Tenure track position _ Junior Chair position - Solid State Pulsed Power

*Patnership-based Junior Chair*

From March 10, 2020 to May 4, 2020

**Context**

The Energy and Environment Solutions initiative (E2SUPPA) invites candidates to apply for one tenure junior chair position in partnership with the CEA. These are part of a substantial, multi-year growth plan (https://e2s-uppa.eu/en/index.html). Problem-oriented, inter-disciplinary and transverse research in Energy and Environment is pursued, and emphasis on either industry relevance or high visibility in leading academic journals is fostered.

UPPA is a leading research and teaching university, one of the top 20 in France, located in the beautiful, culturally rich and highly diverse area of the Atlantic Pyrenees. E2S UPPA is the completion of established collaborations between the main national research centers, i.e. the INRA, INRIA, CNRS, CEA and BRGM. These host several laboratories engaged in research in the core areas of Energy and Environment.

In the framework of the E2S UPPA project, CEA and UPPA have decided to join forces to set up a partnership junior chair around new topologies of solid state for pulsed power.

**Partnership**

The French Alternative Energies and Atomic Energy Commission (CEA) is a key player in research, development and innovation in four main areas:

- defence and security,
- low carbon energies (nuclear and renewable energies),
- technological research for industry,
- fundamental research in the physical sciences and life sciences.

Drawing on its widely acknowledged expertise, CEA actively participates in collaborative projects with a large number of academic and industrial partners. More information is available from their [website](https://www.cea.fr).

Within the context of this Junior Chair, CEA develops, operates and maintains High Pulsed Power (HPP) systems for different applications ranging from lab-scale simulation of both radiative and non-radiative extreme environments to large accelerator and laser facilities. In order to support this activity, CEA has built over time a strong expertise in electrical engineering that relies on both modelling and experimental approaches. Pulsed power groups from CEA CESTA and Gramat have been working together for three years with SIAME within a joint
CEA/UPPA Laboratory called LRC SAGE (Laboratoire de Recherche Conventionné Science Appliquée au Génie Electrique).

Research project

The main activity for the Junior Chair (equivalent to Assistant Professor, tenure-track position) will be to build, develop and steer a research project in line with UPPA and CEA requirements. The start-up package to support this junior chair consists of two PhD candidates, one postdoctoral fellow and associated running costs. The chair will be co-funded by CEA and E2S UPPA for 5 years.

The research project aims at exploring innovative designs in pulsed power technology with solid state components mainly derived from power electronics. This exploratory work is mainly oriented on solid state technology. The aim of the work is not only to assess the strict electrical performance achievable for a given design, but also to confirm that solid state technology could create a technological breakthrough and offer new perspectives for the development of future Pulsed Power Systems (i.e. more compact, more integrated, reduced ancillaries). In addition to the research project, the junior Chair holder is expected to ensure its representation and promotion in different scientific, industrial and public events. He is also expected to supervise two PhD candidates and one postdoctoral fellow and communicate its research results at conferences and in journal publications. Importance will also be given on personal skills as for example the ability to work as part of a team and a positive attitude towards mobility. As the Junior Chair holder leads the project, a personality who has achieved scientific maturity, able to freely share his own new insights and willing to learn new techniques and methods would be a perfect match.

Hosting Laboratory:

This Junior Chair will be hosted by the SIAME laboratory that is a research unit located in Pau and Anglet, France.

SIAME has got an extensive and highly competitive research program that encompasses fundamental research in thermal transfer, mechanics and electrical engineering. The chair holder will conduct research in the High Voltage Processes team headed by Professor L. Pecastaing. This team works primarily in the field of pulsed power physics and technology.

More information on the research group is available in the [website](#).

Localisation address: Université de Pau et des Pays de l'Adour, Pyrénées-Atlantiques, France

Starting date: September 2020 - or as otherwise agreed

Length: tenure track position of a period of 5 years
The selected candidate must have a proven experience in scientific research and will be recruited for a period of 5 years with a status of teacher-researcher (i.e. Lecturer).

**Salary:** monthly salary (before taxes) in accordance with that of an assistant professor (national grid)

Teaching would be limited to **64 hrs per year** (academic duty).

**Employer:** Université de Pau et des Pays de l’Adour (UPPA)

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**Targeted profile and requirements**

The applicant must be proficient in spoken and written English and have good communication skills.

To be eligible for this UPPA employment, the candidate must hold a PhD degree in the domain of electrical engineering (e.g., high-voltage, pulsed power or electromagnetism).

The PhD degree must have been obtained no more than five years prior to the application deadline. The 5-year period can be extended on circumstances such as sick leave, parental leave, duties in trade unions, etc.

In the ranking of qualified applicants, particular importance will be given to scientific excellence. If the PhD has been obtained at the UPPA, two years mobility away from the E2S UPPA consortium must be demonstrated.

Proven experience in experimental research in solid state arrangements and switching would be an asset.

Experience with electric circuit solvers and/or electromagnetic software would be an asset too.

Ability to interact effectively in a research environment would be evaluated as well.

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**Application**

**Application deadline: April 30th, 2020 - 5 pm**

Applications must be written in English and submitted via E2S UPPA's online application portal only! [https://aap-e2s.univ-pau.fr](https://aap-e2s.univ-pau.fr)
Required documents:

The application should include:

* A cover letter (describing yourself, your research interests and why you are a suitable person for this position)
* A detailed CV
* Three to five references (name and contact)
* A 5 pages research project proposal taking into account the research field described before and teaching interests (1 page).
* Two representative publications.

For further information about the position in Pulsed Power, please contact Professor Laurent Pecastaing by email at laurent.pecastaing@univ-pau.fr

For further information and general questions or application assistance for the Junior Chair position, please contact Corinne Nardin: corinne.nardin@univ-pau.fr