

Personal Data

Full Name: Ioannis Christakis
Born: February 19, 1974 / Athens , Greece
Profession: Electronics Engineer, BSc, MSc.
Current Employment: Laboratory Teaching Assistant, Dept. Electrical & Electronic Engineering at University of West Attica-Greece
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Studies – Degrees

- 4/2024: PhD, Department of Electrical & Electronics Engineering, Faculty of Engineering, University of West Attica, Greece.
- 6/2019: MSc in Education: Pedagogy through Innovative Approaches and Technology, University of West Attica, Greece.
- 11/2009: MSc en Informatique, specialisation ISIC “Informatique et Sciences de l’Information et de la Communication”, Universite de Limoges, France.
- 7/2008: BSc in Informatics Engineer, University of Limoges, France
- 3/2000: BSc in Electronic Engineering, T.E.I of Athens.

Languages

- Greek,
- English (B2)

Professional Activities

- Electronics Engineer, Telecity TV and ZeyksiFM Radio station, 1997-1998
- Electronics Engineer, Panasonic Intertech, 1998-1999
- Electronics Engineer, TEI of Athens, Maintenance Department, 1998-2015
- Head of Maintenance Department , T.E.I of Athens, 2016-2017
- Laboratory Teaching Assistant, Dept. Electrical & Electronic Engineering at University of West Attica, 2017- present

Scientific subject area: Electronic systems interconnection technologies

Professional Qualifications:

- 3/2018 MikroTik Certified Network Associate (MTCNA)
- 11/2005 Radio Amateur Association,(SV1LHT)

Teaching Experience

Lecturer at the Department of Electronics of the Technological Educational Institution of Athens teaching the laboratory courses :

- Oct.2000 – Joul.2001. Introduction to Electronics, Analogue Electronics, Digital Electronics,
- Oct.2001 – Joul.2002. Oscillator, Filter and Timer Circuits, Automatic Control Systems, Digital Electronics,
- Oct.2002 – Joul.2004. Oscillator, Filter and Timer Circuits,
- Oct.2004 – Joul.2005. Automatic Control Systems.
- Oct.2007 – Joul.2008. Automatic Control Systems.

Research interests

Member of the Electronic Devices and Materials Lab (EDML). University of West Attica. His research interests focus on the sectors of Electrical Circuits, Electrical and Electronic Measurement Technologies, Measuring Systems and Devices, Integrated Measurement Systems.

- Research and Professional Activity**
- 2022 - 2024: GEODRR - Geomatics for Disaster Risk Reduction, EACEA Erasmus+ KA2
 - 2022: Development of water based conductive inks based on graphene for gravure and flexography printing (GRAPHEIN) (Project number = T1EΔK-02093)
 - 2021 EaRth Observation tools for the promotion of DigITal Economy ERODITE, EACEA Erasmus+ KA2
 - 2018 -2021: Environmental monitoring integrated system using an IoT network (EMISSION)
 - 2015- present: Electronic Devices and Materials Lab (EDML).University of West Attica.
 - 2009-2010: Technical support – networking WP1.3 PERFSIM (ESA).
 - 2000-2002: Research and Development Telecommunications Laboratory, TEI of Athens.

- Projects**
- 2004: Study & construction VoIP telephony TEI of Athens
 - 2006: Study & construction VoIP Gateway – PBX , TEI of Athens
 - 2007: Study & construction wireless networking (5GHz) of central buildings with annexes, TEI of Athens
 - 2008: Study & construction FreeSpot (wifi hotspot) all of the campus, TEI of Athens
 - 2009: Study & construction DVBT to IPTV (ETSI TS 102 826)
 - 2010: Study & construction Academic ID, TEI of Athens
 - 2011: Study & construction RFID Parking system, TEI of Athens
 - 2013: Member of study team Academic ID EDET-GRNET
 - 2015: Study & construction DVBT simple Gap Filler (ETSI TR 101 190 V1.3.1)
 - 2016: Study & construction, Direct VoIP (SIP) Protocol between Institute and Provider (1rs University uses this technology in Greece)

Publications

- **J. Christakis**, A. Logothesis, A. Mpalolakis, K. Voulgaris, T. Chinis, I. Gogornas, Noise Canceling in Audio Signal with Adaptive Filter, WSEAS TRANSACTIONS on ACOUSTICS and MUSIC Issue 4, Volume 1, October 2004 ISSN 1109-9577 page 183
- A. Proimadis, **J. Christakis**, A. Logothetis, A. Vappas, M. Papalabrou, Access Authentication with Smart Card over the Internet: A Case Study in E-commerce, WSEAS TRANSACTIONS on INFORMATION SCIENCE and APPLICATIONS Issue 5, Volume 1, November 2004 ISSN 1790-0832 page 1400
- M. K. Papalabrou, I. K. Almaliotis, I. Diakakis, A. K. Proimadis, **I. Christakis**, Secure University Campus Networks using Public Key Infrastructure (PKI), (IEEE) SSIP-SP1, 2005 pp. 227 – 231
- P. Papazoglou, G. Hloupis, **J. Christakis**, Frequently Measurements and Transmission System of Climatological Data (low-cost) via Internet”, (in Greek), 2nd National Conference «Technology of Archipelago» Apr. 2002, Athens , Greece.
- **I. Christakis**, G.Priovolos A.Logothetis and A.Nasiopoulos, Hybrid multiple applications network, 1st International Conference on Information Technology and Quality, Jun 2004, Athens , Greece.
- A. Logothetis, D. Mantis and **I. Christakis**, Inverter 24V DC/ 220 V AC /3KW with circuit of automatic protection, 1st International Conference on Information Technology and Quality, Jun 2004, Greece.
- A. Proimadis, A. Vappas, A. Logothetis, G. Lioumis and **I. Christakis**, Access Authentication with Smart Card over the Internet: A Case Study in a Social Security Organization, 2nd International Conference on Information Communication Technologies in Health, Jul 2004, Samos , Greece.
- A. Proimadis, **J. Christakis**, A. Logothetis, A. Vappas, M. Papalabrou, Acces Authentication with Smart Card over the Internet: A Case Study in E-Commerce, 3rd WSEAS International Conference on E-Activities, Oct. 2004, Crete, Greece.

- **J. Christakis**, A. Logothetis, A. Mpalolakis, K. Voulgaris, I. Gogornas, T. Chinis, 3rd WSEAS International Conference on Electronics Control & Signal Processing Noise cancel from audio signal with adaptive filters, Oct. 2004, Crete, Greece.
- A. Proimadis, M. Papalabrou, A. Logothetis, K. Voulgaris, A. Mpalolakis, **I. Christakis**, Hospital wireless interconnection, 3rd International Conference on Information Communication Technologies in Health, Jul 2005, Samos, Greece.
- M. Papalabrou, I. K. Almaliotis, I. Diakakis, A. Proimadis, **I. Christakis**, IWSSIP 2005 12th International Workshop on Systems, Signal & Image Processing “Using Public Key Infrastructure (PKI) Secure University Campus Networks”, Sep 2005, Chalkida, Greece.
- **J. Christakis**, A. Logothetis, A. Proimadis, Th. P. Chinis 5th International Conference on Information Communication Technologies in Health Medical “Problem detection using digital signal processing”, Jul 2007, Samos, Greece.
- I. Lampros, **I. Christakis**, D. Triantis and I. Stavrakas, Determining the limitations of 2.3 GHz GPR scanning in detecting objects of small geometrical dimensions,, 1st International Conference of the Greek Society of Experimental Mechanics of Materials, Athens, Greece, May 10-12, 2018, pp. 79-80.
- A. Kyriazopoulos, **I. Christakis**, I. Stavrakas. Tsallis entropy modeling of Pressure Stimulated Currents when cement-based materials are subjected to abrupt repetitive bending loadings, *Procedia Structural Integrity* Volume 10, 2018, Pages 97-103.
- T. Migos, **I. Christakis**, K. Moutzouris, I. Stavrakas, On the evaluation of low-cost PM sensors for air quality estimation, , 8th International Conference on Modern Circuits and Systems Technologies (MOCASST), 978-1-7281-1184-1/19/\$31.00 ©2019 IEEE.
- N. Papadakis, D. Stouraitis, A. Bartzas, E. Gerasopoulos, G. Grivas, E. Athanasopoulou, I. Stavroulas, P. Syropoulou, A. Agrafiotis, **I. Christakis**, T. Migos, I. Stavrakas and K. Ioannidis, EMISSION: Environmental monitoring integrated system using an IoT network, 23rd International Transport and Air Pollution Conference (TAP 2019), Thessaloniki, Greece.
- Pasiou ED, Markides ChF, Stavrakas I, Loukidis A, **Christakis I**, Triantis D, Kourkoulis SK. Preliminary results concerning the acoustic and electric activity during CSR tests. Accepted for presentation, MedFract1 Conference, Athens, Greece, 2020.
- **I. Christakis**, G. Hloupis, O. Tsakiridis, I. Stavrakas. Low cost sensor implementation and evaluation for measuring NO₂ and O₃ pollutants. International Conference on Modern Circuits and Systems Technologies (MOCASST) on Electronics and Communications, Bremen, Germany, 2020.
- I. Zyrichidou, P. Syropoulou, S. Tekes, G. Grivas, I. Stavroulas, E. Athanasopoulou, E. Gerasopoulos, **I. Christakis**, T. Migos, I. Stavrakas, G. Hloupis, O. Tsakiridis, K. Ioannidis, N. Papadakis City-Wide Air Quality Measurement System Based on IoT Network, 12th International Conference on Air Quality – Science and Application, Thessaloniki, Greece, 2020.
- N. Papadakis, N. Koukoulas, **I. Christakis**, I. Stavrakas, D. Kandris, An IoT-Based Participatory Antitheft System for Public Safety Enhancement in Smart Cities. *Smart Cities* 2021; 4(2): 919-937. <https://doi.org/10.3390/smartcities4020047>
- **I. Christakis**, P. Syropoulou, N. Papadakis, I. Stavrakas, On the correction of low-cost NO₂, O₃ and PM sensors, Proceedings of the Eighth International Conference on Environmental Management, Engineering, Planning & Economics, pp 301-310, Thessaloniki Greece 2021.
- **I. Christakis**, G. Hloupis, O. Tsakiridis, P. Syropoulou, N. Papadakis, Ilias Stavrakas, Performance comparison of low-cost gas and particles sensors Proceedings of the Eighth International Conference on Environmental Management, Engineering, Planning & Economics, pp 332-341, Thessaloniki Greece 2021.
- **I. Christakis**, G. Hloupis, O. Tsakiridis, I. Stavrakas, Integrated open source air quality monitoring platform, IEEE, 2022, 11th International Conference on Modern Circuits and Systems Technologies (MOCASST).
- **I. Christakis**, K. Moutzouris, O. Tsakiridis, I. Stavrakas, Barometric Pressure as a correction factor for low-cost particulate matter sensors, 2022, IOP Conference Series: Earth and Environmental Science 1123 (1), 012068.

- **I. Christakis**, O. Tsakiridis, E. D. Pasiou, I. Stavrakas, Low-cost gas sensor measurements optimization using Kalman filter approach, 39th Danubia-Adria Symposium on Advances in Experimental Mechanics, 26-29 Sept, 2023, Siofok, Hungary. ISBN: 978-963-421-927-9.

- **I. Christakis**, E. Sarri, O. Tsakiridis, I. Stavrakas, Identification of the Safe Variation Limits for the Optimization of the Measurements in Low-Cost Electrochemical Air Quality Sensors, *Electrochem* 2023,5 (1), 1-28. <https://doi.org/10.3390/electrochem5010001>

- **I. Christakis**, O. Tsakiridis, D. Kandris, I. Stavrakas, Air Pollution Monitoring via Wireless Sensor Networks: The Investigation and Correction of the Aging Behavior of Electrochemical Gaseous Pollutant Sensors, *Electronics* 2023,12 (8), 1842. <https://doi.org/10.3390/electronics12081842>

- D. Rimpas, V.A. Orfanos, P. Chalkiadakis, **I. Christakis**, Design and Development of a Low-Cost and Compact Real-Time Monitoring Tool for Battery Life Calculation. *Eng. Proc.* 2023, 58, 17. <https://doi.org/10.3390/ecsa-10-16146>

- **I. Christakis**, V.A. Orfanos, P. Chalkiadakis, D. Rimpas, Low-Cost Environmental Monitoring Station to Acquire Health Quality Factors. *Eng. Proc.* 2023, 58, 11. <https://doi.org/10.3390/ecsa-10-16096>

- S. Mitropoulos, V.A. Orfanos, D. Rimpas, **I. Christakis**,. LoRa Radius Coverage Map on Urban and Rural Areas: Case Study of Athens' Northern Suburbs and Tinos Island, Greece. *Eng. Proc.* 2023, 58, 19. <https://doi.org/10.3390/ecsa-10-16122>

- S. Mitropoulos, D. Rimpas, P. Chalkiadakis, V. Orfanos, **I. Christakis**, Integrated open-source heart rate and SpO2 monitoring system, in Proceedings of the MOL2NET'23, Conference on Molecular, Biomed., Comput. & Network Science and Engineering, 9th ed., 25–31 December 2023, MDPI: Basel, Switzerland

- I. Stavrakas, E. A. Alexopoulou, E. D. Kyriakis-Bitaros, I. Daradimos, E. D. Pasiou, **I. Christakis**, FPGA Based data acquisition system for strain gauge array monitoring, 39th Danubia-Adria Symposium on Advances in Experimental Mechanics, 26-29 September 2023, Siofok, Hungary, ISBN: 978-963-421-927-9

- **I. Christakis**, O. Tsakiridis, D. Kandris, I. Stavrakas, A Kalman Filter Scheme for the Optimization of Low-Cost Gas Sensor Measurements, *Electronics* 2024,13 (1), 25. <https://doi.org/10.3390/electronics13010025>

- **I. Christakis**, E. Sarri, O. Tsakiridis, I. Stavrakas, Investigation of LASSO Regression Method as a Correction Measurements' Factor for Low-Cost Air Quality Sensors. *Signals* 2024, 5, 60-86. <https://doi.org/10.3390/signals5010004>

- **I. Christakis**, O. Tsakiridis, E. Sarri, D. Triantis, I. Stavrakas, Nonlinear Regression Approach as a Correction Factor of Measurements of Low-Cost Electrochemical Air Quality Sensors. *Applied Sciences*. 2024; 14(8):3282. <https://doi.org/10.3390/app14083282>