

CURRICULUM VITAE Professor Yannis Hardalupas, Dipl (Eng.), DIC, PhD

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Personal Details

Born 22 August 1960, Volos, Greece. Dual Nationality British and Greek, Married with 2 children.

1978 - 1984	National Technical University of Athens, Greece, Diploma (Eng.) - Mechanical Engineering
1984 - 1988	SERC/CEGB Research Assistant, Imperial College, Mechanical Engineering Department
1989	PhD and DIC, Imperial College, Mechanical Engineering Department
1990 - 1991	Research Associate, Imperial College, Mechanical Engineering Department
1991 - 1994	Research Fellow, Imperial College, Mechanical Engineering Department
1994 - 1998	Advanced Research Fellow of the Engineering and Physical Sciences Research Council Imperial College, Mechanical Engineering Department
1996	Invited Guest Scholar at Shibaura Institute of Technology, Tokyo, Japan.
1998 – 2003	Lecturer, Imperial College, Mechanical Engineering Department
1998	Invited Guest Scholar at DLR (German Aerospace Laboratories), Goettingen
1999 – 2000	Royal Academy of Engineering Industrial Secondment to Ricardo Consulting Engineers Ltd
2003 – 2009	Reader in Multiphase Flows, Imperial College, Mechanical Engineering Department
2009 – date	Professor of Multiphase Flows, Imperial College, Mechanical Engineering Department

Research Interests

- Development and application of optical experimental methods in combustion, liquid atomisation and two-phase flows.
- Experimental study of control of emissions and combustion oscillations for improved thermodynamic cycle efficiency of land-based gas turbines and industrial burners
- Experimental study of control of emissions from Gasoline and Diesel engines – control of in-cylinder combustion and catalytic exhaust after-treatment
- Experimental and numerical study of atomisation of liquid fuels and internal flow characteristics and liquid cavitation of automotive and aeroengine atomisers
- Experimental and numerical study of particle pair dispersion and probability of particle collisions. Application to particle agglomeration and granulation in the chemical industry
- Coating and cleaning of surfaces with applications in the food industry
- Development of optical particle sizing and composition of Nanoparticles. Applications to particle synthesis in flames
- Experimental and numerical study of microflows with dispersed nanoparticles for coolants with improved heat transfer properties

Author of more than 80 journal publications and 100 refereed conference proceedings in the areas of two-phase flows, combustion, liquid atomisation and development of relevant optical instrumentation. 3 patents for instruments for droplet, powder and nanoparticle sizing.

Invited Lectures include:

- "Developments on Optical Diagnostics for spray measurements and links to advanced computational methods" Plenary Lecture at the 24th Annual Conference on Liquid Atomization and Spray Systems, ILASS – Europe 2011, 5 September 2011, Estoril, Portugal.
- "Optical connectivity technique for studies of primary atomisation of liquid jets" Keynote Lecture at the 12th International School on Advanced Optical Techniques (SAOT) Workshop on "Optical Engine Diagnostics" 28-29 March 2011, Erlangen, Germany.
- "Interferometric Laser Imaging Droplet Sizing (ILIDS)" Keynote Lecture at the 10th International School on Advanced Optical Techniques (SAOT) Workshop on Spray Diagnostics, 12-13 October 2010, Erlangen, Germany.
- "Quantitative Fuel-Air ratio measurements using Flame Chemiluminescence in Gas Turbine combustors and Spark Ignition Engines", Keynote Lecture at the 7th School on Advanced Optical Techniques (SAOT), 15-16 July 2009, Erlangen, Germany.
- "New concepts for combustors and fuel devices for aircraft engines", Plenary lecture at the 3rd European Low Emission Combustion Technology (ELECT) Workshop, 24 Sept 2008, Toulon, France.
- "Optical measurements of A/F ratio and droplet distributions in a gasoline engine". Invited presentation at the Universities Internal Combustion Engines Group (UnICEG), Brunel Univ., 13 Dec 2007
- "Break-up process and droplet clustering in sprays", Keynote presentation at the Euromech 493 Conference on "Interface Dynamics, Stability and Fragmentation", Grenoble, France, 29-31 Aug 2007
- "Optical diagnostics for characterisation of primary atomisation", Invited presentation at the United Technologies Research Centre Workshop on Primary Atomization, East Hartford, USA, 18 June 2007.
- "Nanoparticles in flames: mastering production or prevention", Invited presentation at the Nanosciences Workshop, Oak Ridge National Lab, USA, 8 November 2005
- "Recent research on the HONDA VTEC-E Spark Ignition and HCCI gasoline engine", Invited presentation at the Sandia National Laboratories, Livermore, USA, 13 January 2005
- "Planar Droplet Sizing (PDS) technique for spray characterisation", Plenary Lecture, Conference of the Japanese Society on Liquid Atomisation and Spray Systems (ILASS-Japan '99), Osaka, 1999.

Membership of Professional Bodies and Learned Societies

- Greek Chamber of Chartered Engineers (1984-), Member
- American Institute of Aeronautics and Astronautics (AIAA) (1993-), Associate Fellow
- Combustion Institute (British Section) (1993-), Member
- Society of Automotive Engineers (SAE) (1995-), Senior Member
- International Liquid Atomisation and Spray Systems (ILASS) (1998-), Member
- Institute of Physics (IOP) (2000-), Member

Frequent Reviewer for several academic and professional journals. Member of EPSRC panel review body. Research Proposal Evaluator for the European Union 7th Framework Aero Transport Programme. Specialist Reviewer for French, Netherlands, Swedish and Hong-Kong Research Councils and for Israel Science and United States Civilian Research and Development Foundations.

Professional Committees

- Member of Governing Body of Technological Educational Institute (TEI) of Athens, Greece (2013-2017)
- Chairman of External Evaluation Committee of Technological Educational Institute (TEI) of Athens, Greece – Department of Energy Technology (2012)
- Deputy Chair of the Committee of the Combustion Physics Group of the Institute of Physics (2012-)
- Member of the Committee of the British Section of the Combustion Institute (2010-)
- Member of the Committee of the Combustion Physics Group of the Institute of Physics (2010-)
- Associate Editor of Journal of Combustion (2009-)
- Associate Editor of International Journal of Spray and Combustion Dynamics (IJSCD) (2008-)
- Member of European Turbine Network (ETN) (2008-)
- Technical Committee, Propellants and Combustion, American Institute of Aeronautics and Astronautics (AIAA) (2001-)
- Panel committee of Engineering Physical Sciences Research Council (EPSRC) (2000-)
- Panel member of EPSRC network on Electricity Supply Research (ESR), (2002-2005).
- Witness, House of Lords, Select Committee Science and Technology: Academic Research Careers for Graduate Scientists (1995).

Scientific Committees

- Organiser, Combustion Institute (British Section), Atomisation and Spray Combustion (26 September 2007) and Optical diagnostics for combustion Applications (19 June 2012)
- Organiser, Spray modelling Workshop: comparison between Automotive and Aeroengine applications, London, 16-17 April 2012
- Co-Chair of Committee of International Conference of Mechanical Engineering of the World Congress on Engineering (WCE) (London 2007- 2013)
- Member of Advisory Committee, International Conference on Fundamentals, Experiments, Numeric and Applications on Particles in Turbulence (Germany 2011; Netherlands 2013).
- Member of Advisory Committee, International Symposium on Applications of Laser Techniques to Fluid Mechanics, (Portugal, 2006, 2008, 2010, 2012 and 2014)
- Member of Scientific Committee of 12th International Confer. on Liquid Atomization and Spray Systems (ICLASS) (Germany 2012)
- Member of Scientific Committee, International Conference on Multiphase Flows (ICMF), (USA 2001; Japan 2004; Germany 2007)
- Leading Scientist, 6th World Confer. on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics (ExHFT-6), (Japan, 2005)
- Leading Scientist, 1st International Conference on Industrial Gas Turbine Technologies (Brussels, 2003)
- Member of Scientific Committee, 6th and 7th Optical Particle Characterisation (OPC), (Brighton 2001 and Japan 2004)
- Member of Scientific Committee, International Liquid Atomisation and Spraying Systems (ILASS), 16th (Germany 2000), 17th (Switzerland 2001), 24th (Portugal, 2011) and 25th (Greece, 2013).

Awards and Distinctions

- Industrial Secondment, Royal Academy of Engineering (1999)
- Advanced Fellowship, Engineering Physical Sciences Research Council (EPSRC) (1994)
- Unwin Prize for exceptional merit of PhD thesis (1990).