



The CEA recruits a Scientist in

“Improving eukaryotic and/or prokaryotic oxygenic photosynthesis”

A permanent scientist position is open in the team Photosynthesis & Environment (P&E) within the BIAM institute located in the Cadarache centre, Southern France (Provence). The scientist will initiate projects on improving eukaryotic and/or prokaryotic oxygenic photosynthesis. Studies will be conducted on the models *Chlamydomonas*, *Arabidopsis* or *Synechocystis* of the team or the scientist may propose models to develop that fit in the major mission of the host team (see description below).

Mission and activities of the host team

You will benefit from the expertise of the host team (<https://www.cite-des-energies.fr/biam/recherche/pe/>) and from the environment of the BIAM institute, CEA and Aix-Marseille University (<https://www.cite-des-energies.fr/biam/plateformes-technologiques/>).

The P&E team is composed of 3 scientists, 1 engineer, 1 technician and usually hosts 2 to 5 PhD students and postdocs. P&E's research aims at understanding the regulatory mechanisms of solar energy capture and atmospheric CO₂ reduction by plants and microalgae. The objective of our team is to identify and characterize the factors that determine photosynthetic performance. To do this, we seek to better understand the mechanisms of acclimation to light and the CO₂ content in the atmosphere. We also work towards understanding how light absorption, electron transfer, CO₂ capture and assimilation into sugars are integrated in the chloroplast and the plant cell and how they control the resilience and efficiency of photosynthesis. Our work ranges from the molecular level, including the structure-function relationships of photosynthetic complexes and their metabolic and protein interactions, to the broader level of plant physiology in cells and leaves. To this end, we use a combination of mutants, physiology and molecular analysis to understand electron transport and carbon fixation networks ([publications](#)). We have developed original tools and methods for the non-invasive monitoring of photosynthesis, using state-of-the-art scientific equipment ([tools](#)). Our ultimate aim is to use this knowledge to design more robust and higher carbon assimilating plants and algae for future applications in agriculture and biotechnology in a climate change context.



Requirement

The position is open to candidates with a PhD and Post-Doc research experience on oxygenic photosynthesis of eukaryotes and/or prokaryotes. We seek a candidate with a strong background in bioenergetics and biophysics on various aspects of photosynthetic metabolism: from photochemistry to gas exchange. Applicants that have had previous experience in studying the mechanisms of photosynthesis are welcome to apply, including: structure-function of the photosynthetic apparatus, the biological regulation of photosynthesis or the physiology / eco-physiology of photosynthesis. The applicants approach may combine functional genomics, molecular genetics, biochemistry, physiology and biophysics.

An interest in the biological diversity among the oxygenic phototrophs and their adaptation to the environment or a translational approach between biological models would be a plus for the position. The ability to interact with other researchers and integrate as a team member is essential. The person recruited will also be expected to write grant proposals and scientific publications and will therefore also need good oral communication and writing skills. He/she will also have to supervise master students, PhD students or post-docs.

A good command of English is essential. French is not necessary in the laboratory but an interest to learn French long term is recommended to help your integration into French life.



Application procedure

Please **send your application file at cite-des-energies@cea.fr**, including:

- A cover letter
- Your CV including a list of publications
- Major achievements/research contributions (2-4 pages) and general outlines of the proposal (about 1 page). **The whole document (arial 12, single space, all margins 2 cm) must not exceed 5 pages.**
- 2 to 3 letters of recommendation.

Please, submit your application as a single pdf file and name the file with your last name first and the name of team (PE), *e.g.* DUPONT_application_PE.pdf.

The deadline to apply is April 19, 2022 11:00 p.m. CET.

Shortlisted candidates will be invited to discuss with the host team and propose a 3-year research project (3-5-pages). Interviews of candidates will be held as of June 2022 for a position in the fall of 2022.

CEA's life quality

Expected salary range at the beginning: net salary from 2620€/month to 3100€/month for 1 to 6 years of postdoctoral experience.

Social benefit: 52 days of annual paid holidays; retirement plan; French national social security for health and retirement, free school system and international school for foreign children.

For scientific questions, please contact: Jean Alric (jean.alric@cea.fr)