MEi:CogSci

Middle European interdisciplinary Master's Programme in Cognitive Science


Neues Institutsgebäude (NIG)

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Vienna MEi:CogSci Middle European interdisciplinary master's programme in Cognitive Science

Markus F. Peschl
Elisabeth Zimmermann
Elisabet Delgado Mas

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What is Cognitive Science**?**

- An **emerging scientific field** studying cognitive phenomena such as perception, reasoning, thinking, action/behaviour, etc.

- Which integrates research from different disciplines in the natural sciences, humanities, and technology in an **interdisciplinary** manner.

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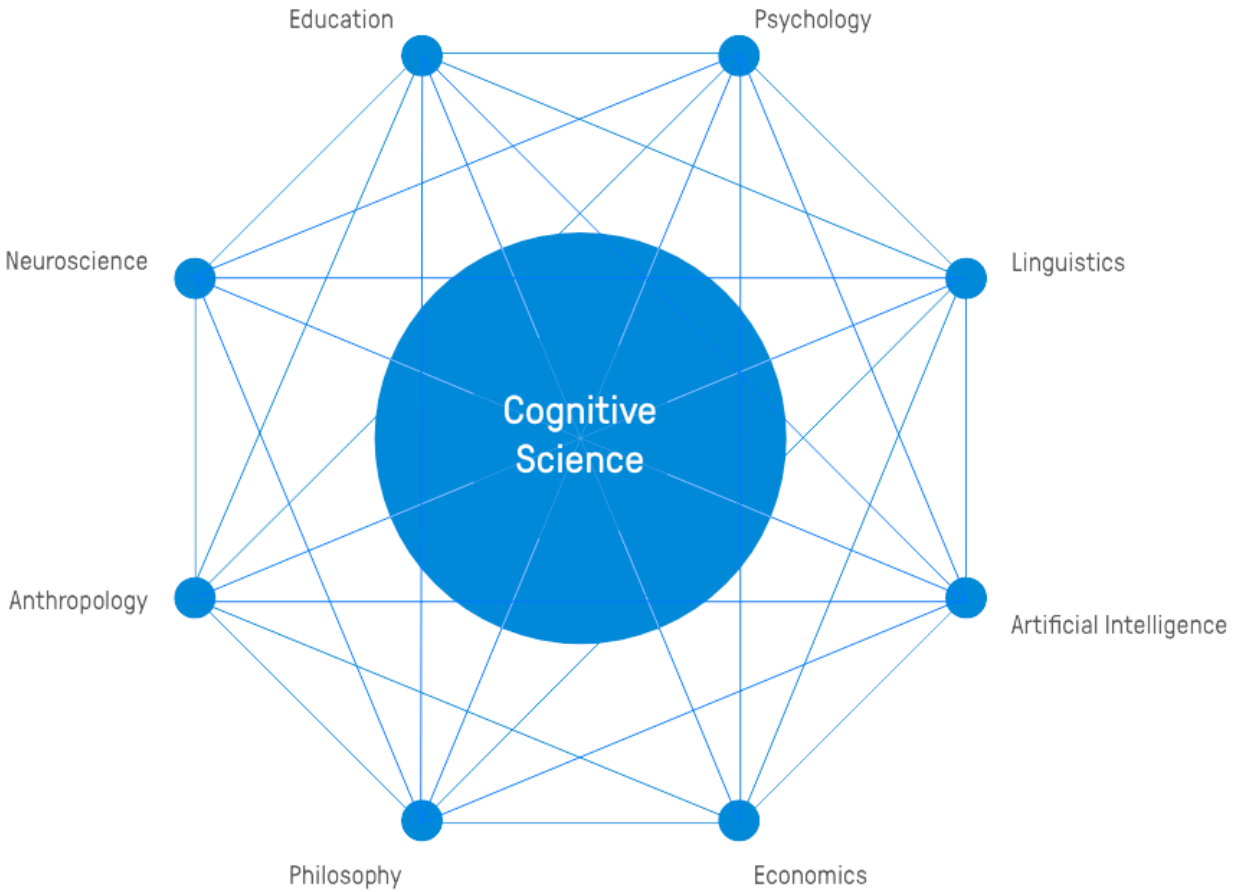
Inter-/Transdisciplinarity in Cognitive Science



MEi:CogSci - Middle European interdisciplinary master's programme in Cognitive Science

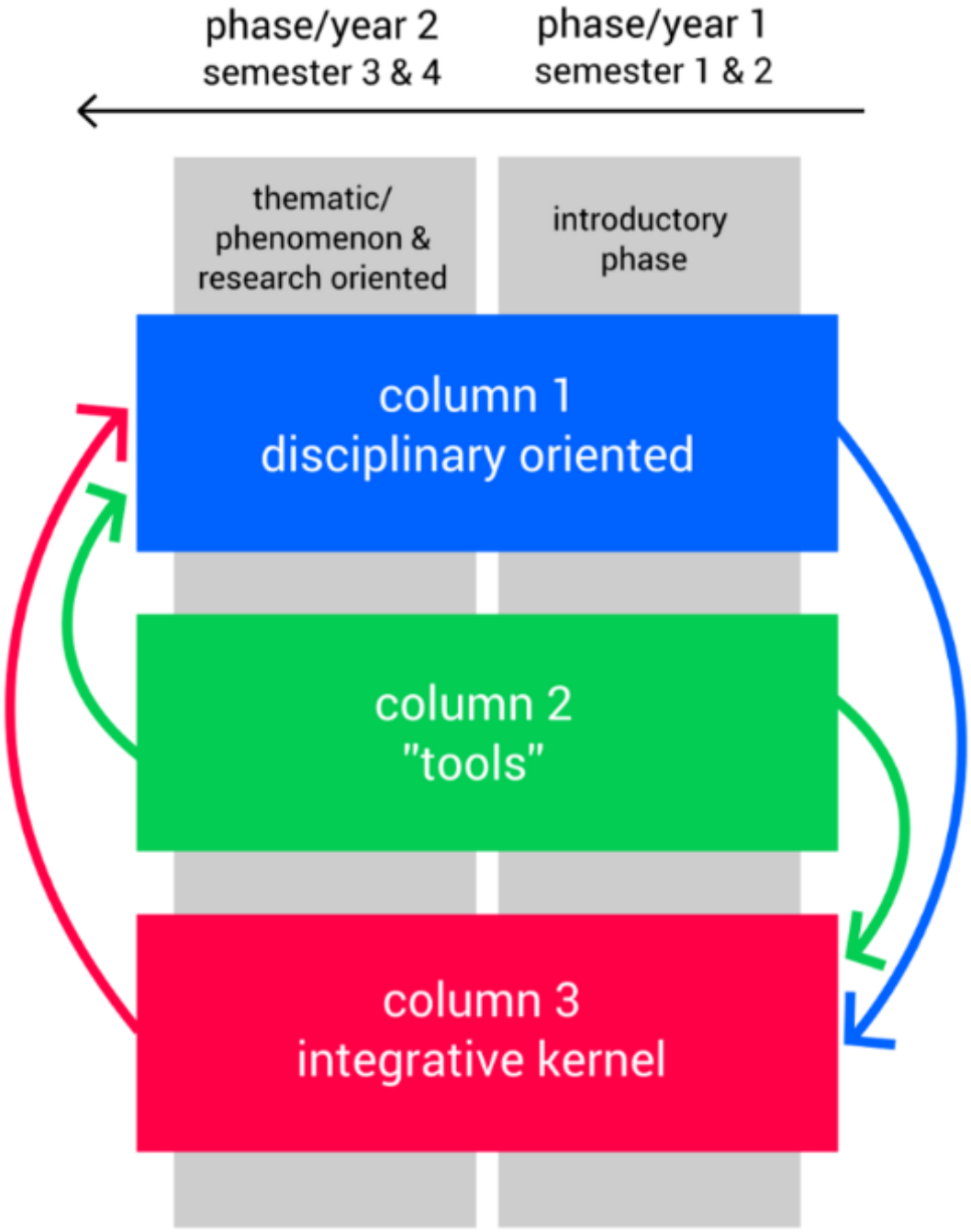
Joint Degree running since 2006.

Partner institutions:

- University of **Vienna**, Eötvös Loránd University **Budapest**, Comenius University of **Bratislava**, University of **Ljubljana**

4 semesters – 120 ECTS

3rd (and possibly 4th) semester – **mobility** (30 ECTS compulsory)


phase/year 2
semester 3 & 4
phase/year 1
semester 1 & 2
thematic/
phenomenon &
research oriented
introductory
phase
column 1
disciplinary oriented
column 2
"tools"
column 3
integrative kernel

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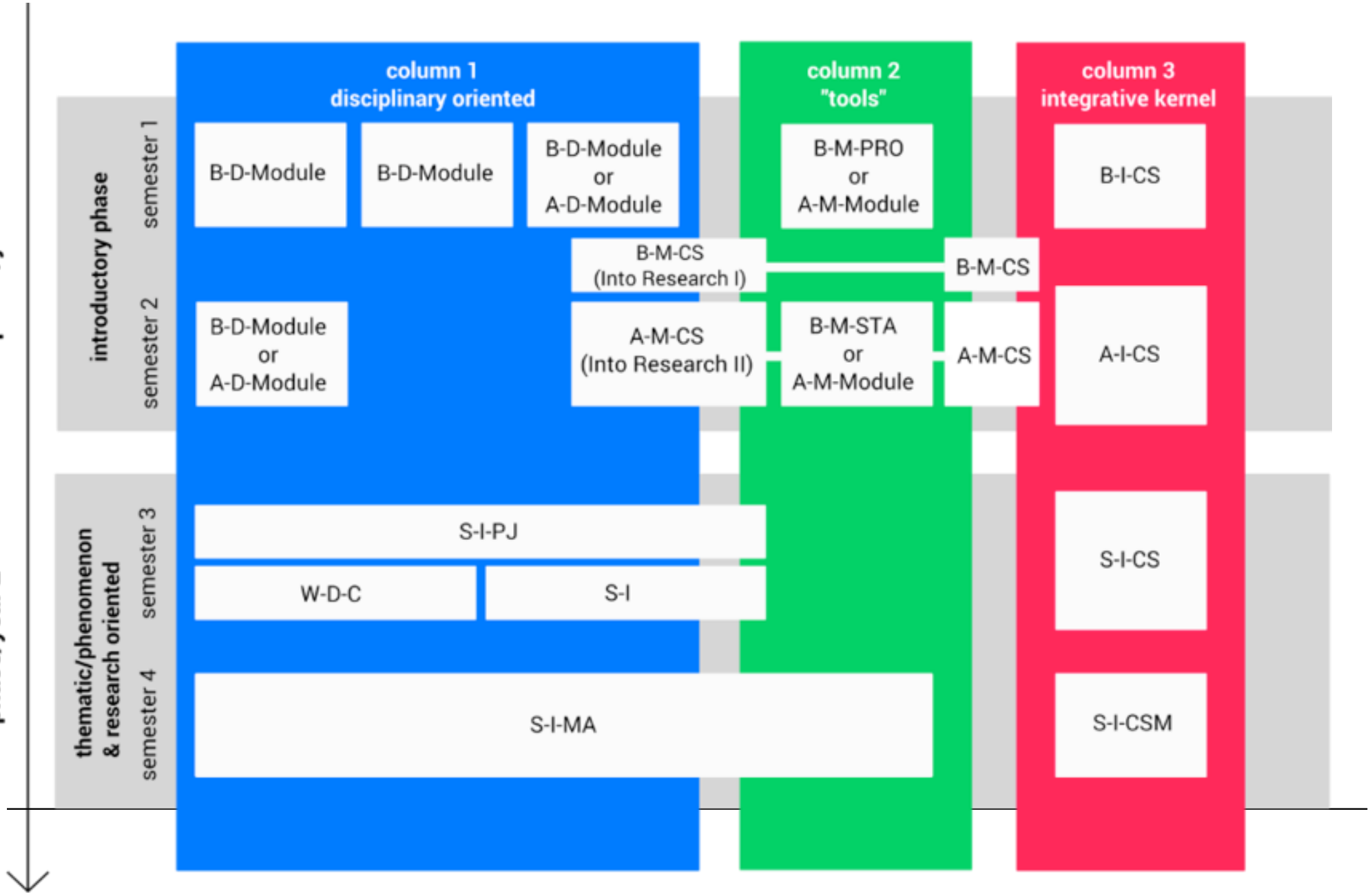

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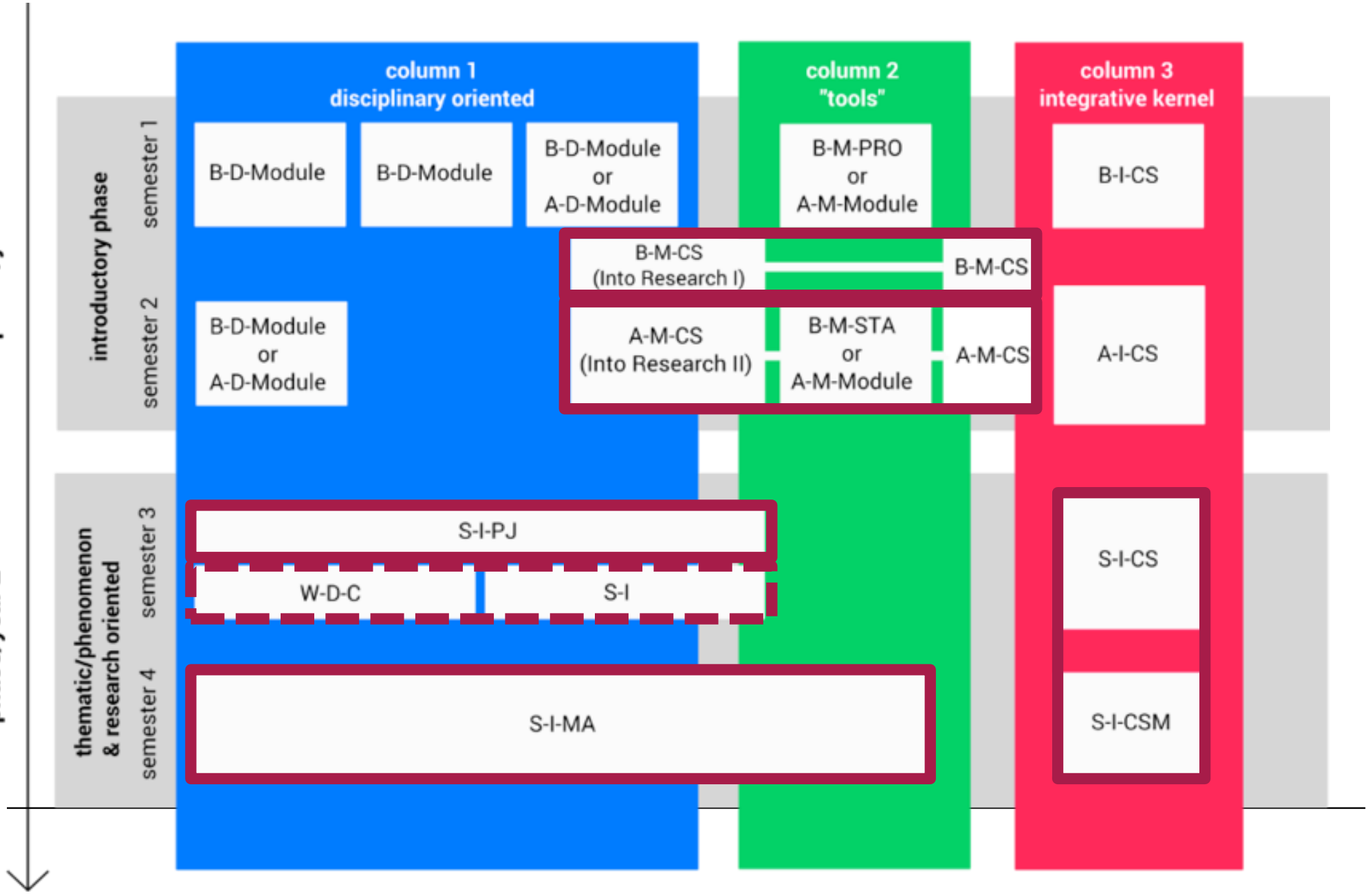
Research-based Curriculum



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Basic Disciplinary Modules

Student has to choose: **Degree in:**	**Basic Disc.:** - **PHI**losophy - **LIN**guistics	**Basic Disc.:** - **BIO**logy - **PSY**chology - **NEU**roscience	**Basic Disc.:** - **AI**
Arts/humanities - **Philosophy** - **Linguistics**		X	X
Science - **Biology** - **Psychology** - **Neuroscience/ Medicine** - **(Physics)**	X		X
Social Science - **Cultural/Social Anthropology**		X	X
Formal/theoretical science - **Computer Science** - **(Mathematics)** - **(Computational Logic)**	X	X	
Interdisciplinary - **Cognitive Science**			

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Vienna MEi:CogSci

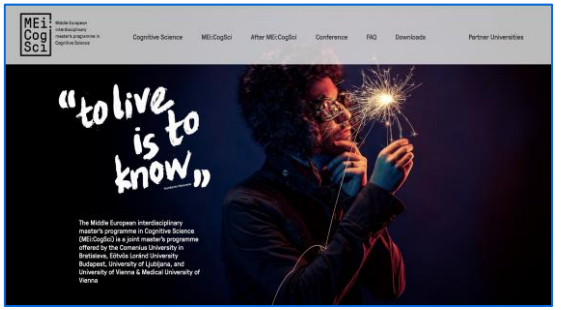
Didactical Concepts

- Learning Contracts
- Lab reports & Lab journals
- Student Conference
- Mentoring
- Peer-teaching
- Focus on interdisciplinary cooperation
  - Developing your own voice

Information online

Local website

https://ssc-phil.univie.ac.at/studien/master-cognitive-science/



International website

www.meicogsci.eu

Possibility to apply at different partner universities in parallel!

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Admission at University of Vienna

- **Bachelor or Master/Diploma studies** in Cognitive Science or one of its core disciplines: Anthropology, Biology, Computer Science, Linguistics, Medicine/Neuroscience, Philosophy or Psychology.
  - Or **other backgrounds** (up to 30 extra ECTS points can be stipulated)

- Places will be distributed depending on the background discipline (up to 5 places from each: natural sciences, humanities, social sciences, formal sciences and cognitive science)

Application and Admission Procedure

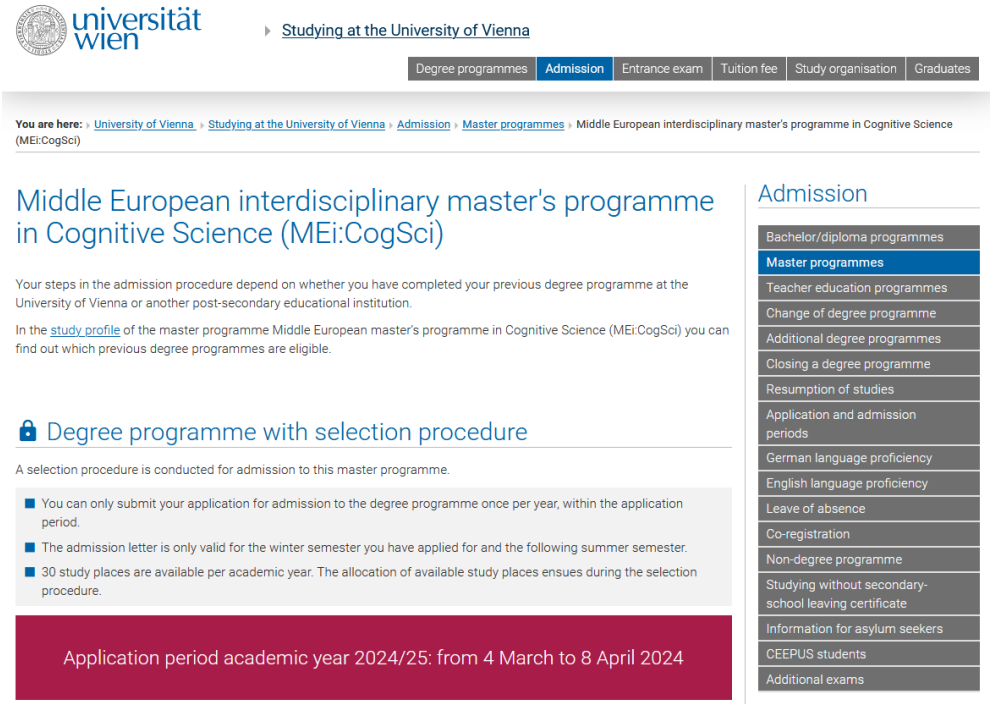
1.

Application Phase

Steps:

- Register via u:space.
- For detailed information see the MEi:CogSci Admission page.
- Upload all required documents.

Deadline: April 8!



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Vienna MEi:CogSci

Documents: English Requirements

Applicants who are not native speakers of English must demonstrate English proficiency (on **B2** level or higher).

Details available on the Proof of English Language Proficiency website of the University of Vienna.

Recognised proofs of English language proficiency at level B2

A proof of English language proficiency at level B2 is required for admission to the bachelor programme in International Legal Studies as well as to multiple master programmes taught in English and multilingual master programmes.

- Required English proficiency for admission to master programmes taught in foreign languages

Proofs B2

- Secondary-school leaving certificate with successful graduation exam in the subject English. If the level of English proficiency is not clearly evident in the certificate, a confirmation by the school administration may be claimed.
- IB diploma according to the regulations of the "International Baccalaureate Organization" with the subject English.
- Certificate of the supplementary examination in the subject English from the University Preparation Programme of an Austrian University.
- "Studienberechtigungszeugnis" from an Austrian university with a successfully completed examination in the subject English.
- Degree diploma and transcript of records/diploma supplement from a completed bachelor or master programme taught entirely in English at a recognised post-secondary educational institution.
- Transcript of records/diploma supplement from a recognised post-secondary educational institution with proof of successfully completed English language specific courses with at least 6 ECTS or 150 hours. Thereby, the language of instruction must be English and the language level must be B2. If the extent or level of the courses is not explicitly stated in the transcripts, a confirmation of the

Certificates B2

- TOEFL: 87 points or higher
- IELTS Academic: Overall Band Score: 6.5 points
- Cambridge English First Certificate (FCE): result level B2
- Cambridge Certificate in Advanced English (CAE): result level B2
- Language Competency Examination by a University Language Center: level B2

These certificates may not be older than three years at the time of application.

Any of the above mentioned certificates at a higher level than B2, can also be accepted as proof of English language proficiency at level B2 (see FAQ).

Documents:

Bachelor certificates, transcripts, ECTS

- If you have not yet graduated from your Bachelor, but will soon :
  - When applying to our programme, you need to have: 150 ECTS

    → current transcript of records.
  - Before August: completed your degree.

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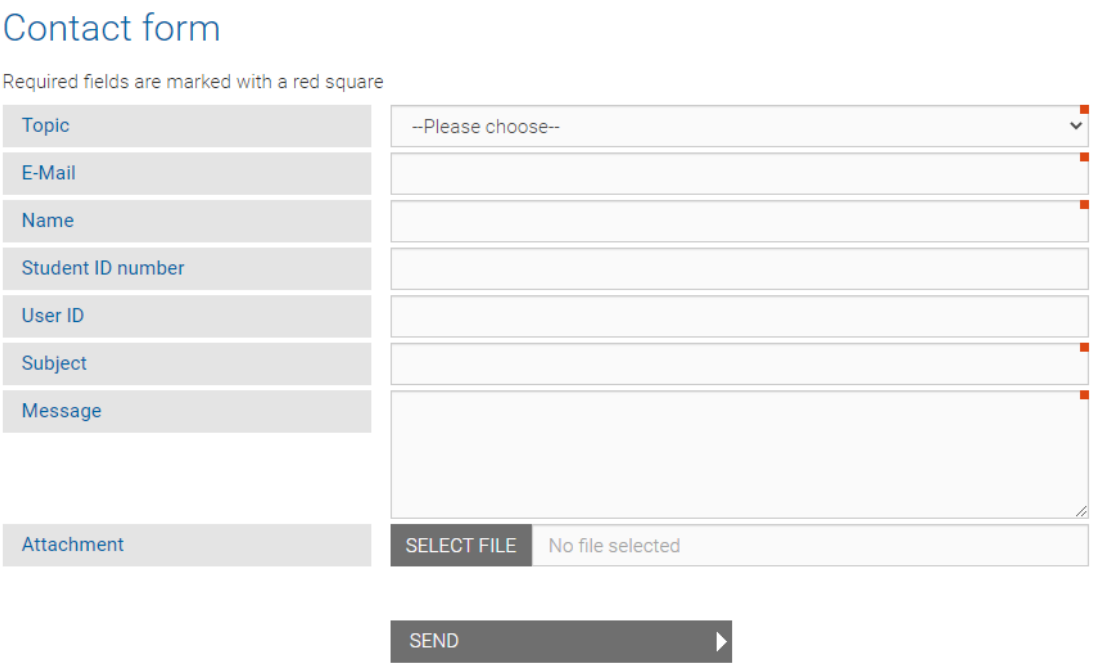
Questions Regarding the Formal Admission Criteria ¿?

If you have questions regarding this stage of the admission process, contact the Admission Office using the Contact Form.



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2.

Evaluation procedure and criteria

- The **Admission Office** checks your **formal requirements.**
- The **Admission Committee** assesses your **qualification.**
  - Univ.-Prof. Dr. Ulrich Ansorge
  - Univ.-Prof. Mag. Dr. Thomas Bugnyar
  - Univ.-Prof. Dipl.-Ing. Dr. Franz-Markus Peschl
  - Mag. Dr. Sabine Tebbich, Privatdoz

Nomination: mid June

2.

Evaluation procedure and criteria

- Candidates are chosen on the basis of their **letter of motivation** (your motivation to study cognitive science and your research question) and the **discipline of their bachelor degree**.

  →Use the *Letter of Motivation-form*!

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University of Vienna
Study Service and Teaching Affairs
Admission Office
Universitätsring 1
1010 Vienna

Letter of motivation

Middle European interdisciplinary master's programme in Cognitive Science (MEi:CogSci)

Read the information available in the study profile of the degree programme, before submitting your application for admission. Also read the important information on page 6 and 7 of this form.

Part 1: Personal information

Personal data	
Last name:	Date of birth:
First name:	

First completed degree programme	
Type (BA, MA, PhD, etc.):	
Subject area/major:	
Name and country of the university:	

Second completed degree programme	
Type (BA, MA, PhD, etc.):	
Subject area/major:	
Name and country of the university:	

Nomination: mid June

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2.

Evaluation procedure and criteria

- The didactical design of the programme benefits from an equal distribution of **representatives of different disciplines**

→ Rankings will be made for the different areas (natural science, humanities, formal science, social science, cognitive science).

- We value interdisciplinarity and we also welcome applications of students from other disciplines. It's alright if the discipline of your bachelor degree(s) does not align to one of those core disciplines (e.g. Architecture, Multimedia etc.).

Nomination: mid June

After Admission

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3, 4, 5, go!

3. Registration at the University of Vienna
   & Co-registration at MUW

4. Start: **Fri, Sep 27, 2024** afternoon & Heuriger in the evening
   - Obligatory participation in the first meeting
   - Getting to know each other, mentoring on the choice of modules

5. Introduction to Courses: **Tue, Oct 1, 2024**

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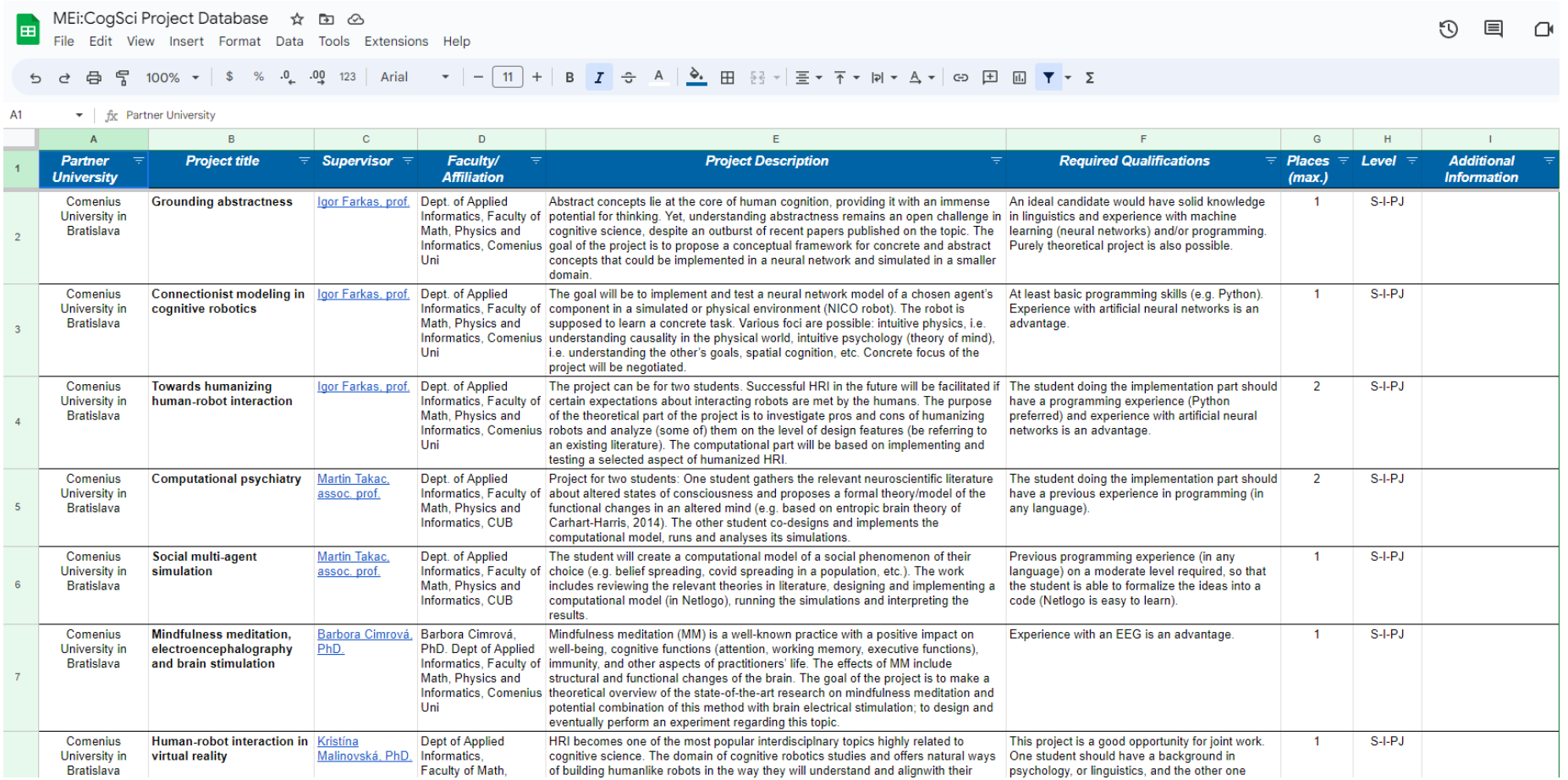
Specializations

MEi:CogSci Project Database



MEi:CogSci Project Database

File Edit View Insert Format Data Tools Extensions Help

A1 | Partner University

	A	B	C	D	E	F	G	H	I
1	Partner University	Project title	Supervisor	Faculty/ Affiliation	Project Description	Required Qualifications	Places (max.)	Level	Additional Information
2	Comenius University in Bratislava	**Grounding abstractness**	Igor Farkas, prof.	Dept. of Applied Informatics, Faculty of Math, Physics and Informatics, Comenius Uni	Abstract concepts lie at the core of human cognition, providing it with an immense potential for thinking. Yet, understanding abstractness remains an open challenge in cognitive science, despite an outburst of recent papers published on the topic. The goal of the project is to propose a conceptual framework for concrete and abstract concepts that could be implemented in a neural network and simulated in a smaller domain.	An ideal candidate would have solid knowledge in linguistics and experience with machine learning (neural networks) and/or programming. Purely theoretical project is also possible.	1	S-I-PJ	
3	Comenius University in Bratislava	**Connectionist modeling in cognitive robotics**	Igor Farkas, prof.	Dept. of Applied Informatics, Faculty of Math, Physics and Informatics, Comenius Uni	The goal will be to implement and test a neural network model of a chosen agent's component in a simulated or physical environment (NICO robot). The robot is supposed to learn a concrete task. Various foci are possible: intuitive physics, i.e. understanding causality in the physical world, intuitive psychology (theory of mind), i.e. understanding the other's goals, spatial cognition, etc. Concrete focus of the project will be negotiated.	At least basic programming skills (e.g. Python). Experience with artificial neural networks is an advantage.	1	S-I-PJ	
4	Comenius University in Bratislava	**Towards humanizing human-robot interaction**	Igor Farkas, prof.	Dept. of Applied Informatics, Faculty of Math, Physics and Informatics, Comenius Uni	The project can be for two students. Successful HRI in the future will be facilitated if certain expectations about interacting robots are met by the humans. The purpose of the theoretical part of the project is to investigate pros and cons of humanizing robots and analyze (some of) them on the level of design features (be referring to an existing literature). The computational part will be based on implementing and testing a selected aspect of humanized HRI.	The student doing the implementation part should have a programming experience (Python preferred) and experience with artificial neural networks is an advantage.	2	S-I-PJ	
5	Comenius University in Bratislava	**Computational psychiatry**	Martin Takac, assoc. prof.	Dept. of Applied Informatics, Faculty of Math, Physics and Informatics, CUB	Project for two students: One student gathers the relevant neuroscientific literature about altered states of consciousness and proposes a formal theory/model of the functional changes in an altered mind (e.g. based on entropic brain theory of Carhart-Harris, 2014). The other student co-designs and implements the computational model, runs and analyses its simulations.	The student doing the implementation part should have a previous experience in programming (in any language).	2	S-I-PJ	
6	Comenius University in Bratislava	**Social multi-agent simulation**	Martin Takac, assoc. prof.	Dept. of Applied Informatics, Faculty of Math, Physics and Informatics, CUB	The student will create a computational model of a social phenomenon of their choice (e.g. belief spreading, covid spreading in a population, etc.). The work includes reviewing the relevant theories in literature, designing and implementing a computational model (in Netlogo), running the simulations and interpreting the results.	Previous programming experience (in any language) on a moderate level required, so that the student is able to formalize the ideas into a code (Netlogo is easy to learn).	1	S-I-PJ	
7	Comenius University in Bratislava	**Mindfulness meditation, electroencephalography and brain stimulation**	Barbora Cimrová, PhD.	Barbora Cimrová, PhD. Dept of Applied Informatics, Faculty of Math, Physics and Informatics, Comenius Uni	Mindfulness meditation (MM) is a well-known practice with a positive impact on well-being, cognitive functions (attention, working memory, executive functions), immunity, and other aspects of practitioners' life. The effects of MM include structural and functional changes of the brain. The goal of the project is to make a theoretical overview of the state-of-the-art research on mindfulness meditation and potential combination of this method with brain electrical stimulation; to design and eventually perform an experiment regarding this topic.	Experience with an EEG is an advantage.	1	S-I-PJ	
	Comenius University in Bratislava	**Human-robot interaction in virtual reality**	Kristína Malinovská, PhD.	Dept of Applied Informatics, Faculty of Math,	HRI becomes one of the most popular interdisciplnary topics highly related to cognitive science. The domain of cognitive robotics studies and offers natural ways of building humanlike robots in the way they will understand and alignwith their	This project is a good opportunity for joint work. One student should have a background in psychology, or linguistics, and the other one	1	S-I-PJ	

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Next Steps

1. Application
   - Submitting all relevant documents
   - Deadline: April 8th
   - Nomination: mid June
2. Registration at the University of Vienna
3. First meeting (end of September)
   - compulsory (!)

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Contact

International MEi:CogSci website

University of Vienna MEi:CogSci website

meicogsci@univie.ac.at

University of Vienna MEi:CogSci Team:

• Elisabeth Zimmermann •

• Elisabet Delgado Mas •

• Markus Peschl •