

CURRICULUM VITAE

Personal information

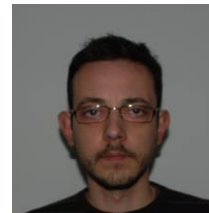
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Souflas Konstantinos

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Researcher, Mechanical Engineer, Ph.D. Department of Mechanical Engineering and Aeronautics, University of Patras, Laboratory of Applied Thermodynamics.

Education and training

Title of qualification
awarded

Diploma in Mechanical Engineering and Aeronautics, University of Patras (Course duration 5years – 300 ECTS). (April 2012)

Name of organisation

University of Patras, Department of Mechanical Engineering & Aeronautics.

Grade

7.24/ 10

Ph.D. Dissertation Thesis

“Turbulent mixing and reacting flow characteristics of axisymmetric bluff-body stabilized propane-air flames, under inlet mixture stratification and preheat.” (Presented to the Academic Faculty on the 10th of May 2019)

Diploma Dissertation
Thesis

“Investigation of the impact of the oxidation air elevated temperature and/or substitution, through exhaust gas recirculation, on the stabilization characteristics of partially premixed propane-air flames”

Principal subjects /
occupational skills covered

- Experimental and Computational Fluid Mechanics, Heat Transfer and Combustion.
- Turbulence, turbulent recirculating and reacting flows, swirl flows, HiTAC/EGR combustion.
- Experimental combustion procedures, thermocouple, gas analysis measurements and chemiluminescence analysis.

Main activities and
responsibilities

Supervision of laboratory exercises and exams in I.C. Engines Heat Transfer and Combustion.

Military Services

Fulfilled (2012-2013), Technical Corps.

Specialty: Airplane and Helicopter Engineer.

Acquisition of Airplane and Helicopter Engineer Degree.

Working experience at the study and application of technical guidelines at the Design Department.

Foreign Languages

Mother Tongue

Greek

Other Languages

- **English** Excellent Knowledge (Proficiency, Michigan University)
- **French** Very Good Knowledge (Delf II)

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Computer skills and competences

- ECDL Core (Basic Concepts of Information and Communication Technology (ICT), Computer Usage and Files Management, Word Processing, Spreadsheets, Usage of Databases, Presentations, Web Browsing and Communication.)
- Good knowledge of Dassault Catia, Ansys Fluent, Gambit, Chemkin, Tecplot, MSCPatran Nastran, Origin Lab, AutoCad, DaVis Imaging Software (LaVision FlameMaster system, Chemiluminescence).

University Interests

- Volunteer participation in the construction team of a racing car as part of the "Formula Student" competition.
- Participation in the design and construction of the suspension system.
- Mechanical design of the suspension system using computer aid design (CAD) package.
- Simulation of the suspension system operation.

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 “Engineering Fundamentals of the Internal Combustion Engine” by Willard W. Pulkrabek. Tziolas Scientific Publications.
- Translation supervision and editing (English to Greek) of the book “Introduction to Combustion” by Stephen R. Turns. Tziolas Scientific Publications.
- Participation in the writing of scientific proposals for funding:
 - “ΠΙABET 2013”, ““Olive kernel burner””/GSRT
 - “Interreg Balkan-Mediterranean 2014-2020”, “Forest Monitoring System for Early Fire Detection and Assessment in the Balkan-Med Area, SFEDA”
 - ΕΣΠΑ 2014-2020, “ Support of researchers with an emphasis on young researchers, ΕΔΒΜ34”, “Ανάπτυξη και ενσωμάτωση συνδυασμού καινοτόμων μεθοδολογιών σε πρότυπο σύστημα καύσης για παραγωγή ενέργειας με δυνατότητα χρήσης πολλαπλών ορυκτών καυσίμων ”
 - “First Call for HFRI Research Projects to support Faculty members and Researchers and Purchase high-value research equipment”, Hellenic Center of Excellence in Combustion, Hellenic Foundation of Research and Innovation, H.F.R.I.,

Projects

Participation in “Interreg Balkan-Mediterranean 2014-2020”, “Forest Monitoring System for Early Fire Detection and Assessment in the Balkan-Med Area, SFEDA” with technical and administrative responsibilities

Papers

- **Souflas, K.**, Perrakis, K., Koutmos P., (2020), “On the turbulent flow and pollutant emission characteristics of disk stabilized propane-air flames, under inlet mixture stratification and preheat.”, Volume 260, Article116333.<https://doi.org/10.1016/j.fuel.2019.116333>
- **Souflas, K.**, Koutmos P., (2018), “On the non-reacting flow and mixing fields of an axisymmetric disk stabilizer, under inlet mixture stratification and preheat.”, Experimental Thermal and Fluid Science, Volume 99, p. 357-366, <https://doi.org/10.1016/j.expthermflusci.2018.08.008>

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- **Souflas, K.**, Psarakis, E. Z., Koutmos, P., Egolfopoulos F.N., (2018), “Low Cost Image Processing of Bunsen Flame Photography for Estimation of Flame Speeds.”, *Combustion Science and Technology*, Published online: 28 Aug 2018 <https://doi.org/10.1080/00102202.2018.1512105>
- Banyon, C., Rodriguez Henriquez, J.J., Paterakis, G., Malliotakis, Z., **Souflas, K.**, Keramiotis, C., Vourliotakis, G., Mauss, F., Curran, H., Skevis, G., Koutmos, P., Founti, M., (2018), “A comparative study of varied in-cylinder reaction environments on swirl flame geometry and luminescence intensity.” *Fuel*, Volume 216, p. 826-834, doi.org/10.1016/j.fuel.2017.09.105
- **Souflas, K.**, Koutmos P., (2016), “Flow mixing and combustion characteristics of high velocity ratio plane coaxial and convoluted trailing edge nozzles.”, *Journal of Energy Engineering (JEE)*, [DOI:10.1061/\(ASCE\)EY.1943-7897.0000408](https://doi.org/10.1061/(ASCE)EY.1943-7897.0000408) , 04016054.
- **Souflas, K.**, Paterakis G., and Koutmos P., (2015), “Investigation of disk stabilized propane flames operated under stratified and vitiated inlet mixture conditions”, *Journal of Energy Engineering (JEE)*, [DOI:10.1061/\(ASCE\)EY.1943-7897.0000317](https://doi.org/10.1061/(ASCE)EY.1943-7897.0000317).
- 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](https://doi.org/10.1061/(ASCE)EY.1943-7897.0000242).
- 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”, *Experimental Thermal and Fluid Science*, Volume 59, p. 264–274, [DOI:10.1016/j.expthermflusci.2014.04.002](https://doi.org/10.1016/j.expthermflusci.2014.04.002).
- G. Paterakis, **K. Souflas**, E. Dogkas, and P. Koutmos, “A Comparison of the Characteristics of Planar and Axisymmetric Bluff-Body Combustors Operated under Stratified Inlet Mixture Conditions”, *Journal of Combustion*, vol. 2013, Article ID 860508, 15 pages, 2013. [DOI:10.1155/2013/860508](https://doi.org/10.1155/2013/860508).
- Koutmos P., **Souflas K.**, “A Study of Slender Bluff Body Reacting Wakes formed by Concurrent or Counter-current Fuel Injection”, *Combustion Science and Technology*. 14 August 2011, [DOI:10.1080/00102202.2012.691583](https://doi.org/10.1080/00102202.2012.691583).

Conferences

- **Souflas K.** and Koutmos P., (2019), “Turbulent reacting flow characteristics of axisymmetric disk stabilized propane flames with inlet mixture stratification and preheat.” 1st International Conference on Smart Energy Carriers, Naples, Italy, January 21-23, (oral presentation).
- **Souflas K.**, Dogkas E., Koutmos P., (2018), “Flow and Mixing Fields Downstream an Axisymmetric Bluff Body Stabilizer at Non Reacting Cases”, 11th Panhellenic Conference on “Fluid Flow Phenomena”, Kozani, Greece, November 23-24, (poster presentation).
- **Souflas K.**, Papanastasiou V., Psarakis E. Z., Koutmos P., (2017), “Estimation of Laminar Flame Speed Using Plain Flame Photography and an Image Processing Procedure.” Third General Meeting, SMARTCATs, Prague, October 2017, COST Action CM1404. (poster presentation)
- **Souflas K.** and Koutmos P., (2016), “LAT Activities on Turbulent Combustion, Emissions Mitigation”, Forum-AE on Aviation, Emissions & Environment, Technology meeting: non-CO2 technology workshop, Berlin, 8-9th March, 2017. (oral presentation)

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- Papanasatsiou A., **Souflas K.**, Koutmos P., (2016), “Flow mixing and combustion characteristics of high velocity ratio plane coaxial and convoluted trailing edge nozzles.”, 10th Panhellenic Conference on “Fluid Flow Phenomena”, Patra, Greece, December 2-3, (oral presentation).
- **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. (poster presentation)
- **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”, 9th Mediterranean Combustion Symposium, Rhodes, Greece, 7-11 June, (oral presentation).
- Paterakis G., **Souflas K.**, Dogkas E., Koutmos P., (2015), “Characteristics of Lean Axisymmetric Bluff-Body Stabilized Propane Flames Under Premixed or Stratified Inlet Mixture Conditions”, 9th Mediterranean Combustion Symposium, Rhodes, Greece, 7-11 June, (poster presentation).
- Paterakis G., **Souflas K.**, Dogkas E., 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, (oral presentation).
- **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. (poster presentation), republished in “Modern Technical Review” newspaper.
- Paterakis, G., Dogkas, E., **Souflas, K.**, Koutmos, P., “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, ECM2013, 25-28 June 2013, Lund, Sweden. (poster presentation).
- Karagiannaki, Ch., Dogkas, E., Paterakis, G., **Souflas, K.**, Psarakis, E. Z., Vasileiou, P., Koutmos P., “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, 16-20 June 2013, Lisbon, Portugal, Invited for submission to Exp. Th. & Fluid Sci.. (oral presentation).
- **Souflas K.**, Eystathiou A., Koutmos P., “A Computational Investigation of Partially Premixed Disk Stabilized Propane-Air Flames with Mixture Preparation through Air Preheat”, 13th International Conference of Numerical Combustion, ICNC11, 27-29 April 2011, Corfu Greece. (oral presentation).
- Dogkas, E., **Souflas, K.**, Paterakis, G. and Koutmos, P., “Analysis and Development of a Low Emissions Premixer/Burner Configuration”, 5th International Conference on Experimental Process/System Modeling/Simulation/Optimization 5th IC-EpsMso, 3-6 July 2013, Athens, Greece. (oral presentation).
- Paterakis, G., Dogkas, E., **Souflas, K.**, Koutmos, P., “A Comparative Study of the Stabilization Performance of Propane-Air Flames in Planar or Axisymmetric Bluff-Body Burner Configurations”, 5th International Conference on Experimental Process/System Modeling/Simulation/Optimization 5th IC-EpsMso, 3-6 July 2013, Athens, Greece. (oral presentation).

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Summer School

- **Souflas K.** Paterakis G., Dogkas E., Koutmos P., “Combustion Characteristics of Disk Stabilized Propane-Air Flames with Inlet Air Preheat.”, 5th International Conference on Experimental Process/System Modeling/Simulation/Optimization 5th IC-EpsMso, 3-6 July 2013, Athens, Greece. (oral presentation).
- Dogkas E., Karagiannaki Ch., Paterakis G., **Souflas K.**, Koutmos P., “The Impact of Inlet Mixture Conditioning on the Performance of Axisymmetric Ultra-Lean Bluff-Body Combustors”, 5th International Conference on Experimental Process/System Modeling/Simulation/Optimization 5th IC-EpsMso, 3-6 July 2013, Athens, Greece. (oral presentation).
- International Combustion Institute Summer School 2016 “Advanced Combustion Engine Technologies” June 19-23, 2016