UNIVERSITÉ CÔTE D'AZUR

OPEN POSITION:
MECHATRONICS ENGINEER

Title	**Development of a brain-computer interface headset**
Diploma	Master of Science
Duration	12 months
Location	Nice University Hospital Pasteur 2
Context	Université Côte d'Azur **TECH-ICOPA** collaborative project between Nice University Hospital and Inria Sophia Antipolis

DESCRIPTION

Brain-Computer Interfaces translate brain activity into commands and can be used for communication in replacement of muscular control.
Such a BCI, the P300-speller, consists of a keyboard whose keys can be selected through brain activity. This brain activity is measured by electroencephalography (EEG). In a clinical study conducted at Nice University Hospital, 20 patients suffering from ALS (Amyotrophic Lateral Sclerosis) were able to test the P300-speller and show its usability.
The project aims to design and to test an EEG headset adapted to long-term use by patients, with the following practical and functional criteria :

- easy to position and maintain on the head,
- confortable to wear for long periods,
- should require no conductive gel (dry electrodes),
- measuring good-quality EEG signals for the P300-speller.

SKILLS

Scientific	Mechanical engineering: mechanical properties of materials Electrical engineering: characterization and measurement of electrical properties CAO software Programming in C/C++
Technical	Manufacturing methods 3D printing and 3D scanning Development of functional prototypes Design and testing
Soft skills	Reactivity, sense of initiavive, dynamism Sense of organization, precision and reliability Ability to work in a team

SALARY will vary according to diploma and experience.

RECRUITMENT

Candidates should address curriculum vitae and motivation letter via email to the project leader soriani.mh@chu-nice.fr and scientific director maureen.clerc@inria.fr .