Spencer A. Arbuckle

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Education

2016–present	Ph.D. Neuroscience	Western University	advisors: Jörn Diedrichsen & Andrew Pruszynski
2010–14	B.Sc. (Hon.) Psychology	Queen's University	advisor: Ingrid Johnsrude

Awards & Scholarships

2020	Western University Neuroscience Research Day award ($100)
2019	Primate Systems Neuroscience Summer School Travel Award (€500)
2018	NSERC PGS-D Postgraduate Scholarship ($63,000)
2018	Ontario Graduate Scholarship ($15,000) – *declined*
2017	Western University Neuroscience Conference Travel Award ($500)
2017	*CoSMo* Summer School – Best overall group project
2017	Brain Canada Travel Scholarship to attend *CoSMo* Summer School ($1,500)
2017	BMI Postdoc Collaborative Research Grant: Ejaz, Weiler, & Arbuckle ($2,296)
2013–14	Queen's University Dean's Honour List
2010	Queen's University Entrance Scholarship

Workshop Participation

2019	Representational Similarity Analysis 3.0 Workshop. Collingwood, ON (Canada).
2019	Primate Systems Neuroscience Summer School. Bad Bevensen (Germany). *Travel grant awarded.*
2017	Computational Sensorimotor Neuroscience (*CoSMo*). University of Minnesota (USA). *Travel grant awarded.*

Selected Teaching Experience (lecturing, workshops, TAships)

2020	Intro to Data Science I (compsci 4414)	Western University
2020	Intro to Neural Networks (psyc 9221B / app math 9624B)	Western University
2019–	Regular contributor at the Computational Core Methods Lunches	Western University
2017	Information Systems (compsci 1032)	Western University
2016	Statistics for Science (stats 2244)	Western University
2016	Intro to Statistics (stats 1024)	Western University
2012–14	Principles of Psychology (psyc 100)	Queen's University

Invited Talks

03/2018	*Can fMRI be used to make inferences on neural representations?* Dept. of Cognitive, Linguistic, & Psychological Sciences, Brown University (Providence RI, USA).
04/2017	*An introduction to pattern component modeling.* BLAM Lab, Dept. of Neurology, Johns Hopkins University School of Medicine (Baltimore MD, USA).

Publications

[5] **Arbuckle SA**, Weiler J, Kirk EA, Rice CL, Schieber MH, Pruszynski JA, Ejaz N, Diedrichsen J. (*in press*). Structure of population activity in primary motor cortex for single finger flexion and extension. *Journal of Neuroscience*.

[4] **Arbuckle SA**, Yokoi A, Pruszynski JA, Diedrichsen J. (2019). Stability of representational geometry across a wide range of fMRI activity levels. *NeuroImage* 186: 155-163.

[3] Yokoi A, **Arbuckle SA**, Diedrichsen J. (2018). The role of human primary motor cortex in the production of skilled finger sequences. *JNeuroscience* 38: 1430-1442.

[2] Diedrichsen J, Yokoi A, **Arbuckle SA**. (2018). Pattern Component Modeling: A flexible approach for understanding the representational structure of brain activity patterns. *NeuroImage* 180: 119-133.

[1] Lambert C, **Arbuckle SA**, Holden R. (2016). The Marlow-Crowne Social Desirability Scale outperforms the BIDR Impression Management Scale for identifying fakers. *Journal of Research in Personality* 61: 80-86.

Conference Talks

[5] **Arbuckle SA***, Pruszynski JA, Diedrichsen J. Integration of tactile information from multiple fingers in human primary sensory cortex measured using high-resolution fMRI. *Robarts Research Retreat*, 2020.

[4] **Arbuckle SA**, Weiler J, Kirk EA, Saikaley M, Rice C, Schieber M, Diedrichsen J, Ejaz N*. Representation of fingers and finger movement direction in the primary motor cortex. *Society for the Neural Control of Movement*, 2018.

[3] Liu M*, **Arbuckle SA**, Okorokova L, Herrera* A, Kaiser A. Does S1 spiking activity encode sensory feedback for goal-directed movements in a grasping task? *Advances in Motor Learning & Motor Control* (*SfN* satellite symposium), 2017.

[2] **Arbuckle SA***, Weiler J, Kirk EA, Saikaley M, Rice C, Schieber M, Diedrichsen J, Ejaz N. Extension and flexion representations in M1 spatially cluster around the moving finger. *Advances in Motor Learning & Motor Control* (*SfN* satellite symposium), 2017.

[1] Ritz H, **Arbuckle SA**, Wild C, Johnsrude I.* Enhanced recognition memory for acoustically degraded sentences. *39th MidWinter Meeting of the Association for Research in Otolaryngology*, 2015.

*indicates primary speaker

Conference Posters

[7] **Arbuckle SA***, Pruszynski JA, Diedrichsen J. Integration of tactile information from multiple fingers in human primary sensory cortex measured using high-resolution fMRI. *Neuroscience Research Day (UWO)*, 2019.

[6] **Arbuckle SA***, Pruszynski JA, Diedrichsen J. Integration of tactile information from multiple fingers in human primary sensory cortex measured using high-resolution fMRI. *Society for Neuroscience*, 2019.

[5] **Arbuckle SA***, Weiler J, Kirk EA, Saikaley M., Rice C, Schieber M, Diedrichsen J, Ejaz N. Representation of fingers and finger movement direction in the primary motor cortex. *Canadian Student Health Research Forum,* 2018. ***nominated to attend by the Western Neuroscience graduate program*.

[4] **Arbuckle SA***, Weiler J, Kirk EA, Saikaley M., Rice C, Schieber M, Diedrichsen J, Ejaz N. Representation of fingers and finger movement direction in the primary motor cortex. *Mechanisms of Dexterous Behaviour (HHMI Janelia Conference),* 2018.

[3] **Arbuckle SA***, Yokoi A, Diedrichsen J. Is representational similarity analysis stable across a broad range of overall fMRI activity levels? *Organization for Human Brain Mapping,* 2017. *(travel grant awarded)*.

[2] **Arbuckle SA***, Yokoi A, Diedrichsen J. Stability of representational similarity analysis across a large range of overall activation levels. *Society for Neuroscience,* 2016.

[1] Diedrichsen J*, **Arbuckle SA**, Yokoi, A. Studying the representational structure of simple and complex hand movements in the human motor cortex. *Neural Control of Movement,* 2016.