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Postdoctoral Researcher Positions Funded by the **ERC StG 2023 PhotoFreeze**

## Light-Frozen Dynamic Covalent Synthesis of Electron-Deficient Conjugated Materials

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

**Supervisor:** Dr. Antoine GOUJON

**Duration:** To discuss, starting January 2024 at the earliest.

**The project:** Organic electronics are on the rise: conjugated polymers and small molecules can be found in devices ranging from organic solar cells, organic-field effect transistors or biosensors among many others. Synthesizing size-defined and atomically precise graphene fragments to reach perfectly tuned optoelectronic properties is of high interest to discover new organic functional materials and their design rules. Expanding the diversity of structure and properties of electron-deficient organic semiconductors (n-type) is a crucial challenge in the field. **PhotoFreeze** will explore the use of a light-frozen dynamic covalent reaction recently discovered in our group to prepare mono- and multidimensional n-type conjugated materials for application in organic electronics.

**The position:** The work will focus on the development of a light-frozen dynamic covalent methodology to prepare mono- and multidimensional n-type conjugated materials, bringing together concepts from  $\pi$ -conjugated systems chemistry, dynamic covalent chemistry and supramolecular chemistry. It will consist in **mostly** organic synthesis, and then optoelectronic characterizations of the new materials and eventually organic electronics. The study of linear, twisted and helical nanographenes, nano-hoops and macrocycles, and 2D/3D networks will be pursued.

**Join the ERC StG PhotoFreeze team if you like synthetic challenges and want to be a part of a young, scientifically dynamic, inclusive and supporting research group!**

### The candidate:

- You are a curious, dynamic and rigorous scientist with excellent communicating skills in English (spoken and written). You show independence and creative thinking, along with a team player and positive attitude.
- You have a solid experience in the multi-steps synthesis, purification and characterization (spectroscopy/electrochemistry) of  $\pi$ -conjugated molecules, and a good track record. Additional experience in supramolecular chemistry will be appreciated. Experience in the preparation and measurement of organic electronics devices is not a requirement.
- Experience in rylene diimide-based nanoribbons/nanohoops/helices/macrocycles/oligomers will be highly appreciated.
- You must hold a PhD in Chemistry.

**How to apply:** An email should be addressed to [antoine.goujon@univ-angers.fr](mailto:antoine.goujon@univ-angers.fr), with « **Postdoc Application ERC StG PhotoFreeze** » as the subject. You should attach a single PDF file, in English, including:

- a detailed CV including a list of publications,
- a short (1-2 pages max.) research summary,
  - a short motivation letter,
- a proof of the obtention of the PhD diploma,
- the contact of 2 references you worked with.

Successful candidates will be invited to an online interview.

**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, affordable, surrounded by nature, rivers and beautiful vineyards, Angers is a city recognized as offering a high quality of life.

