

Personal Information

Full Name **Eleftherios Dogkas**
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Education

Dates November 2012 - Today
Capacity **PhD Student** in the Laboratory of Applied Thermodynamics, Department of Mechanical Engineering and Aeronautics, University of Patras.
Ph.D. Thesis "A study of the interaction of chemical and thermal stratification on the performance of burner systems operating with conventional and alternative gas and liquid fuel blends."
Date October 2006 – July 2012
Diploma **Mechanical Engineer, University of Patras (five years education period - 300 ECTS)**
Main Subjects / business skills

- Experimental and computational Fluid Mechanics, Heat transfer and Combustion.
- Turbulence, turbulence recirculating and reacting flow, swirl flow.
- Experimental combustion procedures, thermocouple, gas analysis measurements and chemiluminescence analysis.
- Science of material, strength of material
- Mechanical design

Diploma Dissertation Thesis: "The impact of variable inlet mixture stratification on flame topology and emissions performance of confined and unconfined premixer/swirl burner configurations".
Name of organisation Department of Mechanical Engineering and Aeronautics, University of Patras
Grade 7,20/10
Date September 2003 – June 2006
Title **Certificate of high school**
School name 1st High School of Chalandri, Greece
Grade 17,7/ 20

Work Experience

Dates January 2013 - Today
Occupation or position held Laboratory and Research Assistant
Main activities and responsibilities Supervision of laboratory exercises and exams in I.C. Engines and Combustion
Name and address of employer Laboratory of Applied Thermodynamics, Department of Mechanical Engineering and Aeronautics, University of Patras
Date 1 July 2008 up to 29 August 2008
Occupation or position held Assistant mechanical engineer in the assembly of AFT - FUSELAGE of F - 16
Main activities and responsibilities

- The assembly of Front Aft
- The assembly of Aft Aft
- The junction of these complexes
- Installation of piping network, electrical cables, actuators and Speed Brakes and with the hydraulic and electrical test.
- Training in reading and sharing construction plans of F-16
- Training in work design

Name and address of employer Hellenic Aerospace Industry (H.A.I.), Tanagra, P.O. Box 23, GR 320 09, Schimatari, Greece

Writing Work

-Co-Author of the Greek e-book “Εισαγωγή στις Βασικές Αρχές της Θεωρίας και της Τεχνολογίας της Καύσης”- “Introduction to the Theory and Technology of Combustion: Basic Principles”, 2015, ISBN 978-960-603-288-2, (site: <https://repository.kallipos.gr/handle/11419/1160>). Hellenic Academic Libraries.

-Translation supervision and editing (English to Greek) of the book “An Introduction to Combustion: Concepts and Applications 3rd Edition” του Stephen Turns by Willard W. Pulkrabek. Tziolas Scientific Publications.

-Translation supervision and editing (English to Greek) of the book “Engineering Fundamentals of the Internal Combustion Engine” by Willard W. Pulkrabek. Tziolas Scientific Publications.

Participation in writing proposals for National and European research programs:

A) 1st Call for H.F.R.I. Research Projects to Support Faculty Members & Researchers and Procure High-Value Research Equipment. Hellenic Combustion Center of Excellence (HeCCE).

B) 1st Call for H.F.R.I. Research Projects to Support Post-Doctoral Researchers. Application of microbial electrochemical technologies towards advanced biofuels production.

C) Researcher support with emphasis on young researchers - phase A Development and implementation of a combination of advanced combustion technologies in a novel, fuel flexible burner system.

D) German-Greek Research and Innovation Programme. Development and evaluation of components for integration into a novel compressed-air, high-power storage system for renewable energy sources.

E) ERANETMED, 1st call. Distributed Energy Production in Rural Mediterranean Regions from Second-Generation Biomass

F) Call for Proposals in the context of the "Industrial Research and Technology Development Program (PAVET) 2013". Olive kernel low emissions burner with high preheat.

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Papers

Dogkas, E., Lytras, I., Koutmos, P. and Kontogouris, G., (2019) “Reduced Kinetic Schemes for Use into Complex Reacting Flow Computations of Propane-Air Combustion”, *Combust. Explos. Shock Waves*, to be presented in issue 2.

Lytras I., Koutmos P. and **Dogkas E.** (2019), “Reduced Kinetic Models for Complex Turbulent Methane Flame Simulations”, *Combust. Explos. Shock Waves*, to be presented in issue 2.

Dogkas E., Mitsopoulos E. P. and Koutmos P., (2018), “Mixing and Combustion Performance of a Stratified Bluff Body Primary Zone Interacting with a Coannular Swirl-Induced Recirculation”, *Journal of Energy Engineering (JEE)*, 144, doi: 10.1061/(ASCE)EY.1943-7897.0000551

Karagiannaki Ch., **Dogkas E.**, Paterakis G., Souflas, K., Psarakis E. Z., Vasiliou, P. and Koutmos P., (2014), “A comparison of the characteristics of ultra-lean disk stabilized propane flames operated under premixed or stratified inlet mixture conditions”, for *Experimental Thermal and Fluid Science*, ETFS-D-13-00400.

Karagiannaki Ch., Paterakis G., Souflas, K., **Dogkas E.**, Koutmos P., (2014), “Performance evaluation of a model swirl burner under premixed or stratified inlet mixture conditions”, *Journal of Energy Engineering (JEE)*, 10/2014; doi: 10.1061/(ASCE)EY.1943-7897.0000242

Paterakis G., Souflas K., **Dogkas E.**, and Koutmos P., (2013), “A Comparison of the Characteristics of Planar and Axisymmetric Bluff-Body Combustors Operated under Stratified Inlet Mixture Conditions”, *Journal of Combustion*, 13, Article ID 860508, doi: 10.1155/2013/860508.

Koutmos P., Paterakis G., **Dogkas E.** and Karagiannaki Ch., (2012), “The impact of variable inlet mixture stratification on flame topology and emissions performance of a premixer/swirl burner configuration”, *Journal of Combustion*, 12, Article ID 374089, doi:10.1155/2012/374089.

Conferences

Dogkas E. and Koutmos P., (2019), “Flow, Mixing and Combustion Characteristics of a Stratified Bluff Body Burner, Interacting With a Co-annular Swirl Induced Recirculation”, 1st International Conference on Smart Energy Carriers, Napoli, January 21-23.

Dogkas E., Mitsopoulos E. P. and Koutmos P., (2018), “Συγκριτική Μελέτη της Συμπεριφοράς Φλογών Σταθεροποιημένων σε Αξονοσυμμετρικό Σώμα υπό την επίδραση Συρρέοντος Ρεύματος Στροβιλισμού”, 11th Panhellenic Conference on "Fluid Flow Phenomena" Kozani, Greece, November 23-24.

Lytras I., Koutmos P., **Dogkas E.** and Mitsopoulos E. P., (2018), “Ελαττωμένοι Χημικο-κινητικοί Μηχανισμοί για Προσομοιώσεις Πολύπλοκων Τυρβωδών Φλογών Μεθανίου”, 11th Panhellenic Conference on "Fluid Flow Phenomena" Kozani, Greece, November 23-24.

Dogkas E. and Koutmos P., (2017), “The interaction of bluff body and swirl induced recirculations on the flow, mixing and combustion performance of stratified propane flames”, Third General Meeting SMARTCATs, Prague, COST Action CM1404.

Souflas K., Paterakis G., **Dogkas E.**, Koutmos K., (2016), “Flow, mixing and combustion characteristics of high velocity ratio plane coaxial and convoluted trailing edge nozzles”, 2nd General Meeting 2nd Workshop on Smart Energy Carriers in Industry, Instituto Superior Técnico, Lisbon, Portugal, 14 - 16 November.

Souflas K., Menon S., Paterakis G., **Dogkas E.**, Koutmos P., Gururajan V., Egolfopoulos F. N., (2015), “Determination of Laminar Flame Speeds Using Axisymmetric Bunsen Flames: Intricacies and Accuracy.”, presented in MCS-2015: Ninth Mediterranean Combustion Symposium, June 7-11, Rhodes, Greece.

Paterakis G., Souflas K., **Dogkas E.** and Koutmos P., (2015), “Characteristics of Lean Axisymmetric Bluff-Body Stabilized Propane Flames Under Premixed or Stratified Inlet Mixture Conditions.”, presented in MCS-2015: Ninth Mediterranean Combustion Symposium, June 7-11, Rhodes, Greece.

Dogkas E., Souflas K., Paterakis G., Karavasilis Ch., Georgantas G. and Koutmos P., (2014), “Evaluation of a Stratified Disk Burner in Swirl Co-Flow Through Measurements and Simulations of the OH* and CH* Chemiluminescence Fields.”, 9th Panhellenic Conference on "Fluid Flow Phenomena" Athens, Greece, December 12-13.

Paterakis G., Souflas K., **Dogkas E.** and Koutmos P., (2014), “Combustion Features and Emission Levels of Axisymmetric Bluff Body Stabilized Propane Flames Under Stratified and Fully-Premixed Inlet Conditions.”, 9th Panhellenic Conference on "Fluid Flow Phenomena" Athens, Greece, December 12-13.

Souflas K., Paterakis G., **Dogkas E.**, Vouros A., Milidonis K. and Koutmos P., (2014), “Development and Application of a Multi-cavity, Low Emissions Premixer/Burner Configuration with Stratified LPG-Air Mixture.”, 9th Panhellenic Conference on "Fluid Flow Phenomena" Athens, Greece, December 12-13.

Paterakis G., **Dogkas E.**, Souflas K. and Koutmos P., (2013), “The effect of modulation of the inlet velocity and equivalence ratio gradients on the stabilization of stratified axisymmetric bluff-body flames”, 6th European Combustion Meeting, June 25-28, ECM2013, Lund, Sweden.

Karagiannaki Ch., **Dogkas E.**, Paterakis G., Souflas K., Psarakis E. Z., Vasileiou P. and Koutmos P., (2013), “A comparison of the characteristics of ultra-lean disk stabilized propane flames operated under premixed or stratified inlet mixture conditions”, 8th World Conference on Experimental Heat Transfer, Fluid Mechanics, and Thermodynamics, June 16-20, Lisbon, Portugal.

Karavasilis Ch., Paterakis G., **Dogkas E.**, Karagiannaki Ch., Othonaios N. and Koutmos P., (2012), “Evaluation of a stratified disk burner in swirl co-flow through measurements and simulations of the OH* and CH* chemiluminescence fields”, 8th Panhellenic Conference on “Fluid Flow Phenomena”, Volos, Greece, November 16-17, p. 110.

Karagiannaki Ch., **Dogkas E.**, Paterakis G. and Koutmos P., (2012), “An investigation of turbulent axisymmetric bluff-body propane flames: premixed versus stratified stabilization”, 8th Panhellenic Conference on "Fluid Flow Phenomena" Volos, Greece, November 16-17, p. 41.

Projects

Interreg BALKAN-MED. Forest Monitoring System for Early Fire Detection and Assessment in the BalkanMed Area, (SFEDA)

Participation in scientific organizations

-Member of Technical Chamber of Greece (professional license registration number, 134066)

Personal skills and competences

Languages

English (Proficiency level), German (basic)

Computer skills and competences

Good knowledge of Microsoft office, Origin Lab, Dassault Catia, Ansys Fluent, Gambit, Tecplot,

