#### **CURRICULUM VITAE**

#### JODY CULHAM

Department of Psychology Western University London, Ontario, Canada N6A 5B7

Office: 1-(519)-661-3979 E-mail: <u>jculham@uwo.ca</u>

World Wide Web: http://www.culhamlab.com/

Citizenship: Canadian

# **ACADEMIC CAREER**

Department of Psychology

Western University (formerly/legally University of Western Ontario)

Canada Research Chair in Immersive Neuroscience (Tier 1 NSERC), Sept. 2021 – present Professor, July 2013 – present

Sabbatical, St. John's Newfoundland (July 2023-June 2024)

Visiting Professor and Academic Nomad (Sabbatical): Centre for Mind/Brain Sciences, University of Trento, Italy (September 2015-February 2016); SISSA, Trieste, Italy (March-April 2016); Centre for Functional MRI of the Brain (FMRIB), Oxford University, UK (May 2016); University of Coimbra, Portugal (June 2016); Philipps University Marburg and Justus Liebig University Giessen (July 2016), Tokyo Institute of Technology (August 2016).

Associate Professor, July 2007 – June 2013

Visiting Associate Professor (Sabbatical), Department of Cognitive Neuroscience, *University of Maastricht*, Netherlands (September-December 2008) and Department of Physiology and Residence of Higher Studies, *University of Bologna*, Italy (January-May 2009)

Assistant Professor, July 2001 – June 2007

Affiliations: Western Institute for Neuroscience; Brain and Mind at Western; Graduate Program in Neuroscience; Canadian Action and Perception Network

#### Awards:

Natural Sciences and Engineering Research Council (Canada) E. W. R. Steacie Memorial Fellowship, June 2010

Senior Fellowship, University of Bologna, January-March 2009

Western Faculty Scholar Award, March 2008

Western Faculty of Medicine Dean's Award for Excellence in Research in the Team category, CIHR Group on Action and Perception, 2007

Canadian Institutes of Health Research New Investigator Award, 2003

Ontario Premier's Research Excellence Award, 2003

# McDonnell-Pew Postdoctoral Fellow

Western University

May 1997 - June 2001

Advisor: Dr. Melvyn A. Goodale

Affiliations: Mel Goodale's Vision and Motor Control Lab, CIHR Group on Action and

Perception

#### Awards:

McDonnell-Pew Program in Cognitive Neuroscience, Investigator-initiated training grant, 1998-2001.

# Doctor of Philosophy in Psychology (Cognition, Brain, and Behavior Program) Harvard University

September 1992 - June 1997

Ph.D. Thesis: "Attentive tracking of moving targets: Psychophysical and neuroimaging evidence for an attentional motion process."

Advisor: Dr. Patrick Cavanagh

Affiliations: Harvard Vision Sciences Lab, Nancy Kanwisher's High-level Vision Lab (Harvard); Massachusetts General Hospital Nuclear Magnetic Resonance Center

#### Awards:

Natural Sciences and Engineering Research Council (Canada) Postgraduate Scholarship A (declined: award untenable outside Canada)

# Bachelor of Science with First Class Honours in Psychology The University of Calgary

September 1986 - June 1991

Honours thesis: "Contrast does not account for age differences in counterphase flicker thresholds."

Advisor: Dr. Donald Kline

Affiliations: Don Kline's Vision and Aging Lab; Jane Raymond's Visual Perception Lab

#### Awards:

Natural Sciences and Engineering Research Council (Canada) Undergraduate Student Research Award, 1991

Department of Psychology Undergraduate Research Award, 1991

Gordon C. Swann Bursary, 1990-91

Louise McKinney Scholarship, 1989-90

Gary A. S. Owen Bursary, 1986

#### RESEARCH INTERESTS

Topics:

Immersive neuroscience, cognitive neuroscience, sensorimotor control, visual perception, real-world neuroscience, virtual reality, parietal cortex, grasping, reaching, tool use, object recognition, size and distance perception

Techniques:

functional magnetic resonance imaging (fMRI), behaviour, kinematics, psychophysics, neuropsychology, functional near-infrared spectroscopy (fNIRS)

# IMPACT OF PAPERS

Google Scholar (http://scholar.google.ca/citations?user=PnssgPwAAAAJ&hl=en)

- Citation Count: 12,900+ (November 2023)
- h-index: 57 (57 papers with 57+ citations)

Relative Citation Ratio (<a href="https://icite.od.nih.gov/">https://icite.od.nih.gov/</a> searched with PMID numbers)

• Average RCR: 2.5 (indicates work is cited 2.5X more often than average for the field of research)

ORCID Author Identifier: 0000-0003-0754-2999

# PEER-REVIEWED JOURNAL ARTICLES (104)

#### **Publication**

Culham Lab trainees (at the time of project) are indicated with a solid underline; Other trainees are indicated with a dotted underline.

# Role

- 12 1A = First Author (conducted experiment; wrote manuscript)
- 42 PI = Principal Investigator (supervised research, extensively edited manuscript, funded project)
- Co-A = Co-Author (shared design and analysis equally; co-wrote manuscript)
- Co-I = Co-Investigator (co-supervised research, edited manuscript)
- C = Collaborator (advised on experimental design and/or analysis, edited manuscript)

**Cit.** = Citations from Google Scholar (November 2023)

http://scholar.google.ca/citations?user=PnssgPwAAAAJ&hl=en

**RCR** = Relative Citation Rate (indicates how often work is cited relative to the average for the field of research; September 2022)

https://icite.od.nih.gov/

I have not included Journal Impact Factors because I consider them a better metric for journals than individual publications.

Publication	Role	Cit.	RCR
<u>Chen</u> , J., <u>Paciocco</u> , J. U., & <b>Culham</b> , J. C. (In press). Human neuroimaging reveals differences in activation and connectivity between real and pantomimed tool use. <i>Journal of Neuroscience</i> .	PI		
<ul> <li>Klein, L.K., Maiello, G., Stubbs, K. M., Proklova, D., Chen, J., Paulun, V. C.,</li> <li>Culham, J. C., &amp; Fleming, R. W. (In press). Distinct neural components of visually guided grasping during planning and execution. <i>Journal of Neuroscience</i>.</li> </ul>	PI		
Rens, G., Figley, T. D., Gallivan, J. G., Liu, Y, & Culham, J. C. (2023). Grasping with a twist: Dissociating action goals from motor actions in human frontoparietal circuits. <i>Journal of Neuroscience</i> , 43(32), 5831-5847.	PI		
Rzepka, A. M., Hussey, K. J., Maltz, M. V., Babin, K., Wilcox, L. M., & Culham, J. C. (2022). Familiar size affects perception differently in virtual reality and the real world. <i>Philosophical Transactions of the Royal Society B</i> , 378, 20210464.	PI	7	
Maltz, M. V., <u>Stubbs</u> , K. M., Quinlan, D. J., <u>Rzepka</u> , A. M., <u>Martin</u> , J. R. & <b>Culham</b> , J. C. (2021). Familiar size affects the perceived size and distance of real objects even with full binocular vision. <i>Journal of Vision</i> , 21(10), 21.	PI	10	<u>1.3</u>
Sensoy, Ö, Culham, J. C., & Schwarzer, G. (2021). The advantage of real objects over matched pictures in infants' processing of the familiar size of objects. <i>Infant and Child Development</i> , 30(4), e2234. [Sensoy was a cosupervised trainee for CREATE-IRTG international training grant]	С	5	
Snow, J. C. & <b>Culham</b> , J. C. (2021). The treachery of images: How realism influences brain and behavior. <i>Trends in Cognitive Sciences</i> , 25(6), 506-519.	Co-A	57	6.0
Sivakumar, P., Quinlan, D. J., Stubbs, K. M., & Culham, J. C. (2021). Grasping performance depends upon the richness of hand feedback. <i>Experimental Brain Research</i> , 239(3), 835-846.	PI	4	0.3

Gerhard, T. M., Culham, J. C., & Schwarzer G. (2021). Manual exploration of objects is related to 7-month-old infants' visual preference for real objects. <i>Infant Behavior and Development</i> , 62: 101512. [Gerhard was a cosupervised trainee for CREATE-IRTG international training grant]	С	9	1.3
Sensoy, O, Culham, J. C., & Schwarzer, G. (2021). Do infants show knowledge of the familiar size of everyday objects? <i>Journal of Experimental Child Psychology</i> , 195:104848.	С	8	0.4
<u>Cardinali</u> , L., Zanini, A., <u>Yanofsky</u> , R., Roy, A. C., de Vignemont, F., <b>Culham</b> *, J, & Farne*, A. (2021). The toolish hand illusion: Embodiment of a tool based on similarity with the hand. <i>Scientific Reports</i> , 11, 2024. [*Co-senior authors]	PI	18	1.7
Monaco, S., Malfatti, G., <b>Culham</b> , J. C., Cattaneo, L, & Turella, L. (2020). Decoding motor imagery and action planning in the early visual cortex: overlapping but distinct neural mechanisms. <i>NeuroImage</i> , 218: 116981.	С	40	3.0
Witt, J. K., Kemmerer, D., Linkenauger, S. A., & Culham, J. C. (2020). Reanalysis suggests evidence for motor simulation in naming tools is limited: A commentary on Witt, Kemmerer, Linkenauger, and Culham (2010)". <i>Psychological Science</i> , 31(8), 1036-1039.	С	9	0.2
<u>Cuevas</u> , P., He, Y., Steines, M., Nagels, A., <b>Culham</b> , J., & Straube, B. (2019). The facilitative effect of gestures on the neural processing of semantic complexity in a continuous narrative. <i>NeuroImage</i> , 195:38-47. doi: 10.1016/j.neuroimage.2019.03.054	С	20	0.7
Gallivan, J. P., Chapman, C. S., Gale, D. J., Flanagan, J. R. & Culham, J. C. (2019). Selective modulation of early visual cortical activity by movement intention. <i>Cerebral Cortex</i> , 29(11), 4662-4678. https://doi.org/10.1093/cercor/bhy345	Co-I	43	1.8
Freud, E., Culham, J. C., Namdar, G., & Behrmann, M. (2019). Object complexity modulates the association between action and perception in childhood. <i>Journal of Experimental Child Psychology</i> . 179, 56-72. doi: 10.1016/j.jecp.2018.11.004	Co-I	13	0.7
Vesia, M., <b>Culham</b> , J. C., Jegatheeswaran, G., Isayama, R., Le, A., Davare, M., & Chen, R. (2018). Functional interaction between human dorsal premotor cortex and ipsilateral primary motor cortex for grasp plans: a dual-site TMS study. <i>NeuroReport</i> , 29(16), 1355-1359.	С	27	0.9
Arcaro, M. J., Thaler, L., Quinlan, D. J., Monaco, S., Khan, S., Valyear, K. F., Goebel, R., Dutton, G. N., Goodale, M. A., Kastner, S., & Culham, J. C. (2019). Psychophysical and neuroimaging responses to moving stimuli in a patient with the Riddoch phenomenon due to bilateral visual cortex lesions. <i>Neuropsychologia</i> . 128, 150-165. doi: 10.1016/j.neuropsychologia.2018.05.008	PI	27	1.2
van den Heiligenberg, F. M. Z., Orlov, T., Macdonald, S. N., Duff, E. P., Henderson Slater, D., Beckmann, C., Johansen-Berg, H., Culham, J. C., & Makin, T. R. (2018). Artificial limb representation in amputees. <i>Brain</i> , 141, 1422-1433.	Co-I	58	2.6
Cavina-Pratesi, C., Connolly, J. D., Monaco, S., Figley, T. D., Milner, A. D., Schenk, T., & Culham, J. C. (2018). Human neuroimaging reveals the subcomponents of reaching and pointing actions. <i>Cortex</i> , 98, 128-148.	PI	69	2.7
Freud, E. Macdonald, S. N., Chen, J., Quinlan, D. J., Goodale, M. A., & Culham, J. C. (2018). Getting a grip on reality: Grasping movements directed to real objects and images rely on dissociable neural representations. <i>Cortex</i> , 98, 34-48.	PI	100	4.1

Chen, J., Snow, J. C., Culham, J. C., & Goodale, M. A. (2018). What role does 'elongation' play in 'tool-specific' activation and connectivity in the dorsal and ventral visual streams? <i>Cerebral Cortex</i> , 28(4), 1117-1131.	С	60	2.3
Monaco, S., Gallivan, J. P., Figley, T. D., Singhal, A., & Culham, J. C. (2017). Recruitment of foveal retinotopic cortex during haptic exploration of shapes and actions in the dark. <i>Journal of Neuroscience</i> , 37(48):11572-11591.	PI	33	1.2
Freud, E., <b>Culham</b> , J. C., Plaut, D. C., & Behrmann, M. (2017). The large-scale organization of shape processing in the ventral and dorsal pathways. <i>eLife</i> , 6, e27576.	Co-I	68	2.2
Vesia, M., <u>Barnett-Cowan</u> , M., Elahi, B, Jegatheseswan, G., Isayama, R., Neva, J., Davare, M., Staines, W., <b>Culham</b> , J., & Chen, R. (2017). Human dorsomedial parieto-motor circuit specifies grasp during the planning of goal-directed hand actions. <i>Cortex</i> , 92, 175-186.	С	50	1.9
Hahamy, A., <u>Macdonald</u> , S. N., van den Heiligenberg, F., Kieliba, P., Malach, R., Emir, U., Brugger, P., Johansen-Berg, H., <b>Culham</b> , J. C., & Makin, T. R. (2017). Representation of multiple body parts in missing hand territory of congenital one-handers. <i>Current Biology</i> , 27, 1350-1355.	С	76	2.0
van den Heiligenberg, F. M. Z., Yeung, N., Brugger, P., Culham, J. C. & Makin, T. R. (2017). Adaptable categorization of hands and tools in prosthesis users. <i>Psychological Science</i> , 28(3), 395-398.	С	19	0.7
<u>Fabbri</u> , S., <u>Stubbs</u> , K. M., Cusack, R. & <b>Culham</b> , J. C. (2016). Disentangling representations of object and grasp properties in the human brain. <i>Journal of Neuroscience</i> , 36(29), 7648-7662.	PI	96	3.1
Gerhard, T. M., Culham, J. C. & Schwarzer, G. (2016). Distinct visual processing of real objects and pictures of those objects in 7- to 9-month-old infants. <i>Frontiers in Developmental Psychology</i> , 7, 827. [Gerhard was a cosupervised trainee for CREATE-IRTG international training grant]	Co-I	44	1.2
Squires, S. D., Macdonald, S. N., Culham, J. C., & Snow, J. C. (2016). Priming tool actions: Are real objects more effective primes than pictures? <i>Experimental Brain Research</i> , 234(4), 963-976.	Co-I	41	1.1
<u>Thaler</u> , L., <u>Paciocco</u> , J. Daley, M., Lesniak, G. D., Purcell, D. W., Fraser, J. A., Dutton, G. N., <u>Rossit</u> , S., Goodale, M. A., & <b>Culham</b> , J. C. (2016). A selective impairment of perception of sound motion direction in peripheral space: A case study. <i>Neuropsychologia</i> , 80, 79-89.	Co-I	15	0.4
Stöttinger, E., Filipowicz, A., Valadao, D., Culham, J., Goodale, M., Anderson, B., & Danckert, J. (2015). A cortical network that marks the moment when conscious representations are updated. <i>Neuropsychologia</i> , 79, 113-122.	С	19	0.3
Quinlan, D. J., & Culham, J. C. (2015). Direct comparisons of hand and mouth kinematics during grasping, feeding and fork-feeding actions. <i>Frontiers in Human Neuroscience</i> , 9: 580.	PI	16	0.4
Snow, J. C., Goodale, M. A., & Culham, J. C. (2015). Preserved haptic shape processing after bilateral LOC lesions. <i>Journal of Neuroscience</i> , 35(40), 13745-13760.	PI	29	0.7
Macdonald, S. N. & Culham, J. C. (2015). Do human brain areas involved in visuomotor actions show a preference for real tools over visually similar non-tools? <i>Neuropsychologia</i> , 77, 35-41.	PI	40	1.1
Barnett-Cowan, M., Snow, J. C., & Culham, J. C. (2015). Contribution of bodily and gravitational orientation cues to face and letter recognition. <i>Multisensory Research</i> , 28(5-6), 427-442.	PI	6	0.2

Hutchison, R. M., Culham, J. C., Flanagan, J. R., Everling, S., & Gallivan, J. P. (2015). Functional subdivisions of medial parieto-occipital cortex in humans and nonhuman primates using resting-state fMRI. <i>NeuroImage</i> , 116, 10-29.	С	48	1.4
Gallivan, J. P., & Culham, J. C. (2015). Neural coding within human brain areas involved in actions. <i>Current Opinion in Neurobiology</i> , 33, 141-149.	Co- A	222	6.9
Monaco, S., Sedda, A., Cavina-Pratesi, C, & Culham, J. C. (2015). Neural correlates of object size and object location during grasping actions. <i>European Journal of Neuroscience</i> , 41(4), 454-465.	PI	61	1.8
Hutchison, R. M., Culham, J. C., Everling, S., Flanagan, J. R., & Gallivan, J. P. (2014). Distinct and distributed functional connectivity patterns across cortex reflect the domain-specific constraints of object, face, scene, body, and tool category-selective modules in the ventral visual pathway. <i>NeuroImage</i> .	С	94	2.6
Chapman, C. S., Gallivan, J. P., Wood, D. K., Milne, J. L., Ansari, D., Culham, J. C., & Goodale, M. A. (2014). Counting on the motor system: Rapid action planning reveals the format-dependent extraction of numerical quantity. <i>Journal of Vision</i> , 14(3), 30.	Co-I	28	0.6
Rossit, S. McAdam, T., McLean, D. A., Goodale, M. A., & Culham, J. C. (2013). fMRI reveals a lower visual field preference for hand actions in human superior-parietal occipital cortex (SPOC) and precuneus. <i>Cortex</i> , 49, 2525-2541. http://dx.doi.org/10.1016/j.cortex.2012.12.014	PI	94	2.3
Gallivan, J. P., Chapman, C. S., McLean, D. A., Flanagan, J. R., & Culham, J. C. (2013). Activity patterns in category-selective occipitotemporal cortex predict upcoming motor actions. <i>European Journal of Neuroscience</i> , 38(3), 2408-2424. <a href="http://onlinelibrary.wiley.com/doi/10.1111/ejn.12215/abstract">http://onlinelibrary.wiley.com/doi/10.1111/ejn.12215/abstract</a>	PI	74	1.8
Singhal, A., Monaco, S., Kaufman, L. D., & Culham, J. C. (2013). Human fMRI reveals that delayed action re-recruits visual perception. <i>PLOS (Public Library of Science) ONE</i> , 8(9), e73629. doi: 10.1371/journal.pone.0073629	PI	92	2.0
Milne, J.L., Chapman, C.S., Gallivan, J.P., Wood, D.K., Culham, J.C., & Goodale, M.A. (2013). Connecting the Dots: Object connectedness deceives perception but not movement. <i>Psychological Science</i> , 24(8), 1456-1465. DOI: 10.1177/0956797612473485	С	25	0.5
Gallivan, J. P., McLean, D. A., Valyear, K. F., & Culham, J. C. (2013). Decoding the neural mechanisms of human tool use. <i>eLife</i> , 2, <i>e00424</i> . <a href="http://dx.doi.org/10.7554/eLife.00425">http://dx.doi.org/10.7554/eLife.00425</a>	PI	188	4.8
Gallivan, J. P., McLean, D. A., Flanagan, J. R., & Culham, J. C. (2013). Where one hand meets the other: Limb-specific and goal-dependent movement plans decoded from preparatory signals in single human parietofrontal brain areas. <i>Journal of Neuroscience</i> , 33(5), 1991-2008.	PI	163	4.2
<ul> <li>Hutchison, R. M., Gallivan, J. P., Culham, J. C., Gati, J. S., Menon, R. S., &amp; Everling, S. (2012). Functional connectivity of the frontal eye fields in humans and macaque monkeys investigated with resting-state fMRI. <i>Journal of Neurophysiology</i>, 107(9), 2463-2474.</li> </ul>	С	132	2.8
<u>Valyear</u> , K. F., <u>Gallivan</u> , J. P., <u>McLean</u> , D. A. & <b>Culham</b> , J. C. (2012). fMRI repetition suppression for familiar but not arbitrary actions with tools. <i>Journal of Neuroscience</i> , 32(12), 4247-4259.	PI	87	1.9
Secen, J. Culham, J., Ho, C., & Giaschi, D. (2011). Neural correlates of the multiple-object tracking deficit in amblyopia. <i>Vision Research</i> , 51(23-24), 2517-2527.	С	57	1.3

Gallivan, J. P., McLean, D. A., Smith, F. W., & Culham, J. C. (2011). Decoding effector-dependent and effector-independent movement intentions from human parieto-frontal brain activity. <i>Journal of Neuroscience</i> , 31(47), 17149-17168.	PI	169	3.7
Gallivan, J. P., McLean, D. A., Valyear, K. F., Pettypiece, C. E., & Culham, J. C. (2011). Decoding action intentions from preparatory activity in human parieto-frontal cortex. <i>Journal of Neuroscience</i> , 31(26), 9599-9610.	PI	269	6.1
Gallivan, J. P., McLean, D. A., & Culham, J. C. (2011). Neuroimaging reveals enhanced activation in a reach-selective brain area for objects located within participants' typical hand workspaces. <i>Neuropsychologia</i> , 49, 3710-3721.	PI	71	1.5
Monaco, S., Cavina-Pratesi, C., Sedda, A., Fattori, P., Galletti, C., & Culham, J. C. (2011). Functional magnetic resonance adaptation reveals the involvement of the dorsomedial stream in hand orientation for grasping. <i>Journal of Neurophysiology</i> , 106(5), 2248-2263.	PI	99	2.3
Snow, J. C., Pettypiece, C., McAdam, T. D., McLean, A. D., Stroman, P. W., Goodale, M. A., & Culham, J. C. (2011). Bringing the real world into the fMRI scanner: Repetition effects for pictures versus real objects. <i>Scientific Reports</i> , 1, Article number 130.	PI	179	3.2
Wood, D. K., Gallivan, J. P., Chapman, C. S., Milne, J. L., Culham, J. C. & Goodale, M. A. (2011). Visual salience dominates early visuomotor competition in reaching behavior, <i>Journal of Vision</i> , 11 (10):16, 1-11.	С	44	0.9
<u>Valyear</u> , K. F., <u>Chapman</u> , C. S., <u>Gallivan</u> , J. P., <u>Mark</u> , R. S., & <b>Culham</b> , J. C. (2011). To use or to move: Goal set modulates priming when grasping real tools. <i>Experimental Brain Research</i> , 212(1), 125-142.	PI	66	1.3
Gallivan, J. P., Chapman, C. S., Wood, D. K., Milne, J. L., Ansari, D., Culham, J. C., & Goodale, M. A. (2011). One to four, and nothing more: Non-conscious parallel object individuation in action. <i>Psychological Science</i> , 22(6), 803-811.	Co-I	71	1.0
<u>Chapman</u> , C. S., <u>Gallivan</u> , J. P., <b>Culham</b> , J. C. & Goodale, M. A. (2011). Mental blocks: fMRI reveals top-down modulation of early visual cortex when obstacles interfere with grasp planning. <i>Neuropsychologia</i> , 49, 1703-1717.	Co-I	48	1.0
Witt, J. K., Kemmerer, D., Linkenauger, S. A., & <b>Culham</b> , J. C. (2010). A functional role for motor simulation in identifying tools. <i>Psychological Science</i> , 21, 1215-1219.	С	137	2.0
<u>Cavina-Pratesi</u> , C., <u>Monaco</u> , S., Fattori, P., Galletti, C., <u>McAdam</u> , T. D., <u>Quinlan</u> , D. J., Goodale, M. A., & <b>Culham</b> , J. C. (2010). Functional magnetic resonance imaging reveals the neural substrates of arm transport and grip formation in reach-to-grasp actions in humans. <i>Journal of Neuroscience</i> , 30, 10306-10323.	PI	332	7.9
Chapman, C. S., Gallivan, J. P., Wood, D. K., Milne, J. L., Culham, J. C., & Goodale, M. A. (2010). Short-term motor plasticity revealed in a visuomotor decision-making task. <i>Behavioural Brain Research</i> , 214: 130-134.	Co-I	45	0.8
Chapman, C. S., Gallivan, J. P., Wood, D. K., Milne, J. L., Culham, J. C., & Goodale, M.A. (2010). Reaching for the unknown: Multiple target encoding and real-time decision making in a rapid reach task. <i>Cognition</i> , 116(2), 168-176.	Co-I	196	3.1
Danckert, J. & Culham, J. C. (2010). Reflections on blindsight: Neuroimaging and behavioural exploration clarify a case of reversed localization in the blind field of a patient with hemianopia. <i>Canadian Journal of Experimental Psychology</i> , 64(2), 86-101.	Co- A	7	0.2

Monaco, S., Fattori, P., Galletti, C., Goodale, M. A., <u>Króliczak</u> , G., <u>Quinlan</u> , D., & <b>Culham</b> , J. C. (2010). Contribution of visual and proprioceptive information to the precision of reaching movements. <i>Experimental Brain Research</i> , 202(1), 15-32.	PI	57	1.2
Pettypiece, C., Goodale, M. A., & Culham, J.C. (2010). Integration of haptic and visual size cues revealed through crossmodal conflict. <i>Experimental Brain Research</i> , 201, 863-873.	PI	52	1.3
Malfait, N., Valyear, K. F., Culham, J. C., Anton, JL., & Gribble, P. L. (2010). fMRI activation during observation of others' reach errors. <i>Journal of Cognitive Neuroscience</i> , 22(7), 1493-1503.	Co-I	71	1.1
<u>Valyear</u> , K. F. & <b>Culham</b> , J. C. (2009). Observing learned object-specific functional grasps preferentially activates the ventral stream. <i>Journal of Cognitive Neuroscience</i> , 22(5), 970-984.	PI	106	2.2
Barry, R. L., Williams, J. M., <u>Klassen</u> , L. M., <u>Gallivan</u> , J.P., <b>Culham</b> , J. C., & Menon, R. S. (2009). Evaluation of preprocessing steps to compensate for magnetic field distortions due to body movements in BOLD fMRI. <i>Magnetic Resonance Imaging</i> , 28(2), 235-244.	Co-I	39	0.8
Wong, Y., Aldcroft, A., Large, ME., <b>Culham</b> , J. & Vilis, T. (2009). The role of temporal synchrony as a binding cue for visual persistence in early visual areas: an fMRI study. <i>Journal of Neurophysiology</i> , 102, 3461-3468.	Co-I	15	0.3
Pettypiece, C., Culham, J. C., & Goodale, M. A. (2009). Differential effects of delay upon visually and haptically guided grasping and perceptual judgments. <i>Experimental Brain Research</i> , 193(3), 473-479.	Co-I	17	0.5
Gallivan, J. P., Cavina-Pratesi, C., & Culham, J. C. (2009). Is that within reach?: fMRI reveals that the human superior-parietal occipital cortex (SPOC) encodes objects reachable by the hand. <i>Journal of Neuroscience</i> , 29(14), 4381-4391.	PI	247	4.5
Cohen, N. J. R., Cross, E. S., Tunik, E., Grafton, S. T., <b>Culham</b> , J. C. (2009). Ventral and dorsal stream contributions to immediate and delayed grasping: A TMS approach. <i>Neuropsychologia</i> , 47(6), 1553-1562.	PI	153	2.6
<u>Króliczak</u> , G., <u>McAdam</u> , T. <u>Quinlan</u> , D. J., & <b>Culham</b> , J. C. (2008). The human dorsal stream adapts to real actions and 3D shape processing: A functional magnetic resonance imaging study. <i>Journal of Neurophysiology</i> , 100, 2627-2639.	PI	87	1.9
<u>Large</u> , ME., <b>Culham</b> , J., <u>Kuchinad</u> , A., Aldcroft, A, & Vilis, T. (2008). fMRI reveals greater within- than between-hemifield integration in the human lateral occipital cortex. <i>European Journal of Neuroscience</i> , <i>27</i> (12), 3299-3309.	С	26	0.5
<u>Large</u> , ME., <u>Cavina-Pratesi</u> , C., Vilis, T., & <b>Culham</b> , J. C. (2008). The neural correlates of change detection in the face perception network. <i>Neuropsychologia</i> , 46(8), 2169-2176.	PI	36	0.3
<u>Cavina-Pratesi</u> , C., Goodale, M. A., & <b>Culham</b> , J. C. (2007). fMRI reveals a dissociation between grasping and perceiving the size of real 3D objects. PLOS ( <i>Public Library of Science</i> ) <i>ONE</i> , 2(5): e424. doi:10.1371/journal.pone.0000424.	PI	166	2.9
Singhal, A.S., Culham, J. C., Chinellato, E., & Goodale, M. A. (2007). Dualtask interference is greater in delayed grasping than visually guided grasping. <i>Journal of Vision</i> , 7(5), 1-12.	Co-I	6	1.1
Quinlan, D. J., & Culham, J. C. (2007). fMRI reveals a preference for near viewing in the human parieto-occipital cortex. <i>Neuroimage</i> , 36(1), 167-187.	PI	161	2.4

Rice, N. J., Valyear, K. F., Goodale, M. A., Milner, A. D., & Culham, J. C. (2007). Orientation sensitivity to graspable objects: An fMRI adaptation study. <i>Neuroimage</i> , 36, T87-T93.	PI	88	1.4
<u>Valyear</u> , K. F., <u>Cavina-Pratesi</u> , C., <u>Stiglick</u> , A. J., & <b>Culham</b> , J. C. (2007). Does tool-related fMRI activity within the intraparietal sulcus reflect the plan to grasp? <i>Neuroimage</i> , <i>36</i> , T94-T108.	PI	156	2.7
Króliczak, G., Cavina-Pratesi, C., Goodman, D., & Culham, J. C. (2007). What does the brain do when you fake it? An fMRI study of pantomimed and real grasping. <i>Journal of Neurophysiology</i> , 97, 2410-2422.	PI	143	2.5
Culham, J. C., <u>Cavina-Pratesi</u> , C., & <u>Singhal</u> , A. (2006). The role of parietal cortex in visuomotor control: What have we learned from neuroimaging? <i>Neuropsychologia</i> , 44, 2668-2684.	1A	514	8.5
Ganel, T., Gonzalez, C. L. R., Valyear, K. F., Culham, J. C., Goodale, M. A., & Köhler, S. (2006). The relationship between fMRI adaptation and repetition priming. <i>Neuroimage</i> , 32, 1432-1440.	Co-I	67	1.0
Culham, J. C., & <u>Valyear</u> , K. F. (2006). Human parietal cortex in action. Current Opinion in Neurobiology, 16(2), 205-212.	1A	753	11.9
Cavina-Pratesi, C., Valyear, K. F., Culham, J. C., Köhler, S., Obhi, S., Marzi, C. A., & Goodale, M. A. (2006). Dissociating arbitrary stimulus-response mapping from movement planning during preparatory period: Evidence from event-related fMRI. <i>Journal of Neuroscience</i> , 26(10), 2704-2713.	С	112	1.9
Steeves, J. K. E., Culham, J. C., DuChaine, B. C., Cavina Pratesi, C., Valyear, K. F., Schindler, I., Humphrey, G. K., Milner, A. D. & Goodale, M. A. (2006). The fusiform face area is not sufficient for face recognition: Evidence from a patient with dense prosopagnosia and no occipital face area. <i>Neuropsychologia</i> , 44(4), 594-609.	Co-I	258	4.1
<u>Valyear</u> , K.F., <b>Culham</b> , J.C., <u>Sharif</u> , N., <u>Westwood</u> , D.A., & Goodale, M.A. (2006). A double dissociation between sensitivity to changes in object identity and object orientation in the ventral and dorsal visual streams: a human fMRI study. <i>Neuropsychologia</i> , 44(2), 218-228.	Co-I	221	3.0
Steeves, J. K. E., Humphrey, G. K., Culham, J. C., Menon, R. S., & Goodale, M. A. (2004). Behavioural and neuroimaging evidence for a contribution of color and texture information to scene classification in a patient with visual form agnosia. <i>Journal of Cognitive Neuroscience</i> , 16, 955-965.	Co-I	106	1.6
Culham, J. C., <u>Danckert</u> , S. L., <u>DeSouza</u> , J. F. X., Gati, J. S., Menon, R. S., & Goodale, M. A. (2003). Visually guided grasping produces fMRI activation in dorsal but not ventral stream brain areas. <i>Experimental Brain Research</i> , 153(2), 158-170.	1A	799	10.7
James, T.W., <b>Culham</b> , J., Humphrey, G. K., Milner, A. D., & Goodale, M. A. (2003). Ventral occipital lesions impair object recognition but not object-directed grasping: an fMRI study. <i>Brain</i> , 126, 2463-2475.	Co- A	708	8.6
<b>Culham</b> , J. C. & Kline, D. W. (2002). The age deficit on photopic counterphase flicker: contrast, spatial frequency, and luminance effects. <i>Canadian Journal of Experimental Psychology</i> , 56(3), 177-186.	1A	13	0.2
<b>Culham</b> , J.C., Cavanagh, P., & Kanwisher, N.G. (2001). Attention response functions: characterizing brain areas using fMRI activation during parametric variations of attentional load. <i>Neuron</i> , 32(4), 737-745.	1A	388	5.6
Verstraten, F. A. J., Hooge, I. T. C., <b>Culham</b> , J. C., & van Wezel, R. J. A. (2001). Systematic eye movements do not account for the perception of motion during attentive tracking. <i>Vision Research</i> , <i>41</i> , 3505-3511.	С	19	0.3

			10	
Kline, D.W., <b>Culham</b> , J. C., Bartel, P., & Lynk, L. (2001). Aging effects on Vernier hyperacuity: a function of oscillation rate but not target contrast. <i>Optometry and Vision Science</i> , 78(9), 676-682.	С	23	0.4	
<ul> <li><u>Dukelow</u>, S. P., DeSouza, J. F. X., Culham, J. C., van den Berg, A. V.,</li> <li>Menon, R. S., &amp; Vilis, T. (2001). Distinguishing subregions of the human</li> <li>MT+ complex using visual fields and pursuit eye movements. <i>Journal of Neurophysiology</i>, 86(4),1991-2000.</li> </ul>	С	359	5.1	
<b>Culham</b> , J.C., He, S., <u>Dukelow</u> , S., & Verstraten, F.A.J. (2001). Visual motion and the human brain: what has neuroimaging told us? <i>Acta Psychologica</i> , 107, 69-94.	1A	146	1.9	
<b>Culham</b> , J. C. & Kanwisher, N. G. (2001). Neuroimaging of cognitive functions in human parietal cortex. <i>Current Opinion in Neurobiology</i> , 11(2), 157-163.5	1A	1047	13.2	
<b>Culham</b> , J. C., Verstraten, F.A.J., Ashida, H., & Cavanagh, P. (2000). Independent aftereffects of attention and motion. <i>Neuron</i> , 28(2), 607-615.	1A	89	1.8	
Culham, J. C., <u>Dukelow</u> , S. P., Vilis, T., Hassard, F. A., Gati, J. S., Menon, R. S., & Goodale, M. A. (1999). Recovery of fMRI activation in motion area MT following storage of the motion aftereffect. <i>Journal of Neurophysiology</i> , 81(1), 388-393.	1A	137	2.1	
<b>Culham</b> , J. C., Brandt, S. A., Cavanagh, P., Kanwisher, N. G., Dale, A. M., & Tootell, R. B. H. (1998). Cortical fMRI activation produced by attentive tracking of moving targets. <i>Journal of Neurophysiology</i> , 80, 2657-2670.	1A	691	10.2	
<b>Culham</b> , J. C., & Cavanagh, P. (1996). Motion capture and visual attention: A reply to Ramachandran. <i>Vision Research</i> , 36(1), 79-80.	1A	2	0.2	
<b>Culham</b> , J. C., & Cavanagh, P. (1994). Motion capture of luminance stimuli by equiluminous color gratings and by attentive tracking. <i>Vision Research</i> , 34(20), 2701-2706.	1A	43	0.8	

# BOOK CHAPTERS, ENCYCLOPEDIA ENTRIES, AND BOOK REVIEWS (11)

Publication	Role	Cit.
Karl, J. M. & Culham, J. C. (2016). Beyond Roland: How does the human brain produce complex motor behaviours? Insights from neuroimaging. Book chapter in B. E. Kolb & I. Q. Whishaw (Eds.), <i>Brain and Behaviour: Revisiting the Classic Studies</i> . Sage.	Co-A	
<b>Culham</b> , J. C. (2015). Visuomotor integration. Entry in <i>Brain Mapping: An Encyclopedic Reference</i> . (Ed. A. C. Toga), 2, 469-473. Academic Press: Elsevier.	1A	5
<b>Culham</b> , J. C. (2015). Cortical areas engaged in movement. Entry in <i>International Encyclopedia of Social and Behavioral Sciences</i> , 2 <sup>nd</sup> ed. (Ed. J. D. Wright). Elsevier.	1A	5
<u>Daley</u> , M. & Culham, J. C. (2011). Book review of <i>Networks of the Brain</i> by Olaf Sporns. <i>Canadian Psychology</i> .	Co-A	
<b>Culham</b> , J. C. (2009). Reaching and grasping. Entry in <i>Encyclopedia of Perception</i> (Ed. Bruce Goldstein). Thousand Oaks, CA: Sage.	1A	
<b>Culham</b> , J. C. & <u>Valyear</u> , K. F. (2009). Tool use. Entry in <i>Encyclopedia of Perception</i> (Ed. Bruce Goldstein). Thousand Oaks, CA: Sage.	Co-A	
<b>Culham</b> , J. C., <u>Gallivan</u> , J., <u>Cavina-Pratesi</u> , C., & <u>Quinlan</u> , D. J. (2008). fMRI investigations of reaching and ego space in human superior parieto-occipital cortex. In R. L. Klatzky, M. Behrmann, & B. MacWhinney (Eds.), <i>Embodiment</i> , <i>Ego-space</i> , <i>and Action</i> . New York: Psychology Press (pp. 247-274).	1A	64

79

- Culham, J. C. (2006). Functional neuroimaging: Experimental design and analysis. Book chapter in R. Cabeza and A. Kingstone (Eds.), *Handbook of Functional Neuroimaging of Cognition (2nd ed.)*. Cambridge MA: MIT Press (pp. 53-82).
- **Culham**, J. C. (2004). Human brain imaging reveals a parietal area specialized for grasping. Chapter in N. Kanwisher and J. Duncan (Eds.), *Attention and Performance XX: Functional Neuroimaging of Human Cognition*. Oxford: Oxford University Press (pp. 417-438).
- **Culham**, J.C. (2002). Parietal cortex. Entry in L. Nadel (Editor-in-Chief), *Encyclopedia* 1A of Cognitive Science (Vol. 3, pp. 451-457). Houndmills U.K.: Macmillan
- Culham, J. C., Nishida, S., Ledgeway, T., Cavanagh, P., von Grünau, M. W., Kwas, M., Alais, D., & Raymond, J. E. (1998). Higher-order effects. Chapter in G. Mather, F. Verstraten & S. Anstis (Eds.), *The Motion After-effect: A Modern Prospective*. Cambridge, MA: MIT Press (pp. 84-124).

#### **MANUSCRIPTS IN PREPARATION (3)**

- <u>Dima</u>, D. C., <u>Janarthanan</u>, S., **Culham**, J. C., & Mohsenzadeh, Y. (In preparation). Shared representations of human actions across vision and language. *Nature Human Behavior*.
- <u>Deng</u>, Z., <u>Gao</u>, J., <u>Li</u>, A., <u>Chen</u>, Y., <u>Gao</u>, B., **Culham**, J. C., & Chen, J. (In preparation). Viewpoint adaptation revealed potential representational differences between 2D images and 3D objects. Cognition.
- Varon, S., <u>Babin</u>, K., Spering, M., & **Culham**, J. C. (In preparation). Target interception in virtual reality is better for natural than for unnatural trajectories. *Journal of Vision*.

# **BOOKS IN PREPARATION (2)**

- **Culham**, J. C. & Goebel, R. *Working with fMRI*. Psychology Press (Taylor & Francis), East Sussex, U. K. Contract accepted 2018-09-18.
- **Culham**, J. C. & Goebel, R. A Practical Handbook for fMRI Analysis and Design. Psychology Press (Taylor & Francis), East Sussex, U. K. Contract pending.

### **RESEARCH FUNDING (\$101M over career)**

#### Research Grants and Awards: Current, Principal Investigator (~\$2.7M)

# Canadian Institutes of Health Research

**Operating Grant** 

"From 2D to 3D: The Importance of Depth for Neural Processing of Natural Stimuli" 2023-2028

C\$761,176 (C\$152,235 x 5 years)

Co-investigators: Erez Freud, Laurie Wilcox

# Natural Sciences and Engineering Research Council

#### Discovery Grant

"Immersive Neuroscience: Bringing the Study of the Human Brain and Behavior Closer to Real Life"

April 2022-March 2027

C\$390,000 (C\$78,000 x 5 years, extended to 6 years) for operating expenses

• Top-rated/funded grant at Western in the competition

#### Canada Research Chairs

Tier 1 Canada Research Chair in Immersive Neuroscience 2020-2027 C\$1.4M for salary support

#### Research Grants and Awards: Current, Team (\$79M)

### Canadian Foundation for Innovation/Ontario Research Fund Innovation Fund

"Next-generation human cognitive neuroscience for real-world applications" \$8.884.425

Dates pending ORF outcome

PI: Ingrid Johnsrude Co-PI: Jody Culham

Co-applicants: Daniel Ansari, Teneille Gofton, Mel Goodale, Jessica Grahn, Yalda

Mohsenzadeh, Adrian Owen, Andrew Pruszynski, Siobhan Schabrun

#### **MITACS**

# Accelerate Fellowship

"Eye-tracking based early detection and monitoring of neurodevelopmental disorders in virtual reality environments"

November 2022 – September 2025

\$150,000

Leads: Brent Davis, Jody Culham (supervisor)

Co-supervisor: Emma Duerden Partner organization: Nomad XR Inc.

#### Brain Canada

# Platform Support Grant

"SPRINT: fnirS Platform foR braIn moNiToring, analytics and data repository"

November 2022 - March 2025

C\$1,345,160

Co-applicants: Emma Duerden [Principal Investigator], Keith St. Lawrence [co-PI], Jeffrey Carson, Kevin Shoemaker, Jody Culham, Adrian Owen, Sandrine de Ribaupierre, Maryam Nouri, Sapatharishi Ganesan, Sue Peters, Yalda Mohsenzadeh, Soume Bhattacharya, Marc Joanisse, Mamadou Diop

# Canada First Research Excellence Fund VISTA (Vision: Science to Applications) Grant [York University]

#### VISTA Research Grant

"Taking a Closer Look: How Perceived Distance Modulates Visual Processing" 2022-2023

C\$50,000 for operating expenses

Co-applicants: Erez Freud [Principal Investigator], Jody Culham, Krista Kelly, Laurie Wilcox

#### Brain Canada

# **Platform Support Grant**

Centre for Functional and Metabolic Mapping

January 2021-December 2023

C\$2.85M for facility support

Co-Investigators: Ravi Menon [Principal Investigator], Corey Baron, Robert Bartha, Jody Culham, Stefan Everling, Elizabeth Finger, Ali Khan, Marieke Mur, Adrian Owen, Lena Palaniyappan

Co-Applicant

#### Canada First Research Excellence Fund

2016-2023

"BrainsCAN: Brain Health for Life"

http://www.uwo.ca/brainscan/

C\$66,000,000 for institutional development

Co-applicants: Adrian Owen [PI], Ravi Menon and Lisa Saksida [Co-Directors], Daniel Ansari, Jody Culham, Joern Diedrichsen, Stefan Everling, Mel Goodale, Ingrid Johnsrude, Terry Peters

• Largest grant ever received by Western University

Past Role: Co-Director of Accelerator Internal Granting Program (Jan. 2017 – Oct. 2018)

# Research Grants and Awards: Past, Principal Investigator (\$4.4M)

#### New Frontiers in Research Fund

### **Exploration Grant**

"Naturalistic Cognitive Neuroscience Through Immersive Virtual Games"

April 2020-March 2022 (received no-cost COVID-19 extension until March 2023) C\$250,000

Co-applicants: Joern Diedrichsen [co-PI], Mike Katchabaw and Adrian Owen [co-applicants], and Ingrid Johnsrude [collaborator]

# Western Strategic Support for CIHR Success

Pilot Experiment Funding

"Using Optical Neuroimaging to Decode Hand Actions" January-December 2021 C\$25,000

# Canada First Research Excellence Fund BrainsCAN Program Accelerator Stimulus Grant (Internal Funding)

"Development of Virtual Gaming Environments for Functional Magnetic Resonance Imaging"

• 2019-2021

C\$89.854

Co-applicants: Ingrid Johnsrude, Julio Martinez-Trujillo

# Natural Sciences and Engineering Research Council Discovery Grant

"Behavioral and Neuroimaging Investigations of Perception and Action with Real-World Objects"

April 2016-March 2021 (extended until March 2022 due to COVID-19)

C\$546,000 (C\$91,000 x 5 years, extended to 6 years) for operating expenses

• One of top two funded grants across Western in that competition

# Natural Sciences and Engineering Research Council

#### Research Tools and Instruments

"Equipment for Neuroimaging of Virtual Stimuli and Virtual Interactions" April 2018

C\$146,517 for equipment

Co-applicants: Roy Eagleson, Mel Goodale, Ingrid Johnsrude, Stefan Köhler, Julio Martinez-Trujillo, Ravi Menon, Derek Mitchell, Adrian Owen, and Terry Peters

# Canadian Institutes of Health Research

**Operating Grant** 

"Neural Coding and Interactions for Human Brain Areas Involved in Hand Actions" October 2013-September 2018

C\$641,710 (C\$128,342 x 5 years) for operating expenses

• Ranked #1 in competition (Behavioral Sciences C)

# Natural Sciences and Engineering Research Council

Discovery Grant + Discovery Grant Accelerator Supplement

"Behavioral and Neuroimaging Investigations of Objects in the Real World" April 2011-March 2016

C\$280,000 (C\$56,000 x 5 years) for operating expenses

C\$120,000 (C\$40,000 x 3 years) for accelerator supplement

• Accelerator supplement program "provides substantial and timely additional resources to accelerate progress and maximize the impact of superior research programs" that are "highly rated in terms of originality and innovation"

# University of Western Ontario (Office of the VP-Research and Faculty of Social Sciences) Western Strategic Support for CIHR Success

"Neural Coding and Interactions for Human Brain Regions Involved in Hand Actions" March 2013-February 2014

C\$22,500 for pilot data collection

# Canadian Institutes of Health Research

**Operating Grant** 

"Neural Coding Within Human Brain Regions Involved in Grasping and Reaching" (Grant # MOP 84293)

September 2007-August 2012

C\$435,845 (\$87,169/year x 5 years) for operating expenses

# Natural Sciences and Engineering Research Council

E. W. R. Steacie Memorial Fellowship

"Neuroimaging of Real-World Actions and Objects"

April 2010-March 2012

C\$180,000 (\$90,000/year x 2 years) for salary support

C\$250,000 (\$125,000/year x 2 years) operating grant supplement

C\$131,225 associated Research Tools and Instruments grant

"Equipment for Cognitive Neuroscience Experiments on Real World Objects and Actions"

# Natural Sciences and Engineering Research Council

Discovery Grant

"The Behavioral Properties and Neural Substrates of Self-Directed Reaching and Prehension Movements" (Grant # 249877-2006 RGPIN)
April 2006-March 2011

C\$131,550 (C\$26,310 x 5 years) for operating expenses

# University of Western Ontario

Faculty Scholar Award

March 2008-February 2010 C\$14,000

# Canadian Institutes of Health Research

New Investigator Salary Support Award

"The Neural Substrates of Object Grasping in Humans" (Grant # MSH 63611) July 2003-June 2008

C\$250,000 (C\$50,000/year x 5 years) toward salary support

# Canadian Institutes of Health Research

#### **Operating Grant**

"The Neural Substrates of Object Grasping in Humans" (Grant # MOP 62986)

April 2003-March 2007

C\$325,580 (\$81,395/year x 4 years) for operating expenses

# Ontario Ministry of Enterprise, Opportunity & Innovation

#### Premier's Research Excellence Award

"Mapping Human Brain Areas Involved in the Control of Action" (Grant # PREA 08/3140) 2003-2008

C\$150,000 (over 5 years) for trainee support

# Natural Sciences and Engineering Research Council

# **Operating Grant**

"Neural Substrates of High-level Motion Processing" (Grant # 249877-02 RGPIN)

April 2002-March 2006

C\$112,000 (C\$28,000/year x 4 years) for operating expenses

# Canadian Foundation for Innovation/Ontario Innovation Trust

#### New Opportunities Funds

"Laboratory for Functional Magnetic Resonance Imaging of Human Action" 2003

C\$224,634 (CFI \$78,254, OIT \$78,254, in-kind contributions \$68,126) for infrastructure

# Natural Sciences and Engineering Research Council

# **Equipment Grant**

"Hardware for fMRI Data Acquisition" (Grant # 256028-02 EQPEQ)

April 2002

C\$5,000 for fMRI surface coil construction

# McDonnell-Pew Program in Cognitive Neuroscience

#### **Investigator-Initiated Training Grant**

"Human Neural Substrates of Visually-Guided Grasping"

September 1998 - August 2001

C\$229,000 (US\$150,000)

#### Research Grants and Awards: Past, Team (\$15M)

# Co-Applicant; Local Grant Coordinator for Western University Component; Steering Committee Member

# Natural Sciences and Engineering Research Council

# Collaborative Research and Training Experience (CREATE) Grant

(paired with a German Research Foundation (Deutsche Forschungsgemeinschaft, DFG)

International Research Training Group (IRTG) program for student exchanges)

"The Brain in Action"

2014-2020 (Extended until March 2023)

\$1,650,000 (\$300,000 x 5.5 years; matched by  $\in$ 7,200,000 from DFG)

Co-investigators: Doug Crawford [CREATE Principal Investigator], Gunnar Blohm, Jody Culham, Stefan Everling, Mel Goodale, Laurence Harris, Denise Henriques, Doug Munoz,

Niko Troje, & Thilo Womelsdorf

[German co-investigators: Frank Bremmer [IRTG Principal Investigator], Katja Fiehler [Co-

spokesperson], Wolfgang Einhaüser-Treyer, Roland Fleming, Karl Gegenfurtner, Tilo Kircher, Wolfgang Oertel, Jörn Munzert, Anna Schubö, & Gudrun Schwarzer

#### Co-Applicant

# Canadian Foundation for Innovation

Leading Edge Fund

"Centre for Functional and Metabolic Mapping"

2012-2017

\$6,235,244 [\$2,494,098 from CFI with equal match from Ontario Research Fund; remainder in-kind]

Co-investigators: Ravi Menon [Principal Investigator], Daniel Ansari, Blaine Chronik, Jody Culham, Rhodri Cusack, Stefan Everling, Mel Goodale, Victor Han, Adrian Owen, & Peter Williamson

# Co-Applicant

# Canadian Foundation for Innovation

New Initiatives Fund

"Centre for the Development and Testing of MR-compatible Medical Devices and Technology"

2012-2017

\$705,911 (with equal match from Ontario Research Fund)

Co-investigators: Blaine Chronik [Principal Investigator], Jody Culham John de Bruyn, Nicola De Zanche, Aaron Fenster, David Holdsworth, Ravi Menon, Michael Noseworthy, Shaun Salisbury, & Kevin Shoemaker

# Acting Director (2010-2015); Co-Applicant

Natural Sciences and Engineering Research Council

Collaborative Research and Training Experience (CREATE) Grant

"Computational Approaches to Sensorimotor Transformations for the Control of Action" 2009-2015

C\$1,650,000 (\$300,000 x 5 years + \$150,000)

Co-Investigators: Melvyn Goodale [Original Principal Investigator], Gunnar Blohm, Brian Corneil, Douglas Crawford, Jody Culham, Randy Flanagan, Denise Henriques, Mike Jenkin, Doug Munoz, Steve Scott, & Wolfgang Stuerzlinger

#### Co-Applicant

# Natural Sciences and Engineering Research Council

# Research Tools and Instruments Grant

2015

"A Portable System for Integrated Measurement of Human Actions"

C\$139,655 for research equipment

Co-applicants: Brian Corneil [Principal Investigator], Jody Culham, Mel Goodale, Paul Gribble, & Andrew Pruszynski

#### Co-Applicant

#### Ontario Research Fund

#### Research Excellence Fund

"Centre for Brain and Mind Neuroimaging Facility"

C\$2,300,000 for personnel funding (in addition to internal matching funds)

2006-2013

Co-applicants: Melvyn Goodale [Principal Investigator], Rob Bartha, Blaine Chronik, Jody Culham, James Danckert, Stefan Everling, Joe Gati, Marc Joanisse, Stefan Köhler, Ravi Menon, Bruce Morton, Philip Servos, & Tutis Vilis

# Co-Applicant

Natural Sciences and Engineering Research Council

Research Tools and Instruments - Category 1

"Eye Tracking and 3-Dimensional Visualization: Synergistic and Ecologically Valid Approaches to Neuroimaging Research" 2012

\$109,066

Co-investigators: Derek Mitchell [Principal Investigator], Daniel Ansari, Jody Culham, Mel Goodale, Mark Joanisse, & Adrian Owen

# Co-Applicant

# Canadian Institutes of Health Research

#### Resource Grant

"Centre for Functional and Metabolic Mapping" (Grant # PRG-82676)

C\$696,850 (\$139,370 x 5 years) for MRI facility expenses

2007-2012

Co-applicants: Ravi Menon [Principal Investigator], Blaine Chronik, Jody Culham, Gregory Dekaban, Stefan Everling, Paula Foster, Melvyn Goodale, Murray Huff, & Peter Williamson

# Co-Applicant

# Natural Sciences and Engineering Research Council

#### Research Tools and Instruments - Category 1

"Transcranial Magnetic Stimulation for Research in Cognitive Neuroscience" 2010

\$97,178

Co-investigators: Mel Goodale [Principal Investigator], Daniel Ansari, Blaine Chronik, Jody Culham, Paul Gribble, Marc Joanisse, Stefan Kohler, Paul Minda, & Derek Mitchell

# Co-Applicant

#### Canadian Institutes of Health Research Group Grant

"Neural Transformations for Perception and Action" (Grant # MGC 36036)

January 2004 - September 2009

C\$2,272,200 (C\$454,440 x 5 years) for group collaboration operating funds

Co-Investigators: Melvyn Goodale [Principal Investigator], Brian Corneil, Douglas Crawford, Jody Culham, Stefan Everling, Paul Gribble, Stefan Köhler, Ravi Menon, Douglas Tweed, & Tutis Vilis

#### Co-Applicant

# Lawson Health Research Institute

"Functional Organization of the Brain in Adult Epileptic Patients with Non-progressive Lesions Acquired Early in Life"

January 2004 – December 2006

C\$12,000 for operating funds

Co-Investigators: Sam Wiebe [Principal Investigator], Jody Culham, James Danckert, Seyed Mirsattari, & Susan Piggott

#### Co-Applicant

# Physicians' Services Incorporated Foundation

"Using Functional MRI to Explore the Reorganization of Cortical Functions in Patients with Intractable Epilepsy: Pre- and Post-surgical Evaluations"

July 2004- June 2006

C\$87,000 for operating funds

Co-Investigators: Seyed Mirsattari [Principal Investigator], Jody Culham, James Danckert, Susan Piggott, & Sam Wiebe

#### **TEACHING**

# **University of Western Ontario Undergraduate Courses**

Psychology 4295: Neuroimaging of Cognition

Instructor (Winter 2022)

2022: rating of overall effectiveness; 6.8/7; rating of course: 6.8/7; enrollment: 11

Neuroscience 2000: Introduction to Neuroscience (undergraduate course with lectures and tutorials)

Course Coordinator (2018-2020) and Instructor (2014-2020)

2019: rating of overall effectiveness: 6.3/7; rating of course: 6.3/7; enrollment: 44

Psychology 2220: Introduction to Behavioral and Cognitive Neuroscience (undergraduate course)

Instructor (2014-2019)

2019: rating of overall effectiveness: 6.5/7; rating of course: 6.4/7; enrollment: 185

Psychology 1200: Biological Foundations of Behavior (undergraduate course)

Instructor (2002-2010)

2009-10: rating of overall effectiveness: 6.3/7; rating of course: 6.0/7

# **University of Western Ontario Graduate Courses**

Psychology 9223: Neuroimaging of Cognition (graduate course with lectures and tutorials) Instructor (2002-present)

Fall 2022: rating of instructor effectiveness: 7/7; rating of course: 6.8/7; enrollment: 21

Psychology 9224: Brain Organization and Connectivity (graduate seminar)

Instructor (2011)

Winter 2011: rating of instructor: 6.4/7; rating of course: 6.0/7

#### **Awards**

Nominated for Television Ontario (TVO) Big Ideas *Ontario's Best Lecturer Competition*, March 2006

University of Western Ontario Students' Council *Teaching Honour Roll Award of Excellence*, 2003-2004

Harvard University Certificate of Distinction in Teaching, 1993-1994, 1994-1995

#### **Guest Lectures**

CEGEP course on Cognitive Neuroscience, Vanier College, Montreal, February 2018, "Blind patients who can see."

Undergraduate course on Cognitive Neuroscience, University of Trento, February 2015, "The seeing brain"

Undergraduate course on Cognitive Neuroscience, University of Trento, October 2015, "fMRI: Experimental design and analysis"

Neuroscience 2000, "How to get involved in research as an undergraduate", 2012

Neuroscience 9500: Principles of Neuroscience (graduate survey course)

Lecturer (two contact hours per year), "Why does the brain have so many visual areas?" 2002-2006; "Methods in cognitive neuroscience", 2005-2006; "What neuroscientists can and cannot learn from brain imaging", 2007-2011; "From neurons to neuroimaging: Relationship between neural activity and the fMRI BOLD signal", 2012.

Neuroscience Survival Skills (first year graduate course on academia)

Guest lecture on "Writing successful scholarship applications", 2010-2011.

Graduate fMRI course, University of Maastricht, October 2009

Guest lecture on "Basic and Advanced Analyses for fMRI"

Undergraduate course on Pharmacy, University of Bologna, April 2009, "fMRI and Neuropsychology"

Lecture to Ph.D. students, Department of Human and General Physiology, University of Bologna, April 2009, "What neuroscientists can and cannot learn from brain imaging"

Neuroscience 506b: Statistics for Neuroscience (graduate course)

Guest Lecture on "Statistics for Brain Imaging" (two contact hours per year), 2005-2008

Psychology 324: Neuropsychology and Cognitive Neuroscience (undergraduate course). Guest lectures on "Methods in Cognitive Neuroscience and Neuropsychology" and "Vision and Visual Impairments Arising from Brain Lesions" (6 contact hours), Winter 2008. Psychology 215: Introduction to Sensation and Perception (undergraduate course) Course coordinator and co-instructor (with 8 others), Winter 2002 (5.3/7)

#### World Wide Web Courses

fMRI for Newbies (formerly known as fMRI for Dummies) http://www.fmri4newbies.com 10,000+ hits/year

Neuroimaging Web-Based Instruction (NEWBI) for fMRI <a href="http://www.newbi4fmri.com/">http://www.newbi4fmri.com/</a>
Online tutorials for fMRI data analysis

#### SUPERVISION OF TRAINEES AND PERSONNEL: CURRENT

# Postdoctoral Fellow (1)

Diana Dima (2022-present, co-supervised with Yalda Mohsenzadeh)

### **Graduate Student Supervisor (3)**

Michaela Kent, Neuroscience PhD Program (2020-present, co-supervised with Emma Duerden) Cassandra Bacher, Neuroscience PhD Program (2022-present, co-supervised with Marieke Mur and Mel Goodale)

Eva Deligiannis, Neuroscience MSc Program (2023-present)

### Staff Supervisor (2)

Karsten Babin, Virtual Reality Programmer (2019-present)

Kevin Stubbs, Part-time Programmer for Culham Lab (2013-present) and Full-time fNIRS Programmer for BrainsCAN (2020-2023)

# Other

Honours Students (or equivalent): 40 completed Scholar's Electives Supervisor: 8 completed Visiting Scholar Supervisor: 9 completed High School Coop Students: 2 completed NSERC USRA Students: 7 completed

Graduate Advisory Committees: 23 ongoing, 52 completed

Graduate Examining Committees: 57 (Western) + 18 (external examiner elsewhere) completed

Ph.D. Comprehensive Examiner: 30 completed

#### PLACEMENT OF PRIOR TRAINEES

For full list, see <a href="https://www.culhamlab.com/lab-alumni">https://www.culhamlab.com/lab-alumni</a>

# Postdoctoral Fellows (17)

- 13 of 17 have landed tenure-track academic positions Carol Coricelli (2020-2022)
  - Postdoctoral fellow, Freie Universität Berlin

Guy Rens (Feb. 2020-2022)

Postdoctoral fellow, Katholieke University Leuven

Chelsea Ekstrand (2019-2020),

- Assistant Professor, University of Lethbridge
- co-supervised with Dr. Ingrid Johnsrude
- recipient of BrainsCAN Postdoctoral Fellowship and NSERC Postdoctoral Fellowship

Kaitlin Laidlaw (2016-2019),

- Data Analyst, Libro Financial
- co-supervised with Dr. Mel Goodale
- recipient of BrainsCAN Postdoctoral Fellowship, NSERC Postdoctoral Fellowship, and Brain and Mind Institute Postdoctoral Fellowship

Erez Freud (2015-2018, co-supervised with Marlene Behrmann at Carnegie Mellon University)

- tenure-track Assistant Professor, York University
- recipient of Israeli Science Foundation and Rothschild (Israel) Postdoctoral Fellowships
- recipient of Center of Neural Basis of Cognition Strick Prize for outstanding paper (Freud et al., 2017, *eLife*)

Juan Chen (2012-2018, co-supervised with Mel Goodale)

Professor, South China Normal University

Lucilla Cardinali (2012-2016)

- postdoc, Italian Institute of Technology, Genova, Italy (2017-present)
- recipient of *Fyssen Foundation* (France) Postdoctoral Fellowship
- recipient of *Boehringer Ingelheim Fonds* (Europe) Travel Grant

Jenni Karl (2014-2015)

- Associate Professor at Thompson Rivers University, British Columbia
- recipient of NSERC Postdoctoral Fellowship

Sara Fabbri (2011-2014)

- Consultant
- Assistant Professor at University of Groningen
- Radboud Excellence Initiative postdoctoral fellow at Donders Institute, Radboud University Nijmegen

Michael Barnett-Cowan (2011-2013)

- Associate Professor at University of Waterloo
- recipient of Banting Postdoctoral Fellowship and Ontario Ministry of Research and Innovation Postdoctoral Fellowship

Jacqueline Snow (Postdoctoral Fellow, 2008-2013)

- Associate Professor at University of Nevada Reno
- recipient of Concepts, Actions and Objects conference travel grant for best conference abstract, Cognitive Neuropsychology (journal) travel prize, Object Perception and Memory conference travel award

Stephanie Rossit (Postdoctoral Fellow, 2009-2011)

• Associate Professor at University of East Anglia (U.K.)

John Zettel (Postdoctoral Fellow, 2006-2008)

• tenure-track Assistant Professor at University of Guelph

Jessica Witt (Postdoctoral Fellow, 2006-2007)

• Professor at Colorado State University

Anthony Singhal (Postdoctoral Fellow, 2004-2006)

• Department Chair in Psychology and Professor at University of Alberta

Cristiana Cavina Pratesi (Postdoctoral Fellow, 2004-2006)

• Lecturer (Assistant Professor) at the University of Durham, U.K. [deceased]

Greg Króliczak (Postdoctoral Fellow, 2005-2006)

• Professor at Adam Mickiewicz University, Poznan Poland

#### Graduate Students (17)

Cassandra Bacher, Neuroscience MSc Program (2020-2022)

• PhD student in the lab

Jaana Leppala, Neuroscience MSc Program (2020-2022)

• Clinical Research Coordinator, Nutrasource

Emily Davidson, Neuroscience MSc Program (2020-2022, co-supervised with Mike Anderson)

- PhD student, McGill University
- recipient of Ontario Graduate Fellowship

Margarita Maltseva, Psychology MSc (2013-15; PhD Candidate 2015-2020)

• Deceased; went on medical leave in 2020 after completing all but thesis

Laura Cabral, Neuroscience PhD (2016-2019)

Postdoctoral Fellow, University of Pittsburgh

• Co-supervised with Rhodri Cusack

Ben Chang, Neuroscience PhD Candidate (2014-2018)

• Infrastructure Practice, Info-Tech Research Group

Scott Macdonald, Neuroscience MSc-to-PhD (2011-2017)

- Consultant, Info-Tech Research Group
- recipient of Ontario Graduate Scholarship

Alexander Yan, Neuroscience MD-PhD Candidate (2013-2017)

- MD (2019) in Family Medicine
- recipient of CIHR MD-PhD Studentship

Teresa Figley (née McAdam), Neuroscience PhD Candidate (2009-2014)

- Research coordinator, University of Manitoba
- recipient of CIHR PhD Scholarship

Joey Paciocco (M.Sc., Neuroscience, 2010-2012)

 Administrative Officer, Research Development, Services and Ethics, Western University

Mark Daley (M.Šc., Neuroscience, 2010-2011)

- Chief Digital Officer, Western University
- resumed position as Associate Professor, Department of Computer Science, Western University

Jason Gallivan (M.Sc. and PhD, Neuroscience, 2005-2011)

- tenure-track Assistant Professor at Queen's University
- recipient of NSERC Banting postdoctoral fellowship, Queen's University
- recipient of 3 CIHR Brain Star Awards
- recipient of NSERC Graduate Scholarship (PGS D) and Ontario Graduate Scholarships Ken Valyear (Ph.D., Neuroscience, 2006-2010)
  - Senior Lecturer (Associate Professor) at Bangor University, Wales
  - Winner of Western *Governor General's Gold Medal* for outstanding academic achievement by a graduate student
  - Winner of *Collip Medal Award* for outstanding PhD student graduating from a basic science department in the Schulich School of Medicine & Dentistry
  - recipient of prestigious Vanier Fellowship at the Doctoral level
  - recipient of Canada Graduate Scholarship at the Master's level
  - Winner of Nellie Farthing Research Fellowship in the Medical Sciences, Schulich School of Medicine and Dentistry
  - Winner of G. Keith Humphrey Memorial Award, Western

Simona Monaco (Visiting Ph.D. student from the University of Bologna, 2005-2009; Postdoctoral fellow, 2010)

• Assistant Professor, Centre for Mind/Brain Sciences, University of Trento

Charlie Pettypiece (M.Sc., Neuroscience, 2008-2010)

- Lawyer, Ontario Securities Commission
- recipient of Canada Graduate Scholarship at the Master's level

Derek Quinlan (M.Sc. and Ph.D., Neuroscience, 2001-2008)

- Equipment Manager, BrainsCAN, Western University
- Assistant Professor, Department of Psychology, Huron College

Yvonne Wong (Ph.D., Neuroscience, 2005-2008, co-supervised with Tutis Vilis)

- Founder and CEO, Canada Neurotech
- instructor at Concordia University of Alberta

#### Full- or Half-time Staff (8)

Rosanna Turner, Administrative Assistant (2017-2020)

**Tzu-Ching Chiang (2014-2015)** 

Joey Paciocco (2012-2014)

• See Prior Trainees: Graduate Students (above)

Paul Armstrong (2011-2012)

• Law School, Western University

Lucia van Eimeren (2010-2011)

• PhD student, University of Exeter

Teresa McAdam (2006-2009)

• See Prior Trainees: Graduate Students (above)

Kenneth Valyear (Research Assistant, 2002-2005)

• See Prior Trainees: Graduate Students (above)

Stacey Danckert (Research Assistant, 1999-2002)

- Finance Critic, Green Party of Ontario
- Ph.D. in Psychology from the University of Waterloo
- recipient of NSERC Graduate Scholarship (PGS D)

# **EXTERNAL SERVICE: CURRENT/RECENT**

Societies

Board of Directors, Vision Sciences Society (2019-2024)

President-Elect 2021-22; President 2022-23; Past-President 2023-24

• includes service on multiple internal committees

**Editorial Boards** 

Experimental Brain Research (Co-editor, 2008-2022)

Guest Editor, Neuropsychologia special issue in honour of Mel Goodale's career (2023)

# **EXTERNAL SERVICE: PAST**

Co-organizer (with Dora Angelaki), Session on "Neuroscience in the Real World", *International Neuropsychological Symposium*, Villasimius, Sardinia, Italy, June 2023

Organizer, CREATE-IRTG Brain in Action Annual Retreat, Grand Bend, Ontario, June 18-21, 2019

Co-organizer (with Niko Troje and Laurie Wilcox, York University), Workshop on "How VR technologies can benefit cognitive neuroscience and vice versa", inaugural event for the Lake Ontario Virtual Reality (LO-VR) consortium, Grand Bend, Ontario, June 17, 2019

Founding member, Lake Ontario Virtual Reality (LO-VR) consortium (to bring together researchers on VR from Western/BrainsCAN, York/VISTA, University of Waterloo, and other sites, along with industrial partners)

Reviewing Editor (2012-2018), Acting Senior Editor (Oct. 2015-March 2016) *eLife* 

Director, Canadian Action and Perception Network (2016-2018)

Associate Editor (2008-2017), Frontiers in Integrative Neuroscience

North American Co-representative, Executive Committee, *International Neuropsychological Symposium* (2012-2017)

Member, Vision Sciences Society Young Investigator Award Committee (2013-2015)

Program Committee, Canadian Association for Neuroscience (2013)

Secretary (Secretary-Elect, Secretary, Past Secretary)

Organization for Human Brain Mapping (2008-2011)

Co-organizer (with Morris Moscovitch and Marlene Behrmann)

"Medial Temporal Lobe Contributions to Non-Memory Functions" session (9 speakers) at *International Neuropsychological Symposium*, Collioure, France.

#### Organizing Committee Member

Canadian Physiological Society/Canadian Action and Perception Network joint conference (February 2011)

#### Coordinator, Donald Hebb Student Awards

Canadian Society for Brain Behaviour and Cognitive Science annual meeting, London Ontario (June 2008)

#### Committee Member

National Institutes of Health Neuroinformatics Terminology Workshop on Neurobehavior, New York City, April 10-11, 2008

Co-organizer (with Patrizia Fattori), "From Eye to Hand: The Role of Vision in Grasping", Vision Sciences Society pre-conference workshop, May 2005.

#### Reviews

Peer Review Committee Member

Canadian Institutes of Health Research (CIHR) Foundation Grants (2021)

Canadian Institutes of Health Research (CIHR) Foundation Grants (2015-2018)

Natural Sciences and Engineering Research Council (NSERC) Research Tools and Instruments (2016-17)

Canadian Institutes of Health Research (CIHR) Behavioral Sciences B (June 2015; 1 grant by phone)

Canadian Institutes of Health Research (CIHR) Behavioral Sciences C (May 2014, Dec. 2009)

Canadian Institutes of Health Research (CIHR) New Investigator awards (2006-2008)

Ontario Ministry of Research and Innovation (MRI) Early Researcher Awards (Nov. 2010)

# Ad hoc reviewer of research grant applications:

#### Canada:

Canadian Institutes of Health Research (CIHR)

Natural Sciences and Engineering Research Council (NSERC) CIHR-NSERC Collaborative Health Research Project (CHRP)

Canada Research Chairs (CRC)

Canadian Foundation for Innovation (CFI)

National Centres of Excellence (NCE)

New Frontiers in Research Fund (NFRF) Exploration Grants

MITACS (Mathematics of Information Technology and Complex Systems)

Manitoba Health Research Council (MHRC)

Michael Smith Foundation for Health Research (MSFHR)

Ontario Mental Health Foundation (OMHF)

York University

#### **International:**

*National Institutes of Health (U.S.)* 

National Science Foundation (U.S.)

European Research Council

Biotechnology and Biological Sciences Research Council (U.K.)

Economic and Social Research Council (U.K.)

Wellcome Trust (U.K.)

Medical Research Council (U.K.)

British Academy/Leverhulme Trust (U.K.)

Israel Science Foundation

Netherlands Organization for Scientific Research (Netherlands)

Romanian National Research Council (Romania)

*University of Rome (Italy)* 

Bitbrain (Neurotech Company)

# Ad hoc reviewer of submitted manuscripts

Acta Psychologica

Behavioral Brain Research

Biology Letters

Biomedical Imaging & Intervention

**Brain** and Cognition

Canadian Journal of Experimental

**Psychology** Cerebral Cortex

Cognitive, Affective and Behavioral

Neuroscience

Cognition

Current Biology

*eLife* eNeuro

European Journal of Neuroscience Experimental Brain Research Frontiers in Human Neuroscience Frontiers in Integrative Neuroscience Frontiers in Movement Disorders

Frontiers in Psychology

Human Brain Mapping

Journal of Cognitive Neuroscience

Journal of Experimental Psychology:

General

Journal of Experimental Psychology: Human Perception & Performance

Journal of the Experimental Analysis of

**Behavior** 

Journal of Neurophysiology Journal of Neuroscience

Journal of Neuroscience Methods

Journal of Vision

Learning and Motivation Nature Communications Nature Neuroscience

NeuroImage Neuron

Neuropsychologia

Neuroscience PLOS Biology PLOS ONE

Proceedings of the National Academy of Sciences

Proceedings of the Royal Society B

Progress in Neurobiology

Psychiatry Research: Neuroimaging

Psychological Science Restorative Neurology and

Neuroscience

Science

Scientific Reports Spatial Vision

Trends in Cognitive Sciences

Vision Research

Ad hoc reviewer of book chapters and book proposals:

Attention and Performance book series

Blackwell Publishers

Elsevier

MIT Press

Springer Publishers

Reviewer of tenure/promotion applications

27 candidates (3 in Canada; 24 international)

Reviewer of conference abstracts and student awards

Canada Graduate Scholarships: Masters (2020)

Western Postdoctoral Fellowship Program (2018)

Canadian Action and Perception Network (CAPnet) abstracts (2015-present)

Vision Sciences Society abstracts (2006-2017)

Organization for Human Brain Mapping abstracts (2011)

Donald Hebb Student Awards, Canadian Society for Brain Behaviour and Cognitive Science annual meeting, Kingston Ontario (June 2012)

# Formal Mentorship

New Faculty Member Mentor, Brain and Mind Institute, 2018-present

Mentor, Faculty of Social Science, Western

Panelist, "Women in Science" Society of Neuroscience Graduate Students "I wish I knew" committee, 2019

Panelist, "NSERC RTI grant information panel", Research Western Conference, May 2019 Faculty of Social Science Mentor Program, 2017-present.

Panelist, "Finding One's Path in Graduate School" workshop, *Vision Sciences Society*, May 17, 2015.

Internal Peer Reviewer for CIHR Operating Grant, Schulich School of Medicine and Dentistry, 2014-15

Mentor, Alberta Innovates Postdoctoral Fellowship, 2014-2017

Mentor, Schulich School of Medicine and Dentistry Mentorship Program, 2010-2013

Mentor, Society for Neuroscience Mentoring Program, 2009-2012

# UNIVERSITY ADMINISTRATIVE ROLES: CURRENT

Founder and Coordinator, Western Optical Neuroimaging Research Group (ONRG), 2021-present

#### **UNIVERSITY ADMINISTRATIVE ROLES: PAST**

Member, Department of Psychology Nominations Committee (2022-2023)

Member, Western Open Neuroscience Working Group (2021-2023)

Member, Neuroscience Undergraduate Program Committee, 2018-2023

Western University Coordinator, *CREATE-IRTG* "Brain in Action" International Training *Program* between York (lead institution), Western & Queen's and German universities in Marburg and Giessen, 2012-2023.

Member, BrainsCAN Human Cognition and Sensorimotor Core Committee, Sept. 2016-2023.

Member, Department of Psychology Chair Selection Committee, 2021-2022

Member, Western Neuroscience Institute Steering Committee, Office of the Vice-President (Research), 2021

Member, Psychology Department Social Committee, 2017-2021

Acting Director, BrainsCAN Human Cognitive and Sensorimotor Core, 2020

Member, Workload and Resource Planning Committee (Dept. of Psychology), 2019-2020

Member, Neuroscience Working Group (to propose the structure for a new Western Neuroscience Institute), 2019-2020

Member, Annual Performance Evaluation Committee (Dept. of Psychology), 2004-2006, 2007-2008, 2017-2019

Co-Director, CFREF BrainsCAN Accelerator Internal Granting Program (\$12.5M), Jan. 2017-Oct. 2018

Member, Search Committee, Two CFREF BrainsCAN-funded positions in Computational Neuroscience, 2017-18

Member, CFREF BrainsCAN Research Management Committee, 2017-2018

Chair, Psychology Department Ethics and Subject Pool Committee, 2016-18

Member, Steering Committee, Brain and Mind Institute, 2013-2015, 2016-2017

Member, CFREF BrainsCAN Human Core Committee, 2016-2017

Member, Selection committee for Trainee Exchange Program between Donders Institutes (Radboud University, Nijmegen Netherlands) and Brain and Mind Institute (Western), 2016-2017

Member, *Promotion and Tenure Committee* (Department of Physiology and Pharmacology), 2014-2015

Director, NSERC CREATE Grant on Computational Approaches to Sensorimotor Transformations for the Control of Action between Western (lead institution), York & Queen's Universities, 2010-2015

Representative for Western University, Council of Ontario Universities "Research Matters" campaign, 2013-2014

Member, Chair Selection Committee (Department of Psychology), 2013-2014

Member, Executive Coordinating Committee (Department of Psychology), 2012-2014

Member, Graduate Affairs Committee (Department of Psychology), 2012-2014, 2004-2007

Member, Canada Research Chair in Primate Neuroscience Search Committee, Department of Physiology and Pharmacology (2011-2013)

Member, Nominations Committee (Department of Psychology), 2011-2013

Member, Promotion and Tenure Committee (Dept. of Psychology), 2011

Chair (2010-11), Workload and Resource Planning Committee (Dept. of Psychology); Member, 2009-2011

Member, Neuroscience Curriculum Review Committee (Graduate Program in Neuroscience), 2010-2011

Member, Space Committee (Department of Psychology), 2010-2012

Member, Appointments Committee (Dept. of Psychology), 2006-2008

Representative, Faculty of Social Science Education Policy Committee (Dept. of Psychology), 2007-2008

Member, Graduate Selection Committee, Psychology, Feb. 2008

Member, 4 T Magnet Operating Committee (fMRI group), 2004-2007

Interviewer, Research Development & Services (Western), 2006

Reviewer, Faculty of Graduate Studies Scholarships Committee for NSERC (Natural Sciences and Engineering Research Council) & OGSST (Ontario Graduate Scholarships in Science & Technology) (Western), 2003-2006

Member, Executive Coordinating Committee (Dept. of Psychology), 2003-2005

Member, Workload and Resource Planning Committee (Dept. of Psychology), 2002-2004

Member, Nominations Committee (Dept. of Psychology), 2002-2004

Representative, Faculty of Engineering meetings (Faculty of Social Science), 2001-2003

Coordinator, United Way campaign (Dept. of Psychology), 2001-2002

# **MEMBERSHIPS**

Elected Member (2005-present): International Neuropsychological Symposium

Selected Member (2018-present): Faculty Affiliate, Vector Institute for Artificial Intelligence

Memberships: Vision Sciences Society; Society for Neuroscience; Canadian Association for Neuroscience; Society for Near-Infrared Spectroscopy

#### MEDIA INTERVIEWS AND COMMUNITY SERVICE

For links, see <a href="http://www.culhamlab.com/media-coverage">http://www.culhamlab.com/media-coverage</a>

Featured, <u>Western News</u>, "Should you believe your eyes? Not necessarily in virtual reality says new study", December 2022

Interview, *CBC Afternoon Drive*, Western's Optical Neuroimaging Research Group, October 2022 Featured, *Western News*, "Breaking new ground on 'untapped', alternative brain imaging technique: Western officially launches new Optical Neuroimaging Research Group", October 2022

Debate Panelist, "The Great Debate: Can fMRI teach us how the brain works?" Western Neuroscience Research Day, February 2022.

Interview, Science for Citizens class, Ivan Semeniuk (Globe and Mail science writer), December 2020.

Comments cited in article "Automation will mean the end of an unusual, but effective, safety practice on the TTC's Yonge line", *Globe and Mail*, February 2020; radio interview on Global News Radio 640 Toronto

Media interview about color perception, Fanshawe College XFM News, March 2019

Media coverage about a patient described in Arcaro... & Culham (2018, Neuropsychologia) for Scientific American, National Post, Global News, Daily Mail (U.K.), The Times (U.K.), Newsweek, Science Daily, London Free Press, CTV News, CBC Afternoon Drive, Fox News, Men's Health (Australia), Medical News Today, Global News Radio 980 CFPL (London, Ontario) and numerous other international sources, June 2018

Western News feature on van den Heiligenberg... & Makin (2018, *Brain*), "Amputee brain rewires to embrace artificial limb", March 2018

Speaker, "What IS good graduate writing?", *GradWRITE Graduate Writing Workshop*, Western University, March 2017, March 2018

Interview, "Peer Review: Consultative review is worth the wait", *eLife*, September 2017 <a href="https://elifesciences.org/articles/32012">https://elifesciences.org/articles/32012</a>

"I have not seen my daughter smile since I went blind: Mum's rare condition lets her 'see." Newspaper Feature, *Sunday Post* (Scotland), August 2017

Radio Guest, *Dermot and Dave Show* (Ireland's most listened to mid-morning music and chat show), Today FM, Ireland, May 2017

- Media coverage on Hahamy...& Makin, 2017 from *The Independent* (U.K.), *The Daily Mail* (U.K.), *The Sunday Times* (U.K.), *Seeker*, *Technology Networks*, and *Science Daily*, April 2017
- Radio Guest, "The Digital Human: Blindsight", *British Broadcasting Corporation (BBC) Radio 4* (U. K.), April 2017
- Panelist, "Academic job searches", *Postdoctoral Research Forum*, Western University, May 2017. Media coverage on Snow et al., 2015 in *South Asian Daily*, October 2015.
- Public Lecture, "How the mind can control machines?" *London Public Library*, London ON, April 2015.
- Public Lecture, "How can the brain control machines?" *Toronto Mini Maker Faire*, Toronto ON, November 2014.
- Organizer of Discussion Panel, "Publishing 2.0: How can we change the publishing system in researchers' best interests?" *Canadian Association for Neuroscience* Annual Meeting, Montreal, Quebec, May 2014.
- Interview, "The blind woman who sees the rain, but not her daughter's smile", *National Public Radio* (U.S.), February 2014. <a href="http://www.npr.org/blogs/health/2014/05/26/314621545/the-blind-woman-who-sees-rain-but-not-her-daughters-smile">http://www.npr.org/blogs/health/2014/05/26/314621545/the-blind-woman-who-sees-rain-but-not-her-daughters-smile</a>
- Online discussion, "How can researchers change science publishing and research assessment?" *eLife*-sponsored Google Hangout on Air, February 2014.
- Interview, "Does new driving technology make us worse drivers?" Global News, February 2014.
- Public Lecture, "How Does the Brain Control the Body", *Research Matters* What Matters Now, Children's Museum, London ON, November 2013.
- Interview, "The Treachery of Images, "CBC Radio1 *Spark*, October 2013. http://www.cbc.ca/spark/episodes/2013/10/25/229-link-rot-image-vs-reality-payphone-resurgence-virtual-economies-god-and-tech/
- Speaker, "How many brains do you have?" *Treehouse Talks*, Toronto ON, February 2012. http://vimeo.com/37047211
- Organizer, *The Art and Science of Brain Imaging*, one-day workshop to train 24 artists about neuroimaging, in collaboration with Subtle Technologies and with funding from the *Canada Council for the Arts*, October 2011.
- Discussant, *Quirks & Quarks* (Canadian Broadcasting Corporation science radio show), 35<sup>th</sup> anniversary program, November 2010. http://www.cbc.ca/quirks/episode/2010/11/13/november-13-2010/
- Presenter, Western Researchers' Spotlight, Western Staff and Leaders Conference, February 2010. Youth Outreach Coordinator, Centre for Brain and Mind, 2007-2010.
- Discussant "Who Am I?", Science in the Pub, Quantum to Cosmos (Q2C) Festival, *Perimeter Institute for Theoretical Physics*, Waterloo, Ontario, October 2009.
- Presenter, Solving the Puzzle of Brain and Mind, Western Neuroscience Program Graduate Recruitment event, October 2009.
- Hands-on workshop on "Vision and Brain" for Creative Encounters, July 2007.
- Commentator for Western Media Relations on Nintendo *Brain Age* gaming system (featured in *London Free Press, Canadian Living, A-Channel News*), January 2007.
- Phone interview for web feature, "Your eyes can deceive you, don't trust them", *New Scientist* web feature, November 2006.
- Hands-on workshop on "Vision and Brain" for *Canadian Association for Girls in Science*, November 2005.
- Faculty of Social Science *Fall Preview Day* mini-lecture to prospective Western students and their parents, "Cognitive Neuroscience: Mapping the Human Brain," November 2004 and November 2005.
- Harvard Alumni Association (Toronto division) college admissions interviewer for London area, 2002-2008.
- Respondent for *CBC Radio*, Windsor morning show, "Why is the sound of fingernails on a blackboard so annoying?" August 2004

Phone interview for newspaper article on brain imaging, "Universities Vie for Tool that Shows Brains at Work", *Boston Globe*, February 2004

# HIGHLIGHTED WORK (SEE ALSO MEDIA COVERAGE)

Arcaro et al. (2018), Neuropsychologia

Received considerable international media coverage

Gallivan et al. (2013), eLife

• Subject of an Insight article: Mahon, B. Z. (2013). Watching the brain in action, *eLife*, 2, e00866.

Snow et al. (2011), Scientific Reports

• Commendation by *Discovery Magazine* NeuroSkeptic.

Gallivan et al. (2011b), Journal of Neuroscience ("Decoding effector-dependent...")

• Gallivan received a CIHR Brain Star Award for this work

Gallivan et al. (2011a), Journal of Neuroscience ("Decoding action intentions...")

- Gallivan received a CIHR Brain Star Award for this work
- "Recommended" on Faculty of 1000, http://f1000.com/13356062
- Subject of Journal Club Commentary: Vesia, M. & Davare, M. (2011). Decoding action intentions in parietofrontal circuits. *Journal of Neuroscience*, 31(46), 16491-16493.
- Received considerable international media coverage

Gallivan et al. (2009), Journal of Neuroscience

• Gallivan received a CIHR Brain Star Award for this work

Steeves et al. (2005), Neuropsychologia

- "Must Read" on Faculty of 1000, <a href="http://www.facultyof1000.com/article/16125741">http://www.facultyof1000.com/article/16125741</a> Culham et al., (2001), Neuron
- "Recommended" on Faculty of 1000, <a href="http://www.facultyof1000.com/article/11719212">http://www.facultyof1000.com/article/11719212</a> Culham et al. (2000), <a href="https://www.facultyof1000.com/article/11719212">Neuron</a>
  - Subject of Preview piece: Kastner, S. (2000). Attention and motion aftereffects: Just keep on tracking! Neuron, 28, 314.

Culham et al. (1999), Journal of Neurophysiology

• Subject of News & Views piece: Moore, C. & Engel, S. A. (1999). Visual perception: Mind and brain see eye to eye. *Current Biology*, R74-76.

#### NATIONAL AND INTERNATIONAL COLLABORATIONS

Ongoing

Dr. Erez Freud, York University, Toronto

Dr. Rainer Goebel, Maastricht University, Netherlands

Dr. Brad Mahon, Carnegie-Mellon University, Pittsburgh

Dr. Ella Striem-Amit, Georgetown University, Washington DC

Dr. Laurie Wilcox, York University, Toronto

Past

Canada-Germany CREATE-IRTG "The Brain and Action" training program with Philipps-University Marburg and Justus-Liebig-University Giessen, Germany, especially Drs. Gudrun Schwarzer (Giessen), Anna Schubö (Marburg), Benjamin Straube (Marburg) and Tilo Kircher (Marburg)

Dr. Valentina Parma, Monell Chemical Senses Center, Philadelphia PA

Dr. Raffaella Rumiati, SISSA, Trieste Italy

Drs. Luca Turella and Simona Monaco, University of Trento, Italy

Dr. Marco Davare, KU Leuven, Belgium

Dr. Marlene Behrmann, Carnegie-Mellon University, Pittsburgh, PA

Dr. Michael Vesia, University of Toronto, Canada

Dr. Tamar Makin, Oxford University, Oxford UK

Dr. Antonio Rangel, California Institute of Technology (Caltech), Pasadena, CA

Drs. Michael Arcaro and Sabine Kastner, Princeton University, Princeton, NJ

Drs. Patrizia Fattori & Claudio Galletti, University of Bologna, Italy

Dr. James Danckert, University of Waterloo, Canada

Dr. David Milner, Durham University, Durham, UK

#### **INVITED TALKS (125)**

International Conferences: 31

International Neuropsychological Symposium, Villasimius, Italy, 2023

\*Keynote at Minerva-Gentner Symposium on Perception, Recognition and Control of Goal-Directed Actions, Regensburg, Germany, 2022

Experimental Psychology Society, Stirling, Scotland, 2022

Royal Society workshop, New Approaches to 3D Vision [session chair, panelist], Virtual, 2021 International Conference on Machine Learning, Virtual, 2020

Gordon Research Conference on the Neurobiology of Cognition, Newry, Maine, 2018 Sensory Plasticity, Adaptation and Development (SPADe) Workshop, Pisa, Italy, 2018

Frontiers in Virtual Reality. University of Rochester, Rochester, New York, 2018

European Conference on Visual Perception, Berlin, Germany, 2017

Vision Sciences Society, St. Pete Beach, Florida, 2017

\*Keynote, Handedness Facts: from Evolution to Neuroscience, Rome, Italy, 2017

International Congress of Psychology, Yokohama, Japan. 2016

\*Keynote, CREATE-IRTG Summer School. Glashuetten, Germany, 2016

Advanced Retinal Therapy, Medical University of Vienna, Vienna, Austria. 2015

Perceptual Expertise Network Workshop, Denver, Colorado. 2014

Marie Curie Network meeting on Brain Plasticity, Oxford University, UK. 2013

Organization for Human Brain Mapping, Quebec City, Quebec. 2011

International Neuropsychological Symposium, Bonifacio, Corsica, France. 2012

Concepts, Actions and Objects (CAOS), University of Trento, Rovereto, Italy. 2011

Federation of European Neuroscience Societies – International Brain Research Organization (FENS-IBRO) Hertie Winter School, Obergurgl, Austria. 2011

International Conference on Parietal Lobe Function, Amsterdam, Netherlands. 2010

The Functions of the Parietal Lobes, Hebrew University, Jerusalem, Israel. 2009

Asia Pacific Conference on Vision, Brisbane, Australia. 2008

Summer Institute of Cognitive Neuroscience, *National Central University*, Jhongli City, Taiwan. 2007

Carnegie Symposium on Cognition: Embodiment, Ego-space, and Action. Carnegie-Mellon University, Pittsburgh, Pennsylvania. 2006

Object Manipulation from a Perception-Action Perspective, *Radboud University Nijmegen*, Netherlands. 2005

Giessen and Marburg Universities, Germany. 2005

Vision Sciences Society Satellite Symposium, Sarasota, Florida. 2005

International Neuropsychological Symposium, Mondello, Sicily. 2003

Neural Bases of Visuomotor Control, La Londe, France. 2002

Attention and Performance XX: Functional Brain Imaging of Visual Cognition, Erice, Sicily. 2002

\*Keynote, Looking at the Active Brain, *Utrecht University*, Netherlands. 1998

#### Canadian Conferences: 11

York University *Centre for Vision Research conference* on "Vision research: From picture to reality, from observer to agent", Toronto, Ontario, 2022

\*Keynote, Canadian Action and Perception Network satellite, Toronto, Ontario, 2019

\*Keynote, Canadian Spring Conference on Behaviour and Brain, Fernie, British Columbia, 2019

Lake Ontario Visionary Establishment (L.O.V.E.), Niagara Falls, Ontario. 2018, 2006

Banff Annual Seminar in Cognitive Science (BASiCS), Banff, Alberta. 2013

Canadian Society for Brain, Behaviour and Cognitive Science, Kingston, Ontario. 2012

Canadian Association for Neuroscience, Montréal, Quebec. 2008

Canadian Association for Neuroscience, Toronto, Ontario. 2007

Eye-Hand Coordination Workshop, Queen's University, Kingston, Ontario. 2002

Canadian Society for Brain, Behaviour and Cognitive Science and the (U.K.) Experimental Psychology Society. Cambridge, U.K. 2000

Southern Ontario Neuroscience Association. London, Ontario. 2000

# International University Colloquia: 62

Cognitive Neuroscience Colloquium, University of Regensburg, Germany, 2023

Cognitive Current Works, Yale University, New Haven, Connecticut, 2023

Bar Ilan University Vision Science Seminar, Ramat Gan, Israel, 2021 (virtual)

https://www.youtube.com/watch?v=096S2FDIo0Q

Purdue University, West Lafayette, Indiana, 2019

Princeton University, Princeton, New Jersey, 2018

IMT School for Advanced Studies, Lucca, Italy, 2018

Maastricht University, Maastricht, Netherlands, 2018, 2008

University of Arizona, Tucson, Arizona, 2018

Dartmouth College, Dartmouth, New Hampshire, 2018

Keynote, ATR, Kyoto, Japan, 2016

NTT, Atsugi-shi, Japan, 2016

University of Göttingen, Göttingen, Germany, 2016

Université de Genève, Geneva, Switzerland, 2016

University of Coimbra, Coimbra, Portugal, 2016

Oxford University, Oxford, UK, 2016

Durham University, Durham, UK, 2016

University of York, York, UK, 2016

University of East Anglia, Norwich, UK, 2016

University of Bangor, Bangor, UK, 2016, 2009

Royal Holloway University, Egham, UK, 2016

Sapienza University of Rome, Rome, Italy, 2016

SISSA (Scuola Internazionale Superiore di Studi Avanzati), Trieste, Italy. 2016, 2011

University of Verona, Verona, Italy, 2016

University of Trento, Trento, Italy, 2016, 2011

Radboud University, Nijmegen, Netherlands. 2015, 2012

Johns Hopkins University, Baltimore, Maryland. 2014

Karolinska Institute, Stockholm, Sweden. 2013

University of Michigan, Ann Arbor, Michigan. 2013

Penn State University, State College, Pennsylvania. 2013, 2010

Chinese Academy of Sciences, Beijing, China. 2012

Peking University, Beijing, China. 2012

Beihang University, Beijing, China. 2012

Utrecht University, Netherlands. 2012

University College London. 2012

Smith-Kettlewell Eye Research Institute, San Francisco, California. 2009

University of Bologna, Italy. 2009

Ben Gurion University of the Negev, Be'er Sheva, Israel. 2009

Weizmann Institute, Rehovot, Israel. 2009

University of Glasgow, Glasgow, Scotland. 2009

University of Parma, Italy. 2009

Katholieke Universiteit Leuven, Belgium. 2008

Hertie-Institute for Clinical Brain Research. Tübingen, Germany. 2008

Université Catholique de Louvain, Louvain-la-Neuve and Brussels, Belgium. 2008

Umeå University, Ümeå, Sweden. 2008

Harvard University, Cambridge, Massachusetts. 2008

Massachusetts Institute of Technology, Cambridge, Massachusetts. 2008

Adam Mickiewicz University, Poznan, Poland. 2006

Nencki Institute, Warsaw, Poland. 2006

University of Nottingham, U.K. 2006

University of Bergen, Norway. 2005

*Indiana University*, Bloomington, Indiana. 2005

Siemens MRI Division, Erlangen, Germany. 2004

West Virginia University, Morgantown, West Virginia. 2003

Massachusetts Institute of Technology, Cambridge, Massachusetts. 2002

University of California, Davis. 2001

Carnegie-Mellon/University of Pittsburgh, Pittsburgh, Pennsylvania. 1998

#### National University Colloquia: 25

Rotman Research Institute, Toronto, Ontario (Virtual) 2021

York University, Toronto. 2020, 2011, 2007, 2005

University of Western Ontario, London, Ontario, 2019, 2013, 2005, 2001

University of Toronto, Toronto, Ontario, 2019, 2004

University of Waterloo, Waterloo, Ontario, 2019

McMaster University, Hamilton, Ontario. 2015, 2003

University of British Columbia, Vancouver, British Columbia. 2014

University of Lethbridge, Alberta. 2014

Concordia University, Montreal, Quebec. 2013

University of Saskatchewan, Saskatoon, Saskatchewan. 2013

Ophthalmology Grand Rounds, St. Joseph's Hospital, London, Ontario. 2012

University of Guelph, Guelph, Ontario. 2010

Queen's University, Kingston, Ontario. 2010, 2007

Université de Montréal, Quebec. 2007

Dalhousie University, Halifax, Nova Scotia. 2005

McGill University, Montreal, Quebec. 2001

# **COMMENTARIES (15)**

Culham, J. C. (2016). The left hand doesn't know what the right hand is doing... or does it?! *Cell Reports*,17, 2809-2810. (Preview: Ossmy & Mukamel, 2016, *Cell Reports*).

Culham, J. C. (2012). Motion perception: New ideas on how drivers perceive speed emerge from the fog. *eLife*, 1, e00281. (Insight: Pretto et al., 2012, *eLife*). DOI: 10.7554/eLife.00281

**Culham**, J. C. (2005). Look before you reach! *Neuron*, 48, 713-714. (Preview: Prado et al., 2005, *Neuron*).

**Culham**, J. C. (2005). Turn the other cheek: Viewpoint aftereffects for faces and objects. *Neuron*, 45, 644-645. (Preview: Fang & He, 2005, *Neuron*).

Culham, J. C. (2003). Attention-grabbing motion in the human brain. *Neuron*, 40, 451-452. (Preview: Claeys et al., 2003, *Neuron*).

Culham, J. C. (2002). Dissociations in parietal "association" cortex. *Neuron*, 33, 318-320. (Preview: Simon et al., 2002, *Neuron*).

Culham, J. C. (2002). Brain activity around the clock. *Trends in Cognitive Sciences*, 6, 114. (Journal Club: Sereno et al., 2001, *Science*).

**Culham**, J. C. (2001). How neurons become BOLD. *Trends in Cognitive Sciences*, 5, 416. (Journal Club: Logothetis et al., 2001, *Nature*).

Culham, J. C. (2001). The brain as film director. *Trends in Cognitive Sciences*, 5, 376-377. (Journal Club: Zacks et al., 2001, *Nature Neuroscience*).

**Culham**, J. C. (2001). There's Waldo! *Trends in Cognitive Sciences*, 5, 231. (Journal Club: Sheinberg & Logothetis, 2001, *Journal of Neuroscience*).

Culham, J. C. (2000). Just how general is 'g'? *Trends in Cognitive Sciences*, 4, 328. (Monitor: Duncan et al., 2000, *Science*).

**Culham**, J. C. (2000). Activation from neuron to brain. *Trends in Cognitive Sciences*, 4, 5. (Monitor: Scannell & Young, 1999, *Proceedings of the Royal Society London B*).

Culham, J. C. (1999). Discordant views on the Mozart effect. *Trends in Cognitive Sciences*, 3, 409. (Monitor: Steele et al, 1999, *Nature*; Chabris, 1999, *Nature*).

Culham, J. C. (1999). What you see is what you get activated. *Trends in Cognitive Sciences*, *3*, 126. (Monitor: Tong et al., 1998, *Neuron*).

Culham, J. C. (1998). Timing in the visual hierarchy. *Trends in Cognitive Sciences*, 2, 473. (Monitor: Schmolesky et al., 1988, *Journal of Neurophysiology*).

#### **CONFERENCE PRESENTATIONS (205)**

Abstracts are published in conference proceedings unless otherwise specified.

Kent, M., Deligiannis, E., Babin, K., Stubbs, K. Duerden, E. G., & Culham, J. C. (August 2023). Exploring whether evoked-responses are influenced by animacy and visual realism during virtual social interactions using functional Near-Infrared Spectroscopy (fNIRS). *Neuroscience of the Everyday World* conference, Boston, Massachusetts.

- Dima, D. C., Culham, J. C., & Mohsenzadeh, Y. (July 2023). Multimodal representations of naturalistic actions in mind and brain. Organization for Human Brain Mapping, Montreal, Quebec.
- Varon, S., Babin, K., Spering, M, & Culham, J. C. (May 2023). Target interception in virtual reality is faster for natural than unnatural trajectory shapes. Vision Sciences Society Undergraduate "Just-in-Time" poster session, St. Pete Beach, Florida.
- Deligiannis, E., Donnelly, M., Coricelli, C., Babin, K., Stubbs, K., Ekstrand, C., Wilcox, L. M., & Culham, J. C. (May 2023). 3D faces evoke stronger fMRI activation than 2D faces. Vision Sciences Society, St. Pete Beach, Florida.
- Dima, D. C., Culham, J., & Mohsenzadeh, Y. (May 2023). Semantic representations of human actions across vision and language. Vision Sciences Society, St. Pete Beach, Florida.
- Deng, Z., Gao, J., Li, A., Chen, Y., Gao, B., Culham, J., & Chen J. (May 2023). Viewpoint adaptation reveals potential representational differences between 2D images and 3D objects. Vision Sciences Society, St. Pete Beach, Florida.
- Zur, N., Liu, Y., Sen, S., Khalsa, N. N., Culham, J., & Striem-Amit, E., (May 2023). Abstract representations of grasping action parameters in the dorsal stream. Vision Sciences Society, St. Pete Beach, Florida.
- Martinez Addiego, F., Liu, Y., O'Brien, C., Sen, S., Khalsa, N.N., Riesenhuber, M., Culham, J., Striem-Amit, E. (May 2023). The visual dorsal stream processes tool-use actions regardless of body part even in people born without hands. Vision Sciences Society, St. Pete Beach, Florida.
- <u>Davidson</u>, E. J., <u>Babin</u>, K. P., <u>Ekstrand</u>, C, Anderson, M. L.& **Culham**, J. C. (November 2022). Human neuroimaging reveals that agency in a video game boosts functional connectivity within and between brain networks. Society for Neuroscience, San Diego, CA.
- Kent, M., Deligiannis, E., Babin, K, Stubbs, K., Duerden, E. G., & Culham, J. C. October 2022). Evaluating the importance of animacy and visual realism in social interactions using fNIRS. Society for Functional Near-Infrared Spectroscopy, Boston, MA.
- Stubbs, K., Vahidi, H., Rens, G., Duerden, E. & Culham, J. C. (October 2022). Relating quality metrics to cardiac and functional activation. Society for Functional Near-Infrared Spectroscopy, Boston, MA.
- Leppala, J., Babin, K., Stubbs, K., & Culham, J. C. (May 2022). Virtual hand actions show behavioral and neural signatures of right-handedness. Vision Sciences Society, St. Pete Beach, FL.
- Martinez Addiego, F., Liu, Y., Sen, S. Khalsa, N. N., Culham, J. & Striem-Amit, E. (April 2022). Action imitation beyond body parts: a case for effector-independence in the visuo-motor system. Cognitive Neuroscience Society. San Francisco, CA.
- Vahidi, H., Rens, G., Stubbs, K., Quinlan, D. J., Sorger, B., & Culham, J. C. (October 2021). Using functional nearinfrared spectroscopy for the study of naturalistic hand actions. Society for Functional Near-Infrared Spectroscopy
- Vahidi, H (Advisors: Rens: G, Sorger, B., & Culham, J.C.) (May 2021). Using functional near-infrared spectroscopy for the study of visually guided hand actions. Virtual Vision Sciences Society Undergraduate "Just In Time" Poster Session (online).
- Hussey, K (Advisors: Culham, J. C., & Wilcox, L. M.) (May 2021). Familiar size reliably affects size and distance perception in high-resolution virtual reality. Virtual Vision Sciences Society Undergraduate "Just In Time" Poster
- Rzepka, A. M., Maltz, M. V., Stubbs, K. M., Babin, K., Quinlan, D. J. & Culham, J. C. (May 2021). Differences in size and distance perception between virtual reality and the real world. Virtual Vision Sciences Society (online); Abstract published in *Journal of Vision* (2021), 21(9): 2120. doi: <a href="https://doi.org/10.1167/jov.21.9.2120">https://doi.org/10.1167/jov.21.9.2120</a> Sensoy, O, Culham, J. C. & Schwarzer, G. (April 2021). Real, tangible objects enhance the processing of familiar size
- in infancy Society for Research in Child Development (online).
- Maltz, M. V., Stubbs, K. M., Quinlan, D. J., Rzepka, A., Martin, J. & Culham, J. C. (June 2020). Familiar size affects size and distance perception for real objects, even in the presence of oculomotor cues, Virtual Vision Sciences Society (online).
- Coricelli, C., Stubbs, K. M., Rumiati, R. I., Culham, J. C. (June 2020). Decoding representations of food images within the ventral visual stream. Virtual Vision Sciences Society (online).
- Monaco, S., Malfatti, G., Culham, J., Cattaneo, L., & Turella, L. (October 2019). Overlapping but not shared neural representation for planning and imagining hand movements in the Early Visual Cortex, Rovereto Attention Workshop, Rovereto, Italy.
- Maltseva, M. V., Quinlan, D. J., Stubbs, K. M., Konkle, T., & Culham, J. C. (October 2019). Which aspects of size and distance for real objects are coded through the hierarchy of visual areas? Society for Neuroscience, Chicago,
- Coricelli, C., Stubbs, K. M., Rumiati, R. I., Culham, J. C. (October 2019). Decoding representations of food images within the ventral visual stream. Society for Neuroscience, Chicago, Illinois.
- Turella, L., Malfatti, G., Monaco, S., Culham, J., & Cattaneo, L. (September 2019). Decoding modality-invariant spatial targets from planning-related activity in early visual areas. Federation of European Physiological Society, Bologna, Italy.
- Monaco, S., Malfatti, G., Culham, J., Cattaneo, L., & Turella, L. (June 2019). Decoding real and imagined actions in the Early Visual Cortex., International Congress on Cognitive Neurodynamics, University of Sassari, Italy.
- Turella, L., Malfatti, G., Monaco, S., Culham, J., & Cattaneo, L. (June 2019). Modality-invariant representation of spatial targets within V1 during action planning. Organization for Human Brain Mapping, Rome, Italy.
- Klein, L. K., Maiello, G., Proklova, D., Paulun, V. C., Culham, J. C., & Fleming, R. W. (May 2019). Which brain areas are responsible for which aspects of grasping? Vision Sciences Society, St. Pete Beach, Florida.
- Maltseva, M. V., Quinlan, D. J., Stubbs, K. M., Konkle, T., & Culham, J. C. (May 2019). Which aspects of size and distance for real objects are coded through the hierarchy of visual areas? Vision Sciences Society, St. Pete Beach, Florida.

- Culham, J. C., <u>Schumacher</u>, S. M., <u>Quinlan</u>, D. J., <u>Stubbs</u>, K. M., <u>Basmaji</u>, J., <u>Leblanc</u>, C. L., <u>Segall</u>, R. E., & Parma, V. (May 2019). Adults prefer to look at real objects more than photos. *Vision Sciences Society*, St. Pete Beach, Florida.
- Sensoy, O, Culham, J. C., & Schwarzer, G. (May 2019). Only real objects, but not photographs enhance infants' understanding of the familiar size of objects. Joint meeting of the Departments of Developmental Psychology and Educational Psychology (PaEpsy), Leipzig, Germany.
- Culham, J. C., Schumacher, S. M., Quinlan, D. J., Stubbs, K. M., & Parma, V. (May 2018). Adults prefer to look at real objects more than photos. *Workshop on Concepts, Actions, and Objects (CAOS)*, Rovereto, Italy.
- Klein, L. K., Maiello, G., Proklova, D., Chen, J., Paulun, V. C., Culham, J. C., & Fleming, R. W. (May 2018)
  Predicting how we grasp arbitrary objects, Vision Sciences Society, St. Pete Beach, Florida.
- Sensoy, O., Culham, J. C., & Schwarzer G. (July 2018). Do infants understand the true size of objects? *International Conference for Infant Studies*. Philadelphia, Pennsylvania.
- Gerhard, T. M., Culham, J. C., & Schwarzer G. (July 2018). Visual preference for real objects over pictures is related to 7-month-old infants' manual object exploration. *International Conference for Infant Studies*. Philadelphia, Pennsylvania.
- Sensoy, O., Culham, J. C., & Schwarzer G. (March 2018). The true size of a familiar object influences 12-month-old infants' visual preferences. *Conference of Experimental Psychologists (TeaP)*. Marburg, Germany.
- Gerhard, T. M., Culham, J. C., & Schwarzer G. (March 2018). Visual preference for real objects over pictures is related to 7-month-old infants' manual object exploration. *Conference of Experimental Psychologists (TeaP)*. Marburg, Germany.
- <u>Laidlaw</u>, K.Ē.W., <u>Cooper</u>, J.A., Goodale, M.A., & **Culham**, J.C. (November 2017). Do social intention-based changes in action vary as a function of social aptitude? Poster at the annual meeting of the *Psychonomic Society*, Vancouver, B.C.
- Cooper, J. A., <u>Laidlaw</u>, K. E. W., Goodale, M. A., & **Culham**, J. C. (May 2017). Reaching-to-grasp my intention: Relating communication skill with social action kinematics. Poster presented at the *Canadian Action and Perception (CAPnet) Satellite Symposium* at the Canadian Association for Neuroscience, Montreal, Quebec.
- Schumacher, S. M., Quinlan, D. J., Stubbs, K. M., Parma, V. & Culham, J. C. (May 2017). Adults prefer to look at real objects more than pictures. Talk presented at the *Canadian Action and Perception (CAPnet) Satellite Symposium* at the Canadian Association for Neuroscience, Montreal, Quebec.
- <u>Laidlaw</u>, K. E. W., <u>Walton-Ball</u>, E., **Culham**, J. C. & Goodale, M. A. (July 2017). Signalling intentions: The influences of partner response accuracy on social action behaviours. *Joint Action Meeting*, London, U. K.
- Maltseva, M. V., Stubbs, K. M., Goodale, M. A. & Culham, J. C. (May 2017). Congruent familiar size relationships decrease size contrast illusion. Poster at *Vision Sciences Society*, St. Pete Beach, Florida.
   Macdonald, S., van den Heiligenberg, F., Makin, T., & Culham, J.C. May 2017). Videos are more effective than
- <u>Macdonald</u>, S., van den Heiligenberg, F., Makin, T., & Culham, J.C. May 2017). Videos are more effective than pictures at localizing tool- and hand-selective activation in fMRI. Poster at *Vision Sciences Society*, St. Pete Beach, Florida.
- Monaco, S., <u>Malfatti</u>, G., **Culham**, J. C., Cattaneo, L, & Turella, L. May 2017). Decoding real and imagined actions: overlapping but distinct representations for planning vs. imagining hand movements. Poster at *Vision Sciences Society*, St. Pete Beach, Florida.
- <u>Yan</u>, A. & **Culham**, J. C. (May 2017). A new multivariate analysis method suggests timing is key factor in visually guided reach-to-grasp actions. Poster at *Vision Sciences Society*, St. Pete Beach, Florida.
- Gerhard, T. M., Culham, J. C., & Schwarzer G. (April 2017). Distinct visual processing of real objects and corresponding pictures in 7- to 9-month-old infants. Poster at Society for Research in Child Development, Austin, Texas.
- <u>Laidlaw</u>, K. E. W., **Culham**, J. C., & Goodale, M. A. (November 2016). This is for you: Influences of social intentionality on reach-to-grasp actions. Poster at *Psychonomic Society*, Boston, MA, USA.
- Chang, B., Stubbs, K., Quinlan, D., & Culham, J. C. (November 2016). Interception of virtual dynamic objects in atypical gravitational accelerations. Abstract at *Society for Neuroscience*, San Diego, CA, USA.
- Monaco S, Malfatti G, Cattaneo L, Culham, J. C., Turella L (November 2016). Human neuroimaging suggests overlapping but distinct representations for planning vs. imagining hand actions. Poster at *Society for Neuroscience*, San Diego, CA, USA.
- Vesia, M., Culham, J. C., Jegatheeswaran, G., Isayama, R., Le, A., & Chen, R. (November 2016). Human dorsal premotor cortex transfers grasp-related information to primary motor cortex hand representation during the preparation for an upcoming grasp: a dual-site TMS study. Abstract at *Society for Neuroscience*, San Diego, CA, USA.
- <u>Freud</u>, E., Behrmann, M., & **Culham**, J. C. (November 2016). Differential sensitivity to object's whole versus parts in ventral and dorsal pathways. Talk at *Society for Neuroscience*, San Diego, CA, USA.
- Vesia, M., Jegatheeswaran, G., Isayama, R., Le, A., Culham, J.C., & Chen, R. (June 2016). Excitability of human dorsal premotor cortex and ipsilateral primary motor cortex interactions prior to grasp. Poster at *Canadian Association for Neuroscience Meeting*, Toronto, ON, Canada.
- Freud, E., Macdonald, S. N., Chen, J., Quinlan, D. J., Goodale, M. A., & Culham, J. C. (May 2016). Getting a grasp on real objects and pictures: Grasping movements directed to real objects and pictures rely on dissociable neural representations. Canadian Action and Perception Network (CAPnet) Satellite Symposium (at Canadian Association for Neuroscience conference), Toronto, ON, Canada.
- Gallivan, J. Chapman, C., Flanagan, R., & Culham, J. (May 2016). Selective modulation and remapping of neural response patterns in visual cortex by movement preparation. *Canadian Action and Perception Network (CAPnet) Satellite Symposium* (at Canadian Association for Neuroscience conference), Toronto, ON, Canada.

- Monaco S, Malfatti G, Cattaneo L, **Culham**, J. C., Turella L (May 2016). Human neuroimaging suggests overlapping but distinct representations for planning vs. imagining hand actions. Poster at *Concepts*, *Actions and Objects*, Rovereto, Italy.
- Culham, J. C., <u>Fabbri</u>, S., <u>Gallivan</u>, J. P., <u>Freud</u>, E., & <u>Snow</u>, J. C. (May 2016). Human neuroimaging reveals the importance of real hand actions upon real objects for neural coding in the anterior intraparietal sulcus. Talk at *Neural Control of Movement*, Montego Bay, Jamaica.
- Hahamy, A., Macdonald, S., van den Heiligenberg, F., Kieliba, P., Malach, R., Emir, U., Culham, J., Johansen-Berg, H., & Makin, T. (May 2016). Cortical sensorimotor reorganization following congenital hand absence. Poster at *Neural Control of Movement*, Montego Bay, Jamaica.
- Monaco, S., Malfatti, G., Cattaneo, L., Culham, J. C. & Turella, L. (May 2016). Human neuroimaging suggests overlapping but distinct representations for planning vs. imagining hand actions. Poster at the *Concepts, Actions and Objects Workshop*, Rovereto, Italy.
- Snow, J. C., Squires, S. D., Stubbs, K. M., & Culham, J. C. (May 2016). fMRI reveals different activation patterns for real objects vs. photographs of objects. *Vision Sciences Society*, St. Pete Beach, FL.
- Gerhard, T., Culham, J., & Schwarzer, G. (March 2016). Distinct visual habituation to real objects and pictures of those objects in infancy. Talk at *Tagung experimentell arbeitender Psychologen*, Heidelberg, Germany.
- Culham, J. C., Arcaro, M. J., Thaler, L., McLean, D. A., Quinlan, D. J., Dutton, G. N., Goodale, M. A. & Kastner, S. (January 2016). Cortical and subcortical responses to moving stimuli in a patient with Riddoch phenomenon arising from bilateral visual cortex lesions. Poster [also selected for oral presentation] at *European Workshop on Cognitive Neuropsychology*. Bressanone, Italy.
- Snow, J. C., Squires, S. D., Stubbs, K. M., & Culham, J. C. (October 2015). fMRI reveals different activation patterns for real objects vs. photographs of objects. Talk at *Society for Neuroscience*, Chicago, IL.
- <u>Squires</u>, S. D., <u>Snow</u>, J. C., <u>Stubbs</u>, K. M., & **Culham**, J. C. (October 2015). fMRI reveals representational similarity for objects that are used on the body vs. other objects. Poster at *Society for Neuroscience*, Chicago, IL.
- Macdonald, S., van den Heiligenberg, F., Culham, J. C, & Makin, T. (October 2015). Localizing tool- and hand-selective areas with fMRI: Comparing video and picture stimuli. Poster at *Society for Neuroscience*, Chicago, IL.
- van den Heiligenberg, F., Orlov, T., <u>Macdonald</u>, S., Duff, E., Henderson-Slater, D. H., Johansen-Berg, H., **Culham**, J. C. & Makin, T. (October 2015). Activity in hand- and tool-selective regions for prosthetic limbs associated with prosthesis usage in everyday life. Poster at *Society for Neuroscience*, Chicago, IL.
- Gallivan, J. P., Chapman, C. S., McLean, D. A., Flanagan, J. R., & Culham, J. C. (October 2015). Movement intention modulates neural responses in visual cortex. Talk at Society for Neuroscience, Chicago, IL.
- Maltseva, M., Stubbs, K., Goodale, M. A., & Culham, J. C. (October 2015). Familiar size relationships decrease size contrast illusion. *Society for Neuroscience*, Chicago, IL.
- Cardinali, L, Makin, T. R., & Culham, J. C. (October 2015). Hand and tool positions differentially affect saccadic reaction times. Poster at *Society for Neuroscience*, Chicago, IL.
- Karl, J. M., Quinlan, D. J., Whishaw, I. Q., & Culham, J. C. (May 2015). Does behavioral dissociation of real vs. pantomime movements only apply to visually guided actions or is it a general feature of motor control? Poster at *Vision Sciences Society*, St. Pete Beach FL. [Abstract published in *Journal of Vision*, 15(12), 1157].
- <u>Macdonald</u>, S., van den Heiligenberg, F., **Culham**, J. C, & Makin, T. (May 2015). Localizing tool and hand-selective areas with fMRI: Comparing video and picture stimuli. Poster at *Vision Sciences Society*, St. Pete Beach FL. [Abstract published in *Journal of Vision*, 15(12), 982].
- van den Heiligenberg, F., <u>Macdonald</u>, S., Duff, E., Ślater, D. H., Johansen-Berg, H., **Culham**, J. C. & Makin, T. (May 2015). Activity in hand- and tool-selective regions for prosthetic limbs associated with prosthesis usage in everyday life. Poster at *Vision Sciences Society*, St. Pete Beach FL. [Abstract published in *Journal of Vision*, 15(12), 983].
- Karl, J. M., Quinlan, D. J., Stubbs, K. M., Whishaw, I. Q., Culham, J. C. (February 2015). Fake feeding: Kinematic differences between real vs. pantomime hand-to-mouth actions suggest dual routes from somatosensation to action. Talk at the Canadian Spring Conference on Brain and Behaviour, Fernie, BC.
- <u>Fabbri</u>, S., <u>Stubbs</u>, K., Cusack, R., & **Culham**, J. C. (November 2014). Similarity of representations in human dorsal-and ventral-stream brain regions during object viewing and grasping. Poster at the *Society for Neuroscience*, Washington, DC.
- Squires, S. D., Macdonald, S. N., Quinlan, D. J., Paciocco, J. U., Culham, J. C., & Snow, J. C. (July 2014). Do real tools prime hand actions more than photographs of tools? Poster at Canadian Society for Brain, Behavior and Cognitive Science, Toronto, ON.
- <u>Squires</u>, S. D., <u>Macdonald</u>, S. N., <u>Quinlan</u>, D. J., <u>Paciocco</u>, J. U., <u>Culham</u>, J. C., & Snow, J. C. (May 2014). Do real tools prime hand actions more than photographs of tools? Poster at <u>Southern Ontario Neuroscience Association</u>, London, ON.
- Barnett-Cowan, M., Buckingham, G., & Culham, J. C. (May 2014). The "Verge-Weight" Illusion. Poster at the *Vision Sciences Society*, St. Pete Beach, FL. [Abstract published in *Journal of Vision*, 14(10), 404].
- Chen, J., Goodale, M. A., Culham, J. C., & Snow, J. C. (May 2014). fMRI activation and connectivity in the dorsal and ventral visual streams for elongated and stubby tools and non-tools. Poster at the *Vision Sciences Society*, St. Pete Beach, FL. [Abstract published in *Journal of Vision*, 14(10), 189].
- Snow, J. C., Rangel, A., & Cuham, J. C. (November 2013). Bringing the real world into the fMRI scanner: Real objects amplify the neural correlates of valuation compared to photos. Poster at the *Society for Neuroscience*, San Diego, CA.
- Vesia, M., <u>Barnett-Cowan</u>, M., Elahi, B., Neva, J. L., Davare, M., Staines, W. R., **Culham**, J. C., & Chen, R. (November 2013). Selective modulation of interactions between areas of the dorsomedial pathway during the transport and grip formation of goal-directed hand actions. Poster at the *Society for Neuroscience*, San Diego, CA.

- <u>Macdonald</u>, S. N., & **Culham**, J. C. (November 2013). Do human brain areas involved in visuomotor actions show a preference for real tools over visually similar non-tools? Poster at the *Society for Neuroscience*, San Diego, CA.
- <u>Fabbri</u>, S., Cusack, R., & **Culham** J. C. (November 2013). Decoding the representations of grasp types and object properties in the human brain. Poster at the *Society for Neuroscience*, San Diego, CA.
- <u>Cardinali</u>, L, Roy, A. C., **Culham**, J. C., & Farné, A. (November 2013). The tool ownership illusion: Motor experience facilitates incorporation of a tool. Poster at the *Society for Neuroscience*, San Diego, CA.
- Wood, D. K., Chapman, C. S., Gallivan, J. P., Milne, J. L., Culham, J. C., & Goodale, M. A. (November 2013). The influence of bottom-up visual salience decays linearly in a compelled reaching paradigm. Poster at the Society for Neuroscience, San Diego, CA.
- <u>Macdonald</u>, S. N., & **Culham**, J. C. (May 2013). Do human brain areas involved in visuomotor actions show a preference for certain tool orientations? Poster at the *Canadian Association for Neuroscience*, Toronto ON.
- Culham, J. C., <u>Snow</u>, J. C., & Rangel, A. (May 2013). Bringing the real world into the fMRI scanner: Real objects amplify the neural correlates of valuation compared to photos. Poster at the *Vision Sciences Society*, Naples, FL. [Abstract published in *Journal of Vision*, 13(9), 499].
- Culham, J. C., Gallivan, J. P., McLean, D. A., & Valyear, K. F. (October 2012). Is a tool an extension of the body in the brain?: Decoding separate and shared representations for the hand and tool from human brain activity. Talk at *Society for Neuroscience*, New Orleans, LA.
- Barnett-Cowan, M., Snow, J. C., & Culham, J. C. (October 2012). Gravity dependent recognition of objects through active touch. Talk at *Society for Neuroscience*. New Orleans, LA.
- Snow, J. C., Goodale, M. A., & Culham, J. C. (October 2012). The lateral occipital cortex is not necessary for shape perception. Talk at *Society for Neuroscience*. New Orleans, LA.
- <u>Gallivan</u>, J. P., <u>Snow</u>, J. C., <u>Pettypiece</u>, C. E., & **Culham**, J. C. (October 2012). Haptic shape decoding in primary visual cortex. Talk at *Society for Neuroscience*. New Orleans, LA.
- McAdam, T. D., Gallivan, J. P., McLean, D. A., & Culham, J. C. (October 2012). Grasping with a twist: Decoding action intentions in the human brain using fMRI. Poster at *Society for Neuroscience*. New Orleans, LA.
- <u>Paciocco</u>, J. U., <u>McLean</u>, D. A., & **Culham**, J. C. (October 2012). The human neural correlates of real vs. pantomimed tool use revealed using fMRI. Poster at *Society for Neuroscience*. New Orleans, LA.
- Hutchison, R., <u>Gallivan</u>, J. P., **Culham**, J. C., Gati, J. S., Menon, R. S., & Everling, S. (October 2012). Homologous functional connectivity architecture of the monkey and human saccade-related networks. Talk at *Society for Neuroscience*. New Orleans, LA.
- Wood, D. K., Milne, J. L., Chapman, C. S., Gallivan, J. P., Culham, J. C., & Goodale, M. A. (June 2012). A reaching task reveals the rapid extraction of probability information from arbitrary colour cues. Poster at the *European Conference on Visual Perception*, Alghero Italy.
- Barnett-Cowan, M., Culham, J. C., & Snow, J. C. (June 2012). Haptic object recognition is influenced by the orientation of the body relative to gravity. Poster at *International Multisensory Research Forum*, Oxford, U.K. [Abstract published in *Seeing and Perceiving*, 2012, 25, 122].
- Snow, J. C, Goodale, M. A., & Culham, J.C. (June 2012). The lateral occipital area is not necessary for haptic shape representation. Talk at the *Canadian Society for Brain, Behaviour and Cognitive Science*. Kingston, ON.
- Gallivan, J.P., McLean, D.A., Valyear, K.F., & Culham, J.C. (June 2012). Decoding the neural mechanisms of human tool use. Talk at the Canadian Society for Brain, Behaviour and Cognitive Science. Kingston, ON.
- McAdam, T. D., McLean, D. A., Gallivan, J. P., & Culham, J. C. (June 2012). Grasping with a twist: fMRI decoding of object orientation and intended hand actions. Poster at the *Canadian Society for Brain, Behaviour and Cognitive Science*. Kingston, ON.
- <u>Barnett-Cowan</u>, M., **Culham**, J. C., & <u>Snow</u>, J. C. (June 2012). The haptic perceptual upright. Poster at the *Canadian Society for Brain, Behaviour and Cognitive Science*. Kingston, ON.
- Wood, D. K., Milne, J. L., Chapman, C. S., Gallivan, J. P., Culham, J. C., & Goodale, M. A. (June 2012). A reaching task reveals the rapid extraction of probability information from arbitrary colour cues. Poster at the *Canadian Society for Brain, Behaviour and Cognitive Science*. Kingston, ON.
- Snow, J. C., Strother, L., Coros, A., & Culham, J. C. (May 2012). How independent are form and color in the ventral visual pathway? Poster at *Vision Sciences Society*, Naples, FL. [Abstract published in *Journal of Vision*, 12(9), 510].
- Rossit, S., McAdam, T., McLean, D. A., Goodale, M. A., & Culham, J. C. (January 2012). Lower visual field preference for action in human superior parieto-occipital cortex (SPOC). Poster at the *Experimental Psychology Society*, London, U.K.
- Snow, J., & Culham, J. (November 2011). Is the lateral occipital complex necessary for haptic object recognition? Object shape representation in a visual agnosic with bilateral occipito-temporal lesions. Talk at the *Object Perception, Attention, and Memory* conference. Seattle, WA. [Abstract published in *Visual Cognition*, 19(10), 1318-1322].
- Arcaro, M. J., McLean, D. A., Quinlan, D. J., Dutton, G. N., Goodale, M. A., Kastner, S., & Culham, J. C. (November 2011). Cortical and subcortical response properties in a patient with visual cortex lesions. Poster at the Society for Neuroscience, Washington, D. C.
- Gallivan, J. P., McLean, D. A., Smith, F. W., & Culham, J. C. (November 2011). Decoding effector-dependent and effector-independent movement intentions from human parieto-frontal brain activity. Talk at the Society for Neuroscience, Washington, D. C.
- Cavina-Pratesi, C., <u>McLean</u>, D. A., <u>van Eimeren</u>, L, <u>Monaco</u>, S., & **Culham**, J. C. (November 2011). Dorso-lateral versus dorso-medial streams in reach to grasp actions: Grip and transport components or amount of online control? Evidence from event-related fMRI. Talk at the *Society for Neuroscience*, Washington, D. C.

- <u>Thaler</u>, L., <u>Paciocco</u>, J., <u>Daley</u>, M., Lesniak, Purcell, Goodale, M. A. & <u>Culham</u>, J. C. (November 2011). A selective impairment of auditory perception of motion direction in peripheral space: A case study. Poster the <u>Society for Neuroscience</u>, Washington, D. C.
- Al Abdlseaed, A., Hamilton, R., Culham, J, & McColloch, D. L. (June 2011). Residual short-latency VEPs in a case of widespread occipital infarction. *British Society for Clinical Electrophysiology of Vision*, Newcastle, UK.
- Gribble, P. L., Mattar, A. A., Brown, L. E., Malfait, N., Wilson, E.T., Obhi, S.S., Valyear, K.F., Culham, J.C., Anton, J. L., Williams, A. (May 2011) Motor learning by observing. Poster at the *Society for Neural Control of Movement*, San Juan, Puerto Rico.
- Monaco, S., Sedda, A., Cavina-Pratesi, C., & Culham, J. C. (May 2011). fMRI adaptation reveals the neural substrates of size and location processing for three-dimensional objects during grasping. Poster at the *Concepts, Actions and Objects Workshop*, Rovereto, Italy.
- Snow, J., Pettypiece, C., McAdam, T., McLean, A., Stroman, P., Goodale, M. A., & Culham, J. (May 2011). Bringing the real world into the fMRI scanner: Robust release from adaptation for 2D pictures but not 3D objects. Poster at the Vision Sciences Society, Naples, Florida. [Abstract published in Journal of Vision, 11(11), 71].
- Rossit, S., McAdam, T., McLean, A., Goodale, M., & Culham, J. (May 2011). fMRI reveals a lower visual field preference in dorsal stream regions during hand actions. Talk at the *Vision Sciences Society*, Naples, Florida. [*Journal of Vision*, 11(11), 952].
- Gallivan, J. P., McLean, A., Smith, F. W., & Culham, J.C. (February 2011). Decoding effector-specific and effector-independent movement intentions from human parieto-frontal brain activity. Talk at the Canadian Physiological Society/Canadian Action and Perception Network Conference, Sainte Adele, Quebec.
- Rossit, S., McAdam, T., McLean, A., Goodale, M., & Culham, J. (February 2011). fMRI reveals a lower visual field preference in dorsal stream regions during hand actions. Talk at the Canadian Physiological Society/Canadian Action and Perception Network Conference, Sainte Adele, Quebec.
- Milne, J. L., Chapman, C. S., Gallivan, J. P., Wood, D. K., Culham, J. C., & Goodale, M. A. (February 2011). Object connectedness influences perceptual comparisons but not the planning or control of rapid reaches to multiple goals. Talk at the Canadian Physiological Society/Canadian Action and Perception Network Conference, Sainte Adele, Ouebec.
- Gallivan, J. P., McLean, A., Valyear, K. F., Pettypiece, C., & Culham, J. C. (November 2010). Decoding movement intentions from preparatory activity in human parietal and premotor cortex. Talk at the annual meeting of the *Society for Neuroscience*, San Diego, California.
- <u>Valyear</u>, K. F., <u>Gallivan</u>, J. P., <u>McLean</u>, A., Chapman, C. S. & **Culham**, J. C. (November 2010). Neural priming of tool use. Poster at the annual meeting of the *Society for Neuroscience*, San Diego, California.
- Wood, D. K., Chapman, C. S., Gallivan, J. P., Milne, J. L., Culham, J. C., & Goodale, M. A. (November 2010). Visual salience of potential targets overrides spatial probabilities in a rapid reaching task. Poster at the annual meeting of the *Society for Neuroscience*, San Diego, California.
- Chapman, C. S., Gallivan, J. P., Wood, D. K., Milne, J. L., Culham, J. C., Ansari, D, & Goodale, M. A. (November 2010). Rapid reaching task 'points' toward different representations of number. Poster at the annual meeting of the Society for Neuroscience, San Diego, California.
- Monaco, S., Sedda, A., Cavina-Pratesi, C., & Culham, J. C. (November 2010). Where is it? How big is it? Different brain areas answer different questions about graspable three-dimensional object properties in an fMRI adaptation experiment. Poster at the annual meeting of the *Society for Neuroscience*, San Diego, California.
- Monaco, S., Sedda, A., Fattori, P., Galletti, C., & Culham, J. C. (January 2010). Cortical circuits processing wrist orientation for grasping: a functional magnetic resonance adaptation study. Poster at the annual meeting of the *European Workshop on Cognitive Neuropsychology*, Bressanone, Italy.
- Culham, J. C., Roebroeck, A., Pullens, W. L. P. M., Jones, C. K., Khan, S. A., Dutton, G. N., Goodale, M. A., & Goebel, R. (October 2009). Anatomical and functional connectivity in a patient with preserved motion awareness and visuomotor functions despite large bilateral occipitotemporal lesions. Poster at *Society for Neuroscience*, Chicago, Illinois.
- <u>Valyear</u>, K. F., <u>Chapman</u>, C. S., <u>Gallivan</u>, J. P., & **Culham**, J. C. (October 2009). Tool identity can prime grasping, but only when the goal is to use. Submitted to *Society for Neuroscience*, Chicago, Illinois.
- Secen, J., Culham, J. C., & Giaschi, D. (October 2009). The cortical basis of multiple-object tracking deficits in amblyopia: An fMRI study. Poster at *Society for Neuroscience*, Chicago, Illinois.
- Snow, J., Pettypiece, C. E., McAdam, T. D., McLean, A. D., Stroman, P. W., & Culham, J. C. (October 2009). No fMRI repetition suppression for real 3D objects, only 2D pictures of objects: An unexpected result. Talk at Society for Neuroscience, Chicago, Illinois.
- <u>Pettypiece</u>, C. E., Goodale, M. A., & Culham, J. C. (October 2009). Incongruent haptic information is automatically incorporated into visually guided grasps and perceptual estimations. Poster at *Society for Neuroscience*, Chicago, Illinois.
- Monaco, S., Sedda, A., Fattori, P., Galletti, C., & Culham, J. C. (October 2009). Functional magnetic resonance adaptation (fMRA) reveals the involvement of the dorsomedial stream in wrist orientation for grasping. Talk at *Society for Neuroscience*, Chicago, Illinois.
- Chapman, C. S., Gallivan, J. P., Culham, J. C., & Goodale, M. A. (October 2009). Mental blocks: Using fMRI to reveal the encoding of obstacles during reach-to-grasp movements. Talk at *Society for Neuroscience*, Chicago, Illinois.
- <u>Gallivan</u>, J. P. & **Culham**, J. C. (October 2009). fMRI shows that the extent of reachable space encoded within superior parieto-occipital cortex depends on handedness. Talk at *Society for Neuroscience*, Chicago, Illinois.
- Wood, D.K., Monaco, S., McAdam, T. D., Dutton, G. N., Culham, J. C., & Goodale, M. A. (October 2009). Impaired selection of wrist posture in a patient with a parieto-occipital lesion. Talk at *Society for Neuroscience*, Chicago, Illinois.

- Gallivan, J. P., Chapman, C. S., Wood, D. K., Milne, J. L., Culham, J. C., & Goodale, M. A. (May 2009). Stuck in the middle: Kinematic evidence for optimal reaching in the presence of multiple potential reach targets. Poster at the *Vision Sciences Society*, Naples, Florida. [Abstract published in *Journal of Vision*, 9(8), 1153].
- <u>Chapman</u> C.S., <u>Gallivan</u> J.P., <u>Wood</u> D.K., <u>Milne</u> J., <u>Culham</u> J.C., & Goodale M.A. (May 2009) Dynamic Target Acquisition: Rapid reach responses in the presence of multiple potential reach targets. Canadian Neuroscience Meeting, Vancouver, BC.
- Malfait, N., Valyear, K. F., Culham, J. C., Brown, L. E., Anton, J.-L., & Gribble, P. L. (November 2008). fMRI activation during observation of others' reach errors. Poster at the annual meeting of the *Society for Neuroscience*, Washington, District of Columbia.
- Monaco, S., McAdam, D. T., McLean, A. D., Culham, J. C., Singhal, A. (November 2008). fMRI reactivation in the Lateral Occipital Complex during action execution and action imagery toward visually and haptically explored objects. Talk at the annual meeting of the *Society for Neuroscience*, Washington, District of Columbia.
- <u>Valyear</u>, K.F., <u>Witt</u>, J.K., Goodale, M.A., & **Culham**, J.C. (November 2008). Activation for viewing meaningful and meaningless tool actions in a patient with large bilateral lesions of occipito-temporal cortex. Poster at the annual meeting of the *Society for Neuroscience*, Washington, District of Columbia.
- Pettypiece, C.E., Goodale, M.A., & Culham, J.C. (November 2008). Kinematic differences between grasps based on visual and haptic information. Poster at the annual meeting of the *Society for Neuroscience*, Washington, District of Columbia.
- Culham, J. C., Wolf, M. E., Whitwell, R. L., Brown, L. E., Khan, S. A., Cant, J. S., Monaco, S., Dutton, G. N., & Goodale, M. A. (June 2008). fMRI and behavioral testing reveal preserved motion processing and visuomotor control in a patient with extensive occipitotemporal lesions. Talk at the Annual Meeting of the *Canadian Society for Brain, Behaviour and Cognitive Science*, London, Ontario, Canada.
- Monaco, S., Quinlan, D., Fattori, P., Galletti, C., Goodale, M. A., & Culham, J. C. (June 2008). How do vision and proprioception contribute to the precision of reaching? Poster at the annual meeting of the *Canadian Society for Brain, Behaviour and Cognitive Science*, London, Ontario, Canada.
- Gallivan, J.P., Chapman, C.S., & Culham, J.C. (May 2008). Do objects within reach prime the visuomotor system for action? *Canadian Association for Neuroscience*, Montreal, Quebec.
- Culham, J. C., Witt, J. K., Valyear, K. F., Dutton, G. N., & Goodale, M. A. (May 2008). Preserved processing of motion and dorsal stream functions in a patient with large bilateral lesions of occipitotemporal cortex. Talk at the annual meeting of the Vision Sciences Society, Naples, Florida. [Abstract published in Journal of Vision, 8(6), 372]
- Goodale, M. A., Wolf, M. E., Whitwell, R. L., Brown, L. E., Cant, J.S., Chapman, C., Witt, J. K., Arnott, S. R., Khan, S. A., Chouinard, P. A., Culham, J. C., & Dutton, G. N. (May 2008). Preserved motion processing and visuomotor control in a patient with large bilateral lesions of occipitotemporal cortex. Talk at the annual meeting of the Vision Sciences Society, Naples, Florida [Abstract published in Journal of Vision, 8(6), 371]
- Wolf, M. E., Whitwell, R. L., Brown, L. E., Cant, J. S., Chapman, C., Witt, J. K., Arnott, S. R., Khan, S. A., Chouinard, P. A., Culham, J. C., Dutton, G. N., & Goodale, M. A. (May 2008). Preserved visual abilities following large bilateral lesions of occipitotemporal cortex. Poster at the annual meeting of the Vision Sciences Society, Naples, Florida. [Abstract published in Journal of Vision, 8(6), 624]
- Brown, L. E., Culham, J. C., Króliczak, G, & Goodale, M. A. (May 2008). Improved blindsight near the hand is associated with increased fMRI activation in the superior parietal-occipital cortex. Poster at the annual meeting of the Vision Sciences Society, Naples, Florida. [Abstract published in Journal of Vision, 8(6), 52]
   Barry, R. L., Williams, J. M., Klassen, L. M., Culham, J. C., & Menon, R. S. (May 2008). Preprocessing pipeline
- Barry, R. L., Williams, J. M., Klassen, L. M., Culham, J. C., & Menon, R. S. (May 2008). Preprocessing pipeline considerations to compensate for paradigm-related subject movement. Poster at the annual meeting of the *International Society for Magnetic Resonance in Medicine*, Toronto, Canada.
- Gallivan, J.P., Chapman, C.S., & Culham, J.C. (2008). Do objects within reach prime the visuomotor system for action? Canadian Neuroscience Meeting, Montreal, Quebec.
- <u>Malfait</u>, N., <u>Valyear</u>, K. F., <u>Culham</u>, J. C., Anton, J.-L., & Gribble, P. L. (April/May 2008). fMRI activation during observation of others' reach errors. Poster at the annual meeting of the *Society for the Neural Control of Movement*, Naples, Florida.
- Gallivan, J. P. Cavina Pratesi, C., & Culham, J. C. (November 2007). Is that within reach? The human superior parieto-occipital cortex (SPOC) shows greater fMRI activation for reachable objects. Talk at the annual meeting of the *Society for Neuroscience*, San Diego, California.
- Cavina Pratesi, C., Monaco, S., McAdam, T. Milner, D., Schenk, T., & Culham, J. C. (November 2007). Which aspects of hand-preshaping does human AIP compute during visually guided actions? Evidence from event-related fMRI. Talk at the annual meeting of the *Society for Neuroscience*, San Diego, California.
- Monaco, S., Quinlan, D., Fattori, P., Galletti, C., Goodale, M. A. & Culham, J. C. (November 2007). Visual and proprioceptive guidance of reaching movements. Poster at the annual meeting of the *Society for Neuroscience*, San Diego, California.
- Zettel, J. L., Culham, J. C., Vilis, T., & Crawford, J. (November 2007). A comparison of saccade and pointing topography in the human posterior parietal cortex. Poster at the annual meeting of the *Society for Neuroscience*, San Diego, California.
- <u>Large</u>, M.-E., <u>Cavina-Pratesi</u>, C., Vilis, T., & **Culham**, J. C. (August 2007). The fate of 'unseen' faces: an fMRI investigation of awareness in the face perception network. Talk at the *European Conference on Visual Perception*, Arezzo, Italy.
- Large, M.-E., <u>Cavina-Pratesi</u>, C., Vilis, T., & Culham, J. C. (July 2007). The neural correlates of awareness in the face perception network. Poster at the *Experimental Psychology Society and Psychonomic Society Meeting*, Edinburgh, Scotland.

- Zettel, J., Vilis, T., Culham, J., & Crawford, D. (June 2007). A comparison of saccade and pointing topography between medial and lateral areas in the human posterior parietal cortex. Poster at the inaugural meeting of the *York Centre for Vision Research Conference: Cortical Mechanisms of Vision*, Toronto Ontario.
- Zettel, J., Vilis, T., Culham, J., & Crawford, D. (May 2007). A comparison of saccade and pointing topography between medial and lateral areas in the human posterior parietal cortex. Poster at the inaugural meeting of the *Canadian Association for Neuroscience*, Toronto Ontario.
- Valyear, K. F., & Culham, J. C. (May 2007). Grasping the function of tools: fMRI suggests that the ventral but not the dorsal stream codes the functional significance of objects. Poster at the inaugural meeting of the *Canadian Association for Neuroscience*, Toronto Ontario.
- Gallivan, J. P., Cavina-Pratesi, C., & Culham, J. C. (May 2007). The effects of reachability and tool use on fMRI activation in human brain regions involved in hand actions. Poster at the inaugural meeting of the Canadian Association for Neuroscience, Toronto Ontario.
- <u>Valyear</u>, K.F., & **Culham**, J.C. (May 2007). Grasping the function of tools: fMRI suggests that the ventral but not the dorsal stream codes the functional significance of familiar objects. Talk at the *Vision Sciences Society*, Sarasota, Florida.
- <u>Gallivan</u>, J. P., <u>Cavina Pratesi</u>, C., & **Culham**, J. C. (October 2006). Do objects within reach activate human brain regions involved in hand actions? An fMRI study. Poster at the *Society for Neuroscience*, Atlanta, Georgia.
- Wong, Y.J., Large, M.E., Aldcroft, A.J., Culham, J.C. & Vilis, T. (October 2006). The lateral occipital area does not require awareness to adapt binding cues. Poster at the *Society for Neuroscience*, Atlanta, Georgia.
- Króliczak, G., Quinlan, D. J., McAdam, T. D., & Culham, J. C. (October 2006). AIP shows grasp-specific fMRI adaptation for real actions. Talk at the *Society for Neuroscience*, Atlanta, Georgia.
- <u>Cavina Pratesi</u>, C., Fattori, P., Galletti, C., <u>Quinlan</u>, D., Goodale, M., & <u>Culham</u>, J. (October 2006). Event-related fMRI reveals a dissociation in the parietal lobe between transport and grip components in reach-to-grasp movements. Talk at the <u>Society for Neuroscience</u>, Atlanta, Georgia.
- Króliczak, G., Cavina Pratesi, C., Goodman, D., & Culham, J.C. (June 2006). Does the brain know when you fake it? Neural basis of pantomimed and real grasping. Talk at the 6th Congress of the *Federation of European Psychophysiology Societies*, Budapest, Hungary.
- <u>Cavina-Pratesi</u>, C., Galletti, C., Fattori, P., <u>Quinlan</u>, D., Goodale, M., & <u>Culham</u>, J. (May 2006). Dissociating the neural correlates of the transport and grip components of reach-to-grasp actions: Evidence from event-related fMRI. Poster at the Symposium on *Cortical Control of Higher Motor Cognition*, Lübeck, Germany.
- Valyear, K. F., <u>Cavina-Pratesi</u>, C., <u>Stiglick</u>, A. J., & <u>Culham</u>, J. C. (May 2006). Left posterior parietal activity associated with the naming of tools does not appear to reflect the 'graspability' of the stimuli. Poster at the Symposium on *Cortical Control of Higher Motor Cognition*, Lübeck, Germany.
  <u>Quinlan</u>, D. J., Goodale, M. A., & <u>Culham</u>, J. C. (May 2006). Forks vs. fingers: A comparison of hand and mouth
- Quinlan, D. J., Goodale, M. A., & Culham, J. C. (May 2006). Forks vs. fingers: A comparison of hand and mouth kinematics during feeding. Poster at the annual meeting of the *Vision Sciences Society*, Sarasota, Florida. [Abstract published in *Journal of Vision*, 2006, 6(6), 937a]
- Króliczak, G., Cavina Pratesi, C., Goodman, D. & Culham, J. C. (May 2006). What does the brain do when you fake it? An fMRI study of pantomimed and real grasping. Poster at the annual meeting of the Vision Sciences Society, Sarasota, Florida. [Abstract published in Journal of Vision, 2006, 6(6), 940a]
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