Event: **ENERGY in BUILDINGS - CYPRUS 2017**
Date: Thursday May 4, 2017
Place: Limassol, Cyprus

#	**Milos Ilic** Dipl.Ing. Structural Engineer Certified Passive House Designer	
Title:	Technical Manager at PH DESIGN , Nicosia, Cyprus	
email:	m.ilic@phdesign.com.cy	
Presentation title:	**Passive House in Cyprus climate** **-Design and monitored performance-**	

The Passive House is the world's leading construction concept for energy efficient design of buildings. Although the concept was initially developed for residential buildings in Central Europe, today it aspires to be implemented in all types of buildings almost anywhere in the world. The demand for research and development activities targeted to the adaptation of passive houses under diverse climatic conditions, as has been increasing at an enormous pace, reflecting the trend-setting developments in this field.

Passive houses need very little energy of heating, ventilation and air-conditioning (HVAC) equipment to achieve indoor thermal comfort conditions. Passive Houses are praised for their efficiency due to the high level of insulation and the airtight design. Another important aspect of passive houses is the fact that thermal bridges are eliminated, as the insulation is applied without any weak spots. Passive Houses allow for significant heating and cooling related energy savings compared with typical and average new building stock. Particularly passive houses require less than 15 kWh/m^{2}a for heating or cooling, the heating or cooling peak load is limited to a maximum of 10 W/m^2. The conventional primary energy use of a passive house may not exceed 120 kWh/m^{2}a. The standard allows excessive temperatures of 10 % of the time for warmer climates during summer months. As of late 2015, there are approximately 25,000 passive house certified structures in Europe. The vast majority of passive structures have been built in German-speaking countries and Scandinavia (Rosenthal, 2008). This fact introduces doubts about the applicability of the passive house concept in warmer climates. As most experience with passive houses is available from Central Europe, the following research question arises: *Can passive houses fulfil their mission under warm and humid prevailing weather conditions?*

The aim of this study is to discuss on the monitored energy performance of the "Tseri passive house", a residential unit, built according to the passive house concept, under subtropical climatic conditions, in Nicosia Cyprus. The Tseri passive house and its as designed performance are discussed in detail. The employed methodology of this study, and the findings of the monitored performance are presented and discussed. In this section the available room for improvement of the examined residential unit are also analyzed, with the help of a computational exercise, involving the validation of a numerical model of the thermal performance of the building developed in the Energy Plus interface Design Builder and examined parametric scenarios. This study was done in cooperation with Frederick University, Cyprus .

CV:	

Milos Ilic
dipl. Ing. Structural Engineer
Certified Passive House Designer & Trainer

Milos has a Master's degree in Structural Engineering from University of Belgrade, Serbia . From 2009 he works and lives in Cyprus. In 2012 he did specialization in energy efficient buildings at Passive house Institute, Darmstadt – Germany . He was the first Certified Passive House Designer in Cyprus and the designer and Project Manager of the First Passive House in Cyprus – "Tseri Passive House". At the construction company Hypercon he spent 5 years as a Site Engineer and Project Manager on projects such as single family dwellings , multifamily dwellings , squares , parks , churches , structural retrofit and traditional stone and clay houses . Milos is the founding partner of the Hellenic Passive House Institute from Greece and responsible for the Cyprus branch. Founding partner of Hypercon ENERGOPROJECT, company specialized in passive house construction. In summer 2015 started the company PH DESIGN . Milos is a member of the Central Committee of The Cyprus Association of Civil Engineers and the member of the Advisory Body of the Ministry of Energy for the subjects of Energy Efficiency in Buildings . Husband and a father of two girls.