

Maria Zimmermann
University of Warsaw

APPOINTMENTS

December 2024 – present Assistant Professor | Institute of Cognitive Psychology and Cognitive Neuroscience, Department of Psychology, University of Warsaw.

February 2024 – April 2025 Postdoctoral Researcher | Johns Hopkins University
Neuroplasticity and Development lab supervisor: Prof. Marina Bedny.

EDUCATION

2023 PhD in Psychology (Social and Cognitive Neuroscience) | Jagiellonian University, Supervisor: Prof. Marcin Szwed

PUBLICATIONS

1. **Zimmermann, M.**, Tomaszewski, P., Marchewka, A., Szwed, M., & Bedny, M. (2026). Sign language narrative reveals universal and modality-specific features of cortical timescale hierarchy. *Nature Communications*. <https://doi.org/10.1038/s41467-026-73895-3>
2. **Zimmermann, M.**, Cusack, R., Bedny, M., & Szwed, M. (2024). Auditory areas are recruited for naturalistic visual meaning in early deaf people. *Nature Communications*, 15(1), 8035. <https://doi.org/10.1038/s41467-024-52383-6>
3. Korczyk, M.*, **Zimmermann, M.***, Bola, Ł., & Szwed, M. (2022). Superior visual rhythm discrimination in expert musicians is most likely not related to crossmodal recruitment of the auditory cortex. *Frontiers in Psychology*, 13. *first author
4. **Zimmermann, M.**, Mostowski, P., Rutkowski, P., Tomaszewski, P., Krzysztofiak, P., Jednoróg, K., Marchewka, A., & Szwed, M. (2021). The Extent of Task Specificity for Visual and Tactile Sequences in the Auditory Cortex of the Deaf and Hard of Hearing. *The Journal of Neuroscience*, 41(47), 9720–9731. <https://doi.org/10.1523/JNEUROSCI.2527-20.2021>
5. Bola, Ł.*, **Zimmermann, M.***, Mostowski, P., Jednoróg, K., Marchewka, A., Rutkowski, P., & Szwed, M. (2017). Task-specific reorganization of the auditory cortex in deaf humans. *Proceedings of the National Academy of Sciences*, 114(4). *first author <https://doi.org/10.1073/pnas.1609000114>
6. Bonna, K., Finc, K., Zimmermann, M., Bola, L., Mostowski, P., Szul, M. Szwed, M. (2021). Early deafness leads to reshaping of functional connectivity beyond the auditory cortex. *Brain Imaging and Behavior*, 15(3), 14691482.
7. Szwed, M., Bola, Ł., & **Zimmermann, M.** (2017). Whether the hearing brain hears it or the deaf brain sees it, it's just the same. *Proceedings of the National Academy of Sciences*, 114(31), 81358137.
8. Bola, Ł., Siuda Krzywicka, K., Paplińska, M., Sumera, E., **Zimmermann, M.**, Jednoróg, K., Szwed, M. (2017). Structural reorganization of the early visual cortex following Braille training in sighted adults. *Scientific reports*, 7(1), 11.

RECENT CONFERENCE PRESENTATIONS

1. Zimmermann, M. (2025). The interaction of innate constraints and experience at the language/vision interface Visual Science Society, VSS, Florida, US.
2. Zimmermann, M., Huczyńska, J., Kozub, M., Tomaszewski, P., Kocab, A., Bedny, M. (2025) Neural encoding of verbs in sign language narrative, Leipzig, Germany, talk.
3. Zimmermann, M., Tomaszewski, M., Bedny, M (2025) Individual Differences in Language Lateralization among Deaf Signers, Society of Neurobiology of Language, Washington DC, US, poster.
4. Zimmermann, M., Isik, L, M, Bedny, M (2025) Voxel-wise Encoding of Visual and Social Meaning During Silent Movie Viewing in Deaf and Hearing Participants, Computational Cognitive Neuroscience Conference (CNN), Amsterdam, Netherlands, poster.
5. Zimmermann, M., Tomaszewski, P, Szwed, M, Bedny, M, (2024), Cortical time scale hierarchy during sign

- language narrative comprehension, Society of Neurobiology of Language, , Brisbane, Australia, poster.
6. Zimmermann, M. (2023). Auditory cortex response to complex visual stimuli in early deaf individuals, IMRF Multimodal Research Forum, Brussels, Belgium.
 7. Zimmermann, M., Cusack R, Bedny, M, Szwed, M. (2023). Silent movies synchronize secondary auditory cortices in deaf individuals, European workshop on Cognitive Neuropsychology., Bressanone, Italy, talk.
 8. Zimmermann, M., Cusack R, Bedny, M, Szwed, M. (2022)., Silent movies synchronize secondary auditory cortices more in deaf than hearing individuals, Neuronus IBRO Neuroscience Forum, Kraków, Poland, (Best poster award).
 9. Zimmermann, M. Tomaszewski, P., Krzysztofiak, P. Jacoby, N. (2022) Rhythm categories without auditory experience? Perceptual priors revealed by haptic rhythm Reproduction in the congenitally deaf subjects, Cultural Evolution Society, Aarhus, Denmark, poster.
 10. Zimmermann, M., Cusack R, Bedny, M, Szwed M, (2022). Silent movies synchronize secondary auditory cortices more in deaf than hearing individuals, Cognitive Neuroscience Society Conference, , San Francisco, USA, poster.
 11. Zimmermann, M., M. Tomaszewski, P., Krzysztofiak, P. Jacoby, N.(2019). Perceptual Priors Revealed by Haptic Rhythm Reproduction in Congenitally Deaf Subjects, Second Timing Research Forum, Queretaro, Mexico, talk (travel award).
 12. Zimmermann, M., Szwed, M. (2019). Plasticity in auditory cortex of the deaf or pluripotential acquisition of a new attentional area? ESCOP, Tenerife, Spain, talk.

GRANTS AND FUNDING

National Science Center Poland Sonatina Grant (\$240 000) Project: Study of the Effects of Sensory and Language Experiences on the Organization of the Brain in Deaf People.

Jagiellonian University IDUJ grant (\$12 000) Project: Studying the role of gesture in sign language.

DAAD fellowship German Academic Exchange (DAAD) (\$10 000), Max Planck Institute for Empirical Aesthetics, Frankfurt, Germany, Project: Rhythm categories without auditory experience? Perceptual priors revealed by haptic rhythm Reproduction in the congenitally deaf subjects.

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