

Postdoctoral Researcher Position Funded by the ANR PhotoSynth

Visible-Light Driven Synthesis of Electron-Deficient Semiconducting Polymers and Functional Nanographenes

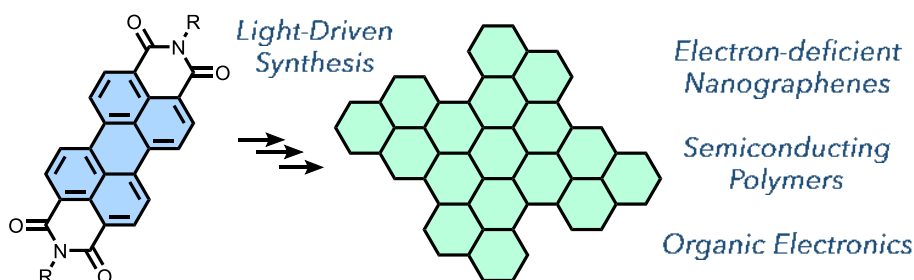
Location: MOLTECH-Anjou Laboratory, Université d'Angers, France

Supervisor: Dr. Antoine GOUJON

Duration: 1 year, starting September/October 2023.

The project: Organic electronics are on the rise and conjugated polymers and small molecules can be found in devices ranging from organic solar cells, organic-field effect transistors or thermo-electrical conversion devices for example. Synthesizing size-defined and atomically precise graphene fragments to obtain perfectly tuned optoelectronic properties is of high interest to discover new active molecules and the design rules of such materials. In particular, expanding the diversity of structure and properties of electron-deficient organic semiconductors (n-type) is a crucial challenge in the field.

PhotoSynth will explore the use of a light-driven reaction recently discovered in our group to prepare n-type conjugated polymers and other functional nanographenes for application in organic electronics. The goal will be to open a path toward the synthesis of greener, cheap and tuneable electron-deficient semiconducting materials prepared in a few steps.



The position: The work will focus on the development of a light-driven polymerization/poly-cyclization methodology to prepare conjugated semiconducting polymers in photo-reactors in flasks and flow-chemistry systems. The optical, electronic and structural properties of the materials of interest will then be characterized (in solution and films), and the best candidates will be tested as active components of organic electronics devices (in particular OFETs and OSCs).

Profile: The ideal candidate has experience in the synthesis, purification and characterization (spectroscopy/electrochemistry) of conjugated molecules/polymers. Experience in the preparation and measurement of OSCs and OFETs would be highly appreciated but is not a requirement.

How to apply: An email should be addressed to antoine.goujon@univ-angers.fr, with « **Postdoc Application ANR** » as the subject. The applicant will attach a CV including a list of publications, a short (**1 page**) research summary, and the contact of 2 references he/she worked with.

The MOLTECH-Anjou Laboratory is focused on the preparation of functional organic materials (with an emphasis on organic electronics) and is fully equipped to go from their design to their characterization and integration into devices. Angers is a medium-sized city located 1h20 from Paris by high-speed train and 1h30 from the Atlantic Ocean by car or train. A lively city with a low cost of living, surrounded by nature, rivers and beautiful vineyards, Angers is a city recognized as offering a high quality of life.