

## Honours Programme Topics 2020- 2021

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## Personality and Psychopathology Research group - Information processing in elderly

### Title:

(Joint PhD of doctoral student Xenia Brancart:)  
Personality types and individual differences in information processing in elderly people  
Persoonlijkheidstypes en individuele verschillen in het verwerken van informatie bij ouderen

### Promotor:

Prof. Dr. Gina Rossi, Prof. Dr. Eva Dierckx (VUB); Prof. Dr. Rudi De Raedt (UGent)

### Supervisor:

Prof. Dr. Gina Rossi, Prof. Dr. Eva Dierckx and doctoral student Xenia Brancart

### Contact by...

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 Office:

### How many people can be selected for this internship?

1

### Language needed to do this internship?

Dutch and English

### Abstract (max 250 words):

The general objective of the PhD research is to increase insight into the relationship between personality types, psychological functioning and information processing in the elderly in order to develop a targeted cognitive intervention to facilitate effective emotion regulation. Within Gray's theory of sensitivity to reward two systems of reactivity temperament are distinguished: the Behavioural Inhibition System (BIS) and the Behavioural Activation System (BAS). Different configurations of these systems in combination with effortful control (EC) can be associated with an over- and under-controlled type and a resilient personality type. Until now, only types in younger adults have been studied on the basis of temperament factors (BIS, BAS and EC). The current study focuses on older adults (clinical and community-dwelling samples). The internship will contribute to one of the sub-targets of this PhD research, namely the link between the personality types and neuropsychological functioning. Depending on advancement of the research (data collection within the clinic and general population of older adults is dependent on evolution of COVID-restrictions), the student can possibly also contribute to studying the link with emotion regulation or the procedure to improve cognitive functioning and emotion regulation in elderly.

**General timing described in the task section is:**

- Fixed, ...
- Flexible, literature study possible first semester, other activities during second semester
- Other: ...

**The student *can* perform the following tasks:**

**T&I = Estimated timing and extra information**

Note: Supervisors (PhD student Xenia Brancart and her promoters, Prof. Rossi & Dierckx) will plan which tasks the student *will* perform and when, taking into account that the internship will encompass a total of 45 to 50 full time days (i.e. 7 hours a day).

- Read and select relevant literature, T&I: literature study and writing a literature review – ca. 70 hours
- Develop research question(s), T&I:
- Develop a research design, T&I:
- Write a research proposal, T&I:
- Develop and/or validate stimulus material/questionnaires, T&I:
- Recruit participants, T&I: search for participants (elderly people in the general population) who are willing to participate in the doctoral research - ca. 35 hours
- Conduct a Pilot study, T&I:
- Conduct a study, T&I:
- Analyze data that you collected yourself, T&I: the student enters the data he/she has collected himself/herself in SPSS and analyzes this data – ca. 35 hours
- Analyze existing data, T&I: can be added to the newly collected data (or is a backup when COVID hampers data collection) (hours see above)
- Interpret and present data, T&I: interpreting the data analyses and feedback of the results to fellow researchers – ca. 20 hours
- Write down findings in the form of a paper, T&I: as-co-author (see read and select literature for estimated hours)
- Participate at a conference , T&I:
- Present the research at a conference, T&I:
- Other: ....., T&I: test takings with elderly people (subject to evolutions COVID) – ca. 155 to 190 hours

**Will the student have the chance to become a co-author if the work leads to a publication?**

No, because ...

Yes, if ... the student makes a substantial contribution

**The student will need the following training at an estimated time which will be provided by:**

/

**The following prior knowledge is needed:**

Knowledge of statistical software (SPSS) is necessary.

The student has the means to move independently and easily (e.g. driver's licence, access to a car,...)

## **Brain, Body & Cognition - Personalized medicine and Integrated care**

### **Title:**

Personalized medicine and Integrated care: Multidisciplinary Oncology Consultations using Patient-centric Decision Support: Beyond Black-box Systems

### **Promotor:**

Prof. Dr. Elke Van Hoof

### **Supervisor:**

Dr. Ellen Loix

### **Contact by...**

E-mail: ellen.loix@vub.be

Office: 0477/33.59.40

### **How many people can be selected for this internship?**

2

### **Language needed to do this internship?**

NL or FR

### **Abstract (max 250 words):**

In current oncological practice, disease management is commonly organized through multidisciplinary oncology consultations (MOCs). With the emergence of individualized medicine, and the increasing amount and complexity of available medical data, a growing need exists for the development of computer-aided clinical decision-support systems (CDSS) for the clinic, based on prediction models of treatment outcome. In oncology, such models should combine all available biological and clinical data to achieve the highest accuracy to predict tumor response and follow-up events.

Patient empowerment is important aspect of modern oncological care, with demonstrated benefit for patient outcomes, and shared decision-making one of its main drivers. A necessary step towards the shared decision-process is to adequately inform the patient on his pathology and treatment options. As cancer treatment is becoming more and more complex, latter task is becoming increasingly complicated. The MOC-UP project aims to have positive impact on cancer disease management, by targeting one of the principal instruments employed in the decision-making process of current oncological care: the multidisciplinary oncology consultation. The rationale underlying our approach is that for clinical decision-support to be relevant in a MOC-setting, it should be multi-factorial (based on data coming from multiple disciplines), easy-to-use (allowing it to be integrated in the clinical workflow), and understandable (allowing interpretation for both the caregiver and the patient).

### **General timing described in the task section is:**

- Fixed, ...
- Flexible, ...
- Other: ...

**The student *can* perform the following tasks:**

**T&I = Estimated timing and extra information**

Note: the promotor, supervisor and student will plan which tasks the student *will* perform and when, taking into account that the internship will encompass a total of 45 to 50 full time days (i.e. 7 hours a day).

- Read and select relevant literature, T&I:
- Develop research question(s), T&I:
- Develop a research design, T&I:
- Write a research proposal, T&I:
- Develop and/or validate stimulus material/questionnaires, T&I:
- Recruit participants, T&I: in hospitals and through social media, other relevant channels and networks
- Conduct a Pilot study, T&I:
- Conduct a study, T&I: assistance in online survey, interviews, focus-groups, experiments
- Analyze data that you collected yourself, T&I: if statistical knowledge and interest is present, this is certainly most welcome
- Analyze existing data, T&I:
- Interpret and present data, T&I: if statistical knowledge and interest is present, this is certainly most welcome
- Write down findings in the form of a paper, T&I: if interest is present, this is certainly most welcome
- Participate at a conference , T&I:
- Present the research at a conference, T&I:
- Other: ....., T&I: assistance in project management

**Will the student have the chance to become a co-author if the work leads to a publication?**

- No, because ...
- Yes, if participation in analyses and interpretation of the collected data

**The student will need the following training at an estimated time which will be provided by:**

NA

**The following prior knowledge is needed:**

Ideally, good knowledge of both languages, i.e. NL and FR  
If possible: statistical knowledge and data analyses, writing skills

## Brain, Body & Cognition - Meta-analyse COVID-19

### Title:

Meta-analyse COVID-19 in samenwerking met RIZIV

### Promotor:

Prof. Dr. Elke Van Hoof

### Supervisor:

Dr. Ellen Loix

### Contact by...

E-mail: ellen.loix@vub.be

Office: 0477/33.59.40

### How many people can be selected for this internship?

1

### Language needed to do this internship?

NL or FR

### Abstract (max 250 words):

COVID-19 heeft een breuk veroorzaakt met het leven zoals we het kenden. In de afwezigheid van een vaccin gekoppeld aan de dodentol en te weinig kennis over wat de juiste respons op deze outbreak zouden moeten zijn, valt deze pandemie onder wat Ord (2020) noemt een existentieel risico of wat Rittel en collegae (1973) een “wicked” probleem noemen. Er zijn zoveel variabelen om mee rekening te houden dat een éénduidige uitdaging gewoon niet valt te omschrijven. Als reactie op de pandemie en de daarop volgende maatregelen werden steeds meer surveys gestart om zoveel mogelijk data te verkrijgen van de bevolking, al dan niet gericht op een bepaalde groep. In de afwezigheid van precedenten en dus modellen uit het verleden die we zouden kunnen toepassen tijdens de COVID-19 pandemie om de wereld terug voorspelbaar te maken en gerichte beleidskeuzen te kunnen maken, zijn deze surveys van groot belang. Enerzijds kunnen ze inzicht verschaffen in hoe we de pandemie tot dusver hebben ervaren. Anderzijds kunnen dergelijke surveys ons een beeld geven van de uitdagingen die ons te wachten staan gelinkt aan de pandemie zelf, maar ook de daarbij horende lockdown & exit-strategie. Met dit onderzoek willen we door de combinatie van de verschillende surveys inzicht krijgen op

- 1) de psychosociale impact (op basis van de reeds beschikbare datastromen),
- 2) de te verwachte effecten van deze impact alsook
- 3) het identificeren van indicatoren om de impact in de toekomst op te volgen.

Op die manier kunnen we in de toekomst de psychosociale impact vanaf de start van een gelijkaardige situatie opvolgen en zodat we waar nodig de beste beslissingen nemen.

### General timing described in the task section is:



- Fixed, ...
- Flexible, ...
- Other: ...

**The student *can* perform the following tasks:**

**T&I = Estimated timing and extra information**

Note: the promotor, supervisor and student will plan which tasks the student *will* perform and when, taking into account that the internship will encompass a total of 45 to 50 full time days (i.e. 7 hours a day).

- Read and select relevant literature, T&I:
- Develop research question(s), T&I:
- Develop a research design, T&I:
- Write a research proposal, T&I:
- Develop and/or validate stimulus material/questionnaires, T&I:
- Recruit participants, T&I:
- Conduct a Pilot study, T&I:
- Conduct a study, T&I: assistance in expert focus-groups
- Analyze data that you collected yourself, T&I:
- Analyze existing data, T&I: if statistical knowledge and interest is present, this is certainly most welcome
- Interpret and present data, T&I: if statistical knowledge and interest is present, this is certainly most welcome
- Write down findings in the form of a paper, T&I: if interest is present, this is certainly most welcome
- Participate at a conference , T&I:
- Present the research at a conference, T&I:
- Other: ....., T&I: assistance in project management

**Will the student have the chance to become a co-author if the work leads to a publication?**

- No, because ...
- Yes, if participation in analyses and interpretation of the collected data

**The student will need the following training at an estimated time which will be provided by:**

NA

**The following prior knowledge is needed:**

Either NL, FR or UK  
Statistical knowledge and data analyses  
Optional: writing skills

## Work and Organizational Psychology - Authenticity

### Title:

Does variability in personality states relate to feeling authentic: A dynamic systems approach

### Promotor:

Prof. Tim Vantilborgh

### Supervisor:

Prof. Tim Vantilborgh

### Contact by...

E-mail: tim.vantilborgh@vub.be

Office:

### How many people can be selected for this internship?

1

### Language needed to do this internship?

Dutch and English

### Abstract (max 250 words):

Authenticity or the degree to which one feels true to oneself (Cooper, Sherman, Rauthmann, Serfass, & Brown, 2018), is considered a desirable characteristic and has been linked to various adaptive outcomes, such as self-esteem, psychological adjustment, and well-being (Jongman-Sereno & Leary, 2016). The opposite, inauthenticity, is often seen as an indicator of psychopathology (Wood, Linley, Maltby, Baliousis, & Joseph, 2008). Given its importance, several scholars have set out to unravel the factors driving people's feelings of (in)authenticity. One such factor is the consistency between personality states and traits. According to the *trait-state consistency hypothesis*, counter-dispositional behavior should elicit feelings of inauthenticity (Cooper et al., 2018; Fleeson & Wilt, 2010). However, studies have failed to find support for this hypothesis.

We will revisit this hypothesis, adopting a dynamic systems perspective to personality. During this internship, you will first get to know the literature on personality dynamics and authenticity. Next, you will collect data using an experience sampling design from a sample of students. The goal is to write an article testing the trait-state consistency hypothesis, while following open science practices. With this study, we will contribute to the authenticity literature by exploring how fluctuations in personality states relates to feeling (in)authentic. In addition, this study will make a contribution to the personality literature by applying the recently developed PersDyn model (Sosnowska

et al., 2019) and thus introduce a dynamic systems perspective to research on counter-dispositional behavior.

**General timing described in the task section is:**

- Fixed, ...
- Flexible: At the start of the internship, we will develop a general timeline for the project and for the internship. The goal is to find a schedule that fits the available time of the applicant, while being sufficiently realistic to allow for meaningful progress in the project.
- Other: ...

**The student *can* perform the following tasks:**

**T&I = Estimated timing and extra information**

Note: the promotor, supervisor and student will plan which tasks the student *will* perform and when, taking into account that the internship will encompass a total of 45 to 50 full time days (i.e. 7 hours a day).

- Read and select relevant literature, T&I: 40 hours
- Develop research question(s), T&I:
- Develop a research design, T&I: 40 hours
- Write a research proposal, T&I: 40 hours
- Develop and/or validate stimulus material/questionnaires, T&I:
- Recruit participants, T&I: 20 hours
- Conduct a Pilot study, T&I:
- Conduct a study, T&I: 40 hours
- Analyze data that you collected yourself, T&I: 40 hours
- Analyze existing data, T&I:
- Interpret and present data, T&I:
- Write down findings in the form of a paper, T&I: 50 hours
- Participate at a conference , T&I:
- Present the research at a conference, T&I: 20 hours
- Other: ....., T&I:

**Will the student have the chance to become a co-author if the work leads to a publication?**

No, because ...

Yes, if the project is completed in due time, the student will be the first author on the manuscript that will be written.

**The student will need the following training at an estimated time which will be provided by:**

/

**The following prior knowledge is needed:**

/

## Work and Organizational Psychology – Personality at Work

**Line of research:**

Personality at Work

**Title (optional):**

**Promotor:**

Prof. Dr. Joeri Hofmans

**Supervisor:**

Prof. Dr. Joeri Hofmans / Evy Kuijpers

**Contact by...**

E-mail: Joeri.hofmans@vub.be

Telephone:

Office:

**How many people can be selected for this internship?**

1

**Language needed to do this internship?**

English

**Abstract (max 250 words):**

Personality is often seen as stable individual differences in habitual patterns of behavior, thought and emotion. Whereas such a conceptualization of personality is straightforward, it also limits our understanding of (the effects of) personality. Individuals differ in their habitual thoughts, feelings and behaviors, but also in the way they respond to situations and the way they change and develop over time. This realization has led to a recent rise of studies focusing on either short- or long-term changes in personality.

In this internship, the idea is to perform a systematic review of those studies, which should allow us to get a better understanding of the triggers, consequences and correlates of personality change.

**General timing described in the task section is:**

- Fixed
- Flexible
- Other:

**The student *can* perform the following tasks:**

**T&I = Estimated timing and extra information**

Note: the promotor, supervisor and student will plan which tasks the student *will* perform and when, taking into account that the internship will encompass a total of 45 to 50 full time days (i.e. 7 hours a day).

- Read and select relevant literature, T&I:
- Develop research question(s), T&I:
- Develop a research design, T&I:
- Write a research proposal, T&I:
- Develop and/or validate stimulus material/questionnaires, T&I:
- Recruit participants, T&I:
- Conduct a Pilot study, T&I:
- Conduct the actual study, T&I:
- Analyze data that you collected yourself, T&I:

<input type="checkbox"/> Analyze existing data, T&I:
<input type="checkbox"/> Interpret and present data, T&I:
<input checked="" type="checkbox"/> Write down findings in the form of a paper, T&I:
<input type="checkbox"/> Participate at a conference , T&I:
<input type="checkbox"/> Present the research at a conference, T&I:
<input type="checkbox"/> Other: ....., T&I:

**Will the student have the chance to become a co-author if the work leads to a publication?**

<input type="checkbox"/> No, because
<input checked="" type="checkbox"/> Yes, if the contribution is substantial

**The student will need the following training at an estimated time which will be provided by (optional):**

Training 1:           , T&I:           , provided by
Training 2:           , T&I           , provided by
.....

**The following prior knowledge is needed (optional):**

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## Work and Organizational Psychology - Ecologically Momentary Assessment

**Line of research:**

Ecologically Momentary Assessment

**Title (optional):**

**Promotor:**

Prof. Dr. Sara De Gieter  
Prof. Dr. Joeri Hofmans  
Prof. Dr. Tim Vantilborgh

**Supervisor:**

See promotors

**Contact by...**

- E-mail: Joeri.hofmans@vub.be  
 Telephone:  
 Office:

**How many people can be selected for this internship?**

1

**Language needed to do this internship?**

English

**Abstract (max 250 words):**

Influenced by rapid technological advancements during the last decades, a detailed assessment of individuals in naturalistic settings of daily life became feasible. The methods used for collecting such data can be subsumed under the umbrella of ambulatory assessment. In a typical ambulatory assessment study, participants' behaviors, feelings and cognitions (along with relevant situational features) are recorded repeatedly during the routine activity of everyday life. In a daily diary study on the effect of work demands on mental exhaustion, for example, participants would be asked to complete the same questionnaire (measuring their daily work demands and mental exhaustion) every day for two weeks. Although the merits of ambulatory assessment are well known, performing such studies can be challenging.

A key factor contributing to this is the lack of easy-to-use software. Hence, a first focus of the internship might be to look for and test (both commercial and open source) software packages for performing ambulatory assessment research. The outcome of this internship might take the form of a report that details the positive and negative aspects of those packages and offers an advice to researchers willing to engage in ambulatory assessment.

A second important factor is the lack of measurement instruments suitable for use in ambulatory assessment. To address this limitation, a second finality of the internship might be to look for/to construct/to test ambulatory assessment measurement instruments. The outcome of this internship might take the form of a report that details the construction of a measurement instrument suited for ambulatory assessment.

**General timing described in the task section is:**

- Fixed
- Flexible
- Other:

**The student *can* perform the following tasks:**

**T&I = Estimated timing and extra information**

Note: the promotor, supervisor and student will plan which tasks the student *will* perform and when, taking into account that the internship will encompass a total of 45 to 50 full time days (i.e. 7 hours a day).

- Read and select relevant literature, T&I:
- Develop research question(s), T&I:
- Develop a research design, T&I:
- Write a research proposal, T&I:

Develop and/or validate stimulus material/questionnaires, T&I:

Recruit participants, T&I:

Conduct a Pilot study, T&I:

Conduct the actual study, T&I:

Analyze data that you collected yourself, T&I:

Analyze existing data, T&I:

Interpret and present data, T&I:

Write down findings in the form of a paper, T&I:

Participate at a conference , T&I:

Present the research at a conference, T&I:

Other: ....., T&I:

**Will the student have the chance to become a co-author if the work leads to a publication?**

No, because

Yes, if the contribution is substantial

**The student will need the following training at an estimated time which will be provided by (optional):**

Training 1: , T&I: , provided by

Training 2: , T&I: , provided by

.....

**The following prior knowledge is needed (optional):**

## Social Psychology – Social Neuropsychology – Social action sequences

### Title:

Neural correlates of social action sequences

### Promotor:

Frank Van Overwalle

### Supervisor:

Responsible experimenter

### Contact by...

E-mail: Frank.VanOverwalle@vub.be

Telephone:

Office:

### How many people can be selected for this internship?

2

### Language needed to do this internship?

English

### Abstract (max 250 words):

An increasing number of studies demonstrate a role for the cerebellum in social processing (Van Overwalle et al., 2014; Van Overwalle et al., 2016). The main hypothesis is that the cerebellum is responsible for automatizing social actions sequences, so that social understanding and interaction can unfold very intuitively and smoothly. During this internship, to investigate the role of the cerebellum in social action sequences, depending on the design and focus of the specific experiment, you will help to develop these novel tasks (behavioral pilots), and/or you will investigate the neural correlates of a newly developed task using neuroimaging (fMRI). Examples of social sequencing tasks can be found in Heleven et al. (2019) or Van Overwalle et al. (2019).

### General timing described in the task section is:

Fixed

Flexible Since we have multiple research ideas regarding brain stimulation, the timing depends on the specific project. The timings below are just a suggestion. Durations should be correct.

Other:

**The student *can* perform the following tasks:**

**T&I = Estimated timing and extra information**

Note: the promotor, supervisor and student will plan which tasks the student *will* perform and when, taking into account that the internship will encompass a total of 45 to 50 full time days (i.e. 7 hours a day).

Read and select relevant literature, T&I: During the whole internship

Develop research question(s), T&I:

Develop a research design, T&I: You will either help to develop novel action sequencing tasks (behavioral pilot studies), or you will investigate the neural correlates of an already newly developed task adjusted under the scanner (fMRI)

Write a research proposal, T&I:

Develop and/or validate stimulus material/questionnaires, T&I: If necessary, depends on design

Recruit participants, T&I: The intern will help us recruiting participants voor the stimulation study, and can rely on our participant list.

Conduct a Pilot study, T&I: If necessary

Conduct the actual study, T&I: The student will use fMRI neuroimaging (use of the fMRI scanner)

Analyze data that you collected yourself, T&I: After conducting the experiment, the student will analyze the behavioral data.

Analyze existing data, T&I:

Interpret and present data, T&I: The student will present the findings in a powerpoint presentation for the supervisor

Write down findings in the form of a paper, T&I: After all analyses and interpretation.

Participate at a conference , T&I: Students will be given the opportunity to be present at the C4N phd day.

Present the research at a conference, T&I:

Other: ....., T&I:

**Will the student have the chance to become a co-author if the work leads to a publication?**

No, because

Yes, if the student understands the research and all steps in it so he/she can explain all research aspects and contribute in writing the article, did perform or contribute to the above checked steps in the research.

**The student will need the following training at an estimated time which will be provided by:**

Training 1: Neuroimaging fMRI technique, T&I: while conducting the experiment, provided the responsible experimenter.

**The following prior knowledge is needed:**

The student already has or will have knowledge about statistics for 2nd bachelors: correlations, ANOVA,...

## Social Psychology – Social Neuropsychology – Cerebellar patients

### Title:

Social processing impairments in cerebellar patients

### Promotor:

Elien Heleven

### Supervisor:

Elien Heleven

### Contact by...

E-mail: elien.heleven@vub.be

Telephone:

Office:

### How many people can be selected for this internship?

2

### Language needed to do this internship?

English, Dutch and French

### Abstract (max 250 words):

An increasing number of studies demonstrate a role for the cerebellum in social processing (Van Overwalle et al 2014; Van Overwalle et al. 2016). During this internship, you will investigate the effects of cerebellar brain lesions on social information processing, investigating cerebellar patients' performances on a series of social tasks (e.g. the social sequencing tasks used in Heleven et al. 2019), and compare them to neurotypical healthy controls. If at any given moment we do not have sufficient patients to test, the student can choose to participate in other cerebellar projects of the lab.

### General timing described in the task section is:

Fixed:

Flexible We would like the student to start as soon as possible since we currently have patients willing to participate. The study will however run for a long period of time.

Other:

**The student *can* perform the following tasks:**

**T&I = Estimated timing and extra information**

Note: the promotor, supervisor and student will plan which tasks the student *will* perform and when, taking into account that the internship will encompass a total of 45 to 50 full time days (i.e. 7 hours a day).

- Read and select relevant literature, T&I: During the whole internship
- Develop research question(s), T&I:
- Develop a research design, T&I:
- Write a research proposal, T&I:
- Develop and/or validate stimulus material/questionnaires, T&I:
- Recruit participants, T&I: The intern will contact recruited patients and will search for matching controls if needed.
- Conduct a Pilot study, T&I:
- Conduct the actual study, T&I: The student will make appointments with the patients and control participants and conduct the study at their home or where they are hospitalized.
- Analyze data that you collected yourself, T&I: After conducting the experiment, the student will analyze the behavioral data.
- Analyze existing data, T&I:
- Interpret and present data, T&I: The student will present the findings in a powerpoint presentation for the supervisor.
- Write down findings in the form of a paper, T&I: After all analyses and interpretation.
- Participate at a conference, T&I: Students will be given the opportunity to be present at the C4N phd day.
- Present the research at a conference, T&I:
- Other: ....., T&I:

**Will the student have the chance to become a co-author if the work leads to a publication?**

- No, because
- Yes, if contribution is substantial and of quality.

**The student will need the following training at an estimated time which will be provided by:**



Training 1: Experimental protocol, T&I: prior to conducting the experiment, provided by Elieen Heleven.

**The following prior knowledge is needed:**

The student already has or will have knowledge about statistics for 2nd bachelors: correlations, ANOVA,...

The student has a drivers' license, access to a car and is fluent in French.

## Social Psychology – Social Neuropsychology – Social processing

### Title:

The effects of neurostimulation on social processing

### Promotor:

Elien Heleven

### Supervisor:

Elien Heleven

### Contact by...

E-mail: elien.heleven@vub.be

Telephone:

Office:

### How many people can be selected for this internship?

2

### Language needed to do this internship?

English

### Abstract (max 250 words):

An increasing number of studies demonstrate a role for the cerebellum in social processing (Van Overwalle et al 2014; Van Overwalle et al. 2016). During this internship, you will investigate the effects of cerebellar brain stimulation on (non-)social information processing using a neurostimulation technique (tDCS or TMS). Studies using these techniques are currently limited (Van Dun et al. 2017). Depending on the design and focus of the specific experiment, we will use a new or existing task. For example the social sequencing tasks used in Heleven et al. (2019).

### General timing described in the task section is:

Fixed

Flexible Since we have multiple research ideas regarding brain stimulation, the timing depends on the specific project. The timings below are just a suggestion. Durations should be correct.

Other:

**The student *can* perform the following tasks:**

**T&I = Estimated timing and extra information**

Note: the promotor, supervisor and student will plan which tasks the student *will* perform and when, taking into account that the internship will encompass a total of 45 to 50 full time days (i.e. 7 hours a day).

- Read and select relevant literature, T&I: During the whole internship
- Develop research question(s), T&I:
- Develop a research design, T&I: Based on new developments in neurostimulation literature we will develop a procedure
- Write a research proposal, T&I:
- Develop and/or validate stimulus material/questionnaires, T&I:
- Recruit participants, T&I: The intern will help us recruiting participants voor the stimulation study, and can rely on our participant list.
- Conduct a Pilot study, T&I: If necessary
- Conduct the actual study, T&I: The student will use a specific neurostimulation technique (TMS or tDCS)
- Analyze data that you collected yourself, T&I: After conducting the experiment, the student will analyse the behavioral data.
- Analyze existing data, T&I:
- Interpret and present data, T&I: The student will present the findings in a powerpoint presentation for the supervisor.
- Write down findings in the form of a paper, T&I: After all analyses and interpretation.
- Participate at a conference, T&I: Students will be given the opportunity to be present at the C4N phd day.
- Present the research at a conference, T&I:
- Other: ....., T&I:

**Will the student have the chance to become a co-author if the work leads to a publication?**

- No, because
- Yes, if the student understands the research and all steps in it so he/she can explain all research aspects and contribute in writing the article, did perform or contribute to the above checked steps in the research.

**The student will need the following training at an estimated time which will be provided by:**

Training 1: Neurostimulation techniques, T&I: while conducting the experiment, provided by Elien Heleven.

**The following prior knowledge is needed:**

The student already has or will have knowledge about statistics for 2nd bachelors: correlations, ANOVA,...