

Effect of circadian rhythms and task dynamics on team cognition processes

Université Bretagne Sud



NICOLAS BAUDIN
INTERNSHIPS IN FRANCE INITIATIVE

Name of the hosting institution in France	Université Bretagne Sud
Name of the host laboratory / research team	Lab-STICC / IHSEV-FHOX Team
Address	17 boulevard Flandres Dunkerque 56100 Lorient
Website	https://www.labsticc.fr/en/index/
Name of the supervisor	Philippe Rauffet
Function	Associate Professor
Email	philippe.rauffet@univ-ubs.fr
Phone number	0033297871840

Internship offer

Topic of the internship (title)	Effect of circadian rhythms and task dynamics on team cognition processes			
Proposed dates of the internship*	Start	2020-09-01	End	2021-01-29

* The supervisors have indicated the dates proposed are flexible and are able to be postponed subject to COVID-19 border closures.

Scientific and academic objectives of the internship (detailed description of the internship content, work expected from the intern and expected outcomes):

Objective: Investigation on the effect of fatigue (especially the circadian rhythm and the change in task dynamics), on the processes of team cognition.

Detailed missions: During naval operations, teams have the role of monitoring what is happening around (and inside) the ship, for example to prevent any incursion or abnormal event. This monitoring task often consists of long periods of monotony and sudden need for reaction. The general purpose of this internship is to study, through the scope of fatigue, the effect of a quick change in task characteristics coupled with circadian rhythm: long period of monotony (i.e. absence of stimuli or routine tasks) and a sudden situation to handle (i.e. decision making) on team performance.

The internship would be divided into three stages:

- Based on the outcomes of a first Baudin's internship in 2018-2019, the student will define the main metrics useful for analysing the quality of team cognition processes.
- Then he/she will design an experiment on a simulator enabling the study of teamwork (e.g. C3Fire), with different settings in task dynamics and at different hours of the day.
- Finally, the intern will conduct an experiment with between 10 and 20 participants, and he/she will analyse the experimental data.

Name of industrial partner	Naval Group Research (CEMIS/EIFH department)
Role of the industrial partner in the internship project	Scientific support and expertise in the domain to define the topic and the possible use cases for the internship. Meetings with Naval Group Research will be planned during the internship to continue the scientific discussion and the progress on the topic.
Main contact at the French industrial partner	Chantal Mais
Email	chantal.mais@naval-group.com
Name of the Australian partner institution	University of South Australia
Name of lab/department/team involved in the collaboration at the Australian partner institution	Behaviour-Brain-Body Research centre (BBB)
Main contact in the Australian partner institution	Siobhan Banks
Function	Full Professor, Head of BBB centre
Email	Siobhan.Banks@unisa.edu.au

Outside of this ongoing collaboration, will applications coming from students of other eligible Australian universities be considered by the hosting institution in France? No

Expected profile of applicant

Level of study	College of engineering (last year) or University (Master degree program)
Discipline	Human Factor, Psychology
Required qualities, knowledge and skills	Knowledge in human factors, skills in experimental design and statistical analysis