Daniel MEJIA

Civil Status

4 March 1983
French/Colombian

Contact details

16 Rue Peyras
31000 Toulouse, FR
dmejia04@icloud.com
+33 6 89 85 79 06

References

Thierry Poinsot.
Director de Recherche CNRS
thierry.poinsot@imft.fr

Laurent Selle.
Chargé de Recherche CNRS
laurent.selle@imft.fr

Languages

French: Bilingual
Spanish: Bilingual
English: Fluent
Italian: Fluent

IT Skills

Operative Systems:
MAC OS, LINUX, Windows.
Langages:
Matlab, Python, HTML, CSS, Javascript, Swift.
Softwares:
Catia, Labview, Fluent, ICEM, Latex, Paraview, Photoshop, Illustrator.

Hobbies

Football, Snowboard, Photography, Web Developement, BMX, Running.

Education

2010-2014
Bac+8
Ph.D. Fluid mechanics and Combustion Physics.
INP (Institut National Polytechnique de Toulouse), *Toulouse FR.*
www.inp-toulouse.fr

2008-2010
Bac+5
MSc. Aerodynamics, CFD and Propulsion.
ISAE-SUPAERO (Institut Supérieur de l'aéronautique et de l'espace) *Toulouse FR.* www.isae.fr

2003-2007
Bac+5
Aeronautical Engineering. Mathematics, Physics and Mechanics
Universitad de San Buenaventura, *Bogota CO.* www.usbbog.edu.co

Experience

2016- **Research Associate.** *Toulouse FR.*
IMFT-CNRS (Institut de Mécanique des Fluides de Toulouse),
I am responsible for the combustion laboratory and experiments of the PSC group at IMFT. I am in charge of coordinating the test campaigns performed by the postdocs, Ph.D candidates and interns.

2014-2016 **Postdoctorate.** *Toulouse FR.*
IMFT-CNRS (Institut de Mécanique des Fluides de Toulouse),
Within the combustion laboratory of the PSC group at IMFT, I was in charge of the development of a new experiment for the study of flame dynamics and stabilisation. I singlehandedly carried out the test campaigns: preparation, monitoring and control, post-processing and analysis. The experiment includes many advanced measurement techniques including Laser and high-speed cameras. This work was presented at international conferences and published in the leading scientific journals of the field.

2010-2014 **Doctorate**. *Toulouse FR.*
IMFT (Institut de Mécanique des Fluides de Toulouse),
I performed an experimental study of the coupling between flame dynamics and heat transfer to the burner. I also developed a low-order theoretical model that reproduces the experimental observations.

Areas of Expertise

Experimental Fluid Mechanics	Wide experience in advanced experimental fluid mechanics measurement techniques such as Particle Imagine Velocimetry (PIV), Laser Doppler Velocimetry (LDV), Laser tomography, infrared thermography and high-speed imaginary.
Signal and Image Processing	Writing advanced scripts for signal and image post-processing of large data files in Matlab and Python.
Computer-Aided Design (CAD)	Conception, draft design, modelling and development in Catia of several combustion test-rigs.
Computational Fluid Dynamics (CFD)	Performing meshing and CFD simulations for complex geometries in ICEM and Fluent. Post-processing CFD results from massively parallel computations of combustion instabilities from the ABVP solver.
Instrumentation and Automatization	Implementation of sensors with different type of operating principles. Development of several LabView programs for the synchronisation and control of the test-rigs.
Scientific Communication	Redaction and publications of several scientific articles. Presentation in international conferences including the International Combustion Symposium 2014 and 2016.