Mechanisms in Linseed Oil Thin Films : Specroscopic and Chromatographic Studies ", **J. Appl. Polym. Sci., 84, 936-949, 2002***.*
34. A. Douvas, P. Argitis, K. Misiakos, D. Dimotikali, P.S. Petrou, S. Kakabacos, "Biocompatible Photolithographic Process for the Patterning of Biomolecules", **Biosensors and Biolectronics,** **17, 269- 278, 2002.**
35. P.S. Petrou, S. Kakabakos, I. Christofidis, P. Argitis, K. Misiakos, "Multi-Analyte Capillary Immunosensor for the Determination of Hormones in Human Serum Samples", **Biosensors and Biolectronics, 17, 261-268, 2002***.*
36. C. D. Diakoumakos, I. Raptis, A. Tserepi and P. Argitis*,*“Free-radical synthesis of narrow polydispersed 2-hydroxyethyl methacrylate based tetrapolymers for dilute aqueous base developable negative photoresists**”**,**Polymer**, **43, 1103-1113, 2002.**
37. G. Pistolis, S. Boyatzis, M. Chatzichristidi, P. Argitis, "Highly Efficient Bicolor (Green-Blue) Fluοrescence Imaging in Polymeric Films", **Chem. Mater.,** **14, 790-796, 2002***.*
38. C. D. Diakoumakos, A. Douvas, I. Raptis, S. Kakabakos, D. Dimotikali, G. Terzoudi, P. Argitis, “Dilute aqueous base developable resists for environmentally friendly and biocompatible processes”, **Microelectron. Eng., 61-2, 819-827, 2002.**
39. A. C. Cefalas, E. Sarantopoulou, P. Argitis and E. Gogolides, “He2 60-90nm photon source for investigating photodissociation dynamics of potential X-UV resists”, **Microelectron. Eng., 61-2, 157-163, 2002.**
40. M. Chatzichristidi, I. Raptis, C.D. Diakoumakos, N. Glezos, P. Argitis, M. Sanopoulou, “Strippable, aqueous base developable, negative photoresist for high aspect ratio micromachining”, **Microelectron. Eng., 61-2, 729-735, 2002.**
41. M. Chatzichristidi, I. Raptis, P. Argitis, J. Everett**,** “Partially hydrogenated poly(viny phenol) based photoresist for near UV, High aspect ratio micromachining”, **J. Vac. Sci.Technol.** **B, 20, 2968-2972, 2002.**
42. V. Bellas, E.Tegou, I.Raptis, E. Gogolides, P.Argitis, H. Iatrou, N Hatjichristidis, E. Sarantopoulou, A.C. Cefalas, “Evaluation of siloxane and polyhedral oligomeric silsesquioxane copolymers for 157 nm lithography”, **J. Vac. Sci.Technol.** **B, 20, 2902-2908, 2002.**
43. E. Gogolides, P. Argitis, E. Couladouros, V. Vidali, M. Vasilopoulou, G. Cordoyannis, C.D. Diakoumakos, A. Tserepi, “Photoresist etch resistance enhancement using novel polycarbocyclic derivatives as additives”, **J. Vac. Sci. Technol.** **B, 21, 141-147, 2003.**
44. I. Raptis, D. Niakoula, E. Tegou, E. Gogolides, P. Argitis, K. Papadokostaki, A. Ioannidis, “Resist process issues related to the glass transition temperature changes in chemically amplified resist films”, **Microelectron. Eng., 67-68, 283-291, 2003.**
45. A.C. Cefalas, E. Sarantopoulou, Z. Kollia, P. Argitis, E. Tegou, T.W. Ford, A.D. Stead, C.N. Danson, D. Nealy, S. Kobe, “Nanostructured imaging of biological specimens in vivo with laser plasma X-ray contact microscopy”, **Mat. Sci. Eng. C Bio S, 23, 105, 2003.**
46. N. Glezos, D. Velessiotis, G. Chaidogiannos, P. Argitis, D. Tsamakis, X. Zianni, “Transport properties of polyoxometalate containing polymeric materials”, **Synthetic Metals, 138, 267-269, 2003.**
47. N. Glezos. P. Argitis, D. Velessiotis, CD Diakoumakos, “Tunneling transport in polyoxometalate based composite materials”, **Appl. Phys. Letters**, **83, 488- 490, 2003.**
48. E. Sarantopoulou, Z. Kollia, K. KoImageevar, I. MuImageeviImage, S. Kobe, G. DraImageiImage, E. Gogolides, P. Argitis and A. C. Cefalas, “The challenges of 157 nm nanolithography: surface morphology of silicon-based copolymers”**,** **Materials Science and Engineering: C, Volume 23, 995-999, 2003**.
49. E. Tegou , V. Bellas, E. Gogolides and P. Argitis, “Polyhedral oligomeric silsesquioxane (POSS) acrylate copolymers for microfabrication: properties and formulation of resist materials”, **Microelectronic Engineering, 73/74, 238-243, 2004**.
50. G. Chaidogiannos , D. Velessiotis , P. Argitis , P. Koutsolelos , C. D. Diakoumakos , D. Tsamakis and N. Glezos, “Tunneling and negative resistance effects for composite materials containing polyoxometalate molecules”, **Microelectronic Engineering, 73/74, 746-751, 2004.**
51. E. Tegou, V. Bellas, E. Gogolides, P. Argitis, D. Eon, G. Catry, C. Cardinaud, “Polyhedral oligomeric silsesquioxane (POSS) based resists: material design challenges and evaluation at 157 nm”, **Chem. Mater., 16, 2567-77, 2004.**
52. D. Niakoula, I. Raptis, D. Goustouridis, P. Argitis, “Glass transition temperature monitoring in bilayer and patterned photoresist films”, **Jpn. J. Appl. Phys., 43 (8A), 5247-8, 2004.**
53. D. Eon, G. Cartry, V. Fernandez, C. Cardinaux, E. Tegou, V. Bellas, P. Argitis, E. Gogolides, “Surface segregation of photoresist copolymers containing polyhedral oligomeric silsesquioxanes studied by X-ray photoelectron spectroscopy”, **J. Vac. Sci. Technol. B, 22, 2526-32, 2004**.
54. M. Vasilopoulou, S. Boyatzis, I. Raptis, D. Dimotikalli, P. Argitis, “Evaluation of poly(hydroxyethyl methacrylate) imaging chemistries for micropatterning applications”, **J. Mater. Chem**., **14, 3312-20, 2004.**
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