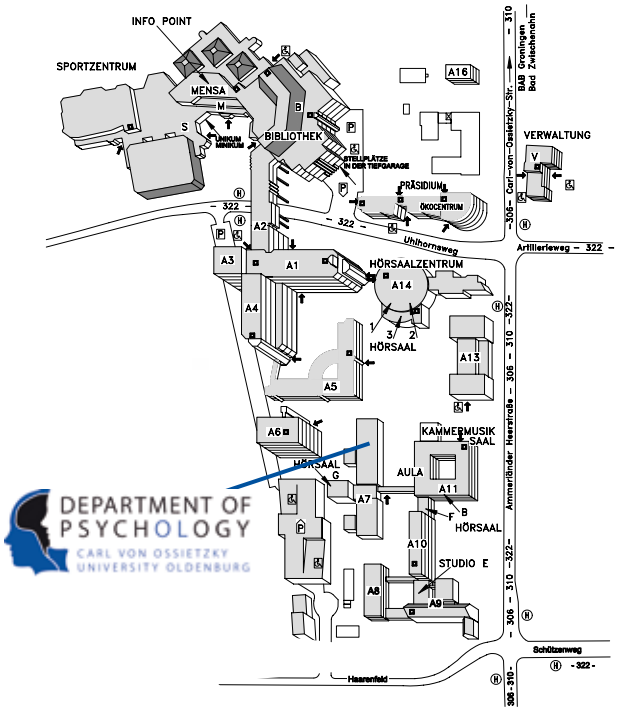
PROGRAMME OVERVIEW

The Master's course Neurocognitive Psychology is a research-oriented international graduate programme which offers systematic coverage of the major fields in psychology as well as an in-depth training in cognitive neuroscience.

The programme takes 2 years to complete and is offered through the Department of Psychology. As a graduate student, you will be able to choose from a variety of research and/or applied modules. The department's research spans cutting-edge topics such as multisensory integration, brain oscillations and behaviour, cortical plasticity, computational neuroscience, brain-machine interfaces and pharmaco-neuroimaging, to name a few. Different state-of-the-art neuroscience tools and psychology labs are available to gain hands-on experience in magnetic resonance imaging, magnetoencephalography, high-density electroencephalography, eye tracking, transcranial magnetic and electrical stimulation and psychophysics. As such, the Department of Psychology in Oldenburg is probably among the best-equipped in the country. Practical experience is provided in several of our applied modules in collaboration with local hospitals and rehab centres.

This programme has been accredited by AQAS and is running since October, 2010. It is part of the Network of European Neuroscience Schools (NENS).

Campus Haarentor



CURRICULUM

The programme is entirely taught in English and comprises a total of 120 ECTS credit points (CP). It consists of a general component (42 CP), a specialisation component (24 CP), a practical part (24 CP), and a Master's thesis (30 CP). The programme is designed in a modular fashion and the number of mandatory modules decreases towards the end of the programme, offering increased flexibility to students.

The mandatory general component includes research methods, psychological diagnostics, scientific work, a MATLAB course as well as an elective subject. The specialized component offers ten different modules from which students may choose, depending on interest. There is an especially extensive range of study offerings in the field of applied and experimental cognitive neuroscience, reflecting the research focus of the Department of Psychology. Practical components such as the internship, the practical project, and the Master's thesis facilitate the application of acquired knowledge. In the two latter modules, students are encouraged to formulate their own research question, carry out a scientific experiment, and present their findings according to academic conventions.

The Master's programme Neurocognitive Psychology has the following structure:

General part (mandatory): 42 CP
* Research methods 12 CP
* Psychological Assessment and Diagnostics 9 CP
* Communication of scientific results 6 CP
* Computation in Neuroscience 6 CP
* Minor 9 CP

Specialized part (choose 4*6, or 2*9 + 1*6): 24 CP
* Clinical Psychology 9 CP
* Transcranial Brain Stimulation 6 CP
* Neurophysiology 6 CP
* Neurocognition 6 CP
* Sex and Cognition 6 CP
* Neuropsychology 9 CP
* Applied Cognitive Psychology 6 CP
* Human Computer Interaction 6 CP
* Neuromodulation of Cognition 6 CP
* Functional Neuroimaging 9 CP

Project part (internship mandatory; choose 1 practical project): 24 CP
* Internship or lab visit 15 CP
* Practical project 9 CP

(choose from: Applied Cognitive Psychology, Cognitive Psychology and Psychophysics, Experimental Psychology, Experimental Neuropsychology, Biological Psychology)

Master's part (mandatory): 30 CP
* Master's thesis 27 CP
* Master's colloquium 3 CP

Total: 120 CP

CAREER PERSPECTIVES

The programme prepares students for a career in research or for an employment in applied settings (such as hospitals or industry). Several of the research based modules prepare students in depth for entering a PhD programme in the area of cognitive neuroscience. The applied modules additionally guarantee a basic training in the area of clinical neuropsychology and human computer interaction.

APPLICATION AND ADMISSION

Admission Requirements
Applicants may be eligible for admission if they have completed a Bachelor's degree in the fields of psychology, cognitive science or in a related field with the emphasis of study on psychology and/or cognitive sciences. At least 90 credit points must have been obtained in the area of psychology and/or cognitive sciences including 5 credit points in statistics, 5 credit points in experimental work, 10 credit points in general/cognitive psychology and 5 credit points in biological psychology/ neurosciences. Applicants whose mother tongue is not English must produce a proof of English proficiency.

Admission
The degree of eligibility depends upon the grade of the Bachelor's degree and additional qualifications (internships, publications, stay abroad, volunteer work). Further details on admission can be found on our webpage.

Application
German and foreign students who have completed their Bachelor's degree in Germany apply directly to the university. German and foreign students who have obtained a Bachelor's degree outside Germany have to apply via www.uni-assist.de. Application opens on 1st of June and closes on 15th of July for the winter term. Applicants with a degree from abroad should submit their documents by 15th of June.

CONTACTS

For questions regarding the study programme
Dr. Kerstin Bleichner
phone: +49 (0)441 798-2947
e-mail: psychology@uni-oldenburg.de

FURTHER INFORMATION

For full details of the programme visit:
www.uol.de/en/neurocogpsy

APPLIED NEUROCOGNITIVE PSYCHOLOGY LAB

Prof. Dr. Jochem Rieger

We investigate neural processes in the sensation-perception-action-cycle in an interdisciplinary team. Central to our research are cutting edge brain decoding methods which we use to learn from invasive and noninvasive neuroimaging methods in humans how the brain accomplishes everyday tasks. The aim of our research is twofold. On the one hand we are interested in basic research questions on how the brain constructs percepts from environmental sensory data, represents percepts, makes decisions, and controls muscles to interact with the environment. On the other hand we are interested to apply our research to construct brain-machine interfaces to supplement human cognition, communication, and motor function. Examples for our work on decoding of cognitive states and our brain controlled grasping project can be found on the lab-webpage.

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COGNITIVE NEUROBIOLOGY LAB

Prof. Dr. Christiane Thiel

Our research focuses on visuospatial attention, learning and plasticity and the pharmacological modulation of such processes. The combination of pharmacological challenges with cognitive tasks in the context of functional neuroimaging (fMRI) studies is a powerful approach to directly assess pharmacological modulation of human brain activity. For example, we have performed several pharmacological fMRI studies showing a nicotinic modulation of visuospatial attention. A long-term goal of such studies is to provide an experimental approach that has relevance to studying mechanisms of recovery and treatment effects in patients with neurological damage.

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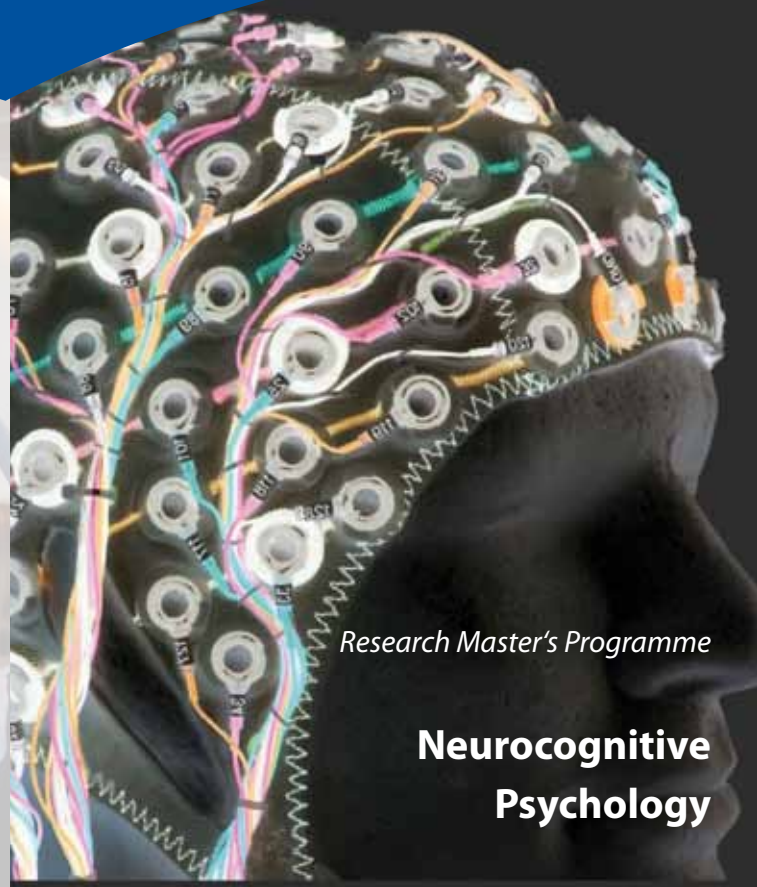
CARL VON OSSIETZKY universität OLDENBURG



Research Master's Programme

Neurocognitive Psychology

in Oldenburg, Germany

COGNITIVE PSYCHOLOGY LAB

Prof. Dr. Hans Colonius

We use methods from experimental psychology, psychophysics, and formal modeling to study the relationship between the human brain and cognitive functions. One focus of our research is multisensory integration: How is sensory information coming from different modalities (vision, hearing, touch) processed in the brain? How are unisensory features combined to create a common percept? Another focus is the development of a general theory of how subjective (dis-)similarity among objects can be measured (Fechnerian Scaling). An applied topic is the development of optimal driver assistance systems in certain traffic situations. Among our tools are the registration of eye movements, reaction times, and probabilistic models including Bayesian statistics.

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EXPERIMENTAL PSYCHOLOGY LAB

Prof. Dr. Christoph Herrmann

The lab is headed by Christoph Herrmann and focuses on physiological correlates of cognitive functions such as attention, memory and perception. The methods that are used comprise electroencephalography (EEG), magnetoencephalography (MEG), functional magnetic resonance imaging (fMRI), transcranial electric stimulation (TES), transcranial magnetic stimulation (TMS), eye-tracking, neural network simulations, and psychophysics. A focus of the research lies in the analysis of oscillatory brain mechanisms. Oscillatory brain activity is considered to be one of the electrophysiological correlates of cognitive functions. We analyse these brain oscillations in healthy and pathological conditions, simulate them for a better understanding and try to modulate them.

christoph.herrmann@uni-oldenburg.de

NEUROPSYCHOLOGY LAB

Prof. Dr. Stefan Debener

We use methods from experimental psychology and psychophysiology to study the relationship between the human brain and cognitive functions. One focus of our research is related to sensory deprivation and compensatory mechanisms. We study how hearing loss and deafness change the functional organization of the brain and what the consequences of these changes are for auditory rehabilitation. Related to this topic are studies investigating how information from different sensory modalities is combined to create a coherent percept of an object. Our key tool is the high-density EEG, but we also use MEG, fMRI, concurrent EEG-fMRI and mobile, wireless EEG. Because these tools provide us with complex, mixed signals that reflect different features of human brain function, we spend some time on the application and evaluation of signal un-mixing and signal integration procedures as well.

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