



Postdoctoral Research Associate

Synthesis and characterization of photochromic organic dyes for application in dye-sensitized solar cells

Employer/Workplace: CEA-Grenoble, IRIG-SYMMES, STEP team, Grenoble, France

Intended start date: December-2019 or January-2020, **Duration:** 24 months

Salary: € 2500 up to € 2900 gross salary per month depending on previous experience

Research domain: Organic chemistry, synthesis and physico-chemistry of pi-conjugated materials, organic dyes, dye-sensitized solar cells.

Topic: In the emerging photovoltaic (PV) technologies, dye-sensitised solar cells (DSSCs) appear as a promising cost-effective solution for energy conversion. They already demonstrate stability, and semi-transparency, but the technology needs more development to be widely applied in buildings, vehicles and mobile electronics.

In the ERC granted project "PISCO", we target to combine photochromism and photovoltaic properties, producing solar cells that can self-adjust their absorption/transmission of light and their photovoltaic efficiency.

In the STEP team, the candidate will design, synthesize and investigate a new class of photochromic dyes for use in DSSCs. He/She will develop several families of molecules to obtain materials absorbing in different regions of the solar emission spectrum. The candidate will investigate the optoelectronic properties of these materials using various spectroscopic and electrochemical techniques. The candidate will be involved in the preparation of the solar cells and the advanced characterization of the devices.

Eligible candidate, Skills/Qualification:

The ideal candidate should hold a PhD in organic chemistry. He/She should possess a strong record in multi-steps synthetic organic chemistry, purification and chemical characterizations skills. He/She will be have a good academic background, a postdoctoral experience after PhD is preferred but not mandatory. The candidate should be adapted to teamwork, and he/she should demonstrate excellent communication and writing (English) skills.

How to apply for this position?

Application file should be addressed to R. Demadrille : renaud.demadrille@cea.fr

An eligible application will include: i) a cover letter explaining the motivation of the candidate, ii) a Resume/CV, iii) a list of publications/patents/communications, and iv) a list of few contact referees and two reference letters.

Websites for additional details:

Additional information can be obtained by consulting the following links:

<https://www.youtube.com/watch?v=YLtQbRo7tUk&feature=youtu.be>

<http://www.spram-solar.fr/>

<https://cordis.europa.eu/project/rcn/222582/factsheet/en>