



Investigadora
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Investigador Titular A

Research Lines

1. Human perception of rhythm and musical beat
2. Musical rhythm perception across species (humans, rodents, macaques)
3. Auditory cognition across the lifespan
4. Effects of musical training on brain structure, function, and cognitive ability
5. Low-level neural encoding of sound and music

Receives students for:

Social service **Yes**

Techniques Employed

1. Human and nonhuman animal behavior
2. Functional imaging (fMRI, EEG)
3. Extracellular electrophysiology (rodents, macaques)
4. Computational modelling

Modelos de estudio

1. Humans
2. Rodents
3. Macaques
4. Computational models

Available Research Projects for Students

1. Does intensive musical training delay cognitive decline in late adulthood?
2. Is the fidelity with which one hears connected to one's cognitive ability?
3. Monkeys can synchronize to music - can rodents sync to music too?
4. What are the acoustic properties of musical beats perceived in rhythmic sounds?
5. How do individual humans differ in the strategies they use to synchronize to music?

Recent Publications (Last 5 Years)

1. Rajendran, Vani G., et al. "Monkeys have rhythm." bioRxiv (2024): 2024-03. Rajendran, V. G., Marquez, J. P., Prado, L., & Merchant, H. (2024). Monkeys have rhythm. bioRxiv, 2024-03. (under review in Science)
2. Rajendran, V. G., Tsdaka, Y., Keung, T. Y., Schnupp, J. W., & Nelken, I. (2023). Rats synchronize predictively to metronomes. bioRxiv, 2023-06. (under revision in iScience)
3. Auksztulewicz, R., Rajendran, V. G., Peng, F., Schnupp, J. W. H., & Harper, N. S. (2023). Omission responses in local field potentials in rat auditory cortex. BMC biology, 21(1), 130.
4. Kang, H., Auksztulewicz, R., Chan, C. H., Cappotto, D., Rajendran, V. G., & Schnupp, J. W. (2023). Cross-modal implicit learning of random time patterns. Hearing Research, 438, 108857.
5. Rajendran, V. G., Harper, N. S., & Schnupp, J. W. (2020). Auditory cortical representation of music favours the perceived beat. Royal Society Open Science, 7(3), 191194.

Directed Theses

1. Co-supervisor of: Rapid Learning of Sound Textures (Berfin Bastug, Master's Thesis, Ecole Normale Supérieure, Paris, France, 2021)
2. Co-supervisor of: Predictive synchronization to rhythm and beat in rats (Tung Yee Keung, Bachelor's Thesis, City University of Hong Kong, Hong Kong SAR, 2019)
3. Co-supervisor of: The role of rhythm in the detection of repeating patterns in noise (Khaled H. A. Abdel-Latif, University of Oxford, UK / FH Aachen University of Applied Sciences, Germany 2015)