

Bruno de Avó Mesquita

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Professional Summary

Trained teacher (Licentiate, Brazil) and senior doctoral candidate in Neuroscience. Resourceful, and creative with experience teaching Biology and Psychology to a variety of age groups. Technically adept with experience in a variety of LMSs, programming languages and analytic platforms. With extensive research experience in auditory perception, and Cognitive Neuroscience. Skilled in experimental design, EEG data analysis, and advanced auditory modeling. Experienced educator and leader, currently serving as Head Teaching Assistant for a large introductory course in Psychology, coordinating large teams and developing course materials. Passionate about bridging scientific research with education and outreach.

Research Interests:

- Auditory cognition; voice perception; familiarity and attention
- Speech processing; naturalistic listening; noisy environments
- EEG/ERP methods; computational modeling

Teaching Interests:

- Introductory psychology; cognitive psychology; perception
- Research methods and statistics
- Programming for psychology (Python/R)
- Cognitive neuroscience; methods in electrophysiology.
- Evolution; animal behaviour

Education:

Doctoral degree in Neuroscience

University of Western Ontario, London, Canada
January 2023 – present

Bachelor's degree in Biological Sciences

University of São Paulo, Ribeirão Preto, Brazil
February 2015 - July 2020

Master's degree in Neuroscience

University of Western Ontario, London, Canada
January 2021 – January 2023

Licentiate* degree in Biological Sciences

University of São Paulo, Ribeirão Preto, Brazil
February 2015 - July 2020

*Equivalent to Canadian Teacher's college, albeit with additional formation in research in education, and concluded with an undergraduate thesis.

Research Experience:

Graduate Researcher

CoNCHLab - University of Western Ontario
January 2021 – Present

- Supervised by Professor Ingrid Johnsrude.
- Investigating the role of experience and learning in auditory perception.

Mitacs Research Internship

Équipe de recherche en psychologie cognitive - Université du Québec à Trois-Rivières
July 2019 - August 2019

- Supervised by Professor Isabelle Blanchette.
- Designed experimental protocol, collected, and analyzed EEG data for a project entitled: Cognitive neuroscience of emotion-cognition interaction.

Research Internship

Laboratory of Epistemology and Didactic of Biology - University of São Paulo at Ribeirão Preto.
March 2019 - June 2020

- Supervised by Professor Fernanda da Rocha Brando.
- Conducting primary and secondary source research for a project entitled "Seeding evolutionary knowledge in Brazilian public schools".

Research Internship

Laboratory of Investigation in Epilepsies. - University of São Paulo at Ribeirão Preto.

June 2018 - June 2020

- Supervised by Professor João Pereira Leite.
- Developing and working on the project “Development of a within-subject design to investigate the neural encoding of degrees of control over aversive stimuli.”

Technical Training

Laboratory of Investigation in Epilepsies. - University of São Paulo at Ribeirão Preto.

June 2016 - December 2017

- Supervised by Professor João Pereira Leite.
- Learned relevant theory on topics of neuroscience, neuropsychology, and neuropsychiatry.
- Learned relevant techniques for behavioral testing of rodents.

Teaching Experience:

Head Teaching Assistant for Psychology 1003A/B

Department of Psychology - University of Western Ontario.

September 2025 – Current

- Directly responsible for designing the weekly laboratory activities in the course
- Preparing teaching materials and lesson plans for the current and future academic years.
- Training and coordinating 25 other TAs in the course

Graduate Teaching Assistant

Department of Psychology - University of Western Ontario.

September 2021 – May 2025

- Worked under the supervision of a variety of course instructors, for the following Psychology Courses:
 - PSYCHOL 3185: Research in cognitive psychology
 - PSYCHOL 2210: Introduction to animal cognition
 - PSYCHOL 1002: Psychology as a natural science
 - PSYCHOL 1003: Psychology as a social science
 - PSYCHOL 2802: Research methods in psychology

Institutional Program of Scholarships for Teaching Initiation (PIBID)

Laboratory of Education in Biology - University of São Paulo at Ribeirão Preto.

March 2017 - December 2017

- Worked under the supervision of Professor Marcelo Motokane.
- Created and implemented didactic sequences on different topics of science education in Brazilian public schools.

Volunteer English Teacher

Public Preparatory Course for the Law School of Ribeirão Preto.

January 2016 – January 2017

- Taught English to students preparing for University Entrance Exams.

Peer-Reviewed Contributions:

- Whiteford, K. L., Baltzell, L. S., Chiu, M., Cooper, J. K., Faucher, S., Goh, P. Y., Hagedorn, A., Irsik, V. C., Irvine, A., Lim, S.-J., Mesik, J., **Mesquita, B.**, Oakes, B., Rajappa, N., Roverud, E., Schrlau, A. E., Van Hedger, S. C., Bharadwaj, H. M., Johnsrude, I. S., ... Oxenham, A. J. (2025). Large-scale multi-site study shows no association between musical training and early auditory neural sound encoding. *Nature Communications*, 16(1), 7152. <https://doi.org/10.1038/s41467-025-62155-5>
- Zargarnezhad, N., **Mesquita, B.**, Macpherson, E. A., & Johnsrude, I. (2025). Focality of sound source placement by higher (ninth) order ambisonics and perceptual effects of spectral reproduction errors. *The Journal of the Acoustical Society of America*, 157(4), 2802–2818. <https://doi.org/10.1121/10.0036226>

Non-Peer-Reviewed Contributions:

Preprints:

- Marques, D. B., Rossignoli, M. T., **de Avó Mesquita, B.**, Prizon, T., Zacharias, L. R., Ruggiero, R. N., & Leite, J. P. (n.d.). Decoding fear or safety and approach or avoidance by brain-wide network dynamics. BioRxiv. <https://doi.org/10.1101/2022.10.13.511989>

Conference Talks:

- **Mesquita, B.***, Kashefi, M., Johnsrude I.S. (2025). Do “intuitive” auditory cues facilitate performance of a reaching task? Investigating shared features of auditory and motor dynamics. ARO Midwinter Meeting. Orlando, Florida, USA. (International Conference)
- **Mesquita, B.***, Herrmann, B., Roark, C.L., Johnsrude, I.S. (2023) Perceptual benefits from long-term exposure to naturalistic sound patterns. ARO Midwinter Meeting. Orlando, Florida, USA. (International Conference)
- **Mesquita, B.***, Marques, D.B., Rossignoli, M.T., Ruggiero, R.N., Leite, J.P. (2019). Development of a within-subject design to investigate the neural encoding of degrees of control over aversive stimuli. Annual meeting of the Brazilian Society of Neurosciences and Behavioral Sciences. Campos do Jordão, São Paulo, Brazil. (National Conference)

Poster Presentations:

- **Mesquita, B.***, Reichenbach, T., Johnsrude, I. (2025). Neural correlates of selective attention to familiar voices. International Conference on Auditory Cortex. Maastricht, Limburg, Netherlands. (International Conference)
- Zargarnezhad, N., **Mesquita, B.***, Macpherson, E.A., & Johnsrude, I. (2024). Perceptual Spatial Acuity in a 9th Order Ambisonic Array. ARO Midwinter Meeting. Anaheim, California, USA. (International Conference).
- **Mesquita, B.***, Kashefi, M., Johnsrude I.S. (2023). The effect of auditory cues on motor sequence learning and reaching tasks. CNS Annual Meeting. Toronto, Ontario, Canada. (International Conference).
- **Mesquita, B.***, Marques D.B., Rossignoli, M.T., Ruggiero, R.N., Leite, J.P. (2020). Development of a new animal model to investigate the neural encoding of degrees of control over aversive stimuli. XII Forum on Neurobiology of Stress and International Symposium on Ethanol Research. Ribeirão Preto, São Paulo, Brazil. (International Conference)
- **Mesquita, B.***, Marques, D.B., Rossignoli, M.T., Ruggiero, R.N., Leite, J.P. (2019). Characterization of the ability to discriminate between controllable and uncontrollable aversive stimuli in rats. International symposium of scientific initiation of the University of São Paulo, Ribeirão Preto, São Paulo, Brazil. - Awarded Honorable Mention. (International Conference)

Scholarships and Grants Awarded:

Western Graduate Research Scholarship

University of Western Ontario
2021-2025

Western Neuroscience Travel Award

University of Western Ontario
2023

Globalink Graduate Fellowship

Mitacs
2021

Scientific initiation scholarship

São Paulo Research Foundation (FAPESP)
2019”

Mitacs Research Internship

Mitacs
2019

Scholarship for teaching initiation

Institutional Program of Scholarships for Teaching Initiation
2017

Professional Development

Participation in Future Prof workshop series

Centre of Teaching and Learning - Western University

- Multimodal Activities for Classrooms and Tutorials
- Developing your teaching dossier
- Tech-savvy teaching: Solving Pedagogical Challenges with Digital Tools
- AI for Teaching and Learning
- TA eLearning Series
- Fostering Inclusivity: Strategies for Supporting International Students in the Classroom
- Multiple Choice Items and Higher Order Thinking

Participation in Advanced Teaching Program (ATP)

Centre of Teaching and Learning - Western University

Participation in Teaching Mentor Program

Centre of Teaching and Learning - Western University

Participation in Western Institute for Research on Teaching and Learning

Centre of Teaching and Learning - Western University

Participation in various meetings of the Research on Teaching and Learning Community of Practice

Centre of Teaching and Learning - Western University

Leadership, Organization, and Community Service:

Editorial Board Member of Gradcast

Society of Graduate Students - Western University

2024 – current

Trivia Host at The Grad Club

Society of Graduate Students - Western University

2023 – current

Member of the Science Outreach Committee

Society of Graduate Students - Western University

2022/09 – 2023/08

Expositor and Organizer

“Bio na Rua” (Biology in the Streets)

2017

Expositor

Semana Nacional do Cérebro (Brain Awareness Week)

2016

Students Representative

Department of Biology - University of São Paulo at Ribeirão Preto

2016/01 - 2017/01

Organizer

Annual week of bio studies – University of São Paulo at Ribeirão Preto

2015,2016

Member of the Student Society

Department of Biology - University of São Paulo at Ribeirão Preto

2015/03 - 2016/12

Technical Expertise

Programming and Analysis: Python, R, Matlab, JASP

Experimental Methods: EEG/ERP analysis, TRF modeling, Multilevel Modeling, Kinarm, OptiTrak, PsychoPy, E-Prime

Instructional Tools: Brightspace, Jupyter, Google Collab Notebooks, Qualtrics, Github

Audiovisual Tools: Microsoft Office Suite, Adobe Suite, Affinity Suite, Audacity, Pro Tools, Shotcut, OBS

Languages: Portuguese (Native), English (Fluent), Spanish (Basic), French (Basic)