

Curriculum Vitae

Prof. Ioannis Andreadis, Dip-Eng, MSc, PhD, FIET

I. Personal Information

Date of Birth: 01/06/1960.
Place of Birth: Chrysoupoli, Kavala.
Address: Syggrou 1, 654 03 Kavala
Current Occupation: Professor, Department of Electrical & Computer Engineering (ECE),
Democritus University of Thrace (DUTH), Xanthi, Greece.
Foreign Languages: English.
Marital status: Married, father of two children.
Military Service: Fulfilled (1989-1991).
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II. Studies

- 1983 – Diploma in Electrical Engineering, DUTH with grade 8,46 out of 10 (IKY Scholarship 1978-1983).
- 1985 – M.Sc. Department of Electrical Engineering & Electronics, University of Manchester Institute of Science and Technology (UMIST).
- 1989 – Ph.D., Department of Instrumentation & Analytical Science, UMIST.

III. Academic Appointments

- 1991 – 1992: Professor, Technological & Educational Institute of Kavala.
- 1993 – 1996: Lecturer, Department of ECE, DUTH.
- 1996 – 1997: Honorary Visiting Research Fellow, Manchester Metropolitan University, U.K.
- 1996 – 2001: Assistant Professor, Department of ECE, DUTH.
- 2001 – 2007: Associate Professor, Department of ECE, DUTH.
- 2007 – Present: Professor, Department of ECE, DUTH.

IV. Administrative Appointments

- 01/01/2002 – 31/08/2005: Member of the Steering Committee, Department of ECE, DUTH.
- 01/03/2003 – 31/12/2007: Member of the Steering Committee, Interdepartmental Master Course on “Engineering Systems Management”.
- 01/09/2003 – 31/08/2005: Director of the Electronics & Information Technology Systems Sector, Department of ECE, DUTH.
- 01/04/2004 – Present: Director of the Laboratory of Electronics, Department of ECE, DUTH.
- 2008 – 2010: Member of the Board of Governors of the European Joint Research Center.
- 01/09/2009 – 31/08/2012: Member of the DUTH Research Committee.

V. Teaching Experience

I. Undergraduate Courses

Electronic Circuit Design, Electronic Measurement Systems, Microprocessors & Microsystems.

II. Postgraduate Courses

Robot Vision, Instrumentation & Measurements.

III. Student Supervision

- Ph.D.: 11 completed 4 in progress.
- MSc.: 16 completed, 1 in progress.
- Diploma Dissertation: 67 completed 2 in progress.

VI. Significant Publications (<http://electronics.ee.duth.gr/andreadis.htm>)

Over 200 publications in referred journals (~90), conferences and book chapters. A representative list follows.

1. I. Andreadis, M.A. Browne and J.A. Swift, "Image Pixel Classification by Chromaticity Analysis", Pattern Recognition Letters, Vol. 11, No. 1, 1990, pp. 51-58.
2. I. Andreadis, P. Iliades and Ph. Tsalides, "A New ASIC for Real-Time Linear Color Space Transforms", Real Time Imaging, Vol. 1, 1995, pp. 373-379.
3. I. Andreadis, P. Iliades, I. Karafyllidis, Ph. Tsalides and A. Thanailakis, "Design and VLSI Implementation of a New ASIC for Colour Measurement", IEE Proc. Circuits, Devices & Systems, Vol. 142, No. 3, 1995, pp. 153-157.
4. I. Karafyllidis, I. Andreadis, P. Tzionas, Ph. Tsalides and A. Thanailakis, "A Cellular Automaton for the Determination of the Mean Velocity of Moving Objects and its VLSI Implementation", Pattern Recognition, Vol. 29, No. 4, 1996, pp. 689-699.
5. A. Gasteratos, I. Andreadis and Ph. Tsalides, "Improvement of the Majority Gate Algorithm for Grey Scale Dilation / Erosion", IEE Electronics Letters, Vol. 32, No. 9, 1996, pp. 806-807.
6. A. Gasteratos, I. Andreadis and Ph. Tsalides, "Realization of Rank Order Filters Based on Majority Gate", Pattern Recognition, Vol. 30, No. 9, 1997, pp. 1571-1576.
7. A. Gasteratos, I. Andreadis and Ph. Tsalides, "Fuzzy-Soft Mathematical Morphology", IEE Proc. Vision, Image & Signal Processing, Vol. 145, 1998, pp. 41-49.
8. A. Gasteratos, I. Andreadis and Ph. Tsalides, "Realisation of Soft Morphological Filters", IEE Proc. Circuits, Devices & Systems, Vol. 145, No. 3, 1998, pp. 201-206.
9. A. Gasteratos, I. Andreadis and Ph. Tsalides, "A Parallel Architecture for Implementation of Filters Based on Order Statistics", Pattern Recognition Letters, Vol. 19, No. 9, 1998, pp. 815-820.
10. A. Gasteratos and I. Andreadis, "A New Algorithm for Weighted Order Statistics Operations", IEEE Signal Processing Letters, Vol. 6, No. 4, 1999, pp.84-86.
11. N. Papamarkos, C. Strouthopoulos and I. Andreadis, "Multithresholding of Color and Gray-Level Images through a Neural Network Technique", Image & Vision Computing, Vol. 18, No. 3, 2000, pp. 213-222.
12. I. Andreadis, "A Real-Time Color Space Converter for the Measurement of Appearance", Pattern Recognition, Vol. 34, No. 6, 2001, pp. 1181-1187.
13. M. Vardavoulia, I. Andreadis and Ph. Tsalides, "A New Vector Median Filter for Color Image Processing", Pattern Recognition Letters, Vol. 22, Nos. 6-7, 2001, pp. 675-689.
14. Y. Boutalis, K. Tsirikolias, B. Mertziotis and I. Andreadis, "Implementation of Morphological Filters Using Coordinate Logic Operations", Pattern Recognition, Vol. 35, No. 1, 2002, pp.187-198.
15. G. Louverdis, M. I. Vardavoulia, I. Andreadis and Ph. Tsalides, "A New Approach to Morphological Color Image Processing", Pattern Recognition, Vol. 35, No. 8, 2002, pp. 1733-1741.
16. G. Louverdis, I. Andreadis and Ph. Tsalides, "New Fuzzy Model for Morphological Colour Image Processing", IEE Proc. Vision, Image & Signal Processing, Vol. 149, No. 3, 2002, pp. 129-139.

17. G. Louverdis and I. Andreadis, "Design and Implementation of a Fuzzy Hardware Structure for Morphological Color Image Processing", IEEE Trans. on Circuits and Systems for Video Technology, Vol. 13, No. 3, 2003, pp. 277-288.
18. L. Kotoulas and I. Andreadis, "Colour Histogram Content Based Image Retrieval and Hardware Implementation", IEE Proc. Circuits, Devices & Systems, Vol. 150, No. 5, 2003, pp. 387-393.
19. I. Andreadis and G. Louverdis, "Real-Time Adaptive Image Impulse Noise Suppression", IEEE Trans. on Instrumentation & Measurement, Vol. 53, No. 3, 2004, pp. 798-806.
20. K. Konstantinidis, A. Gasteratos and I. Andreadis, "Image Retrieval Based on Fuzzy Color Histogram Processing", Optics Communications, Vol. 248, 2005, pp. 375-386.
21. L. Kotoulas and I. Andreadis, "Real-Time Computation of Zernike Moments", IEEE Trans. on Circuits and Systems for Video Technology, Vol. 15, No. 6, 2005, pp. 801-809.
22. I. Tsiftzis, I. Andreadis and A. Elenas, "A Fuzzy System for Seismic Signal Processing", IEE Proc. Vision, Image & Signal Processing, Vol. 153, No. 2, 2006, pp. 109-114.
23. L. Kotoulas and I. Andreadis, "Fast Implementation of Tchebichef Moments", IEEE Transactions on Circuits & Systems for Video Technology, Vol. 16, No. 7, 2006, pp. 884-888.
24. I. Andreadis, Y. Tsiftzis and A. Elenas, "Intelligent Seismic Acceleration Signal Processing for Structural Damage Classification", IEEE Transactions on Instrumentation & Measurement, Vol. 56, No. 5, 2007, pp. 1555-1564.
25. L. Kotoulas and I. Andreadis, "Accurate Calculation of Image Moments", IEEE Transactions on Image Processing, Vol. 16, No. 8, 2007, pp. 2028-2037.
26. Ch. Georgoulas, L. Kotoulas, G. Sirakoulis, I. Andreadis and A. Gasteratos, "Real-Time Disparity Map Computation Module", Journal of Microprocessors & Microsystems, Vol. 32, No. 3, 2008, pp. 159-170.
27. L. Kotoulas and I. Andreadis, "An Efficient Technique for the Computation of ART", IEEE Transactions on Circuits & Systems for Video Technology, Vol. 18, No. 5, 2008, pp. 682-686.
28. L. Kotoulas and I. Andreadis, "Fast Moment Generating Architectures", IEEE Transactions on Circuits & Systems for Video Technology, Vol. 17, No. 4, 2008, pp. 533-537.
29. V. Vonikakis, I. Andreadis and A. Gasteratos, "Fast Center Surround Contrast Modification", IET Image Processing, Vol. 2, No. 1, 2008, pp. 19-34.
30. A. Amanatiadis and I. Andreadis, "An Integrated Architecture for Adaptive Image Stabilization in Zooming Operation", IEEE Transactions on Consumer Electronics, Vol. 57, No. 2, 2008, pp. 600-608.
31. A. Amanatiadis, I. Andreadis and K. Konstantinidis, "Design and Implementation of a Fuzzy Area-Based Image Scaling Technique", IEEE Transactions on Instrumentation & Measurement, Vol. 57, No. 8, 2008, pp. 1504-1513.
32. K. Konstantinidis, G. Sirakoulis and I. Andreadis, "Design and Implementation of a Fuzzy Modified Ant Colony Hardware Structure for Image Retrieval", IEEE Transactions on Systems, Man & Cybernetics - Part C, Vol. 30, No. 5, 2009, pp. 520-533.
33. A. Amanatiadis and I. Andreadis, "Digital Image Stabilization by Independent Component Analysis", IEEE Transactions on Instrumentation & Measurement, Vol. 59, No. 7, 2010, pp. 1755-1763.
34. Ch. Georgoulas and I. Andreadis, "A Real-Time Fuzzy Hardware Structure for Disparity Map Computation", Journal of Real-time Image processing, Vol. 6, No. 4, 2011, pp. 257-273.
35. Ch. Georgoulas and I. Andreadis, "FPGA Map Computation with Vergence Control", Microprocessors & Microsystems, Vol. 34, No. 7-8, 2010, pp. 259-273.
36. P. Alvanitopoulos, I. Andreadis and A. Elenas, "Interdependence Between Seismic Parameters and Damage Indices Based on Hilbert Huang Transform", Journal of Measurement Science & Technology, IOP, Vol. 21, No. 2, 2010, pp. 1-14.
37. I. Georgoudas, G. Sirakoulis and I. Andreadis, "An Anticipative Crowd Management System Preventing Clogging in Exits During Pedestrian Evacuation Process", IEEE Systems Journal, Vol. 5, No. 1, 2011, pp. 129-141.
38. P. Alvanitopoulos, M. Papavasiliou, I. Andreadis and A. Elenas, "Seismic Feature Construction Based on the Hilbert Huang Transform", IEEE Transactions on Instrumentation & Measurement, Vol. 61, No. 2, 2012, pp. 326-337.
39. K. Ioannidis and I. Andreadis, "Digital Image Stabilization Based on the Hilbert-Huang", IEEE Transactions on Instrumentation & Measurement, Vol. 61, No. 9, 2012, pp. 2446-2457.
40. G.T. Michailidis, R. Pajarola and I. Andreadis, "High Performance Stereo System for Dense 3D Reconstruction", IEEE Trans. on Circuits & Systems for Video Technology, Vol. 24, No. 6, 2014, pp. 929 - 941.

41. E. Vrochidou, P. Alvanitopoulos, I. Andreadis, A. Elenas and K. Mallousi, "Synthesis of Artificial Spectrum-Compatible Seismic Accelerograms", Institute of Physics, Journal of Measurement Science & Technology, Vol. 25, No. 8, 2014, pp. 1-14.

VII. Significant Research Achievements

1. Professional Distinctions and Activities

- Fellow of the Institution of Engineering and Technology (IET), 2006.
- Member of the Board of Governors of the European Commission Joint Research Center (JRC), 2008 – 2010.
- IET Image Processing Premium Award, 2009.
- Best Paper Award in PSVIT, 2007 (Computer Vision & Applications).
- Best Paper Award in EUREKA, 2009.
- Select Paper Author, Institute of Physics, 2010.
- Associate Editor of the Pattern Recognition Journal, 1996 - Present.
- Member of the Selection Committee for the Pattern Recognition Society Award, 1999 & 2002.
- Reviewer of more than 30 Scholar Journals.
- Chair of the IASTED Int. Conf. on Signal and Image Processing & Applications, Crete, June 2011.
- **Research Interests:** Design and implementation of electronic systems, intelligent systems, machine vision, cellular automata and applications, visual information retrieval, instrumentation and electronic measurements.

2. Member of International Conference Program Committees

- Member of the International Program Committees (IPC) for IASTED Int. Conf. on Intelligent Systems & Control: June 1998, Halifax, Canada; October 1999, S. Barbara, USA; October 2000, Hawaii, USA; November 2001, Tampa, USA; October 2002, Tsukumba, Japan.
- Member of the IPC for the 4th Int. Conf. on Technology & Automation, Thessaloniki, October, 2002; 5th, Thessaloniki, October 2005.
- Member of the Technical Program Committee (TPC) for IEEE Int. Conf. on Image Processing, Barcelona, Spain, September 2003; Singapore, September 2004; Genoa, Italy, September 2005; Atlanta, USA, September 2006; San Antonio, Texas, USA, September 2007; San Diego, California, USA, October 2008; Cairo, Egypt October 2009; Hong Kong, October 2010; Brussels, Belgium, September 2011; Orlando, Florida, USA, September 2012.
- Member of the TPC for IEEE Int. Conf. on Acoustics, Speech & Signal Processing, Montreal, Canada, April 2004.
- Member of the TPC for the 3rd Int. Conf. on Computer Vision Theory & Applications, Madeira, Portugal, January 2008; Lisbon, Portugal, January 2009.
- Member of the Editorial Board of WSCG, Plzen, Czech Republic, 2003-2008.
- Member of the TPC for the 4th Int. Conf. on Image & Graphics, Chengdu, China, August 2007.
- Member of the TPC for the 16th IFIP/IEEE Int. Conf. on Very Large Scale Integration, Rhodes Island, Greece, October 2008; Florianopolis, Brazil, October 2009.
- Member of the IPC for IASTED Int. Conf. on Signal Processing, Pattern Recognition & Applications, Innsbruck, Austria, February 2009 – 2011.
- Member of the IPC for Int. Conf. on Imaging Systems & Techniques, Thessaloniki, Greece, July 2010.
- Member of the TPC for the 11th Int. Conf. on Control Automation, Robotics & Vision, December 2010, Singapore.
- Chair for the IASTED Int. Conf. on Signal and Image Processing & Applications, Crete, Greece, June 2011.

- Member of the Program Committee for Int. Conf. on Artificial Intelligence Application & Innovations, Chalkidiki, September 2012.
- Member of the Program Committee for 10th Int. Conf. on Cellular Automata for Research & Industry, Santorini, Greece, September 2012.

VIII. Participation in Research Projects [Representative List]

1 . Principal Investigator

- 01/09/2000 - 30/06/2003: EDUnet, “Panhellenic network for education – Region of Eastern Macedonia and Thrace”, Source of funding: EΠΕΑΚ, Budget: 280.000,00 €.
- 01/01/2002 - 30/06/2006: EDUnet, “Implementation of a wireless network for high schools in the city of Xanthi”, Source of funding: EΠΕΑΚ, Budget: 37.000,00 €.
- 2001 - 2012: Infrastructure development of the Laboratory of Electronics”, Source of funding: ΤΣΜΕΔΕ, Budget: 150.000,00 €.
- 01/11/2002 - 30/09/2005: “Support operations of the information systems of schools (Helpdesk) in the prefectures of Drama, Kavala, Xanthi, Rodopi and Evrou”, Source of funding: EΠΕΑΚ, Budget: 478.000,00 €.
- 01/01/2005 - 31/03/2009: “Improvement of the emergency risk management through secure mobile mechatronic support to bomb disposal (RESCUER)”, Source of funding: European Union (EU), Budget: 350.000,00 €. (Deputy P.I.).
- 01/09/2012 - 31/08/2016: “EDUSAFE (FP7-PEOPLE-2012-ITN)”: Marie Curie Actions: Education in Advanced AR/VR Safety Systems for Maintenance in Extreme Environments.

Participation as a Researcher

- 01/04/2001 - 30/09/2003: PENED, “Controlled transportation systems: Traffic flow characteristics assessment using techniques of image processing”, P.I.: Prof. B. Stefanis.
- 01/01/2002 - 31/05/2002: “Business plan of the information society for the region Eastern Macedonia & Thrace for the period 2002 – 2006”, (Contractor: 01 Informatics).
- 01/09/2003 - 31/08/2005: “Reform of undergraduate and postgraduate curricula of the ECE Department, DUTH”, P.I.: Prof. D. Papadopoulos.
- 01/04/2005 - 31/12/2006: “Novel methods of image processing for applications of stereo vision and area surveillance systems”, P.I.: Prof. D. Manolakis, TEI Thessalonikis.
- 01/01/2005 - 31/12/2007: “Development and implementation of new algorithms for pattern recognition based on biologically inspired models and intelligent systems”, PENED 2003, P.I.: Lecturer A. Gasteratos.
- 2005: “Computational algorithms for uniform and non-uniform flow in gravity pipes and open ditches. Identification – exploitation of digital images. Application in sewage settlement - drainage networks”, PABET 2005, P.I.: Papassavas AEBE.
- 1/12/2010 - 30/11/2013: “Optimal energy management of autonomous hybrid systems”, P.I.: Assist. Prof. G. Ch. Sirakoulis.

XI. Industrial Experience

1980 - 1984: Apprenticeship in a ceramic manufacturing company mostly dealing with microprocessor based automation systems.

1984 - 1993: Design and construction of electrical installations of multistory buildings and small industrial plants.