

Chatzakis John
Professor
Department of Electronic Engineering
Hellenic Mediterranean University

John (Ioannis) Chatzakis received his diploma in Electrical Engineering from the National Technical University of Athens. He received the M.S. degree and the PhD degree from the Dept. of Electronics and Computer Engineering of the Technical University of Crete, Chania, Crete, Greece. At present, he holds the Position of the Professor in the Department of Electronic Engineering of the Hellenic Mediterranean University.

Working Experience:

From 2000 up to 2004 he was visiting professor in the Dept. of Electronics and Computer Engineering of the Technical University of Crete (TUC).

From 1992 until 2003 he worked as visiting professor in the Dept. of Electronics of the Technological Educational Institute of Crete.

In 2003 he was appointed in the Dept. of Electronics of the Technological Educational Institute of Crete.

He is currently Professor in the Department of Electronic Engineering of the Hellenic Mediterranean University.

He has worked in programs in the Technical University of Crete:

Development of an Uninterruptible Power Supply.

Development of an autonomous hybrid system for the energy support of television transponder 1.5KW

Development of the charging system for photovoltaic systems.

Development of an interface between the sensors and the control system of a building.

He has worked in programs in the Technological Educational Institute of Crete:

1. Technical support for the “Renewable sources of energy and the management of the environment” remote education course.
2. Teaching of courses in the “Department of Telecommunications and Networks” (Special Training Program)
3. Development of an intelligent management system for Greenhouse, Archimedes I.
4. Unified technological and methodological approach of geoelectromagnetical study of West Crete, Archimedes II
5. Project Coordinator of the Archimedes II project with subject the “Development of a platform for the study of the behavior and the durability of electric appliances against the low power quality of the electric network voltage”
6. Development of the electronics of the pulse forming line (Marx bank, its trigger unit, optical connection of the laser source and the trigger unit). Simulation of the pulse forming line. Marie Curie Host Fellowships for Transfer of Knowledge “Development of an Innovative X-ray source”.
7. Archimedes III “Design and development of an innovative neutron source with application to detection of explosives”.
8. Archimedes III “Development of an integrated system for the optimization of bait sprays against *dacus olaeae* by using modern automation techniques (ISO-BSaDO-MAT)”.
9. Project Coordinator of the Archimedes II project with subject the “Development of a solid-state device for the real time imaging of neutron beam energy profile (SoSta INBEnePro)”.
10. "HELLAS-CH" (ELI - LASERLAB Europe, HiPER & IPERION-CH)

Selected Publications:

1. J. Chatzakis, K. Kalaitzakis and N. C. Voulgaris, "A New Method for the Design of a Class-D DC to AC Inverter", Proceedings of the 31st Universities Power Engineering Conference 1996, Vol. 3, 18-20 Sep. 1996, p. 929-932.
2. E. Koutroulis, J. Chatzakis, K. Kalaitzakis and N. C. Voulgaris, "A Bidirectional, High-Frequency Inverter Design", IEE Proceedings on Electric Power Applications, Vol. 148, No. 4, July 2001, p. 315-321.
3. J. Chatzakis, K. Kalaitzakis, N. C. Voulgaris and S. Manias, "Designing a New Generalized Battery Management System", IEEE Trans. on Industrial Electronics, vol. 50, No. 5, Oct. 2003, p. 990-999.
4. J. Chatzakis, M. Vogiatzaki, H. Rigakis, M. Manitis, E. Antonidakis "A novel High Bandwidth Pulse-Width Modulated Inverter", WSEAS Trans. On circuits and systems, Issue 8, Volume 5, August 2006.
5. E. Antonidakis, J. Chatzakis, M. Vogiatzaki, H. Rigakis, M. Manitis, D. Kolokotsa, "Electrical Appliances Testing Platform" WSEAS Trans. On systems, Issue 9, Volume 5, Sept 2006.
6. G. Saridakis, K. Dalamagidis, D.Kolokotsa, G. S. Stavrakakis, E.Koutroulis, K.Kalaitzakis, E.Antonidakis, J.Chatzakis, I. Kaliakatsos, "Development of a Greenhouse Model with an Intelligent Indoor Environment and Energy Management System for Greenhouses" WSEAS Trans. On ENVIRONMENT and DEVELOPMENT, Issue 5, Volume 2, May 2006.
7. J. Chatzakis, E. Antonidakis "A Novel N+k Fault-tolerant Hot-swap DC/AC Inverter Design", Proceedings of the 39th IEEE Annual Power Electronics Specialists Conference (PESC 2008), Jun 2008, pp. 3291-3294
8. J. Chatzakis, S. M. Hassan, E. L. Clark, C. Petridis, M. Tatarakis and P. Lee "High Repetition Rate Pseudospark Trigger Generator", The Review of Scientific Instruments. 2008 Aug, 79(8):086103.
9. A. Tsapras, C. Balas, K. Kalaitzakis, J. Chatzakis "A New Equalization Scheme for Series Connected Battery Cells", EPE Journal Volume 19-3, Sep. 2009.
10. S.M.Hassan, E.L. Clark, C. Petridis, G.C. Androulakis, J. Chatzakis, P. Lee, N.A. Papadogiannis, M. Tatarakis "Filamentary Structure of Current Sheath in Miniature Plasma Focus" IEEE Trans. on Plasma Science, Vol. 39 , Issue: 11 , Part: 1, 2011 , p. 2432 – 2433.
11. J. Chatzakis, S. M. Hassan, E. L. Clark, M. Tatarakis and P. Lee "A novel trigger generator for a pseudospark switch", The Review of scientific instruments. 2015 Jan, 86(1): 016108
12. E. Kaselouris, V. Dimitriou, I. Ftilis, A. Skoulakis, G. Koundourakis, E. L. Clark, J. Chatzakis, M. Bakarezos, I. K. Nikolos, N. A. Papadogiannis and M. Tatarakis "Preliminary investigation on the use of low current pulsed power Z-pinch plasma devices for the study of early stage plasma instabilities" Plasma Phys. Control. Fusion 60 (2018) 014031(8pp).
13. E. Markoulakis, I. Rigakis, J. Chatzakis, A. Konstantaras, E. Antonidakis "Real time visualization of dynamic magnetic fields with a nanomagnetic ferrolens" Journal of Magnetism and Magnetic Materials, Volume 451, 1 April 2018, Pages 741-748.
14. J. Chatzakis, I. Rigakis, S. Hassan, E. L. Clark, P. Lee, M. Tatarakis "Design of a Pixelated Imaging System for Fast Neutron Sources" Designs 2019, 3, 25; doi:10.3390/designs3020025.
15. A. Petridi, G. Chatzipetrakis, A. Skoulakis, I. Ftilis, M. Tatarakis, and J. Chatzakis "A modified modular multilevel converter topology trigger generator for a pseudospark switch" Review of Scientific Instruments 93, 064711 (2022)

Scientific Interests:

John Chatzakis scientific interests cover a wide range in the applications of electricity: High Voltage Circuits (Pulse Forming Lines and PFL support circuits), Power Electronics (DC/AC inverters, switching converters), Battery Management, Optoelectronics, and other Electronic Circuits.