



## MEi:CogSci Projects for Specialisation

Effective January 2018

### Projects at the Comenius University in Bratislava

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Studying the effects of mixed reality on cognition</b> <a href="#">Igor Farkas, prof.</a> Dept. of Applied Informatics, Faculty of Math, Physics and Informatics, CUB <a href="#">web</a>	The objective is to investigate the effect of mixed reality on selected cognitive abilities. The project will involve pilot testing of a designed interaction procedure in MR in case of healthy participants who will be tested behaviorally before and after the MR.	Systematic work, experience with behavioral testing is an advantage.	1	S-I
<b>Connectionist modeling in cognitive robotics</b> <a href="#">Igor Farkas, prof.</a> Dept. of Applied Informatics, Faculty of Math, Physics and Informatics, CUB <a href="#">web</a>	The goal will be to implement, simulate and analyse a small neural network model of a chosen agent component. Details will be specified individually.	Systematic work, programming skills. Knowledge of artificial neural networks is an advantage.	1	S-I

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>Investigation of the role of spontaneous activity in heterosynaptic plasticity</b></p> <p><a href="#">Lubica Benuskova, prof.</a></p> <p>Dept. of Applied Informatics, Faculty of Math, Physics and Informatics, CUB</p> <p><a href="#">web</a></p>	<p>Long-term potentiation (LTP) and long-term depression (LTD) of synaptic efficacy is considered to be the synaptic mechanism of long-term memory. The ability of high-frequency stimulation (HFS) to induce LTP of all major excitatory synaptic pathways in hippocampus is well-characterized. At the same time, neighbouring pathways exhibit heterosynaptic LTD. The goal of the project is to investigate the hypothesis that spontaneous activity of neurons is necessary for heterosynaptic LTD. This can be done either by computational model or by writing a review of experimental research articles that deal with this problem.</p>	<p>In case of computational investigation, programming in C++ required</p>	1	S-I
<p><b>Neural semantics</b></p> <p><a href="#">Martin Takac, assoc. prof.</a></p> <p>Dept of Applied Informatics, Faculty of Math, Physics and Informatics, CUB</p> <p><a href="#">web</a></p>	<p>Project would involve implementing, simulating and analysing a computational model (using artificial neural networks) of some small aspect of sense-making process in neural terms: perception, working memory, LTM, motivation, cognitive control, decision making, connection to language.</p>	<p>Programming skills required, previous experience with artificial neural networks welcome</p>	1	S-I
<p><b>Studying the effects of motor training on cognition using mixed reality</b></p> <p><a href="#">Roman Rosipal, PhD</a></p> <p>Institute of Measurement Science, Slovak Academy of Sciences, Bratislava</p> <p><a href="#">web</a></p>	<p>The objective is to study usefulness and applicability of the motor training using mixed reality focused on the rehabilitation of patients after stroke. The project will involve pilot testing of an experimental protocol with a patient.</p>	<p>Systematic work, programming in Matlab or Python is an advantage</p>	1	S-I

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>Connectivity and thought: the influence of semantic network structure and neuromodulation on semantic search and idea generation</b></p> <p><a href="#">Martin Marko, PhD</a></p> <p>Institute of Normal and Pathological Physiology, Slovak Academy of Sciences, Bratislava</p> <p><a href="#">web</a></p>	<p>At the psychological level of analysis, thinking can be described or clasified by several attributes (labels) which are related to normal and abnormal cognition (e.g., rigidity-flexibility, coherence-incoherence). This project is focused on the issue how such attributes of thinking (e.g., flexibility) emerge from the structure of lexical-semantic and as-sociative networks, cognitive abilities, and/or effects of neuromodulatory treatment (e.g., brain stimulation).</p>	<p>Experimental experience is welcome bot not necessary. The use of transcra-nial electrical stimulation is optional.</p>	1-2	S-I
<p><b>Brain simulation, sensory gating and cognitive inhibition</b></p> <p><a href="#">Igor Riecanaky, PhD</a></p> <p>Institute of Normal and Pathological Physiology, Slovak Academy of Sciences, Bratislava</p> <p><a href="#">web</a></p>	<p>Cognitive inhibition is essential for goal-directed behavior. This project will investigate the possibilities of modulating brain inhibitory processes using non-invasive transcranial direct current brain stimu-lation. An experimental approach will be adopted using behavioral and electrophysiological methods (EEG, EMG).</p>	<p>Experience with recording of EEG or other biosignals, Matlab programming, statistics are an advantage.</p>	1	S-I
<p><b>Human being and information technology</b></p> <p><a href="#">Emil Visnovsky, prof.</a></p> <p>Faculty of Philosophy, Comenius University</p> <p><a href="#">web</a></p>	<p>Project will focus on the analysis and functions of information tech-nology and its varieties in human life from a philosophical point of view based on contemporary cognitive science and AI.</p>		1-2	S-I

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>Nature of human consciousness</b></p> <p><a href="#">Silvia Galikova, prof.</a></p> <p>Institute of Philosophy, Slovak Academy of Sciences</p> <p><a href="#">web</a></p>	<p>Main objective of the project is to reconsider novel experimental and theoretical models, theories on the status and function of conscious experience.</p>	<p>Background in the philosophy of mind is an advantage</p>	1	S-I
<p><b>Role of emotions in accepting epistemically suspect beliefs</b></p> <p><a href="#">Vladimira Cavojova, PhD</a></p> <p>Institute of Experimental Psychology, Slovak Academy of Sciences</p> <p><a href="#">web</a></p>	<p>The aim of the project is to identify the role of emotionality in accepting epistemically suspect beliefs ESB, particularly to what extent do fear and anxiety motivate the rise, acceptance and dissemination of these beliefs, what is the relation to individual variables such as anxiousness, what is the effect of situational variables or individual experience – e.g., traumatizing experience (Bonanno &amp; Jost, 2006), or experienced insecurity, lack of control, and such (Chapman University, 2016).</p>	<p>Background in the JDM is an advantage</p>	1	S-I
<p><b>Do not stick to the default option: Reducing the status quo bias</b></p> <p><a href="#">Lenka Kostovicova, PhD</a></p> <p>Institute of Experimental Psychology, Slovak Academy of Sciences</p> <p><a href="#">web</a></p>	<p>People tend to prefer the things to stay the same and stick to the default option even if more advantageous alternatives are present - committing the status quo bias. This cognitive deviation is often seen in the domains of high individual and social relevance, such as health, finance or environment. Finding effective debiasing methods is, therefore, needed. Recent findings in neuroscience might help in designing the interventions since they show that a selective increase in subthalamic nucleus activity was found when the status quo was rejected. The project aims at experimental testing of one or two strategies that might reduce this cognitive bias.</p>	<p>Background in psychology is an advantage</p>	1	S-I

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Pragmatic gesture comprehension: an eye-tracking study</b> <a href="#">Jana Basnakova, MA</a> Institute of Experimental Psychology, Slovak Academy of Sciences <a href="#">web</a>	The focus of this project is on how listeners understand communicative pointing gestures, and on the comparison between mental processes involved in verbal vs nonverbal indirect communication. The student's role will be to adjust an existing Dutch stimulus set, collect and analyze reaction time and eye-tracking data. Alternatively, he/she can develop their own experimental paradigm.	Slovak language is preferred but not required	1-2	S-I
<b>Development of beliefs by artificially evoked altered states of mind</b> <a href="#">Tomas Gal, PhD</a> Center of Information Technologies, CUB <a href="#">web</a>	Theoretical research into altered states of mind.		1	S-I

## Projects at the Eötvös Loránd University

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Evolution and Embodiment</b> <a href="#">George Kampis</a> ELTE, Department of Ethology <a href="#">web</a>	Embodiment is a view of cognition. The aim is to study its relation to the evolution of different species.	No formal prerequisites but familiarity with biological evolution is expected.	1-2	S-I MA
<b>Numerical cognition</b> <a href="#">Attila Krajcsi</a> ELTE, Department of Cognitive Psychology <a href="#">web</a>	We study the effect of 40 Hz oscillations on rapid visual encoding. This is an EEG study that involves learning the method of EEG, conducting experiments and analyzing data.	Not prerequisites but numerical and programming skills are advantage. Have to be able to manage research (subject recruitment, scheduling, conducting experiment, preprocess data.)	3	IR II S-I MA
<b>Spatial navigation in elderly subjects</b> <a href="#">Zoltan Nadasdy</a> ELTE, Department of Cognitive Psychology <a href="#">web</a>	This study focuses on the decline of spatial memory in elderly population. Getting lost is one of the earliest sign of Alzheimer's disease. We seek to determine what aspects of spatial memory are affected first with age.	Programming in R, Python or Matlab is an advantage. Managing spreadsheets.	1-2	IR II S-I MA
<b>Spatial navigation and theory of mind in children</b> <a href="#">Zoltan Nadasdy</a> ELTE, Department of Cognitive Psychology <a href="#">web</a>	This study focuses on the relationship between the development of spatial concepts and the spatial component of the 'theory of mind' experiments. The study population is 3 year and older.	Programming in R, Python or Matlab is an advantage. Managing spreadsheets.	1-2	IR II S-I MA

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Social learning and social cognition in infants</b> <a href="#">Ildikó Király</a> ELTE, Department of Cognitive Psychology <a href="#">web</a>	Behavioral and eye-tracking studies in the field of Cognitive development	experimental experience with kids is preferred	1	IR II S-I MA
<b>Cognitive aspects of dog-human interaction</b> <a href="#">Prof. Adam Miklósi</a> ELTE, Department of Ethology <a href="#">web</a>	Studies include dog human communication, mutual reactions to emotional behaviour, cognitive aging in dogs, etc.	experimental and/or personal experience with dogs is preferred	2	IR II S-I MA

## Projects at the University of Ljubljana

Project	Description	Qualifications	Places	Level
<p><b>Cognitive Neuroscience of working memory and cognitive control</b></p> <p><a href="#">Anka Slana Ozimič</a></p> <p>Mind and Brain Lab, Department of Psychology, University of Ljubljana</p> <p><a href="#">web</a></p>	<p>Multimodal study of working memory and cognitive control employing EEG, fMRI, eye-tracking, behavioral studies.</p> <p>Possible topics: Visual and spatial working memory; Cognition-emotion interaction; Working memory and cognitive control in patient populations (schizophrenia, Parkinson's disease, major depression).</p> <p>See Mind and Brain Lab pages for other research opportunities: <a href="http://psy.ff.uni-lj.si/mblab/en/research">http://psy.ff.uni-lj.si/mblab/en/research</a></p> <p>Supervisor: prof. Grega Repovš</p>	<p>Solid foundations in experimental design and statistics are required. Prior experience with EEG, fMRI or eye-tracker is beneficial as well as python, Matlab and R programming skills.</p> <p>Contact the responsible (contact person) and state your interests. If interested in carrying out your own research project propose a detailed research plan. Also state if interested in extending the research project into master's thesis</p>	1-2	S-I MA
<p><b>Brain connectivity studies</b></p> <p><a href="#">Anka Slana Ozimič</a></p> <p>Mind and Brain Lab, Department of Psychology, University of Ljubljana</p> <p><a href="#">web</a></p>	<p>The project involves data collection, development of tools for fMRI and EEG functional connectivity analyses and their application to existing and novel datasets.</p> <p>Supervisor: prof. Grega Repovš</p>	<p>Intermediate to advance programming, analytical and statistical skills are required. Familiarity with Matlab, python and possibly julia is desired.</p> <p>Contact the responsible (contact person) and state your interests. If interested in carrying out your own research project propose a detailed research plan. Also state if interested in extending the research project into master's thesis.</p>	1-2	S-I MA



<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Gait and Cognition</b> <a href="#">Anka Slana Ozimič</a> Laboratory for Movement and Gait Disorders, Department of Neurology, University Medical Centre Ljubljana <a href="#">web</a>	<p>Specific topics/projects are dependent upon ongoing projects in the lab during the exchange semester.</p> <p>Some phenomena researched so far: The influence of cognitive tasks on balance control in multiple sclerosis patients and in healthy subjects ...</p> <p>Possible supervisors:  prof. Zvezdan Pirtošek, assoc. prof. Blaž Koritnik and others</p>	<p>Contact the responsible (contact person) and state your interests. If interested in carrying out your own research project propose a detailed research plan. Also state if interested in extending the research project into master's thesis.</p>	1	S-I MA
<b>Studying Cognition with TMS (TMS Lab)</b> <a href="#">Anka Slana Ozimič</a> Laboratory for Cognitive Neuroscience, Department of Neurology, University Medical Centre Ljubljana <a href="#">web</a>	<p>Specific topics/projects are dependent upon ongoing projects in the lab during the exchange semester.</p> <p>Some phenomena researched so far:  Effects of Intention on Inhibition in Focal Dystonia: A combined TMS-EEG study; Comparison of the efficacy of different TMS protocols on primary motor cortex ....</p> <p>Possible supervisors:  prof. Zvezdan Pirtošek, assoc. prof. Blaž Koritnik and others</p>	<p>Contact the responsible (contact person) and state your interests. If interested in carrying out your own research project propose a detailed research plan. Also state if interested in extending the research project into master's thesis.</p>	1-2	S-I MA
<b>Studying cognition with EEG (EEG Lab)</b> <a href="#">Anka Slana Ozimič</a> Laboratory for Cognitive Neuroscience, Department of Neurology, University Medical Centre Ljubljana <a href="#">web</a>	<p>Specific topics/projects are dependent upon ongoing projects in the lab during the exchange semester.</p>	<p>Contact the responsible (contact person) and state your interests. If interested in carrying out your own research project propose a detailed research plan. Also state if interested in extending the research project into master's thesis.</p>	1-2	S-I MA

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Neurological and neuropsychiatric disorders</b> <a href="#">Anka Slana Ozimič</a> Laboratory for Cognitive Neuroscience, Department of Neurology, University Medical Centre Ljubljana <a href="#">web</a>	Possible topics: Dementia, Parkinson's disease, Tourette's Syndrome, Depression, Schizophrenia  Specific topics/projects are dependent upon ongoing projects in the lab during the exchange semester.  Possible supervisors: prof. Zvezdan Pirtošek, assoc. prof. Blaž Koritnik, doc. dr. Jure Bon and others	Contact the responsible (contact person) and state your interests. If interested in carrying out your own research project propose a detailed research plan. Also state if interested in extending the research project into master's thesis.	1-2	S-I MA
<b>Philosophy of Mind and Philosophy of cognitive science</b> <a href="#">Olga Markič</a> Faculty of Arts, Department of Philosophy <a href="#">web</a>	Students may choose one of the topics: time and consciousness, free will, emotions and cognition, reasoning, intercultural aspects of cognition, neuroethics.		2	S-I
<b>Enaction of knowledge – 1st person perspective</b> <a href="#">Urban Kordeš</a> Faculty of Education <a href="#">web</a>	Phenomenological research on experience of enacting knowledge, beliefs.	Contact the supervisor and state your interests.	1-2	S-I
<b>Decision-making</b> <a href="#">Toma Strle</a> Faculty of Education <a href="#">web</a>	Students may choose one of the following topics: embodied decision-making, first person perspective on decision-making, decision-making in everyday life, the role of metacognition in decision-making, conscious "thought" and decision-making. If motivated, other topics pertaining to decision-making and related phenomena may be agreed upon.	Contact the supervisor and state your interests.	1-2	S-I

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Contemplative traditions and Cognitive Science</b> <a href="#">Sebastjan Vörös</a> Faculty of Arts, Department of Philosophy	The aim of the project is to explore the (im)possibilities of mutual collaboration between contemplative traditions (e.g. Buddhism) and cognitive science. Specific topics may include (but are not necessarily limited to): neuroscientific studies of meditation; meditative/contemplative practice and the study of consciousness; meditative/contemplative practice and the study of consciousness in therapeutic setting; critical analysis of contemporary and traditional conceptions and practices of mindfulness (differences, similarities, broader implications); theoretical and philosophical underpinning of science-Buddhism dialogue as pertaining to cognitive science; critique of some recent trends in so-called "mindfulness movement", etc.	The supervisor should be contacted via email or in person with a preliminary sketch of the research proposal in mind (main topic, goals, methodology, etc.)	1-2	S-I
<b>Phenomenology and Cognitive Science</b> <a href="#">Sebastjan Vörös</a> Faculty of Arts, Department of Philosophy	The aim of the project is to explore the (im)possibilities of mutual collaboration between phenomenological tradition in philosophy (Husserl, Stein, Scheler, Heidegger, Merleau-Ponty, etc.) and cognitive science. Specific topics may include (but are not necessarily limited to): the (im)possibility of naturalizing consciousness and phenomenology; phenomenological and enactive accounts of embodiment; criticism and defense of phenomenological accounts of empathy and intersubjectivity; phenomenological critique of classical neuroscience, etc.	The supervisor should be contacted via email or in person with a preliminary sketch of the research proposal in mind (main topic, goals, methodology, etc.)	1-2	S-I
<b>Computer simulations in epistemology</b> <a href="#">Borut Trpin</a> Faculty of Arts, Department of Philosophy	The students will address one of the existing philosophical problems related to belief updating, uncertainty and probabilistic reasoning. The project will involve a development of a computer simulation and statistical analysis of the obtained data.	Basic familiarity with R, python or NetLogo is welcome.	1-2	S-I

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>Language processing in healthy and brain-damaged populations</b></p> <p><a href="#">Christina Manouilidou</a></p> <p>Faculty of Arts, Department of Comparative and General Linguistics</p> <p><a href="#">web</a></p>	<p>The general topic of the project falls in the areas of Psycholinguistics and Neurolinguistics. The research questions we will tackle are the following: what are the mechanisms of language processing? How do we recognize words? How do we process sentences? In what way is language processing compromised when the brain is affected? A special focus will be given on language degradation as a result of neurodegenerative diseases, such as various types of dementia, and on how language could be used as a diagnostic tool for dementia.</p>	<p>Introductory knowledge of Linguistics, familiarity with linguistic terms, experience with experimental design and statistical analysis are a must. Familiarity with behavioral and/or electrophysiological and neuroimaging methodologies is desired. Contact the supervisor for more info.</p>	1-2	S-I
<p><b>Human-robot communication: How can a robot explain what it is doing?</b></p> <p><a href="#">Prof. Ivan Bratko</a></p> <p>Artificial Intelligence Lab, Faculty of Computer and Information Science, University of Ljubljana</p> <p><a href="#">web</a></p>	<p>Often, to carry out a given task the robot has to find and execute a complicated plan of actions, which may be quite hard to understand by a human observer. This may make the user uncomfortable and uncertain: What is the robot trying to do? The robot's actions may not make any sense to the user. Is the robot broken, or has it gone crazy? Why is a self-driving car increasing the speed for no obvious reason? To improve the user's trust, a robot or another device should in such cases be able to explain its behaviour. This largely ignored question is often difficult. The task of the student in this project will be to produce a literature survey of approaches toward this end, or develop their own ideas for generation of textual or visual explanation.</p>	<p>Basics of AI.</p>	2 (more in case of team-work)	S-I

## Projects at the University of Vienna

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>Innovation, design, and Enabling Spaces</b></p> <p><a href="#">Univ. Prof. Dr. Markus Peschl</a></p> <p>Cognitive Science research Platform &amp; Dept. of Philosophy</p> <p><a href="#">website</a></p>	<p>Our guiding question concerns the topic of “how does novelty come into the world?”. Projects are offered in the fields of innovation (theoretical as well as applied projects; on an individual/cognitive and/or on a collective/ organizational level), creativity, design, as well as in studying and developing how space enables and supports innovation- and knowledge work (in the sense of the extended cognition approach), and how such spaces can be designed.</p>	<p>Interest and some experience in innovation, design, architecture, openness, and creativity</p>	2-3	IR II S-I MA
<p><b>Innovation &amp; Knowledge Creation</b></p> <p><a href="#">Univ. Prof. Dr. Markus Peschl</a>, <a href="#">Gloria Bottaro</a>, <a href="#">Katharina Rötzer</a></p> <p>Cognitive Science Research Platform &amp; Dept. of Philosophy</p> <p><a href="#">website</a></p>	<p>Since 2013 the project team is collecting data in an interdisciplinary university course at the department of Philosophy. The course goal is to create new knowledge in form of an innovative prototype. Several times throughout the semester, participants were asked to fill out so called learning journals. The learning journals contain a qualitative reflective part as well as a quantitative questionnaire. Both qualitative and quantitative has been partly analyzed with Grounded Theory Methodology. Additional data from observations and the innovation projects has been documented. Now the rest of the data needs to be structured and analyzed. We offer students the possibility to gain research experience in this process in form of IR II projects. The current research focuses on the creation of new knowledge in the dimensions: (i) individual knowledge creation, (ii) collective knowledge creation and (iii) frameworks for knowledge creation (f.e. Enabling Spaces). Students are invited to bring in their own research questions, as long as they fit the general research focus.</p>	<p>Students should have experience in/ or be willing to learn: Grounded Theory Methodology, Qualitative data analysis (quantitative data analysis), Atlas.ti (and/or SPSS) Theory building, Collaborative and interdisciplinary research settings</p>	2-3	IR II
<p><b>Dance/Contact Improvisation as enactive cognition</b></p> <p><a href="#">Mag. Elisabeth Zimmermann</a></p> <p>Dept. of Philosophy</p>	<p>Based on an embodied, enactive approach to cognition the aim is to investigate the role of the moving body, especially in different dance (improvisation) settings, for our sense-making processes. I can offer supervision of mainly theoretic projects in this area. Empirical research might be possible, depending on the concrete research question and background of the student.</p>	<p>Interest in interdisciplinary research, especially related to the phenomenon of dance/contact improvisation.</p>	1	IR II S-I

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Foundations of Sand? Revisiting Psychology's Classic Experiments</b> <a href="#">Alexander Batthyany</a> Dept. of Philosophy	<p>In recent years, it has been suggested that a number of psychology's "classical" findings, such as Zimbardo Prison Study and Milgram's Obedience experiment, may need to be reassessed – because the relative high effect sizes reported in these studies appear to be, at least in part, the product of a self-selection process of subjects: For example, in Milgram's Obedience experiment, a substantial number of the volunteer subjects refused to even take part in the experiment when they learned that they had to administer electric shocks to other subjects. In other words, the relatively high percentage of overly obedient („sadistic“) behaviour which Milgram reported may partially be based on the fact that only subjects who were willing to hurt other subjects were counted to begin with. Similar accounts (i.e. a tendency to report artifacts and take them as soundly based in an appropriate theoretical context and vice versa) may be put forth with regards to other, more recent classics (such as Baumeister's Ego Depletion experiments, and a number of findings reported in social psychology, such as Bargh's famous priming experiments). Recent initiatives, such as <a href="http://www.psychfiledrawer.org">www.psychfiledrawer.org</a> and the Journal of Articles in Support of the Null Hypothesis (<a href="http://www.jasnh.com">www.jasnh.com</a>) therefore attempt to instigate a careful reinvestigation of what perhaps has been taken for granted for far too long. Projects in this lab will look at some hitherto rarely questioned classical or famous experiments in psychology and test alternative accounts, the possibility of artifacts and conscious or unconscious contaminations of experimental research in (social) psychology.</p>	<p>Courage to question "established" findings and their underlying theories and models; ability to question, reason, and carefully design original experimental studies; moderate to intense liking of diving into controversy. Tutor will be glad to help getting results published.</p>	4	IR II S-I MA
<b>Existential Cognition: Life and Death and our Minds</b> <a href="#">Alexander Batthyany</a> Dept. of Philosophy	<p>Testing the impact of (subtle) reminders (priming) of death and mortality on thought and behaviour as described by TMT. According to TMT, people try to keep awareness and anxiety of their inescapable death at bay by employing a number of defenses - such as merging with an in-group (such as religious denominations, political ideologies, etc.), or submitting to a leader (Messiah, dictator, liberator) or adhering to "cultural values" (i.e. placing higher values on brand products, etc.). Projects are welcome which are (a) broadening the scope of Terror Management Theory, (b) testing alternative models of TMT, (c) testing the boundary conditions of TMT.</p>	<p>Interest in interdisciplinary research (i.e. the philosophy and psychology of death and dying, existentialism, cognitive science). Also some interest in studying social injustice, prejudices, dogmatism, etc. which, according to the theory to be tested, is indirectly related to our unwillingness to confront the existential fact that there is a potential conflict between our will to survive and our knowledge that we won't.</p>	3	IR II S-I MA

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>Impact of Control and Free Will Beliefs on Thought and Behaviour</b></p> <p><a href="#">Alexander Batthyany</a></p> <p>Dept. of Philosophy</p>	<p>Recent evidence (see link) suggests that people's behaviour (such as altruistic helping, cheating, etc.) is, at least in part, a function of their belief in free will. Manipulating people's belief in their free will thus has significant consequences on their behaviour. To this date, however, only a very limited range of behavioural measures have been employed. The proposed projects may test for the scope and limits of the control-belief effect, or may test alternative explanations of the effects.</p>	<p>Interest in interdisciplinary research and existential issues such as free will, determinism, etc., interest in designing experiments in the border area between psychology, philosophy, and world-view studies.</p>	2	IR II S-I MA
<p><b>Making different tools from the same material in Goffin's cockatoos</b></p> <p><a href="#">Alice Auersperg</a></p> <p>Messerli Research Institute, Comparative Cognition Unit/Goffin Lab</p> <p><a href="#">website</a></p>	<p>Goffin's cockatoos have the capacity to make and use tools. In order to determine ability to plan the function of a tool during manufacture, we will test if they can use the same material to make up to three tools for completely different purposes.</p>	<p>BA, experiments in handling animals, preferably experience in behavioural experiments</p>	1	MA
<p><b>Composite tool manufacture in Goffin's cockatoos</b></p> <p><a href="#">Alice Auersperg</a></p> <p>Messerli Research Institute, Comparative Cognition Unit/Goffin Lab</p> <p><a href="#">website</a></p>	<p>Composite tool use is an important aspect of human technical evolution. Goffin's cockatoos have the capacity to make and use tools and they are stacking objects during object play. Here we will test if they can purposely create a functional tool by adding several separate components.</p>	<p>BA, experiments in handling animals, preferably experience in behavioural experiments</p>	1	MA

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>Picture-object discrimination in kea</b></p> <p>Dr. Raoul Schwing</p> <p>Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna)</p> <p><a href="#">website</a></p>	<p>Picture-object recognition is a common field of research, but often it is unclear from the results if the animal generalized from one to the other type of stimulus, or equated them. This project would standardize the view of both the objects and pictures of the same to determine if kea can recognize the difference between a 2D picture and a 3D object. This can also be expanded on to investigate the factors that increase picture-object discrimination.</p>	<p>good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant</p>	1	IR II S-I
<p><b>Matching-to-sample with real objects in kea</b></p> <p><a href="#">Dr. Raoul Schwing</a></p> <p>Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna)</p> <p><a href="#">website</a></p>	<p>Matching-to-sample is a widely used tool of animal cognition research. The aim of the project is to train the kea on this testing format, to allow for future application. Time permitting these could already be explored in the frame of this project. Examples: real object categorisation, facial recognition, number-quantity association</p>	<p>good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant</p>	1	IR II S-I MA
<p><b>Generativity theory in kea: linear reward sequence</b></p> <p><a href="#">Dr. Raoul Schwing</a></p> <p>Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna)</p> <p><a href="#">website</a></p>	<p>The Epstein/Köhler insight experiment has been tested with a variety of animals. The subject is trained on the individual steps required to solve a problem, and is then required to string these together into a sequence that allows the solution of a novel reward scenario. This project will test this phenomenon in kea.</p>	<p>good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant</p>	1	MA



<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>Same/Different discrimination learning and the role of entropy</b>  <a href="#">Dr. Raoul Schwing</a>            Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna)  <a href="#">website</a></p>	<p>The understanding of relations, such as 'same' and 'different' can be advantageous for animals in many aspects of their life and may employ various cognitive mechanisms. This project aims to train kea on discriminating between sets of identical and different symbols. Once learned, it will be tested whether this was achieved by the formation of relational concepts, or was based on feature learning. Further, it will be investigated to what extent entropy perception might account for such categorizations.</p>	<p>good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant</p>	1	IR II S-I MA
<p><b>Cognitive cooperation in the loose-string-paradigm</b>  <a href="#">Dr. Raoul Schwing</a>            Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna)  <a href="#">website</a></p>	<p>The loose-string-paradigm is widely used as an example of cooperative behaviour (if completed with another partner). The cognitive understanding of the task is however often not the focus of the research. Here we build on several pilot studies which taught the kea the mechanisms of the experiment, and investigate the bird's abilities to deal with non-egalitarian sharing.</p>	<p>good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant</p>	1	IR II S-I MA
<p><b>Video-image recognition</b>  <a href="#">Dr. Raoul Schwing</a>            Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna)  <a href="#">website</a></p>	<p>A large collaboration is being set up to investigate the ability of several bird species to imitate. In this pilot study we want to investigate if kea can recognize real world individuals/objects/situations from a video recording. This study will attempt to determine if kea can retrieve information on the solution of a task from watching a demonstrator on a video recording. The study can be expanded if necessary to investigate the boundaries between moving video and alternating pictures in the visual process.</p>	<p>good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant</p>	1	IR II S-I MA
<p><b>Vocal repertoire of captive kea</b>  <a href="#">Dr. Raoul Schwing</a>            Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna)  <a href="#">website</a></p>	<p>A large collaboration is being set up to investigate the ability of several bird species to imitate. In this pilot study we want to investigate the vocal ethogram of captive kea populations to serve as a basis for the subsequent work on vocal imitation. The Haidlhof population will serve as the basis, but the investigation will be expanded to other European kea populations.</p>	<p>good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant</p>	1	IR II S-I MA

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>Time-delayed access affects solution time</b></p> <p><a href="#">Dr. Raoul Schwing</a></p> <p>Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna)</p> <p><a href="#">website</a></p>	<p>Previous studies have shown that kea can decrease their time to solve a task after watching a conspecific solve the same task. The general theory would suggest that the kea learned from the actions of their peers, however there is the chance that the delayed access to the apparatus allowed the waiting kea to contemplate possible solutions. Here we investigate the effect of having visual access to a technical problem before gaining physical access to solve it, when compared to direct physical access.</p>	<p>good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant</p>	1	IR II S-I MA
<p><b>Social neuroscience of aging</b></p> <p><a href="#">Federica Riva</a></p> <p>Social, Cognitive and Affective Neuroscience Unit, Faculty of Psychology</p>	<p>The project will be focused on the development of socio-cognitive functions across the life-span. We will make use of behavioural, physiological and neuroscientific methods.</p>	<p>Interest in social neuroscience of aging; previous experience (e.g. internship, university courses) with cognitive neuroscience methods and data analysis. Programming experience is appreciated.</p>	2	IR II S-I MA
<p><b>Neural representations of self and other</b></p> <p><a href="#">Isabella Wagner</a></p> <p>Social, Cognitive and Affective Neuroscience Unit, Faculty of Psychology</p>	<p>Focus on the organization of neural representations along a hypothesized self-other continuum and their relation to empathy. We will setup a behavioural and fMRI experiment and use multivariate fMRI analysis methods to target the organization of neuronal representations.</p>	<p>Interest and previous experience in cognitive neuroscience and analysis methods (previous internships or participation in university course). Programming experience (e.g. Matlab) is appreciated.</p>	1	IR II S-I MA
<p><b>Neural dynamics of placebo analgesia: brain networks and representations</b></p> <p><a href="#">Isabella Wagner</a></p> <p>Social, Cognitive and Affective Neuroscience Unit, Faculty of Psychology</p>	<p>Focus on network changes and brain representations related to psychopharmacological manipulations (placebo analgesia vs. control). We will setup and conduct a (behavioural and) fMRI experiment, and use different fMRI analysis methods to answer how placebo analgesia affects pain processing and empathy for pain (univariate, multivariate decoding, graph theory).</p>	<p>Interest and previous experience in cognitive neuroscience and analysis methods (previous internships or participation in university course). Programming experience (e.g. Matlab) is necessary</p>	2	S-I MA

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>Social neuroscience of empathy</b></p> <p><a href="#">Jessie Adriaense</a></p> <p>Social, Cognitive and Affective Neuroscience Unit, Faculty of Psychology</p>	<p>The project aims at investigating the neural mechanisms underlying social/empathic behaviour and will involve behavioural, physiological and neuroscientific methods.</p>	<p>Interest in social neuroscience; experience with or background of designing and conducting experiments; knowledge of programming &amp; (basic) statistics.</p>	2	IR II S-I MA
<p><b>Effects of being imitated on beta and mu oscillations evoked by pain observation</b></p> <p><a href="#">Anna Wucherer</a></p> <p>Social, Cognitive and Affective Neuroscience Unit, Faculty of Psychology</p> <p><a href="#">web</a></p>	<p>Data collection of the study is finished. The project focuses on data analysis (e.g. pre-processing of EEG data, time frequency analysis, statistical analysis)</p>	<p>Interest in social neuroscience of empathy; previous experience (e.g. internship, university courses) with cognitive neuroscience methods and data analysis and programming experience is of advantage</p>	1	IR II S-I MA
<p><b>Effects of an opioid antagonist on empathic responses to pain</b></p> <p><a href="#">Markus Rütgen</a></p> <p>Social, Cognitive and Affective Neuroscience Unit, Faculty of Psychology</p>	<p>Effects of opioid receptor antagonism on empathy. In this pharmacofMRI study (~30 subjects) we will investigate both first-hand pain and empathic responses to pain.</p>	<p>Interest in social neuroscience and psychopharmacology. Experience in data analysis. Structured work style.</p>	2	IR II S-I MA
<p><b>Effects of synchronous movement on group bonding</b></p> <p><a href="#">Jasminka Majdandžić</a></p> <p>Social, Cognitive and Affective Neuroscience Unit, Faculty of Psychology</p>	<p>The project focuses on the question how synchronous motor behaviour affects group bonding, as well as several other social and non-social cognitive and affective processes. Involvement in the project can either take the form of a master thesis project, or an internship.</p>	<p>Strong interest in social (neuro)science</p>	1-2	IR II S-I MA

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>The role of physical strength, faces, hormones, and social factors in human social interactions</b></p> <p><a href="#">Shawn Geniole</a></p> <p>Neuropsychopharmacology and Biopsychology Unit, Faculty of Psychology</p>	<p>You will be involved in projects aimed at answering questions such as: How do faces convey information about one's toughness, strength, or aggressiveness (threat-potential), and how does this information alter the social behaviour of the perceiver? Do hormones enhance or decrease our ability to process and use information about another individual's threat-potential in social interactions? How do hormones interact with our own threat-potential and social factors (such as one's socioeconomic status) to influence behaviour? In this project, you will learn, or improve your ability, to do as many or as few of the following, depending on your interests: administer hormones to participants, collect and analyse blood and saliva samples (for hormone analyses and genotyping) and body measurements, design stimuli for experimental conditions, design studies and tasks using computer programs (such as Psychopy), organize participant recruitment and testing, conduct literature searches and review relevant papers, extract and code data and learn how to analyse and present the findings.</p>	<p>Required: Ability to speak and understand English and German; The ability to do, or willingness to learn: stimuli creation, basic computer programming.</p>	1-2	IR II S-I
<p><b>The role of testosterone in decision-making involving risk-taking, and social competition</b></p> <p><b>Keywords: Testosterone, Competition, Decision-making, Risk</b></p> <p><a href="#">Annabel Losecaat Vermeer</a></p> <p>Neuropsychopharmacology and Biopsychology Unit, Faculty of Psychology</p>	<p>You will be involved in projects aimed at answering questions such as: How do hormones influences our ability to learn from social rewards and punishments in social interactions? How do social hierarchies influence our decisions to interact with others (e.g. compete)? How does social information influence making risky decisions for ourselves, as well as for other people? In this project you have the ability to acquire or improve some of the following research skills: participate in running large group experiments, organize participant recruitment and testing, administer hormones to participants, collect blood and saliva samples (for hormone analyses and genotyping), body measurements, conduct literature searches and review relevant papers, extract and code data and learn how to analyse and present the findings, design stimuli for experimental conditions, design studies and tasks using computer programs (such as Psychopy, Psychtoolbox)</p>	<p>Required: good in speaking and understanding in English, fluent in writing and speaking in German, motivated, good skills in statistics, ability to do, or willingness to learn: stimuli creation, basic computer programming (Matlab, Psychopy)</p>	1-2	IR II S-I MA

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Belief updating in a repeated trust game</b> <a href="#">Lisa Rosenberger</a> Neuropsychopharmacology and Biopsychology Unit, Faculty of Psychology	We study how the beliefs about another person change during a repeated trust game. We will use established and develop novel decision making paradigms as well as implicit measures of trust. Research areas: neuroscience, experimental economics, social decision making	Interest in interdisciplinary research. Experience and affinity with programming experiments, and analysing data.	1	IR II S-I MA
<b>Eye-tracking and Art</b> <a href="#">Johanna Aufreiter</a> Department of History of Art/Laboratory for Cognitive Research in Art History	We use cognitive methods ranging from questionnaires to physiological measurements (especially eye-tracking) to determine how the qualities of the artwork (form and content), of the observer (individually and culturally), and of the context affect the beholding of aesthetic objects. The students will learn to use eye tracking systems and how to analyze the data.	Interest in empirical work (eye tracking) in combination with art-historical questions.	1-2	IR II S-I MA
<b>Pharmacological investigation of neurotransmitter receptors</b> <a href="#">Michael Berger</a> Center for Brain Research, Dept. Biochemistry and Molecular Biology	receptor binding studies are performed with NMDA or GABAA receptors to identify novel ligands and to determine their affinity for these receptors	interest in the topic	1	(IR II) S-I

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>Age-dependent memory decline: a pathological or sociological trait?</b></p> <p><a href="#">Michael Berger</a></p> <p>Center for Brain Research, Dept. Biochemistry and Molecular Biology</p>	<p>Forgetfulness is a common behavioral symptom of aging humans. It may progress to dementia, but usually afflicted subjects learn to handle their inconvenience and continue an independent life. The neurobiological basis of age-related memory decline is a target of intense clinical and neuroscientific research. Neuropathological and cognitive indications point to a slowly developing trait extending over decades. Human societies heavily depend on the tradition of knowledge slowly accumulating over many generations. This process includes an important role of elderly people as the source of information to be conserved. During evolution of the genus homo, longevity appears to represent an important trait. This may have allowed for the appearance of one section in human societies specializing in the tradition of old knowledge. The 'old ones' may have been selectively predisposed to old memories by the neurobiological weakening of new memories. By that, forgetfulness at advanced age might have developed as advantage for the society and should not be regarded as pathological trait.</p>	<p>interest in the topic; the project will mainly include theoretical work.</p>	1	(IR II) S-I
<p><b>Lexical and morphological acquisition</b></p> <p><a href="#">Prof. Wolfgang Dressler</a></p> <p>Department of Linguistics, University of Vienna</p>	<p>Acquisition of lexical or morphological elements from a point of view of cognitive science: typical or handicapped development</p>	<p>psycholinguistics</p>	3	IR II S-I MA
<p><b>Word-formation semantics / Cognitive linguistics and semantics</b></p> <p>Dr. Stela Manova</p> <p>ICLTT/Philosophy</p>	<p>The project seeks to explain how people conceptualize the world at the level of word, i.e. the goal is to establish the cognitive concepts involved in word-formation. The focus is on categories such as persons and objects and their roles in derivation.</p>	<p>Specialization in lexical semantics and cognitive linguistics / Basic knowledge in linguistics</p>	1	IR II S-I MA

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Word-formation constructions / Cognitive linguistics and corpus linguistics</b> <a href="#">Dr. Stela Manova</a> ICLTT/Philosophy <a href="#">web</a>	Usage-based research on the word-formation patterns in a language. The approach followed is a distributional one, i.e. the combinatorial properties of an element (a piece of word structure) in a corpus serve for that element's identification and definition. The goal is to better understand the nature of the pieces of structure that serve for construction of words.	Specialization in cognitive linguistics and corpus linguistics / Basic knowledge in linguistics	1	IR II S-I MA
<b>Word-formation in the mental lexicon / Cognitive linguistics and psycholinguistics</b> Dr. Stela Manova ICLTT/Philosophy <a href="#">web</a>	This research is with a focus on the organization of the mental lexicon. By testing native-speaker intuitions, the idea is to establish what is listed in the lexicon and how words are constructed there.	Specialization in cognitive linguistics and psycholinguistics / Basic knowledge in linguistics	1	IR II S-I MA
<b>Intonation in Irony</b> <a href="#">Antonia Rothmayr</a> Dept. of Linguistics	We will investigate a specific construction and its ironic readings. We will record speakers and analyze their intonation. This will be joint work with the instructor. Project details are available upon request.	Background in general linguistics, basics of formal semantics, interest in intonational phonology, knowledge of German (=language under investigation)	1	IR II
<b>Cognition and language learning ability (language aptitude)</b> <a href="#">Susanne Maria Reiterer</a> Unit of Language Learning and Teaching Research	for students interested into second language acquisition in general, but especially the (neuro-)cognitive aspects of individual differences in language learning ability (language aptitude for phonetic, semantic, morphosyntactic and/or pragmatic subsystems) interfaces to other cognitive systems (musicality, personality, etc).	experience in or interest for testing human participants, knowledge about psychometrics, statistics (e.g. SPSS, Excel), qualitative/and or quantitative psycho-social research methods. Willingness to pursue secondary research on theoretical and practical aspects concerning the individual project.	1-2	IR II S-I MA(?)

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Language Café and multilingual societies</b> <a href="#">Susanne Maria Reiterer</a> Unit of Language Learning and Teaching Research	A second research focus concerns non-formal language learning strategies which are emerging nowadays in multilingual societies or areas, as e.g. the phenomenon of the "language cafe".	experience in or interest for testing human participants, knowledge about psychometrics, statistics (e.g. SPSS, Excel), qualitative/and or quantitative psycho-social research methods. Willingness to pursue secondary research on theoretical and practical aspects concerning the individual project.	1-2	IR II S-I MA(?)
<b>Modelling Brain Connectivity on different cognitive aspects like speech production, articulation ability, language functions etc.</b> <a href="#">Susanne Maria Reiterer</a> Unit of Language Learning and Teaching Research	Brain Connectivity Modelling: In the course of a master thesis in computational neuroscience, there would be the possibility of a stay abroad in New York (min 6-8 months, for more info see link: <a href="http://research.mssm.edu/simonyanlab/positions.html">http://research.mssm.edu/simonyanlab/positions.html</a> ).	Bachelor in Computer Science, Mathematics or a related field. Strong interest into maths and computational modelling.	1	MA
<b>Literary and Cultural Representations of Emotion</b> <a href="#">Christa Knellwolf King</a> Dept. for English and American Studies	The research project investigates new methodologies for the interpretation of literary and cultural representations of emotion.	Interest in the interdisciplinary crossovers between literary studies and scientific approaches	1	IR II
<b>Models of Personality and Emotions</b> <a href="#">Paolo Petta</a> Institute for Artificial Intelligence, Medical University of Vienna <a href="#">web</a>	Project work, optionally also as complement to the related courses		3-4	S-I



<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Serious Games in Health Care</b> <a href="#">Paolo Petta</a> Intelligent Software Agents and New Media at OFAI (Austrian Research Institute for Artificial Intelligence)	We are looking for students interested to conduct research in a range of disciplines in the domain of serious games in health care. Candidates will gain a broad overview of the state of the art in serious games research before focusing on a specific research topic. You will familiarise with the many perspectives and steps required in implementing a serious games project, from a first idea to a full concept that is scientifically sound, features interesting and conducive game mechanics, and is viable for practical deployment of impact.	Articulated interest (expression of motivation) in some sub-area of the application domain. Working knowledge of the cores of cognitive science paradigms and their implications in specific application settings. Availability for continuous active participation in group work and capability of carrying out assigned tasks (specifics to be developed individually).	3-4	S-I MA
<b>Communication Protocols for Cooperative Processes in the "Web of Needs"</b> <a href="#">Soheil Human</a> Research Studio Smart Agent Technologies, Research Studios Austria Forschungsgesellschaft mbH <a href="#">web</a>	Within the project "Web of Needs" we are developing an infrastructure that will allow consumers to describe and publish their needs and have them interact with offers in a semi-automatic process, reducing the need for manual search and enabling a wide range of unprecedented applications. In this part of the project, we want to focus on cooperative processes enabled by the infrastructure (e.g. a small-scale grass-roots movement for cleaning up the local park). We are interested in finding out which communication processes are relevant and should be integrated into the communication protocols of the infrastructure. The result should be a concept document detailing the theory of cooperative processes and a suggestion of the processes to be integrated into the communication protocols.	interest in cooperative processes and cooperation protocols	1-2	IR II S-I
<b>Heuristic Evaluation of the Web of Needs User Interface Design</b> <a href="#">Soheil Human</a> Research Studio Smart Agent Technologies Research Studios Austria Forschungsgesellschaft mbH <a href="#">web</a>		Interest in combining knowledge of Cognitive Science & Psychology.	1-2	IR II S-I

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Experimental Evaluation of the "Web of Needs"</b>		Interest in combining knowledge of Cognitive Science & Psychology.	1-2	IR II S-I
<a href="#">Soheil Human</a>	Research Studio Smart Agent Technologies, Research Studios Austria Forschungsgesellschaft mbH			
<a href="#">web</a>				
<b>Computational Cognitive Modeling of a Simple Personal Need Manager"</b>			1-2	IR II S-I
<a href="#">Soheil Human</a>	Research Studio Smart Agent Technologies, Research Studios Austria Forschungsgesellschaft mbH			
<a href="#">web</a>				

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>Incentivising Open Data Exploration through Needs Management</b></p> <p><a href="#">Soheil Human</a></p> <p>Institute of Information Business at the Vienna University of Economics and Business</p>	<p>Needs satisfaction plays a fundamental role in well-being of biological cognitive systems, including humans. Hence, Understanding citizens' needs is crucial for developing a successful social and economic policy. This notwithstanding, acquisition, representation, analysis, and visualisation of citizens' needs remain areas where support by dedicated computational tools is very limited. Also applications of needs data in the design of online services has not been thoroughly analyzed.</p> <p>The goal of this project is to use existing needs profiles for organizing the catalogs of Open datasets and Open Data Apps, available at at the Open Government Portal of Vienna (<a href="https://open.wien.gv.at/site/open-data/">https://open.wien.gv.at/site/open-data/</a>) and at the independent Austrian Open Data Portal (<a href="https://opendataportal.at">https://opendataportal.at</a>).</p> <p>[BFUP] Beno, M., Figl, K., Umbrich, J., Polleres, A. (2017) Open Data Hopes and Fears: determining the barriers of Open Data. CeDEM 2017  <a href="https://aic.ai.wu.ac.at/~polleres/publications/Beno-et-al-2017CeDEM.pdf">https://aic.ai.wu.ac.at/~polleres/publications/Beno-et-al-2017CeDEM.pdf</a></p> <p>[HFKS] Human, S., Fahrenbach, F., Kragulj, F., Savenkov, V. (2017). Ontology for Representing Human Needs. Proc. of 12th Intl. Conference on Knowledge Engineering and Semantic Web, Szczecin, Poland. (to appear: see preprint at <a href="https://github.com/openeed/ond-family">https://github.com/openeed/ond-family</a>)</p> <p>[OpeN] The OpeNeed Ontology: <a href="https://github.com/openeed">https://github.com/openeed</a></p> <p>[KaK] Kaiser, A., &amp; Kragulj, F. (2016). Bewextra: Creating and Inferring Explicit Knowledge of Needs in Organizations. Journal of Futures Studies, 20(4): pp. 79-98.</p> <p>[Dea1] Dean, H. (2014). Understanding human need. Bristol: Policy Press.</p>	<p>Internship position</p> <p>You will develop a web catalog of open datasets and apps based on different principles of artefact grouping. Given an existing citizen's need profiles (encoded as the ontology [OpeN]), a correspondence between the needs on the one hand, and datasets and apps on the other hand will be established, and the digital artefacts (datasets &amp; apps) will be grouped according to needs they are related to. A user-experience experiment will be conducted to compare the traditional interface (based on predefined categories) and the need-based one to assess if organising the data according to the identified needs has positive impact on user experience, and motivate users to invest time into exploring Open Data.</p>	1	IR II S-I

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Ontology Representation of Needs Profiles</b> <a href="#">Soheil Human</a> Institute of Information Business at the Vienna University of Economics and Business	<p>Needs satisfaction plays a fundamental role in human well being [TaD]. Hence understanding citizens' needs is crucial for developing a successful social and economic policy [Dea1, Dea2]. This notwithstanding, the concept of need has not yet found its place in systems and online tools for citizen participation. In fact, assessing needs itself remains a labor-intensive, mostly offline activity, where only a limited support by computational tools is available.</p> <p>While only a few methodologies for assessing and systematizing needs exist to date, including BEWEXTRA [KaK] developed in the WU Vienna, acquisition, representation and analysis of citizens' needs remain areas where support by dedicated computational tools is either limited or not existing.</p> <p>[Dea1] Dean, H. (2014). Understanding human need. Bristol: Policy Press.</p> <p>[Dea2] Dean, H. (2015). Social rights and human welfare. London: Routledge.</p> <p>[HFKS] Human, S., Fahrenbach, F., Kragulj, F., Savenkov, V. (2017). Ontology for Representing Human Needs. Proc. of 12th Intl. Conference on Knowledge Engineering and Semantic Web, Szczecin, Poland. (to appear: see preprint at <a href="https://github.com/openeed/ond-family">https://github.com/openeed/ond-family</a>)</p> <p>[OpeN] The OpeNeed Ontology: <a href="https://github.com/openeed">https://github.com/openeed</a></p> <p>[KaK] Kaiser, A., &amp; Kragulj, F. (2016). Bewextra: Creating and Inferring Explicit Knowledge of Needs in Organizations. Journal of Futures Studies, 20(4): pp. 79-98.</p> <p>[TaD] Tay, L., &amp; Dieer, E. (2011). Needs and subjective well-being around the world. Journal of personality and social psychology, 101(2): 354.</p>	Internship position  In this project you will contribute to the creation of such tools by continuing the digitalization of a needs study, conducted with the citizens of the Vienna quarter Stuwerviertel following the BE-WEXTRA methodology [HFKS]. You will help presenting the results of the study with an increased granularity using the OpeNeed ontology [OpeN], and then use SPARQL query language to provide examples of semantic queries against the resulting needs data. The project paper will report on your experiences and ideas for the improvement of OpeNeed, and analyze ways of improving computer support for needs assessment.	1	IR II S-I
<b>Phenomenology and psychiatry</b> <a href="#">Matthew Ratcliffe</a> Dept. of Philosophy <a href="#">web</a>	Phenomenological research	Negotiated personally on a case by case basis.	1-2	IR II S-I MA

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>The Concept of Robustness in Neurological Systems</b> <a href="#">Isabella Sarto-Jackson</a> KLI <a href="#">web</a>	Complex biological systems like the brain are highly robust withstanding manifold environmental perturbations. How can robust systems "improve" and evolve? What are the conceptual interfaces between evolutionary developmental biology (EvoDevo) and neurobiology?	Interest in philosophy and neurobiology	1	IR II S-I MA
<b>Neuroplasticity - Neuropathology: Ontological and Epistemic Considerations</b> <a href="#">Isabella Sarto-Jackson</a> KLI <a href="#">web</a>	Is there a general molecular basis underlying both, neuroplasticity and neuropathology? How does such a view of a neuroplasticity–neuropathology continuum inform the notions of "clinical normality" (Boorse) and neurodiversity?	Interest in philosophy and neurobiology	1	IR II S-I MA
<b>Attention and consciousness</b> <a href="#">Tobias Schöberl</a> Department of Basic Psychological Research and Research Methods/ Cognitive Psychology <a href="#">web</a>	We are interested in the relationship between consciousness and visual attention. We use (subliminal) priming techniques to study the determinants of attentional selection with and without awareness of the impinging stimuli. Project work in this area may include data collection, data analysis and/or programming depending on the student's skills and preference.	Interest in experimental psychological research, some experience with data analysis and/or programming skills are an advantage	1-2	IR II S-I MA
<b>Reputation-motivated prosocial behaviors</b> <a href="#">Hana Kutlikova</a> Neuropsychopharmacology and Biopsychology Unit, Faculty of Psychology <a href="#">web</a>	We are studying the neurohormonal basis of human motivation in social environments. More specifically, we test how social rewards and steroid hormones effect prosocial behavior.	Interest in psychology and neuroscience, experience in statistical data analyses and programming of experiments	1-2	IR II S-I MA

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Collective Mind</b> <a href="#">Dr. Lukas Zenk</a> Donau-Universität Krems - Universität für Weiterbildung, Fakultät für Wirtschaft und Globalisierung, Department für Wissens- und Kommunikationsmanagement <a href="#">web</a>	Individuals, organizations and even societies as a whole are facing more and more complex challenges. Tackling these challenges not only requires individual but collective effort. Based on that, the concept of Collective Intelligence, which was only recently developed, takes on greater significance. Collectively intelligent groups have the ability to solve significantly better a wide range of different tasks, requiring diverse competencies, than other groups. Accordingly, Collective Intelligence is closely connected with group performance. The research area of Collective Intelligence is still very young and raises many fundamental questions. The research project Collective Mind (Co-Mind) is aimed at answering three leading research questions. (1) How do selected factors (in particular Perspective Taking and Shared Mental Models) affect Collective Intelligence? (2) Which interventions enhance the Collective Intelligence of groups? (3) Which intervention-based best practices can be derived for stakeholder processes? In the project Co-Mind, underlying factors of influence and derived interventions will be empirically tested through experiments and first case studies will be evaluated. The project outcomes should contribute to a better understanding of Collective Intelligence and support stakeholder groups to solve complex challenges more intelligently.		1-2	IR II S-I
<b>Organizational learning and Knowledge based Management</b> <a href="#">ao. Univ. Prof. Dr. Alexander Kaiser</a> Research Group Knowledge based Management, Vienna University of Economics and Business <a href="#">web</a>	We do research in the field of knowledge based management and organizational learning. More precisely, we offer projects upon negotiation in the field of vision development, need-based innovation, organizational (un)learning and systemic coaching.	Motivation to work in an interdisciplinary team; some experience with qualitative research methods preferable; If field work is involved, German skills are necessary	1	IR II S-I

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Organizational learning and Knowledge based Management</b> <a href="#">ao. Univ. Prof. Dr. Alexander Kaiser</a> Research Group Knowledge based Management, Vienna University of Economics and Business <a href="#">web</a>	The proposed IR2-topic deals with the operationalization of three previously identified types of knowledge in the context of need-based organizational learning. It is intended for students seeking to explore the intersections of cognitive science and business/organizational related fields in a practical yet interdisciplinary way. Detailed project description here.	Interest in interdisciplinary research and organizational learning.	1	IR II S-I

<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<p><b>Intercultural competence development</b></p> <p><a href="#">Ingrid Pleschberger</a></p> <p>Head of International Office FH BFI Wien</p> <p><a href="#">web</a></p>	<p><b>General Information:</b>  Pilot study start: summer term 2018.  Main project winter term 2018 - summer term 2021.  We strongly encourage students who want to take part in the pilot to continue the collaboration for the main project.</p> <p><b>Topic: Intercultural competence development</b>  Intercultural competence is a key term for the design of trainings and study programmes, as nowadays employers expect their employees to be able to communicate and interact successfully and appropriately across cultures. But how can we know, if we are intercultural competent and which experiences help us to gain such skills?</p> <p>We will use a mixed methods approach and collect and analyse quantitative and qualitative data connected to student's intercultural competence development in different study programmes. Reflective Functioning (RF) has recently received attention from various fields (psychology, philosophy, parenting, education, management) and is a promising approach to research about the reflective competences of individuals in certain situations. We will develop an analysis scheme based on the Reflective Functioning Scale (RFS) to analyse interviews and gather insights about competence development in students and which activities enhance intercultural development.</p> <p>The main tasks for collaborating students will be:</p> <ul style="list-style-type: none"> <li>• <b>Plan and conduct the pilot study:</b>  Literature research and synthesis of diff. models of intercultural competence; Development of questions and guidelines for a semi-structured interview to assess intercultural competences (informed by RF)  Give participants feedback on their performance on the IRC  Conduct qualitative interviews, transcribe them, analyse them</li> <li>• <b>Support the planning of the main research project starting winter term 2018</b></li> </ul>	<p>German &amp; English skills at a level to conduct, transcribe and analyse qualitative interviews.  Interest in (intercultural) competence development and research.  Experience with qualitative research is helpful but not a prerequisite.</p> <p>Resources (training, equipment, etc.) will be provided by the FH BFI Wien.</p>	3-4	IR II S-I MA(?)



<i>Project</i>	<i>Description</i>	<i>Qualifications</i>	<i>Places</i>	<i>Level</i>
<b>Neurochemical foundation of social and non-social rewards</b> <a href="#">Giorgia Silani</a> Department of Applied Psychology: Health, Development, Enhancement and Intervention, University of Vienna	Psychopharmacological investigation of social and non-social rewards	Interest in social neuroscience and psychopharmacology. High commitment and time flexibility	1-2	IIR II S-I MA
<b>State-dependent modulation of social reward</b> <a href="#">Giorgia Silani</a> Department of Applied Psychology: Health, Development, Enhancement and Intervention, University of Vienna	Behavioral and pharmacological investigation of context-dependent (appetitive and aversive motivation) processing of social reward	Interest in social neuroscience and psychopharmacology. High commitment and time flexibility	1-2	IR II S-I MA
<b>Neural basis of social and non-social rewards</b> <a href="#">Giorgia Silani</a> Department of Applied Psychology: Health, Development, Enhancement and Intervention, University of Vienna	Neurophysiological investigation of social and non-social rewards, by use of 7T MR scanner (high resolution)	Interest in social neuroscience and neuroimaging. High commitment and time flexibility	1-2	IR II S-I MA
<b>Binocular rivalry in Autism spectrum disorders</b> <a href="#">Giorgia Silani</a> Department of Applied Psychology: Health, Development, Enhancement and Intervention, University of Vienna	Behavioral assessment of binocular rivalry in Autism spectrum disorders, to test the unbalanced excitation -inhibition hypothesis	Interest in social and clinical neuroscience. High commitment and time flexibility	1-2	IR II S-I MA