

PROPOSITION DE SUJET DE THESE

Intitulé : Prediction and causation : the modulation of voluntary action control on sensory processing

Référence : **TIS-DTIS-2024-08**
(à rappeler dans toute correspondance)

Début de la thèse : 10/2024

Date limite de candidature : 07/2024

Mots clés

Prediction, causality, action, sensory processing, psychophysics, EEG

Profil et compétences recherchées

Engineer, Master in Cognitive Science or related disciplines, Master in physics

Expertise : statistical analyses, programming (Matlab, R, Python)

Présentation du projet doctoral, contexte et objectif

Humans do not only passively observe and react to external events in the environment, they are also able to explore and interact with their environment through voluntary actions in order to produce desired goals. Research showed that sensory events generated by voluntary actions are processed differently compared to the same events but when generated externally. Within this framework, this project investigates the processes underlying voluntary action control that may explain these changes in sensory processing. We will in particular focus on the notion of prediction and causality.

The successful candidate will integrate the Cognitive Engineering and Applied Neurosciences (ICNA) group at the ONERA in Salon-de-Provence and will be supervised by Dr. Andrea Desantis. Travel to Marseille will be essential as some of the studies will be conducted at the *Institut de Neurosciences de la Timone*. This will offer the successful candidate the unique opportunity to gain experience in both basic and applied research and to learn from both academic and industrial research labs.

Collaborations envisagées

Laboratoire d'accueil à l'ONERA

Département : Traitement de l'information et systèmes

Lieu (centre ONERA) : Salon de Provence

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Pour plus d'informations : <https://www.onera.fr/rejoindre-onera/la-formation-par-la-recherche>