


Event:
Date:
Place:

ENERGY in BUILDINGS 2019
Saturday September 28, 2019
Athens, Hellas



#	<p>Dimitris Mantelis MSc. Mechanical Engineer</p>	
Title:	Junior Researcher at National Technical University of Athens, Athens, Greece	
email:	dimmant@metal.ntua.gr	
Presentation title:	Integration of Innovative BIPV Solutions on Micro CHP Plants	
<p>One of the most popular and easily installed renewable energy systems are photovoltaic systems (PVs). However, for the successful integration of PVs into the building envelope, aesthetic issues along with technological issues, such as the highest possible energy performance, need to be considered and addressed. According to the Construct PV concept, PV panels are not mere means of harvesting solar energy but they are actually customizable, efficient and low-cost building components, integrated in the opaque part of the building skin.</p> <p>An overview of the existing PV integration solutions and the current BIPV market is presented. Furthermore, the real demo BIPV installation, constructed on the roof of the School of Mining and Metallurgical Engineering at NTUA premises as well as the advanced online monitoring system for synchronizing and gathering all the necessary data for the performance evaluation of the BIPV system, are presented. In this paper, the performance evaluation as well as the factors affecting the performance (i.e. temperature) are discussed and analyzed, quantifying the results for the new BIPV technology and expressing the need for implementing cooling techniques.</p> <p>On this direction the technological solutions of H2020 PVadapt project are presented in which a novel a Heat Mat / PV module component will be developed, aiming to increase PV output and longevity through maintaining operating temperature at 25°C. The Heat Mat will be a system with dual function: when attached to the back panel of a photovoltaic module it will harvest the thermal energy of the solar cells, leading to the reduction of PV temperature that will increase performance and length of life. This research will result in maximizing the penetration of new BIPV/T and micro-CHP technologies leading to more efficient and low-cost holistic systems with shorter payback periods.</p>		
Short CV:	<p>M.Sc. Mechanical Engineer Dimitris Mantelis graduated as Mechanical Engineer from the University of Western Macedonia, Kozani, Greece. His obtained his M.Sc. degree from the Royal Institute of Technology (KTH), Sweden, where he was specialized in the field of Sustainable Energy Engineering. His dissertation was in the field of "Feasibility of Wind energy/Fuel cell as Off-Grid Hybrid Power Systems in Remote Locations". Currently he is working as a junior researcher at the school of Mining and Metallurgical Engineering of the National Technical University of Athens (NTUA), as a member of the "Raw Materials Exploitation & Sustainable Energy Solutions" Research Team led by Professor I. Paspaliaris. He has been a member of the Technical Chamber of Greece since 2007.</p>	

Event:

ENERGY in BUILDINGS 2019

Date:

Saturday September 28, 2019

Place:

Athens, Hellas



CV:

M.Sc. Mechanical Engineer Dimitris Mantelis graduated as Mechanical Engineer from the University of Western Macedonia, Kozani, Greece. His thesis project was at the field of "Deposition Mechanisms into Boilers of S.P.P (Steam Power Plants) and their effect in the Heat Transfer and the Efficiency Ratio of the Boiler' by using the FORTRAN Software". Thesis project had been carried out for six months in Kardias Steam Electrical Station of the Greek Public Power Corporation S.A., Kozani, Greece.

His obtained his M.Sc. degree from the Royal Institute of Technology (KTH), Sweden, where he was specialized in the field of Sustainable Energy Engineering. His dissertation was in the field of "Feasibility of Wind energy/Fuel cell as Off-Grid Hybrid Power Systems in Remote Locations" in which the technical as well as the economic feasibility of such system was analyzed extensively.

Currently he is working as a junior researcher at the school of Mining and Metallurgical Engineering of the National Technical University of Athens (NTUA), as a member of the "Raw Materials Exploitation & Sustainable Energy Solutions" Research Team led by Professor I. Paspaliaris. He is mainly involved in several European Research Programs focusing in energy efficiency, building energy management and process optimization.

He has been a member of the Technical Chamber of Greece since 2007.