

## PRESS RELEASE

**Contact:**

FOSS Research Centre of Sustainable Energy,  
Department of Electrical and Computer Engineering,  
University of Cyprus.

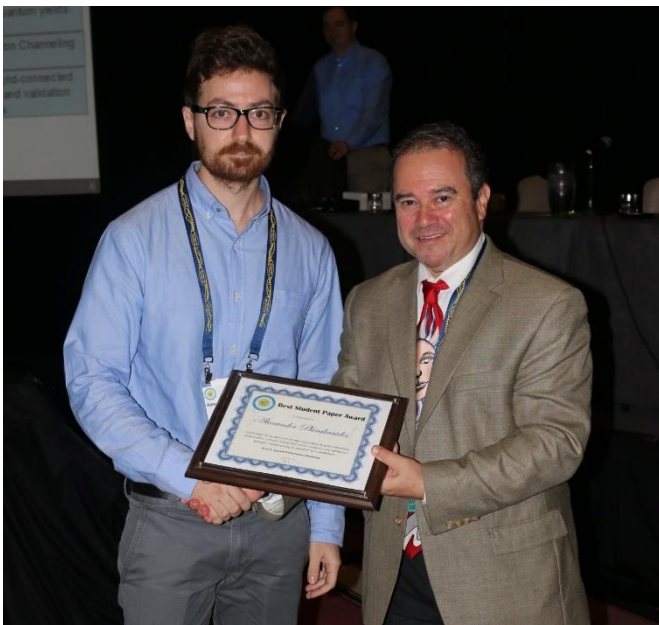
Tel.: 22894396, Fax: 22895370

email: [geg@ucy.ac.cy](mailto:geg@ucy.ac.cy), [aphini01@ucy.ac.cy](mailto:aphini01@ucy.ac.cy), web: [www.foss.ucy.ac.cy](http://www.foss.ucy.ac.cy), [www.pvtechnology.ucy.ac.cy](http://www.pvtechnology.ucy.ac.cy)

Nicosia, July 13, 2015

### NEW INTERNATIONAL DISTINCTION FOR THE PHOTOVOLTAIC TECHNOLOGY LABORATORY OF THE UNIVERSITY OF CYPRUS

*Innovative research by PhD student wins the Best Student Paper Award at the world's largest conference in Photovoltaics*



The **Best Student Paper Award** was awarded to PhD student Alexander Phinikarides of the FOSS Research Centre of Sustainable Energy and the Photovoltaic Technology Laboratory of the University of Cyprus (UCY), at the world's largest conference for photovoltaics, the 42<sup>nd</sup> IEEE Photovoltaic Specialists Conference (PVSC), which took place from 14 to 19 June 2015 in New Orleans, USA.

Out of more than 1.500 submissions in 11 different technical areas, the paper entitled ***“Estimation of Annual Performance Loss Rates of Grid-Connected Photovoltaic Systems Using Time Series Analysis and Validation through Indoor Testing at Standard Test Conditions”*** by Alexander Phinikarides, George Makrides and George E. Georghiou won the Best Student Paper Award in the area of System Performance Modelling. The winner was chosen based on the technical contribution

of the work in the field, the quality of the oral presentation and the student's role in the broader field of research.

The awarded paper **presents and validates the time series analysis approach** developed by the authors at the Photovoltaic Technology laboratory of the University of Cyprus, for the estimation of annual degradation rates of grid-connected photovoltaic systems using measurements of their actual operation. Time series of Performance Ratio from grid-connected PV systems operating side-by-side since 2006 at the Photovoltaic Technology test site of the University of Cyprus, were analysed using seasonal decomposition methods in order to extract the trend and calculate the linear performance loss rate. The results of this analysis were validated through an extensive indoor testing campaign, where all modules from the PV systems under test were dismantled, tested indoors under Standard Test Conditions in a solar simulator and imaged with electroluminescence in order to calculate the **linear capacity degradation rate** and detect defects not visible with the naked eye. Comparison of both methods has shown close agreement between the time series analysis approach and the indoor testing approach, for PV arrays with no significant faults. The major advantage of the time series analysis approach lies in the fact that accurate and reliable performance degradation rates can be estimated **without disrupting the normal operation** of the systems, allowing better lifetime prediction, modelling and energy yield forecasting.

This new international award represents the latest proof that the work done on the degradation of PV at the Photovoltaic Technology Laboratory of the University of Cyprus results in creating cutting edge research with international impact. The team has published numerous papers on degradation which have gradually gained worldwide recognition at the two largest conferences for photovoltaics through **1)** the nomination for the Best Poster Award at the 40<sup>th</sup> IEEE Photovoltaic Specialists Conference (PVSC) in Denver, Colorado in 2014, **2)** the Best Poster Award at the 29<sup>th</sup> European Photovoltaic Solar Energy Conference and Exhibition (PVSEC) in Amsterdam in 2014 and **3)** the Best Student Paper Award at the 42<sup>nd</sup> IEEE Photovoltaic Specialists Conference (PVSC) in New Orleans, Louisiana in 2015.

The team will strive to take advantage of the momentum it has generated to set up further collaborations with international research centres in order to bring more exposure to the research done at the University of Cyprus and allow further funding opportunities, knowledge exchange and experience working in international teams for more students.

**End of release**