



## Europass Curriculum Vitae

### Personal information

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Nationality(-ies) Cypriot

### Education

Dates<sup>1</sup> Nov 2006

Title of qualification awarded<sup>2</sup> **Philosophy Doctor (PhD)**

Name of awarding institution<sup>3</sup> **University of London, Imperial College of Science Technology and Medicine**

Key features<sup>4</sup> Computational Fluid Dynamics (CFD), spray injection processes modelling, two-phase flows modelling, Eulerian/Lagrangian modelling methodology, gasoline direct injection (GDI) spray modelling, spray modelling/simulation/validation, internal combustion engines (ICE) modelling, ICE simulations and validation.

Dates<sup>1</sup> Nov 2006

Title of qualification awarded<sup>2</sup> **Diploma of Imperial College (DIC) in Mechanical Engineering**

Name of awarding institution<sup>3</sup> **Imperial College of Science Technology and Medicine**

Key features<sup>4</sup> Computational Fluid Dynamics (CFD), spray injection processes modelling, two-phase flows modelling, Eulerian/Lagrangian modelling methodology, gasoline direct injection (GDI) spray modelling, spray modelling/simulation/validation, internal combustion engines (ICE) modelling, ICE simulations and validation.

Dates<sup>1</sup> July 1997

Title of qualification awarded<sup>2</sup> **Diploma in Mechanical Engineering**

Name of awarding institution<sup>3</sup> **National Technical University of Athens (NTUA), Greece**

Key features<sup>4</sup> Mechanical Engineering Fundamentals, Fluid Dynamics, Advanced Fluid Dynamics, Thermodynamics, Internal Combustion Engines, Heat Transfer, Gas Turbines, Steam Turbines, Wind Energy, Computational Fluid Dynamics, Environmental Fluid Dynamics, Nuclear Energy, Power Plants

### Work experience

Dates Feb 2010 – Present

Employer Name<sup>5</sup> Frederick University Cyprus, Department of Mechanical Engineering

Occupation or position(s) held<sup>6</sup> Lecturer in Internal Combustion Engines

Main activities and responsibilities<sup>7</sup> Teaching the courses of: Internal Combustion Engines Fundamentals, Internal Combustion Engines Design, Computational Fluid Dynamics (CFD) Methodology and Applications, Analysis of Power Generation Technologies, Gas Turbines, Turbomachinery, Electromechanical Services, Dynamics, Computer Aided Design Methodology. Supervision of students' projects on topics of Internal Combustion Engine (ICE) Measurements, ICE Design, ICE modelling and performance, ICE and injectors modelling and CFD simulations, Turbomachine's Design and Performance Analysis, Renewable Energy Sources with emphasis in Solar/Thermal power plants. Upgrading,

	<p>setting and operating the research and teaching laboratory of Internal Combustion Engines and the Automotive Engineering Laboratory.</p> <p>Member of the Committee responsible for the management and organisation of the Laboratories of the Mechanical Engineering Department.</p> <p>Elected representative of the Mechanical Engineering Department in the Council of the School of Engineering and Applied Sciences.</p> <p>Member of the Committees of the Masters Programmes:  - MSc in Energy Systems and the Built Environment  - MSc in Oil &amp; Gas and Offshore engineering  Teaching the MSc Courses: Introductions to Energy Technology Systems (MES501), Power generation Technologies (Oil, Gas, Coal, Nuclear) (MES511), Process Design, Modelling and Simulation (MOE505)</p> <p>Member of the committee for the BSc in Mechanical Engineering and Bsc in Automotive Engineering Programmes restructuring.</p> <p>Member of the Health and Safety Committee of Frederick University.</p>
Dates	Sept 2008 – Jan 2010
Employer Name <sup>5</sup>	Frederick University Cyprus, Department of Mechanical Engineering
Occupation or position(s) held <sup>6</sup>	Special Teaching Staff
Main activities and responsibilities <sup>7</sup>	Teaching the courses of: Internal Combustion Engines Fundamentals, Internal Combustion Engines Design, Gas Turbines, Electromechanical Services. Supervision of students' projects on topics of Internal Combustion Engine Design, Renewable Energy Sources with emphasis in Solar/Thermal power plants
Dates	Jan 2009 – Dec 2009
Employer Name <sup>5</sup>	Cyprus University of Technology
Occupation or position(s) held <sup>6</sup>	Department of Mechanical Engineering and Materials Science and Engineering Special Scientist
Main activities and responsibilities <sup>7</sup>	Teaching the courses of Mathematics and Advanced Mathematics
Dates	Feb 2008 – May 2008
Employer Name <sup>5</sup>	Cyprus Institute of Energy
Occupation or position(s) held <sup>6</sup>	Consultant Mechanical Engineer
Main activities and responsibilities <sup>7</sup>	Field investigations and preparation of tender documents for the supply, installation and maintenance of photovoltaic systems, solar-thermal power plant and solar cooling and heating systems
Dates	May 2007 – Aug 2007
Employer Name <sup>5</sup>	University of Cyprus, Mechanical and Manufacturing Engineering Department
Occupation or position(s) held <sup>6</sup>	Special Scientist
Main activities and responsibilities <sup>7</sup>	Turbulence model development for the research programme "Direct numerical simulation and structured-based modelling of atmospheric aerosol dispersion"
Dates	Oct 2006 – Oct 2007
Employer Name <sup>5</sup>	European Office of Cyprus, University of Cyprus
Occupation or position(s) held <sup>6</sup>	Research officer
Main activities and responsibilities <sup>7</sup>	Preparation and management of proposals for European Union research and development programmes, and dealing with Funding and Policies for the interests of Cypriot Organisations

Dates	May 1999 – May 2004
Employer Name <sup>5</sup>	Imperial College
Occupation or position(s) held <sup>6</sup>	Researcher
Main activities and responsibilities <sup>7</sup>	Internal Combustion Engines research and computational fluid dynamics for the research project “Cosworth Gasoline Direct Injection (GDI) engine modelling”
Dates	Sept 1998 – Jan 1999
Employer Name <sup>5</sup>	Mechanical Engineering Consultants N. E. Aristodemou Ltd , Cyprus
Occupation or position(s) held <sup>6</sup>	Consultant Mechanical Engineer
Main activities and responsibilities <sup>7</sup>	Design of building services projects, tender documents preparation, tenders evaluation and supervision of projects
Dates	Dec 1997 – Aug 1998
Employer Name <sup>5</sup>	Arenco Ltd, Cyprus
Occupation or position(s) held <sup>6</sup>	Mechanical Engineer
Main activities and responsibilities <sup>7</sup>	Dealing with building services projects and consulting, tender preparation, sales and technical support for a wide range of heating, ventilation and air-conditioning systems.

## Professional Organisations<sup>8</sup>

Member of the Technical Chamber of Cyprus (ETEK).  
Member of the Combustion Institute, Greek Section.

## Awards<sup>9</sup>

Bonus by the Board of Directors of the European Office of Cyprus for exceptional performance as officer. Aug 2007  
Sponsorship by Cosworth Technology Ltd for post-graduate research studies at the Imperial College. May 1999  
Scholarship by the State Fellowship Foundation of Greece for undergraduate studies at the National Technical University of Athens. Sept 1992  
Rank first in Cyprus High Schools entry exams for the Mechanical Engineering Department of the National Technical University of Athens. July 1990  
Distinctions in Physics, Chemistry and Mathematics in Cyprus High Schools Competitions. June 1990

## Publications

1. Chasos, C. A., Karagiorgis G. N. and Christodoulou, C. N. “Gasoline direct injection internal injector flow CFD simulations for various bioethanol blends”. Proceedings of ILASS 2013, 25<sup>th</sup> European Conference Liquid Atomization & Spray Systems. Chania, Crete, Greece, 1-4 September 2013. (Paper ref. No. 69). (**refereed paper**)
2. Charalambos A. Chasos, George N. Karagiorgis, and Chris N. Christodoulou. “Diesel Internal Combustion Engine Emissions Measurements for Methanol-Based and Ethanol-Based Biodiesel Blends”. Hindawi Publishing Corporation, Conference Papers in Science (CPIS) Journal, Conference Papers in Energy, Volume 2013, Article ID 162312, 8 pages, <http://dx.doi.org/10.1155/2013/162312>, 2013.
3. Chasos, C. A., Karagiorgis G. N. and Christodoulou, C. N. “Emissions measurements of naturally-aspirated and turbo-charged Diesel internal combustion engines for various biodiesel blends”. Proceedings of the 4th Interantional Conference on Renewable Energy Sources & Energy Efficiency. Hilton Hotel, Nicosia, Cyprus, 6 – 7 June, 2013. (**refereed paper**)
4. Chasos, C. A., Karagiorgis G. N. and Christodoulou, C. N. “Technical and feasibility analysis of gasoline and natural gas fuelled vehicles”. 2<sup>nd</sup> International Energy Conference on Power Options for the Eastern Mediterranean Region. Nicosia, Cyprus, 7 – 9 October, 2013. (**Accepted refereed paper**)
5. Chasos, C. A., Karagiorgis G. N. and Christodoulou, C. N. “Diesel internal combustion engine emissions measurements for methanol-based and ethanol-based biodiesel

*blends*". Proceedings of the Power Options for the Eastern Mediterranean Region POEM 2012 Conference. 19-21 November 2012, Limassol, Cyprus. (Paper ref. No. POEM12/106) **(refereed paper)**

6. C. A. Chasos, C. N. Christodoulou and G. N. Karagiorgis. "CFD simulations of multi-hole Diesel injector nozzle flow and sprays for various biodiesel blends". Proceedings of ICLASS 2012, 12th Triennial International Conference on Liquid Atomization and Spray Systems, Heidelberg, Germany, September 2-6, 2012. (Paper ref. No. 1263). **(refereed paper)**
7. C.A. Chasos, E.I. Ioannou, A.E. Kouroufexis, C.N. Christodoulou, P.M. Artemi and G.N. Karagiorgis. "Biofuels production and testing in Internal Combustion Engines" Proceedings of the 3<sup>rd</sup> International Conference on Renewable Energy Sources & Energy Efficiency, Hilton Hotel, Nicosia, Cyprus, 19 – 20 May, 2011. (Pages 141-153) **(refereed paper)**
8. Chasos, C. A., Karagiorgis G. N. and Christodoulou, C. N. "Utilisation of solar/thermal power plants for production of hydrogen with applications in the transportation sector". Proceedings of the 7<sup>th</sup> Mediterranean Conference and Exhibition on Power Generation, Transmission, Distribution and Energy Conversion (MEDPOWER 2010). Agia Napa, Cyprus, 7 – 10 November, 2010. (Paper ref. No. MED10/113). **IET Conference Publications, Volume 2010, Issue 572 CP, 2010 (refereed paper)**
9. Chasos, C. A., Karagiorgis G. N. and Christodoulou, C. N. "Solar/thermal power plants: Thermodynamics, efficiency, technical and economical feasibility of combined thermal and solar power systems at Mediterranean areas". Proceedings of Distributed Renewable Energy Sources (DISTRES) in the Mediterranean region, Hilton, Nicosia, Cyprus, 11-12 December 2009. (Paper ref. No. 115). **(refereed paper)**
10. Chasos, C. A. "Field measurements and technical specifications of grid-connected photovoltaic systems for the supply, installation and maintenance on public buildings of the government of Cyprus". Technical Report, Institute of Energy, Nicosia, Cyprus. May, 2008.
11. Chasos, C. A. "Computational Fluid Dynamics (CFD) simulation of direct injection gasoline sprays". PhD Thesis, *Imperial College of Science Technology and Medicine*, University of London. London, England, 2006.
12. Chasos, C. A. "Combustion and spray modelling of Gasoline Direct Injection (GDI) Internal Combustion Engines". Transfer Report from M.Phil. to PhD, Thermo-Fluids Section, Mechanical Engineering Department, *Imperial College of Science Technology and Medicine*, University of London. London, England, 2001.
13. Chasos, C. A. "Experimental investigation of the effect of mounting channel of pressure sensors on the indicative power of a marine Diesel engine". Diploma Thesis. *National Technical University of Athens*. Athens, Greece, July, 1997.

## Additional information

Research Interests

Internal Combustion Engines. Computational Fluid Dynamics (CFD) modelling, simulations and validation of flow processes in Internal Combustion Engines, with emphasis in spray primary atomisation, ICE spray modelling, simulations and validation. Internal Combustion Engines (ICE) analysis and design with emphasis in the study of two-phase flows accompanied with heat and mass transfer, and turbulent flow and combustion phenomena taking place in the cylinders of ICE. Development and application of computational models and CFD codes and examination of modelling and simulation methodologies for the prediction of flow process in ICE, including Reynolds Averaged Navier Stokes (RANS) approach, Large Eddy Simulation (LES) approach and Direct Numerical Simulation (DNS). ICE experimental measurements and analysis. Application of the CFD methodology for biofuels internal injector flow characterisation and biofuels spray simulations and validation against experiments. Investigation of alternative fuels, biofuels, natural gas and hydrogen in ICE. Investigation and analysis of power generation technologies and systems exploiting renewable energy sources.

Conference Participation/Presentations

1. **Presentation** in the "Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region (DISTRES 2009)", Hilton, Nicosia-Cyprus, December 11-12, 2009.
2. **Presentation** in the "7<sup>th</sup> Mediterranean Conference and Exhibition on Power Generation, Transmission, Distribution and Energy Conversion (MEDPOWER 2010)". Agia Napa, Cyprus, 7 – 10 November, 2010.
3. **Presentation** in the "3<sup>rd</sup> International Conference on Renewable Energy Sources &

- Energy Efficiency". Hilton Hotel, Nicosia, Cyprus, 19 – 20 May, 2011.
4. **Presentation** in "ICLASS 2012, 12th Triennial International Conference on Liquid Atomization and Spray Systems", Heidelberg, Germany, September 2-6, 2012.
  5. **Presentation** in the Conference Power Options for the Eastern Mediterranean Region POEM 2012. 19-21 November 2012, Limassol, Cyprus. (Paper ref. No. POEM12/106)
  6. **Presentation in** the 4th International Conference on Renewable Energy Sources & Energy Efficiency. Hilton Hotel, Nicosia, Cyprus, 6 – 7 June, 2013.
  7. **Presentation in** ILASS 2013, 25<sup>th</sup> European Conference Liquid Atomization & Spray Systems. Chania, Crete, Greece, 1-4 September 2013.
  8. **Chairman in** Session: CFD / Sprays I, 03/09/2013 in ILASS 2013, 25<sup>th</sup> European Conference Liquid Atomization & Spray Systems. Session Chania, Crete, Greece, 1-4 September 2013.