Research Chair

‘Physics and technology of neutral atom quantum computing platforms’

The Laboratoire Charles Fabry (LCF) at Institut d’Optique Graduate School (IOGS) is seeking a dedicated researcher for a new five-year-long chair funded by Pasqal, a dynamic spin-off from our own laboratory that is pioneering advancements in neutral atom quantum computers.

About IOGS:

Founded in 1917, the Institut d'Optique - Graduate School is a world leader in higher education, research and innovation in optics and photonics. IOGS trains physics Engineers, Masters students, and some of the most innovative PhDs in business and academia. At the heart of networks of excellence, its international influence is grounded in the quality of the training it provides and its research and technology transfer. IOGS is a member of the Université Paris-Saclay, with three campuses of excellence in Paris-Saclay, Bordeaux and Saint-Etienne. The research center is composed of three laboratories with international influence, including Laboratoire Charles Fabry in Paris-Saclay.

About LCF:

Laboratoire Charles Fabry (LCF) is a joint research unit between Institut d’Optique – Graduate School, the French CNRS (Centre National de la Recherche Scientifique) and the Université Paris-Saclay. Research at LCF covers a broad spectrum of topics in both fundamental and applied photonics and quantum physics. With 43 permanent researchers, working with doctoral students and post-doctoral fellows and supported by technicians and administrative staff, LCF includes about 130 people. The fundamental research carried out at LCF over the past 25 years has laid the scientific foundations for the creation of Pasqal in 2019.

About Pasqal:

Founded by a team of scientists and former students from LCF, Pasqal has quickly established itself as a leader in the quantum computing landscape, exploiting the technology of laser-controlled neutral atoms. With around 300 employees worldwide, Pasqal continues to grow as it drives the transition from academic breakthroughs to practical quantum computing applications.

Position Overview:

As the head of the new joint IOGS-CNRS-Pasqal laboratory ('laboratoire commun') located at IOGS in Palaiseau near Paris, you will lead research initiatives aimed at improving the capabilities of Pasqal's quantum processing units. In close collaboration with the ‘Quantum Optics’ group at LCF as well as Pasqal’s hardware R&D department, you will thus contribute to groundbreaking advancements aiming at shaping the future of quantum computing. Limited teaching duties (≈ 50 hours/year) at IOGS will also be encouraged, allowing you to share your expertise and inspire the next generation of scientists. This position comes with a significant research budget and involves the management of a small research group (to be built). It is funded over a period of 5 years. The experience will open great professional opportunities, either in academics or in industry, beyond the five-year period.

Key Responsibilities:

- Conduct cutting-edge research to enhance the performances and capabilities of Pasqal's quantum processing units
- Develop and implement experimental setups and methodologies related to neutral atom platforms
- Collaborate with academic groups in France and worldwide, and Pasqal's R&D department
- Publish findings in leading scientific journals and present at international conferences
- Mentor and guide junior researchers and students
- Participate in teaching activities (encouraged)

Qualifications:

- Experimental PhD in one of the following fields: cold neutral atom physics, laser-matter interaction, quantum computing
- Proven experience in experimental research and quantum technologies
- Strong analytical and problem-solving skills
- Excellent communication and teamwork abilities

What we Offer:

- A dynamic research environment at a renowned laboratory, in close collaboration with a dynamic and expending start-up
- Competitive salary
- A significant research budget to support your initiatives
- Opportunities for professional development and collaboration

Join us in shaping the future of quantum computing! How to Apply:

Please send your CV, a cover letter detailing your research experience and vision for the role, and contact information for at least two references to:

- Dr. Patrick Georges, LCF director: patrick.georges@institutoptique.fr
- Dr. Fabien Quéré, lead of academic partnerships at Pasqal: fabien.quere@pasqal.com

Applications will be reviewed on a rolling basis until the position is filled.