



## “GEOHERMAL SYSTEMS, THE CYPRUS EXPERIENCE”

**By Dr. Georgios Florides and Elisavet Theophanous**

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The Institution of Engineering and Technology (IET) Cyprus Network, in collaboration with the Cyprus University of Technology (CUT) is organising a lecture entitled “**Geothermal Systems, the Cyprus Experience**” on **Wednesday 20<sup>th</sup> of November 2013 at 18:00 hours, Hilton Hotel Othello Room – Nicosia**. The lecture, which is open to everybody, will be presented in Greek language with PowerPoint slides in English.

<u>Program</u>	<b>17:45</b>	Registration
	<b>18:00</b>	Ground Heat Exchangers and Heat Pumps
	<b>19:00</b>	GHE, Details of Design and Discussion
	<b>20:00</b>	Presentation by a representative of Cyprus Institute of Energy, on Geothermal issues in Cyprus
	<b>20:30</b>	Dinner

Heat pumps work more efficiently when they reject heat in lower temperature environments than the air in the summertime or when they absorb heat from hotter environments in winter. The subsoil is a favourite environment because in the summertime its temperature is lower from the air of the atmosphere and in the winter it is hotter. Various types of earth heat exchangers can be used for the exchange of energy that need to be sized accordingly. Their types and the basic design principals will be addressed. Basic thermal properties of the ground in various areas of Cyprus will be presented, including the heat exchanger overall thermal conductivity, temperatures of subsoil in various regions etc. These data were obtained through the research project Technology/Energy / 0311 (BIE) /01 (2009-10) co-funded by the Research Promotion Foundation(RPF) of Cyprus and the European Regional Development Fund (ERDF) of the EU. Finally, topics such as the right incorporation of the system in a house, its efficiency, installation cost, subsidies by the government and payback period will be discussed.

**Dr. Georgios Florides** is a Senior Researcher of the Department of Mechanical Engineering and Materials Science and Engineering of the Cyprus University of Technology. He received his basic degree in Mechanical Engineering from the Higher Technical Institute and he was awarded an MPhil and a PhD by Brunel University, London, UK. He was employed by the Higher Technical Institute from 1975-2007 in various posts, in the Mechanical Engineering Department and in the Engineering Practice Department. His research activity focuses on the topic of Energy which includes studies and analysis of the energy requirements of buildings, measures to lower building thermal loads, design of LiBr-water absorption machines, modeling and simulation of absorption solar cooling systems and earth heat exchangers and heat pumps. He also studies the thermal behavior of reptiles and scientifically constructs models of extinct animals.

**Elisavet Theofanous** was born in Limassol, Cyprus. In 2011 she was amongst the first graduates of the Cyprus University of Technology (CUT) graduating in Mechanical Engineering. She then obtained, in 2013, a Master of Science (MSc) degree on ‘Environmental Biosciences and Technology’, in the Department of Environmental Science and Technology of CUT. She is the first graduate of the course. Since September 2012 she is employed as a Research Associate in a project funded by the Research Promotion Foundation of Cyprus concerning the investigation and the determination of the geothermal parameters of the lithologies in Cyprus, for the compilation of the geothermal map of the island. The main simulation tool used in most of her work is FlexPDE while she had also worked with GLD. Her special fields of interest include applications of Renewable Energy Sources (RES) and especially Geothermal Energy.



Η ΔΕΣΜΗ 2009-2010 ΣΥΓΧΡΗΜΑΤΟΔΟΤΕΙΤΑΙ ΑΠΟ ΤΗΝ ΚΥΠΡΙΑΚΗ ΔΗΜΟΚΡΑΤΙΑ  
ΚΑΙ ΤΟ ΕΥΡΩΠΑΪΚΟ ΤΑΜΕΙΟ ΠΕΡΙΦΕΡΕΙΑΚΗΣ ΑΝΑΠΤΥΞΗΣ ΤΗΣ ΕΕ

*Please register your participation to the Seminar and the Dinner to Mr Haris Karavas by email [hkaravas@eac.com.cy](mailto:hkaravas@eac.com.cy) or by phone at 99685644 by 15th November latest*