

Event:


ENERGY in BUILDINGS – Northern Hellas 2025

Date:

Saturday February 22, 2025

Place:

Thessaloniki, Macedonia - Hellas

#	Dimitrios Kapenis Mechanical Engineer	
Title:	Mechanical Engineering Graduate at University of Western Macedonia	
email:	dimitrioskapenis@gmail.com	•
Presentation title:	Investigation of the Operation of a Custom-Built Environmental Chamber, Regulating Thermal Comfort and Air Quality Conditions.	
<p>This thesis evaluates an experimental chamber installed at the premises of the University of Western Macedonia, capable of simulating various indoor environment conditions. Equipped with HVAC systems (heat pump and AHU), the chamber allows tests in both vacant (to select the measuring instrument with the best response) and occupied scenarios. Thermal comfort is assessed using Fanger's model along with PMV/PPD indices and subjective questionnaires, while indoor air quality is evaluated by monitoring CO₂ levels under different ventilation setups. The results demonstrate the agreement of theoretical and experimental predictions for thermal comfort, while also verifying the effect of ventilation and occupancy on air quality, thus, confirming the chamber's effectiveness as a research tool.</p>		
Short CV GREEK:		
<p>Ο Δημήτριος Καπενής είναι απόφοιτος του Πανεπιστημίου Δυτικής Μακεδονίας με ερευνητική δραστηριότητα που εστιάζει κυρίως σε θέματα θερμικής άνεσης, ποιότητας εσωτερικού αέρα, ενεργειακό σχεδιασμό κτηρίων και αερισμό. Εργάζεται στον ιδιωτικό τομέα για λογαριασμό κατασκευαστικής εταιρίας με ρόλο τη κοστολόγηση των ηλεκτρομηχανολογικών (ΗΜ) εργασιών για έργα που πρόκειται να εκτελεστούν αλλά και ως μαθητευόμενος στην επίβλεψη έργων.</p>		
Short CV EN:		
<p>Dimitrios Kapenis is a graduate of the University of Western Macedonia with research activity focused mainly on thermal comfort, indoor air quality, energy design of buildings and ventilation. Now works in the private sector on behalf of a construction company with the role of costing electromechanical works for projects to be executed and as an apprentice in project supervision.</p>		

Event:

ENERGY in BUILDINGS – Northern Hellas 2025



Date:

Saturday February 22, 2025

Place:

Thessaloniki, Macedonia - Hellas

CV:

Work Experience:

-Military Service as an Engineer/Soldier - Building Management System Monitoring at 401 General Military Hospital of Athens

(Oct 2023 - Oct 2024)

One year of military service in the Greek Army as an engineer, soldier and assistant to the Director of Technical Services of the 401 General Military Hospital of Athens, specializing in boilers and Building Management System (BMS). I had the privilege of observing the hospital's energy upgrade project such as the installation of a heat electricity cogeneration plant and the insulation operations. I also had access to the thermal substations, the air handling units, the heating/cooling networks, the BMS room and the facilities of the hospital. The primary responsibility was observing the BMS of the hospital and reporting any problems to the director. Finally, I also did some shifts as a stoker in the boiler room.

-Junior Mechanical Engineer at GDM Assets (Construction Company)

(Oct 2024 – Today)

Tenders Department (Costing Public and Private Projects) and Project Supervision trainee of Mechanical, Electrical, and Plumbing (MEP) installations (Construction Sites).

Education: MEng in Mechanical Engineering at the University of Western Macedonia (UoWM). The selected direction was the Energy Sector and Master's thesis on the subject with title "Operation of the thermal comfort and air quality control chamber". In this diploma-thesis a chamber of controlled conditions and an HVAC unit (Heat Pump) was analyzed from the systems it consists of up to the functions it can offer, which is located in the laboratories of the University of Western Macedonia. Experiments were carried out with and without the presence of people, using measuring instruments to estimate the temperature, the humidity, the indoor air quality and the thermal comfort (PMV and PPD indicators). Other special knowledge that I acquired as a student at the UoWM is in Energy Design and Upgrading of Buildings, Indoor Air Quality (IAQ), Heat Transfer, Thermodynamics, design skills in AutoCAD and SolidWorks, Technical and Energy Legislation, Strategic Management, Environmental Management, Fossil Fuels and Environmentally Friendly Fuels, Special Topics on Energy Conversion Technologies as well as Special Topics on pollution control technologies.

Oct 2017 - Oct 2023