

Alexandra L. R. Decker
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Education

- Ph.D. University of Toronto, 2016 - present
Cognitive Psychology
Committee: Katherine Duncan, Amy Finn, Keisuke Fukuda
- M.A. University of Toronto, 2016
Cognitive Psychology
Advisor: Don Mabbott
- B.A. McGill University, 2013
Major: Psychology, Behavioral Science

Research Interests

memory development, sustained and selective attention, acetylcholine, norepinephrine, cognitive development, cognitive psychology, open science, EEG, fMRI

Grants and Awards

- 2020 – Ontario Graduate Scholarship (2020-2021)
Amount: \$15,000
- 2018 – Canadian Institutes of Health Research Project Grant (2018-2022)
Summary: White matter plasticity in brain synchronisation and memory
Role: Co-Applicant
Amount: \$1,147,500
- 2017 - Brain Canada-Kids Brain Health Network Training Award (2018-2020)
Summary: Testing white matter pathway's influence on neural communication: A combined structural and functional neuroimaging study
Role: Awardee
Amount: \$70,000
- 2017 – Ontario Graduate Scholarship Honorable Mention
- 2017 - School of Graduate Studies Conference Travel Grant

Role: Awardee
Amount: \$450

2016 - School of Graduate Studies Conference Travel Grant

Role: Awardee
Amount: \$1,100

Peer reviewed publications

Sekeres, M. J., Riggs, L., **Decker, A.**, Medeiros, C. B. de, Bacopulos, A., Skocic, J., ... Frankland, P. W. (2018). Impaired recent, but preserved remote, autobiographical memory in pediatric brain tumor patients. *Journal of Neuroscience*, 1056–18. <https://doi.org/10.1523/JNEUROSCI.1056-18.2018>

Decker, A. L., Szulc, K. U., Bouffet, E., Laughlin, S., Chakravarty, M. M., Skocic, J., ... Mabbott, D. J. (2017). Smaller hippocampal subfield volumes predict verbal associative memory in pediatric brain tumor survivors. *Hippocampus*. <https://doi.org/10.1002/hipo.22758>

Oyefiade, A, Ameis, S, Rockel, C., Lerch, J., Szulc, K., Scantlebury, N, **Decker, A**, Jefferson, J., Spichak, S., Mabbott DJ. Longitudinal development of short-range white matter tracts in healthy children and adolescents. *In revision, Human Brain Mapping*

Manuscripts under review/In prep

Decker A.L., Duncan, K+, Finn, A.S.+., Mabbott, D.J+. Income related gaps in children's cognition mediated by anterior, not posterior hippocampus. *Under Review*

Decker A.L., Finn, A.S.+., Duncan, K+. Error-related arousal impairs subsequent memory formation. *Under Review*

Decker A.L., Duncan, K. Acetylcholine and the complex interdependence of attention and memory. *Under Review*

Decker A.L., Duncan, K+, Finn, A.S.+ . Attention matters more for memory in children than adults *In Prep*

Dubois, J.+ , **Decker A.L.+**, Duncan, K+., Finn, A.S+., Attention matters more for memory in children than adults. *In Prep*

+ denotes equal contribution

Invited talks at conferences and meetings

Decker, A.L., Duncan, K.* , Finn, A.* , Mabbott, D.J.* (March 2019) Parental income alters development of anterior, but not posterior hippocampus. Society for Research in Child Development

Decker, A., (May 2018). Attentional states influence memory encoding. Research presented at the 2018 Annual Toronto Area Memory Group Meeting

Talks at intramural meetings /brownbag talks

Decker, A.L (May 2016). Hippocampal subfield volumes in pediatric brain tumor survivors. Research presented at the Annual Collaborative Program in Neuroscience Research Day

Decker, A.L., Duncan, K.* , Finn, A.* , Mabbott, D.J.* (March 2019) Socioeconomic status and the anterior hippocampus. Developmental interest group meeting, University of Toronto.

Decker, A.L., Szulc, K. U., Bouffet, E., Laughlin, S., Chakravarty, M. M., Skocic, J., ... Mabbott, D. J. (April 2017). The development of hippocampal subfields in healthy children and adolescents. Research presented at the 2017 Annual Neuroimaging round data blitz meeting at the Hospital for Sick Children.

Poster presentations at conferences and meetings

Decker, A., Duncan, K.* , Finn, S. A.* Attention Matters More: In Kids, Attentional State Predicts Memory Better Than in Adults. *Context and Episodic Memory Symposium, Philadelphia, PA (May 2019)*.

Decker, A., Duncan, K.* , Finn, S. A.* Attention Matters More: In Kids, Attentional State Predicts Memory Better Than in Adults. *Biennial meeting for Research in Child Development (SRCD), Baltimore, MD (March 2019)*.

Decker, A., Finn, S. A.* , Duncan, K.* How do developmental shifts in attentional control influence memory encoding? *Cognitive Neuroscience Society (CNS) Conference, Boston MA (April 2018)*.

Decker A, Skocic J, Finn A, Mabbott DJ. Age-related changes in hippocampal subfields and white matter across childhood and adolescence. 2017 Annual Meeting of the Organization for Human Brain Mapping (OHBM), Vancouver, BC. (June 2017).

Decker A, Skocic J, Finn A, Mabbott DJ. Age-related changes in hippocampal subfields and white matter across childhood and adolescence. 11th Annual Canadian Association for Neuroscience Meeting, Montreal, QC. (May 2017).

Decker, A., Szulc, K., Skocic, J., de Medeiros, C., Riggs, L., Bouffet, E., ... Mabbott, D. (2016). Impact of cranial radiation therapy on hippocampal subfield volumes and declarative memory in pediatric brain tumor survivors. *Neuro-Oncology*, 18(suppl_3), iii158–iii158. <https://doi.org/10.1093/neuonc/now081.58>

Decker A, Szulc K, Skocic J, de Medeiros C, Riggs L, Bouffet E, Dockstader C, Laughlin S, Mabbott D. Hippocampal subfield volume loss in children and adolescent survivors of pediatric brain tumors. *Canadian Association for Neuroscience (CAN) Conference, Toronto, ON (May 2016)*.

Decker A, Szulc K, Skocic J, de Medeiros C, Riggs L, Bouffet E, Dockstader C, Laughlin S, Mabbott D. Hippocampal subfield volume loss in children and adolescent survivors of pediatric brain tumors. *Centre for Brain and Mental Health Day, Toronto, ON (April 2016)*.

Oyefiade A, Ameis S, Scantlebury N, **Decker A**, Szulc K, Mabbott DJ. Developmental characterization of sub-cortical white matter tracts. *23rd International Society for Magnetic Resonance Imaging in Medicine, Toronto, ON (June 1, 2015)*.

Moxon-Emre, I., Scantlebury, N., Taylor, M.D., Bouffet, E., Malkin, D., Laughlin, S., Law, N., Kumabe, T., Leonard, J., Rubin, J., Jung, S., Kim, S., Gupta, N., Weiss, W., Faria, C., Vibhakar, R., Spiegler, B., Janzen, L., Liu, F., **Decker, A.**, Mabbott, D. Long-term outcome in subgroups of medulloblastoma. 16th International Symposium on Pediatric Neuro-Oncology (ISPNO), Singapore. *Neuro-Oncology* 2014: 16(Suppl 1): i99-i104.

Teaching Experience

2019-2020 **Undergraduate Teaching Assistant** – Introduction to Psychology
Professor: Ashley Denton

2018-2019 **Undergraduate Teaching Assistant** – Introduction to
Development (PSY210)
Professor: Amy Finn
Professor: Christina Starmans

- 2017 **Undergraduate Teaching Assistant & Guest Lecturer** – Learning and Plasticity (PSY260)
Guest Lecture Topic: Episodic and Semantic Memory
Professor: Iska Moxon-Emre
- 2017 **Undergraduate Teaching Assistant** – Psychology and the Law (PSY328)
Professor: Heidi Gordon, University of Toronto
- 2016 **Undergraduate Teaching Assistant** – Human Memory (PSY372)
Lecturer: Danielle Douglas, University of Toronto
- 2015 - 2016 **Undergraduate Teaching Assistant & Guest Lecturer** – Health Psychology (PSY333)
Professor: Gabriella Ilie, University of Toronto

Academic Service

Census coordinator on the Graduate Student Census Committee (2019-2020)
Graduate mentor through the University of Toronto peer mentorship program (2018-2019)
Volunteer Organizer for the International Conference for Cognitive Neuroscience (2017)

Workshops

Multi-level modelling, directed by Henrik Singmann (2019)

Mentees

Enri Boshti
Carissa DeMarinis
Arshee Faizullah
Jiin Kim