

# LE STUDIUM RESEARCH FELLOWSHIP

## – PIVOTS PROGRAMME – ARD 2020

(Open to international experienced researchers)

Research Field: [Atmospheric Chemistry](#)

### CONTEXT

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The region Centre-Val de Loire Ambition for Research and Development 2020 (ARD 2020) PIVOTS (Environmental Technology Innovation, Development and Optimisation Platforms project) Programme is supported by LE STUDIUM Loire Valley Institute for Advanced Studies for the attraction and recruitment of international experienced researchers.

The PIVOTS Programme is a coordinated set of experimental and analytical platforms focused on environmental quality monitoring and sustainable management of natural resources (soil, subsurface, surface water, groundwater, sediment and air) within a context of global change.

Innovation in the area of the environment, ecotechnology, and ecoservices is a major challenge for sustainable development in today's societies. Innovations may arise from an integrated approach based research involving academic and industrial experts together at all stages of the value chain, from fundamental research to validation of products and services. The goal of the PIVOTS is to accomplish this integration and to promote the emergence of an economic stream in the area of environmental metrology, remediation processes and associated services. PIVOTS is targeting researchers who embody, in their profile, the three key words that drive the research values of LE STUDIUM Loire Valley Institute for Advanced Studies: Curiosity, Imagination and Intuition.

The successful candidate will benefit from the scientific environment of the region, will be part of an outward looking and stimulating pluri-disciplinary scientific and international cultural environment and will work under the leadership of the Atmospheric Reactivity Group at ICARE- CNRS, in Orleans, France.

### SCIENTIFIC RESEARCH CONTEXT

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Atmospheric simulation chambers are among the most advanced tools for investigating the atmospheric processes to derive physico-chemical parameters which are required for air quality and climate models. Recently, the ICARE-CNRS in Orléans (France) has set up a new large outdoor hemispherical simulation chamber (HELIOS - volume of 90 m<sup>3</sup>) positioned on the top of its building. The platform is one of the most advanced simulation and largest outdoor chambers in Europe and is especially suited to the physico-chemical processes studies performed under realistic atmospheric conditions. The chamber is made of FEP film ensuring more than 90 % solar light transmission and is protected against severe meteorological conditions by a moveable protection unit. HELIOS is mainly dedicated to the investigation of the chemical processes under different conditions (sunlight, artificial light and dark). The platform allows conducting the same type of experiments under both natural and artificial light irradiation. The available large range of complementary and highly sensitive instruments allows investigating the radical chemistry, gas phase processes and aerosol formation under realistic conditions.

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## MISSION OF THE RESEARCH SCIENTIST

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The research scientist will conduct state of the art investigations of atmospheric chemical processes using the existing analytical tools and contributing to the development a new advanced instrumentation to be used within the Atmospheric Reactivity Platform (PRAT). The processes to be studied involve radical gas phase chemistry as well as secondary organic aerosol formation and chemical composition. The research scientist will be asked to actively participate in the research projects of the atmospheric reactivity group using the PRAT platform.

## ESSENTIAL SKILLS AND EXPERIENCE

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- Senior researcher profile with:
  - publications and significant international networks;
  - ability to mobilize the literature and to build a testable hypothesis;
  - research experience in the field of study, able to innovate and interact with diverse stakeholders including industry;
- Proven ability to control the whole research chain from the definition of the problem to the communication of results, both for academic, industrial R & D and non-academic audiences;
- Experience and motivation for team work and ability to establish fruitful scientific exchanges with researchers and actors of different technical and scientific cultures;
- Experience in the atmospheric chemistry field, kinetic and mechanistic studies as well as radical chemistry;
- Experience in analytics methods;
- Experience in the study by-products degradation mechanisms;
- Ability to initiate new projects in the field of atmospheric chemistry;
- Strong organisational and time management skills - able to prioritize work, manage time effectively and deliver results on time;
- Excellent written and verbal communication skills, including the ability to make clear and concise presentations and prepare compelling grant proposals.

## CONDITIONS OF ELIGIBILITY

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The fellowship is intended to attract an experienced international researcher in possession of a doctoral degree and a minimum of five years of full-time research experience, preferably ten.

- Applicant researchers must be national or long-term resident of a country other than France, i.e. having spent a period of full-time research activity of at least 5 consecutive (without breaks in research) years in a country other than France.
- Applicant researchers must also comply with the following mobility rule: not having resided or carried out their main activity (work, etc.) in France for more than 12 months in the 3 years immediately prior to the deadline of application. Compulsory national service and/or short stays such as holidays are not taken into account.

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## CONDITIONS OF EMPLOYMENT

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The position is based in Orleans, France and offers a contract of one year.

The successful candidate will be welcomed into the PIVOTS team network and LE STUDIUM faculty of international research fellows working in the region Centre-Val de Loire. Researchers will be provided with the necessary means of work (laboratory facilities, office, telephone, internet, access to databases, computer tools, etc ...).

The scientific working languages are French and English.

Entitlements detailed in the French labour contract of employment include:

- a personal salary.
- rental costs of a fully furnished apartment for the candidate and her/his family. Utilities (water, heating, electricity, tax) have to be paid by the fellow.
- Affiliation to the French social security protection scheme and a contribution to a private medical protection scheme for all health costs complementing the French basic social security protection.
- Working hours, vacation and travelling expenses are bound by the same regulation as those effective for the personnel of the hosting laboratory.
- Logistics and administrative assistance by a member of LE STUDIUM operational team before and during the fellowship.

## CONDITIONS OF APPLICATION

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Online application via LE STUDIUM platform: **Apply section**

The deadline for application is **10<sup>th</sup> November, 2017**. Applications will be reviewed as they come in. Positions are expected to be filled in in 4Q2017, early 1Q2018.

The application will consist of three elements:

- A completed online LE STUDIUM application form with personal information and details of track records ;
- A curriculum vitae of maximum two pages including information not in the online application;
- A motivation letter.

Upload documents as pdf files.