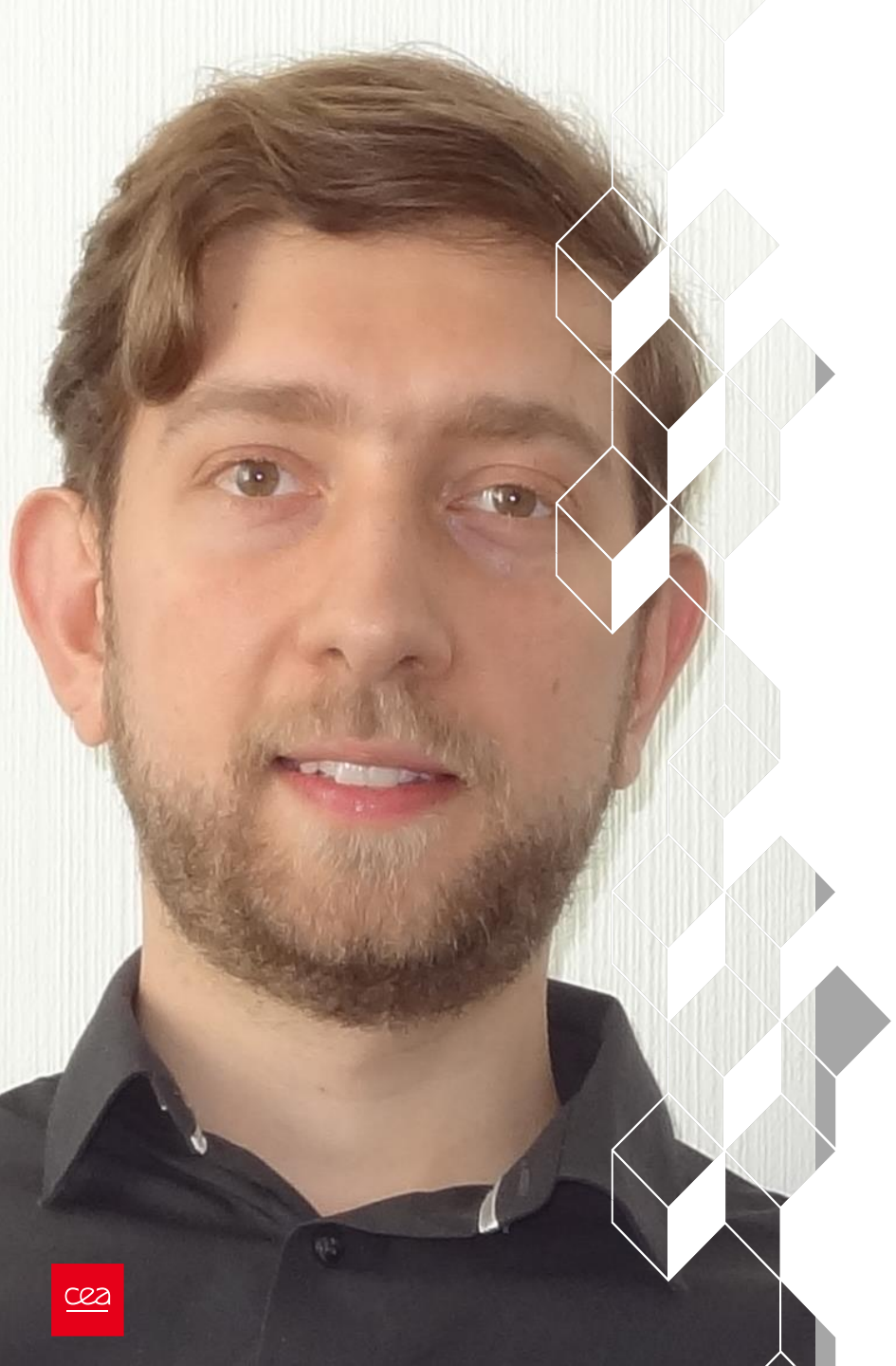
PhD and job opportunities in applications in CEA

NucPhys Career Orientation Day

16/10/2026

Sylvain Leblond





Who am I ?

Permanent researcher since 2020
working at CEA Saclay (near Paris)
in the French Metrology Institute for Ionizing Radiation

- Master in Physics at UniCaen, Caen (2012)
- Ph.D. in Nuclear structure at LPC, Caen (2012-2015)
- Post-doc in HKU, Hong-Kong (2016-2017)
- Post-doc in CEA, Paris (2017-2019)
- Post-doc at GANIL, Caen (2019-2020)

It is not always easy to know where to go or what to do at the beginning of a career

French Alternative Energies and Atomic Energy Commission (CEA)

Founded in 1945, the CEA is a French public research organization dedicated to science and technology.

The organization capitalizes on cutting-edge fundamental research to design and implement solutions targeting four major areas



Low-carbon energy
(nuclear and renewable)



Digital technologies



The medicine of the future



Defense and security

Photo credits: Adobe Stock

Four divisions

The CEA is organized into four distinct divisions in order to more effectively address the diverse needs defined by the French government.



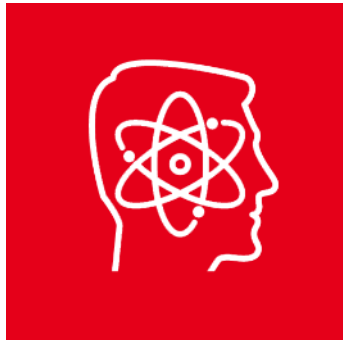
National defense and security

MILITARY APPLICATIONS DIVISION (*DAM*)



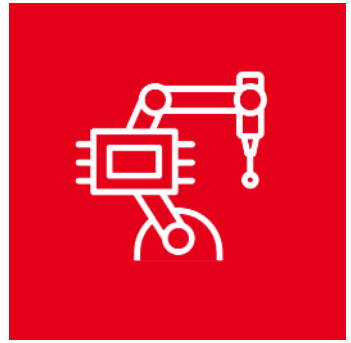
Nuclear and renewable energy

ENERGY DIVISION (*DES*)



Fundamental research

FUNDAMENTAL RESEARCH DIVISION (*DRF*)



Technologies for industry

RESEARCH & TECHNOLOGY DIVISION (*DRT*)

An (incomplete) list of research topics

Nuclear Data

Beyond Standard Model

Detector Development

Nuclear Structure

Nuclear Reactors & SMR

Neutrino Physics

Dismantling Applications

Metrology
(Activity & Dosimetry)

Health Technologies

Astrophysics

Fusion reactors

Military Applications

Nuclear Safety

Particle Physics

CEA research centers



1- Headquarters

Civil research centres

2- Paris-Saclay
(Fontenay-aux-Roses and Saclay establishments

3- Grenoble

4- Marcoule

5- Cadarache

Military applications research centres

6- Île de France

7- Le Ripault

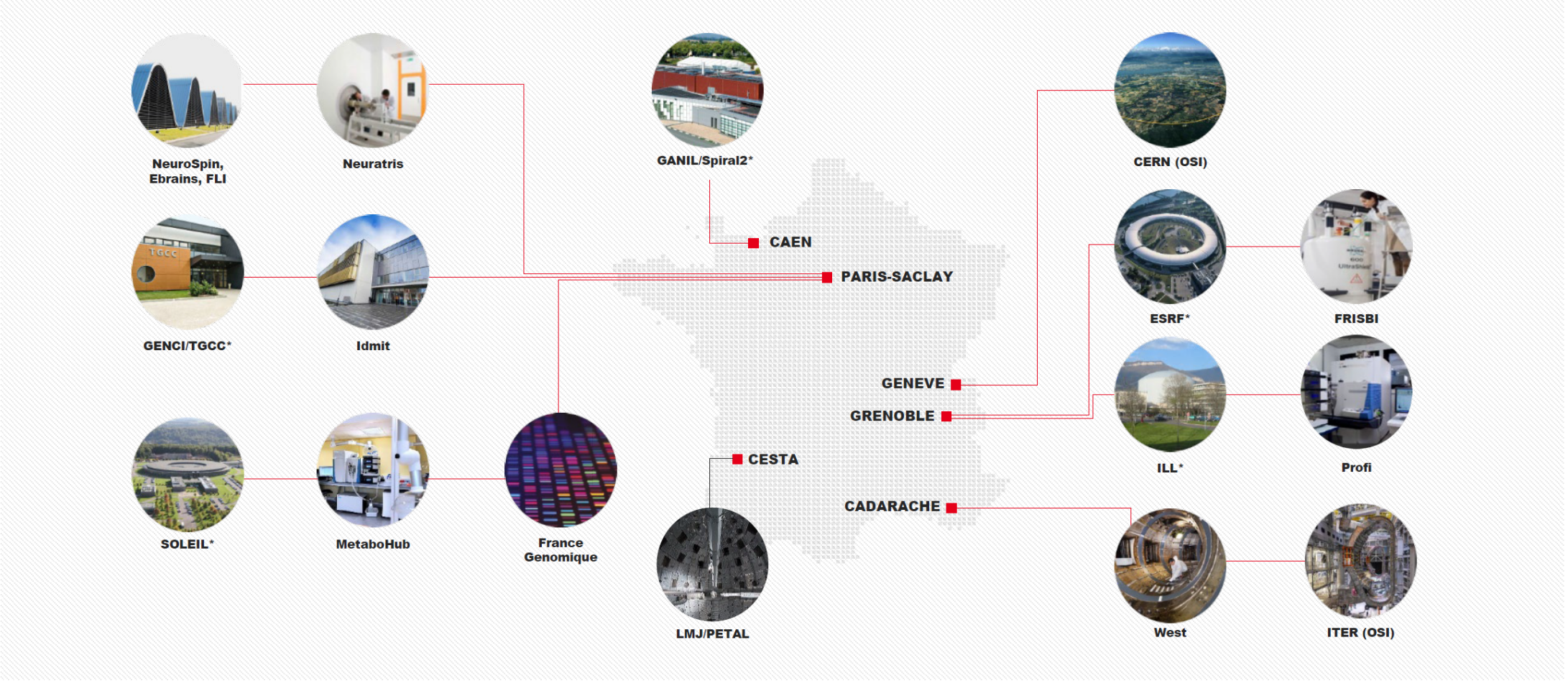
8- Valduc

9- Cesta

10- Gramat

Involvement in Large Research Infrastructures

The CEA participates in various large-scale infrastructures to conduct impactful research



65% PUBLICATIONS OF CEA
involve international co-authors

Key figures

700+
R&D partnerships



250
startups created since 1972



669
priority patent applications



21,763
employees

€6.1 bn
operating budget
(civil and defense)

No. 1
research organization in the top 100 global innovators ranking
(Clarivate 2024)

No. 1
research organization for patents filed
in Europe (EPO 2024) and France (French Patent Office 2024)

No. 4
for patents filed
in France (French Patent Office 2024)
just behind Safran, Stellantis, and Valeo

Photo credits: Adobe Stock

My experience of CEA

CEA is a very large research organization and plays a major role in France and Europe. It is involved in many national and international research projects.

- A very large variety of topics are studied. Especially around Nuclear Physics and related applications.
- In comparison with CNRS and University, CEA is more applications oriented
  - Studies are performed in support of French and European industry
  - Technology transfer constitutes a central pillar of the CEA's strategic agenda.
  - Startup creation is very much supported by CEA
  - Numerous engineers are working in CEA laboratories
  - About half of the CEA is more closely aligned with industry than with the academic community.

An appropriate illustration of CEA

The laboratory where I am working is a designated Metrology Instituted



- The aim of a metrology laboratory is to define a SI unit (the Becquerel / Sievert) and to be able to transfer it to the users

- In practice the laboratory is involved in
  - Performing various services for the industry (e.g. calibration of Ionization Chambers used in hospital)
  - Various applied research projects (e.g. dismantlement)
  - Participating to international comparison and projects with others National Metrology Institutes
  - Improving the knowledge of nuclear data

    (for metrology in collaboration with Applied and Fundamental Physics)

Working at CEA in 2026

- Around 1500 doctoral students, 1100 work-study contracts and more than 1 000 internships / year.
- Short term contract (including Ph.D.) can usually not exceed 3 years
- Usually CEA has the direct funding for internship or Ph.D. (do not rely on external approval)
- CEA has a strong employee benefits program
- Wages are reasonably comfortable.
  - Internship ≈ 1300 euros / month (after taxes) (+ potential accommodation support)
  - Ph.D. ≈ 1850 euros / month (after taxes)
- Contracts are not driven by the academic calendar and thus can be published and applied anytime
  - Recruiting process takes up to three months
- Performing a Ph.D. is not mandatory. The CEA also offers short term contracts and permanent position for Graduate Students.

All the offers are available at
http://www.emploi.cea.fr

If you have questions

- I will be pleased to answer them now !

- Don’t hesitate to contact me later on

sylvain.leblond@cea.fr