AVA KIAI

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ABOUT

I am interested in the neurobiology of auditory processing and vocal behavior in animal models as well as in humans. In my PhD work, I study vocal plasticity in echolocating bats and the role of the bat frontal cortex in vocal control. I place a great deal of importance on producing reproducible analyses and modular code, the pre-registration of hypothesis, and justified statistical inference. In my academic and non-academic activities, I enjoy combining my interests and background in cognitive science, philosophy, biology, music, and systems neuroscience.

EDUCATION

Goethe University Frankfurt *2020 - present*
Faculty of Biological Sciences *Frankfurt*
Doctoral Candidate

École des hautes études en sciences sociales/École normale supérieure *2017 - 2018*
Department of Cognitive Science *Paris*
Master of Science, with honors

Université de Paris 1: Pantheon-Sorbonne *2016 - 2017*
Department of Philosophy *Paris*
Master 1 (1st year Masters)

New York University *2011 - 2015*
College of Arts and Science *New York*
Bachelor of Arts, with honors

John L. Miller Great Neck North High School *2007 - 2011*
High School Diploma *Great Neck*

METHODS & SKILLS

Experimental	Bioacoustics, *in vivo* electrophysiology, pharmacological deactivation, histology
Computational	Mixed modelling, signal processing, spike sorting, classifiers
Certifications	Felasa A, D & C (Rodent, Surgery)
Programming	Python, R, Matlab
Experimental (Human)	Psychophysics, PsychoPy/PsychJS
Open Science	Pre-registration, version control (Git), open data (Zenodo)

EXPERIENCE

Ernst Strüngmann Institute for Neuroscience, in Cooperation with the Max Planck Society *4/2024 - present*
Brain and Behavior Heisenberg Group/Poeppel Lab *Doctoral Candidate* *Frankfurt*

Supervisors: Dr. Julio Hechavarría, Dr. David Poeppel

Institute for Cell Biology & Neuroscience, Goethe University Frankfurt *12/2020 - present*
Auditory Computations Group *Doctoral Candidate* *Frankfurt*

Supervisors: Dr. Julio Hechavarría, Dr. Manfred Kössl, Dr. David Poeppel

Max Planck Institute for Empirical Aesthetics *02/2018 - 12/2021*
Neuroscience Department Scientific Researcher *Frankfurt*

Supervisor: Dr. Lucia Melloni

NeuroSpin, INSERM/CEA-Saclay *05/2017 - 01/2018*
Brain Dynamics Group Student Researcher *Gif-sur-Yvette*

Supervisor: Dr. Virginie van Wassenhove

Freelance Biographer *01/2015 - 08/2016*
Research Assistant *New York*

Conceptual Development & Social Cognition Lab, NYU *07 - 09/2014*
Undergraduate Research Assistant *New York*

Supervisor: Dr. Marjorie Rhodes

Davachi Lab, NYU *03 - 05/2013*
Undergraduate Research Assistant *New York*

Supervisor: Dr. Lila Davachi

SELECTED PUBLICATIONS

1. **Ava Kiai**, Jan Clemens, Manfred Kössl, David Poeppel, Julio C. Hechavarría. (2023) Flexible control of vocal timing in bats enables escape from acoustic interference. *Communications Biology* 6, 1153.
2. Francisco García-Rosales, Luciana López-Jury, Eugenia González-Palomares, Johannes Wetekam, Yuranny Cabral-Calderín, **Ava Kiai**, Manfred Kössl, Julio C. Hechavarría. (2022) Echolocation-related reversal of information flow in a cortical vocalization network. *Nature Communications* 13(1).
3. Eugenia González-Palomares, Luciana López-Jury, Johannes Wetekam, **Ava Kiai**, Francisco García-Rosales, Julio C. Hechavarría. (2021) Male Carollia perspicillata bats call more than females in a distressful context. *Royal Society Open Science* 8(5).
4. **Ava Kiai**, Lucia Melloni. (2021) What canonical online and offline measures of statistical learning can and cannot tell us. *bioarXiv*

INVITED TALKS

1. "Probing the role of the bat frontal cortex in vocal production." Neural Mechanisms of Acoustic Communication Gordon Research Conference, Sunday River, Maine, May 2024
2. "Behavioral & neural mechanisms of vocal control in the bat brain." MPI for Biological Intelligence, Seewiesen, December 2023
3. "The reverse cocktail party problem." Treffen der Deutschen Fledermausforschenden (German Bat Research Meeting), October 2022 (Award for Best Student Talk, 3rd Place)
4. "The Neustadt and the Grande-Ile: The Urban Transformation of Strasbourg at the Crossroads of France and Germany." NYU Undergraduate Research Conference, May 2015 *Inquiry*, Vol. XIX.

POSTER PRESENTATIONS

1. Ava Kiai, Manfred Kössl, David Poeppel, Julio Hechavarría. "Deactivation of a frontal locus of vocal control in bats modulates vocalization-locked oscillatory power dynamics"

   Society for Neuroscience Annual Meeting, Washington D.C., November 2023

   Interdisciplinary Center for Neuroscience Frankfurt Mini-Symposium, Frankfurt, September 2023

2. Ava Kiai, Jan Clemens, Manfred Kössl, David Poeppel, Julio Hechavarría."The reverse cocktail party problem: Dynamic time-domain jamming avoidance in freely socializing bats."

   Brain Rhythms and Cortical Computations, Paris, April 2023

   15th Göttingen Meeting of the German Neuroscience Society, March 2023

3. Ava Kiai, Manfred Kössl, David Poeppel, Julio Hechavarría. "Bats chat more on the off-beat: Dynamic time-domain jamming avoidance in freely socializing bats."

   Neural Mechanisms of Acoustic Communication Gordon Research Conference, Mount Holyoke College, August 2022

   14th International Congress of Neuroethology, Lisbon, July 2022

4. Ava Kiai, Julio Hechavarría. "Individual and group-level flexibility in social vocalization timing in bats."

   14th Göttingen Meeting of the German Neuroscience Society, Virtual, March 2021

SERVICE

Symposium Organization

- Co-chair, Invited Symposium on "Neural and behavioral principles structuring vocal interactions," 15th International Congress of Neuroethology, Berlin, July 2024

Reviewing

- JOSS

TEACHING

1. Lecturer, Experimental Psychology Practical Course, Department of Psychology, Goethe University Frankfurt (Winter 2023-2024)
2. Lecturer, Experimental Psychology Practical Course, Department of Psychology, Goethe University Frankfurt (Winter 2021-2022)

SUPERVISING

Elif Ertas (Bachelor thesis), Faculty of Biology, Goethe University Frankfurt (Summer 2022)

SCHOLARSHIPS & AWARDS

Bat Award, Batellite, 15th International Congress of Neuroethology *2024*

GRADE Research Assistantship *2022*

Hermann-Willkomm-Stiftung Travel Grant *2022*

GRADE Brain Travel Grant *2022*

Main-Campus-doctus PhD Scholarship, Stiftung Polytechnische Gesellschaft *2020-2024*

Dean's Undergraduate Research Fund, NYU College of Arts & Science *2015*

French Department Book Award, NYU College of Arts & Science *2014*

SCIENTIFIC OUTREACH

- "Die schnatternde Menagerie: eine ethologische und musikalische Einfhrung in die Tiersprache." Interdiziplinäres Kolloquium der Main-Campus-Stipendiatenwerk, April 2022
- "The Secret Lives of Bats." (Talk) Max Planck Institute for Brain Research, Frankfurt, October 2021
- Skype a Scientist, 2021
- Deutsche Neuroswissenschaften Olympiade, 2019

NON-PEER-REVIEWED PUBLICATIONS

1. Kiai, A. (2019) To protect credibility in science, banish "publish or perish." *Nature Human Behavior*, 3, 1017-1018.
2. Kiai, A. (2018) Pinker's (1994) The Language Instinct. Shackelford T., Weekes-Shackelford V. (Eds) *Encyclopedia of Evolutionary Psychological Science.* Springer, Cham.
3. Kiai, A. (2018) Steven Pinker. Shackelford T., Weekes-Shackelford V. (Eds) *Encyclopedia of Evolutionary Psychological Science.* Springer, Cham.

OTHER SKILLS, INTERESTS & ACTIVITIES

Languages	English (native), Farsi (native), French (fluent), German (fluent)
Music	Classical violin
Debate Societies	Stoa Reading Group (Founder, 2020 - 2022) Le Cercle de la Sorbonne, University of Paris I (Co-founder, 2016) Socratic Happy Hour, NYU (Co-founder, 2015)
Volunteering	Housingworks Bookstore & Café (2016)
Sports & Outdoors	Long-distance cycling, swimming, rock climbing, bouldering, alpine hiking

REFERNCES

Dr. Julio C. Hechavarría	hechavarria@bio.uni-frankfurt.de
Dr. Manfred Kössl	koessl@bio.uni-frankfurt.de
Dr. David Poeppel	dp101@nyu.edu