



CIFRE doctoral fellowship

This is a full time, 3 year position (CDD) in Paris and Lille, France.

Who we are

Axorus aims to become the “Intel of Bionics”: to provide a wide range of technologies for implants to treat neural diseases. Our first product will be a retinal implant.

We work at the crossroads of electronics and neurobiology, with the goal of helping people live in better health. We have partnerships with medical doctors, biologists, and electronics scientists.

We are a startup and expect to grow significantly in the upcoming years. As an early employee, you will find yourself in a dynamic and fast-paced environment where you have a strong voice, and will get to tackle challenging and meaningful projects.

What you will do

You will be both an Axorus employee and a PhD candidate. The CIFRE PhD will be done in collaboration with Lille University. You will be part of the [SPINE](#) research group. You will develop new technologies to power and optimize Axorus’ neuro-electronic implants, such as the artificial retina.

The main building block of our implants is an electronic “neuron”: a CMOS analog circuit that mimics the action potentials (spikes) of a biological neuron. Your project will address two major challenges of neuro-electronic implant design and production:

- increasing the energy autonomy of the implants by storing and supplying power,
- making the electronic circuits to be integrated in the implants thinner and more flexible.

You will first do a state-of-the-art report on existing technologies while taking into account various industrial constraints : industrialization process, compatibility with implantation in humans, biocompatibility, intellectual property, and medical devices norms and regulations.

Using this report, you will then develop :

- a clean-room process for thinning electronic circuits (silicon-based) that will be based on previous work done at Lille University,
- methods of power supply and storage (onboard battery source or other).

The results you will obtain will be incorporated into Axorus’ neuro-implants.

Who you are

- You have a Master’s degree, or an equivalent qualification, in engineering, physics, electronics, medical devices or a similar field.
- Your written and spoken English is very good. Conversational French is appreciated.
- You are motivated by ambitious and meaningful multidisciplinary R&D projects.

Soft skills

- You are curious, resourceful and result-driven.

If you are interested, send us your resume at jobs@axorus.com