**ANISHA KHOSLA**



Email: anisha.khosla@mail.utoronto.ca, akhosla@research.baycrest.org



**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**

***Accepted***

Cochrane B.A., Ng V., **Khosla, A.**, Milliken, B. (2020, accepted). Looking into the Mind’s Eye: Directed and evaluated imagery vividness modulates imagery-perception congruency effects. *Psychonomic Bulletin & Review.*

***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



**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