

# Poster Presentation Registration Form

## Poster Session

Savenergy Conference, 13 May 2017, 9.00-14.30

Venue: Cyprus State Fair

**To register**, please e-mail this form to [acharalambous@oeb.org.cy](mailto:acharalambous@oeb.org.cy) or send it by fax to 22666661 (c/o Mrs Anthi Charalambous).

**Deadline for submission:** 28<sup>th</sup> April 2017

**Cost (students):** free for poster presentation or 30 € for participating in the conference

**Presentation period:** 9.00-14.30, 13<sup>th</sup> May 2017

**No unattended presentations:** At least one presenter is required to stand by the poster for the entire session.

**Poster presentation:** Visual display of research which includes text, tables, graphs etc. Bring the poster printed in dimensions 1,30X1,30. Posters boards will be provided.

**Poster Title:** PV2GRID: A research project for a next generation grid side converter with advanced control and power quality capabilities

**Topic (select one):** renewable energy ☒ energy efficiency ☐

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**Presenter(s):** Lazaros Zacharia

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**Level (circle one):** undergraduate ☐ postgraduate ☒

**Academic Program** (i.e., school, department): KIOS Research and Innovation Center of Excellence, University of Cyprus



### Description of research work and key findings (max 250 words):

This poster describes the main activities of a PV2GRID research project, supported by the Research Promotion Foundation of Cyprus and the SOLAR-ERA.NET instrument of European Union's Seventh Framework Programme.

The European Union climate and energy targets require that 20% of energy consumption will be produced from Renewable Energy Sources (RES) by 2020. This project focuses on the large scale deployment of photovoltaic (PV) systems through improving their grid integration. The driving forces of this ambitious project focus on three issues of critical significance that inhibit the massive deployment of PVs: (a) the variable/insolation-dependent nature of PV generation, (b) the problems associated with massive distributed generation (e.g., grid unbalance, harmonics), and (c) the need to develop appropriate fault ride through (FRT) solutions to allow them to support the grid during faults.

The most crucial point with regards to the grid integration of PV systems is the grid side converter (GSC) which is based on power electronic technology. GSCs are still not capable of advanced control features that enable the full control of RES with FRT capabilities, reactive power support, and generation control. The major objective of this project is to develop a next-generation GSC with advanced control and novel multi-functional capabilities, which will benefit all stakeholders of PV systems in terms of a seamless integration of PV systems in the power grid, a further larger scale deployment of PV systems due to the new converters, utilization of PV systems to improve the power system operation.

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