Mission Statement

Cognitive science focuses on the study of human cognition - processes of perception, thinking, knowledge representation, learning, decision-making, etc. and how these processes are implemented in the brain. It is characterized by interdisciplinarity - the combined use of knowledge and methods of various participating disciplines - psychology, artificial intelligence, neuroscience, linguistics, philosophy, anthropology and others. Cognitive science master programme at FMPI combines these disciplines with a special emphasis on formalization and computational modeling of cognitive processes, which enables not only to understand them better, but also to apply the resulting models in smart technologies.

Cognitive science is useful everywhere we need to understand human thinking and decision-making in specific situations, and increasingly where the human mind encounters and interacts with the artificial intelligent technologies.

MEi:CogSci Consortium

Master programme in Cognitive Science is unique in our context because it is a result of common coordinated projects of five universities: University of Vienna (in collaboration with Medical University of Vienna), University in Ljubljana, University in Zagreb, Eötvös Loránd University in Budapest, and Comenius University in Bratislava. These universities are currently members of the consortium of Central European universities (**meicogsci.eu**) that was founded in 2006 to establish and implement the joint Middle European Interdisciplinary Master Programme in Cognitive Science (MEi:CogSci).

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Cognitive Science

Master Degree Studies

ITMS: 26140230008

Study Program Curriculum

The two-year master programme in cognitive science has the following structure:

Semester 1 provides a common basis and complementary knowledge of the disciplines the student did not meet in his/her bachelor's study. Graduates of social sciences and humanities acquire basic knowledge of mathematics and programming , and graduates of computer science (or natural sciences) become more familiar with psychology and methodologies of empirical sciences. In addition, all students gain insight into the so-called mother disciplines of cognitive science.

Semester 2 allows deeper understanding in the above areas by allowing the students to choose from available courses and to learn how to apply new knowledge in the context of a semester project, the output of which is presented by each student at an international MEi:CogSci conference as a poster at the end of the semester. Students choose projects of their own interest and, where possible, experts participating in the programme. Besides computational modeling, psychology, psycholinguistics, philosophy of language and mind, it is possible to work with the cognitive laboratory equipment (EEG measuring device, a robotic arm, a virtual humanoid robot).

Semester 3 is a compulsory mobility semester at one of the partner universities of the Consortium, where in addition to specialized courses the students work on a research project, under the expert's supervision from the host university, or often as a part of a wider research team. Students can focus on an experimental work, possibly using modern imaging technologies (EEG, fMRI, TMS, etc.), computational modeling or a theoretical work. They bring 30 credits to their home university.

Semester 4 is dedicated mainly to the work on master thesis, the results of which are presented again at the MEi:CogSci conference in the form of a talk. The master thesis can have the features of: (1) theoretical work, (2) software implementation of a model, (3) empirical research, or (4) compilation work.

All courses are available also in English, which opens the door for international students. The details are provided at the website of Department of Applied Informatics at **dai.fmph.uniba.sk** (in Slovak and English).
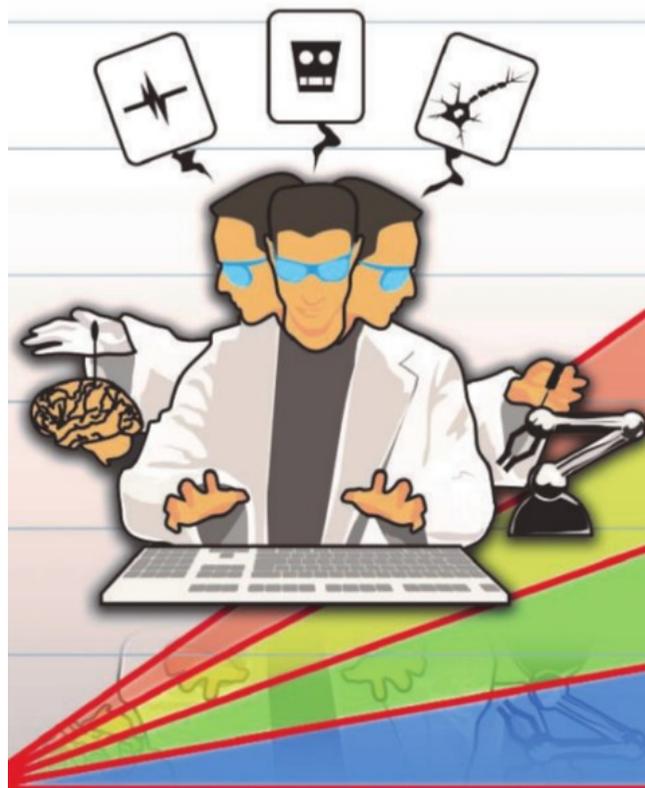
Career Opportunities

Graduates of the cognitive science programme will acquire the ability to:

- specify, design, implement and maintain integrated intelligent systems, user-friendly systems for human-computer interaction (e.g. in ergonomic design, website design, etc.), and extensive modern applications using methods of cognitive science and artificial intelligence,

- design, implement, analyze, evaluate and interpret computational simulations related to the application of cognitive science,

- design, run and evaluate behavioral experiments (using statistical analysis and data interpretation),

- work as creative researchers in cognitive science and apply computer science methods, concepts, as well as programming skills in empirical research fields such as psychology, neuroscience and linguistics,

- work effectively as individuals, as members or a head of the team, including multidisciplinary research and development teams,

- continue in doctoral studies in cognitive science (or related disciplines, e.g. in computer science at the Faculty), or in related fields (e.g. psychology, neuroscience, linguistics) at other faculties in Slovakia and abroad, and teach at higher education institutions in cognitive science related disciplines.

Universität Wien   Univerza v Ljubljani   University of Zagreb