PhD Thesis Opportunity in UCLouvain, Louvain-la-Neuve, Belgium

Starting date: January 6th 2025, at the earliest but the position will remain open until a suitable candidate is found
Duration: 24 months, renewable for 24 additional months.
Status : PhD researcher.
Funding: doctoral fellowship (i.e. tax-free with social security contribution included)
Net amount per month: ~2370€

Context

The research project that the doctoral researcher candidate will pursue will take place within a "DfG Weave" research program. The PhD candidate will carry out research at UCLouvain within the research group of Prof. Ludovic Troian-Gautier and will work in synergy with the team of Dr. Alejandro Cadranel at the Friedrich-Alexander-Universität Erlangen-Nürnberg (Germany). Temporary research stays in Germany are foreseen.

Research project

The current project seeks to develop novel chromophores for anti-dissipative strategies, i.e. develop chromophores that exhibit "anti-Kasha" behavior and are able to perform excited-state electron transfer before relaxation to the lowest energy excited state. This project deals with organic and inorganic synthesis, through the development of novel ligands and novel transition metal chromophores, as well as photochemistry, through the measurement of ground and excited-state absorption/emission properties and excited-state quenching measurements. The ultrafast deactivation processes and energy landscape will be explored by Dr. Alejandro Cadranel and the PhD candidate hired in his team, but research stays to learn these techniques are foreseen. The project is built around a strong collaboration between both teams and seeks to investigate challenging research avenues.

The research project is organized in three working packages with increasing synthetic complexity and a progression toward applicability. The main anticipated tasks during the funding will include:

- WP–1: preparation and study of monometallic chromophores and bimetallic chromophores including photo-inactive metal centers;
- WP–2: synthesize and analyze monometallic or bimetallic chromophores including photo-active metal centers;
- WP–3: synthesize and analyze monometallic or bimetallic chromophores with ligand substitutions including electron donating/withdrawing groups;

Profile

The ideal candidate should have a successful master's degree (minimum required grade "Distinction" i.e. ≥14/20) in experimental chemistry at the time of application, with a specialization in organic or inorganic synthesis.

Application

The candidates are requested to send their application by e-mail to Ludovic.Troian@uclouvain.be as soon as possible, using the subject line "PhD Application DfG Weave". Applications will be evaluated until a suitable candidate is hired. The application should include an updated CV, a motivation letter and the name of two relevant persons (academics) that can be contacted for any further references. Candidates will be selected based on scientific excellence and achievements in research.

Additional information

Prof. Ludovic Troian-Gautier, Email: Ludovic.Troian@uclouvain.be
Website: https://uclouvain.be/en/research-institutes/imcn/most/prof-ludovic-troian-gautier.html
Google Scholar: https://scholar.google.be/citations?user=oUYVFI4AAAAJ&hl=en