

Postdoctoral position in physical chemistry to study bio-inspired photoactive Ru-complexes involved in hydrogen production

The LCBM and SyMMES groups - part of joint laboratories at University Grenoble Alps (UGA)/ French National Centre for Scientific Research (CNRS)/ French Alternative Energies and Atomic Energy Commission (CEA), Grenoble, France - are looking for a postdoctoral researcher for a project to characterize the reactive intermediates of promising **bio-inspired photoactive Ru-complexes involved in hydrogen production**. Building on ground-breaking previous results, we plan to study the ability of flavin derivatives to store photogenerated electrons for transfer to H₂-producing cobalt catalysers. Several advanced spectroscopic methods, including pulsed and time-resolved EPR (electron paramagnetic resonance), will be used in combination with other methods (electrochemistry) and DFT simulations. Electron localisation on the organic moieties, the kinetics of transfer and coupling with the Co states will be of particular interest. The long-term goal is to design efficient system for solar fuel production. The work will involve relatively simple sample preparation – at LCBM – and extensive spectroscopic analysis, which will be carried out at SyMMES. The two laboratories are located on the same scientific campus in Grenoble, France, have a long history of collaboration, and are very well known in their respective fields of research.

Sicoli et al., Science 351, **2016**, 10.1126/science.aad8995

Lefebvre et al., Chemical Sciences, 9, **2018**, 10.1039/c7sc04348a

For further information about the laboratories and the research carried out:

<https://www.symm.es.fr/Pages/CAMPE/Presentation.aspx>

<https://www.solhycat.com/>

Qualifications

We are looking for candidates with a background in EPR or NMR spectroscopy. The candidate should hold a Ph.D. degree in chemistry or physics and have documented experience in demanding spectroscopic experiments. Experience in DFT calculation or electrochemistry or photochemistry would be a bonus.

Position Summary

Funding for this position has been awarded by the French National Research Agency (ANR) as a part of a broader Franco-German project. **The position can be filled immediately**, the initial contract will run for a maximum of 18 months. The salary will depend on experience, with a net starting rate of pay of about €2200 /month. Health insurance and social contributions will be paid by the employer.

About Grenoble

Grenoble is a major university town in France, home to more than 58,000 students from over 70 different countries. It also represents a world-ranking research community thanks to a unique combination of a major University, several state-owned basic- and applied-research organisations, high ranking international scientific facilities (ESRF synchrotron facilities and ILL neutron facilities) and major high-tech industries. Thanks to this diversity, Grenoble is a hive of activity at all hours of the day and night! Grenoble is also well known for its unique position in the French Alps with major ski resorts accessible in under an hour, and exceptional natural sites to visit in other seasons.

Applications

Candidates should contact Serge Gambarelli, serge.gambarelli@cea.fr, +33438783940

with:

- Cover letter (max. one page)
- CV
- PhD degree
- Transcript of academic records
- Letters of recommendation or contact details for potential referees