

## Education

- 2016 – Current      **Doctor of Philosophy** – Psychology  
Brown University in Providence, USA  
PhD Supervisors: Drs. Amitai Shenhav & Michael J. Frank
- 2014 – 2016      **Master of Science** – Psychology (Cognitive and Behavioral Neuroscience)  
University of Western Ontario in London, CA  
MSc. Supervisor: Dr. Ingrid Johnsrude  
Thesis: *The effects of concurrent cognitive load on the processing of clear and degraded speech.*
- 2010 – 2014      **Bachelor of Science (Honors) with Distinction** - Psychology  
Queen's University in Kingston, CA  
Honors Thesis Supervisor: Dr. Ingrid Johnsrude  
Thesis: *Attention enhances phase-locking in the brainstem frequency-following response.*

## Accolades & Funding

- Starting 2022      **C.V. Starr Foundation Postdoctoral Fellowship**, Princeton University
- 2019 – 2020      **Carney Graduate Award in Brain Science**, Brown University (\$55,000 USD)
- 2019      **Cognitive Science Society Travel Award** (\$500 USD)
- 2018 – 2019      **Eimas Graduate Research Award**, Brown University (\$1,000 USD)
- 2014      **Certificate of Academic Excellence** for top honors thesis in graduating class,  
Canadian Psychological Association
- 2011      **Summer Work Experience Program**, Queen's University (\$2,500 CAD)
- 2010 – 2014      **Dean's Honor List**, Queen's University
- 2010 – 2014      **Foresters Competitive Scholarship** (\$8,000 CAD)
- 2010      **Queen's University Excellence Scholarship** (\$2,000 CAD)

## Peer-Reviewed Publications

- Ritz, H.**, Frömer, R., & Shenhav, A. (2020). Bridging motor and cognitive control: It's about time! (Spotlight). *Trends in Cognitive Sciences*. 24(1), 6–8.
- Nassar, M.R., McGuire, J.T., **Ritz, H.**, & Kable, J. (2019). Dissociable forms of uncertainty-driven representational change across the human brain. *Journal of Neuroscience*, 39(9), 1688–1698.
- Ritz, H.**, Nassar, M.R., Frank, M.J., & Shenhav, A. (2018). A control theoretic model of adaptive behavior in dynamic environments. *Journal of Cognitive Neuroscience*, 30(10), 1405–1421.

## Manuscripts Under Review or In Revision

- Ritz, H.**, Leng, X., & Shenhav, A. (2021). Cognitive control as a multivariate optimization problem. Preprint: <http://arxiv.org/abs/2110.00668>
- Ritz, H.**, & Shenhav, A. Humans reconfigure target and distractor processing to address distinct task demands. Preprint: <https://doi.org/10.1101/2021.09.08.459546>
- Leng, X., Yee, D., **Ritz, H.**, & Shenhav, A. Dissociable influences of reward and punishment on adaptive cognitive control. Preprint: [doi.org/10.1101/2020.09.11.294157](https://doi.org/10.1101/2020.09.11.294157).

- Rmus, M., **Ritz, H.**, Hunter, L.E., Bornstein, A.M., & Shenhav, A. Humans can navigate complex graph structures acquired during latent learning. Preprint: doi.org/10.1101/723072.
- Ritz, H.**, Wild, C., & Johnsrude, I. Parametric cognitive load reveals hidden costs in the neural processing of perfectly intelligible degraded speech. Preprint: doi.org/10.1101/2020.10.02.324509.

## Manuscripts in Preparation

**Ritz, H.\***, Frömer\*, R. & Shenhav, A. Disentangling stimulus-driven and controlled processes during value-based decision making. \* co-first authorship.

## Peer-Reviewed Conference Proceedings

- Ritz, H.**, DeGutis, J., Frank M.J., Esterman, M., & Shenhav, A. (2020). An evidence accumulation model of motivational and developmental influences over sustained attention. In *Proceedings of the 42nd Annual Meeting of the Cognitive Science Society*. Toronto, CA. [Poster].
- Leng, X., **Ritz, H.**, Yee, D., & Shenhav, A. (2020). Dissociable influences of reward and punishment on adaptive cognitive control. In *Proceedings of the 42nd Annual Meeting of the Cognitive Science Society*. Toronto, CA. [Poster]
- Ritz, H.** & Shenhav, A. (2019). Parametric control of distractor-oriented attention. In *Proceedings of the 41st Annual Meeting of the Cognitive Science Society*. Montreal, CA. [[Talk](#)].
- Ritz, H.**, Nassar, M.R., Frank, M.J., & Shenhav, A. (2019). Decisions about reward and effort for the learning and control of dynamical systems. In *4<sup>th</sup> Multidisciplinary Conference on Reinforcement Learning and Decision Making*. Montreal, CA. [Poster].
- Ritz, H.**, Nassar, M.R., Frank, M.J., & Shenhav, A. (2017). Behavioral evidence for PID-like feedback control. In *3<sup>rd</sup> Multidisciplinary Conference on Reinforcement Learning and Decision Making*. Ann Arbor, USA. [Poster and [Poster Spotlight Talk](#)].

## External Seminar Series Talks

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| Oct. 2021 | <b>Ghent Effort Group</b> , Ghent University. Ghent, BE.     |
| Feb. 2020 | <b>ConCat Series</b> , New York University. New York, USA.   |
| May 2018  | <b>CBC Series</b> , Universitat Pompeu Fabra. Barcelona, ES. |

## External Lab Meeting Talks

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| Nov 2021   | <b>Otto Lab</b> , McGill University. Montreal, CA.                                  |
| July 2021  | <b>Mars Lab</b> , Oxford University. Oxford, UK.                                    |
| June 2021  | <b>CoCoA Lab (Taraz Lee)</b> , University of Michigan. Ann Arbor, USA.              |
| May 2021   | <b>Verguts Lab</b> , Ghent University. Ghent, BE.                                   |
| Apr. 2021  | <b>Western Sensorimotor SuperLab</b> , Western University. London, CA.              |
| Mar. 2021  | <b>Daw Lab</b> , Princeton University. Princeton, USA.                              |
| Feb. 2021  | <b>Summerfield Lab</b> , Oxford University. Oxford, UK.                             |
| Nov. 2020  | <b>Jazayeri Lab</b> , Massachusetts Institute of Technology. Cambridge, USA.        |
| Oct. 2020  | <b>Schultz Lab</b> , Max Planck Institute for Biological Cybernetics. Tübingen, DE. |
| Sept. 2020 | <b>Kool Lab</b> , University of Washington in St. Louis. St. Louis, USA.            |
| Aug. 2020  | <b>Collins Lab</b> , University of California Berkeley. Berkeley, USA.              |
| May 2020   | <b>McGuire Lab</b> , Boston University. Boston, USA.                                |
| Apr. 2020  | <b>Hayden Lab</b> , University of Minnesota. Twin Cities, USA.                      |
| Mar. 2020  | <b>Donner Lab</b> , Hamburg University. Hamburg, DE.                                |

## Conference Presentations

- Ritz, H.,** Frömer, R. & Shenhav, A. Disentangling stimulus-driven and controlled processes during value-based decision making.
- *Society for Neuroscience* (2021). Online. [Poster].
  - *Society for Neuroeconomics* (2021). Online. [Poster].
- Ritz, H.,** Hayden, B., Shenhav, A., Yoo, S.B., Optimal control of approach-avoidance dynamics.
- *Neuromatch 3.0* (2020). Online. [[Talk](#)].
- Ritz, H.,** Nassar, M.R., Frank, M.J., & Shenhav, A., Optimal decision-making in metric space.
- *Society for Neuroeconomics* (2020). Online. [Poster and [Poster Spotlight Talk](#)].
- Ritz, H.,** & Shenhav, A. Humans reconfigure target and distractor processing to address distinct task demands
- *Workshop on Mental Effort* (2021). Online. [Poster].
  - *Motivational and Cognitive Control* (2019). Berlin, DE. [Poster].
  - *Control Processes* (2019). Providence, USA. [Poster].
  - *Cognitive Neuroscience Society* (2018). Boston, USA. [Poster].
- Rmus, M., **Ritz, H.,** Hunter, L., Bornstein, A., & Shenhav, A. Humans can navigate complex graph structures acquired during latent learning.
- *Reinforcement Learning and Decision Making* (2019). Montreal, CA. [[Workshop Talk](#)].
  - *Society for Neuroeconomics* (2018). Philadelphia, USA. [Talk by M.R.].
- Ritz, H.,** DeGutis, J., Frank M.J., Esterman, M., & Shenhav, A. Modeling motivational influences on sustained attention.
- *Winter Conference on Brain Research* (2019). Snowmass, USA. [Poster].
  - *Society for Neuroeconomics* (2018). Philadelphia, USA. [Poster].
- Ritz, H.,** Dean Wolf, C., Frömer, R., & Shenhav, A. Quantifying the demands of value-based decision-making with short-term memory interference.
- *Cognitive Neuroscience Society* (2019). San Francisco, USA. [Poster].
- Ritz, H.,** Nassar, M.R., Frank, M.J., & Shenhav, A. Behavioral evidence for PID-like feedback control.
- *Society for Neuroscience* (2017). Washington, USA. [[Nanosymposium Talk](#)].
  - *New England Research in Decision-Making* (2017). Providence, USA. [[Talk](#)].
  - *Brown Mind Brain Research Day* (2017). Providence, USA. [Poster].
- Ritz, H.,** Wild, C., & Johnsrude, I.J. The effects of concurrent cognitive load on the processing of clear and degraded speech.
- *Organization for Human Brain Mapping* (2016). Geneva, CH. [Poster].
- Ritz, H.,** Arbuckle, S., Wild, C., & Johnsrude, I.J. Enhanced recognition memory for acoustically degraded sentences.
- *Association for Research in Otolaryngology* (2015). San Diego, USA. [Podium Talk by I.J.].
  - *Brain and Mind Institute Symposium* (2015). London, CA. [Poster].
- Ritz, H.** & Johnsrude, I.J. Attention enhances phase-locking in the frequency following response.
- *Canadian Society of Brain, Behaviour, and Cognitive Science*. (2014). Toronto, CA. [Poster].
  - *McMaster University NeuroXchange Conference* (2014). Hamilton, CA. [Poster].

## Competitive Research Courses

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| Summer 2019 | <b>Kavli Summer Institute in Cognitive Neuroscience</b> , Santa Barbara, USA. |
| Summer 2017 | <b>Methods in Neuroscience at Dartmouth</b> , Hanover, USA.                   |

## Service Roles

2021	<b>FYRE Teaching Assistant</b> , The Leadership Alliance & Brown University
2020 – 2021	<b>Departmental Colloquium Committee</b> , Brown University
2018 – 2019	<b>Cognition Seminar Series Organiser</b> , Brown University
2017 – 2018	<b>Psychology Graduate Student Representative</b> , Brown University
2017 – 2020	<b>Optimism Walk Participant</b> , American Parkinson Disease Association
2017 – 2020	<b>Brown Brain Week Participant</b> , Brown University
2015 – 2016	<b>Psychology Graduate Student Representative</b> , Western University
2015 – 2016	<b>Psychology Colloquium Committee</b> , Western University
2013 – 2014	<b>Psychology Undergraduate Student Council</b> , Queen's University

## Teaching

Spring 2019	<b>fMRI: Theory and Practice</b> , Brown University, TA
Spring 2018	<b>Cognitive Neuropsychology</b> , Brown University, TA
Fall 2017	<b>Social Psychology</b> , Brown University, TA
2015 – 2016	<b>Statistics using Computers (full year)</b> , Western University, TA
2014 – 2015	<b>Sensation and Perception (full year)</b> , Western University, TA
2012 – 2013	<b>Introduction to Psychology (full year)</b> , Queen's University, TA

## Mentorship

2021 – current	Kyle Chen (RA)
2019 – current	Christopher Bravo (RA)
2019 – 2020	Jennifer Dzul (honors thesis: <i>Are Distractors really that Distracting? A Closer Look into Target vs Distractor Sensitivity in Older Adults</i> )
2019 – 2020	Natalie Knowles (RA)
2019	Savannah Doelfel (RA)
2017 – 2019	Allison Loynd (RA)
2017 – 2018	Milena Rmus (honors thesis: <i>Model-based decision-making is associated with structure inference ability</i> )
2017	William McNelis (RA)
2016 – 2017	Kia Sadahiro (RA)
2015 – 2016	Jessica Uthayakumar (honors thesis: <i>Consequences of acoustic degradation and semantic context on recognition memory</i> )

## Pre-Graduate Research Experience

2013 – 2014	Research Assistant, Queen's University. PI: Dr. Ingrid Johnsrude
2011 – 2012	Research Assistant, Queen's University. PI: Dr. Monica Castelhana
Summer 2010	Research Assistant, Juravinski Cancer Centre. PI: Dr. Jehonathan Pinthus

## Ad Hoc Reviewer

Journal of Neuroscience, Computational Brain & Behavior, eLife