

DR PAPAKONSTANTINOU KONSTANTIA
ASSOCIATE PROFESSOR

EDUCATION

Doctor Engineer of National Technical University of Athens, in Section «Analysis, Design and Development», Chemical Engineering Department, 2001

Title of Thesis: “Use of computational methods in order to design spaces and installations with indoor air quality and thermal comfort criteria.”

Mechanical Engineer Diploma, University of Patras, 1994

GRANTS

1997-2000, State’s scholarships Foundation

RESEARCH INTERESTS

CFD Methods

Mass and Energy Transport Phenomena

Design and Modeling of Spaces and Installations with Indoor Air Quality and Thermal Comfort Criteria

Occupational Health and Safety

Human Factor

Aerodynamics

Building Energy Simulations

Bioclimatic Design

Energy Efficiency Sustainability

Renewable Energy

ACADEMIC CAREER

January 2019 – present : Associate Professor, National and Kapodistrian University of Athens, (General Department)

February 2015 - 2019: Associate Professor, Technological Educational Institute of Sterea Ellada (Aircraft Engineering Department)

December 2003 – February 2015: Assistant Professor, Technological Educational Institute of Chalkida (from 2003 to 2004 Mechanical Engineering Department, from 2004 to 2015 Aircraft Engineering Department)

October 2002 – November 2003: Teaching Associate, Mechanical Engineering Department, T.E.I of Chalkida

September 2000 – September 2003: Researcher, National and Kapodistrian University of Athens

February 1998 – August 2000: Researcher, National Technical University of Athens

INDICATIVE RESEARCH PROJECTS

Project FP7-SEC 218000 "COCAE: Cooperation across Europe for Cd(Zn)Te based Security Instruments”

Project JOULE ”URBVENT: Natural ventilation in urban areas- Potential assessment and optimal façade design”

Project SAVE “HVAC: Determining the potential in energy and environmental effects reduction of air conditioning systems taking into account system conception and equipment and thermal load curves”

Project JOULE “RESHYVENT: Cluster project on demand controlled hybrid ventilation in residential buildings with specific emphasis on integration of renewables”

Project of INTERNATIONAL ENERGY AGENCY, ENERGY CONSERVATION IN BUILDINGS AND COMMUNITY SYSTEMS “ANNEX 35 – HYBVENT: Hybrid ventilation in new and retrofitted office buildings”

Project ALTENER “APASCUE-EC: Advanced passive and active solar cooling for the urban environment of European cities”

Project SAVE “EECCAC: Energy efficiency and certification of central air conditioners”

Project ALTENER “SOLVENT: Development of strategies for the efficient use of solar and passive ventilation in urban buildings”

Project “PRESCO: European thematic network on practical recommendations for sustainable construction”

Project JOULE: “SWIFT: Energy, environment and sustainable development”

Project JOULE: “Demonstration of computational fluid dynamics codes for offshore oil – gas separation design”

Project THERMIE: “THERMIE-B: Efficient ventilation system for buildings”

Project JOULE: “COOLHOUSE: Cooling houses in southern Europe using innovative ventilation strategies”

Project JOULE: “MUSEUMS: Energy efficiency and sustainability in retrofitted and new museum buildings”

PUBLICATIONS

K. Papakonstantinou, C. Kiranoudis, N. Markatos, “Mathematical Modelling Of Environmental Conditions Inside Historical Buildings. The Case Of The Archaeological Museum Of Athens” *Energy And Buildings*, 31(2000) 211-220

K. Papakonstantinou, C. Kiranoudis, N. Markatos, “Computational Analysis Of Thermal Comfort: The Case Of The Archaeological Museum Of Athens” *Applied Mathematical Modelling*, 24 (2000) 477-494

K. Papakonstantinou, C. Kiranoudis, N. Markatos, “Numerical Simulation Of Air Flow Field In Single-Sided Ventilated Buildings” *Energy And Buildings*, 33(2000)41-48

K. Papakonstantinou, C. Kiranoudis, N. Markatos, “Numerical Simulation Of CO₂ Dispersion In An Auditorium” *Energy And Buildings*, 34(2002)245-250

A. Niachou, K. Papakonstantinou, M. Santamouris, A. Tsangrassoulis, G.Mihalakakou, “Analysis Of The Green Roof Thermal Properties And Investigation Of Its Energy Performance”, *Energy And Buildings*, 33 (2000) 719-729

A.Tsangrassoulis, K. Niachou, K. Papakonstantinou, C. Pavlou, M. Santamouris, “A Numerical Method To Estimate Time-Varying Values Of Diffuse Irradiance On Surfaces In Complex Geometrical Environments”, *Renewable Energy*, 27 (2002) 427-439

A. Duci, K. Papakonstantinou, A. Chaloulakou, N. Markatos, “Numerical Approach of Carbon Monoxide Concentration Dispersion in an Enclosed Garages” *Building and Environment*, 39 (2004), 1043-1048

K. Papakonstantinou, A. Chaloulakou, A. Duci, N. Vlachakis, N. Markatos, “Air quality in an underground garage: computational and experimental investigation of ventilation effectiveness” *Energy and Buildings*, 39 (9) (2003), 933-940

M.Santamouris, E. Dascalaki, N.Klitsikas, K.Papakonstantinou, C.Georgakis, “On The Impact Of The Urban Environment On The Potential Of Natural Ventilation”, 21st Annual Conference Of Air Infiltration Ventilation Centre, 2000

Lambropoulos C.P., Aoki T., Crocco J., Dieguez E., Disch C., Fauler A., Fiederle M., Hatzistratis D., Gnatyuk V.A., Karafasoulis K., Kosyachenko L.A., Levytskyi S.N., Loukas D., Maslyanchuk O.L., Medvids A., Orphanoudakis T., Papadakis I., Papadimitriou A., Papakonstantinou K., Potiriadis C., Schulman T., Sklyarchuk V.V., Spartiotis K., Theodoratos G., Vlasenko O.I., Zachariadou K., Zervakis E. “The COCAE Detector: An Instrument for Localization—Identification of Radioactive Sources”, *Nuclear Science, IEEE Transactions on* Issue Date: Oct. 2011 Volume: 58 Issue: 5 On page(s): 2363 – 2370

K. Papakonstantinou, C. Kiranoudis, N. Markatos, “Computational Investigation Of Ventilation Effectiveness In A Paper Producing Industry”, *Drying Technology*, 18 (9), 2051-2064 (2000)

K. Papakonstantinou, C. Kiranoudis, N. Markatos, “Numerical Simulation Of Volatile Organic Compounds Evaporation In Closed Spaces”, *Drying Technology*, 18 (10), 2203-2216 (2000)

- K. Papakonstantinou, C. Kiranoudis, N. Markatos, "Mathematical Simulation Of Air Flow Field In Single-Sided Ventilated Buildings" 6th National Conference On Renewable Energy Sources, 1999,124
- K. Papakonstantinou, A. Duci, A. Chaloulakou, N. Markatos, "Numerical Approach And Experimental Measurements Of CO Concentrations In Enclosed Garages" 30 National Scientific Conference of Chemical Engineers, 2001
- M. Santamouris, K. Papakonstantinou, A. Niachou, A. Gomez Heras, P. Rasmussen, N. Gomez Gil, "Apascue: Advanced Passive And Active Solar Cooling For European Cities", Clima 2000/Napoli 2001 World Congress
- M. Kolokotroni, M. Santamouris, K. Papakonstantinou, C. Georgakis, F. Allard, C. Ghiaus, S. Alvarez, J. Palmer, "Sol-Vent: Development Of Strategies For The Efficient Use Of Solar And Passive Ventilation In Urban Buildings", Clima 2000/Napoli 2001 World Congress
- K. Papakonstantinou, C. Kiranoudis, N. Markatos, "Design Of Ventilation Systems In Industrial Buildings. A Computational Approach Of Displacement Ventilation In Paper Industry", 21st Annual Conference Of Air Infiltration Ventilation Centre, 2000
- K. Papakonstantinou, N. Klitsikas, M. Santamouris, A. Gomez Heras, P. Rasmussen, N. Gomez Gil, "Advanced Passive And Active Solar Cooling For The Urban Environment Of European Cities", Altener Conference, 2000.
- K. Papakonstantinou, C. Kiranoudis, N. Markatos, "Numerical Simulation Of Volatile Organic Compounds Dispersion Emitted From Flooring Materials In Buildings", 3rd International Congress Sithok, 1998
- K. Papakonstantinou, C. Kiranoudis, N. Markatos, "Numerical Simulation Of Air Dispersion And Thermal Comfort Analysis In The Mycaean Hall Of The National Archaeological Museum Of Athens", 4th European Computational Fluid Dynamics Conference, 1998, 849-854
- M. Santamouris, K. Papakonstantinou, "The impact of urban environment in energy design of buildings", Conference on development and dissemination of Renewable Sources Applications, Patras, 2001.
- K. Papakonstantinou, C. Kiranoudis, N., "Computational Analysis of mass and heat transfer in Single sided ventilation Buildings" 20 National Scientific Conference of Chemical Engineers, 1999, 597-600
- K. Papakonstantinou, C. Kiranoudis, F. Patrikiou, N. Markatos, "Computer Analysis Of The Air Pollution In The Mycaean Hall Of The Archeological Museum Of Athens" 6th International Conference On Air Distribution In Rooms, 1998, 219-226
- D. Papanikas, D. Margaritis, D. Fertis, K. Papakonstantinou, "A Critical Evaluation Of A Numerical Model For Predicting Two-Phase Flow In Gas-Liquid Pipelines", 4th Greek National Congress On Mechanics, 1995, 855-865
- J. Adnot, D. Giraud, F. Colomines, P. Riviere, S. Becirspahic, G. Benke, I. Blanco, R. Gavriliuc, R. Popescu, S. Burchiu, R. Hitchin, C. Casale, C. Joppolo, C. Lopes, K. Papakonstantinou, P. Waide, "Central (Commercial) air-conditioning systems in Europe", 2nd International Conference IEECB 2002
- K. A. Papakonstantinou and C. B. Belias, "Mathematical modeling of environmental conditions around buildings. The case of a public buildings complex of culture in Thessaloniki", 5th International of Numerical Analysis and Applied Mathematics, Greece 2004.
- C. B. Belias, K. A. Papakonstantinou et al., "The Influence Of Fish Farming In The Addition Of Particulate Nitrogen In Coastal Environments" 9th International Conference On Environmental Science And Technology – 2005 Rhodes Island, Greece September 1st - 3rd, 2005
- C. B. Belias, K. A. Papakonstantinou et al., "The Influence of Fish Farming in the Addition of Particulate Phosphorus in Coastal Environments" Mediterranean Scientific Association of Environmental Protection-MESAEP. 13th International Symposium on Environmental Pollution and its Impact on Life in the Mediterranean Region - October 8th to 12th, 2005, Thessaloniki – Greece
- K. Papakonstantinou, C. Kiranoudis, N. Markatos, "Comparison of Different Turbulent Models for Predicting Flow of Closed Spaces", 2006 IASME/WSEAS International Conference on ENERGY & ENVIRONMENTAL SYSTEMS
- K. Papakonstantinou, C. Belias, N. Vlachakis, "Evaluation of an Underground Garage Mechanical Ventilation System in Athens" 6th International of Numerical Analysis and Applied Mathematics, Greece 2006.

K. Papakonstantinou, C. Belias, C. Kiranoudis, N. Markatos, "Simulation of Closed Spaces' Flow Field Using Different Turbulent Models", Fifth International Symposium of Turbulence, Heat and Mass Transfer, Croatia 2006.

C. B. Belias, K. A. Papakonstantinou et al., "A prototype benthic chamber for the determination of nutrient fluxes at the water-sediment interface" 38th CIESM Congress – Istanbul, Turkey, April 2007.

K. Papakonstantinou and C. Belias, S. Pantos-Kikkos and A. Assana, "Numerical Analysis of Thermal Comfort at Open Air Spaces", 5th International of Numerical Analysis and Applied Mathematics, Greece 2007. (Number of citations:2)

K. Papakonstantinou, C. Belias, N.Vlachakis and I.Statharas, "Evaluation of a Natural Ventilation Configuration at a Public Building", 5th ICCMSE, Greece 2007.

K. Papakonstantinou, C. Belias and M. Stamatopoulou, "Occupational Health and Safety in EASA PART-145 Approved Maintenance Organizations", 4th WOS, Greece 2008.

K. Papakonstantinou and C. Belias "Numerical Analysis of Thermal Comfort at Urban Environment", 6th ICCMSE, Greece 2008.

K. Papakonstantinou and C. Belias, "Mathematical Modeling of Air Flowfield at Urban Environment. The Case of Road Network at the Historical Centre of Kifissia's Municipality" 6th International of Numerical Analysis and Applied Mathematics, Greece 2008.

Lambropoulos C.P., Aoki T., Crocco J., Dieguez E., Disch C., Fauler A., Fiederle M., Hatzistratis D., Gnatyuk V.A., Karafasoulis K., Kosyachenko L.A., Levytskyi S.N., Loukas D., Maslyanchuk O.L., Medvids A., Orphanoudakis T., Papadakis I., Papadimitriou A., Papakonstantinou K., Potiriadis C., Schulman T., Sklyarchuk V.V., Spartiotis K., Theodoratos G., Vlasenko O.I., Zachariadou K., Zervakis E. "The COCAE Detector: An Instrument for Localization—Identification of Radioactive Sources", Nuclear Science, IEEE Transactions 58 (5) (2011) , 2363 – 2370

BOOKS

Occupational Health and Safety, K. Papakonstantinou, Rosili Publ., 2004.

Occupational Health and Safety – Environmental Protection, K.Papakonstantinou, C. Belias, Rosili Publ., 2007.

Occupational Health and Safety & Human Factor, K.Papakonstantinou, C. Belias, Tsotras Publ., 2017.

MEMBER

Technical Chamber of Greece
Hellenic Association of Mechanical and Electrical Engineers