

I. Curriculum Vitae

A. Personal Details

Name: Vassilios Mardiris

Father's Name: Apostolos

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B. Education

1994 : Diploma in Electrical & Computer Engineering, Microelectronics and Information Systems Sector, Department of Electrical & Computer Engineering, Democritus University of Thrace.

2004 : MSc Thesis in Microelectronics and Information Systems, Microelectronics and Information Systems Sector, Department of Electrical & Computer Engineering, Democritus University of Thrace.

2012 : PhD Thesis in Microelectronics and Information Systems: "Design and Simulation of Nanoelectronic Quantum Cellular Automata Circuits", Microelectronics and Information Systems Sector, Department of Electrical & Computer Engineering, Democritus University of Thrace.

C. Administrative Positions

2019 - 2021 : Chairman of the Management Science and Technology Department, International Hellenic University.

2019 - Present : Director of the MSc in Digital Marketing, International Hellenic University.

2017 - 2019 : Chairman of the Business Administration Department, Eastern Macedonia and Thrace Institute of Technology.

2010 - 2011 : Head of the Division of Informatics of the Information Management Department, Eastern Macedonia and Thrace Institute of Technology.

2006 - 2019 : Member of the board of Greek Universities Network.

2006 - 2007 : Technical person in charge Network Operations Center of the Kavala's Institute of Technology.

D. Member

- Technical Chamber of Greece.
- Panhellenic Union of Electrical and Mechanical Engineers.
- Institute of Electrical and Electronic Engineers (IEEE).

E. Employment

1995 - 2018 : Researcher at several Research Programs for Electrical and Computer Engineering department, Democritus University of Thrace and for Eastern Macedonia and Thrace Institute of Technology.

- 1999 - 2006 : Co-owner and Manager of Advanced Technology Application Company, ULYSSES GP in Kavala, Greece.
- 1999 – 2016 : Engineer in auditing EU program implementations for DESMOS managing authority of EU programs in Eastern Macedonia and Thrace region.
- 1999 – 2000 : Information Systems Engineer for Distance-Working Center at Prefecture of Kavala.
- 1999 – 2005 : Computer Networks Administration Engineer and Information Systems Development and Management Engineer in Network Information Center of Eastern Macedonia and Thrace Institute of Technology.
- 2006 – 2013 : Lecturer, Information Management Department, Eastern Macedonia and Thrace Institute of Technology.
- 2013 – 2017 : Assistant Professor, Business Administration Department and Computer Engineering Department, Eastern Macedonia and Thrace Institute of Technology.
- 2017 – 2019 : Associate Professor, Business Administration Department and Computer Engineering Department, Eastern Macedonia and Thrace Institute of Technology.
- 2019 – present : Associate Professor, Management Science and Technology Department, International Hellenic University.

F. Teaching

i. Current Courses

- 2006 - present : Computer Architectures
- 2006 - present : Computer Networks I
- 2013 – present : Nanoelectronic Systems
- 2013 – present : Digital Forensics

ii. Past Courses

- 1998 - 1999 : “VLSI Systems I”, Electrical and Computer Engineering Department, Democritus University of Thrace.
- 1998 - 1999 : “CAD/CAM/CAE Systems”, Electrical and Computer Engineering Department, Democritus University of Thrace.
- 1999 - 2000 : “Informatics Tools”, Industrial Informatics Department, Eastern Macedonia and Thrace Institute of Technology
- 1999 - 2000 : “Electrical Circuits”, Industrial Informatics Department, Eastern Macedonia and Thrace Institute of Technology
- 1999 - 2000 : “Software Programming I & II”, Industrial Informatics Department, Eastern Macedonia and Thrace Institute of Technology
- 2001 - 2003 : “Object Oriented Programming”, Information Management Department, Eastern Macedonia and Thrace Institute of Technology
- 2003 - 2004 : “Security on Computer Networks”, Industrial Informatics Department, Eastern Macedonia and Thrace Institute of Technology

2004 - 2009 : "Internet Database Management", Information Management Department, Eastern Macedonia and Thrace Institute of Technology

2003 - 2014 : "Internet Information Management", Information Management Department, Eastern Macedonia and Thrace Institute of Technology

G. Research Interests

Quantum Cellular Automata, Signal Processing, Digital Systems Design and Implementation, Cellular Automata, Artificial Intelligence, Digital Forensics, Systems Automation and DNA Engineering.

II. List of most significant publications

A. PhD Thesis

"Design and Simulation of Nanoelectronic Quantum Cellular Automata Circuits," Electrical and Computer Engineering Department, Democritus University of Thrace, Xanthi 2011.

B. MSc Thesis

"Design and Implementation of VLSI Cellular Automata Models for Computer Network Applications," Electrical and Computer Engineering Department, Democritus University of Thrace, Xanthi 2004.

C. Journals

- i. V.Mardiris, I.Karafyllidis, D.Soudris, A.Thanailakis "Neural Networks for the simulation of photoresist exposure process in integrated circuit fabrication," *Modelling & Simulation in Material Science Engineering*, vol. 5, pp. 439-450, 1997.
- ii. G. Ch. Sirakoulis, I. Karafyllidis, V. Mardiris, and A. Thanailakis, "Study of lithography profiles developed on non-planar Si surfaces," *Nanotechnology*, vol. 10, no. 4, pp. 421-427, 1999.
- iii. G. Ch. Sirakoulis, I. Karafyllidis, V. Mardiris, and A. Thanailakis, "Study of the effects of photoresist surface roughness and defects on developed profiles," *Semiconductor Science and Technology*, vol. 15, no. 2, pp. 98-107, 2000.
- iv. G. Ch. Sirakoulis, I. Karafyllidis, A. Thanailakis, and V. Mardiris, "A methodology for VLSI implementation of Cellular Automata algorithms using VHDL," *Advances in Engineering Software*, vol. 32, no. 3, pp. 189-202, 2000.
- v. G. Ch. Sirakoulis, I. Karafyllidis, Ch. Mizas, V. Mardiris, A. Thanailakis, and Ph. Tsalides, "A cellular automaton model for the study of DNA sequence evolution," *Computers in Biology and Medicine*, vol. 33, no. 5, pp. 439-453, 2003.
- vi. V. Mardiris, G. Ch. Sirakoulis, Ch. Mizas, I. Karafyllidis and A. Thanailakis, "A CAD system for modeling and Simulation of Computer Networks using Cellular Automata," *IEEE Transactions on Systems, Man and Cybernetics – Part C*, vol. 38, no. 2, pp. 253-264, 2008.

- vii. Ch. Mizas, G. Ch. Sirakoulis, V. Mardiris, I. Karafyllidis, N. Glykos and R. Sandaltzopoulos, "Reconstruction of DNA sequences using Genetic Algorithms and Cellular Automata: towards mutation prediction?," *Biosystems*, vol. 92, no. 1, pp. 61-68, 2008.
- viii. V.A. Mardiris, I.G. Karafyllidis, "Design and simulation of modular 2n to 1 quantum-dot cellular automata (QCA) multiplexers," *International Journal of Circuit Theory and Applications*, vol. 38, no. 8, pp. 771-785, October 2010.
- ix. V.A. Mardiris, I.G. Karafyllidis, "Universal cellular automaton cell using quantum cellular automata," *Electronics Letters*, vol. 45, no. 12, pp. 607-609, 2009.
- x. V.A. Mardiris, I.G. Karafyllidis, "Design and Simulation of Modular Quantum-Dot Cellular Automata Multiplexers for Memory Accessing," *Journal of Circuits, Systems and Computers*, vol. 19, no. 2, pp. 349-365, 2010.
- xi. V.A. Mardiris, G.Ch. Sirakoulis, I. Karafyllidis, "Automated Design Architecture for 1-D Cellular Automata using Quantum Cellular Automata," *IEEE Transactions on Computers*, vol. 64, no. 9, pp. 2476-2489, 2015.
- xii. V. Mardiris, V. Chatzis, "A Configurable Design for Morphological Erosion and Dilation Operations in Image Processing using Quantum-dot Cellular Automata," *Journal of Engineering Science and Technology Review*, vol. 9, no. 1, pp. 25-30, 2016.
- xiii. Vicky S. Kalogeiton, Dim P. Papadopoulos, Orestis Liolis, Vassilios A. Mardiris, Georgios Ch. Sirakoulis, Ioannis G. Karafyllidis, "Programmable Crossbar Quantum-dot Cellular Automata Circuits," *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, vol. 36, no. 8, pp. 1367-1380, 2017
- xiv. O. Liolis, V. A. Mardiris, G. C. Sirakoulis and I. G. Karafyllidis, "Synchronization in Quantum-Dot Cellular Automata Circuits and Systems," in *IEEE Open Journal of Nanotechnology*, vol. 1, pp. 145-156, 2020.

D. Conferences

- i. D.Soudris, M.Perakis, Ch.Mizas, V.Mardiris, K.Katis, C.Dre, A.E.Tzimas, E.G.Metaxakis, G.Kalivas, N.Zervas, S.Theoharis, G.Theodoridis, A.Thanailakis, C.Goutis "Low-Power Design of A Multi-Mode Transceiver," *ISCAS 2000*, vol. 2, pp. 721-724, May 28-31, Geneva, Switzerland, 2000.
- ii. L. Fragidis, V. Mardiris, C. Mizas and V. Chatzis, "Examinations Past Papers 'e-Bank' Using Open Source Software", *WSEAS Trans. on Information Science and Applications*, vol. 1, iss. 5, pp. 1220-1224, November 2004.
- iii. L. Fragidis, V. Mardiris, C. Mizas, S. Simeonidis and V. Chatzis, "Electronic Examinations 'e-Exams' Using Open Source Software", *WSEAS Trans. on Information Science and Applications*, vol. 1, iss. 5, pp. 1225-1230, November 2004.
- iv. V. Mardiris, G.Ch. Sirakoulis, Ch. Mizas, I. Karafyllidis, and A. Thanailakis, "Net_CA: A Tool for Simulation and Modeling of Wired/Wireless Computer Networks based on Cellular Automata", 10th Panhellenic Conference on Informatics (PCI 2005), pp. 407-417, Volos, Greece, November 11-13, 2005.

- v. L. Fragidis, D. Markopoulos, V. Mardiris, V. Chatzis, "Web Based html-rich text Editor 'web-editor' Using Open Source Software", International Bulgarian-Turkish Conference in Computer Science, Istanbul, Turkey, October 2006.
- vi. M. Syggourolou, L. Fragidis, V. Mardiris and V. Chatzis, "An Internet Application for Lab-Group Booking Using Open Source Software", Proceedings of the 3rd WSEAS/IASME International Conference on Educational Technologies, pp. 412-415, Arcachon, France, October 13-15, 2007.
- vii. V. Mardiris, Ch. Mizas, L. Fragidis, V. Chatzis, "Design and simulation of a QCA 2 to 1 multiplexer ", Proceedings of the 12th WSEAS International Conference on Computers, pp. 572-576, Heraklion, Greece, July 2008.
- viii. L. Fragidis, A. Michailidis, V. Mardiris, V. Chatzis, "Web Based Application for Registering Degree Projects", Proceedings of the 12th WSEAS International Conference on Computers, pp. 567-571, Heraklion, Greece, July 2008.
- ix. F.K. Panagiotopoulos, V.A. Mardiris, V. Chatzis, "Quantum-Dot Cellular Automata Design for Median Filtering and Mathematical Morphology Operations on Binary Images," ACRI 2012, LNCS 7495, pp. 554-564, 2012.
- x. Adam P. Filippidis, Kosmas Kosmidis, Vassilios Mardiris, "Stan: A dynamic web-based application for financial statement analysis," MIBES Transactions, Vol 7, pp. 15-24, 2013.
- xi. O. Liolis, V.S. Kalogeiton, D.P. Papadopoulos, G.C. Sirakoulis, V. Mardiris, A. Gasteratos, "Morphological edge detector implemented in Quantum Cellular Automata," IST 2013 - 2013 IEEE International Conference on Imaging Systems and Techniques, Proceedings, Art.No. 6729731, , pp. 406-409, 2013.
- xii. M. Kitsikoglou, V. Chatzis, F. Panagiotopoulos, V. Mardiris, "Factors affecting consumer intention to use internet for food shopping," MIBES 2014, 30 May - 01 June, Thessaloniki, pp. 206, 2014
- xiii. V. Chatzis, F. Panagiotopoulos, V. Mardiris, "Face to Iris Area Ratio as a Feature for Children Detection in Digital Forensics Applications," DMIAF 2016, 4-6 July, Santorini, Greece, 2016
- xiv. K. Xenitidis, V. Mardiris and V. Chatzis, "A novel methodology for sailing boat waterline plane definition using 3D point cloud," 2017 Panhellenic Conference on Electronics and Telecommunications (PACET), 2017, pp. 1-4.
- xv. K. Xenitidis, S. Chatzistamatis, C.N. Anagnostopoulos, V. Mardiris, D. Makris, "Heritage boat specifications extraction from 3D laser scanning," IMEKO International Conference on Metrology for Archaeology and Cultural Heritage, pp. 670-673, MetroArchaeo 2017.
- xvi. O. Liolis, V.A. Mardiris, G.Ch. Sirakoulis, I.G. Karafyllidis, "Quantum-dot cellular automata RAM design using crossbar architecture," (2018) Proceedings of the 14th IEEE/ACM International Symposium on Nanoscale Architectures, pp. 86-90, NANOARCH 2018.
- xvii. V.A. Mardiris, O. Liolis, G.Ch. Sirakoulis, I.G. Karafyllidis, "Signal synchronization in large scale quantum-dot cellular automata circuits," (2018) Proceedings of the 14th IEEE/ACM International Symposium on Nanoscale Architectures, pp. 153-156, NANOARCH 2018.

E. Book Chapters

- i. V. Mardiris and V. Chatzis, "Image Processing Algorithms Implementation Using Quantum Cellular Automata," *Cellular Automata in Image Processing and Geometry*, Springer International Publishing, pp. 65-84, 2014
- ii. C. Mizas, G.Ch. Sirakoulis, V. Mardiris, I. Karafyllidis, N. Glykos and R. Sandaltzopoulos, "DNA Cellular Automata," *Designing Beauty: The Art of Cellular Automata*, Springer International Publishing, pp. 127-128, 2016

F. Research Prizes

Prize from Intel and IBM at Low Power Design contest in IEEE 2000 Mesa Computer Elements Workshop, Arizona, 16-19 Jan. 2000, for the project: Soudris D., Zervas N., Perakis M., Mizas X., Mardiris V., Katis K, Dre C., Tzimas A., Metaxakis E., Kalivas G., Theoharis S., Theoharis S., Theodoridis G., Thanailakis A. and Goutis C. με τίτλο "Designing a Low-Power DCS1800 - GSM/DECT Modulator/Demodulator".

G. Judge for Journals

- i. Transactions on Nanotechnology, IEEE
- ii. Transactions on VLSI, IEEE
- iii. Communications Letters, IEEE.
- iv. Electronic Letters, IET.
- v. Micro & Nano Letters, IET.
- vi. Information Sciences, Elsevier.
- vii. International Journal of Circuit Theory and Application, Wiley.
- viii. Microelectronics Journal, Elsevier.
- ix. Supercomputing, Springer
- x. Computational Environmental Sciences, Hindawi
- xi. Journal of Zhejiang University-SCIENCE A, Zhejiang University Press
- xii. Indian Journal of Pure & Applied Physics

III. List other Research Projects

Researcher in:

- i. "Algorithm Development for 2-d photolithographic etching simulation", TSMED.

- ii. "Microelectronic Industry Products: ASIC design for synchronizing SDH I/O signals", EPET 476.
- iii. "Modelling, Simulating and Developing SiO₂ micro-films using the Thermal Oxidation Method" TSMEDE.
- iv. "Modeling and Control of Micro-Fabrication Photolithography Process using Neural Networks", PRENED 96.
- v. "Network for the VLSI Design Technology Diffusion", EPET II.
- vi. "A Low-Power Design Methodology/Flow and its Application to the Implementation of a DCS 1800 –GSM/DECT Modulator – Demodulator", LPGD 25256.
- vii. "Copyrights Recovery and Protection for Multi-Dimensional Digital Signal Data", ARCHIMEDES I

Coordinator in:

- i. "Nanoelectronic Circuits Design", ELKE Eastern Macedonia and Thrace Institute of Technology
- ii. "Digital Services Development in Eastern Macedonia and Thrace Institute of Technology", EU Digital Plan MIS304244