



## Karen Banai, Ph.D. – Curriculum Vitae

Department of Communication Sciences and Disorders

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🏠 [The Auditory Cognition Lab](#)

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### Research

Auditory perception, cognition and learning across the life span. Research in my lab focuses on the following questions:

1. What is the role of different types of experience (e.g., training, acquiring a hearing loss, bilingualism) in shaping auditory cognition?
2. How do cognition, language and auditory processes interact across the lifespan?
3. How do the interactions between learning, cognition and auditory processes change with hearing loss and hearing rehabilitation?
4. What is the role of auditory learning in speech perception and language learning? Can it be used to support speech and hearing rehabilitation?

### Education

- 2004 Ph.D. Brain Sciences, Hebrew University of Jerusalem, Israel.**  
Dissertation: “The relations between perception and high-level cognitive functions.” Advisor Dr. Merav Ahissar
- 2000 M.Sc. Computation and Information Processing in the Brain, Hebrew University of Jerusalem, Israel.** (Awarded as partial fulfillment of the Ph.D. requirements)
- 1997 B.A. Behavioral Sciences, Ben-Gurion University, Beer-Sheva, Israel.**  
*Magna cum laude*

### Academic positions/employment (post-doctoral)

- 2017 - Associate Professor, Department of Communication Sciences and Disorders, University of Haifa

- 2012 - 2017 Senior lecturer, Department of Communication Sciences and Disorders, University of Haifa
- 2015 – 2016 Visiting Scientist, Rotman Research Institute, Baycrest Health Sciences, Toronto
- 2008 – 2012 Lecturer, Department of Communication Sciences and Disorders, University of Haifa
- 2004 – 2008 Postdoctoral fellow, Department of Communication Sciences and Disorders, Northwestern University, Evanston IL (mentors: Nina Kraus and Beverly Wright)

## Teaching

- Graduate students' seminar (graduate)
- Research methods in communication sciences and disorders (graduate)
- Auditory cognition (graduate)
- Perceptual learning (graduate, seminar)
- Research seminar – speech perception and learning (undergraduate)
- Speech perception: From sensation to cognition (undergraduate)

## Funding, awards and honors

- 2018-2022** **Israel Science Foundation.** *Age, hearing and rapid learning in the recognition of perceptually difficult speech.*
- 2014-2016** **National Institute of Psychobiology in Israel.** *Listener, stimulus and procedural factors in the perceptual learning of time compressed speech and its generalization.*
- 2013-2017** **Israel Science Foundation.** *Anchoring, language and literacy in the preschool years.*
- 2011-2013** **National Institute of Psychobiology in Israel.** *The effects of stimulus uncertainty on auditory perceptual learning.*
- 2010** **GIF YSP.** *Changing auditory skills from childhood to adulthood.* Grant number:

## Other professional activities

**Ad-hoc reviewer** for more than 20 journals including: Attention, Perception & Psychophysics; Brain and Language; Cerebral Cortex; Cognition; Cortex; Developmental Sciences; Ear and Hearing; Hearing Research; International Journal of Audiology; International Journal of Pediatric Otorhinolaryngology; Journal of Communication Disorders; Journal of Experimental Psychology: Applied; Journal of Experimental Psychology: HPP; Journal of Speech, Language and Hearing research (JSLHR); Journal of the Acoustical Society of America (JASA); Journal of the Association of Research in Otolaryngology (JARO); Journal of Neuroscience; Neuroimage; Neuropsychologia; PLoS One

**Reviewer for funding agencies:** German-Israel Science Foundation; Israel Science Foundation; Swiss National Science Foundation; United States – Israel Binational Science Foundation (BSF)

**Professional memberships:** Association for Research in Otolaryngology, Auditory Perception & Cognition Society, Israel Society for Auditory Research, Psychonomic Society (Fellow).

**Associate Editor:** International Journal of Audiology; Auditory Perception & Cognition

## Selected Publications

A full list is available on [Google Scholar](#)

Shechter Shvartzman L., Lavie L., & **Banai K.** (2022). [Speech Perception in Older Adults: An Interplay of Hearing, Cognition, and Learning?](#) *Frontiers in psychology*, 13, 816864.

Lavie L., Shechter Shvartzman L., & **Banai K.** (2021). [Plastic changes in speech perception in older adults with hearing impairment following hearing aid use: a systematic review.](#) *International journal of audiology*, 1–9.

**Banai K.** & Lavie L. (2021). [Rapid perceptual learning and individual differences in speech perception: The good, the bad and the sad.](#) *Auditory Perception & Cognition*, 3:201-211.

Tarabeh-Ghanayin, M., Lavner Y. & Banai K. (2020). [Tasks, talkers and the perceptual learning of time-compressed speech.](#) *Auditory Perception & Cognition*, 3:33-54.

Rotman T., Lavie, L. & **Banai K.** (2020). [Rapid perceptual learning: A potential source of individual differences in speech perception under adverse conditions?](#) *Trends in Hearing*, 24: 2331216520930541.

**Banai K.**, Nir B., Moav-Sceff R., Bar-Ziv N. (2020). [A role for incidental auditory learning in auditory-visual word learning among kindergarten children.](#) *Journal of Vision*, 20(3),4.

**Banai K.** & Lavner Y. (2019). [The effects of stimulus repetition and training schedule on the perceptual learning of time-compressed speech and its transfer.](#) *Attention, Perception & Psychophysics*, 81(8):2944-2955.

Manheim M., Lavie L. & **Banai K.** (2018). [Age, hearing and the perceptual learning of rapid speech.](#) *Trends in Hearing*, 22:1-18.

Alain C., Du Y., Bernstein L.J., Barten T. & **Banai K.** (2018). [Listening under difficult conditions: An activation likelihood estimation meta-analysis.](#) *Human Brain Mapping*.

**Banai K.** & Ahissar M. (2018). [Poor sensitivity to sound statistics impairs the acquisition of speech categories in dyslexia.](#) *Language, Cognition and Neuroscience*.

Green C.S., **Banai K.**, Lu Z.L. & Bavelier D. (2018). Perceptual Learning. *Steven's Handbook of Experimental Psychology and Cognitive Neuroscience*, 4<sup>th</sup> edition. Wiley

Karawani H., Bitan T., Attias J. & **Banai K.** (2016). [Auditory perceptual learning in adults with and without age-related hearing loss.](#) *Frontiers in Psychology* 6:2066.

**Banai K.** & Yifat R. (2016). [Perceptual context and individual difference in the language proficiency of preschool children](#). *Journal of Experimental Child Psychology*, 142:118-136.

Moav-Scheff R., Yifat R., & Banai K. (2015). [Phonological memory and word learning deficits in children with specific language impairment: A role for perceptual context?](#) *Research in developmental disabilities*, 45-46, 384–399.

Banai K., & Lavner Y. (2012). [Perceptual learning of time-compressed speech: more than rapid adaptation](#). *PloS One*, 7(10), e47099.

Song J. H., Skoe E., Banai K., & Kraus N. (2012). [Training to improve hearing speech in noise: biological mechanisms](#). *Cerebral cortex*, 22(5), 1180–1190.

Banai K., & Yifat R. (2011). [Perceptual anchoring in preschool children: not adultlike, but there](#). *PloS One*, 6(5), e19769.