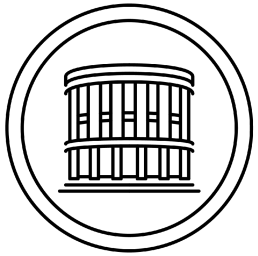
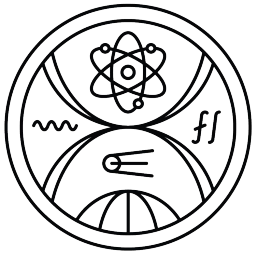


Bratislava MEi:CogSci Middle European interdisciplinary master's programme in Cognitive Science



Courses and research in cognitive science in Bratislava

Centre for Cognitive Science

Faculty of Mathematics, Physics and Informatics
Comenius University Bratislava

presentation to MEi:CogSci students
Bratislava, December 6, 2024

VINOHRADY
STRÁŽE
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572
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HOLÝ VRCH
KALVÁRIA
572
502
Horský Park
ZOO Bratislava
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Legionárska
Budková
Slavín
Faculty of Informatics
Fakulta matematiky, fyziky a informatiky
Catholic Church
Blumentálsky Kostol
Križna
Štefánikova
SLAVÍN
Botanická
Botanical Garden
Bratislavská Botanická Záhrada
BÔRIK
Bratislava
Karadžičova
Mudroňova
Michalská Brána
Catholic Church
Modrý Kostol sv. Alžbety
Bratislava-Mlynská dolina
Bratislavský hrad
Dóm sv. Martina
E65
PODHRADIE
Danube
Most SNP

A few facts from CogSci history in Bratislava

- Late 1990s – one-day seminars (prof. Kvasnička)
- 1st Slovak monography on cognitive science: Beňušková Ľ. et al.: *Quest for a Common Language in Cognitive Sciences* (in Slovak), Kalligram, 2000.
- 1st Slovak textbook - Rybár J., Beňušková Ľ., Kvasnička V. (eds.): *Kognitívne vedy* (Cognitive Sciences), Kalligram Bratislava 2002.
- Rybár J., Kvasnička V., Farkaš I. (eds.): *Jazyk a kognícia* (Language and Cognition), Kalligram Bratislava 2005.
- Kvasnička V., Trebatický P., Pospichal J., Kelemen J. (eds). *Myseľ, inteligencia a život* (Mind, intelligence and life). STU in Bratislava, 2007.
- Kvasnička V., Kelemen J., Pospichal J. (eds). *Modely mysle* (Models of the mind). Európa Bratislava, 2008

- Annual Czech-Slovak conference *Cognition and Artificial Life* (since 2001)
- CogSci programme at Comenius University – since 2007, in English since 2016
- Slovak cogsci history also on wiki (kognitívna veda)

Centre for Cognitive Science

People at the faculty (FMPI)

- Farkaš Igor – cogsci, AI, robotics
- Takáč Martin – cogsci and AI
- Malinovská Kristína – NNs & cog. robotics
- Gál Tomáš – ethics, AI, ...
- Lucká Mária – math for cogsci
- Zlatoš Pavol – logic for cogsci

Other faculties of Comenius University

- Bakoš Ján, Dr., Faculty of Medicine, hormones, cognition & autism
- Višňovský Emil, prof., Faculty of Philosophy, philosophy of action, of AI
- Cséfalvay Zsolt, prof., Faculty of Education, communication disorders

Slovak Academy of Sciences (SAS), Bratislava

- Rosipal Roman – Inst. of Measurement Science
- Marko Martin, Riečanský Igor, – Inst. of Normal and Pathological Physiology
- Čavojová Vladimíra, Šrol Jakub – Inst. of Exper. Psychology
- Poslon Xenia, Urban Kamila, – Inst. for Research in Social Communication

Other universities

- Sýkora Peter, prof., UCM Trnava, bioethics
- Tomašková Silvia, prof., Nitra, philosophy of mind, consciousness
- Špajdel Marián, doc., Trnava, cog. neurosci.

cogsci.fmph.uniba.sk

Home People Contact

Centre for Cognitive Science

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

Master programme

Apply for the programme
Students of CogSci at Comenius University
Incoming **Mobility** Students
MEi:CogSci Bratislava **Homepage**

Research

People of Centre for Cognitive Science
CNC Research Group
Cognitive Science **Seminar**
Technical Reports in Cognitive Science

Community

SSKV: Slovak Society for Cognitive Science
MEi:CogSci Bratislava on **Facebook**
Students and alumni group on **Facebook**
Cognitive Science **Blog**
MEi:CogSci **Alumni**

Igor

Martin

Kristína

The base of MEi:CogSci programme

DEPARTMENT OF APPLIED INFORMATICS

Search

INTRODUCTION | NEWS | PEOPLE | EDUCATION | RESEARCH | FOR APPLICANTS | CONTACT

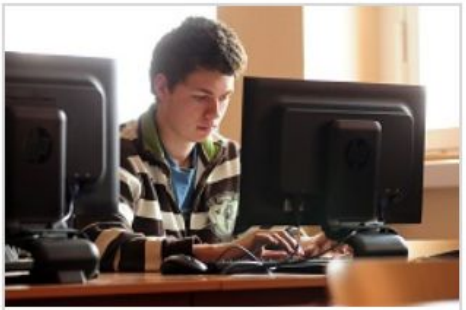
EUROPEAN RESEARCHERS' NIGHT 2024

OCT 9, 2024

STAFF EXCHANGE BETWEEN UHAM & UKBA

SEP 23, 2024

More news >



EDUCATION

Bachelor program in Applied Informatics

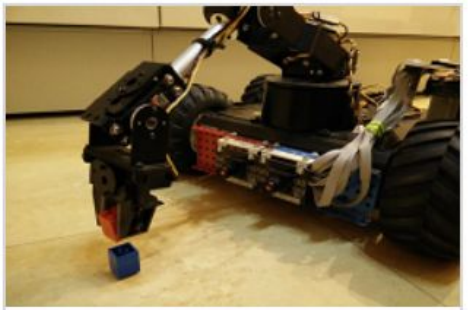
Master program in Applied Informatics

Master program in Cognitive Science

Academic support center

Inclusivity and support

Theses



RESEARCH

Computer Graphics and Vision

Artificial Intelligence and Computational Modelling

Theory of Programming

Projects

Conferences and Events

Seminars

Doctoral Colloquia

Department of Ap…

Sledovať stránku

Department of Applied Informatics - Comenius University in Bratislava

v pondelok

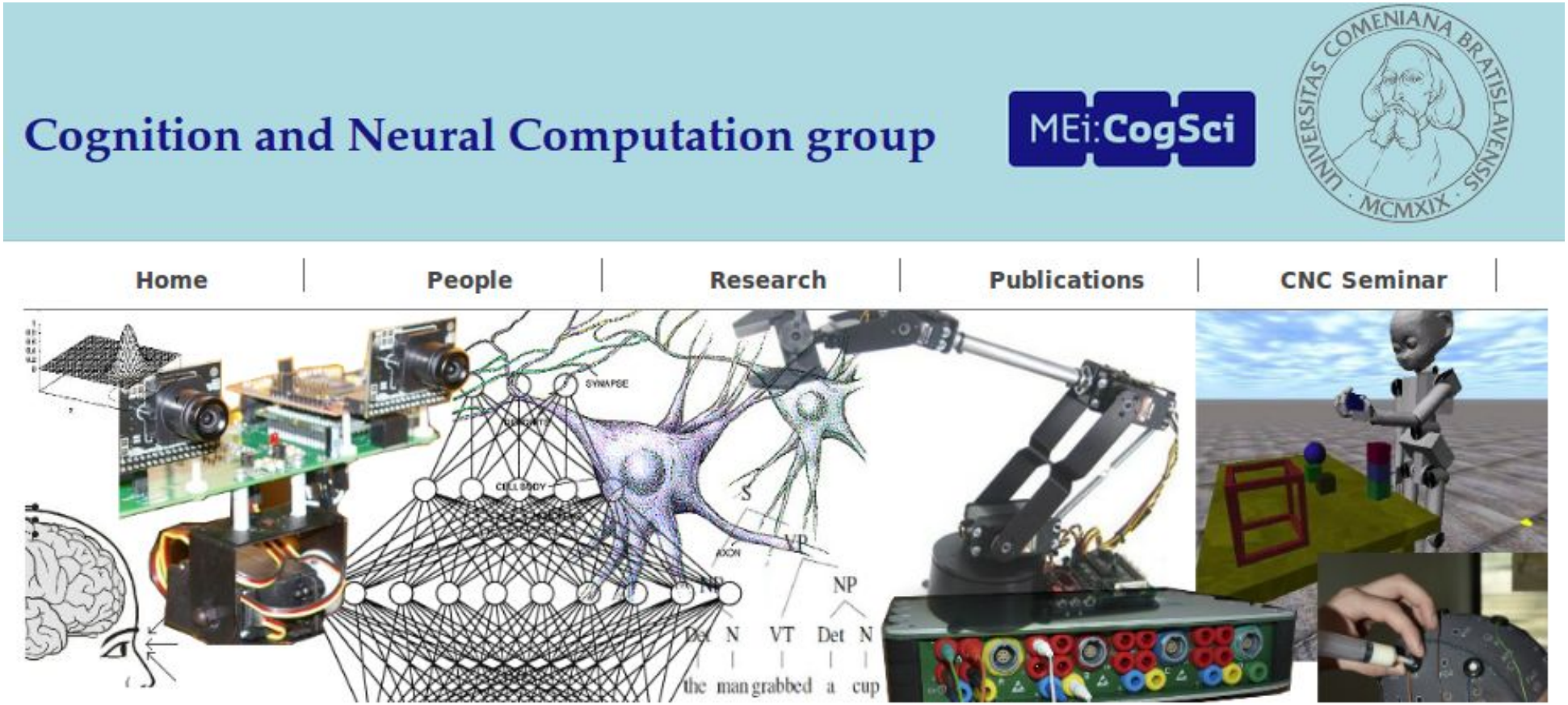
Our department, represented by TERAIS project team participated at International Conference on Artificial Neural Networks (ICANN) in Lugano!

ICANN 2024 provided a great platform for our researchers to

Courses in Bratislava

- New Trends in Cognitive Science (obligatory)
  - Cognitive Semantics ... (M. Takáč)
  - Deep Learning and Cognition (I. Farkaš)
- Elective courses
  - Mathematics for Cognitive Science (M. Lucká)
  - Introduction to Programming (in Python) (K. Malinovská)
  - Introduction to Robotics (P. Petrovič)
  - Philosophy of AI (E. Višňovský)
  - ...
- See the programme curriculum
- Catalogue of Erasmus courses at the faculty

Our research in AI and CogSci

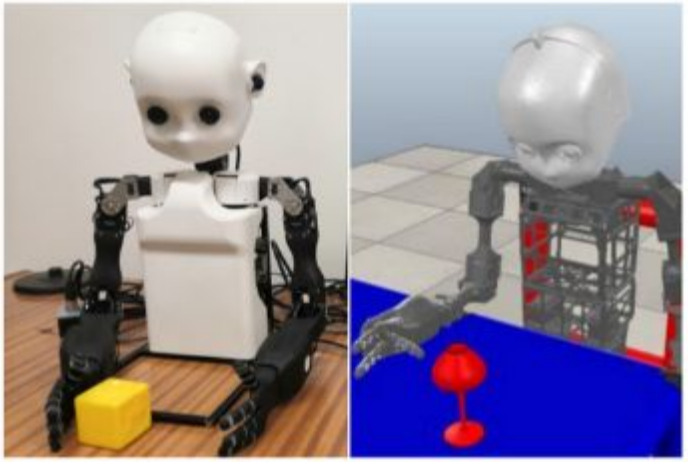


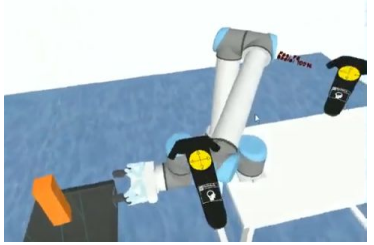
Research:

- computational modeling – of cognitive modeling (with neural networks), cognitive robotics, deep networks, computational analysis of neural network models
- experimental research – human-robot interaction, virtual reality

Computational modeling (incl. cog. robotics)

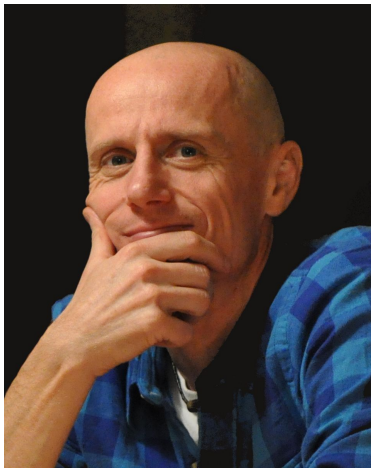
- Machine learning based on artificial neural networks – for vision, motor learning, memory, language, ...
- robotic simulators: iCub, MyGym, Unity VR, Open AI gym and robots: Jupiter & NICO,
- Human-Robot Interaction (TERAIS.eu)





Computational and cognitive neuroscience

Slovak Academy of Sciences
Institute of Measurement Science
Roman Rosipal, DrSc



- applied machine learning
- EEG/ERP → BCI
- sleep, neural correlates of working memory, vigilance, drowsiness and fatigue monitoring
- Neurorehabilitation in VR (EU project)

Behavioral & cognitive neuroscience

Slovak Academy of Sciences, Bratislava
Institute of Normal and Pathological Physiology

MUDr. Igor Riečanský, PhD.

- brain mechanisms of mental processes
- cognitive neuroscience, psychology, psychiatry

Mgr. Martin Marko, PhD.

- memory and semantic networks, control
- transcranial direct/alternating current stimulation (tDCS, tACS)

Developmental neuroscience

Slovak Academy of Sciences, Bratislava
Department of Neuroscience
Biomedical Research Center
&
Institute of Physiology, Faculty of Medicine
Comenius University in Bratislava

Doc. RNDr. Ján Bakoš, PhD.

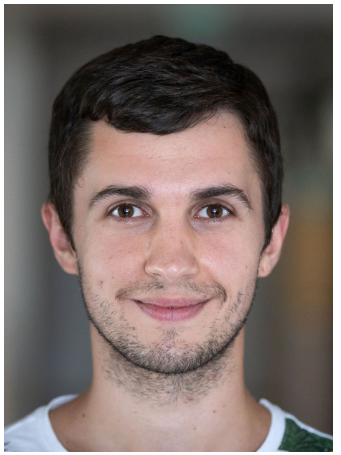
- study of dopaminergic neurons for neuromotor development and social interactions
- role of exc/inh. neurons in the brain areas relevant for development of social behaviour

Experimental psychology

Slovak Academy of Sciences, Bratislava
Institute of Experimental Psychology

Dr. Vladimíra Kurincová Čavojová
Dr. Jakub Šrol

- scientific reasoning, intuitive reasoning
- cognitive biases
- epistemically suspect beliefs
- climate change beliefs



Social psychology and cognition

Slovak Academy of Sciences, Bratislava
Institute for Research in Social Communications

Kamila Urban, PhD

- developmental psychology, metacognition, creativity, self-regulated learning

Xenia D. Poslon, PhD

- social psychology, inter-group relations, stereotypes and prejudice
- social cognition, political psychology

Philosophy (of anything :-)

Comenius University Bratislava

Faculty of Arts

Prof. Emil Višňovský

- humanism, technology, modern society
- philosophy of action, of AI, of virtual reality

Philosophy of mind

Constantine the Philosopher University, Nitra
Department of Philosophy

Prof. Silvia Tomašková

- philosophy of mind, mind/body problem
- problem of consciousness, the self
- metaphorical language of the "inner self"
- mind in cognitive science

Tonight's destination – Hlavné námestie

- Thank you for your attention!

Useful links

- Program director: Igor Farkaš, http://cogsci.fmph.uniba.sk/~farkas/
- Program coordinator for incoming students: Martin Takáč, http://cogsci.fmph.uniba.sk/~takac/
- Information for incoming students:
- http://cogsci.fmph.uniba.sk/meicogsciba/?action=mobilitystudents
- Erasmus contact person at Faculty: patrik.kmetek@fmph.uniba.sk
- CogSci programme curriculum in Bratislava
- Catalogue of Erasmus courses provided by the Faculty