

Daniel MEJIA



Civil Status

4 March 1983
French/Colombian

Contact details

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References

Thierry Poinso.
Director de Recherche CNRS
thierry.poinso@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
Development, BMX.

Education

- 2010-2014 INP (Institut National Polytechnique de Toulouse), Toulouse FR**
Bac+8 Ph.D. Fluid mechanics and Combustion Physics.
www.inp-toulouse.fr
- 2008-2010 ISAE-SUPAERO (Institut Supérieur de l'aéronautique et de l'espace)**
Bac+5 Toulouse FR
MSc. Aerodynamics, CFD and Propulsion.
www.isae.fr
- 2003-2007 Universidad de San Buenaventura, Bogota CO**
Bac+5 Aeronautical Engineering. Mathematics, Physics and Mechanics
www.usbbog.edu.co

Experience

- 2016- IMFT-CNRS (Institut de Mécanique des Fluides de Toulouse), Toulouse FR.**
Research Associate. Within the combustion laboratory of the PSC group at the IMFT I am responsible for carrying out tests campaigns in their entirety: preparation, monitoring and control, post-processing and analysis. I was also in charge of synthesizing the experimental results, post-processing the corresponding CFD numerical simulations and comparing them in order to write scientific papers. The experimental tests included several advanced measuring techniques.
- 2014-2016 IMFT-CNRS (Institut de Mécanique des Fluides de Toulouse), Toulouse FR.**
Postdoc. Within the combustion laboratory of the PSC group at the IMFT I was responsible for the development of a new experimental bench for the study of flame dynamics and flame stabilization. The different task I performed were:
- Draft design and CAO modeling of the combustion chamber and interaction with the technicians during the manufacturing process.
 - Choose and buy the technical equipment,
 - Design a control platform for the burner as well as a platform for the synchronization of the different measurement equipments.
 - Programing of a PID controller for the servo-control of brushless DC motor used for the active control of combustion instabilities in the combustion chamber.

Areas of Expertise

- Experimental Fluid Mechanics** Wide experience in advanced experimental fluid mechanics measurement techniques such as PIV (Particle Image Velocimetry), LDV (Laser Doppler Velocimetry), laser tomography, infrared thermography and hight 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, modelization and development in Catia of several combustion chamber 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 issued from ABVP.
- Instrumentation and Automatization** Implementation of sensors with different type of operating principles. Development of several LabView platform for the synchronization and control of the test-rigs.
- Scientific Communication** Redaction and publications of several scientific articles. Presentation in several international conferences including the international symposium of combustion 2014 and 2016.