May 2026

TAMAR REGEV – CV

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2025 – cont. – Massachusetts Institute of Technology
Research scientist. Advisor: Prof. Evelina Fedorenko

2020 – 2024 – Massachusetts Institute of Technology
Postdoctoral Associate. Advisor: Prof. Evelina Fedorenko

2011 – 2020 – The Hebrew University of Jerusalem.
PhD computational neuroscience. Advisors: Prof. Leon Y. Deouell, Prof. Israel (Eli) Nelken**.**
Preattentive representations of auditory frequency and their EEG correlates.

2009 – 2011 – Universitat Pompeu Fabra, Barcelona.
M.Sc. Cognitive Systems. Advisor: Prof. Sergi Jorda. *Sonic feedback to movement as learned auditory-proprioceptive sensory integration.*

2005 – 2008 – Tel-Aviv University, Tel-Aviv.
B.Sc. Physics and Biology. SUMMA CUM LAUDE.

HONORS AND AWARDS

2024	Selected for the CSHL Genetics & Neurobiology of Language Course
2023	Nominated for Outstanding Paper Award, EMNLP For "Quantifying the redundancy between prosody and text".
2022 – 2024	Fellow of the Poitras Center for Psychiatric Disorder Research.
2023	Best abstract award - Psychology and Neuroscience Symposium for Israeli Postdocs.
2020 – 2022	Zuckerman-CHE Israeli Women Postdoctoral Program.
2016 – 2019	The Hoffman Leadership and Responsibility Fellowship Program, HUJI.
2016	Israel Ministry of Science and Technology travel grant for ICMPC conference.
2016	SEMPRE travel award for ICMPC conference.
2014	Best poster**,** annual conference of psychology department, HUJI.
2012	ELSC grant for student travel abroad for ESCOM-ICMPC conference.
2009	UPF grant for non-EU citizens.
2007	Dean's certificate in recognition of outstanding academic achievements. School of physics and faculty of life sciences, Tel-Aviv University.

PUBLICATIONS

In preparation –

Regev, T.I., Hwang, M., Kim H.S., Fedorenko, E. & Shinn A. K. Auditory hallucinations in psychosis are associated with increased processing of degraded linguistic stimuli in the language brain network.

Preprints –

Regev, T. I., Kim, H. S., Jhingan, N., Swords, S., Kean, H., Casto, C., ... & Fedorenko, E. (2025). A distinct set of brain areas process prosody--the melody of speech. bioRxiv.

Conference papers –

Yadavalli, A., Pimentel, T., **Regev, T. I.**, Wilcox, E., & Warstadt, A. (2025). What do prosody and text convey? Characterizing how meaningful information is distributed across multiple channels. ACL2026. Paper

Regev, T.I., Ohams C., Xie S., Wolf, L., Fedorenko, E., Warstadt, A.*, Wilcox, E.G.* Pimentel T.* (2025). The time scale of redundancy between prosody and linguistic context. ACL2025. Paper

Wilcox E.G, Ding C., Acampa G., Pimentel T.*, Warstadt A.*, **Regev, T.I.*** (2025). Using information theory to characterize prosodic typology: The case of tone, pitch-accent and stress-accent. ACL2025. Paper

Wolf, L., Tuckute, G., Kotar, K., Hosseini, E., **Regev, T.I.***, Wilcox, E.* & Warstadt, A.* (2023). WhisBERT: Multimodal text-audio language modeling on 100M words. babyLM challenge, *arXiv preprint arXiv:2312.02931*. Paper.

Wolf, L., Pimentel T., Fedorenko, E., Cotterell, R., Warstadt, A.*, Wilcox, E.* & **Regev, T.I.*** (2023). Quantifying the redundancy between prosody and linguistic content. EMNLP2023 Paper.

Journal papers –

Clark, T. H., Poliak, M., **Regev, T.**, Haskins, A. J., Robertson, C., & Gibson, E. (2025). The Relationship Between Surprisal and Prosodic Prominence in Conversation Reflects Intelligibility-Oriented Pressures. Cognitive Science, 49(10), e70134. Paper

Marvi, A. I., Hutchinson, S., Fedorenko, E., Saxe, R. R., Kamps, F. S., **Regev, T. I.**, ... & Kanwisher, N. G. (2025). An efficient multifunction fMRI localizer for high-level visual, auditory, and cognitive regions in humans. Imaging Neuroscience, 3, IMAG-a. Paper

Regev, T.I.*, Casto C.*, Hosseini E.A., Adamek, M., Ritaccio, A.L, Willie, J.T., Brunner, P., & Fedorenko, E. (2024). Neural populations in the language network differ in the size of their temporal receptive windows. *Nature Human Behaviour* pp. 1-9. Paper | Data and Code

Regev, T.I.*, Lipkin B.*, Boebinger D., Paunov A., Kean, H., Norman-Haignere S.V., & Fedorenko, E. (2024) Preserved functional organization of human auditory cortex in individuals missing one temporal lobe from birth. *iScience*, *27*(9). Paper | Data and Code

Fedorenko, E., Ivanova, A.A. & **Regev. T.I.** (2024) The language network as a natural kind within the broader landscape of the human brain. *Nature Reviews Neuroscience.* Paper

Regev, T.I., Kim, H.S., Chen, X., Affourtit, J., Schipper, A. E., Bergen, L., Mahowald, K.*, & Fedorenko, E.* (2024). High-level language brain regions are sensitive to sub-lexical regularities. *Cerebral Cortex*. Paper | Data and Code

Chen, X., Affourtit, J., Ryskin, R., **Regev, T. I.**, Norman-Haignere, S., Jouravlev, O., Malik-Moraleda S., Kean H., Varley R. & Fedorenko, E. (2023). The human language system, including it's inferior frontal component in "Broca's area", does not support music perception. *Cerebral Cortex*. Paper

Regev, T.I., Markusfeld, G., Deouell, L.Y. & Nelken, I. (2021) Context sensitivity across multiple time scales with a flexible frequency bandwidth. *Cerebral Cortex.* Paper | Data and code

Regev, T.I., Nelken, I., Deouell, L.Y. (2019) Evidence for linear but not helical automatic representation of pitch in human auditory system. *Journal of Cognitive Neuroscience.* 1-17. Paper

Regev, T.I., Winawer, J., Gerber, E.M., Knight, R.T., Deouell, L.Y (2018) Human posterior parietal cortex responds to visual stimuli as early as peristriate occipital cortex. *European Journal of Neuroscience.* Paper | Data and code

Wolfenson, H., Lubelski, A., **Regev, T**., Klafter, J., Henis, Y.I., Geiger, B. (2009) A Role for the Juxtamembrane Cytoplasm in the Molecular Dynamics of Focal Adhesions. *PLoS ONE.* Volume 4, Issue 1, e4304. Paper

Madi, A., Friedman, Y., Roth, D., **Regev, T.**, Bransburg-Zabary, S., Ben Jacob, E. (2008) Genome Holography: Deciphering Function-Form Motifs from Gene Expression Data. *PLoS ONE.* Volume 3, Issue 7, e2708. Paper

SELECTED PRESENTATIONS

Talks –

Sept 2025 – SNL – DC – A network of brain areas is selective for prosody—the melody of speech.

Apr 2024 – CNS – Toronto – Prosody symposium organization and talk: A network of brain areas is sensitive to prosody and distinct from language and auditory areas.

Nov 2023 – Simons Center for the Social Brain, lunch series.

Jun 2023 – Psychology and Neuroscience Symposium for Israeli Postdocs Abroad (best abstract award).

Oct 2021 – BU Hearing Research Center seminar. Modeling frequency adaptation reveals multiple time scales of auditory context integration.

May 2021 – CogLunch seminar, MIT department of Brain and Cognitive Science. High-level language brain regions are sensitive to sub-lexical regularities.

Mar 2021 – Group meeting Prof. Tali Bitan, Haifa U. Sensitivity of high-level language processing brain regions to phonological information.

Aug 2019 – SMPC – New-York. The neural representation of pitch – height versus chroma.

Aug 2019 – SMPC – New-York. Statistical context sensitivity of ERP components in an unattended tone sequence.

Feb 2019 – ARO – Baltimore. Evidence for linear but not helical automatic representation of pitch in human auditory system.

Feb 2017 – ISCOP – Acre. Music Cognition symposium organization and talk: Early neural processing of pitch – height versus chroma.

Feb 2015 – ELSC, Ein Gedi**.** Early visual response in human posterior parietal cortex revealed by onset latency estimation using electrocorticographic (ECoG) recordings.

Conference posters –

Apr. 2025 – CNS – Boston. Poster: "Enhanced responses to noninterpretable speech-like stimuli in speech and language brain areas of psychosis patients with auditory hallucinations".

Oct. 2022 – SNL – Philadelphia. Two Posters:

1. "Neural representation of prosody" Poster + slam presentation.
2. "Heterogeneous neural responses distributed across the language network revealed by electrocorticography" Poster

Oct. 2020 – SNL – virtual. Poster: "Sensitivity of high-level language processing brain regions to phonological information".

Oct. 2019 – SFN + APAN – Chicago. Poster: "Context sensitivity across multiple time and frequency scales".

Mar. 2019 – CNS – San-Francisco. Poster: "Context sensitivity of the N1 and P2 components in an unattended tone sequence".

Jan. 2019 – ISFN – Eilat. Poster: "Context sensitivity of the N1 and P2 components in an unattended tone sequence".

Aug. 2017 – ICON – Amsterdam. Poster: "Automatic representation of pitch in human auditory cortex is linear and not helical".

Jul. 2016 – ICMPC – San-Francisco. Poster: "Is pitch chroma discrimination automatic? – an EEG study".

Nov. 2014 – SFN – San Diego. Poster: "Electrocorticographic evidence for near-simultaneous early visual response in V1 and posterior parietal cortex in humans".

Dec. 2012 – ISFN – Eilat. Poster selected for swift presentation: "Coupling Sound to Movement – Design and Assessment of Learned Auditory-Proprioceptive Integration".

Jul. 2012 – ICMPC-ESCOM – Thessaloniki. Poster and spoken presentation: "Sonic Feedback to Movement as Learned Auditory-Proprioceptive Sensory Integration".

EMPLOYMENT AND TEACHING

2024 – ongoing – Speech perception class, Georgia Tech course Language and the Brain (Prof. Ivanova).

2020 – ongoing – Speech perception class, MIT course Language and the Brain (Prof. Fedorenko).

2017 – 2018 – Lab manager of Prof. Leon Deouell, Hebrew University.

2013 – 2014 – Hebrew University. TA, reading groups: 1) Human conscious awareness, 2) Inter-individual differences and socio-political implications.

2011 – 2012 – Hebrew University. Physics for life science (assistance classes for Arabic students).

2008 – 2009 – Tel-Aviv University. Physics for life science, math for business (run by the student body).

2007 – Tel-Aviv University, Physics of Complex Systems Dept. RA of Prof. Eshel Ben-Jacob.

ADVISING

Graduate – Lukas Wolf (ETH, 2023); Moshe Poliak (MIT, 2023); Sihan Chen (MIT, 2021-2023)

Undergraduate – Marissa Montione (MIT, 2025 ongoing) Shaylee Xie (Wellesley/MIT, 2024-2025); Hee So Kim (Wellesley, 2022–2024); Julie Meng (MIT, 2020–2021); Anna Dawson (MIT, 2020); Abigail Schipper (MIT, 2020–2021); Heidi Durresi (MIT 2021); Ye Joo Han (Harvard, 2021–2022).

REVIEWING

HSP, NSF, Nat. Comput. Sci., Comm. Biol., J. Neurosci., Proc. R. Soc. B, Eur. J. Neurosci., Curr. Res. Neurobiol.

VOLUNTEERING

2024 - Co-founder of 'Voices of Solidarity' – lecture series featuring joint Israeli-Palestinian organizations at MIT.

2016 - Co-founder of NeurotechTLV, the Tel-Aviv chapter of the neuroscience-tech community.

2016 - 2019 - The Garden Library, Tel-Aviv. Teaching asylum seekers Hebrew and English.

2015 - 2016 - Alpha, Hebrew University. Tutoring high-school students in academic lab projects.

2012 - 2019 - Lectures for elementary school kids to promote their interest in brain science.

LANGUAGES

Hebrew – Native; English – Fluent; Spanish – Conversant.