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Lakatamia, 2314 *E-mail:* alazar01@ucy.ac.cy
Nicosia Cyprus

CURRENT POSITION **Post-Doctoral Research Associate** February 2016 to present
Department of Electrical and Computer Engineering, University of Cyprus
PSM Lab

- Research Theme: Modelling for Assessing Large Scale Power System Infrastructure under AC/DC Interference
- Research in the area of power systems; Transformer Loss Evaluation Techno-Economic Methods and Asset Management Studies under RES Penetration.
- Preparation of research articles and participation in international conferences.
- Development of curriculum and delivery of courses in power systems.
- Please see below the projects undertaken and the course delivered within this role.

Visiting Lecturer September 2016 to present
Department of Electrical and Computer Engineering, University of Cyprus

- Please see below the course delivered within this role.

Visiting Lecturer September 2015 to present
Department of Computer Science and Engineering, European University Cyprus

- Please see below the course delivered within this role.

EDUCATION **University of Cyprus, Nicosia, Cyprus** 2011 – 2016
Ph.D., Electrical Power Engineering

- Advisor: Dr. Charalambos A. Charalambous.
- Thesis Title: *“Life-cycle loss evaluation and Total Ownership Cost of transformers in vertically-integrated and decentralized energy systems integrating Renewable Energy Sources”*.
- Outcome: <http://psm.ucy.ac.cy/online-tools/>
- Research Projects: EVLOCOST, EARTHPORT, HIDNET (Financially supported by Electricity Authority of Cyprus – EAC).
- INTERTEK funded research and consulting projects.
- ELEMKO funded research and consulting projects.
- DESFA funded research and consulting projects.

University of Bristol, Bristol, United Kingdom

M.Eng. (Honours), Electrical and Electronic Engineering 2006 – 2010

- Advisor: Dr. Ian J. Craddock.
- Thesis Title: “*Electromagnetic modeling tools using the ADI-FDTD method*”.
- Grade: Second-class, upper division (2:1).

EMPLOYMENT

PhD Researcher

January 2011 – February 2016

PSM Lab, Department of Electrical and Computer Engineering, University of Cyprus

- Research in the area of power systems and economics
- Preparation of research articles and participation in international conferences.
- Supervision and mentoring of students at B.Sc. and M.Sc. level.

Visiting Lecturer

September 2015 to present

Fall 2015 – Fall 2016

Department of Computer Science and Engineering, European University Cyprus

Teaching Assistant

2011 – 2016

Department of Electrical and Computer Engineering, University of Cyprus

- Lead lectures and lab demonstrations in M.Sc., M.Eng. and B.Sc. Electrical Engineering Programs.
- Assistance in the development of the course structure and deliverables
- Preparation of lab and tutorials handouts/coursework
- Tutorial advice to electrical engineering students

RESEARCH
INTERESTS

- Loss evaluation methodologies (transformers, transmission lines).
- Power system economics.
- Power plants techno-economic feasibility studies.
- Power system asset management (transformers, transmission lines).
- Energy policy.
- Renewable energy generation/penetration.
- Power system operation / design / modeling / long-term planning.
- Techno-economic modeling of multi-energy systems, dis-integration and dispersed (renewable) generation.
- Modelling for Assessing Large Scale Power System Infrastructure under AC/DC Interference

TEACHING
EXPERIENCE

**Department of Electrical and Computer Engineering
University of Cyprus**

Course Instructor

- ECE 105: Engineering Analysis and Modelling
 - Fall 2016, Spring 2017

Teaching Assistant

- ECE 681: Power Systems: Operation and Control
 - Spring 2016
 - Instructor: E. Kyriakides, Ph.D.
- ECE 105: Engineering Analysis and Modelling
 - Fall 2011/2014/2015
 - Instructor: C.A. Charalambous, Ph.D.
- ECE 340: Power Engineering
 - Spring 2011
 - Instructor: E. Kyriakides, Ph.D.
- ECE 205: Electronic Devices and Circuits I
 - Spring 2011/2012/2013/2014/2015
 - Instructor: I. Krikidis, Ph.D.
- ECE 203: Circuits and Measurements Lab
 - Fall 2013
 - Instructor: G. Zaggoulos, Ph.D.
- ECE 101: Introduction to Design and Engineering Lab
 - Fall 2012
 - Instructor: E. Christoforou, Ph.D.

**Department of Computer Science and Engineering
European University Cyprus**

Course Instructor

- ECE 101: Electric Circuits I
 - Spring 2016
- ECE 141: Electric Circuits I Laboratory
 - Fall 2016
- ECE 202: Electric Circuits II
 - Spring 2016, Spring 2017
- ECE 242: Electric Circuits II Laboratory
 - Spring 2016, Spring 2017
- CSG 193: Computer Science & Health
 - Fall 2015

1. *Life Cycle Loss Evaluation of Power Transformers Serving Large Scale Renewable Energy Plants (EVLOCOST)*

- Funded by Electricity Authority of Cyprus (E.A.C).
- Key Deliverables: i) A comprehensive loss evaluation methodology for transformers in vertically integrated and decentralized energy systems, ii) Loss evaluation methodologies for transformers serving large-scale renewable energy plants, iii) General loss evaluation methodologies that appreciate, operationally and economically, the environment faced for each transformer.

2. *Identifying The Hidden Costs of Net Metering Practice in Cyprus and Extrapolating Their Impact on Losses Cost and Benefit Allocation Analysis (HIDNET)*

- Funded by the Electricity Authority of Cyprus (E.A.C).
- Key Deliverables: i) Impact of the increasing penetration of rooftop PV generation in the total ownership cost of distribution transformers owned by the Distribution System Operator (EAC), ii) How much the load of the distribution transformers changes, when PV energy is generated and consumed locally (but diversified) by EAC retail customers?

3. *AC Interference Study for T.A.P Routing (Kavalla – Albania)*

- Funded by ELEMKO/ Trans-Adriatic Pipeline (TAP) Operator.
- Key Deliverables: i) Model the HV transmission system of Greece using CDEGS, ii) Technical report AC interference, iii) Propose Earthing Scheme for T.A.P Routing.

4. *AC Interference Study for 13.8MW Wind Park - DESFA*

- Funded by ELEMKO/DESFA.
- Key Deliverables: i) Model the HV transmission system of Wind Park/DESFA using CDEGS, ii) Technical report AC interference, iii) Validate/Propose earthing scheme for DESFA pipeline.

[1] **A. Lazari.** “*Life-cycle loss evaluation and Total Ownership Cost of transformers in vertically-integrated and decentralized energy systems integrating Renewable Energy Sources*”. Doctor of Philosophy (PhD) thesis, Department of Electrical and Computer Engineering, University of Cyprus, February 2016.

[2] **A. Lazari.** “*Electromagnetic modelling tools using the ADI – FDTD method*”. Master of Engineering thesis, Department of Electrical and Electronic Engineering, University of Bristol, United Kingdom, May 2010.

- [1] **Lazari, A.L.**; Charalambous, C.A., "Probabilistic Total Ownership Cost of Power Transformers Serving Large-Scale Wind Plants in Liberalized Electricity Markets", *IEEE Transactions on Power Delivery*, vol.PP, no.99, pp.1,1. DOI: 10.1109/TPWRD.2014.2365832.
- [2] **Lazari, Antonis L.**; Charalambous, Charalambos A.: 'Life-cycle loss evaluation of power transformers serving large photovoltaic plants in vertically integrated and decentralized systems', *IET Generation, Transmission & Distribution*, 2015, DOI: 10.1049/iet-gtd.2014.0465IET.
- [3] Charalambous, C.A.; Milidonis, A.; **Lazari, A.**; Nikolaidis, A.I., "Loss Evaluation and Total Ownership Cost of Power Transformers—Part I: A Comprehensive Method", *IEEE Transactions on Power Delivery*, vol.28, no.3, pp.1872-1880, July 2013. DOI: 10.1109/TPWRD.2013.2262506.
- [4] Charalambous, C.A.; Milidonis, A.; Hirodantis, S.; **Lazari, A.**, "Loss Evaluation and Total Ownership Cost of Power Transformers—Part II: Application of Method and Numerical Results", *IEEE Transactions on Power Delivery*, vol.28, no.3, pp.1881-1889, July 2013. DOI: 10.1109/TPWRD.2013.2262507.
- [5] **Antonis L. Lazari** and Charalambos A. Charalambous, "Integrating Greenhouse Gas Emissions Costs in Lifecycle Loss Evaluations: A Case Study for Transmission Lines", *Journal of Conference Papers in Energy*, vol. 2013, Article ID 682130, 6 pages, July 2013. DOI:10.1155/2013/682130.

- [1] C.A. Charalambous, **A.L. Lazari**, N. Kokkinos, "Modelling Insights for AC Interference and Mitigation Design for Natural Gas Pipelines: Experience from a Large Scale Project in Greece" Accepted for IEEE Powertech, Manchester, June 2017
- [2] N. Kioupis, **A. Lazari**, N. Kokkinos, T. Manolis, C.A. Charalambous, "AC Intereference Study on DESFA Natural Gas Pipeline due to the Operation of a 20.8MW Wind Park", CEOCOR Conference, 16-19 May, Luxemburg.
- [3] **Antonis L. Lazari** and Charalambos A. Charalambous, "Contemplation of Transformer Loss Evaluation Methods in Vertically Integrated and Decentralized Energy Systems", IEEE Powertech 2015 Conference, Eindhoven, Netherlands, June 2015.

[4] **Lazari, A.L.**; Charalambous, C.A., "Integrating fossil fuel mix and pricing in evaluating the Total Ownership Cost of distribution transformers of vertically integrated utilities", 2014 IEEE International Energy Conference (ENERGYCON), vol., no., pp.1184-1189, 13-16 May 2014. DOI: 10.1109/ENERGYCON.2014.6850573.

[5] **Antonis L. Lazari** and Charalambos A. Charalambous, "A software tool to evaluate the Total Ownership Cost of Distribution Transformers", Power Options for the Eastern Mediterranean Region Conference (POEM 2013), Nicosia, Cyprus, 7-8 October 2013.

TECHNICAL REPORTS

[1] C.A Charalambous, **A. Lazari** and Andreas Demetriou, AC Interference Study for an Armoured Umbilical in the same Trench as a Carbon Steel Pipeline, Technical Report Submitted to Intertek UK, July 2017.

[2] C.A Charalambous and **A. Lazari**, AC Interference and Mitigation Study for DESFA pipeline due to the Operation of a 14MW Wind Park, Technical Report Submitted to DESFA, GR, April 2017.

[3] C.A Charalambous and **A. Lazari**, AC Interference and Mitigation Study for DESFA pipeline due to the Operation of a 20.8MW Wind Park, Technical Report Submitted to DESFA, GR, March 2017.

[4] Charalambos A. Charalambous, **Antonis L. Lazari** and Nikolaos Kokkinos, " Technical Report: AC Interference Study for T.A.P Routing (Kavalla – Albania)", September 2016.

[5] **A. Lazari** & Charalambous, C.A., "Loss Evaluation of Transformers Serving Large Scale Wind Plants", Final Report submitted to Electricity Authority of Cyprus, November 2014.

[6] **A. Lazari** & Charalambous, C.A., "Loss Evaluation of Transformers Serving Large Scale Photovoltaic Plants", Interim Report submitted to Electricity Authority of Cyprus, August 2013.

TALKS AND SEMINARS

- **Electricity Authority of Cyprus:** "Life-Cycle Loss Evaluation of Power and Distribution Transformers in Vertically Integrated and Decentralized Energy Systems in the era of Renewable Energy Penetration", September 2013, January 2015. (Talks for fulfillment and completion of HIDNET and EVLOCOST research projects)

- **Department of Electrical and Computer Engineering, University of Cyprus:** Postgraduate department seminars. Presentation regarding the advancements and work performed in the area of Transformers Loss Evaluation, November 2012.
- **Refereed International Conference Papers:** Have attended all the conference sessions to present the work described in the refereed conference papers. (15 minute presentation)

TECHNOLOGY
PRODUCTS AND
RESEARCH
DELIVERABLES

“Loss Evaluation Method of Power Transformers Serving Large PV Plants”:

<http://psm.ucy.ac.cy/loss-evaluation-method-for-power-transformers-serving-large-pv-plants/>

The product of a PhD research project (A. Lazari) sponsored by Electricity Authority of Cyprus – E.A.C. The online tool ascribes to a comprehensive loss evaluation method of power transformers serving large scale solar applications. The fact that these transformers are obliged to serve an intermittent energy source calls for a suitable method to evaluate their life-cycle losses and total ownership costs. These transformers may be owned by Independent Photovoltaic Power producers or by Regulated Utilities. Thus, the method embedded in this tool concurrently responds to the current efforts to address the concept of loss evaluation both in vertically-integrated and decentralized energy systems that are experiencing a high penetration of solar energy.

“Probabilistic Loss Evaluation Method for Transformers Serving Large Wind Plants”:

<http://psm.ucy.ac.cy/probabilistic-loss-evaluation-method-for-transformers-serving-large-wind-plants/>

The product of a PhD research project (A. Lazari) sponsored by Electricity Authority of Cyprus – E.A.C. The online tool ascribes to a probabilistic, life-cycle loss evaluation method to evaluate the Total Ownership Cost of power transformers that are obliged to exclusively serve large wind plants. The method introduced, responds to the ongoing efforts of developing risk and cost-based decision making processes in today's competitive and dynamic energy markets. Therefore, capitalizing the losses and consequently the ownership cost of transformers, serving intermittent wind energy sources, entails a probabilistic approach that integrates the financial and technical characteristics as well as the uncertainties of wind energy generation.

PROFESSIONAL
MEMBERSHIPS

Institute of Electrical and Electronics Engineers (IEEE)

- Member since 2013 in Power and Energy Society IEEE.
- Student Membership

	<p>Technical Chamber of Cyprus (ETEK)</p> <ul style="list-style-type: none"> • Member since 2010 as an Electrical Engineer
AWARDS AND ACTIVITIES	<p>University of Bristol, United Kingdom</p> <ul style="list-style-type: none"> • Full education tuition fees scholarship due to performance excellence.
LANGUAGES	<p>Greek: Native language. English: Fluent in written and verbal communication.</p>
SOFTWARE SKILLS	<p>Desktop Editing and Productivity Software</p> <ul style="list-style-type: none"> • Microsoft Office and Open Office.org • Adobe Dreamweaver CC <p>Numerical Analysis and Programming</p> <ul style="list-style-type: none"> • Matlab, MathCad, Maple, C++, Pascal <p>Power System Analysis</p> <ul style="list-style-type: none"> • DIgSILENT, MATPOWER, CDEGS <p>Operating Systems</p> <ul style="list-style-type: none"> • Microsoft Windows, Apple OS X
REFERENCES AVAILABLE TO CONTACT	<p>Dr. Charalambos A. Charalambous E-mail: cchara@ucy.ac.cy; Phone: +357 22892285</p> <ul style="list-style-type: none"> • Associate Professor, Department of Electrical and Computer Engineering, University of Cyprus ❖ Kallipoleos 75, P.O. Box 20537 1678, Nicosia ★ <i>Dr. Charalambous was my doctoral supervisor.</i> <p>Dr. Pavlos Georgilakis E-mail: pgeorg@power.ece.ntua.gr; Phone: +30-210-7724378</p> <ul style="list-style-type: none"> • Assistant Professor, Department of Electrical and Computer Engineering, National Technical University of Athens ❖ Office: 2.2.31 / Electrical and Comp. Engineering, NTUA ★ <i>Dr. Georgilakis was the external member of the Examination Committee for my Doctoral Dissertation Defense.</i>