

Curriculum Vitae: ELEFTHERIOS J. KAPETANAKIS

1. Personal Information

Last Name: Kapetanakis.
First Name: Eleftherios.
Father's Name : John.
Birth Place: Athens, Greece.
Birth Date: 22 March 1969.
Family Status: Married.
Military duties: Air force, commissioned officer, 1994-1996.



2. Present Position Associate Professor in digital electronics at Electronic Engineering Department, School of Engineering, Hellenic Mediterranean University (HMU).

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3. Education

5/05: PhD in Physics, National Technical University of Athens (NTUA), School of Applied Mathematics and Physics.

7/94: MSc (by dissertation) in Physics, University of Essex, School of Engineering, Department of Physics, UK.

4/92: Certificate of studies in Physics, University of Crete, School of Sciences and Engineering, Department of Physics.

4. Research Experience

1/4/96-30/9/00: Research assistant in the Institute of Microelectronics (IMEL), National Center for Scientific Research (NCSR) DEMOKRITOS, under a scholarship awarded from NCSR DEMOKRITOS, Athens, Greece.

1/4/97-31/3/98: Research assistant in EU funded Research & Development project FASEM (Fabrication and Architecture of Single Electron Memory), of the Institute of Microelectronics, NCSR DEMOKRITOS, Athens, Greece.

1/3/01-31/1/04: Member of the Principal Research Group, as research assistant and associate researcher during all phases of the EU funded Research & Development project "NEON" (Nanoparticles for Electronic ApplicatiON), of the Institute of Microelectronics, NCSR DEMOKRITOS, Athens, Greece.

22/12/06-9/1/08: Post-doctoral Scientist in nanostructures and nanoelectronic devices reserch programe, Institute of Microelectronics NCSR DEMOKRITOS, Athens, Greece.

10/1/08-today: Collaborating researcher with the Institute of Nanoscience and Nanotechnology National Center for Scientific Research 'Demokritos', in the area of Materials and Devices for Information Storage and Emerging Electronics.

5. Teaching Experience

- Lecturer, Teaching undergraduate classes on the courses, "*Electronics*", "*Digital Electronics*", "*Physics of Electronic Devices*", Technological Educational Institute of Piraeus, Department of Electronics and Department of Electronic-Computer Systems, **2002-2008**.

- Visiting Assistant Professor (P.D. 407/80), teaching undergraduate classes on the courses “*Logic Circuits Design*”, “*Computer Architecture*”, “*VLSI Circuit Design*”, University of Peloponnese, Department of Telecommunications Science and Technology, **2005-2007**.
- **Associate Professor** Teaching undergraduate and postgraduate classes on the courses “Digital Circuits De-sign”, “Microelectronics & VLSI Design”, “Organic Electronics & Applications” and “Polymer Electronics”, respectively. **2008-today**.

6. Research Areas of Interest

Microelectronics, silicon VLSI technology, semiconductor nanostructures synthesis and characterization, nanotechnology, molecular electronics, and fabrication/ characterization of inorganic, organic and polymer electronic-optoelectronic devices for information processing, data storage and optoelectronic sensor applications.

7. Distinctions - Scholarships - Invitations

- Greek Mathematical Society 2nd Prize, Cretan Student Competition of the Greek Mathematical Society, 1984.
- Postgraduate research scholarship, based on exams, awarded from the Institute of Microelectronics, National Center for Scientific Research (NCSR) DEMOKRITOS.
- Referee of research papers for international journals: Semiconductor Science and Technology, Nanotechnology, Journal of Physics D Applied Physics (IOP), Solid State Electronics, Microelectronic Engineering (Elsevier), Applied Physics Letters, Journal of Applied Physics (AIP), Applied Materials & Interfaces (ACS).
- Member of the Program Committee of the 34th and 35th International conference on Micro- and Nano - Engineering (MNE 2008, 2009).
- Invited Speaker, International Workshop on Nanostructures for Electronics and Optics –NEOP-, Germany, October 2002.

8. Publications

- He has been involved in various national and EU projects and he has authored/coauthored of 32 publications in international journals (one of them is invited), 1 chapter in Encyclopedia, 6 conference proceedings, 31 presentations in international conferences, 5 presentations in national conferences, and holds 1 Patent.
- His citations exceed the number of 1000 and his Academic quality h-index is 14 (Source: Scopus).

Top 10 publications

- [1] **E. Kapetanakis**, C. Katsogridakis, D. Dimotikali, P. Argitis, P. Normand, “Ion-Activated Greatly Enhanced Conductivity of Thin Organic Semiconducting Films in Two-Terminal Devices”, *Adv. Electron. Mater.* **2020**, <https://doi.org/10.1002/aelm.202000238>.
- [2] **E. Kapetanakis**, P. Gkoupidenis, V. Saltas, A. M. Douvas, P. Dimitrakis, P. Argitis, K. Beltsios, S. Kennou, C. Pandis, A. Kyritsis, P. Pissis, and P. Normand, “Direct Current Conductivity of Thin-Film Ionic Conductors from Analysis of Dielectric Spectroscopic Measurements in Time and Frequency Domains”, *J. Phys. Chem. C* **120**, 21254–21262 (2016)
- [3] **E. Kapetanakis**, A.M. Douvas, D.Velessiotis, E. Makarona, P. Argitis, N. Glezos, P. Normand, “Hybrid organic-inorganic materials for molecular proton memory devices” *Organic Electronics* **10**, 711-718 (2009).
- [4] **E. Kapetanakis**, A.M. Douvas, D.Velessiotis, E. Makarona, P. Argitis, N. Glezos, P. Normand, “Molecular Storage Elements for Proton Memory Devices” *Advanced Materials* **20**, 4568 - 4574 (2008).
- [5] **E. Kapetanakis**, P. Normand, P. Holliger, “Electrical properties of metal-oxide-semiconductor structures with low-energy Ge-implanted and annealed thin gate oxides”, *J. Appl. Phys.* **103**, 064515-13 (2008).

- [6] P. Dimitrakis, **E. Kapetanakis**, D. Tsoukalas, D. Skarlatos, C. Bonafos, G. Ben Asssayag, A. Claverie, M. Perego, M. Fanciulli, V. Soncini, R. Sotgiu, A. Agarwal, M. Ameen, P. Normand, “*Silicon nanocrystal memory devices obtained by ultra-low-energy ion-beam-synthesis*”, *Solid State Electronics* **48**, 1511-1517 (2004).
- [7] **E. Kapetanakis**, D. Skarlatos, C. Tsamis, P. Normand, D. Tsoukalas, “*Influence of implantation energy on the electrical properties of ultrathin gate oxides grown on nitrogen implanted Si substrates*”, *Appl. Phys. Lett.* **82**, 4764-4766 (2003).
- [8] P. Normand, **E. Kapetanakis**, P. Dimitrakis, D. Tsoukalas, K. Beltsios, N. Cherkashin, C. Bonafos, G. Benassayag, H. Coffin, A. Claverie, V. Soncini, A. Agarwal, M. Ameen, “*Effect of annealing environment on the memory properties of thin oxides with embedded Si nanocrystals obtained by low-energy ion beam synthesis*”, *Appl. Phys. Lett.* **83**, 168-170 (2003).
- [9] **E. Kapetanakis**, P. Normand, D. Tsoukalas, K. Beltsios, “*Room-temperature single-electron charging phenomena in large-area nanocrystal memory obtained by low-energy ion beam synthesis*”, *Appl. Phys. Lett.* **80**, 2794-2796 (2002).
- [10] **E. Kapetanakis**, P. Normand, D. Tsoukalas, K. Beltsios, J. Stoemenos, S. Zhang, J. van den Berg, “*Charge storage and interface states effects in Si-nanocrystal memory obtained using low-energy Si⁺ implantation and annealing*”, *Appl. Phys. Lett.* **77**, 3450-3452 (2000).

9 Chapter in book

- [1] **E. Kapetanakis**, P. Normand, K. Beltsios, D. Tsoukalas, *Nanocrystal memories* in: H. S. Nalwa (Ed.), *Encyclopedia of Nanoscience and Nanotechnology*, American Scientific Publishers, USA, Vol.6, pp. 321-340, 2004.

10 Invited talks

- [1] P. Normand, **E. Kapetanakis**, P. Dimitrakis, D. Skarlatos, K. Beltsios, D. Tsoukalas, C. Bonafos, G. Ben Asssayag, N. Cherkashin, A. Claverie, J. A. Van Den Berg, V. Soncini, A. Agarwal, M. Ameen, M. Perego, M. Fanciulli, “*Nanocrystals manufacturing by ultra-low-energy ion-beam-synthesis for nonvolatile memory applications*”, *European Materials Research Society Conference, E-MRS03*, France, June 2003.
- [2] **E. Kapetanakis**, P. Normand, D. Tsoukalas, K. Beltsios, P. Dimitrakis, A. Claverie, G. Ben-Assayag, C. Bonafos, V. Soncini, A. Agarwal, C. Sohl, “*Si-nanocrystal MOS memory devices fabricated by very low-energy ion implantation and subsequent annealing*”, *International Workshop on Nanostructures for Electronics and Optics –NEOP-*, Germany, October 2002.
- [3] D. Tsoukalas, **E. Kapetanakis**, P. Normand, S. Zhang, and J. Van Den Berg, “*Nanocrystal MOS memory using very low-energy Si-implanted gate oxide*”, *3rd International Workshop on Future Information Processing Technologies*, British Columbia, Canada, August 1999.

11. Patents

- [1] Inventors: **E. Kapetanakis**, A.M. Douvas, D. Velessiotis, E. Makarona, P. Argitis, N. Glezos, P. Normand, “*Memory devices using proton-conducting polymeric materials*”, Greek Patent (OBI) Appl. No 20080100269, 18 April 2008, and European patent application, EP 2277202 (2010), in continuation of PCT/GR2009/000023 (2009).