

# CURRICULUM VITAE

JASON P. GALLIVAN

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Citizenship: Canadian

**Research Interests:** Cognitive and systems neuroscience, action, perception, decision-making, memory, attention, object recognition, neuroimaging (functional MRI), neurostimulation (TMS, tDCS), psychophysics, neural population encoding and decoding methods, pattern classification, brain network connectivity.

## Academic Career

Queen's University, Kingston, ON Assistant Professor Department of Psychology Department of Biomedical and Molecular Sciences Centre for Neuroscience Studies	Jan. 2016 – current
Queen's University, Kingston, ON Postdoctoral Fellow: Centre for Neuroscience Studies	Sept. 2011 – Dec. 2015
Western University, London, ON Ph.D. and M.Sc. in Neuroscience	Sept. 2005 – Aug. 2011
Western University, London, ON B.Sc. in Honours Biology	Sept. 2001 – April 2005

**Research Grants and Awards**

**CURRENT:**

**Canadian Institutes of Health Research (CIHR) Operating Grant**

**Co-Investigator**

“Neural representations underlying the planning and control of object manipulation tasks”

Queen’s University, 2013-2018

- C\$698,430 (\$139,686 x 5 years)
- Co-investigators: Randy Flanagan (Principal Investigator), Jason Gallivan, and Ingrid Johnsrude

**PAST:**

**Canadian Institutes of Health Research (CIHR) Postdoctoral Fellowship**

“Neural bases of sensorimotor control of object grasping and manipulation”

Queen’s University, 2014-2017

- C\$120,000 (\$40,000 x 3 years) + \$15,000 (\$5,000/year) research stipend
- Ranking: 29<sup>th</sup> out of 1229 total applications (top 2.5% of applicant pool)

**Banting Postdoctoral Fellowship**

**Natural Sciences and Engineering Research Council (NSERC)**

“Decoding action intentions and sensorimotor predictions from human brain activity”

Queen’s University, 2012-2014

- Canada’s most competitive and prestigious postdoctoral fellowship award (70 awarded annually)
- C\$140,000 (\$70,000 x 2 years)

**Three-time CIHR Brain Star Award recipient (C\$1,500 per award)**

- **2012** CIHR Brain Star awarded for the work entitled: “Decoding effector-dependent and effector-independent movement intentions from human parieto-frontal brain activity” published in the *Journal of Neuroscience*.

- **2011** CIHR Brain Star awarded for the work entitled: “Decoding action intentions from preparatory activity in human parieto-frontal networks” published in the *Journal of Neuroscience*.

- **2009** CIHR Brain Star awarded for the work entitled: “Is that within reach? fMRI reveals that the human superior parieto-occipital cortex encodes objects reachable by the hand” published in the *Journal of Neuroscience*.

**Ontario Ministry of Research and Innovation (MRI) Postdoctoral Fellowship**

Queen’s University, 2011-2013 (declined for 2012-2013 year)

- C\$100,000 (\$50,000 x 2 years)

**Natural Sciences and Engineering Research Council (NSERC) Scholar (PGS-D)**

Western University, 2009-2011

- C\$63,000 (\$21,000 x 3 years)

**Graduate Thesis Research Award**

Western University, 2009-2011

- C\$3,750 (\$1,250 x 3 years)

**Teaching Assistant Award**

Western University, 2009

- C\$500

**Ontario Graduate Scholarship for Sciences and Technology**

Western University, 2007-2008

- C\$15,000

**Ontario Graduate Scholarship**

Western University, 2006-2007

- C\$15,000

**Western Graduate Research Scholarship**

Western University, 2005-2011

- C\$30,000 (\$6,000 x 5 years)

**Laurene Paterson Estate Scholarship**

Western University, 2004-2005

- C\$2,000

**Dean's Honour Student in Science**

Western University, 2001-2005

**Aiming for the Top Tuition Scholarship**

Western University, 2001

- C\$3,500

**Entrance Scholarship**

Western University, 2001

- C\$1,000

**Supervisory Experience**

*Undergraduate Honour's Thesis Co-Advisor*

*Queen's University:*

Lindsey Logan (2014-2015)

- Life Sciences Program
- Winner of the prestigious Queen's Neuroscience Undergraduate Research Prize for her Thesis

Dan Gale (2014-2015)

- Department of Psychology

Kathryn Barton (2013-2014)

- Department of Psychology
- Winner of the prestigious W.R. Thompson Prize in Psychology for Top Thesis

*Western University:*

Maryam Khami (2009-2010)

- Department of Physiology

Jennifer Milne (2008-2009)

- Department of Psychology

*Advisor for volunteer/paid students and/or NSERC summer students:*

Mohammed Albaghdadi (2<sup>nd</sup> year student; Queen's University)

Kathryn Barton (4<sup>th</sup> year student; Queen's University)

James Dusten (2<sup>nd</sup> year student; Western University)

Steve Beukema (1<sup>st</sup> year student; Western University)

Debbie Boswell (1<sup>st</sup> and 3<sup>rd</sup> year student; Western University)

Kevin Stubbs (1<sup>st</sup> year student; Western University)

*Mentorship:*

Sisi Xu (M.Sc. candidate, Queen's University)

Ashley Bramwell (M.Sc. candidate, Queen's University)

Josh Moskowitz (Ph.D. candidate, Queen's University)

Eren Gultepe (Ph.D. candidate, Western University)

Brandie Stewart (Ph.D. candidate, Queen's University)

Jennifer Milne (Ph.D. candidate, Western University)

### **Teaching Experience**

*Life Sciences 324: Systems Neuroscience* 2013  
*Queen's University*  
*3<sup>rd</sup> year undergraduate course*  
Provided a brief introduction to MRI methods and analysis (total of three tutorial sessions)

#### *fMRI Pattern Classification Lectures*

*Queen's University* 2011 & 2013  
Presented to faculty and student members of the Psychology Department (January 14<sup>th</sup> and March 19<sup>th</sup>, 2013) and Centre for Neuroscience Studies (November 23<sup>rd</sup> 2011).

*Western University* 2011  
Presented to faculty and student members of the Brain and Mind Institute (September 13<sup>th</sup> 2011).

#### *Teaching Assistantships, Western University*

*Physiology 4710a: Physiology of the Senses* 2009  
Dept. of Physiology 2008

4 <sup>th</sup> year undergraduate course	2007
<i>Neuroscience 500: Principles of Neuroscience</i> Neuroscience Program Graduate-level neuroscience course	2008-2009
<i>Psychology 380: Psychological Statistics using Computers</i> Dept. of Psychology 3 <sup>rd</sup> year undergraduate course	2008
<i>Psychology 023: Biologically oriented introduction to psychology</i> Dept. of Psychology 1 <sup>st</sup> year undergraduate course	2006
<i>Psychology 020: Introduction to Psychology</i> Dept. of Psychology 1 <sup>st</sup> year undergraduate course	2005
<i>Biology 332a: Parasitology</i> Dept. of Biology 3 <sup>rd</sup> year undergraduate course	2006 2005 2004

### Administrative duties

Current member of the MRI Facility Management committee at Queen's University

### Contributions

#### Ongoing

- Member of the *eLife* Early Careers advisory group (*eLife* is a new top-tier open access journal produced by Howard Hughes Medical Institute, Wellcome Trust and Max Planck Society; 2014-present)
- Organizer of the Queen's fMRI journal club (held bi-weekly; 2011-present)

#### Past

- Organizer of the *Nanosymposium* talk session entitled "Neurophysiology: Planning and Execution" presented at the 45<sup>th</sup> annual meeting of the Society for Neuroscience. Chicago, IL (2015).
- Organizer of the *Team Presentation* talk session entitled "Neural bases of the sensorimotor control of object grasping and manipulation" presented at the 23rd annual meeting of the Society for the Neural Control of Movement. San Juan, Puerto Rico (2013).
- Hosted a tour of the MRI facility in Botterell Hall for the Department of Psychology Open House (Feb. 8<sup>th</sup>, 2013).

Ad Hoc Reviewer of Submitted Manuscripts:

Cerebral Cortex (3), Cognition (1), Cortex (1), European Journal of Neuroscience (7), eLife (2), Experimental Brain Research (5), Frontiers (1), Human Brain Mapping (1), Journal of Experimental Psychology: General (2), Journal of Neuroscience (18), Journal of Neurophysiology (3), Journal of Cognitive Neuroscience (4), Multisensory Research (1), Nature Neuroscience (1), Neuroimage (5), Neuropsychologia (2), Neuron (2).

Ad Hoc Reviewer of Research Grant Applications:

German-Israeli Foundation (GIF) for Scientific Research and Development

Youth Outreach and Community Service

- London Ontario Brain Bee (<http://www.uwomeds.com/ncog/main.php>), in association with the Canadian Institutes of Health Research Canadian National Brain Bee (2009) (<http://www.science.mcmaster.ca/brainbee/>)
- Brain Awareness Day at Queen's University (2012 and 2013)

**Professional Affiliations**

Member of the Society for Neuroscience (2006 – Present)

Member of the Canadian Association for Neuroscience (2013 – Present)

Member of the Society for the Neural Control of Movement (2012 - Present)

**Media Interviews and Press (selected)**

Print, Headlines and Global News. Human brain plans multiple potential courses of action during decision making, study says. January 12, 2016.

Print, Daily Mail. Decisions, decisions! Our brain plan multiple courses of action simultaneously before deciding the best movement to make. January 12, 2016.

Print Interview, Queen's University News Centre. A weighty discovery. July 24, 2014.

Print Interview, Queen's University News Centre. Research advances understanding of the human brain. March 1, 2013.

Print Interview, Reader's Digest. 12 medical breakthroughs of the year. September 28, 2011 (published January, 2012).

Radio Interview, CBC Radio One (Ontario Morning). July 5, 2011.

Print Interview, Metro News. Brain activity making waves. July 4, 2011.

Print Interview, CBC News. Scientists read minds to predict hand actions. July 1, 2011.

Radio Interview, Fanshawe Radio. June 30, 2011.

TV Interview, A-Channel News (Health and Home). June 29, 2011.

Print, The Times of India. Brain waves can foretell future actions. July 1, 2011.

Print, The Register. Brainscan breakthrough: Working robot limbs come closer. June 30, 2011.

Print, TG Daily. Scientists move closer to mind reading. June 30, 2011.

Print, neurosciencenews.com. Researchers can predict future actions from brain activity. June 29<sup>th</sup>, 2011.

Print, thehealthline.ca. Western researchers can predict future actions from brain activity. June, 29<sup>th</sup>, 2011.

Print, Daily Mail. Mind-reading scientists predict what a person is going to do before they do it. July 1, 2011.

### Workshops

Neural Correlates of Object Recognition and Action Workshop (2009). Atlanta, Georgia.  
Computational Sensory-Motor Neuroscience Summer School (2013). Kingston, Ontario.

### Publications

\* *indicates co-first authorship*

#### **Articles submitted or under revision for resubmission (1):**

**Gallivan, J.P.**, Bowman, N., Chapman, C.S., Wolpert, D.M. & Flanagan, J.R. The sequential encoding of competing action goals involves dynamic restructuring of motor plans in working memory. Under revision at *The Journal of Neurophysiology* (JN-00951-2015). Revision invited November 11 2015.

#### **Articles in peer-reviewed journals, published or in press (33):**

**Gallivan, J.P.**, Logan, L., Wolpert, D.M. & Flanagan, J.R. (2016) Parallel specification of competing sensorimotor control policies for alternative action options. *Nature Neuroscience* doi:10.1038/nn.4214

Lowe, M.X., **Gallivan, J.P.**, Ferber, S., and Cant, J.S. (2016) Feature diagnosticity and task context shape activity in human scene-selective cortex. *Neuroimage*. 125: 681-692.

**Gallivan, J.P.**, Barton, K., Chapman, C.S., Wolpert, D.M., & Flanagan, J.R. (2015) Action plan co-optimization reveals the parallel encoding of competing reach movements. *Nature Communications*. 6: 7428. doi: 10.1038/ncomms8428.

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. *Neuroimage*. 116: 10-29.

Chapman, C.S., **Gallivan, J.P.**, Wong, J.W., Wispinski, N.J. & Enns, J. (2015) The snooze of lose: Rapid reaching reveals that losses are processed more slowly than gains. *Journal of Experimental Psychology: General*.

**Gallivan, J.P.** & Culham, J.C. (2015) Neural coding within human brain areas involved in actions. *Current Opinion in Neurobiology*. 33:141-149 [Invited Review]

**Gallivan, J.P.**, Johnsrude, I.S. & Flanagan, J.R. (2015) Planning ahead: Object-directed sequential actions decoded from human frontoparietal and occipitotemporal networks. *Cerebral Cortex*. DOI: 10.1093/cercor/bhu302.

Chapman, C.S., **Gallivan, J.P.**, & Enns, J.T. (2015) Separating value from selection frequency in rapid reaching biases to visual targets. *Visual Cognition*. DOI:10.1080/13506285.2014.976604.

Stewart, B.\*, **Gallivan, J.P.\***, Baugh, L., & Flanagan, J.R. (2014) Motor, not visual, encoding of potential reach targets. *Current Biology*. 24(19): R953-R954.

**Gallivan, J.P.\*** & Chapman, C.S\*. (2014) Three-dimensional reach trajectories as a probe of real-time decision-making between multiple competing targets. *Frontiers in Neuroscience*. 8(215): 1-19.

**Gallivan, J.P.**, Cant, J., Goodale, M.A. & Flanagan, J.R. (2014) Representation of object weight in human ventral visual cortex. *Current Biology* 24(16): 1866-73.

- Featured in the 'Dispatch' section of *Current Biology* by Kentridge (2014).

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. *Neuroimage* 96:216-236.

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- and magnitude-dependent extraction of numerical quantity. *Journal of Vision*. 14(3): 1-19.

**Gallivan, J.P.** (2014) A motor-oriented organization of human ventral visual cortex? *Journal of Neuroscience* 34(9): 3119-3121. [Commentary]

Stewart, B. M., Baugh, L.A., **Gallivan, J.P.** & Flanagan, J.R. (2013) Simultaneous encoding of the direction and orientation of potential targets during reach planning: evidence of multiple competing reach plans. *Journal of Neurophysiology* 110 (4): 807-816.

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 planning. *Psychological Science* 24 (8): 1456-1465.

**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. *European Journal of Neuroscience* 38 (3): 2408-2424.

**Gallivan, J.P.**, McLean, D.A., Valyear, K.F., & Culham, J.C. (2013) Decoding the neural mechanisms of human tool use. *eLife* 2: e00425.

- Featured in the 'Insight' section of *eLife* by Mahon (2013).

**Gallivan, J.P.**, McLean, D.A., Flanagan, J.R., & Culham, J.C. (2013) Where one hand meets the other: Limb-specific and action-dependent movement plans decoded from preparatory signals in single human frontoparietal brain areas. *Journal of Neuroscience* 33 (5): 1991-2008.



Hutchison, R.M., **Gallivan, J.P.**, Culham, J.C., Gati, J.S., Menon, R.S., & Everling, S. (2012) Functional connectivity of the frontal eye fields in humans and macaque monkeys investigated with resting state fMRI. *Journal of Neurophysiology* 107 (9): 2463-2474.

Valyear, K.F., **Gallivan, J.P.**, McLean, D.A., & Culham, J.C. (2012) fMRI repetition suppression for familiar but not arbitrary actions with tools. *Journal of Neuroscience* 32 (12): 4247-4259.

**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. *Journal of Neuroscience* 31 (47): 17149-17168.

**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 workspace. *Neuropsychologia* 49 (13): 3710-3721.

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 behaviour. *Journal of Vision* 11 (10): 16, 1-11.

**Gallivan, J.P.**, McLean, D.A., Valyear, K.F., Pettypiece, C., & Culham, J.C. (2011) Decoding action intentions from preparatory brain activity in human parieto-frontal networks. *Journal of Neuroscience*. 31 (26): 9599-9610.

- Featured in the *Journal of Neuroscience's Journal Club* section by Vesia and Davare (2011)

- Recommended by the Faculty of 1000 (F1000)

Valyear, K.F., Chapman, C.S., **Gallivan, J.P.**, Mark, R.S., & Culham, J.C. (2011) To use or to move: Goal-set modulates priming when grasping real tools. *Experimental Brain Research*. 212/1: 125-142.

Chapman, C.S., **Gallivan, J.P.**, Culham, J.C., & Goodale, M.A. (2011) Mental Blocks: fMRI reveals top-down modulation of early visual cortex when obstacles interfere with grasp planning. *Neuropsychologia* 49 (7): 1703-1717.

**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 individuation of objects during action planning. *Psychological Science* 22 (6): 803-811.

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. *Behavioural Brain Research*, 214 (1): 130-134.

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. *Cognition*, 116 (2): 168-176.

Barry, R.L., Williams, J.M., Klassen, L.M., **Gallivan, J.P.**, Culham, J.C., & Menon, R.S. (2010) Evaluation of preprocessing steps to compensate for magnetic field distortions due to body movements in BOLD fMRI. *Magnetic Resonance Imaging*, 28 (2): 235-244.

**Gallivan, J.P.** & Wood, D.K. (2009) Simultaneous encoding of potential grasping movements in the anterior intraparietal area. *Journal of Neuroscience*, 29 (39): 12031-12032. [Commentary]

**Gallivan, J.P.**, Cavina-Pratesi, C., & Culham, J.C. (2009) Is that within reach? fMRI reveals that the human superior parieto-occipital cortex encodes objects reachable by the hand. *Journal of Neuroscience*, 29 (14), 4381-91.

### **Book chapter (1):**

Culham, J. C., **Gallivan, J.P.**, Cavina-Pratesi, C., & Quinlan, 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.), *Embodiment, Ego-space and Action*. New York: Psychology Press. pp. 247-274.

### **Manuscripts in preparation:**

*In order of expected submission date (soonest first). Most works have been (or will soon be) presented at scientific meetings.*

**Gallivan, J.P.\***, Stewart, B.\*, Baugh, L.A. & Flanagan, J.R. Preparing for the possible: Multiple action options are represented in motor, not sensory, coordinates.

**Gallivan, J.P.**, Pettypiece, C., Culham, J.C & Snow, J.C. Cross-modal responses for object shape decoded from human primary sensory cortices.

**Gallivan, J.P.**, Chapman, C.S., Flanagan, J.R. & Culham, J.C. Intention modulates early visual cortical responses.

Wood, D.K., Chapman, C.S., **Gallivan, J.P.**, Milne, J.L., & Goodale, M.A. Individual differences in the speed of visual processing predict capture by target salience.

### **International and National Conference Presentations**

#### **Talks (20):**

**Gallivan, J.P.**, Chapman, C.S. McLean, D.A., Flanagan, J.R. & Culham, J.C. (2015) Movement intention modulates neural responses in visual cortex. Society for Neuroscience Annual Meeting. Chicago, IL.

Cant, J.S., Lowe, M.X., Rajsic, J. & **Gallivan, J.P.** (2015) Are scene-shape and scene-texture processing mediated by shared or distinct neuronal mechanisms in the parahippocampal place area? Society for Neuroscience Annual Meeting. Chicago, IL.

**Gallivan, J.P.**, Wolpert, D.M. & Flanagan, J.R. (2015) Evidence for motor encoding of potential reach targets. Society for the Neural Control of Movement, Charleston, SC.

**Gallivan, J.P.** & Flanagan, J.R. (2013) fMRI decoding reveals preparatory signals underlying object manipulation. Society for the Neural Control of Movement, San Juan, Puerto Rico.

**Gallivan, J.P.**, Snow, J.C., McLean, D.A., Pettypiece, C.E., & Culham, J.C. (2012). Haptic shape decoding in primary visual cortex. Society for Neuroscience, New Orleans, LA.

Culham, J. C., **Gallivan, J. P.**, McLean, D. A., & Valyear, K. F. (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. Society for Neuroscience, New Orleans, LA.

Stewart, B.M., Baugh, L.A., **Gallivan, J.P.** & Flanagan, J.R. (2012). Parallel encoding of target locations and orientations when reaching to multiple potential targets. Society for Neuroscience, New Orleans, LA.

Hutchison, R.M., **Gallivan, J.P.**, Culham, J.C., Gati, J.S., Menon, R.S., & Everling, S. (2012). Homologous functional connectivity architecture of the monkey and human saccade-related networks. Society for Neuroscience, New Orleans, LA.

**Gallivan, J.P.**, McLean, D.A., Valyear, K.F., & Culham, J.C. (2012). Decoding the neural mechanisms of human tool use. Canadian society for Brain, Behaviour and Cognitive Science (CSBBCS). Kingston, ONT.

Chapman, C.S., **Gallivan, J.P.** & Enns, J.T. (2012). Failure is unavoidable: The effects of reward, reward-learning and penalty on rapid reaching. Vision Sciences Society. Naples, FL.

Enns, J.T., Chapman, C.S., & **Gallivan, J.P.** (2011). Reaching for the star: Rapid reaching influenced by learned reward and probability. Annual meeting of the Psychonomic Society, Seattle.

**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. Society for Neuroscience, Washington, DC.

**Gallivan, J.P.**, McLean, A., Smith, F.W., & Culham, J.C. (2011) Decoding effector-dependent and effector-independent movement intentions from human parieto-frontal brain activity. CPS/CAPnet conference, Sainte-Adele, QUE.

Culham, J. C. & **Gallivan, J. P.** (2011). Decoding of human hand actions using functional magnetic resonance imaging. Federation of European Neuroscience Societies – International Brain Research Organization (FENS-IBRO) Hertie Winter School. Obergurgl, Austria.

**Gallivan, J.P.**, McLean, A., Valyear, K.F., Pettypiece, C., & Culham, J.C. (2010) Decoding movement intentions from preparatory activity in human parietal and premotor cortex. Society for Neuroscience, San Diego, CA.

Culham, J.C., Monaco, S, & **Gallivan, J.P.** (2010) Parietal coding of movement components and object properties in reaching and grasping. International Conference on Parietal Lobe Function, Amsterdam, The Netherlands.

**Gallivan, J.P.**, D.A. McLean, & Culham, J.C. (2009) fMRI shows that the extent of reachable space encoded within superior parieto-occipital cortex depends on handedness. Society for Neuroscience, Chicago, IL.

Valyear, K.F., Chapman, C.S., **Gallivan, J.P.**, & Culham, J.C. (2009) Tool identity can prime grasping, but only when the goal is to use. Society for Neuroscience, Chicago, IL.

Chapman, C.S., **Gallivan, J.P.**, Culham, J.C., & Goodale M.A. (2009) Mental blocks: Using fMRI to reveal the encoding of obstacles during reach-to-grasp movements. Society for Neuroscience, Chicago, IL.

**Gallivan, J.P.**, Cavina-Pratesi, C., & Culham, J.C. (2007). Is that within reach? The human Superior Parieto-Occipital Cortex (SPOC) shows greater fMRI activation for reachable objects. Society for Neuroscience, San Diego, CA.

### **Posters (30):**

Moskowitz, J.B., Gale, D.J., Wolpert, D.M., **Gallivan, J.P.** & Flanagan, J.R. (2015) Decision making during motor learning: investment in learning and reward optimization. Society for Neuroscience Annual Meeting. Chicago, IL.

Trewartha, K., **Gallivan, J.P.**, & Flanagan, J.R. (2015) The role of dorsolateral prefrontal cortex in motor learning during force-field adaptation: A continuous theta-burst stimulation study. Society for Neuroscience Annual Meeting. Chicago, IL.

Xu, S., **Gallivan, J.P.**, & Blohm, G. (2015) Investigating the role of mIPS in movement planning using HD-tDCS. Society for Neuroscience Annual Meeting. Chicago, IL.

Nashed, J.Y., Wang, J.Z., Hernandez-Castillo, C., **Gallivan, J.P.**, Fernandez-Ruiz, J. & Cook, D.J. (2015) Preservation of parietal area 5 is associated with improved motor recovery and functional connectivity following MCA stroke in non-human primates. Society for Neuroscience Annual Meeting. Chicago, IL.

Chapman, C.S., **Gallivan, J.P.**, Wispinski, N. & Enns, J.T. (2015) Separating value from selection frequency in rapid reaching biases to visual targets. Reinforcement Learning and Decision-making conference, Edmonton, AB.

**Gallivan, J.P.**, Johnsrude, I.S. & Flanagan, J.R. (2014) Object-directed action sequences decoded from human frontoparietal and occipitotemporal networks. Society for Neuroscience, Washington, DC.

Chapman, C.S., **Gallivan, J.P.**, & Enns, J.T. (2014) Action success, not reward value, governs trial-by-trial biases during rapid reach planning. Society for Neuroscience, Washington, DC.

Gultepe, E., **Gallivan, J.P.**, Hutchison, R.M., Everling, S., Johnsrude, I.S. (2014) Supervised parcellation of resting-state fMRI data in macaque monkeys recovers cytoarchitectonic cortical regions. Society for Neuroscience, Washington, DC.

Barton, K., **Gallivan, J.P.**, Chapman, C.S., Wolpert, D.M. & Flanagan, J.R. (2014) Co-optimization of multiple competing action plans. Society for Neuroscience, Washington, DC.

Gultepe, E., **Gallivan, J.P.**, Hutchison, R.M., Everling, S., Johnsrude, I.S. (2013) Supervised parcellation of the macaque auditory cortex using resting-state fMRI. International conference on Auditory Cortex. Magdeburg, Germany.

**Gallivan, J.P.**, Cant, J.S., Goodale, M.A. & Flanagan, J.R. (2013) Decoding reveals planning-related signals underlying object grasping and manipulation. Society for Neuroscience, San Diego, CA.

Wood, D.K., Chapman, C.S., **Gallivan, J.P.**, Milne, J.L., Culham, J.C., & Goodale, M.A. (2012) The influence of bottom-up visual salience decays linearly in a compelled reaching paradigm. Society for Neuroscience, San Diego, CA.

Wang, D., Miao, D.Q., Coe, B., **Gallivan, J.P.**, & Blohm, G. (2012) Visual-tactile integration in the human brain: A combined EEG-fMRI study. Society for Neuroscience, San Diego, CA.

Wood, D.K., Chapman, C.S., **Gallivan, J.P.**, Milne, J.L. & Goodale, M. A. (2012). Characterizing the arrival of task-relevance: Parametric delays in a rapid reaching task reveal the transition from salience-based to task-based performance. Canadian Association for Neuroscience, Toronto, ON.

McAdam, T.D., **Gallivan, J.P.**, McLean, D.A. & Culham, J.C. (2012). Grasping with a twist: Decoding action intentions in the human brain using fMRI. Society for Neuroscience, New Orleans, LA.

Wood, D.K., Chapman, C.S., **Gallivan, J.P.**, Milne, J.L., Culham, J.C. & Goodale, M.A. (2012). A reaching task reveals the rapid extraction of probability information from arbitrary colour cues. European Conference on Visual Perception. Alghero, Italy.

Hutchison, R.M., **Gallivan, J.P.**, Culham, J.C., Gati, J.S., Menon, R.S., & Everling, S. (2012). Functional connectivity of the frontal eye fields in humans and macaque monkeys investigated with resting-state fMRI. Biennial Conference on Resting State Brain Connectivity. Magdeburg, Germany.

Valyear, K.F., **Gallivan, J.P.**, McLean, D.A., and Culham, J.C. (2012). fMRI repetition suppression for familiar but not arbitrary actions with tools. 6<sup>th</sup> annual workshop on Concepts, Actions, and Objects: Functional and Neural Perspectives, Rovereto, Italy.

Stewart, B.M., Flanagan, J.R., **Gallivan, J.P.**, Khan, A.Z., & Baugh, L (2012). Encoding target location and orientation in a reaching task. Canadian society for Brain, Behaviour and Cognitive Science (CSBBCS). Kingston, ONT.

Wood, D.K., Milne, J.L., Chapman, C.S., **Gallivan, J.P.**, Culham, J.C., & Goodale, M.A. (2012). A reaching task reveals the rapid extraction of probability information from arbitrary colour cues. Canadian society for Brain, Behaviour and Cognitive Science (CSBBCS). Kingston, ONT.

McAdam, T.D., McLean, D.A., **Gallivan, J.P.** & Culham, J.C. (2012). Grasping with a twist: fMRI decoding of object orientation and intended hand actions. Canadian society for Brain, Behaviour and Cognitive Science (CSBBCS). Kingston, ONT.

Hutchison, R.M., **Gallivan, J.P.**, Culham, J.C., Gati, J.S., Menon, R.S., & Everling, S. (2012). Homologous functional connectivity architecture of the monkey and human saccade-related networks. Society for Neuroscience, Washington, D.C.

Chapman, C.S., **Gallivan, J.P.**, Wood, D.K., Milne, J.L., Culham, J.C., & Goodale, M.A. (2010) Rapid reaching task ‘points’ toward different representations of number. Society for Neuroscience, San Diego, CA.

Wood, D.K., **Gallivan, J.P.**, Chapman, C.S., Milne, J.L., Culham, J.C., & Goodale, M.A. (2010) Visual salience of potential targets overrides spatial probabilities in a rapid visuomotor task. Society for Neuroscience, San Diego, CA.

Valyear, K. F., **Gallivan, J.P.**, McLean, A., Chapman, C.S., & Culham, J.C. (2010) Neural priming of tool use. Society for Neuroscience, San Diego, CA.

**Gallivan J.P.**, Chapman C.S., Wood D.K., Milne J., Culham J.C., & Goodale M.A. (2009) Stuck in the middle: Kinematic evidence for optimal reaching in the presence of multiple potential reach targets. Vision Sciences Society meeting in Naples, FL.

Chapman C.S., **Gallivan J.P.**, Wood D.K., Milne J., Culham J.C., & Goodale M.A. (2009) Dynamic Target Acquisition: Rapid reach responses in the presence of multiple potential reach targets. Canadian Neuroscience Meeting, Vancouver, BC.

**Gallivan, J.P.**, Chapman, C.S., & Culham, J.C. (2008). Do objects within reach prime the visuomotor system for action? Canadian Neuroscience Meeting, Montreal, QUE

**Gallivan, J.P.**, Cavina-Pratesi, C., & Culham, J.C. (2007). The effects of reachability and tool use on fMRI activation for brain regions involved in hand actions. Canadian Neuroscience Meeting, Toronto, ONT.

**Gallivan, J. P.**, Cavina-Pratesi, C., & Culham, J. C. (2006). Do objects within reach activate human brain regions involved in hand actions?: An fMRI study. Society for Neuroscience, Atlanta, GA.

### **Invited Talks**

**Gallivan, J.P.** (2015). Representation of action-related information in visual cortical areas. Queen's University, Kingston, ON, Nov. 3<sup>rd</sup>. Seminar in the Canadian-German International Research Training Group series.

**Gallivan, J.P.** (2015) Decoding intentions from human brain activity. Queen's University, Kingston, ON. August 6<sup>th</sup>.

**Gallivan, J.P.** (2015) Deciphering intentions from brain activity. University of Western Ontario, London, ON. July 3<sup>rd</sup>.

**Gallivan, J.P.** (2015) Decoding intentions from human brain activity. Montreal Neurological Institute, McGill University, Montreal, QC. May 21<sup>st</sup>.

**Gallivan, J.P.** (2015) Reading action intentions from human fMRI activity patterns. University of Toronto, Mississauga campus, ONT. January 19<sup>th</sup>.

**Gallivan, J.P.** (2015) Decoding action intentions from patterns of human brain activity. Dartmouth College, Hanover, NH. January 12<sup>th</sup>.

**Gallivan, J.P.** (2014) Deciphering intentions from human brain activity. Univeristy of Ottawa, Brain and Mind Research Institute, Ottawa, ONT. December 8<sup>th</sup>.

**Gallivan, J.P.** (2014) Action plan decoding from human frontoparietal circuits. Society for Neuroscience, Washington, DC. November 17<sup>th</sup>.

**Gallivan, J.P.** (2013) Predicting object-oriented behaviour from fMRI response patterns in human visual cortex. Queen's University, Department of Psychology, Kingston, ONT. December 4<sup>th</sup>.

**Gallivan, J.P.** (2013) Decoding intentions from human brain activity. University of Toronto, Department of Psychology, Toronto, ONT. November 25<sup>th</sup>.

**Gallivan, J.P.** (2013) Decoding action intentions from human brain activity patterns. CIHR Brain Star talk delivered at the Canadian Association for Neuroscience (CAN-ACN) Annual Meeting. Toronto ONT, May 23<sup>rd</sup>.

**Gallivan, J.P.** (2013) Neural representations underlying object manipulation. Southern Ontario Neuroscience Association (SONA) Annual Meeting. Laurier University, Kitchener ONT, May 13<sup>th</sup> 2013.

**Gallivan, J.P.** (2012) Decoding action intentions from fMRI activity in the ventral and dorsal visual streams. Psychology Distinguished Lecturer Series, Queen's University, Kingston, ONT. November 23<sup>rd</sup>.

**Gallivan, J.P.** (2012) Motor planning and control by ventral visual cortex. NSERC Collaborative Research and Training Experience Program (CREATE) meeting. Kingsbridge, ONT. September 27<sup>th</sup>.

**Gallivan, J.P.** (2011) Decoding motor intentions from human brain activity. Centre for Neuroscience Studies, Queens University, Kingston, ONT.