

LFA RESEARCHERS

COMPLETE LIST

June 22, 2016

GRADUATE STUDENTS

Ph.D. DISSERTATIONS

- A.1 Zhu, J.Y. (1991) "Coherent Anti-Stokes Raman Spectroscopy (CARS) Gas Temperature Measurements in Monodisperse Combusting Droplet Stream."
- A.2 Chung, I.P. (1992) "A Study of Aerosol Inhalability into Blunt Samplers and the Human Head."
- A.3 Garman, J.D. (1996) "Issues in Laser Diagnostics for Combustion Thermometry: Low Pressure Flames and Spatial Averaging."
- A.4 Connon, C.S. (1997) "Significance of Droplet-Droplet Interactions in Droplet Streams: Atmospheric to Supercritical Conditions."
- A.5 Buchanan, C.R. (1997) "CFD Characterization of a Mechanically Ventilated Office Room: The Effects of Room Design on Ventilation Performance."
- A.6 Dimalanta, R. (1998) "Experimental Investigation of Reduced Vaporization in a Droplet Stream Flame."
- A.7 Strayer, B.A. (2001) "The Importance of Actuation Mechanisms in the Control of Non-Premixed Combustion."
- A.8 Posner, J.D. (2001) "Resonant and Non-resonant Holographic Interferometry in Axisymmetric Flames."
- A.9 Rickard, M.A. (2005) "Ion-Driven Wind: Aerodynamics, Performance Limits, and Optimization"
- A.10 Papac, M.J. (2005) "Electrical Aspects of Gaseous Fuel Flames for Microgravity Combustion and Combustion Control."
- A.11 Pham, T.K. (2006) "Fuel Film Combustion in a Miniature Combustor."
- A.12 Gowadia, N.A. (2007) "Size-segregated Chemistry in Mainstream Tobacco Smoke." (in Environmental Toxicology)
- A.13 Therkelsen, P. (2009) "SI to HCCI Operation of a Small Macro-Scale 4-Stroke Engine."
- A.14 Kim, K.M. (2010) "The Effects of Carbon-in-Ash on Mercury Capture from Flue Gas."
- A.15 Puranam, V.S. (2010) "Combustion in Cavities and Accelerating Flows."
- A.16 Abbilian, S. (2011) "Unstable Liquid-Liquid Dispersed Flows in Industrial Installations."
- A.17 Rohani, M. (2011) "Controlling the Breakup of Capillary Liquid Jets." (co-advisor, with F. Jabbari)
- A.18 Tiwari, N. (2011) "Non-Linear Endoscopic Microscopy System for Potential use in Diagnosing Rheumatoid Arthritis." (co-advisor, with B. Tromberg, BME)
- A.19 Karnani, S. (2011) "Electrical Control of Combustion in Microgravity."
- A.20 Jiang, F. (2012) "Mercury Removal from Flue Gas by Aqueous Precipitation" (in Environmental Engineering)
- A.21 Mirsepassi, A. (2012) "Suspension Dynamics and Hydrodynamic Interaction in Viscoelastic Fluids."
- A.22 Roshandell, M. (2013) "Combustion of Methane Hydrate."
- A.23 Moslemi, M.K. (2013) "Measurements and modeling of pulverized fuel char in an Entrained Flow Reactor."
- A.24 Yu-Chien (Alice) Chien (2015) "Electrical Aspects of Impinging Flames."
- A.25 Ziaee, A. (2016) "Ultra-short Pulse Off-axis Digital Holography and Kerr Effect Ballistic Imaging in Highly Scattering Environments such as Formation Region of Diesel Sprays."

M.S. THESES and PROJECTS

- B.1 Huang, H.S. (1990) "Numerical Solutions for Steady Flow Past Two-Dimensional Blunt Body Samplers."
- B.2 Nguyen, Q.V. (1990) "Measurements of Droplet-Droplet Interaction and Aerodynamics."
- B.3 Huang, L. (1991) "Focusing of Gaussian Laser Beams through a Gradient Index Lens." (project)
- B.4 Buerkle, J.A. (1991) "Surface Defect Detection by Laser Light Scattering."
- B.5 Luzar, J.E. (1992) "Vaporization in a Linear Droplet Stream Flame."
- B.6 Gray, A.L. (1992) "Optical Sizing of Tobacco Smoke by Laser Light Scattering and Extinction."
- B.7 Zhang, Y.F. (1992) "Study of Gas Phase Chemistry in CVD Diamond Deposition."
- B.8 Davies, B. (1992) "Computer Control of an IC Engine." (co-advisor Prof. Bobrow)
- B.9 Garman, J.D. (1993) "The Dependence of NO₂ Degenerate Four-Wave Mixing Signals on Buffer Gas Pressure."
- B.10 Chang, E. (1993) "Measurement of Sidestream Tobacco Smoke Particle Size Distribution."
- B.11 Silverman, M.A. (1993) "Experimental Investigation of a Droplet Stream Flame."
- B.12 Connon, C.S. (1993) "Instabilities of Monodisperse Droplet Streams under High Ambient Pressures."
- B.13 Dimalanta, R. (1994) "Vaporization of Waste Oil Sludge."
- B.14 Choi, C. (1996) "Laser Induced Fluorescence in an Acetone Droplet Stream."
- B.15 Miyasato, M. (1996) "Fluid Dynamics near a Self-Cleaning Sensor." (project)

- B.16 Strayer, B. (1997) "Active Control Methodology Applied to a Laminar Non-Premixed Flame." (co-advisor Prof. Jabbari)
- B.17 Vu, K. (1998) "Biomedical Microbeam Characterization using Photochromic Film,"
- B.18 Posner, J.D. (1998) "LDV and PIV Measurements of Indoor Air Flows in a Model Room."
- B.19 Yang, F.S. (1999) "Acoustic Control of a Rijke Tube Burner."
- B.20 Moorefield, C. (1998) "Lean Engine Combustion Using Hydrogen Enhanced Gasoline Fuel." (project)
- B.21 McKinney, D.J. (1999) "A Droplet Stream Flame in an Acoustic Field."
- B.22 Gonzalez, M. (2000) "Prospects for an Electrohydrodynamic Spray Burner" (project)
- B.23 Grueneis, M.E. (2002) "Heat Transfer Correlation for Turbulent Natural Convection on an Isogrid Panel."
- B.24 Rickard, M.A. (2002) "The Study of an Electrified Air-Assisted Liquid Atomizer."
- B.25 Papac, M.J. (2002) "N₂ CARS Thermometry and O₂ LIF Measurements of an Electrically Induced Microbuoyant Flame."
- B.26 Co, T. (2002) "Emissions from a Rijke-tube Combustor." (project)
- B.27 Pham, T.K. (2003) "Study of a Miniature Liquid Fuel Film Combustor."
- B.28 Papac, J.E. (2004) "Combustion in a Miniature Combustion Engine."
- B.29 Iobbi, D.K. (2004) "Controlling Piezoelectric Generated Droplets."
- B.30 Kwa, S. (2005) "ADVISOR and the RC Car" (project)
- B.31 Pompa, J. (2006) "Performance of Miniature IC Engines."
- B.32 Amade-Sarzi, N. (2007) "Mixing Flows in a Converging Curved Duct."
- B.33 Wei, Y. (2007) "Formation Temperature of Ammonium Bisulfate at Simulated Air Preheater Conditions."
- B.34 Abbilian, S. (2008) "An Investigation of Self-Induced Combustion Instabilities in a Low-Swirl Burner"
- B.35 Jepsen, A. (2009) "Characterization of Dynamic, Surfactant-free Emulsions"
- B.36 Ly, D. (2009) "Analysis of Potential for Quantum Cascade Laser Measurements of Carbon Monoxide under Realistic Combustion Conditions"
- B.37 Maghzi, S. (2009) "Design, Construction, and Testing of an Entrained Flow Reactor for Coal"
- B.38 Mirsepassi, A. (2009) "Numerical Simulation of an Air Preheater Channel." (project)
- B.39 Menasha, J. (2010) "In Situ Characterization of ABS Formation in a Model Air Preheater Channel."
- B.40 Palencia, M. (2010) "Feeding Pulverized Coal for Char Burnout Studies." (project)
- B.41 Lim, J.H. (2010) "Performance Mapping of a Small-Scale Water-Cooled 4-stroke IC Engine: Potential for HCCI Operation."
- B.42 Tran, M.K. (2010) "Optical Diagnostics to Characterize the Sooting Propensity of Biofuel-Diesel Diffusion Flames."
- B.43 Karimi, A. (2010) "Thermal Deformation Analysis of Modular Mirrors."
- B.44 Scott Toma, S. (2011) "Comparison of the Dynamic Response of a Tooth Between a High Speed Drill and Dental Laser."
- B.45 Tsai, H.-J. (2011) "Attempts to Model Electrical Field Effects on Flames." (project)
- B.46 Roshandell, M. (2011) "Combustion of Fuel Hydrates." (project)
- B.47 Marti-Duran, F. (2012) "Droplet Evaporation in an Active Turbulence Grid Wind Tunnel."
- B.48 Dang, J. (2012) "Structure of Intermittent Fuel Sprays." (project)
- B.49 Tapia, J. (2012) "Laser Measurements in Flames." (project)
- B.50 Kuehne, R. (2013) "Prototyping, Testing, and Improvement of a Mechanical Trap Toilet."
- B.51 Ziaee, A. (2013) "Digital Holography in Multi-Phase Media." (project)
- B.52 Kong, S. (2013) "Studying the Temperature Profile of a Flame-Heated Plate using Solidworks." (project)
- B.53 Martin, David Escofet (2014) "OH PLIF Measurements in an Impinging Non-Premixed Flame." (project)
- B.54 Guerra, Alexandra (2014) "UCI Solar Stove." (project)
- B.55 Santacana-Vall, Joan (2014) "Water Evaporation during Methane Hydrate Combustion."
- B.56 Saeidi, Navid (2014) "Designed Loop for a High Pressure Salt Water Tunnel for CO₂ Hydrate Formation." (project)
- B.57 Rodriguez, Noe (2014) "Energy Balance of Hot Plate Cooking of Chapati." (project)
- B.58 Tinajero, Jesse (2014) "Chemi-Ion Driven Flows in an Electric Field."
- B.59 Foster, Stuart (2015) "Spherical Solar Stove: A Characterization Study." (project)
- B.60 Gomez, Antonio (2015) "Development and Verification of an Instrumented Small Engine Testbed." (project)
- B.61 Nodem, Andre (2015) "Volume and Flow Rate Measurements using a Custom-Made Flowmeter." (project)
- B.62 Ricchuiti, Valentina (2016) "OpenFOAM Simulations of Impinging Coflow Flames, including Chemi-Ionization and Electric Fields."
- B.63 Bryant, Michael (2016) "Discharge Flux Variability in Stored Thermal Energy Cookstoves."

VISITING RESEARCHERS

- C.1 Simone Stanchi, Polytechnic Milano – Engineering Degree student, 2002 – Pressurized miniature film combustor (with Prof. W.A. Sirignano)
- C.2 Andrea Favalessa, University of Padua – Engineering Degree student, 2004 – Heat recirculating burner
- C.3 Nicola Amade Sarzi, Polytechnic Milano – Engineering Degree student, 2005 – Annular film combustor (with Prof. W.A. Sirignano)
- C.4 Elisangela Leal – Post Doctoral Researcher, 2003-2005 – Portable power; fuel cells (with Prof. F. Jabbari and Dr. J. Brouwer)
- C.5 Amauri Leal – visiting M.S. student, Brazil, 2003-2005 – On board methanol reformer for miniature IC engines
- C.6 Yeuh-Heng (Zic) Li – visiting Ph.D. student from National Cheng Kung University, Taiwan (2005-2006) – Combustion of liquid films on flat plates
- C.7 Francesco Borgatelli, Polytechnic Milano – Engineering Degree student, 2006 – Feedback control of flames with electric fields, “Behavior of a Small Diffusion Flame Affected by an Electric Field,” degree conferred 2008/2009.
- C.8 Roberto Mattioli, Polytechnic Milano – Engineering Degree student 2006/2007 – Miniature Liquid Film Combustors with Secondary Air Injection
- C.9 John Garman – Post Doctoral Scientist, 2006-present – Laser Diagnostics in Combustion; Miniature Engine Combustion
- C.10 Jonathan Arici, Polytechnic Milano – Engineering Degree student, 2007/2008 – Experiments in a Model Turbine Burner
- C.11 Kiyotaka Yamashita, Post Doctoral Scientist, University of Tokyo, summer 2008 – Numerical Simulation of Electric Effects in Diffusion Flames
- C.12 Luca Castronuovo, Polytechnic Milano – Engineering Degree student 2009/2010 – Nanopowder Ignition and Combustion
- C.13 Julian Glorian, Universite D’Orleans, France – Engineering Degree student 2011 – Computational study of ions and excited state species in a methane/air laminar diffusion flame
- C.14 Oh Chae Kwon, Sungkyunkwan University, Korea (visiting Professor) - water laden counterflow flames
- C.15 Claudio Giani, Politecnico Milano – Engineering Degree student 2011/2012 – Swirl designs for miniature film combustor
- C.16 Feng (Jeff) Jiang, Post Doctoral Lab Assistant, Spring/Summer 2012 – Experiment design
- C.17 Sunny Karnani, Post Doctoral Project Scientist, 2013-present – Deep ocean power science laboratory design and construction
- C.18 David Escofet Martin, Universitat Politcnica de Catalunya, Terrassa, Engineering Degree student 2011/2012 – Laser Spectroscopy Techniques: 2D OH Planar Laser Induced Fluorescence
- C.19 Laia Torregrosa Sauret, Universitat Politcnica de Catalunya, Terrassa, Engineering Degree student 2012/2013 – Automated Measurements in a Counterflow Flame
- C.20 Joan Santacana Vall, Universitat Politcnica de Catalunya, Terrassa, Engineering Degree student 2012/2013 – Automated Measurements in a Hydrate Flame
- C.21 Marco Minniti, Politecnico Milano – Engineering Degree student 2012/2013 – Thin Filament Pyrometry for Combustion System Temperatures
- C.22 Valentina Ricchiuti, Politecnico Milano – Engineering Degree student 2012/2013 – Chemical Kinetics in a Water-Laden Non-Premixed Counterflow Flame
- C.23 Michela Vicariotto, Politecnico Milano – Engineering Degree student 2013/2014 – Laser-Induced Spark Ignition of Methane Hydrates; thesis date: July, 2015
- C.24 Valentina Ricchiuti – Researcher 2014 – CFD of Combustion using OpenFOAM; Researcher 2016 – CFD of Electrical Properties of Flames using LBNL code
- C.25 Bai Jie – Researcher 2013/2014 – Schlieren Methods for Fluid Mechanics Research
- C.26 Albert Aguilera Roman, Universitat Politcnica de Catalunya, Terrassa, Engineering Degree student 2014/2015 – Relating CH* Chemiluminescence to Charged Species in a Nonpremixed Methane Flame
- C.27 Andrea Biasioli, Politecnico Milano – Engineering Degree student 2014/2015 – Methane Hydrate Growth and Morphology with Implications for Combustion
- C.28 Adriana Llado Gambin, Universitat Politcnica de Catalunya, Terrassa, Engineering Degree student 2014/2015 – Thin Filament Pyrometry Measurements in a Counterflow Flame
- C.29 Daijin Li – Researcher 2014/2015 – Energy Systems Analysis
- C.30 Jaume Felip Escolà, Tcnica Superior d’Enginyeries Industrial i Aeronutica de Terrassa (ETSEIAT), Engineering Degree student 2015 – Pressure Measurements in a Small IC Engine
- C.31 Claudia Lopez Camara, Escola Tcnica Superior d’Enginyeria Qumica, Universitat Rovira i Virgili, Tarragona, visiting M.Sc. student 2014/2015 – Numerical Simulation of a Co-Flow Methane/Air Flame Including Ions and Excited Species
- C.32 Chaobo Yang – Researcher 2015/2016 – Advanced Laser Diagnostics, hybrid fs/ps coherent anti-Stokes Raman spectroscopy; measurements and spectral fitting

INTERNSHIP PROJECTS (with reports)

- D.1 Jeremie Descours, ISAE, ENSMA, France – Intern student 2011 – Computational Fluid Dynamics and Experiment of Coal Combustion
- D.2 Benjamin Debareix, ISAE, ENSMA, France – Intern student 2011 (no formal report) – OpenFOAM Computation of Jet Diffusion Flame Impinging on a Surface
- D.3 Mishal Francis, University of Glasgow – Intern student 2011/2012 – IR detection of electrical effects on small diffusion flames
- D.4 Joshua Jacobs, University of Glasgow – Intern student 2011/2012 – Soot imaging in small diffusion flames
- D.5 David Mazo, ISAE Supaero, 2012: Droplet evaporation in turbulent flow
- D.6 Oscar Martinez, ISAE Supaero, 2012: Droplet evaporation in turbulent flow
- D.7 Marie Vinay, ENSMA, 2012: Small engine test stand for biofuel operation
- D.8 Fabien Plongeron, ENSMA, 2012: Image processing for chemiluminescence in sooting flames
- D.9 Antoine Larignon, ENSMA, 2012: Thermal modeling of ice and hydrates for clathrate combustion
- D.10 Kevin Haras, ENSMA, 2012: Particle sizing of cookstove smoke
- D.11 Valentin Thomas, ENSMA, 2012: Burning methane clathrates and gel fuels
- D.12 Dorian Midou, ENSMA, 2012: Automation for pulsed dye laser scanning in combustion diagnostics
- D.13 Tony Martinet, ENSMA, 2012: Coal combustion in an entrained flow reactor
- D.14 Sliman Bouazzaoui, Supmeca, 2012: Small engine combustion and emissions
- D.15 Philippe Diollot, Supmeca, 2012: Small engine combustion and emissions
- D.16 Arnaud Lemoine, ENSMA, 2013: Ballistic imaging and holography
- D.17 Sybille Drevon, ENSMA, 2013: Droplet stream flames with bio-derived fuels
- D.18 Victor Viaud, ENSMA, 2013: Mechanical design of high pressure combustion chamber for methane hydrate flames
- D.19 Simon Deguillaume, ENSMA, 2013: Low temperature urea catalyst kinetics for NO_x control
- D.20 Nils Bechmann, ENSMA, 2013: High pressure differential scanning calorimeter design to measure phase transformations in hydrates
- D.21 Clement Fillon, ENSMA, 2013: Fundamentals of hydrate formation - structural effects of surfactants
- D.22 Quentin Bervas, ENSMA, 2013: Measurements of evaporation versus draining water during hydrate combustion
- D.23 Thomas Payet-Burin, ENSMA, 2013: Solar cookstove optimization
- D.24 Camille Saux, ENSMA, 2014: Control system for stabilizing a droplet in a flow tunnel
- D.25 Yoann Haucourt, ENSMA, 2014: Spray rig for testing ballistic imaging holography
- D.26 Pierre Lemarie, ENSMA, 2014: Laser spectroscopy for combustion diagnostics
- D.27 Anthony Colle, ENSMA, 2014: Surfactant effects on dissolved methane gas in water
- D.28 Saedeh Mirghasemi, UCI, 2014: High pressure flow tunnel for hydrate formation studies
- D.29 Jordan Bilbault, ENSMA, 2015; High pressure combustion flow panel design and thermal analysis
- D.30 Antony Delavois, ENSMA, 2015; High pressure/low temperature salt water flow tunnel design and thermal analysis
- D.31 Gaetan Crouzy, ENSMA, 2015; High pressure CARS calibration cell
- D.32 Adrien Ruas, ENSMA, 2015; Water-laden fuel diffusion coflow burner
- D.33 Remy Petit, ENSMA, 2015; Accurate measurement of volumetric flow from dissociating hydrates
- D.34 Guillaume Eplénier, ENSMA, 2015; Chemical kinetics calculations of flames with ions and excited species
- D.35 Sarah Benhaddou, ENSMA, 2016; Treatment of exhaust gases using non-thermal plasma
- D.36 Louise Autef, ENSMA, 2016; Experiments and modeling of small diffusion flames in electric fields
- D.37 Mohamed Azri, ENSMA, 2016; Optical measurements in high pressure combustion
- D.38 Gaetan Ruscade, ENSMA, 2016; High pressure calibration cell for coherent anti-Stokes Raman spectroscopy
- D.39 Flavien Bart, ENSMA, 2016; High pressure flow tunnel characterization (senior project)
- D.40 Quentin Dupuis, ENSMA, 2016; Water-added counterflow diffusion flames
- D.41 Alexandre Schwartz, ENSMA, 2016; Measurement and calculation of sulfur species in simulated power plant flue gas
- D.42 Thibault Pecoul, ENSMA, 2016; High temperature test cell for sulfur species simulating emission from a power plant flue
- D.43 Guillaume Bernard, ENSMA, 2016; Electrically controlled flames
- D.44 Romain Bouyer, Ecole des Mines d'Alès, 2016; Characterization of controlled conversion efficiency of SO₂ to SO₃ over a catalyst