

Dr. Sotiris Petrakides

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A clear career trajectory towards a research and development position with 13 years of continuous involvement in propulsion system technologies

EDUCATION

- 2013-2016 **Loughborough University, United Kingdom**
PhD
On the Combustion of Premixed Natural Gas - Gasoline Dual Fuel Blends in SI Engines
- The PhD programme has been fully funded by the Aeronautical and Automotive Engineering (AAE) department under the exceptional student performance scholarship, following a successful research proposal.
- 2010-2013 **Loughborough University, United Kingdom**
BEng in Automotive Engineering
Grade: First Class Honours
- Relevant Modules: Thermodynamics, Fluid Mechanics, Computational Fluid Dynamics, Electrotechnology, Internal Combustion Engines, Powertrain Technologies, Vehicle Engine Analysis, Control Engineering, Signal Analysis, Vehicle Systems and Design, Vehicle Dynamics and Simulation, Ground Vehicle Aerodynamics, Crashworthiness.
Thesis: Modelling Study on the Performances and Control Strategies of a Gasoline – Natural Gas Bi-Fuelling SI Engine.
- 2005-2008 **Kykkos Lyceum, Paphos, Cyprus**
Graduation Certificate
Grade: 19.58 out of 20
- Relevant Modules: Mathematics (19/20), Physics (19/20)

WORK EXPERIENCE

- July 2017- **Research Consultant**
Mar. In.E.M. Cyprus
- Mar.In.E.M. is a non-profit organization with the aim of promoting Maritime and Marine Research, Technology and Innovation, as well as Education and Training, within the context of a Sustainable Blue Growth.
- Oct. 2016- **Managing Director**
Christakis Petrakides & Sons LTD, Cyprus
- Results-oriented Managing Director driven to manage costs and establish strategic mutually beneficial partnerships and relationships with customers and suppliers.
- April 2016-
Dec. 2016 **Low Carbon Powertrain Research Assistant (Part Time)**
Loughborough University, United Kingdom
- Assessing the performances of a predictive auto-ignition chemical kinetics model for SI engine knock. The kinetic model and all necessary sub-models have been developed by Sotiris Petrakides using Matlab programming language.
- March 2015-
April 2015 **Collaborative Research Program Leader (Tianjin University – Loughborough University)**
State Key Laboratory of Engines (SKLE), Tianjin University, China

- Knowledge on the fundamental combustion characteristics of gasoline – natural gas dual fuel blends has been exchanged through an intense month of experimental work in Tianjin University China, led by Sotiris Petrakides.

Sept 2014-
June 2016 **Postgraduate Teaching Assistant**
Loughborough University, United Kingdom

- Responsible for teaching support through advising, assisting and supporting BEng and MEng students.
- Supervised two final year projects with the following titles:
 - † Development of a Reduced Natural Gas – Gasoline Dual Fuel Combustion Mechanism in SI Engines
 - † A Knock Predictive Model for SI Engine Simulations: An Application to Natural Gas – Gasoline Dual Fuel Strategies

July 2008-
July 2010 **Military Service, Cyprus**
Rank of Infantry Sergeant

- Instructor at the recruitment military camp for six months. Responsible for the military training of new recruits.

June 2003-
July 2010 **Automotive Technician, Cyprus**
Ford Authorised Workshop - C. Petrakides & Sons Car Service

- Extended practical experience as workshop technician. Key duties: fault diagnosis and repair of electromechanical and electronic components, aftermarket ECU calibration, emission testing.

Skills

Language: Greek (Native), English (Fluent)

Software: Microsoft Office/Visio, Ricardo Wave, AVL Boost, Solid Edge

Programming: MATLAB/Simulink, Python

Presentation: Awarded as 'Best Presenter' by two successive years in the AAE research conference

Certifications

Academic Teaching Skills - *Graduate School, Loughborough University.*

Ford Approved Technician - *Henry Ford Training Centre, Ford Motor Company.*

Accredited Automotive Technician - *Automotive Technician Accreditation (ATA), Institute of Motor Industry (IMI)*

Safety in Laser Optical Diagnostics - *Loughborough University*

European Computer Driving Licence (ECDL)

Journal Publications

- 1) **Petrakides S.**, Butcher D, Chen R, Gao D, Wei H. Experimental Study on the Burning Rate of Methane and PRF95 Dual Fuels, SAE Int. J. Engines 9(2) (2016) 1117-1129.
- 2) **Petrakides S.**, Chen R., Gao D., Wei H., Experimental study on stoichiometric laminar flame velocities and Markstein lengths of methane and PRF95 dual fuels, Fuel, 182 (2016) 721-731.

- 3) **Petrakides S.**, Chen R., Gao D., Wei H., Experimental Investigation on the Laminar Burning Velocities and Markstein Lengths of Methane and PRF95 Dual Fuels, *Energy & Fuels*, 2016, DOI: 0.1021/acs.energyfuels.6b00644Fgf.
- 4) Wei H., Gao. Dongzhi., Zhou L., **Petrakides S.**, Chen R., Feng D., Pan J., Experimental Study on Laminar Flame Characteristics of Methane-PRF95 Dual Fuels under Lean Burn Conditions, *Fuel*, 185 (2016) 254-262.
- 5) **Petrakides S.**, Chen R., Pezouvanis A., On the Combustion of Premixed Gasoline - Natural Gas Dual Fuel Blends in an Optical SI engine: The Importance of Flame Stretch, *J. Eng. Research.*, Under Review.

Conference Attendance and Presentations

Low Carbon Vehicle Event, Millbrook UK, 10-11/09/2014 – Also attended in 2013

SAE International Powertrain, Fuels & Lubricants Meeting Birmingham UK, 20-23/10/2014

Future Powertrain Conference – Presenter, Solihull UK, 25-26/02/2015 – Also attended in 2014

Autonomous Vehicle Research Workshop, Loughborough UK, 05/06/2015

Combustion Physics Group Symposium, Loughborough UK, 09/09/2015

SAE World Congress – Presenter, Detroit USA, 12-14/04/2015

5th International Conference on Renewable Energy Sources, Nicosia Cyprus, 05-06/06/16

Capacity Building on Entrepreneurship & Technology Transfer in MRE, Nicosia Cyprus 28/11/17

References

Mr. Zaxarias Siokouros

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President of MarInEM.

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Prof. Rui Chen

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Dr. Antonios Pezouvanis

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Dr. Ioannis Souflas

Technical Specialist (System Identification – Advanced Control Strategies), Ricardo UK

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