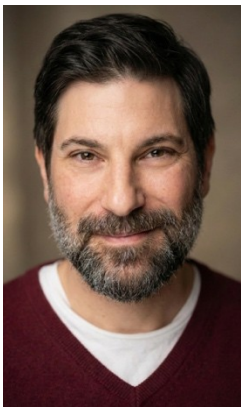
Curriculum Vitae



Antonios Kontadakis, PhD, M.Sc.

Mechanical Engineer

Email: kontadakis@gmail.com
LinkedIn: linkedin.com/in/antonis-kontadakis-2962b79b
GitHub: github.com/akontadakis

Professional Summary

Mechanical Engineer and researcher with a PhD in Daylighting and 15+ years of multidisciplinary experience spanning sustainable building design, energy simulation, and natural gas infrastructure. Currently leading emissions reduction initiatives at a major gas distribution company while teaching at the postgraduate level. Combines deep academic expertise in energy performance and lighting systems with hands-on industry experience in gas network operations, methane monitoring, and regulatory compliance. Passionate about bridging research and practice to advance environmental sustainability.

Core Competencies:

Emissions Monitoring & Reduction • Natural Gas Infrastructure • Daylighting & Lighting Systems • Energy Simulation & Building Performance • LEED / BREEAM / nZEB Standards • CFD & Thermal Analysis • Python Programming • IoT & Sensor Systems (Arduino, Raspberry Pi) • Indoor Environmental Quality • Academic Research & Teaching

Professional Experience

Head of Emission Reduction Actions (ERA) Unit 2024 – Present

Enaon EDA — Asset Technology, Innovation & Metering Division

- Lead the ERA unit responsible for developing and implementing emission reduction strategies across the gas distribution network.
- Coordinate cross-departmental efforts for regulatory compliance, including EU-mandated surveys and reporting (e.g., ACER MERR-UIC under Regulation 2024/1787).
- Evaluate and pilot advanced methane monitoring technologies (e.g., continuous TDLAS-based sensors) for LNG satellite stations.
- Collaborate with Regulatory Affairs, Finance, Operations, and HSE divisions on sustainability initiatives.

PICARRO Coordinator 2023

Enaon EDA — Asset Technology, Innovation & Metering Division

- Coordinated mobile methane leak detection campaigns using PICARRO CRDS technology across the distribution network.
- Managed data analysis pipelines and reporting workflows for emission quantification.

PICARRO Analyst 2022

Enaon EDA — Distribution Operating Division: LP Operations & Maintenance

- Performed field-level analysis of methane concentration data collected via PICARRO mobile surveys.
- Supported leak detection and repair (LDAR) operations with data-driven insights.

Inspection Engineer 2018 – 2021

EDA Attikis (Attiki Natural Gas Distribution Company S.A.) — LP Operations & Maintenance

- Conducted inspections and quality assurance for low-pressure gas distribution infrastructure.
- Ensured regulatory compliance and safety standards across network operations.

Teaching Experience

Collaborating Teaching Staff 2023 – Present

Hellenic Open University (H.O.U.) — School of Applied Arts and Sustainable Design

- Course: Measurements, Analysis and Interpretation in Building Lighting.
- Postgraduate Programme: Sustainable Interior Design of Buildings (EPK/SID).

Member, Writing Committee 2022

Hellenic Open University — Programme: Sustainable Interior Design of Buildings

Assistant Lecturer, "PSP – Urban Reform" Master Course 2015 – 2016

University of Thessaly

- Module: Simulation Techniques for Urban Micro-Climate Areas.

Instructor, "Train the Trainer" Workshop (EU Project IEE/13/393) 2015

European Commission Funded Programme

- Modules: Thermal Comfort, nZEB Simulation and Design Software, Retrofitting Towards nZEB.

Education

PhD in Daylight — Daylighting Systems 2021

University of Thessaly, School of Engineering, Department of Architecture

- Dissertation: Daylight Transportation Beyond the Daylit Zone in Office Spaces.

M.Sc. in Energy — Shading Systems and Energy Performance 2012

Heriot-Watt University, School of Engineering and Physical Sciences

- Dissertation: Solar Shade: A Dynamic Control Strategy for Exterior Venetian Blinds in Office Buildings.

Diploma in Mechanical Engineering — Renewable Energy Sources 2008

University of Western Macedonia, Department of Mechanical Engineering

- Dissertation: Assessment of Permanent Magnet Generators for Small-Scale Wind Turbines.

Research Experience

EYEXIA – Investigation of Lighting Parameters for Enhancing Wellbeing in the Indoor Environment 2026–2029

Hellenic Open University, Research Committee (ELKE) – Scientific Lead: Prof. Lambros Th. Doulos

- Investigating human-centric lighting parameters for indoor wellbeing through high-resolution spectral simulations in Lark Spectral Lighting v3.0 (Radiance), quantifying melanopic EDI and alpha-opic metrics per CIE S 026, and balancing glare (UGR), vertical and cylindrical illuminance, and energy use against the requirements of WELL, LEED, BREEAM and DGNB.

IKY Fellowship of Excellence (IKY/Siemens) 2017

- Project: Analysis of a Dynamic Daylighting Transportation System in Office Buildings.

Project ENER-DAY 2015

University of Thessaly & Deakin University, Australia

- The Energy Implications of Climate-based Daylight Modelling.

Technical Skills

Energy Simulation: EnergyPlus, OpenStudio, DesignBuilder, LadyBug Tools / HoneyBee (Grasshopper), TRNSYS

Lighting Simulation: Radiance, Daysim, ClimateStudio, Relux, Velux, DIALux, TracePro

CFD Simulation: OpenFOAM, ENVI-met, LadyBug Tools / Butterfly–Dragonfly, SimScale

Programming & IoT: Python, Ruby, Grasshopper (visual scripting), Arduino, Raspberry Pi

3D, CAD & Design: Rhinoceros 3D, Revit, AutoCAD, SketchUp, 3ds Max, Blender, Adobe Photoshop / Illustrator, CorelDRAW

Productivity: Microsoft Office Suite (Word, Excel, PowerPoint)

Languages Private Projects

Greek (Native) | **English** (Fluent)

Selected Private Projects

Heat Transfer Simulations (CFD) 2023

Restoration and Reuse of the Electric Power Station Building, Lavrion Technological and Cultural Park

Client: TEAM E-M Consulting Engineers

Daylight Assessment of Exhibition Spaces 2015

New Museum of Modern Art Basil and Elise Goulandri

Client: Group of Low Energy Building Design, University of Thessaly

Building Energy Performance Analysis 2014

University Building, Department of Biological Sciences, University of Cyprus

Lighting Analysis of Commercial Buildings 2012

Artificial Lighting Analysis of Emporiki Bank Branches

Micro-climate Architectural Proposals Evaluations 2011

Artificial Lighting Analysis of Emporiki Bank Branches

Client: Sakarellou Natalia (Architect), Sarantopoulou Georgia (Architect)

Building Energy Performance Analysis 2012

University Building, Department of Computer & Communications Engineering, University of Thessaly

Client: Group of Low Energy Building Design & Indoor Environment, University of Thessaly

Awards & Achievements

Citation in Renovation of Eleftheria Square, Kavala 2022

- Architectural Competition of Preliminary Designs, First Stage.
- Partners: I. Giannoutsos (Architect), A. Kanareli (Architect), A. Kontadakis (Mechanical Engineer).

Publications

- Kontadakis, A., Tsangrassoulis, A., Doulos, L. T., Zerefos, S. (2018). A Review of Light Shelf Designs for Daylit Environments. *Sustainability*, 10(1), 71.
- Kontadakis, A., Doulos, L. T., Topalis, F. V. (2017). An active sunlight redirection system for daylight enhancement beyond the perimeter zone. *Building and Environment*, 113(15), 267-279.
- Doulos, L. T., Tsangrassoulis, A., Kontaxis, P. A., Kontadakis, A., Topalis, F. V. (2017). Harvesting daylight with LED or T5 fluorescent lamps? The role of dimming. *Energy and Buildings*, 140, 336-347.
- Doulos, L. T., Kontadakis, A., Madias, E. N., Sinou, M., Tsangrassoulis, A. (2019). Minimizing energy consumption for artificial lighting in a typical classroom of a Hellenic public school aiming for near Zero Energy Building using LED DC luminaires and daylight harvesting systems. *Energy and Buildings*, 194, 201-217.

- Doulos, L. T., Tsangrassoulis, A., Madias, E. N., Niavis, S. A., Kontadakis, A., et al. (2020). Examining the Impact of Daylighting and the Corresponding Lighting Controls to the Users of Office Buildings. *Energies*, 13(15), 4024.

Conferences

- Tsangrassoulis, A., Kontadakis, A., Doulos, L., Laskos, K. (2021). The impacts of new regulations on daylighting (EN17 037) on the energy balance of office buildings. *12th National Conference on Renewable Energy Sources*, Thessaloniki, Greece. (In Greek)
- Kontadakis, A., Doulos, L., Tsangrassoulis, A. (2020). Impacts of a prototype active sunlight redirection system on daylighting and energy balance of office spaces. *1st International Conference on Lighting, Interactivity, Heritage, Health, Technology and Sustainability (LIGHTS2020)*, Athens, Greece.
- Kontadakis, A., Doulos, L., Mantzourani, A., Tsangrassoulis, A. (2019). Performance assessment of an active sunlight redirection system in areas with different climate: A comparison. *International Conference on Sustainable Synergies from Buildings to the Urban Scale (SBE19)*, Thessaloniki, Greece.
- Mantzourani, A., Doulos, L., Kontadakis, A., Tsangrassoulis, A. (2019). The effect of the daylight zone on lighting energy savings. *SBE19*, Thessaloniki, Greece.
- Tsangrassoulis, A., Doulos, L., Kontadakis, A., Drakou, A. (2019). A Methodology to Model the Performance of a Dynamic Mirror Light-shelf Based on Solar Radiant Flux Impinging on the Window. *16th Building Simulation International Conference*, Rome, Italy.
- Tsangrassoulis, A., Doulos, L. A., Kontadakis, A., Topalis, F. (2018). Comparison of calculation methodologies used to estimate lighting energy savings of daylight dimming systems. *11th National Conference on Renewable Energy Sources*, Thessaloniki, Greece. (In Greek)
- Kontadakis, A., Tsangrassoulis, A. (2017). The impacts of a dynamic sunlight redirection system on the energy balance of office buildings. *CISBAT2017 International Conference*, Lausanne, Switzerland.
- Tsangrassoulis, A., Kontadakis, A., Doulos, L. (2016). Assessing Lighting Energy Saving Potential from Daylight Harvesting in Office Buildings Based on Code Compliance & Simulation Techniques: A Comparison. *SBE16*, Thessaloniki, Greece.
- Tsangrassoulis, A., Kontadakis, A., Roetzel, A. (2015). Comparing climate-based daylight modelling with daylight factor assessment - implications for architects. *ASA2015: Living*

and learning: research for a better built environment, University of Melbourne, Australia, pp. 1097-1106.

- Kontadakis, A., Tsangrassoulis, A., Roetzel, A. (2015). Defining the Boundaries of Daylight Penetration. *BalkanLight 2015*, Athens, Greece.
- Tsangrassoulis, A., Konstantoglou, M., Kontadakis, A. (2014). Lighting energy savings due to the use of a sun tracking mirrored lightshelf in office buildings. *EinB2014, Energy in Buildings Annual Conference*, Athens, Greece.
- Konstantoglou, M., Kontadakis, A., Tsangrassoulis, A. (2013). Dynamic building skins: Performance criteria integration. *PLEA2013, 29th Conference*, Munich, Germany.
- Konstantoglou, M., Kontadakis, A., Tsangrassoulis, A. (2013). Counterbalancing daylighting, glare and view out: the role of an external shading system control strategy. *Clima2013, 11th REHVA World Congress*, Prague, Czech Republic.

References available upon request.