Bien-Air Surgery is a growing international company which develops, manufactures, and markets high-tech instruments for microsurgery. We have held an enviable position in the international market for many years thanks to our emphasis on invention and innovation, and the high quality of our products and services. To support our growth, we are looking to add to our team at our site in Bienne a:

R&D Intern

Theme:

The study and definition of optimal blade parameters for our shaver.

Introduction:

A shaver, also called microdebrider, is a motorized device used in ENT surgery to remove nasal polyps or to reduce tumors. It operates by producing a rapid oscillating movement of 1 to 10Hz during which a hollow inner blade rotates 1 to 5 turns and shears the soft tissues of the nose or larynx. The shaver handpiece has an internal irrigation system to moisten the surgical site. The cut tissue is then aspirated through and out of the handpiece.

We would like to obtain more data in simulated use to define the optimal parameters to use with our shaver blades. This will make it easier for surgeons to use our instruments and improve their comfort as well as that of their patients.

Objective / Content:

Determine the optimal parameters for the use of shaver blades to minimize the risk of clogging in the consumables while maximizing cutting performance.

The project will include:

- Literature search (definition of material and method for the tests)
- Development of a test bench (includes sensors selection)
- Realization of tests to obtain experimental data thanks to the test bench realized beforehand
- Data acquisition and processing
- Optional: development of a mathematical model with different parameters. This model will have to be verified with experimental data.

Profile / Qualifications:

- Knowledge in mechanical design (test bench development)
- Knowledge in data acquisition (sensors)
- Knowledge in data analysis/processing
- A plus: Use of mathematical models for data prediction
- Good knowledge of professional English
- Your dynamism and team spirit allow you to enjoy collaborating on this project

Duration:

6 months

Start:

August 2022

Fields of study:

- Microtechnology
- Mechanical engineering
- Life sciences engineering
- Physics

This project offers the future intern the possibility to obtain some very important and much needed professional experience in the passionate and exciting field of medical device development.

If interested, please send your complete application materials by e-mail to: job.surgery@bienair.com