MEi:CogSci Projects for Specialisation

Effective September 2020

Projects at the University of Vienna

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Innovation, organization(-al cognition), design, and Enabling Spaces Univ. Prof. Dr. Markus Peschl Cognitive Science research Platform & Dept. of Philosophy website	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, organizational design, as well as studying and developing how space enables and supports innovation- and knowledge work (e.g., in the sense of the extended/enacted cognition approach), and how such spaces can be designed. Projects range from (bit are not limited to) theoretical foundations (cognitive, epistemological, organizational, systems science, etc.), educational issues, such as acquiring innovation skills and mindsets, to the design of Enabling Spaces, such as office spaces or learning environments. Project work in small groups/teams is welcome.	Interest and some experience in innovation, design, architecture, openness, and creativity		2-3	IR II S-I MA
Praxis- & Forschungsprojekt Spielstadt Wien 2020 Univ. Prof. Dr. Markus Peschl Leonie Jung-Irrgang Dept. of Philosophy website	Spielstädte sind Spiel- und Lernräume, in denen Kindern und Jugendlichen eine Stadtkulisse als Aktionsfläche zur Verfügung gestellt wird. Die Spielinhalte ergeben sich aus der komplexen Lebenswelt Stadt, die sich in zahlreichen Einrichtungen widerspiegelt, in denen die Kinder arbeiten und Geld verdienen: darunter Werkstätten, Geschäfte, Nahverkehr, Bank, Post, Rathaus und Müllabfuhr. Es entwickelt sich ein Stadtgefüge mit Politik und Kultur, Produktion, Geld- und Warenzirkulation und öffentlichem Leben, dessen Komplexität sich im Laufe der Spielzeit zunehmend verdichtet. Website:	Fluent German. Anwesenheit in Wien auch im Juli 2020. Interesse an Projektarbeit, alternativen Bildungsideen, künstlerischer Praxis, Freude an der Arbeit mit Kindern und Lust auf eine bunte Runde			

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Foundations of Sand? Revisiting Psychology's Classic Experiments Alexander Batthyany Dept. of Philosophy	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 www.psychfiledrawer.org and the Journal of Articles in Support of the Null Hypothesis (www.jasnh.com) 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.	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.		4	IR II S-I MA
Impact of Control and Free Will Beliefs on Thought and Behaviour Alexander Batthyany Dept. of Philosophy	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.	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.		2	IR II S-I MA

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Existential Cognition: Life and Death and our Minds Alexander Batthyany Dept. of Philosophy	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.	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.		3	IR II S-I MA
Making different tools from the same material in Goffin's cockatoos Alice Auersperg Messerli Research Institute, Comparative Cognition Unit/Goffin Lab website	Goffin's cockatoos have the capacity to make and use tools. In ordert o determine abilitiey 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.	BA, experiments in handling animals, preferably experience in behavioural experiments		1	MA

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Composite tool manufacture in Goffin's cockatoos Alice Auersperg Messerli Research Institute, Comparative Cognition Unit/Goffin Lab website	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 funtional tool by adding several separate components.	BA, experiments in handling animals, preferably experience in behavioural experiments		1	MA
Picture-object discrimination in kea Dr. Raoul Schwing Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna) website	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.	good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant For projects shorter than MSc-thesis work (i.e. IR-II or S-I), please contact Dr. Schwing directly		1	MA
Matching-to-sample with real objects in kea Dr. Raoul Schwing Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna) website	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	good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant For projects shorter than MSc-thesis work (i.e. IR-II or S-I), please contact Dr. Schwing directly		1	MA

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Generativity theory in kea: linear reward sequence Dr. Raoul Schwing Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna) website	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.	good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant For projects shorter than MSc-thesis work (i.e. IR-II or S-I), please contact Dr. Schwing directly		1	MA
Same/Different discrimination learning and the role of entropy Dr. Raoul Schwing Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna) website	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.	good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant For projects shorter than MSc-thesis work (i.e. IR-II or S-I), please contact Dr. Schwing directly		1	MA
Video-image recognition Dr. Raoul Schwing Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna) website	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.	good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant For projects shorter than MSc-thesis work (i.e. IR-II or S-I), please contact Dr. Schwing directly		1	MA

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Time-delayed access affects solution time Dr. Raoul Schwing Kealab, Messerli Research Institute (University of Veterinary Medicine, Vienna) website	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.	good communication skills, time management, problem solving, experience with animals highly recommended i.e. patient, observant For projects shorter than MSc-thesis work (i.e. IR-II or S-I), please contact Dr. Schwing directly		1	MA
Art history and empirical methods Dr. Luise Reitstätter Department of History of Art/Laboratory for Cognitive Research in Art History (CReA) **web**	The aim of the Laboratory for Cognitive Research in Art History (CReA) is to expand art historical knowledge through the use of empirical and experimental methods. The laboratory's projects deal with traditional art historical questions about artworks and their perception as well as transdisciplinary issues of empirical aesthetics, visual culture and museology. Classical methods of art history are combined with digital humanities and social science approaches – from discourse analysis to database construction, from online questionnaires to open interviews and mapping. Research into eye movements, investigated during the beholding of art with remote and mobile eye trackers, is an area of special interest.	Interest in empirical work in combination with art-historical questions.	Please contact the project head for information about possible projects	1-2	IR II, S-I-PJ, MA
Improvisation Dr. Lukas Zenk Donau-Universität Krems - Universität für Weiterbildung, Fakultät für Wirtschaft und Globalisierung, Department für Wissens- und Kommunikations-management web	The aim of this research project is to develop a framework for organizational improvisation. In this framework, factors for the complex and multidimensional ability of people to improvise in their organizational situation will be identified and described. Based on this basic scientific research, the framework will be used to develop prototypical designs for interventions in order to practically support the improvisational ability of people in organizations. (www.improvisation.science)		Virtual collaborations possible. Please contact Dr. Lukas Zenk	1-2	IR II S-I

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Lexical and morphological acquisition Prof. Wolfgang Dressler Department of Linguistics, University of Vienna	Acquisition of lexical or morphological elements from a point of view of cognitive science: typical or handicapped development	psycholinguistics		3	IR II S-I MA
Word-formation constructions / Cognitive linguistics and corpus linguistics Dr. Stela Manova ICLTT/Philosophy web	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
Word-formation in the mental lexicon / Cognitive linguistics and psycholinguistics Dr. Stela Manova ICLTT/Philosophy web	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

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Natural Language Processing (NLP) without grammar: algorithms and applications Dr. Stela Manova ICLTT/Philosophy web	Recent approaches to NLP do not involve grammar (linguistic information of any kind) but treat all words as units of the same type and model human language with the help of neural networks that, roughly speaking, control for frequency of use of words and their combinations (n-grams). In a similar fashion, this project seeks to establish the possible applications of NLP based on algorithms (with a focus on the Fibonacci sequence), n-grams and frequency.	Specialization in cognitive linguistics and psycholinguistics / Basic knowledge in linguistics		1 (+1)	MA (+ IR-II, S-I)
Individual differences in second/foreign language learning (including polyglotism, and language learning through non-formal methods). Susanne Maria Reiterer Unit of Language Learning and Teaching Research	For students interested into second language acquisition in general, but especially the psycho-cognitive aspects of individual differences in language learning ability (language aptitude) and interfaces to other cognitive systems (musicality, personality, memory…) and language learning methods in non-formal circumstances (e.g. online, new media).	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.	It should be possible according to the current rules and regulations (subject to the provisions) to meet on site in the lab/office/department with mask and caring for safety distances. Naturally a large proportion (>50%) of work can always be carried out from home / distance (home office principle). Online/virtual discussion meetings also possible.	1	IR II S-I (10 ECTS) MA(?)

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Language Café and multilingual societies Susanne Maria Reiterer 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.	It should be possible according to the current rules and regulations (subject to the provisions) to meet on site in the lab with mask and caring for safety distances. Naturally a large proportion (>50%) of work can always be carried out from home / distance (home office principle). Availability of cafes is problematic in COVID times generally because of governmental restrictions in public places/gastronomy.	1	IR II S-I (10 ECTS) MA(?)
The (phon)aesthetics of second language learning – phonetic chill Susanne Maria Reiterer Unit of Language Learning and Teaching Research	This new research project focuses on the aesthetic, psycho-acoustic, cognitive, social and emotional motivations of why individuals report to perceive certain foreign languages as more “attractive”, “melodious” etc. and thus more rewarding/interesting to be learned. For students interested in foreign languages, especially sounds of languages.	Experience in or interest for acoustic stimulus creation, human voice, voice recordings, testing human participants, knowledge about psychometrics, acoustic software (e.g. Praat, Adobe Audition). Willingness to pursue secondary research on theoretical and practical aspects concerning the individual project.	It should be possible according to the current rules and regulations (subject to the provisions) to meet on site in the lab with mask and caring for safety distances. Naturally a large proportion (>50%) of work can always be carried out from home / distance (home office principle).	1	IR S-I (10 - 15 ECTS) MA

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Literary and Cultural Representations of Emotion Christa Knellwolf King 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
Models of Personality and Emotions Paolo Petta Institute for Artificial Intelligence, Medical University of Vienna web	Project work, optionally also as complement to the related courses			3-4	S-I
Serious Games in Health Care Paolo Petta 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

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
[See description] Soheil Human Institute of Information Systems and New Media, Vienna University of Economics (WU Wien)	If you are interested in research on • **Accountability and controllability of computational cognitive models** • **Cognitive Personal Assistant Systems** • **Human needs** • **Human values** • **Societal consequences of cognitive modeling** • **Predictive processing** • **Framing of information system (nudging)** • **Cognitive user interfaces** • **Cognitive information economies** • **Social imaginaries** • **Human-computer interaction** • **Intersection of European General Data Protection Regulation (GDPR) and Computational Cognitive Modeling** • **Semantic Web Technologies, Knowledge Engineering and Ontology development** • **Application of computational cognitive modeling from socioeconomic perspective** please make an appointment for more details.	Please make an appointment for more details		1-2	IR II S-I

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Incentivising Open Data Exploration through Needs Management Soheil Human Institute of Information Business at the Vienna University of Economics and Business	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. 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 (https://open.wien.gv.at/site/open-data/) and at the independent Austrian Open Data Portal (https://opendataportal.at). [BFUP] Beno, M., Figl, K., Umbrich, J., Polleres, A. (2017) Open Data Hopes and Fears: determining the barriers of Open Data. CeDEM 2017 https://aic.ai.wu.ac.at/~polleres/publications/Beno-etal-2017CeDEM.pdf [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 https://github.com/openeed/ond-family) [OpeN] The OpeNeeD Ontology: https://github.com/openeed [KaK] Kaiser, A., & Kragulj, F. (2016). Bewextra: Creating and Inferring Explicit Knowledge of Needs in Organizations. Journal of Futures Studies, 20(4): pp. 79-98. [Dea1] Dean, H. (2014). Understanding human need. Bristol: Policy Press.	Internship position 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 & 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.		1	IR II S-I

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Ontology Representation of Needs Profiles Soheil Human Institute of Information Business at the Vienna University of Economics and Business	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. 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. [Dea1] Dean, H. (2014). Understanding human need. Bristol: Policy Press. [Dea2] Dean, H. (2015). Social rights and human welfare. London: Routledge. [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 https://github.com/openeed/ond-family) [OpeN] The OpeNeed Ontology: https://github.com/openeed [KaK] Kaiser, A., & Kragulj, F. (2016). Bewextra: Creating and Inferring Explicit Knowledge of Needs in Organizations. Journal of Futures Studies, 20(4): pp. 79-98. [TaD] Tay, L., & Dieer, E. (2011). Needs and subjective well-being around the world. Journal of personality and social psychology, 101(2): 354.	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 BEWEXTRA 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

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Rethinking Homeorhesis in Biomedical Contexts Isabella Sarto-Jackson KLI web	Biomedical sciences and psychopharmacology draw primarily from the medical model of disease that provides a conceptual framework for the disease-centered model of drug action. This model presupposes that mental disorders are based on a derailment of brain homeostasis. Increasingly more scientists have begun to critically question the disease-centered model of drug action. The shortcomings of the model derive from assumptions of monocausality and effect linearity largely based on a mechanistic view. Yet, explanations using homeostasis neglect ontogenetic trajectories and system-level responses of the organism. This project focuses on the reinstatement of the concept of homeorhesis to supplement explanations of homeostasis. Including homeorhesis as an explanatory process within the medical model aims at facilitating a conceptual shift from a disease-centered to a drug-centered view. To this end, the project aims at gathering converging evidence of psychotropic drug effects to support the idea of homeorhesis in biomedical contexts.	Interest in philosophy and neurobiology		1	IR II S-I MA
Reputation-motivated prosocial behaviors Hana Kutlikova Neuropsychopharmacology and Biopsychology Unit, Faculty of Psychology web	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 computational modelling		1-2	IR II S-I MA

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Organizational learning and Knowledge based Management ao. Univ. Prof. Dr. Alexander Kaiser Research Group Knowledge based Management, Vienna University of Economics and Business web	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
Organizational learning and Knowledge based Management ao. Univ. Prof. Dr. Alexander Kaiser Research Group Knowledge based Management, Vienna University of Economics and Business web	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

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Reflection about intercultural experiences – intercultural competence development Ingrid Pleschberger, BA BA MSc Head of International Office FH BFI Wien web	Reflection is a widely acknowledged aspect of intercultural competence development. Accordingly, reflection activities such as learning journals or diaries are frequently used as measures to assess and/or facilitate intercultural competence development. However, there is currently no agreement on a uniform definition or a research-based model of reflection that explicitly incorporates intercultural competence (ICC) nor a model of ICC that incorporates reflection. This research aims at providing (1) a definition and concept of RIE, and (2) an operationalised instrument (interview guideline and coding scheme) to assess RIE	German and English language skills on a level that allows them to conduct and transcribe interviews And/or Experience with quantitative and qualitative data analysis	Possible tasks: Quantitative and qualitative data analysis of already existing data. Mai – June 2021 data collection (interviews and transcriptions will be paid) via jisti or if possible in person Theoretical work is also possible potential candidates can do the project fully online or a mixture online/on-site.	3	IR II S-I (10 - 20 ECTS) MA(?)
Experimental induction of social and non-social motivational states Giorgia Silani Ana Stijovic Department of Applied Psychology: Health, Development, Enhancement and Intervention web	In this project, we investigate the effects of a period (8h) spent without social contact or without food on: stress levels (measured using physiological and subjective measures), affective states, motivation to engage with food-related and social content, and basic cognitive abilities. A short-term response to a homeostatic imbalance includes increased autonomic arousal and increased motivation to seek rewards that can relieve the aversive state and reestablish balance. In addition to basic survival systems, such as regulation of nutritional balance or defense from threat, it has been recently suggested that our need for affiliative social contact is regulated by a similar homeostatic system. Although we cannot directly test this idea, we aim to make a first step towards understanding effects of a short-term social isolation on the state of our body, self-reported affective states and motivated behavior, as opposed to a short-term reaction to fasting.	High flexibility, reliability, good time management, ability to work in a team, German and English proficiency		2 + 2	Interns hips (15h / week) + MA (start in Jan./ Feb. 2020)

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
New hypotheses for research on autism and music, Part 1: Large-scale replication of potential biomarkers in rs-fMRI Giorgia Silani, Christian Gold Department of Applied Psychology: Health, Development, Enhancement and Intervention web	**Background:** Autism is a "social disorder", and music is a "social art". Music therapy may help people with autism to develop social engagement, but mechanisms are not clear. Brain areas including the superior temporal sulcus (STS), right temporo-parietal junction (rTPJ), and right supramarginal gyrus (rSMG; relevant for empathy and theory of mind), and functional connectivity between auditory, motor, and sensory regions (relevant for sensorimotor integration) have been suggested to be of relevance. However, these findings were based on relatively small samples. **Methods:** This project will aim to determine structural and functional differences or similarities between people with/without autism in relevant brain areas, using MRI and resting-state fMRI data from a large, publicly available dataset (ABIDE-I and ABIDE-II, combined n>2000). **Relevance:** Given the "replicability crisis" in psychology, the findings from this project will provide a solid basis for future intervention studies of music therapy and related interventions. **Note:** Other projects related to music and autism using different methodology may become available; further information on request.	Desirable: experience with analysing fMRI data; programming skills in MATLAB (or R)		1-2	MA
New hypotheses for research on autism and music, Part 1: Large-scale replication of potential biomarkers in rs-fMRI Giorgia Silani, Christian Gold Department of Applied Psychology: Health, Development, Enhancement and Intervention web	**Background:** Many people with autism have a high interest or special skills in music; some can benefit from music-based interventions. However, little is currently known about the ways and the extent people with autism engage in music activities in daily life. **Methods:** Based on previously constructed scales and a currently ongoing survey in other countries, a survey of music engagement will be conducted in an Austrian clinical sample (from clinical institutions in St. Pölten or Vienna, n=50-100) and a matched non-clinical sample. **Relevance:** Better knowledge of music use in daily life, including functional uses of music, will be important to inform the development of future interventions for this population.	Survey methods experience		1	MA

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
New hypotheses for research on autism and music, Part 1: Large-scale replication of potential biomarkers in rs-fMRI Giorgia Silani, Christian Gold Department of Applied Psychology: Health, Development, Enhancement and Intervention web	**Background:** A large multinational randomised controlled trial of music therapy for children with autism spectrum disorder did not find clinical effects; this was in contrast to many smaller trials. One reason may be the heterogeneity of the population, in connection with the focus on a distal downstream outcome. **Methods:** Re-analysis of an existing dataset (n=364) with a focus on individual symptoms that may be linked to specific mechanisms of joint music-making. Path models or structural equation models will be used to determine which of these symptoms at baseline are able to predict clinical benefits. **Relevance:** Better understanding of who on the autism spectrum may be most likely to benefit from music therapy.	Structural equation modelling (SEM) experience		1	MA
Serious Games in Game Based Learning Matthias Steinböck Digitalisation in Education, Centre for Teacher Education, University of Vienna	Research in the field of serious games, which deals with game based learning activities, has an almost 50-year history, and with the increasing use of games in parts of daily life, it is gaining more and more importance. Today we understand that engaging in activities that are serious (as in "meaningful", "purposeful") and mediated by games (as in "playful") require a context that respects the behavioural, affective, and cognitive components of the experience. We look forward to working with students who are interested in researching engagement with playful learning activities from primary school through tertiary education to adult education, with an emphasis on the cognitive component.	If you are motivated to do interdisciplinary research and have experience with computer games, we would be happy to discuss further details with you!		1-2	MA

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Brain-Computer Interfaces Moritz Grosse-Wentrup Research Group Neuroinformatics, Faculty of Computer Science, University of Vienna web	Brain-Computer Interfacing (BCI) enables the control of external devices such as wheelchairs or robotic arms for severely paralyzed patients by mind control. Multiple projects of to advance the state-of-the-art in BCI are available within the research group Neuroinformatics, ranging from cognitive strategies for patient training over feedback design to neural decoding algorithms.	Students should have an interest in working in interdisciplinary research teams, be open to working with actual patients, and have basic programming skills.			IR II S-I MA
Conceptualizing exposure therapy as a dynamic feedback system Prof. Frank Scharnowski Cindy Lor MScDepartment for Basic Psychological Research and Research Methods	We aim at better understanding and optimizing exposure therapy. Specifically, we investigate psychological, peripheral physiological and neuroimaging measures to computationally model exposure therapy as closed-loop feedback systems.	Motivation to conduct interdisciplinary experimental research; good organization and time management; creativity; basic programming skills (e.g. MATLAB, Python, R, ...) are an advantage		5	IR II, S-I or MA
Real-time fMRI Neurofeedback Prof. Frank Scharnowski Andrew Nicholson, PhD Department for Basic Psychological Research and Research Methods	We will conduct multiple studies investigating the ability to regulate emotional states using real-time fMRI neurofeedback in both healthy individuals and psychiatric patient populations. This method consists of using brain computer interfaces that provide feedback of neural states using brain imaging.	Independent learners, highly motivated, long-term career aspirations in neuroscience.		5	IR II, S-I or MA

Project	*Description*	*Qualifications*	*COVID-19*	*Places*	*Level*
Machine-learning with psychological data Prof. Frank Scharnowski David Steyrl, PhD Department for Basic Psychological Research and Research Methods	Generally, machine-learning techniques are powerful tools for data analysis. Particularly in psychology, where heterogeneous, multimodal data are ubiquitous. We offer the chance to dive into this hot topic and to gain hands-on experience with real world machine-learning applications.	basic programming skills (e.g. MATLAB, Python); enjoying programming		2	S-I or MA
How personality and sex influence problem solving in a highly social fish Dr. Sabine Tebbich Dr. Stefan Fischer Department of Behavioural Biology Konrad Lorenz Insitut of Ethology	We are looking for a motivated student interested in a Master's project in Behavioural Biology and Cognition using a social cichlid (Neolamprologus pulcher) from Lake Tanganyika. The thesis will be part of the WWTF funded project: "Coping with change: Investigating the relationships between behavioural flexibility, stress and early environment". Problem solving is a major challenge for animals especially under rapidly changing environments. How much individuals are able to cope with changing conditions will be determined by their personality and life history. In this project you will investigate the understudied link between individual characteristics and problem solving abilities using targeted behavioural experiments. The work will be based at the Konrad Lorenz Institute for Ethology which is located on Wilhelminenberg in the 16th district.	We are particularly interested in a student with a keen interest in scientific questions, that would like to research fish behaviour and cognition, is able to work independently and in a team. Our daily communications are in English and the student is required to have good knowledge of English and, preferably, the thesis should be written in English.		2	MA