

### Contact info

+48 606 265 864

krzysztof.basinski@pm.me

<http://kbas.gumed.edu.pl/>

### Current position

I am a principal investigator at the Auditory Neuroscience Laboratory and an assistant professor in the Department of Psychology, Medical University of Gdańsk, Poland. I do research in auditory cognitive neuroscience. In my work I try to figure out how the brain makes people hear sounds.



### Previous positions

Visiting researcher, Center for Music in the Brain, Aarhus University, Denmark (06-07/2021 & 05-08/2022)

### Education

#### Degrees

- PhD in Health Sciences (2019), Medical University of Gdańsk
- Bachelor Degree in Computer Science, University of Gdańsk (2009-2012)
- Masters Degree in Psychology, University of Gdańsk (2006-2011)
- Bachelor of Arts, Jazz Guitar, Gdańsk Academy of Music (2012-2015)

#### Courses

- Neuromatch Academy, Computational Neuroscience (2024)
- Aarhus Summer School in Music Neuroscience (2021)

### Skills & experience

- Biological signals analysis (over 4 years of professional experience in EEG/MEG analysis in MNE,
- Data science and predictive modelling (linear & mixed models, ANOVA, logistic regression, machine learning techniques)
- Programming in Python (Jupyter ecosystem, Pandas, Matplotlib, NumPy/SciPy)
- Programming in R (statistics, data wrangling and visualization)
- Audio manipulation (modular synthesis, musical eq/compression/effects, digital audio workstations)
- Basic JavaScript, SQL, Java, C, Git, Bash/Zsh scripting, SSH, remote cluster work

### Projects with external funding / grants / scholarships

- Harmonicity in auditory perception (2022-2026), National Science Centre (Poland)
- The role of music preferences in music-induced analgesia (2016-2019), National Science Centre (Poland) <http://ncn.gov.pl/>
- The role of harmonicity in early auditory processing (2022) Scholarship, Bekker programme, National Center for Academic Exchange (Poland) <http://nawa.gov.pl>

## Main publications

**Basiński, K.**, Celma-Mirallès, A., Quiroga-Martínez, D. R., & Vuust, P. (2025). Inharmonicity enhances brain signals of attentional capture and auditory stream segregation (p. 2025.04.17.649377). bioRxiv. <https://doi.org/10.1101/2025.04.17.649377> (provisionally accepted, Communications Biology)

Aizenbud, I., Audette, N., Auksztulewicz, R., **Basiński, K.**, Bastos, A. M., Berry, M., Canales-Johnson, A., Choi, H., Clopath, C., Cohen, U., Costa, R. P., Filippo, R. D., Doronin, R., Errington, S. P., Gavornik, J. P., Gillon, C. J., Granier, A., Hamm, J. P., Hertäg, L., ... Xiong, Y. S. (2025). Neural mechanisms of predictive processing: A collaborative community experiment through the OpenScope program (No. arXiv:2504.09614). arXiv. <https://doi.org/10.48550/arXiv.2504.09614>

**Basiński, K.**, Quiroga-Martínez, D. R., & Vuust, P. (2023). Temporal hierarchies in the predictive processing of melody - from pure tones to songs. *Neuroscience and Biobehavioral Reviews*, 145, 105007.

Quiroga-Martínez, D. R., **Basiński, K.**, Nasielski, J., Tillmann, B., Brattico, E., Cholvy, F., ... & Caclin, A. (2022). Enhanced mismatch negativity in harmonic compared with inharmonic sounds. *European Journal of Neuroscience*, 56(5), 4583-4599. [[pdf](#)]

**Basiński, K.**, Zdun-Ryżewska, A., Greenberg, D. M., & Majkowicz, M. (2021). Preferred musical attribute dimensions underlie individual differences in music-induced analgesia. *Scientific Reports*, 11(1), 1-8. [[pdf](#)]

**Basiński, K.**, Zdun-Ryżewska, A., & Majkowicz, M. (2021). Psychosocial predictors of persistent low back pain in patients presenting to the emergency department. *The American Journal of Emergency Medicine*. [[pdf](#)]

**Basinski, K.**, Zdun-Ryżewska, A., & Majkowicz, M. (2018). The role of musical attributes in music-induced analgesia: A preliminary brief report. *Frontiers in Psychology*, 9(SEP), 1-5. [[pdf](#)]

Full publication list can be found [here](#).

## Teaching experience

Research methods in psychology (2016-), Emotion and motivation (2019-), Social psychology (2016-2019), Introduction to psychology, Cognitive science of audition (2019-), Scientific programming in Python (2019-)

## Languages

Polish, English (fluent)

German (communicative)