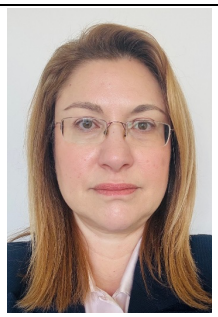
Event: **2nd Tech.Seminar – Natural Refrigerants 2026**
Date: Wednesday May 7, 2026
Place: Divani Caravel Hotel Athens, Greece

ASHRAE Hellenic Chapter

#	**Dr. Koronaki Irene**	
Title:	Professor at School of Mechanical Engineering National Technical University of Athens	
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Presentation title:	**Propane (R290) as an Alternative Refrigerant: Benefits and Safety Challenges**	

As the HVAC and refrigeration sector moves toward cleaner and more sustainable technologies, alternative refrigerants are becoming a major priority. Among them, propane (R290) stands out as one of the most promising options. According to the guide, R290 is a natural refrigerant with zero ozone depletion potential and a very low global warming potential, which makes it a strong alternative to conventional fluorinated refrigerants. It also offers high energy efficiency and very good heat-transfer performance, so it can support both environmental goals and system performance. At the same time, propane brings an important challenge: safety. R290 is classified as an A3 refrigerant, meaning it is highly flammable. It is also heavier than air and odorless, so in the event of a leak it may collect near the ground without being easily noticed. For this reason, its use requires strict safety measures, proper ventilation, leak prevention, careful installation, and trained technicians who understand how to work with flammable refrigerants. The presentation makes it clear that R290 is an excellent refrigerant for the future, but only when it is used within a strict technical and regulatory safety framework.

Short CV GREEK:

Η Ειρήνη Κορωνάκη είναι Καθηγήτρια στη Σχολή Μηχανολόγων Μηχανικών του ΕΜΠ και Διευθύντρια του Εργαστηρίου Εφαρμοσμένης Θερμοδυναμικής. Το ερευνητικό της έργο επικεντρώνεται στην ενεργειακή απόδοση κτηρίων και βιομηχανικών εφαρμογών, την ένταξη ΑΠΕ σε κτήρια και τις τεχνολογίες ψύξης με χαμηλό περιβαλλοντικό αποτύπωμα. Έχει πολυετή εμπειρία σε ευρωπαϊκά και εθνικά ερευνητικά έργα στον τομέα της βιώσιμης ενέργειας και του κτηριακού περιβάλλοντος.

Short CV EN:

Dr. Irene Koronaki (female) is a Professor at the National Technical University of Athens (NTUA), School of Mechanical Engineering, Thermal Engineering Section, as well as Head of the Laboratory of Applied Thermodynamics. She teaches undergraduate courses in Thermodynamics, Heat Transfer and Thermodynamics Software, and postgraduate courses in Energy Saving in Buildings, Thermodynamics, Industrial Refrigeration Systems and Heat Transfer. She has experience in the field of Energy Efficiency in the building sector, regarding both building shell and services (advanced heat pumps and energy systems). She has 60 related publications in scientific journals and 46 publications in international conferences and h-index 27. She has participated and coordinated several research EU projects, national projects and Life Long learning projects during her career. She is a member of ASME (American Society of Mechanical Engineers), of ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) and a registered engineer (Technical Chamber of Greece).