Postdoctoral Position in Organic Electronics

Research and Development of Organic Optoelectronic Diodes: Materials, Stability and Device Physics

Duration: Full-time (100%) fixed-term position for up to 24 months. **Supervision:** Dr Marcin Kielar.
Location: The University of Angers, MOLTECH-Anjou Laboratory, Angers, France. **Start date:** Mid-2026

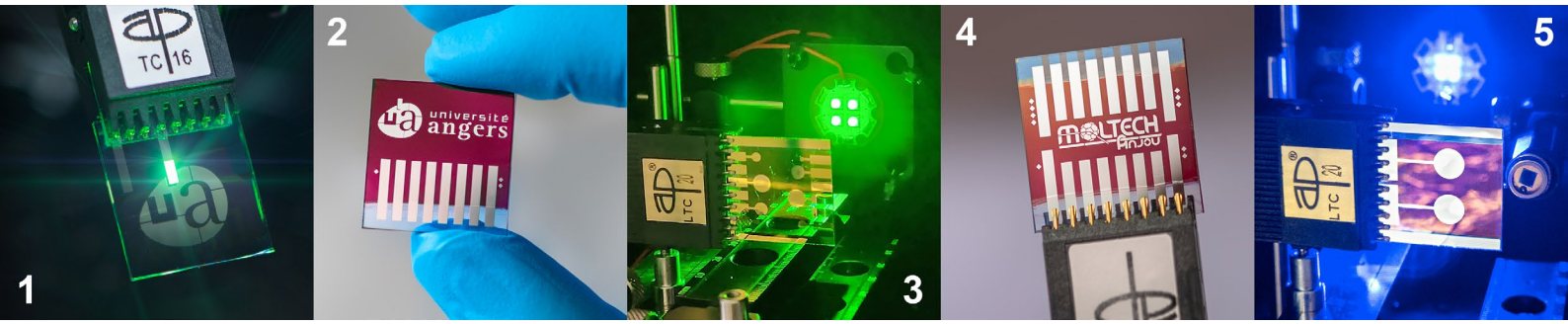

Figure 1. Organic optoelectronic devices fabricated at MOLTECH-Anjou by the KEMTRONIX group. 1: Organic light-emitting diode (OLED). **2, 4:** Organic solar cells (OPVs). **3, 5:** Organic photodiodes (OPDs)

About This Opportunity

We are seeking a **Postdoctoral Research Fellow** to join a multidisciplinary team at MOLTECH-Anjou, focusing on the development of organic light-emitting diodes (OLEDs), organic photodiodes (OPDs) and organic photovoltaic cells (OPVs). You will contribute to a number of projects within our research group KEMTRONIX with the overarching goal of designing the state-of-the-art organic optoelectronic devices (examples in Figure 1), improving our device fabrication capabilities and boosting research impact of our group.

Our group synthetises pi-conjugated semiconducting materials for OLEDs, OPDs and OPVs.[1–7] These include thiophene and oligothiophene-based compounds, triphenylamine-based push–pull molecules, rylene-derivatives such as perylenediimide (PDI) or benzothioxanthene imide (BTI) derivatives and boron-derived materials. You will test these materials to design, fabricate and optimize organic optoelectronic devices, focusing on the manufacturing aspects including miniaturisation of devices, encapsulation, flexibility and green engineering (simple device structures, solution-processed electrodes, green solvents and overall ease of manufacture).

You will also continue our research efforts on the design, fabrication and optimization of organic optoelectronic devices (OLEDs and OPDs) for neuroscience applications[8–11], by collaborating with two Australian neuroscience institutes at the University of Queensland and the Australian National University.

Key responsibilities will include:

- **Research:** Conduct research experiments and data analysis. Apply best-practice research methodologies. Produce high quality research outputs and publish in peer-reviewed outlets. Contribute to funding applications.
- **Supervision:** Contribute to knowledge transfer including supervision of junior researchers as well as undergraduate and postgraduate students undertaking internships in our group. Contribute to a strong safety culture.
- **Citizenship and service:** Contribute to internal service, provide support to colleagues and uphold university values. Manage team matters professionally. Build external partnerships and collaborations.

This is an exciting opportunity to join a dedicated team of chemists, material science experts and neuroscientists and work on cutting-edge research projects. As **Postdoctoral Research Fellow**, you will have opportunities to contribute to competitive funding applications and develop leadership capability through supervision of students engaged in our projects.

Keywords

Organic electronics, organic light-emitting diodes, OLED, organic photodetectors, organic photodiodes, OPD, organic solar cells, OSC, organic photovoltaic cells, OPV, neuronal activity, optical stimulation, optogenetics

About the University of Angers and the MOLTECH-Anjou Laboratory

Established during the 11th century, the University of Angers is a public university in western France, about 300 km southwest of Paris, it is one of the best universities in France for success rates. The main campus is located in Angers – a beautiful city renowned for its medieval centre dominated by the massive château (castle) and the cathedral.

The MOLTECH-Anjou Laboratory (https://moltech-anjou.univ-angers.fr/en/) is a mixed CNRS (the French National Centre for Scientific Research) - University of Angers research unit which gathers approximately 50 permanent staff (CNRS researchers, assistant, associate and full professors, technical staff) and about 30 PhD students and postdoctoral researchers. The research activity at MOLTECH-Anjou focuses on the development of organic and hybrid organic-inorganic materials with relevance in organic electronics, energy storage and new physical phenomena.

About You

- Completion within the last three years (or near completion) of a PhD in material science, engineering, electronics, physics, organic chemistry or an optics-related field, with a research experience in organic electronics. Strong preference will be given to those with demonstrated practical experience with organic optoelectronic diodes.
- Solid knowledge of organic semiconducting materials and organic devices and the critical factors influencing their performance.
- Demonstrated expertise in the fabrication of organic diodes: OPVs and/or OPDs and/or OLEDs, including their optoelectrical characterization.
- An emerging publication record in reputable, peer-reviewed journals.
- Proficiency in maintaining accurate and reliable records of conducted work.
- A high level of drive and enthusiasm with excellent interpersonal, written and verbal communication skills.
- Excellent English skills (speaking, writing, reading & listening).

Desirable skills:

- In-depth knowledge of fundamental photophysical properties in organic optoelectronic devices, including charge transport, ultra-fast processes, recombination physics and exciton generation.
- Electronic prototyping skills, proficient and proven knowledge of the operation of lab equipment including (but not limited to) oscilloscopes, multimeters, source-measure units, signal generators, soldering irons.
- Demonstrated expertise in programming (mostly LabVIEW).
- Proven ability to work and collaborate within a multidisciplinary team.

The successful candidate may be required to complete a number of pre-employment checks, including right to work and live in France, and also education checks including academic transcripts and recommendation letters. Other skills, including English proficiency, may be assessed during interview.

Administrative details

Gross salary will be €2,958 per month.
Application deadline: **10 May 2026, 11:59 PM** Central European Time (CET). **Start date:** Mid-2026 (flexible).

Want to apply?

We welcome applications from all individuals and are committed to an inclusive and accessible recruitment process. To be considered, please ensure you include in your application:

- Resume
- Cover letter addressing the 'About You' section above

You can apply for this position online via EURAXESS (link) or UA (link). All documents should be written in English. Shortlisted applicants will be contacted to provide additional documentation (e.g., PhD degree certificate, university transcripts of records and recommendation letters) and to arrange interviews scheduled between 18 and 22 May 2026.

For more information about this opportunity and the recruitment process, please contact **Dr Marcin Kielar** (marcin.kielar@univ-angers.fr), or our recruitment office (recrutement@univ-angers.fr).

Questions?

For more information about this opportunity, please contact **Dr Marcin Kielar** via marcin.kielar@univ-angers.fr

References

1. Cabanetos, C., Blanchard, P. & Roncali, J. Arylamine Based Photoactive Push-Pull Molecular Systems: A Brief Overview of the Chemistry "Made in Angers". *The Chemical Record* **19**, 1123–1130 (2019).
2. Marqués, P. S. *et al.* Effect of 4-biphenyl groups on the charge transport and photovoltaic properties of arylamine based push–pull systems. *New Journal of Chemistry* **44**, 11441–11447 (2020).
3. Baisinger, L. *et al.* Reducing Non-Radiative Voltage Losses by Methylation of Push–Pull Molecular Donors in Organic Solar Cells. *ChemSusChem* **14**, 3622–3631 (2021).
4. Castán, J. M. A. *et al.* Thiochromenocarbazole imide: a new organic dye with first utility in large area flexible electroluminescent devices. *Mater. Chem. Front.* **6**, 1912–1919 (2022).
5. Andrés Castán, J. M. *et al.* N-Annulation of the BTI Rylene Imide Organic Building Block: Impact on the Optoelectronic Properties of π-Extended Molecular Structures. *Colorants* **2**, 22–30 (2022).
6. Lee, J. H. *et al.* Enhancing Intermolecular Interaction of Spiro-OMeTAD for Stable Perovskite Solar Cells with Efficiencies over 24%. *ACS Energy Lett.* **8**, 3895–3901 (2023).
7. Ghanem, T. *et al.* Synthesis of Accessible Triphenylamine End-Capped Oligothiophene Emitters for Solution Processed and Printed OLEDs. *ChemistrySelect* **9**, e202403115 (2024).
8. Kielar, M., Kenna, M., Blanchard, P. & Sah, P. Application of Organic Light-Emitting Diodes and Photodiodes in Optical Control and Detection of Neuronal Activity. *Photonics 2025* **12**, 281 (2025).
9. Kielar, M. *et al.* Optogenetic Stimulation and Spatial Localization of Neurons Using a Multi-OLED Approach. *ACS Photonics* **9**, 3279–3290 (2022).
10. Kielar, M. *et al.* Stability, reliability, and performance of organic light-emitting diodes and photodetectors in optogenetic studies. *Proceedings of SPIE* **1266103**, 7 (2023).
11. Kielar, M., Gooch, H., Xu, L., Pandey, A. K. & Sah, P. Direct detection of neuronal activity using organic photodetectors. *ACS Photonics* **8**, 228–237 (2021).