ANISHA KHOSLA

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EDUCATION

Ph.D. Cognitive Neuroscience **September 2019 – Present**
University of Toronto, Toronto, ON, Canada
Co-Advisors: Dr. Jennifer D Ryan and Dr. Morris Moscovitch

M.A. Cognitive Neuroscience **September 2019 – September 2019**
University of Toronto, Toronto, ON, Canada
Overall GPA: 4.00/4.00
Co-Advisors: Dr. Jennifer D Ryan and Dr. Morris Moscovitch
Thesis: Path integration using eye and hand movements

B.Sc. Honours Psychology, Neuroscience, & Behaviour **September 2014 – April 2018**
McMaster University, Hamilton, ON, Canada
Overall GPA: 3.84/4.00
Thesis: Conflict Adaptation – The role of stimulus type and stimulus dimensions in the transfer of adaptive processes

RESEARCH EXPERIENCE

PHD Student **September 2018 – Present**
University of Toronto and Rotman Research Institute at Baycrest Health Sciences
Co-Advisors: Dr. Jennifer D. Ryan and Dr. Morris Moscovitch

- Investigate the link between memory and viewing behaviour
- Investigate how processes used to update whole-body position during navigation are also required to update eye and hand position (MA thesis)
- Lead and manage multiple projects from the conceptualization and experiment design to statistical analyses and writing for publication (in prep)
- Administer cognitive tasks and neuropsychological tests to younger adults, older adults, and to individuals with amnesia
- Train undergraduate volunteers to assist with data collection and supervise them for project courses

Research Assistant at Neurotechnology and Neuroplasticity Lab **July 2017 – April 2018**
Advisor: Dr. Suzanna Becker, Professor, Department of Psychology, Neuroscience, & Behaviour, McMaster University

- Investigated the effects of the complex dietary supplement, developed by Dr. David Rollo, on hippocampal volume and depressive symptoms in models of Alzheimer's disease
- Conducted a battery of behavioural tests on triple transgenic mouse models of Alzheimer's disease and scored data from behavioral tests and tissue samples (e.g. hippocampal volume) using ImageJ

Research Assistant at Milliken Lab **January 2017 – April 2018**
Advisor: Dr. Bruce Milliken, Professor, Department of Psychology, Neuroscience, & Behaviour, McMaster University

- Investigated subjective estimates visual imagery. Designed experiment and collected data.
- Poster presented at the annual meeting of the Annual Lake Ontario Visionary Establishment Conference (2018), manuscript submitted

Thesis Student & Research Assistant at Shedden Lab **January 2016 – April 2018**
Advisor: Dr. Judith M Shedden, Professor, Department of Psychology, Neuroscience, & Behaviour, McMaster University

- Thesis: Investigated generalization of cognitive control during conflict
- Led study design for 5 experiments, collected data from ~200 participants in 6 months, analyzed data
- Poster presented at the annual meeting of Psychonomics Society (2018), manuscript in preparation
- Research assistant (May-Aug 2017): Assisted with data collection using Electroencephalography (EEG) and tested participants in a motion simulator, Redesigned the lab website (WordPress)

PUBLICATIONS

Submitted

Cochrane B.A., Ng V., **Khosla, A.**, Milliken, B. (2020, submitted). Looking into the Mind's Eye: Directed and evaluated imagery vividness modulates imagery-perception congruency effects. *Psychonomic Bulletin & Review.* 24 pages submitted on Oct 18th, 2020

In Preparation

Khosla A., Moscovitch M., Ryan J.D. (2020, in prep). *Path integration across modalities: updating gaze and hand position in younger and older adults.*

Khosla A., Legere J.K., Townsend B., O'Malley S., Shedden J.M. (2020, in prep). *Conflict Adaptation: the role of conflict type and stimulus dimensions in the transfer of adaptive processes.*

PRESENTATIONS & TALKS

Khosla*, Moscovitch, Ryan (2020). *Path integration using eye and hand movements.* ***Poster presentation at the Cognitive Neuroscience Society (CNS).***

Khosla*, Moscovitch, Ryan (2019). *Path integration using eye movements.* ***Oral presentation at the Rotman Research Institute.***

Khosla*, Legere, Cadman, O'Malley, Shedden (2018). *Conflict Adaptation: the role of conflict type and stimulus dimensions in the transfer of adaptive processes.* ***Poster presentation at the Psychonomic Society's 3rd International Meeting.***

Khosla*, Cochrane, Milliken (2018). *Metacognition of visual imagery: how subjective estimates of imagery vividness modulate an imagery effect.* ***Poster presentation at the 47th Annual Lake Ontario Visionary Establishment (L.O.V.E.) Conference.***

*signifies presenter

AWARDS AND SCHOLARSHIPS

NSERC-Create Doctoral Award in Complex Dynamics **2020 – 2021**
Award Value: $26,000

Ontario Graduate Scholarship (OGS) **2020 – 2021**
University of Toronto
Award Value: $15,000 (Declined)

Finkler Graduate Student Fellowship **2020 – 2021**
Rotman Research Institute, Baycrest
Award Value: $3000

Toni Balatinecz Memorial Award **2019 – 2020**
Rotman Research Institute, Baycrest
Award Value: $1000

Graduate Travel Awards **2019**

- Jack & Rita Catherall Travel Award, $500, *Rotman Research Institute, Baycrest*
- SGS Conference Grant, $750, *University of Toronto* (declined due to COVID-19)

Dean's Honour List (undergraduate) **2014 – 2018**
McMaster University

McMaster President's Award (undergraduate) **2014 – 2015**
McMaster University
Award Value: $2500

TECHNICAL SKILLS

Programming Languages: Python, R, Functioning knowledge of MATLAB and Bash
Operating Systems: macOS, Linux, MS Windows
Applications: RStudio, Spyder, SPSS, ImageJ, jupyter notebooks, GitHub, MS Office
Experiment Design: Eye-tracking experiments (Experiment Builder by SR Research), Behavioural cognitive tasks (PsychoPy), Electroencephalography (EEG, can implement)
Data Analysis: Data Viewer by SR Research, Python, R and MATLAB, FSLeyes for neuroimaging data, clustering algorithms, multivariate analyses, mixed effects models, ANOVA

TEACHING EXPERIENCES

Advanced University Teaching Program (AUTP) **July 2020 – Present**

- Prepare to teach a university-level course through interactive workshops, a teaching practicum
- Develop a teaching philosophy, prepare a teaching dossier, and receive feedback on course planning and delivery

Programming Workshop Instructor: Python & R **June 2019 – Present**

Rotman Research Institute, Baycrest

- Lead interactive introduction to python workshops (June 2019, July 2020) and co-lead interactive introduction to R workshops (July 2019, July 2020) and advanced R workshop (November, 2019) which were collectively attended by over 200 trainees within and outside RRI (all workshop material available on GitHub: https://github.com/anishakhosla/rtc_workshop)
- *Python workshops*: Designed workshop content, live coded using Google Colab Notebook (jupyter-style interface), demonstrated basic programming concepts, dataframes in Python using pandas, and data visualization using seaborn
- *Intro to R workshops*: Co-led an introductory R workshop with Stephanie Simpson and Nichole Bouffard, designed workshop content, live coded using R-Studio, demonstrated data wrangling using tidyverse, descriptive and inferential statistics, and data visualization using ggplot2
- *Advanced R workshop*: Co-led an advanced R workshop on data visualization using ggplot2 package and linear mixed effects models using lme4 package

Advisor for Undergraduate Students **January 2019 – Present**

Moscovitch and Ryan labs, University of Toronto & Rotman Research Institute

- Advise and train research assistants (Helena Wang, Michael Ghodrat) and undergraduate students (Astrid Coleman, Veena Sanmugananthan, Anna Waisman) in recruiting and testing participants on eye-tracking tasks, statistical analyses, and programming

Teaching Assistant **September 2018 – Present**

Department of Psychology, University of Toronto

- Courses: Statistics, Introduction to Cognitive Psychology, Introduction to Psychology, Health Psychology
- Support students in understanding of course content and essay writing
- Hold tutorials and office hours to clarify student queries and grade research papers, exams, essays

Public Lecturer: Brain and Cognition **June 2020 (cancelled due to COVID-19)**

- Planned to give a public lecture on science literacy to community adults registered in the Brain and Cognition series with the Research Training Centre at the Rotman Research Institute

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OUTREACH

Steering Committee Member, Research Training Centre (RTC) **July 2020 – Present**

Rotman Research Institute, Baycrest

- Contribute to RTC programming as a graduate student representative on the committee
- Coordinate and facilitate workshops, panels, etc.

EDI Committee Member, Psychology Department **July 2020 – Present**

University of Toronto

- Develop and participate in initiatives aimed at diversifying graduate students in the psychology department at U of T
- Initiatives include modifying the program website, modifying the current application to include demographic question, developing a mentorship program for undergraduate students

Trainee Talk Series Organizer (SpeakEasy Series) **July 2019 – Present**
Rotman Research Institute, Baycrest

- Co-lead monthly talk series at the Rotman Research Institute (RRI) with Dr. Derek Beaton where trainees can share, discuss, and receive feedback on their current work
- Organize off-site/virtual socials to inspire comradery amongst trainees

neuroBRITE Mentor **February 2019 – May 2019**
Rotman Research Institute, Baycrest

- Mentored high school students as a part of an outreach initiative aimed at introducing high school students to research via hands-on experience
- Visited local high schools to guide student teams in designing a behavioural/EEG experiment using the MUSE headset, collecting data, analyzing data using Python, and presenting data as a poster presentation

COMMUNITY SUPPORT ROLES

Friendly Visitor **January 2019 – November 2019**
Psychiatry Unit, Baycrest Health Sciences, North York, ON

- Engage hospital clients in activities like playing games, walking around campus, reading books, and chatting

Peer Support Listener **September 2017 – April 2018**
MSU Peer Support Line, McMaster University

- Volunteered for an anonymous and confidential peer support service on campus
- Supported students and equipped them with resources through confidential call or chat
- Certified in ASIST (Applied Suicide Intervention Skills Training)

Community Advisor **September 2017 – April 2018**
McMaster University
Supervisor: Danielle Lapointe, Residence Manager, Residence Life Office

- Facilitated transition of first year students from high school to university and fostered connections amongst students in the residence community by leading floor events
- Certified in Standard CPR and HCP, and SafeTalk

Other Mentorship Roles **January 2016 – April 2017**
McMaster University

- *Psychology Neuroscience, & Behaviour (PNB) Society:* Supported second year students with course navigation and research opportunities
- *Student Success Center:* Supported transition of international students into university and a new country
- *McMaster Science Society:* Guided first year students with program selection by connecting students to the resources for support during their first year in university