

Title of the offer : **Early Stage Researcher in mechanical engineering M/W**

Type of contract: **Temporary – 24months**

Domain of activity: **Mechatronics**

Location : **MEYLAN (38), France**

START DATE: **November 2012**

Education : **MSc / Engineer**

Experience: **0-4years (Post Graduate)**

Salary : **According to Marie Curie ITN rules (see below)**

Date of publishing : **15/07/2012**

Reference : **33801106**

Company

CEDRAT Technologies (<http://www.cedrat-technologies.com>), leader company in innovative mechatronic systems and components, in particular in the actuation domain, is looking for an **Early Stage Researcher in mechanical engineering M/W** for the enhancement, integration, and tests of piezo-actuators in aeronautical flow control embedded applications.

Mission

Part of the mechatronic team of Cedrat-Technologies, the candidate will be in charge of the development of the piezo-electrical actuation systems for the IMESCON project. IMESCON (<http://imescon.eu/>) is a Marie Curie ITN training programme involving 2 large European helicopter designers and manufacturers, 2 SMEs specialised in MEMS, 3 world class academic research groups and prime engineering innovation partner. IMESCON aims at integrating dedicated actuation systems in helicopter's blades in order to implement active flow control for fuel consumption and noise reduction.

In this context, the candidate will:

- Gain experience with Cedrat-Technologies piezo-actuators,
- Model, simulate, and optimise composite shells for piezo-actuators,
- Work on the integration of appropriate position sensors on the piezo-actuators,
- Optimise the heat extraction of the piezo-ceramics during dynamic operation,
- Select possible subcontractors for the composite shells,
- Manufacture, assemble, and test a prototype of piezo-actuator featuring previous enhancements,
- Assist the other partners in integrating the prototype for a possible wind tunnel testing,
- Report on its activities.

Start date and duration of contract can be re-adjusted to candidate's availability.

Candidates must fulfil eligibility criteria, particularly researchers must not have resided or carried out their main activity (studies, work, etc.) in France for more than 12months in the 3 years immediately prior to the start date.

Salary:

- **42388.5€ per year before any compulsory deductions for both employer and employee (security, pension, taxation, health insurance)**
- **+ mobility allowance**
- **+ travel allowance**

Education and knowledge

Education :

- Post Graduate engineer in mechanical engineering,
- 0-4years experience (Early Stage Researcher),
- Design and characterisation of mechanical systems,
- Experience with composite materials,
- Experience with fast dynamic systems.

Required knowledges :

- CAD mechanical modelling and simulation software,
- Modelling and simulation of composite materials in dynamic conditions,
- Knowledge in actuation systems,
- Use of laboratory equipment (scopes, probes, laser interferometer, spectrum analyser, power supplies ...),
- Fluent in english (reporting and meetings).

Aditionnal technical knowledges :

- Knowledge of Solidworks,
- Knowledge in thermal management,
- Knowledge in precision position sensors,
- Knowledge of french would be a plus,
- Knowledge of piezo-actuators.
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Contact details

Send your resume and letter of interest while mentioning the reference of this offer to :

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