

Event:

ENERGY in BUILDINGS – Northern Hellas 2025

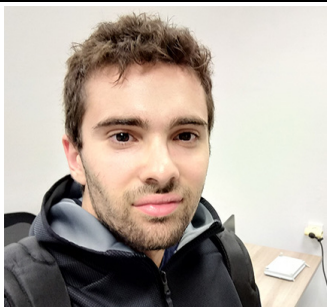
Date:

Saturday February 22, 2025

Place:

Thessaloniki, Macedonia - Hellas



#	Giannis Papadopoulos Mechanical Engineer	
Title:	Phd Candidate at University of Western Macedonia	
email:	g.papadopoulos@uowm.gr	•
Presentation title:	Combined use of experimental and simulation methods for the assessment of thermal comfort and IAQ: The case of office buildings	
<p>The assessment of thermal comfort and indoor air quality (IAQ) in office buildings is pivotal for enhancing occupant health, well-being, and productivity. This study employs a combined approach of experimental measurements and simulations to evaluate these factors in naturally ventilated office environments. The measurement campaign took place in office buildings located in Kozani, Western Macedonia, Greece, during the COVID-19 pandemic. Measurements included thermal comfort parameters and IAQ indicators. Thermal comfort indexes like PMV-PPD were calculated, while identification of volatile organic compounds (VOCS) was implemented to investigate the IAQ. Also, ventilation rates were determined using the tracer gas methods with CO₂ as the tracer gas, and simulation analysis was performed using appropriate software. This integrated methodology demonstrates the value of combining experimental and simulation techniques to establish healthier, more comfortable, and energy-efficient indoor environments. The results can serve as a guide for improving workplace environmental quality and mitigating health risks in office buildings.</p>		
Short CV GREEK:		
<p>Ο Γιάννης Παπαδόπουλος είναι υποψήφιος διδάκτορας στο Πανεπιστήμιο Δυτικής Μακεδονίας, στο τμήμα Μηχανολόγων Μηχανικών, και η ερευνητική του δραστηριότητα εστιάζει κυρίως σε θέματα θερμικής άνεσης και ποιότητας εσωτερικού αέρα, σχετίζοντας αυτά με θέματα αερισμού και ενεργειακών καταναλώσεων. Η ερευνητική δραστηριότητα συνδυάζει τόσο πειραματικά όσο και θεωρητικά εργαλεία με στόχο την ακριβέστερη διερεύνηση των διαφόρων συνθηκών άνεσης σε κτίρια.</p>		
Short CV EN:		
<p>Giannis Papadopoulos is a PhD candidate at the University of Western Macedonia in the Department of Mechanical Engineering. His research activity focuses on thermal comfort and indoor air quality, particularly examining their relationship with ventilation and energy consumption. His research combines experimental and theoretical approaches to achieve a more precise understanding and evaluation of comfort conditions in various types of buildings.</p>		

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CV:

Giannis Papadopoulos is a Mechanical Engineer graduate from the University of Western Macedonia and currently pursuing his PhD thesis titled "Theoretical and Experimental Investigation of Indoor Environmental Quality in Buildings." His research interests focus on topics related to thermal comfort and indoor air quality in buildings, linking these aspects to ventilation and energy consumption issues. His academic contributions include 8 publications in international journals and over 15 presentations at international and national conferences. He has participated/is participating in 3 projects as a member of the research team.

Publications/Conferences (indicative):

Papadopoulos G., Sakellaris I., Tolis E.I., Bartzis J., Panaras G., 2024. Experimental and simulation analysis of different natural ventilation scenarios and their relation with IAQ in office buildings. 44th AIVC -12th TightVent & 10th venticool Conference, October 9-10, 2024, Croke Park, Dublin, Ireland.

Papadopoulos, G., Nikolentzos, A., Tolis, E.I., Panaras, G., 2023. Theoretical and experimental investigation of ventilation rates and their relation with IAQ and thermal comfort in university classrooms during SARS-COV-2 pandemic. IOP Conf. Ser.: Earth Environ. Sci. 1196, 012094. <https://doi.org/10.1088/1755-1315/1196/1/012094>

Papadopoulos G., Tolis E.I., Panaras G., 2022. IEQ Assessment in Free-Running University Classrooms. Science and Technology for the Built Environment.

Papadopoulos, G.; Tolis, E.I.; Panaras, G. Combined Investigation of Indoor Environmental Conditions and Energy Performance of an Aquatic Center. Sustainability 2023, 15, 1318. <https://doi.org/10.3390/su15021318>

Papadopoulos G., Panaras G., Tolis E., 2019. Thermal Comfort and Indoor Air-Quality Assessment in University Classrooms. Sustainability in the built environment for climate change mitigation, SBE19, Thessaloniki, Greece.