

**University of Zaragoza / LITEC.** One PhD position (early-stage researcher) is offered in the framework of the Marie Curie Initial Training Network LIMOUSINE (Limit Cycles of Thermo-Acoustic Oscillations in Gas Turbine Combustors), funded by the European Commission under Framework 7

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**Ofrece: PhD Position** (early stage researcher)

**Busca:** MASTER DEGREE (OR EQUIVALENT) IN ENGINEERING OR PHYSICS

- The candidate holds a Master degree (or equivalent) in Engineering or Physics, adequate to be entitled to embark on a doctorate (namely, the Fluid Mechanics PhD Programme of the University of Zaragoza).
- We are looking for a young researcher with background on and interested in fluid mechanics, combustion, acoustics and experimental techniques. He/she shall work in a team with other researchers working on the project and with staff members and technicians of the group.
- Applicants must satisfy the eligibility rules stipulated by the Framework 7 Guidelines of the European Commission.
- In particular, they must be nationals of any country other than Spain (unless she/he has spent at least the last four years in a foreign country). Further, at the start of the activity, the candidate may not have resided or carried out her/his main activity in Spain for more than 12 months during the last 36 months.
- Early-stage researchers must be in the first four years (full-time equivalent) of their research careers, starting at the date of obtaining the degree which would formally entitle them to embark on a doctorate.
- In application of the gender issue policy issued by the European Commission, female candidates are strongly encouraged to apply. English/Spanish language skills are advantageous, but not compulsory.

**Funciones:**

- One PhD position (early-stage researcher) is offered in the framework of the Marie Curie Initial Training Network LIMOUSINE (Limit Cycles of Thermo-Acoustic Oscillations in Gas Turbine Combustors), funded by the European Commission under Framework 7.
- LIMOUSINE represents a multidisciplinary initiative to strengthen the fundamental scientific work in the field of thermo-acoustic instabilities, which is one of the main problems in the operation of large gas turbines, and is motivated by the need for lean combustion technologies and reduced emissions. The network comprises 12 partner institutions across Europe: 5 academic partners, 2 research institutions and 5 industrial partners. There is also an academic partner in the USA.
- The research in LIMOUSINE will focus on the limit cycle behaviour of the unstable pressure oscillations in gas turbines, and on the resulting mechanical vibrations and materials fatigue. It will provide research training to young European scientists and engineers in mathematics, computational modelling, structural mechanics, acoustics, fluid mechanics, combustion experimental techniques, material science and control systems theory. It will help to generate a new generation of young engineering scientists, who are highly skilled in the development and application of design and operational tools, to keep thermo-acoustic induced vibration and fatigue within limits at all circumstances.
- The contribution of University of Zaragoza / LITEC in LIMOUSINE is oriented to the study of combustion instabilities with alternative fuels (products from the gasification of biomass or residues, hydrogen-enriched gases...).
- The selected candidate will work in the Laboratory of Industrial Combustion, which is a part of LITEC (Laboratory for Research on Combustion Technologies), a publicly funded research institute. With about 60 staff, LITEC is the largest group in Spain conducting R&D in combustion and applied fluid mechanics. The activities of the group are wide-ranging and include design and testing of burners, combustion of particles and drops, pollutant formation, novel techniques for combustion monitoring and control, use of syngas in premixed combustors, combustion instabilities, etc. Extensive experimental facilities are available, such as a multi-fuel 500 kW furnace, a gas-fired 100 kW furnace, entrained-flow reactor, flat-flame burner and a premixed combustor, all of them complemented with a wide range of instrumentation.

**Se ofrece:**

- Salary is according to the fixed funding rules set by the European Commission and depends on family situation and distance from the home country. The overall sum is of the order of 34,000 Euros (before taxes) per year for a maximum of 3 years.
- In addition to the monthly salary, travel, mobility and career exploratory allowances are granted. In particular, the Marie Curie network offers funding for training stays of 1-6 months in other partner labs.

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**Lugar:** Zaragoza

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**Más detalles:**

Interested candidates are invited to send an application letter, including a resume, a list of publications and the names of two or more references to Prof. Javier Ballester, Fluid Mechanics Group, University of Zaragoza, Maria de Luna, 3, 50018-Zaragoza, Spain. E-mail: [ballester@unizar.es](mailto:ballester@unizar.es)

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**Fecha límite de recepción de solicitudes :** 15/02/2009

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