



CURRICULUM VITAE (15-06-2018)
Dr. JACOB G. FANTIDIS

Assistant Professor, Department of Electrical Engineering, Eastern Macedonia and Thrace Institute of Technology (EMaTTech)
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PERSONAL INFORMATION

Place of Birth Edessa, Greece
Home Address KAVALA, 65 404
Email Fantidis@teiemt.gr, Fantidis@yahoo.gr

EDUCATION

Democritus University of Thrace (Greece October 1998 – June 2003) GPA 8.3/10
Department of Electrical and Computer Engineering, Bachelor of Science in Electrical Engineering, 5-year program, 65 courses to graduate
Second highest GPA among my 150 fellow students.

Democritus University of Thrace (Greece October 2003 – June 2005) GPA 9.3/10
Department of Electrical and Computer Engineering, Master Science in Electrical Engineering, Nuclear Technology Laboratory
Highest GPA among my 25 fellow M. Sc. students.
Thesis: ‘Design of portable system for the measurement of radioactivity from environmental samples with the aid of MCNPX code’.

Democritus University of Thrace (Greece December 2005 – March 2010) GPA 9.3/10
Department of Electrical and Computer Engineering, Doctor of Philosophy in Electrical Engineering, Nuclear Technology Laboratory
Second highest GPA among my 20 Ph.D fellow students.
Thesis: ‘Optimum design of portable units for non destructive testing of 3D objects using nuclear radiations’.

WORK EXPERIENCE

- December 2015 – today: Assistant Professor, Department of Electrical Engineering, Eastern Macedonia and Thrace Institute of Technology (EMaTTech).
- December 2015 – November 2017: Electrical & Computer Engineer at the Hellenic Electricity Distribution Network Operator SA (HEDNO).
- May 2010 – November 2015: Electrical Engineering Office.
- June 2010 – February 2011: Military service as administrator on computer network of the 4th Army Corps.
- March 2007 – April 2008: Collaborator with the ECDL Greece.

TEACHING EXPERIENCE

Eastern Macedonia and Thrace Institute of Technology (Greece) December 2017 – today
Department of Electrical Engineering (December 2017 – today) as Assistant Professor.
(Nuclear Technology, Non Destructive Testing, Modelling of Systems).
Master in Innovation in Technology & Engineering Management (December 2017 – today) as Assistant Professor.
(Energy Performance of Buildings and Non Destructive Testing).

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Kavala Institute of Technology (Greece) (October 2006 – November 2015)

Master in Innovation in Technology & Entrepreneurship (February 2013 – November 2015)
as external collaborator.

(Group Project)

Department of Electrical Engineering (October 2011 – November 2015) as visiting Assistant Professor.

(Modelling of Systems, Technology of New Materials, Electrical Installations I&II, Electrical Machines I&II, Power Systems II, Nuclear Technology, Non Destructive Testing).

Department of Electrical Engineering (October 2009 – June 2011) as visiting Lecturer.

(Renewable Energy, Security and Law in the Employment, Electric Circuits II)

Industrial Informatics Department (October 2006 – September 2009 & October 2011 – today)
as Laboratory assistant.

(Electric Circuits, Electronic Circuits)

Teacher on Police Academy (Komotini & Xanthi) (November 2011 – May 2011)

(Computer Science)

Democritus University of Thrace (Greece) (October 2006 – February 2010)

Department of Electrical Electrical and Computer Engineering as Research/Laboratory Assistant (October 2006 – February 2010) in Nuclear technology Laboratory under the supervision of Professor N. F. Tsagas in the following courses:

(Nuclear Technology, Dosimetry, Special Topics In Plasma And Nuclear Technology, Introduction To Nuclear Technology)

Department of Electrical and Computer Engineering as Laboratory Assistant (October 2007 – September 2009) in Mathematics section in the following courses:

(Linear Algebra, Differential Equations, Mathematical Analysis II, Calculus Of Variations).

Teacher in institute of Vocational Training Xanthi, Greece (October 2004 – February 2010)

(Adobe Photoshop, Sql Server, Network Security, Algorithm – Data structures, Microsoft Access, Microsoft Excel)

Teacher in private high school (September 2006 – June 2008)

PARTICIPATION IN SCIENTIFIC RESEARCH PROGRAMS

- July 2014 – August 2014: Researcher in Research Project: SAFE H POWER (<http://www.safehpower.eu>), Centre for Research and Technology Hellas.
- March 2012 – August 2012: Researcher in Research Project: NANOCAPILLARY©, Scientific Project Manager: Professor A. Mitropoulos, TEI Kavalas.
- November 2009 – February 2010: Researcher in Research Project: Measurement of natural and non natural radioactivity in the environment, Scientific Project Manager: Associate Professor G. E. Nicolaou, D.U.TH..
- February 2009 – May 2009: Researcher in Research Project: Specification of nuclear materials from nuclear reactions using isotopic Analysis, Scientific Project Manager: Associate Professor G. E. Nicolaou, D.U.TH..
- March 2008: Researcher in Research Project: Measurement of natural and non natural radioactivity in the environment, Scientific Project Manager: Associate Professor G. E. Nicolaou, D.U.TH..

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- December 2007 – June 2008: Researcher in Research Project: Assistance of Computer Studies in Democritus University of Thrace, Scientific Project Manager: Professor D. Papadopoulos, D.U.TH..
- January 2006 – June 2006: Researcher in Research Project: Detection of radioactive isotopes in the solids and liquids with gamma spectroscopy, Scientific Project Manager: Professor N. F. Tsagas, D.U.TH..
- April 2005 – June 2005: Researcher in Research Project: Detection of radioactive isotopes in the solids and liquids with gamma spectroscopy, Scientific Project Manager: Professor N. F. Tsagas, D.U.TH..
- January 2003 – September 2003: Researcher in Research Project: Innovative low electricity consumption air cooling system. Scientific Project Manager: Professor N. F. Tsagas, D.U.TH..

PRIZE – SCHOLARSHIP

- December 2010: Moral prize from the colonel of the 1st regiment Communication Electronic War and Informatics Security.
- September 2006: Award of a scholarship from the Bodossaki Foundation for his Ph.D Dissertation.
- May 2006: Prize money on business plan contest between student of Thrace and East Macedonia.
- December 2004: Award for excellent engineering students from the Technical Chamber of Greece.
- September 2004: Award of a scholarship from the Department of Electrical Engineering and Engineering and Computer Science for his Master Dissertation.
- June 2003: Award of a scholarship from the Hellenic National Fellowship Foundation.
- February 1998: Award of a scholarship from the Hellenic National Fellowship Foundation.

PUBLICATIONS

- A1. **J. G. Fantidis**, G. E. Nicolaou, N. F. Tsagas, “A Monte Carlo simulation of neutron activation analysis of bulk objects”, *Radiation Measurements* 44 (3), (2009), 273–277.
- A2. **J. G. Fantidis**, G. E. Nicolaou, N. F. Tsagas, “A transportable neutron radiography system based on a SbBe neutron source”, *Nuclear Instruments and Methods in Physics Research Accelerators, Spectrometers, Detectors and Associated Equipment*, 606 (3) (2009), 806–810.
- A3. **J. G. Fantidis**, G. E. Nicolaou, N. F. Tsagas, “Optimization study of a transportable neutron radiography unit based on a compact neutron generator”, *Nuclear Instruments and Methods in Physics Research Accelerators, Spectrometers, Detectors and Associated Equipment*, 618 (1-3), (2010), 331–335.
- A4. **J. G. Fantidis**, G. E. Nicolaou, N. F. Tsagas, “A transportable neutron radiography system”, *Journal of Radioanalytical and Nuclear Chemistry* 284 (2010), 479–484.
- A5. **J. G. Fantidis**, K. Potolias, D. V. Bandekas, “Non destructive testing of medium and high voltage cables with a transportable radiography system”, *Journal of Engineering Science And Technology Review* 3 (1), 2010, 89–94.
- A6. **J. G. Fantidis**, C. Potolias, D.V. Bandekas, “Wind turbine blade non destructive testing with a transportable radiography system”, *Science and Technology of Nuclear Installations*. Volume 2011, Article ID 347320, 1-6.
- A7. **J. G. Fantidis**, G. E. Nicolaou, “A transportable Fast Neutron and dual Gamma-ray system for the detection of illicit materials”, *Nuclear Instruments and Methods in*

- Physics Research Accelerators, Spectrometers, Detectors and Associated Equipment A 648 (2011) 275–284.
- A8. **J. G. Fantidis**, C. Potolias, N. Vordos, D. V. Bandekas, “Optimization study of a transportable neutron radiography system based on a ^{252}Cf neutron source”, *Moldavian Journal of the Physical Sciences* 10 (1) (2011), 121-131.
- A9. **J. G. Fantidis**, G. E. Nicolaou, C. Potolias, N. Vordos, D. V. Bandekas, “The comparison of four neutron sources for Prompt Gamma Neutron Activation Analysis (PGNAA) in vivo detections of Boron”, *Journal of Radioanalytical and Nuclear Chemistry* Volume 290, Issue 2 (2011), 289-295.
- A10. **J. G. Fantidis**, D. V. Bandekas, C. Potolias, N. Vordos, “The effect of the financial crisis on electricity cost for remote consumers: case study Samothrace (Greece) ”, *International Journal of Renewable Energy Research* 1 (4) (2011), 281-289.
- A11. **Jacob G. Fantidis**, Pantelis Antoniadis, Constantinos Potolias, Dimitrios V. Bandekas, Nicolaos Vordos, “Financial and economic crisis creates new data on the electricity for remote consumers: Case study Greece”, *International Journal of Advances in Engineering, Science and Technology* 1 (1) (2011), 49-61.
- A12. **J. G. Fantidis**, D. V. Bandekas, C. Potolias, N. Vordos, K. Karakoulidis, “Financial analysis of solar water heating systems during the depression: Case study of Greece”, *Inzinerine Ekonomika – Engineering Economics* 23 (1) (2012), 33-40.
- A13. **J. G. Fantidis**, “A study of a transportable Thermal Neutron Radiography unit based on a compact RFI linac”, *Journal of Radioanalytical and Nuclear Chemistry* 293 (2012) 95–101.
- A14. **J. G. Fantidis**, V. C. Mantzari, E. Kalkani, D. V. Bandekas, N. Vordos, “A hybrid wind and hydroelectric power production system in generation in Plaka, Alexandroupolis, Greece”, *International Journal of Advances in Engineering, Science and Technology* 293 (2012) 95-101.
- A15. J. C. Mourmouris, C. Potolias, **J. G. Fantidis**, “Evaluation of Renewable Energy Sources Exploitation at remote regions, using Computing Model and Multi-Criteria Analysis: A Case-Study in Samothrace, Greece”, *International Journal of Renewable Energy Research* 2 (2) 2012 307-316.
- A16. **Jacob G. Fantidis**, Dimitrios V. Bandekas, Nick Vordos, Costas Potolias, Kostas Karakoulidis, “Financial Crisis and the New Data on the Wood Pellet Heating: Case Study Of Greece”, *Research Journal of Applied Sciences* 7 (3) 2012 138-145.
- A17. **J. G. Fantidis**, D. V. Bandekas, C. Potolias, N. Vordos, “Financial and economic crisis and its consequences to the diesel-oil and biomass heating market-Case study of Greece”, *Journal of Electrical Systems* 8 (2) (2012) 249-261.
- A18. **J. G. Fantidis**, D. V. Bandekas, C. Potolias, N. Vordos, “Fast and thermal neutron radiographies based on a compact neutron generator”, *Journal of Theoretical and Applied Physics* 2012, 6:20.
- A19. **J. G. Fantidis**, G. E. Nicolaou, “Multiple Fast Neutron and Gamma-ray beam systems for the detection of illicit materials”, *Journal of Radioanalytical and Nuclear Chemistry* 295 (2) (2013) 973–977.
- A20. **J. G. Fantidis**, D.V. Bandekas, N. Vordos, “The Replacement of Research Reactors with a Compact Proton Linac for Neutron Radiography”, *Radiation Physics and Chemistry* 86 (2013) 74–78.
- A21. **J. G. Fantidis**, D.V. Bandekas, C. Potolias, N. Vordos, “Cost of PV electricity – Case study of Greece”, *Solar Energy* 91 (2013) 120–130.
- A22. **J. G. Fantidis**, E. Saitioti, D.V. Bandekas, N. Vordos, “Optimised BNCT facility based on a compact DD neutron generator”, *International Journal of Radiation Research* 11(4) (2013) 207–214.

- A23. **J. G. Fantidis**, K. Karakoulidis, G. Lazidis, C. Potolias, D. V. Bandekas, “The study of the thermal profile of a three-phase motor under different conditions”, *ARPN Journal of Engineering and Applied Sciences*, 8 (11) (2013) 892 – 899.
- A24. C. Potolias, J. C. Mourmouris, **J. G. Fantidis**, D. V. Bandekas, A. Kourtidis, “Financial Crisis in Greece, economics evaluation of the replacement of heating diesel oil with a heat pump system”, *Inzinerine Ekonomika – Engineering Economics* 25(2) (2014) 141–151.
- A25. **J. G. Fantidis**, D. V. Bandekas, C. Potolias, K. Karakoulidis, P. Kogias, “Financial crisis in Greece, the reason for the replacement of heating diesel systems” *American Journal of Environmental Engineering and Science* 2 (1), (2015), 1–6.
- A26. **J. G. Fantidis**, **A. Antoniadis**, “Optimization study for BNCT facility based on a DT neutron generator”, *International Journal of Radiation Research* 13 (1), (2015) 13–24.
- A27. **J. G. Fantidis**, D. V. Bandekas, K. Karakoulidis, G. Lazidis, C. Potolias, “The temperature measurement of the windings in a three-phase electrical motor under different conditions”, *Gazi University Journal of Science Part A: Engineering and Innovation* 3.2, (2015) 39–44.
- A28. **J. G. Fantidis**, “The comparison between simple and advanced shielding materials for the shield of portable neutrons sources”, *International Journal of Radiation Research* 13 (4), (2015) 287–295.
- A29. D. T. Thomas, **J. G. Fantidis**, G. E. Nicolaou, “A neutron radiography facility based on an experimental reactor”, *Journal of Engineering Science and Technology Review* 8.3 (2015) 61–64.
- A30. **J. G. Fantidis**, D. V. Bandekas, N. Vordos. “Study of a Wind/PV/Battery hybrid system—Case study at Plaka in Greece”, *Journal of Engineering Science and Technology Review* 8.5 (2015), 6–11.
- A31. **J. G. Fantidis**, P. Constantinos, D. Bandekas, P. Kogias, E. Stathakis, K. Karakoulidis, K. Meresentoglou, “Performance evaluation of roof-top PV systems in the area of Kavala North Greece”, *Journal of Applied Engineering Science* 13.4 (2015) 217–224.
- A32. K. Karakoulidis, **J. G. Fantidis**, V. Kontakos, “The Temperature Measurement in a Three-Phase Power Transformer under Different Conditions”, *Journal of Engineering Science and Technology Review* 8.5 (2015), 19–23.
- A33. K. Karakoulidis, **J. G. Fantidis**, C. Potolias, P. Kogias and D. V. Bandekas, “The temperature measurement of a single phase induction motor under different conditions”, *ARPN Journal of Engineering and Applied Sciences* 11(19) (2016) 11495-11502.
- A34. **J. G. Fantidis**, A. Dalakas, C. Potolias, K. Karakoulidis and P. Kogias, “A Fast Neutron and Gamma Ray System for the Detection of Illicit Materials Based on Simple Isotopic Sources”, *Journal of Engineering Science and Technology Review* 9 (6) (2016) 52–58.
- A35. **J. G. Fantidis**, “The comparison of different geometrical configurations and materials for Neutron Radiography purposes based on a $^{241}\text{Am}/\text{Be}$ neutron source”, accepted for publication (02/10/216) on *Journal of Taibah University for Science*.
- A36. **J. G. Fantidis** and G. Nicolaou, “Optimization of Beam Shaping Assembly design for Boron Neutron Capture Therapy based on a transportable proton accelerator.” Accepted for publication in *Alexandria Engineering Journal* (2017), <https://doi.org/10.1016/j.aej.2017.08.004>.
- A37. P. Kogias, M. Negianni, **J. Fantidis**, F. Kogia, “Mathematical Analysis of a Parking System for Telemetry Applications”, *Journal of Applied Engineering Science* 16 (2018) 2, 519, 202–207.

CONFERENCES

- C1. **J. G. Fantidis**, G. E. Nicolaou, F.N. Tsagas, “Identification of Unknown Nuclear Material, 16th Symposium of the Hellenic Nuclear Physics Society”, Athens 26-27 May 2006, Greece.
- C2. **J. G. Fantidis**, G. E. Nicolaou, N. F. Tsagas, “Localisation And Distribution Of Radioactivity In Soil: solid angle issue”, International Conference on Environmental Radioactivity, Vienna 22 – 27 April 2007, Austria.
- C3. **J. G. Fantidis**, D. V. Bandekas, N. Vordos, “Techno-Economical Study of Hybrid Power System for a Remote Village in Greece”, Portugal. Recent Researches in Energy, Environment and Sustainable Development, Proceedings of the 6th WSEAS International Conference on Renewable Energy Sources (RES '12), Porto, Portugal, July 1-3, pp. 30 – 35, 2012.
- C4. N. Vordos, D. V. Bandekas, J. W. Nolan, **J. G. Fantidis**, A. Ioannou, “Design and Simulation of Hybrid Power System with Wind Turbines, Photovoltaics and Fuel Cells”, In Proceedings, WSEAS 1st International Conference on Power Engineering, Energy, and Electrical Drives, PEED 2013, Cambridge, Massachusetts, USA, pp. 19 – 24, January 2013
- C5. **J. G. Fantidis**, D. V. Bandekas, N. Vordos, S. Karachalios, “Wind Energy Potential in Greece Using a Small Wind Turbine”, Recent Advances in Energy, Environment and Development, Recent Advances in Energy, Environment and Development, Proceedings of the 7th International Conference on Energy and Development, Environment and Biomedicine (EDE B '13), Cambridge, MA, USA, January 30 – February 1, pp. 25 – 30, 2013.
- C6. D.V. BANDEKAS, N. VORDOS, **J. FANTIDIS**, “Output – feedback controller design in a Multimachine Power System”, WSEAS 15th International Conference on Automatic Control, Modelling and Simulation (ACMOS'13), Brasov, Romania, June 1-3, pp. 365 – 369, 2013.
- C7. D.V. BANDEKAS, N. VORDOS, **J. FANTIDIS**, “Modelling and Simulation for a Multimachine Power System”, WSEAS 15th International Conference on Automatic Control, Modelling and Simulation (ACMOS'13), Brasov, Romania, June 1–3, pp. 370 – 374, 2013.
- C8. D.V. Bandekas, N. Vordos, **J. Fantidis**, “Adaptive Control Method Applied to a Hydro Generator in a Multimachine Power System”, Recent Advances in Energy, Environment, Biology and Ecology, Proceedings of the 10th WSEAS International Conference on Energy, Environment, Ecosystems and Sustainable Development (EEESD '14), pp. 70 – 75, 10-12 January 2014, Tenerife, Spain.
- C9. **J. G. Fantidis**, D. V. Bandekas, P. Kogias, N. Vordos, “The Evaluation on Dual, Triple and Quadruple Energy X-Ray Systems for the Material Characterisation of a Suspicious Bulky Object”, Recent Advances in Energy, Environment, Biology and Ecology, Proceedings of the 10th WSEAS International Conference on Energy, Environment, Ecosystems and Sustainable Development (EEESD '14), pp. 143 – 148, 10-12 January 2014, Tenerife, Spain.
- C10. **J. G. Fantidis**, D. V. Bandekas, N. Vordos, Ch. Fylaktakidis, J. W. Nolan, “Study of a Wind/PV/Battery Hybrid System at Plaka in Greece”, 2nd International Conference on Power Engineering, Energy and Electrical Drives (PEED '14) Istanbul, Turkey December 15-17, 2014.
- C11. **J. G. Fantidis**, E. Mitka, “Optimization of Beam Shaping Assembly Design for Boron Neutron Capture Therapy Based on a Compact Proton Accelerator”, 3rd ENMF (*Exploring Novel Medical Frontiers*), Thessaloniki, Greece January 26-28, 2018.

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MEMBERSHIPS

- Member of the Technical Chamber of Greece
- Member of Hellenic Physics Society
- Member of the Hellenic Association of Electrical & Computer Engineering