

# MELINDA RÁCZ



## PERSONAL INFORMATION

**Date and place of birth:** 7 May 1991, Kerepestarcsa (Hungary)

**Preferred title and pronoun:** Mx, they (gender neutral)

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**Publons:** <https://publons.com/researcher/3768732>

**Scopus:** <http://www.scopus.com/authid/detail.url?authorId=57214259104>

**ResearchGate:** <http://www.researchgate.net/profile/Melinda-Racz>

**Google Scholar:** <https://scholar.google.com/citations?pagesize=100&user=vhFDQrAAAAAJ>

**MTMT:** <https://m2.mtmt.hu/gui2/?type=authors&mode=browse&sel=10077509>

## EDUCATION

### Tertiary education

**PhD degree** in neuroscience, Szentágotthai János Doctoral School of Neurosciences, Semmelweis University (2020–)

**Program:** Functional Neurosciences

**Title of research project:** Research and Design of Electrophysiological Data Acquisition Tools for Brain-Computer Interfaces. Supervisor: Dr Gergely Márton

**MSc degree** in electrical engineering, Faculty of Electrical Engineering and Informatics, Budapest University of Technology and Economics (2017–2020)

**Diploma:** excellent with highest honours (4.72)

**Thesis title:** Development of Brain-Computer Interfaces Using Deep Learning Methods

**Supervisors:** Dr Gergely Márton, Dr István Harmati

**BSc degree** in electrical engineering, Faculty of Electrical Engineering and Informatics, Budapest University of Technology and Economics (2011–2016)

**Diploma:** good (4.13)

**Thesis title:** Development of an Intelligent Process Model for Laboratory Practice

**Supervisor:** Dr György Pilászy

**Secondary education:** Waldorf Primary and Secondary School and Art Institution, Gödöllő (1998–2011)

### Auxiliary trainings/courses

**Good Clinical Practice of Clinical Trials** (2021)

**Experimental animals—animal experiments “B” level course** (2020)

## PROFESSIONAL EXPERIENCE

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Assistant research fellow, Research Centre for Natural Sciences (2021–)  
Scientific administrator, Research Centre for Natural Sciences (2020–2021)  
R&D fellow, Pázmány Péter Catholic University (2018–2020)  
Software/hardware developer, D.E.Á.K. Irányítástechnikai Kft. (2016–2017)

## TEACHING EXPERIENCE

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Teaching Assistant (Control Engineering), BUTE-FEEI (2016)

## LANGUAGE SKILLS

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**Hungarian:** native speaker

**English:** working proficiency, B2 complex language exam (2011)

## MISCELLANEOUS SKILLS

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Programming in C, C++, C#, MATLAB, Python  
Document editing in LaTeX or using Microsoft Word  
Other software skills: Excel, PowerPoint, Gimp, Inkscape  
Digital design using Fusion 360, DipTrace or Protel/Altium  
3D design using Autodesk Inventor  
Manual soldering

## PUBLICATIONS

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Dávid Horváth, János Négyesi, Melinda Rácz, Tamás Győri, Zsolt Matics, Artyom Puskin, János Csipor, Levente Rácz. **Feasibility of a novel neurofeedback system: a parallel randomized single-blinded pilot study.** Scientific Reports, 13 17353 (2023). DOI: <https://doi.org/10.1038/s41598-023-44545-1>

Melinda Rácz, Erick Noboa, Borsa Détár, Ádám Nemes, Péter Galambos, László Szűcs, Gergely Márton, György Eigner, Tamás Haidegger. **PlatypOUs—A Mobile Robot Platform and Demonstration Tool Supporting STEM Education.** Sensors 2022, 22, 2284. DOI: <https://doi.org/10.3390/s22062284>

Erick Noboa, Melinda Rácz, László Szűcs, Péter Galambos, Gergely Márton, György Eigner. **Development of an EMG based SVM supported control solution for the PlatypOUs education mobile robot using MindRove headset.** IFAC-PapersOnLine, 54-15 (2021) pp. 304–309. DOI: <https://doi.org/10.1016/j.ifacol.2021.10.273>

János Rokai, Melinda Rácz, Richárd Fiáth, István Ulbert, Gergely Márton. **ELVISort: encoding latent variables for instant sorting, an artificial intelligence-based end-to-end solution.** 2021. Journal of Neural Engineering, 18 (2021) 046033. DOI: <https://doi.org/10.1088/1741-2552/abf521>

Viola Ildikó Matusz, Melinda Rácz, János Rokai, Nikomidisz Eftimiu Jorgosz, Tímea Molnár, Dorina Maráki, István Ulbert, Gergely Márton. **Head-mounted, wireless eyetracker for real-time gaze**

**prediction utilizing machine-learning.** 2020. 2020 IEEE International Conference on Human-Machine Systems (ICHMS), pp. 1-4. <https://doi.org/10.1109/ICHMS49158.2020.9209326>

Melinda RÁCZ, Csaba Liber, Erik Németh, Richárd Fiáth, János Rokai, István Harmati, István Ulbert, Gergely Márton. **Spike Detection and Sorting with Deep Learning.** 2020. Journal of Neural Engineering, 17 (2020) 016038. DOI: <https://doi.org/10.1088/1741-2552/ab4896>