Evangelos I. Sakellariou

Nationality: Greek (EU)

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4 Imvrou., Nafplio, Greece

Education

Ph.D. in Renewable Energy Systems
Sep 2017 – Jun 2020

De Montford University, Leicester, UK
Advisor: Dr. Andrew Wright
Dissertation: Energetic study of a solar assisted ground source heat pump system for domestic heating with parametric analyses via simulation.

M.S. in Energy Technology
Sep 2016 - Dec 2017

Heriot Watt University and Technological Educational Institute of Athens, Athens, Greece.
Advisor: Dr. Petros Axaopoulos
Thesis: Simulation and experimental performance of a modified PV panel to a PVT collector.

B.S. (hons) in Energy Engineering
Sep 1999 - May 2003

Technological Educational Institute of Athens, Athens, Greece.
Advisor: Dr. Petros Axaopoulos
Senior's Thesis: Solar assisted heat pump system for domestic hot water, experimentation and mathematical model validation.

Publications

E. Sakellariou and P. Axaopoulos, "Simulation and experimental performance analysis of a modified PV panel to a PVT collector," Sol. Energy, vol. 155, pp. 715–726, 2017.

E. Sakellariou and P. Axaopoulos, "An experimentally validated, transient model for sheet and tube PVT collector," Sol. Energy, vol. 174, pp. 709–718, 2018.

E. I. Sakellariou, A. J. Wright, P. Axaopoulos, and M. A. Oyinlola, "PVT based solar assisted ground source heat pump system: Modelling approach and sensitivity analyses," Sol. Energy, vol. 193, no. September, pp. 37–50, Nov. 2019.

E. I. Sakellariou and P. J. Axaopoulos, "Energy performance indexes for solar assisted ground source heat pump systems with photovoltaic-thermal collectors," Appl. Energy, vol. 272, no. February, p. 115241, 2020.

E. I. Sakellariou, P. J. Axaopoulos, and A. J. Wright, "Energy and economic evaluation of a solar assisted ground source heat pump system for a north Mediterranean city," Energy Build., vol. 231, p. 110640, 2020.

E. I. Sakellariou, A. J. Wright, and P. J. Axaopoulos, "Energy, economic and emission assessment of a solar assisted shallow earth borehole field heat pump system for domestic space heating in a north European climate," Geothermics, vol. 95, no. April, p. 102159, 2021.

E. I. Sakellariou, P. J. Axaopoulos, I. E. Sarris, and N. Abdullaev, "Improving the Electrical Efficiency of the PV Panel via Geothermal Heat Exchanger: Mathematical Model, Validation and Parametric Analysis," Energies, no. 14, p. 6415, 2021.

B. V. Bot, P. J. Axaopoulos, E. I. Sakellariou, O. T. Sosso, and J. G. Tamba, "Energetic and economic analysis of biomass briquettes production from agricultural residues," Appl. Energy, vol. 321, no. June, p. 119430, 2022.

B. V. Bot, P. J. Axaopoulos, O. T. Sosso, E. I. Sakellariou, and J. G. Tamba, "Economic analysis of biomass briquettes made from coconut shells, rattan waste, banana peels and sugarcane bagasse in households cooking," Int. J. Energy Environ. Eng., no. 0123456789, 2022.

E. I. Sakellariou, P. J. Axaopoulos, B. V. Bot, and I. E. Sarris, "Energy Performance Evaluation of a Solar PVT Thermal Energy Storage System Based on Small Size Borefield," Energies, no. 15, p. 7906, 2022.

E. I. Sakellariou, P. J. Axaopoulos, B. V. Bot, and K. A. Kavadias, "First Law Comparison of a Forced-Circulation Solar Water Heating System with an Identical Thermosyphon," 2023.

Teaching and Thesis supervision Experience

Sep 2021 - Today	**Full time Adjunct Lecturer in Thermal Power Plants** (9 hours per week) (Steam Power Plants and Gas Turbine Power Plants) – MEng undergraduate course / Mechanical Engineering Department / University of West Attica.
Sep 2021 - Today	**Full time Adjunct Lecturer in Advanced Thermodynamics** (4 hours per week) (Exergy, Reacting Mixtures and Combustion) – MEng undergraduate course / Mechanical Engineering Department / University of West Attica.
Feb 2021 - Today	**Thermofluids** (contract basis - 40 hours per semester) (Thermodynamics, Heat Transfer, Fluid Dynamics) - MSc in Energy Systems / Mechanical Engineering Department / University of West Attica.
Feb 2020 - Today	**Passive Solar Buildings and Heat Pump Systems** (contract basis - 12 hours per semester) - MSc in Energy Systems / Mechanical Engineering Department / University of West Attica.
Sep 2021 - Today	Successfully supervised 5 MEng degree Thesis and 1 MSc course Thesis. As Full time Adjunct Lecturer at the University of West Attica.

Conferences

Sep 2015	E. Sakellariou and P. Axaopoulos, "Experimental evaluation of a retrofitted PV / T collector," in International Conference 'Science in Technology' SCinTE 2015 Experimental, 2015, p. SCinTE-123-A03-068.
Jun 2019	E. Sakellariou, A. Wright, and M. Oyinlola, "independence.," in Solar and geothermal energy for low-carbon space heating and energy independence. Proceedings of the International Conference on Energising the SDGs through Appropriate Technology and Governance., 2019, pp. 141–152.
Sep 2019	Oyinlola, M. et al. (2019). Thermal Analysis of an Earth Energy Bank, in: Proceedings of the 16th UK Heat Transfer Conference (UKHTC2019) 8-10 September 2019, Nottingham. UKHTC2019-193.

Career History

2011 -Today	**Freelance engineer consultant:** Design-consultant for renewable energy systems, Greece. Design and project management for PV system, from 10 kWp up to 1 MWp and solar systems for space heating and domestic hot water. Energy auditor for buildings (KENAK, ISO 50001) and HVAC systems.
2009 - 2011	**PV Engineer, HELIOSRES LTD. Greece**: Primary duties as a PV engineer for project from 1 kWp up to 100 kWp. Also, for a few projects, I was member of the team responsible for the commissioning of the PV systems.
2007 - 2009	**Maintenance engineer in oil distillation plant, KINTEC (Siemens**). **Greece**: Duties as assistant contract manager. Responsibilities to appraise maintenance contracts and

	variations and to supervise the day-to-day maintenance. Also, I was responsible to organize the prevented maintenance and handling the subcontractors.
2006 - 2007	**Research assistant:** Design and construction of the optimum controller (Fuzzy logic) for a PV driven solar assisted heat pump system (Archeriids, European Union). TEI of Athens, laboratory of renewable energy sources. Supervised by Professor Petros Axaopoulos
2004 - 2006	**Military duties as Officer in Hellenic Armed Forces:** Graduated with the title of the second Lieutenant.

No published scientific work

- Lecture notes for exergy analysis (40 pages), with exercises.
- Lecture notes for Thermal Power Plants (360 pages), with exercises.

Applications for funding

- **Post-doctoral research**: ENERGETIC STUDY OF A PHOTOVOLTAIC-THERMAL BASED HEAT PUMP SYSTEMS PAIRED WITH A NOVEL SLAB-SHAPED GEOTHERMAL HEAT EXCHANGER, A LOW-COST NET-ZERO ENEGRY SOLUTION (Hellenic Foundation for Research and Innovation), **2020**.
- **Project**: Innovative digitalized educational postgraduate course in Sustainable Energy Engineering (Erasmus +, Capacity Building in Higher Education). **2023**.

Awards & Honors

Outstanding PhD research proposal 2016. De Montford University.

University bursary for PhD studies.

Additional Skills

English - Advanced User

Energy Auditor for Buildings and HVAC installations

MATLAB – Advanced
TRNSYS – Advanced
Python – Intermediate
Design Builder – Intermediate
AutoCAD – Intermediate

Research interests

Energy efficiency on buildings and low carbon space heating and cooling methods
Building Physics
Solar Energy systems
Shallow geothermal heating and cooling systems
Energy economics
Second Law analysis on energy systems
Thermal energy storage
Renewable energy systems and energy performance metrics
Machine Learning

References

Dr. Petros Axaopoulos
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email: pax@uniwa.gr

Dr. Andrew Wright
Reader in Building Engineering Physics
De Montfort University, The Gateway, Leicester, LE1 9BH, United Kingdom
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