


Curriculum Vitae

- **First Name:** Rafael
 - **Family Name:** Jurado Cruz
 - **Date of Birth:** 23rd April 1989
 - **Place of Birth:** Córdoba (Spain)
 - **Citizenship:** Spanish
 - **Marital Status:** Single
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 - **E-mail Address:** rafajuradocruz@gmail.com
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 - **Telephone:** +34 626845358
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Academic Data

- **PhD:** Computational Fluids Dynamics (Cum Laude)
(Universidad Rovira i Virgili - Tarragona, Spain)
 - **Thesis:** *Numerical simulations of the DCMIX microgravity thermodiffusion experiments to assess the impact of typical International Space Station reboosting manoeuvres*
 - **MSc:** Master in Environmental Hydraulics. Speciality in Vehicules Aero-Hydrodynamics (1st class)
(Universidad de Granada, Málaga & Córdoba - Málaga, Spain)
 - **Msc Thesis:** *Calculation of the aerodynamic coefficients of an oscillating NACA0012 airfoil with ANSYS Fluent*
 - **Grade:** 9/10
 - **MEng:** Industrial Engineering (2:1 Upper Second class)
(Universidad de Málaga - Málaga, Spain)
 - **MEng Thesis:** *Numerical simulation of the Hagen-Poiseuille problem with sudden rotation with Open-FOAM*
 - **Grade:** 10/10 Honour Mark (maximum)
 - **BEng:** Mechanical Engineering (2:1 Upper Second class)
(Universidad de Córdoba - Córdoba, Spain)
 - **BEng Thesis:** *Envelope analysis in the diagnostics of bearing faults*
 - **Grade:** 10/10 Honour Mark (maximum)
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Professional Experience

- **Researcher:** Unsteady aerodynamics
(Universidad Carlos III de Madrid - Madrid, Spain)
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Studies Abroad

- **Research stay in Northumbria University (Newcastle Upon Tyne, UK)**
 - *Research project:* Boundary layer control using local surface unsteady heating
 - *Starting date:* 15th February, 2018
 - *Finishing date:* 31st May, 2018
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Publications

Indexed papers

- **Jurado, R.**, Pallarés, J., Gavalda, J., Ruiz, X., 2019, *Effect of reboosting manoeuvres on the determination of the Soret coefficients of DCMIX ternary liquid systems onboard the International Space Station*, International Journal of Thermal Sciences, Vol. 142, pp. 205-219 (Q1)
- **Jurado, R.**, Pallarés, J., Gavalda, J., Ruiz, X., 2018, *On the impact of the ISS reboosting maneuvers during thermodiffusion experiments of ternary liquid systems: Pure diffusion*, International Journal of Thermal Sciences, Vol. 132, pp. 186-198 (Q1)
- **Jurado, R.**, Gavalda, J., Simon, M.J., Pallarés, J., Laveron-Simavilla, A., Ruiz, X., Shevtsova, V., 2016, *Some considerations on the vibrational environment of the DSC-DCMIX1 experiment onboard ISS*, Acta Astronautica, Vol. 129, pp. 345-356 (Q2)
- Dubert, D., Ollé, J., **Jurado, R.**, Gavalda, J., Laveron-Simavilla, A., Ruiz, X., Shevtsova, V., 2016, *Characterization of the Accelerometric Environment of DCMIX2/3 Experiments*, Microgravity Science and Technology, Vol. 30, pp. 683-697 (Q2)

Conferences

- **Jurado, R.**, Gavalda, J., Pallarés, J., Laveron-Simavilla, A., Shevtsova, V., Ruiz, X., *The acceleration environment of the DCMIX2/3 experiments*, 12th International Meeting on Thermodiffusion, 2016, Madrid (Spain)
- **Jurado, R.**, Pallarés, J., Gavalda, J., Ruiz, X. *On the impact of reboosting manoeuvres in DCMIX1 experiments: Pure molecular diffusion of ternary liquid systems*, 7th International Symposium on Advances in Computational Heat Transfer (ICHMT), 2016, Naples (Italy)
- **Jurado, R.**, Dubert, D., Simón, M. José., Pallarés, J., Gavalda, J., Ruiz, X., *Further considerations about double-diffusive convection in ternary systems DCMIX1 type*, 7th International Symposium on Advances in Computational Heat Transfer (ICHMT), 2016, Naples (Italy)
- **Jurado, R.**, Pallarés, J., Gavalda, J., Ruiz, X., *On the impact of reboosting manoeuvres in DCMIX1 experiments: Thermodiffusion in ternary liquid systems*, (ISPS-7) & (ELGRA-25) (European Space Agency), 2017, Juan-les-Pins (France)
- **Jurado, R.**, Pallarés, J., Gavalda, J., Ruiz, X., *Gravitational instability analyses in THN-IBB-nC12 mixtures*, (ISPS-7) & (ELGRA-25) (European Space Agency), 2017, Juan-les-Pins (France)
- Ollé, J., Dubert, D., **Jurado, R.**, Gavalda, J., Ruiz, X., Laveron-Simavilla, A., Shevtsova, V., *Several considerations about the acceleration environment of the DCMIX2 and DCMIX3 experiments carried out in the ISS*, (ISPS-7) & (ELGRA-25) (European Space Agency), 2017, Juan-les-Pins (France)

Awards

- **FPI PhD Scholarship, Ministerio de Economía y Competitividad** **Spanish Government**
Applied Physics department, Rovira i Virgili University (Tarragona, Spain) *2015*

Languages

- **Spanish**
Mother tongue
 - **English**
Proficiency level
-

Computer knowledge

- **Programming Languages**

- MATLAB: Advanced
- FORTRAN 77: Intermediate
- C++: Beginner
- L^AT_EX 2_ε: Intermediate
- Python 3: Beginner

- **Operative Systems**

- Windows: Advanced
- Linux: Intermediate

- **Application Softwares**

- ANSYS Fluent: Intermediate (CFD comercial software)
- OpenFOAM: Advanced (CFD open source software)
- Paraview: Advanced (Postprocessing visualization software)
- Gmsh: Intermediate (Mesh generator)
- Microsoft office: Advanced
- Texmaker: Advanced

Interests

- **Aerodynamics**
 - **Flow control**
 - **Shape optimization**
 - **Drag reduction**
 - **Intake optimization in ICE**
 - **Computational Fluid Dynamics**
 - **Numerical methods**
 - **Programming**
 - **Scripting**
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