

Curriculum Vitae

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Current position

Department of Electrical and Computer Engineering
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The research interests focus on photovoltaic system's design and modeling, low irradiance losses of PV modules, spectral performance and losses of PV modules, inverter performance at outdoor conditions, photovoltaics and energy storage in buildings, solar thermal energy for space heating, drying of agricultural products with solar thermal energy and the electromagnetic spectrum of the sun in the UV to NIR regime. He is teaching courses related to electrodynamics, photovoltaic systems and solar thermal systems at both undergraduate and postgraduate level. He is the Director of the Laboratory of Energy and Photovoltaic Systems. He is a reviewer for the journals of "Solar Energy", "IEEE Journal of Photovoltaics", "Atmospheric Measurement Techniques", "Sustainable Energy Technologies and Assessments", "Nature communications", "Journal of Polymers and the Environment", "Energy" και "Journal of Electronics".

Involved in the following research projects as a PI or researcher

1. P.I. of the project "Research - documentation and pilot plans to configure the interdependence between outdoor and indoor spaces of the school complexes of the Municipality of Malevizi aiming at the well-being and thermal comfort of the users".
2. P.I. of subproject 4 of the project "Center for the study and sustainable exploitation of marine biological resources" with MIS Code 5002670 led by ELKETHE within the "039" call "Strengthening Research and Innovation Infrastructure". The Laboratory of Energy and Photovoltaic Systems is involved in the study of the power supply through RES of a sea platform in collaboration with the Technical University of Crete.
3. Participate in the European Erasmus KA2+ "Cooperation for innovation and the exchange of good practices - Sector Skills Alliances "entitled "Geothermal & Solar Skills Vocational Education and Training" led by the Technological Educational Institute (TEI) of Crete. Participating countries are Bulgaria, Germany and Spain.
4. Participate in the research program entitled "Research and development of pilot applications for environmental – energy update – upgrade of Health Care Units of the first degree of the National Health Network" of the 7th Healthcare Region of Crete and the Technological Educational Institute of Crete.
5. P.I. of the project "Drying of agricultural products using solar energy". The project refers to the successful setup of a drying chamber for agricultural products.
6. P.I. of the project referring to Vocational Educational Training entitled "PEGA Photovoltaic Energy Systems".
7. P.I. of a research project in the framework of ARCHIMIDIS III - Strengthening research teams at TEIs entitled "Development of a photovoltaic power prediction model" (2012-2015).

Papers in peer review journals

1. «Improved field evaluation of reference cells using spectral measurements», , Frank Vignola, Josh Peterson, Richard Kessler, Vikram Sandhu, Sean Snider, Aron Habte, Peter Gotseff, Afshin Andreas, Manajit Senguptac, Fotis Mavromatakis, *Solar Energy*, 215, 482-491, 2021
2. «Reducing Interanalyst Variability in Photovoltaic Degradation Rate Assessments», Dirk C. Jordan ; Chris Deline ; Michael G. Deceglie ; Ambarish Nag ; Gregory M. Kimball ; Adam B. Shinn ; Jim J. John ; Aasha A. Alnuaimi ; Ammar B. A. Elnosh ; Wei Luo ; Anubhav Jain ; Mashad U. Saleh ; Heidi von Korff ; Yang Hu ; Jean-Nicolas Jaubert ; Fotis Mavromatakis, *IEEE Journal of Photovoltaics*, 2020, 10, 1, 206-212
3. «Photovoltaic Systems and Net Metering in Greece» by F. Mavromatakis, G. Viskadouros, H. Haritaki, Xanthos G., *Engineering, Technology & Applied Science Research*, 2018, Vol. 8, No. 4
4. “Low irradiance losses of photovoltaic modules”, by Mavromatakis F. Vignola F. and Marion B., *Solar Energy*, 157, 496-506, 2017
5. “A Photovoltaic power model” by F. Mavromatakis, F. Vignola. Y. Franghiadakis, *Engineering, Technology & Applied Science Research*, 2016, *Engineering, Technology & Applied Science Research* Vol. 6, No. 5
6. “Measuring and estimating the temperature of a photovoltaic module”, by Mavromatakis F. Kavoussanaki E., Vignola F., Franghiadakis Y., *Solar Energy*, 110, 656-666, 2014
7. “Modelling the photovoltaic potential of a site”, by Mavromatakis F., Makrides G., Georghiou G., Pothrakis A., Franghiadakis Y., Drakakis E., Koudoumas E., *Renewable Energy*, 35, 1387-1390, 2010
8. “A highly efficient novel azimuthal heliotrope” by Mavromatakis, F. and Franghiadakis, Y., *Solar Energy*, 82 (4), p336-342 , (2008)
9. “Technical Note: Improved total atmospheric water vapor rate determination from near-infrared filter measurements with sun photometers” by Mavromatakis , F. , CA Gueymard, and Y. Franghiadakis. *Atmospheric Chemistry and Physics*, 7 (17), p4613-4623 (2007)
10. “Direct and indirect determination of the Linke turbidity coefficient” by Mavromatakis, F. and Franghiadakis, Y., *Solar Energy*, 81 (7), p896-903, (2007)

Presentations in conferences

1. “Evaluation of Photodiode-based Pyranometers and Reference Solar Cells on a Two-Axis Tracking System” by Vignola F., Peterson J., Kessler R., Dooraghi M., Sengupta M., and Mavromatakis, F., 7th IEEE World Conference on Photovoltaic Energy Conversion, WCPEC 2018, USA, 10 June 2018 through 15 June 2018
2. “Comparison of pyranometers and reference cells on fixed and one-Axis tracking surfaces” by Vignola F., Peterson J., Chiu C.-Y., Dooraghi M., Sengupta M., and Mavromatakis, F., 46th ASES Annual National Solar Conference, SOLAR 2017; Denver; United States; 9 October 2017 through 12 October 2017
3. “Spectral Performance of PV Modules of Different Technologies” by Fotis Mavromatakis and Frank Vignola, at 11th International Congress On Deregulated Electricity Market Issues in South Eastern Europe (DEMSEE), September 22-23, 2016, Heraklion, Crete, Greece
4. “Spectral Performance of PV Modules of Different Technologies” by F. Mavromatakis and F. Vignola at the Workshop “Technical and Economic Aspects of Renewable Energies”, HTW Berlin, Germany, July 04-06, 2016.
5. “Use of Pyranometers to Estimate PV Module Degradation Rates in the Field” by Vignola F., Peterson J., Kessler R., Mavromatakis F., Dooraghi M., Sengupta, M., 43rd IEEE Photovoltaic Specialists Conference, Portland, Oregon, 5-10 June, 2016

6. "Field Monitoring and Validation of PV Performance Models" by Mavromataki F. , Vignola F. and Franghiadakis Y., 4th PV Performance Modeling and Monitoring Workshop held in Cologne, Germany, October 22-23, 2015
7. "Spectral Corrections for PV Performance Modelling" by Mavromataki F. and Vignola F., 4th PV Performance Modelling and Monitoring Workshop, Cologne, Germany, October 22-23, 2015
8. "Modeling photovoltaic power" by Mavromataki F., Vignola F. and Franghiadakis Y., 10th International Conference On Deregulated Electricity Market Issues in South Eastern Europe (DEMSEE), September 24-25, 2015, Budapest, Hungary (ISBN 978-615-80340-0-5)
9. "Fleet Management and Grid Integration of PV Generating Stations" by Siderakis K., Gigantidou A., Lagouvardos K., Kavousanaki E., Mavromataki F. and Kounalakis D., 10th International Conference on Deregulated Electricity Market Issues in South Eastern Europe (DEMSEE), September 24-25, 2015, Budapest, Hungary (ISBN 978-615-80340-0-5);
10. "Modelling the power produced by photovoltaic systems" by Mavromataki F., Franghiadakis Y. and Vignola F., international ARC14 conference held on November 18-19, 2014 in Doha, Qatar.
11. "PV Module Performance After 30 Year Without Washing" by Vignola F., Peterson J., Kessler R., Lin F., Marion B., Anderberg A., Mavromataki F., Presentation at 43^o congress her American Solar Energy Society 2014 (SOLAR 2014), July 6-10, 2014, San Francisco, California
12. "Evaluation of a prototype solar awning" by Vignola F., Mavromataki F., Simonton B., and Elzeyadi I. Presentation in the 39th Conference of the American Solar Energy Society, May 17-22, 2010, Phoenix, Arizona, USA.