

Michael Barkasi

Curriculum Vitae

Department of Philosophy and Philosophy-Neuroscience-Psychology Program
Washington University in St. Louis
St. Louis, MO

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March 2024

Education

- 2015. Ph.D. Philosophy. [Rice University](#).
- 2011. M.A. Philosophy. [Rice University](#).
- 2009. B.A. Philosophy, minors in Maths and Physics. [Kutztown University of Pennsylvania](#).

Academic Positions

Research

- 2023. [York University](#): Postdoctoral Visitor at Harris Multisensory Integration Lab, Centre for Vision Research.
- 2018–20. [University of Toronto](#): Postdoctoral Research Fellow at the Network for Sensory Research.
- 2012–13. [Rice University](#): Research Assistant for the Senses Project at Rice.

Teaching

- 2023–P. [Washington University in St. Louis](#): Lecturer, Philosophy and Philosophy-Neuroscience-Psychology.
- 2022. [University of British Columbia](#): Philosophy Lecturer.
- 2020–21. [York University](#): Philosophy and Cognitive Science Instructor.
- 2018. [Lebanon Valley College](#): Philosophy Instructor.
- 2016–17. [Kutztown University of Pennsylvania](#): Visiting Assistant Professor of Philosophy.
- 11–12, 16. [Lone Star College](#): Philosophy Instructor.
- 2015. [Rice University](#): Instructor in the Program in Writing and Communication.
- 2011. [Houston Community College](#): Philosophy Instructor.

Affiliations

- 2024–P. [The Southern Society for Philosophy and Psychology](#): Full Member.
- 2022–P. [Université Grenoble Alpes](#): Associate Member, Centre for Philosophy of Memory.

Industry Work

- 2021–22. [Using sonification to train people's movements](#), Academic-Industry Partnership between Performance Sonification Corp. and Harris Multisensory Integration Lab, Centre for Vision Research, York University, Toronto.
- 2021–22. [Performance Sonification Corp](#) (Pre-Seed Exploratory Startup): Founder and Lead Technology Developer. Corporation dissolved September 2022 and all intellectual property released into public domain.

Research

- Areas: cognitive psychology, phenomenology, philosophy of mind.
- Topics: movement sonification, motor control, presence, embodied cognition, phenomenal consciousness, sensory and mnemonic information processing.
- Skills: C++, R, Python, LaTeX, KiCad, FreeCAD, PCB design, digital sound synthesis, advanced geometry and motion representations, embedded hardware, signal processing, computational modeling (GLMs, LMMs), mathematical logic (modal, many-valued, model theory).

Publications

Journal Articles

- *2024. Barkasi, M., “[Consumer-side reference through promiscuous memory traces](#)”, *Synthese* (Topical Collection, *Reference and Remembering*, edited by Openshaw, J., Michaelian, K., and Perrin, D.), 203(86): 1–26. [10.1007/s11229-024-04509-y](https://doi.org/10.1007/s11229-024-04509-y)
2024. Perrin, D. and Barkasi, M., “[Immersing oneself into one’s past: Subjective presence can be part of the experience of episodic remembering](#)”, *Philosophy and the Mind Sciences*, 5(27): 1–30. [10.33735/phimisci.2024.10392](https://doi.org/10.33735/phimisci.2024.10392)
- ‡2023. Barkasi, M., “[Memory as sensory modality, perception as experience of the past](#)”, *Review of Philosophy and Psychology*, 14(3): 791–809. [10.1007/s13164-021-00598-7](https://doi.org/10.1007/s13164-021-00598-7)
2022. Barkasi, M. and Sant’Anna, A., “[Reviving the naïve realist approach to memory](#)”, *Philosophy and the Mind Sciences*, 3(14): 1–30. [10.33735/phimisci.2022.9192](https://doi.org/10.33735/phimisci.2022.9192)
2021. Barkasi, M., “[What blindsight means for the neural correlates of consciousness](#)”, *Journal of Consciousness Studies*, 28(11–12): 7–30. [10.53765/20512201.28.11.007](https://doi.org/10.53765/20512201.28.11.007)
2021. Rosen, M. G. and Barkasi, M., “[What makes a mental state feel like a memory: Feelings of pastness and presence](#)”, *Estudios de Filosofía*, 64: 95–122. [10.17533/udea.ef.n64a05](https://doi.org/10.17533/udea.ef.n64a05)
2021. Barkasi, M., “[Are there epistemic conditions necessary for demonstrative thought?](#)”, *Synthese*, 198(7): 6111–6138. [10.1007/s11229-019-02453-w](https://doi.org/10.1007/s11229-019-02453-w)
2021. Barkasi, M., “[What should the sensorimotor enactivist say about dreams?](#)”, *Philosophical Explorations*, 24(2): 243–261. [10.1080/13869795.2021.1908575](https://doi.org/10.1080/13869795.2021.1908575)
2021. Barkasi, M., “[Does what we dream feel present? Two varieties of presence and implications for measuring presence in VR](#)”, *Synthese*, 199: 2525–2551. [10.1007/s11229-020-02898-4](https://doi.org/10.1007/s11229-020-02898-4)
2020. Barkasi, M., “[Some hallucinations are experiences of the past](#)”, *Pacific Philosophical Quarterly*, 101(3): 454–488. [10.1111/papq.12320](https://doi.org/10.1111/papq.12320)
2020. Barkasi, M. and Rosen, M. G., “[Is mental time travel real time travel?](#)”, *Philosophy and the Mind Sciences*, 1(1): 1–27. [10.33735/phimisci.2020.1.28](https://doi.org/10.33735/phimisci.2020.1.28)
2019. Barkasi, M., “[The role of experience in demonstrative thought](#)”, *Mind & Language*, 34(5): 648–666. [10.1111/mila.12228](https://doi.org/10.1111/mila.12228)
- †2008. Holowchak, M. A. with Barkasi, M., “[An impromptu visit to Rien-à-Faire: A tribute to Bernard Suits](#)”, *Journal of the Philosophy of Sport*, 35(2): 111–119. [10.1080/00948705.2008.9714733](https://doi.org/10.1080/00948705.2008.9714733)

General Audience

- *2022. Barkasi, M., “[Perceiving is imagining the past](#)”, *The Junkyard: A Scholarly Blog Devoted to the Study of Imagination*, January 12.
2021. Barkasi, M., “[What dreams and smartphones can teach VR developers about presence](#)”, *LinkedIn*, August 12.
2021. Barkasi, M., “[How digital fluency isolates us](#)”, *Medium*, March 16.

Preprints

- 2024 Barkasi, M., Bansal, A., Björn J., and Harris, L. R., “[Online reach adjustments induced by real-time movement sonification](#)”, *PsyArXiv*. [10.31234/osf.io/6xfv3](https://doi.org/10.31234/osf.io/6xfv3)
- 2023 Barkasi, M., Clouser, L., and Harris, L. R., “[Ultra-responsive, low-dimensional unfamiliar movement sonification guides unconstrained reaches to invisible targets in 3D space](#)”, *PsyArXiv*. [10.31234/osf.io/4ax8n](https://doi.org/10.31234/osf.io/4ax8n)

Papers and Research in Progress

- * — Barkasi, M., “[When is now? How temporally shifting dreams illuminate the feeling of pastness](#)”, in *Dreaming and Memory: Philosophical Issues*, edited by Gregory, D. and Michaelian, K., Springer, under contract, submitted.
- Barkasi, M. and Openshaw, J., “[Perceiving objects the brain does not represent](#)”, under review.
- Barkasi, M., “[Hidden-state Bayesian modeling of motor control and motor learning with movement sonification](#)” (working title), building model.
- Barkasi, M., “[The fluent-sign theory of phenomenal consciousness](#)”, in preparation.
- Barkasi, M., “[Audioproprioceptive sensory substitution: A test case for acquaintance](#)”, in preparation.

* — Barkasi, M., “[Memory and representation](#)”, for the *Oxford Handbook of Philosophy of Memory*, edited by Sant’Anna, A. and Craver, C., in preparation.

* Invited

† Special issue introduction (not peer-reviewed)

‡ Runner up, [Philosophy of Memory Essay Prize](#) (2021), Centre de Philosophie de la Mémoire (Centre for Philosophy of Memory), Université Grenoble Alpes

Presentations

Conference, Workshop, and Colloquium Talks

- *j2024. “[The fluent-sign theory of phenomenal consciousness](#)”, Mind & Cognition Research Group, Purdue University. West Lafayette, Indiana. April 5.
- *2024. “[Are accurate experiences necessarily phenomenally faithful?](#)”, *Accuracy in Perception and Memory*, Universidade Federal de Goiás and Université de Genève. Virtual Conference. February 27–29.
- 2023. “[The fluent-sign theory of phenomenal consciousness](#)”, 1st Annual Web Conference of the International Society for the Philosophy of the Sciences of the Mind (ISPSM2023). Virtual Conference. November 24–25.
- *2022. “[Remembering what your brain doesn’t](#)”, Bochum-Grenoble Memory Colloquium, Ruhr Universität Bochum and Université Grenoble Alpes. Virtual Talk. April 12.
- *2022. “[Audio proprioceptive sensory substitution: A test case for acquaintance](#)”, Mind and Perception Group Speaker Series, Washington University in St. Louis. Virtual Talk. January 28.
- *2021. “[Sonifying explosive sport movements: How, why, and what it shows about bodily awareness](#)”, Cognition, Action, & Perception Speaker Series, University of Cincinnati. Virtual Colloquium Talk. October 29.
- 2021. “[Perception as experience of the past](#)”, The 95th Joint Session of the Aristotelian Society and the Mind Association. Open Session. Virtual Conference. July 16–18.
- 2021. “[Some hallucination is experience of the past](#)”, American Philosophical Association (APA) Pacific Division Meeting. Colloquium paper. Virtual Conference. April 5–10.
- *2021. “[The nonimmersible feeling of pastness as the phenomenal manifestation of remembering](#)”, *Dreaming and Memory*, Philosophy of Neuroscience Group (Tübingen) and the Centre for Philosophy of Memory (Université Grenoble Alpes). Virtual Conference. February 22–23.
- 2021. “[Does what we dream feel present? Two varieties of presence](#)”, American Philosophical Association (APA) Eastern Division Meeting. Colloquium paper. Virtual Conference. January 15.
- 2020. “[Is mental time travel real time travel?](#)”, w/ Rosen, M. G., 112th Annual Meeting of the Southern Society for Philosophy and Psychology (SSPP). Contributed Session: Memory. Virtual Conference. December 3–5.
- 2019. “[Conscious blindsight—but still unconscious sight](#)”, 45th Annual Meeting of the Society for Philosophy and Psychology (SPP). Contributed Session: Consciousness and Cognition. San Diego, California. July 10–13.
- 2019. “[What should the externalist say is missing from dream experience?](#)”, *Dreams, Hallucinations and Imagination*, the Centre for the Study of Perceptual Experience (University of Glasgow). Glasgow, Scotland. February 23–24.
- 2019. “[The role of visual representations in seeing](#)”, American Philosophical Association (APA) Central Division Meeting. Colloquium paper. Denver, Colorado. February 20–23.
- 2016. “[Distinguishing perception and cognition via the perceptual landscape](#)”, *Rice Summer Workshop on the Interface Between Perception and Thought*. Rice University. Houston, Texas. May 5–6.
- 2014. “[An argument for naïve realism from demonstrative thought](#)”, American Philosophical Association (APA) Pacific Division Meeting. Colloquium paper. San Diego, California. April 16–20.
- 2014. “[A user’s guide to epistemic modals](#)”, American Philosophical Association (APA) Central Division Meeting. Colloquium paper. Chicago, Illinois. February 26–March 1.
- 2013. “[Introducing objects for thought: or, why we need to revisit an old argument for naïve realism](#)”, *Perception and Concepts*, the 9th International Symposium of Cognition, Logic and Communication. University of Latvia. Riga, Latvia. May 16–18.
- 2011. “[Getting straight on epistemic modals](#)”, The Arché/CSMN Graduate Conference. University of St Andrews. St Andrews, Scotland. October 8–9.
- 2008. “[Plato’s generation of number in the *Parmenides*](#)”, The 26th annual joint meeting of Society for Ancient Greek

Philosophy (SAGP) with the Society for the Study of Islamic Philosophy (SSIPS). New York, New York. October 24–26.

Comments

- *j2024. Commentator on “In Defense of the Essentially Epistemic Nature of Episodic Memory”, by Goldwasser, S., and Springle, A., 115th Annual Meeting of the Southern Society for Philosophy and Psychology (SSPP). Cincinnati, Ohio. March 21–23.
- *2021. Commentator on “There are no object files”, by Nanay, B., Neural Mechanisms Online. Virtual Workshop Talk. March 19.
- 2019. Commentator on “Cognitive abilities and the Clarkian extended mind”, by King, C., American Philosophical Association (APA) Pacific Division Meeting. Vancouver, British Columbia. April 17–20.

* Invited

j Upcoming

Coding and Modeling Portfolio

- 2024. [Data synchronization, signal filtering, linear mixed-effects modeling, and nonparametric bootstrapping](#), used for post-processing and statistical significance testing of kinematic and accuracy data (optical and inertial) from motor control study involving reaches with movement sonification ([R scripts](#)). Research data-analysis code. | [GitHub Link](#)
- 2024. [Movement sonification hardware code](#) for real-time embedded (wearable) sensor system which tracks motion via inertial sensors at 1kHz while providing auditory feedback with only 1–2ms latency ([C++](#), [Arduino](#), [ESP32](#)). Research hardware code. | [GitHub Link](#)
- 2023. [Deep neural network](#) for sentiment analysis of IMDb movie reviews with explanation of network opacity ([Python](#), [CoLab](#), [PyTorch](#)). Instructional demo. | [GitHub Link](#)
- 2023. [Single-layer neural network](#) (McCulloch-Pitts Neuron), learning with the Perceptron Convergence Rule ([Python](#), [CoLab](#)). Instructional demo. | [GitHub Link](#)
- 2023. [Heuristics-based physical symbol system simulation](#), solves a version of the river-crossing problem ([Python](#), [CoLab](#)). Instructional demo. | [GitHub Link](#)
- 2023. [Generalized linear modeling](#) (GLM) of task-dependent somatomotor cortex responses from simulated fMRI data ([Python](#), [CoLab](#)). | [GitHub Link](#)
- 2023. [Linear decoding](#) (logistic regression) of motor tasks from simulated somatomotor cortex fMRI data ([Python](#), [CoLab](#)). | [GitHub Link](#)
- 2022. [Two-pivot reach model](#) for tracking position through Cartesian space from raw gyroscope readings ([C++](#), [Arduino](#)). Real-time embedded motion tracking. | [GitHub Link](#)
- 2021. [Two-timer pulse-width modulation \(class-D amplifier\)](#) for low-overhead bare-metal digital sound synthesis on single-core embedded processors ([C++](#), [Arduino](#), [Cortex M4F](#), [ESP32](#)). | [GitHub Link](#)

Service

- ad hoc*. [Journal referee](#) for the *Journal of Philosophy*, *Australasian Journal of Philosophy*, *Philosophical Transactions of the Royal Society B: Biological Sciences*, *Mind & Language*, *Analysis*, *Thought*, *Synthese*, *Philosophical Quarterly*, *Dialectica*, *Philosophical Psychology*, *Journal of the American Philosophical Association*, *Grazer Philosophische Studien*, *Journal of Consciousness Studies*, and *Philosophy and the Mind Sciences*.
- 2024–P. [Study abroad advisor](#) for the Philosophy-Neuroscience-Psychology program at Washington University in St. Louis.
- 2023–P. [Secondary advisor for Philosophy-Neuroscience-Psychology undergraduate honors theses](#), Washington University in St. Louis.
- 2023–P. [Undergraduate advisor](#) for majors in the Philosophy-Neuroscience-Psychology program at Washington University in St. Louis.
- 2020, 23–4 [Conference referee](#) for the *Society for Philosophy and Psychology* (SPP).
- 2023. [Conference referee](#) for the *Southern Society for Philosophy and Psychology* (SSPP).

- 2019. Co-organized [Experiencing What's Not There: A Workshop on Hallucinations, Dreams, Imagination, and Virtual Reality](#), w/ M. Matthen, as part of the Network for Sensory Research. Hosted at the University of Toronto (St. George campus). June 7–8.
- 2019. Technology demo session chair for [Thoughts and Reactions](#), an interdisciplinary workshop on how technology and multimodal perception are implicated in learning. Hosted at the University of Toronto (Mississauga campus). March 6–7.
- 2018. Organized a [philosophy of mind reading group](#) at the University of Toronto (St. George campus). Fall semester.
- 2017. Philosophy committee representative to the [Technology Committee](#) of the College of Liberal Arts and Sciences, Kutztown University of Pennsylvania. Spring semester.
- 2014, 16. Judge for the [Houston High School Ethics Bowl](#). Hosted by the Rice University Department of Philosophy.
- 2013–15. Graduate representative to the Rice philosophy faculty.
- 2014. [Symposium chair](#) at the American Philosophical Association (APA) Eastern Division Meeting. Philadelphia. December 27–30.
- 2013. Co-organized [How Perception Makes Things Available for Thought](#), w/ C. O'Callaghan, a workshop of the Senses Project at Rice. Hosted at Rice University. November 8–9.
- 2012–13. Co-organized, w/ C. O'Callaghan, a [philosophy of mind and perception reading group](#) at Rice University. Fall 2012 to fall 2013.
- 2010. Organized the Rice Department of Philosophy [work-in-progress talk series](#). Fall semester.

University Teaching

Multi-Semester Seminar Programs

- 2024–P. [The mind-body connection: what makes us and moves us](#). Undergraduate first-year two-course series co-run between Philosophy-Neuroscience-Psychology (PNP) and the Performing Arts Department (PAD) on the neuroscience and philosophy of how movement interacts with cognition and consciousness. Co-director with E. Harrison (PAD). Washington University in St. Louis.

Cognitive Science and Philosophy of Mind Courses

- 2024. PNP/Phil 315: [Philosophy of Mind](#). Washington University in St. Louis.
- 2024. PNP 200: [Introduction to Cognitive Science](#). Washington University in St. Louis.
- 2023. PNP 390: [Reading Class \(Senior Capstone\): Deep Learning](#). Washington University in St. Louis.
- 2022. Phil 446: [Philosophy of Psychology](#). University of British Columbia.^z
- 2021. Cogs/Phil 3750: [Philosophy of Artificial Intelligence](#). York University.^z
- 2020. Cogs/Phil 2160: [Minds, Brains, and Machines](#). York University.^z
- 2015. Fwis 129: [Objectivity in Perception](#). First-year writing-intensive seminar. Rice University.

Philosophy Courses

- 2018. Phl 110: [The Examined Life](#). Lebanon Valley College.^h
- 2017. Phi 280: [American Philosophy: Pragmatism](#). Kutztown University of Pennsylvania.
- 2017. Phi 030: [Introduction to Philosophy](#). Kutztown University of Pennsylvania.
- 2016. Phi 235: [Topics in Moral Theory: Virtue Ethics](#). Kutztown University of Pennsylvania.
- 2014. Phil 106: [Logic](#). Rice University.
- 2011. Phil 2306: [Introduction to Ethics](#). Lone Star College.

^z online course

^h hybrid in-person/online course

N.B. Courses listed by the last year taught, not all sections at all schools listed.

Continuing Education

- 2024. [TRIADS Training Series: Getting Started with High Performance Computing at WashU](#), Transdisciplinary Institute in Applied Data Sciences, Washington University in St. Louis. Four workshops.

- 2023. [Neuromatch Academy: Computational Neuroscience](#), [Neuromatch](#). July 10–28.
- 2019. [Predictive Vision Philosophy Workshop](#), hosted by the York University Department of Philosophy. June 9.
- 2019. [Neural Mechanisms Online Webinar Series 2019](#), sponsored by the Center for Logic, Language and Cognition and the University of Turin. Spring to summer.
- 2014. [Pedagogy Workshops](#), Center for Teaching Excellence, Rice University. Eight workshops.
- 2013. [5th Graduate International Summer School in Cognitive Sciences and Semantics](#) (ISSCSS) on perception, co-organized by the Center for Cognitive Sciences and Semantics at the University of Latvia and the Department of Philosophy at McMaster University and hosted by the University of Latvia. July 19–29.
- 2012. [5th North American Summer School in Logic, Language and Information](#) (NASSLLI), organized by the Association for Logic, Language and Information (FoLLI) and hosted by the University of Texas, Austin. June 18–22.
- 2010. [22nd European Summer School in Logic, Language and Information](#) (ESSLLI), organized by the Association for Logic, Language and Information (FoLLI) and hosted by the University of Copenhagen. August 9–20.
- 2010. [Carnegie Mellon Summer School in Logic and Formal Epistemology](#). June 7–25.

Awards and Funding

- 2024. Ampersand [Course Development Grant](#), Washington University in St. Louis, \$7,500 (w/ E. Harrison). Role: Co-director of new first-year program, [The mind-body connection: what makes us and moves us](#).
- 2021. Runner up, [Philosophy of Memory Essay Prize](#), Centre de Philosophie de la Mémoire (Centre for Philosophy of Memory), Université Grenoble Alpes. “Memory as sensory modality, perception as experience of the past”
- 2015. [Robert Alan and Kathryn Dunlevie Hayes Dissertation Completion Fellowship](#). Department of philosophy, Rice University.
- 2009–14. Awarded various competitive [travel stipends](#) as a student for conferences from my home departments and universities (\$7,000 total).
- 2009. [Dr. Carlson R. Chambliss Academic Achievement Award](#) (Silver). Kutztown University of Pennsylvania.
- 2008. [Helen Marcks Scholarship](#) for undergraduate thesis. Honors Program, Kutztown University of Pennsylvania.

References

- Casey O’Callaghan. Professor. Department of Philosophy, Washington University in St. Louis.
casey.ocallaghan@wustl.edu
- Laurence Harris. Professor. Department of Psychology, York University.
harris@yorku.ca
- Kourken Michaelian. Professor. Institut de Philosophie de Grenoble, Université Grenoble Alpes.
kourken.michaelian@univ-grenoble-alpes.fr
- Corey Maley. Associate Professor. Department of Philosophy. Purdue University.
cjmaley@purdue.edu