JAMES MACQUARIE SHINE

Curriculum Vitae
May, 2019

Faculty of Medicine
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Executive Summary

Dr. James (Mac) Shine is a tenure-track, University of Sydney Robinson Fellow who uses functional neuroimaging and clinical and cognitive neuroscience to uncover the basic mechanisms that form the biological basis of cognition in health and disease. He has published over 100 peer-reviewed manuscripts, been cited over 3,000 times and has received ~$2.5M in research funding. In recognition of his excellence and rising leadership, he was recently awarded an inaugural $1.2M Robinson Fellowship from the University of Sydney, designed to retain and cultivate the most outstanding ECRs.

Current Positions

2019-2022: Robinson Fellow, The University of Sydney.

Previous Positions

2014-2019: CJ Martin Fellow, The University of Sydney.

2014-2016: Psychology Department, Stanford University

2013-2014: Postdoctoral Fellow, The University of Sydney.

2010-2011: Neurology Resident, Royal Prince Alfred Hospital, Sydney.

2008-2010: Medical Resident, Concord General Repatriation Hospital, Sydney.

Academic Qualifications

2013: PhD in Cognitive Neuroscience, The University of Sydney.

2007: MBBS in Medicine/Surgery, The University of Sydney.

2003: BSc in Biochemistry and Psychology, The University of Sydney.

Honors and Awards

2018: NSW Early Career Researcher of the Year, Chief Scientist of NSW.

2018: Early Career Investigator Award, Australasian Cognitive Neuroscience Society.

2017: Dr Nigel Clarke Award, The University of Sydney. *For Best Application in Kickstart Funding Scheme*.

2017: Dean's Prize for Best Research Paper in the Medical Faculty at The University of Sydney for article: *'Investigating motor initiation and inhibition deficits in patients with Parkinson's disease and freezing of gait using a virtual reality paradigm (Neuroscience, 2017)'*.

2013: Nominated by Faculty of 1000 as occurring in the top 1% of research publications world-wide for article: *'Exploring the cortical and subcortical fMRI changes associated with freezing in Parkinson's disease (Brain, 2013)'*

2013: Invited to Academy of Science: Theo Murphy High Flyers Think Tank.

2012: Nominated by Faculty of 1000 as occurring in the top 1% of research publications world-wide for article: *'Visual misperceptions and hallucinations in Parkinson's disease: dysfunction of attentional control networks (Movement Disorders, 2011)'*

Research Funding (Total = $2,669,690)

2019-2021: NHMRC Project Grant (Noradrenaline and Cognitive Dysfunction - Interrogating the Neglected Symptoms of Parkinson's disease), $404,228**. James M. Shine (sole CI).**

2019-2022: Robinson Fellowship, The University of Sydney, $1,370,236. **James M. Shine.**

2018: Center for Complex Systems Emerging Aspirations, $12,500. Ben Fulcher, **James M. Shine** and Joseph Lizier.

2018-2019: Information Technology Seed Grant, $80,000. Joseph Lizier and **James M. Shine**.

2018: HMRI Imaging Centre Pilot Grant, The University of Newcastle, $3,960. Juanita Todd, Bryan Paton and **James M. Shine**.

2018: Bridging Grant, The University of Sydney, $30,000. **James M. Shine.**

2018-2019: SOAR Fellowship, The University of Sydney, $150,000. **James M. Shine.**

2018: Kickstart Grant Funding, The University of Sydney, $35,000. **James M. Shine**.

2016: Seed Grant, Stanford University, $10,000. **James M. Shine** and Russell A. Poldrack.

2015: Seed Grant, Parkinson's New South Wales Charity. $50,000. **James M. Shine** and Simon J.G. Lewis.

2014-2019: NHMRC CJ Martin Fellowship. $368,766. **James M. Shine**.

2014: Seed Grant, Parkinson's New South Wales Charity. $50,000. Simon J.G. Lewis and **James M. Shine.**

2011: Scholarship for Cognitive Neuroscience, The University of Sydney. $35,000. **James M. Shine**.

Dr. Shine has also been named as 'Key Personnel' on two recent grants from the National Institute of Health (2018-2022: RO1-MH117772-01; $2,200,000/5y [Russell A. Poldrack]; and 2017-2019: RFA-NS-17-019, $1,839,968/3y [Ralph Adolphs]). As 'Key Personnel', his track record was considered as part of the assessment process and substantial aspects of each project were directly involved his work.

Memberships and Service

2018- : Treasurer-Elect, Organization for Human Brain Mapping Oceania Chapter.

2018: Organized Neuroimaging Symposium, Sydney.

2017- : Member, Brain and Mind Center Early Career Researcher Consortium.

2017- : Editorial Board, *NeuroImage*.

2015-2017: Secretary, Organization for Human Brain Mapping – Post Doc Special Interest Group.

2013: Organized Freezing of Gait Symposium, Sydney.

2013- : Member, Movement Disorders Society (International).

2012- : Member, Australasian Cognitive Neuroscience Society.

2011- : Member, Organisation for Human Brain Mapping (International).

Top Five Peer Reviewed Publications

These papers were selected to highlight the impact of Dr. Shine's work that combines clinical neuroscience, cognitive neuroscience and functional neuroimaging to understand the neural basis of cognition and its disorders.

1. **Shine, J.M.**, Bissett, P.G., Bell, P.T., Koyejo, O., Balsters, J.H., Gorgolewski, K.J., Moodie, C.A. and Poldrack, R.A. (2016). The Dynamics of Functional Brain Networks: Integrated Network States during Cognitive Task Performance. Neuron, 92(2):544-554. (PMID: 27693256).

   Cited 103 times (Google Scholar; GS); IF 15.8.

   This study was one of the first to track the network structure of the brain over time using whole-brain functional neuroimaging analyses. We found that the network structure of the brain was highly dynamic, and that fluctuations in the architecture were associated with fast, effective performance on a challenging cognitive task. This work has since been replicated by multiple groups, and forms the basis of a new vantage point on whole-brain dynamics in cognition.

2. **Shine, J.M.**, Koyejo, O., Poldrack, R.A. (2016). Temporal metastates are associated with differential patterns of time-resolved connectivity, network topology, and attention. Proceedings of the National Academy of Sciences, 113(35):9888-91. (PMID: 27528672).

   Cited 55 times (GS); IF 9.6.

   Here, we leveraged a unique single-subject, longitudinal dataset to interrogate the stability of the brain's network structure over the course of weeks-to-months. We found remarkable flexibility in the brain's network architecture over time, and further observed that these fluctuations coincided with alterations in self-reported attentional focus and engagement. These ideas have important implications for neuropsychiatric and neurodegenerative diseases in which symptomatology fluctuates over time.

3. **Shine, J.M.**, Matar, E., Ward, P.B., Frank, M.J., Moustafa, A.A., Pearson, M., Naismith, S.L.

and Lewis, S.J.G. (2013). Freezing of gait in Parkinson's disease is associated with functional decoupling between the cognitive control network and the basal ganglia. Brain, 136(12):3671-3681. (PMID: 26794597).

Cited 103 times (GS); IF 10.3.

During my PhD, we used a novel virtual reality gait task to elicit freezing episodes inside a 3T MRI scanner. This allowed us to map the functional signature of freezing in the brain, providing a world-first view of the Parkinsonian brain as it failed. Our work confirmed a hypothetical framework that reconceptualizes freezing as relating to abnormal brain communication and has become one of the most highly cited papers in the field in the last five years. The ideas in the paper have also led to new and exciting translational opportunities.

4. **Shine, J.M.**, Halliday, G.M., Naismith, S.L. and Lewis, S.J.G. (2013). Visual misperceptions and hallucinations in Parkinson's disease: dysfunction of attentional control networks? Movement Disorders, 26(12):2154-2159. (PMID: 21953814).

   Cited 76 times (GS); IF 7.1.

   Hallucinations in Parkinson's disease have long been believed to arise due to abnormally high levels of dopamine in the brain secondary to dopamine replacement therapy. In this paper, we lay out a hypothetical framework that reconceptualizes hallucinations as disorders of attention. Since this papers publication, we have directly confirmed a number of the predictions of the model, and hope to leverage our newfound understanding into new treatments in the near future.

5. Ehgoetz Martens, K.A., Hall, J.M.,Georgiades, M.J., Gilat, M., Walton, C.C., Matar, E., Lewis, S.J.G. and **Shine, J.M.** (2018). The functional network signature of heterogeneity in freezing of gait. *Brain*. 141(4):1145-1160.

   Cited 3 times (GS); IF 10.3.

   One of the clinical mysteries surrounding freezing in Parkinson's disease is whether the disorder is best conceptualized as a single condition, or as multiple separate pathological entities. In this manuscript, we tackled this problem by extracting overlapping clinical phenotypic information across multiple sub-domains of freezing. We then used this information to probe functional neuroimaging data, and were thus able to delineate distinct characteristics of the freezing signature. This work is currently ongoing, and we will expand the approach into other symptoms of Parkinson's disease in the near future.

Peer Reviewed Publications (Citations – 3,085; H-index – 34)

Dr. Shine's work has been published in scientific journals of broad readership (*Nature Neuroscience (19.9)*, *Nature Communications (12.1), PNAS (IF 9.7), eLife (7.7)*) as well as leading journals in neuroscience (*Neuron (10.4)*, *Trends in Neurosciences (17.8)*) and clinical neuroscience (*Brain (10.2), Movement Disorders (7.1)*). The majority of his work has been conducted in functional neuroimaging,

however he has also published a number of conceptual reviews and cognitive neuroscience studies. He has been highly cited (>3,000 times since 2010) and twice been nominated by the Faculty of 1000 as representing the top 1% of research articles worldwide.

Google Scholar – https://scholar.google.com/citations?user=Uxvu7CsAAAAJ&hl=en

2019

1. **Shine, J.M.**, Breakspear, M., Bell, P.T., Ehgoetz Martens, K.A., Koyejo, O., Shine, R., Sporns, O., and Poldrack, R.A. (2019). The dynamic basis of cognition: an integrative core under the control of the ascending neuromodulatory system. *Nature Neuroscience*. 22(2):289-296.
2. Shine, J.M. (2019). Neuromodulatory Influences on Integration and Segregation in the Brain. *Trends in Cognitive Sciences*. S1364-6613(19)30094-4.
3. O'Callaghan, C., **Shine, J.M.**, Andrews-Hanna, J. and Irish, M. (2019). Hippocampal atrophy and intrinsic brain network dysfunction relate to alterations in mind wandering in neurodegeneration. *Proceedings of the National Academy of Sciences*. 116(8):3316-3121.
4. **Shine, J.M.**, Bell, P.T., Matar, E., Poldrack, R.A., Lewis, S.J.G., Halliday, G.M. and O'Callaghan, C. (2019). Dopamine depletion alters macroscopic network dynamics in Parkinson's disease. *Brain*. 142(3):1024-1034.
5. Hall, J.M., O'Callaghan, C., Ehgoetz Martens, K.A., Phillips, J.R., Moustafa, A.A., Lewis, S.J.G. and **Shine, J.M.** (2019). Changes in structural network topology correlate with severity of hallucinatory behaviour in Parkinson's disease. *Network Neuroscience*. 3(2): 521-538.
6. Matar, E., **Shine, J.M.**, Ward, P.B., Frank, M.J., Moustafa, A.A., Naismith, S.L., and Lewis, S.J.G. (2019). Doorway freezing is associated with hypoactivation of the pre-supplementary motor area and altered functional connectivity with the subthalamic nucleus. *Human Brain Mapping*. Ahead of Print.
7. Hwang, K., Shine, J.M. and D'Esposito, M. (2019). The Human Intraparietal Sulcus Modulates Task-Evoked Functional Connectivity. *Cerebral Cortex*. Ahead of Print.

2018

8. Ehgoetz Martens, K.A., Hall, J.M.,Georgiades, M.J., Gilat, M., Walton, C.C., Matar, E., Lewis, S.J.G. and **Shine, J.M.** (2018). The functional network signature of heterogeneity in freezing of gait. *Brain*. 141(4):1145-1160.
9. **Shine, J.M.**, van den Brink, R.L., Hernaus, D., Nieuwenhuis, S. and Poldrack, R.A. (2018). Catecholaminergic Manipulation Alters Dynamic Network Topology Across Behavioral States. *Network Neuroscience*. 2(3):381-396.
10. **Shine, J.M.**, Aburn, M.J., Breakspear, M. and Poldrack, R.A. (2018). Modulating neural gain facilitates a transition between functional segregation and integration in the brain. *eLife*. 7:e31130.

11. Hwang, K., **Shine, J.M.** and D'Esposito, M. (2018). Fronto-Parietal Activity Interacts with Task-Evoked Changes in Functional Connectivity. *Cerebral Cortex*. Ahead of Print.
12. Gilat, M., Ehgoetz Martens, K.A., Miranda-Domínguez, O., Arpan, I., **Shine, J.M.**, Mancini, M., Fair, D.A., Lewis, S.J.G., Horak, F.B. (2018). Dysfunctional Limbic Circuitry Underlying Freezing of Gait In Parkinson's Disease. *Neuroscience*. 374:119-132.
13. **Shine, J.M.** and Breakspear, M. (2018). Understanding the brain – by default. *Trends in Neurosciences*. 41(5):244-247.
14. Suri, G., **Shine, J.M.** and Gross, J. (2018). Why Do We Do What We Do? The Attention-Readiness-Motivation Framework. *Social and Personality Psychology Compass*. 12(4):e12382.
15. Gilat, M., Silva de Lima, A.L., Bloem, B.R., **Shine, J.M.**, Nonnekes, J., Lewis, S.J.G. (2018). Freezing of gait: promising avenues for future treatment. *Parkinsonism and Related Disorders*. 52:7-16.
16. Walton, C.C., Mowszowski, L., Gilat, M., Hall, J.M., O'Callaghan, C., Muller, A.J., Georgiades, M., Szeto, J.Y.Y., Ehgoetz Martens, K.A., **Shine, J.M.**, Naismith, S.L. and Lewis, S.J.G. (2018). A Double-Blind Randomized Controlled Trial of Cognitive Training for Freezing of Gait in Parkinson's Disease. *npj Parkinson's disease*. 4:15.
17. Ehgoetz Martens, K.A., **Shine, J.M.**, Walton, C.C., Georgiades, M.J., Gilat, M., Hall, J.M., Maar, E., Halliday, G.M., and Lewis, S.J.G. (2018). Evidence for subtypes of Freezing of gait in Parkinson's disease. *Movement Disorders*. 33(7):1174-1178.
18. Hall, J.M., **Shine, J.M.**, Ehgoetz Martens, K.A., Gilat, M., Broadhouse, K.M., Szeto, J.Y.Y., Walaton, C.C., Moustafa, A.A. and Lewis, S.J.G. (2018). Alterations in white matter network topology contribute to freezing of gait in Parkinson's disease. *Journal of Neurology*. 265(6):1353-1364.
19. Kucyi, A., Schrouff, J., Bickel, S., Foster, B., **Shine, J.M.** and Parvizi, J. (2018). Intracranial electrophysiology reveals reproducible intrinsic functional connectivity within human brain networks. *Journal of Neuroscience*. 38(17):4230-4242.
20. Ehgoetz Martens, K.A. and **Shine, J.M.** (2018). The interactions between non-motor symptoms of Parkinson's disease. *Expert Reviews in Neurotherapeutics*. 18(6):457-460.
21. McKinnon, A.C., Hickie, I.B., Scott, J., Duffy, S.L., Norrie, L., Terpening, Z., Grunstein, R.R., Lagopoulos, J., Batchelor, J., Lewis, S.J.G., **Shine, J.M.** and Naismith, S.L. (2018). Current sleep disturbance in older people with a lifetime history of depression is associated with increased connectivity in the Default Mode Network. Journal of Affective Disorders. 85-94.
22. Handojoseno A.M.A., Naikm G.R., Gilat, M., **Shine, J.M.**, Nguyen, T.N., Ly, Q.T., Lewis, S.J.G. and Nguyen, H.T. (2018). Prediction of Freezing of Gait in Patients with Parkinson's Disease Using EEG Signals. Stud Health Technol Inform. 246: 124-131.
23. **Shine, J.M.** and Poldrack, R.A. (2018). Principles of Dynamic Network Reconfiguration Across Diverse Brain States. *NeuroImage*. A180:396-405.
24. Muller, A., Mills, J.Z., O'Callaghan, C., Naismith, S.L., Clouston, P.D., Lewis, S.J.G. and **Shine, J.M.** (2018). Informant- and self-appraisals on the Psychosis and Hallucinations Questionnaire (PsycH-Q) enhances detection of visual hallucinations in Parkinson's disease. *Movement Disorders Clinical Practice*. 5(6): 607-613.

2017

25. Muller, A., O'Callaghan, C., Walton, C.C., **Shine, J.M.**, Lewis, S.J.G. (2017). Retrospective Neuropsychological Profile of Patients With Parkinson Disease Prior to Developing Visual Hallucinations. *Journal of Geriatric Psychiatry and Neurology*. 30(2): 90-95.
26. Gilat, M., Bell, P.T., Ehgoetz Martens, K.A., Georgiades, M.J., Hall, J.M., Walton, C.C., Lewis, S.J.G. and **Shine, J.M.** (2017). Dopamine depletion impairs gait automaticity by altering cortico-striatal and cerebellar processing in Parkinson's disease. *NeuroImage*. 152: 207-220.
27. Bell, P.T., Gilat M. and **Shine, J. M.** (2017). Striatal dysfunction during dual-task performance in Parkinson's disease. *Brain*. 140: 1174-7.
28. McKinnon, A.C., Duffy, S.L., Cross, N.E., Terpening, Z., Grunstein, R.R., Lagopoulos, J., Batchelor, J., Hickie, I.B., Lewis, S.J.G., **Shine, J.M.** and Naismith, S.L. (2017). Functional connectivity in the Default Mode Network is reduced in association with nocturnal awakening in Mild Cognitive Impairment. *Journal of Alzheimer's disease*. 56: 1373-84.
29. O'Callaghan, C., Hall, J.M., Tomassini, A., Muller, A.J., Walpola, I.C., Moustafa, A.A., **Shine, J.M.** and Lewis, S.J.G. (2017). Visual hallucinations and characterized by impaired sensory evidence accumulation: insights from hierarchical drift diffusion modeling in Parkinson's disease. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*. 2(8):680-688.
30. Bell, P.T., Gilat, M., **Shine, J.M.**, McMahon, K.L., Lewis, S.J.G. and Copland, D.A. (2017). Neural correlates of emotional valence processing in Parkinson's disease: dysfunction in the subcortex. *Brain Imaging and Behavior*. Ahead of Print.
31. **Shine, J.M.**, Kucyi, A., Foster, B.L., Bickel, S., Wang, D., Liu, H., Poldrack, R.A., Hsieh, L., Hsiang, J.C. and Parvizi, J. (2017). Distinct patterns of temporal and directional connectivity among intrinsic networks in the human brain. *Journal of Neuroscience*. 37(40):9667-9674.
32. McKinnon, A.C., Hickie, I.B., Scott, J., Duffy, S.L., Norrie, L., Terpening, Z., Grunstein, R. R., Lagopoulos, J., Batchelor, J., Lewis, S.J.G., **Shine, J.M.**, and Naismith, S.L. (2017). Current sleep disturbance in older people with a lifetime history of depression is associated with increased connectivity in the Default Mode Network. *Journal of Affective Disorders*. 299: 85-94.

2016

33. **Shine, J.M.**, Koyejo, O., Poldrack, R.A. (2016). Temporal metastates are associated with differential patterns of time-resolved connectivity, network topology, and attention. *Proceedings of the National Academy of Sciences*, 113(35):9888-91.
34. Bell, P.T. and **Shine, J.M.** (2016). Subcortical Contributions to Large-Scale Network Communication. *Neuroscience and Biobehavioral Reviews*, 71:313-322.
35. **Shine, J.M.**, Bissett, P.G., Bell, P.T., Koyejo, O., Balsters, J.H., Gorgolewski, K.J., Moodie, C.A. and Poldrack, R.A. (2016). The Dynamics of Functional Brain Networks: Integrated Network States during Cognitive Task Performance. *Neuron*, 92(2):544-554.

36. O'Callaghan, C., Kveraga, K., **Shine, J.M.**, Adams, R.B., Bar, M. (2016). Predictions penetrate perception: Converging insights from brain, behaviour and disorder. *Consciousness and Cognition*, 47:63-74.
37. **Shine, J. M.**, Eisenberg, I. and Poldrack, R. A. (2016). Computational specificity in the human brain. *Behavioral and Brain Sciences*. e131.
38. Alderson-Day, B., Diederen, K., Fernyhough, C., Ford, J., Horga, G., Margulies, D., McCarthy-Jones, S., Northoff, G., **Shine, J.M.**, Turner, J., van de Ven, V., van Lutterveld, R., Waters, F. and Jardri, R. (2016). Auditory hallucinations and the brain's resting-state networks: findings and methodological observations. *Schizophrenia Bulletin*, 42(5):1110-23
39. McKinnon, A.C., Lagopoulos, J., Terpenning, Z., Grunstein, R., Hickie, I. B., Batchelor, J., Lewis, S. J. G., Duffy, S., **Shine, J. M.** and Naismith, S. L. (2016). Sleep disturbance in mild cognitive impairment is associated with alterations in the brain's default mode network. *Behavioral Neuroscience*, 130(3), 305-15.
40. Hall, J.M., O'Callaghan, C., **Shine, J.M**., Muller AJ, Phillips JR, Walton CC, Lewis SJG & Moustafa AA (2016). Dysfunction in attentional processing in patients with Parkinson's disease and visual hallucinations. *Journal of Neural Transmission*, 123(5):503-7.
41. O'Callaghan, C., Hornberger, M., Balsters, J.H., Halliday, G.M., Lewis, S.J.G., **Shine, J.M.** (2016). Cerebellar atrophy in Parkinson's disease and its implication for network connectivity. *Brain*, 139(3):845-55.
42. O'Callaghan, C., Bertoux, M., Irish, M., **Shine, J.M.**, Wong, S., Spiliopoulos, L., Hodges, J.R., Hornberger, M. (2016). Fair play: social norm compliance failures in behavioural variant frontotemporal dementia. *Brain*, 139(1):204-16.
43. **Shine, J.M.** (2016). Electrophysiological insights into freezing in Parkinson's disease. *Clinical Neuroscience*, 127(6);2334-6.
44. Georgiades, M.J., Gilat, M., Ehgoetz Martens K.A., Walton, C.C., Bissett, P.G., **Shine, J.M.**, Lewis, S.J.G. (2017). Investigating motor initiation and inhibition deficits in patients with Parkinson's disease and freezing of gait using a virtual reality paradigm. *Neuroscience*, 337:153-162.
45. O'Callaghan, C., Kveraga, K., **Shine, J.M.**, Adams, R.B., Bar, M. (2016). Convergent evidence for top-down effects from the "predictive brain". *Behavioral and Brain Science*. e254.

2015

46. Bell, P. T., Gilat, M., O'Callaghan, C., Copland, D. A., Frank, M. J., Lewis, S. J. G. and **Shine, J. M.** (2015). Dopaminergic basis for impairments in functional connectivity across subdivisions of the striatum in Parkinson's disease. *Hum Brain Mapp*, 36(4): 1278-91.
47. Bell, P. T. and **Shine, J. M.** (2015). Estimating large-scale network convergence in the human functional connectome. *Brain Connectivity*, 5(9):565-574.
48. Gilat, M., **Shine, J.M.**, Walton, C.C., O'Callaghan, C., Hall, J.M. and Lewis, S.J.G. (2015). Brain activation underlying turning in Parkinson's disease patients with and without freezing of gait: a virtual reality fMRI study. *Nature Parkinson's Disease*, 15020, 1.

49. Hall, J., Gilat, M., Lewis, S. J. G. and **Shine, J. M.** (2015). Does dominant pedunculopontine nucleus exist? Probably not. *Brain*, 1358(5):e346.
50. Lewis, S. J. G. and **Shine, J. M.** (2016). The Next Step: A Common Neural Mechanism for Freezing of Gait. *The Neuroscientist*, 22(1):72-82.
51. Poldrack, R.A., Laumann, T., Koyejo, O., Gregory, B., Hover, A., Chen, M.Y., Gorgolewski, K.J.,, Luci, J., Joo, S.J., Boyd, R.L., Hunicke-Smith, S. Simpson, Z.B., Caven, T., Sochat, V., **Shine, J. M.**, Gordon, E., Snyder, A.Z., Adeyemo, B., Petersen, S.E., Glahn, D.C., Reese Mckay, D., Curran, J.E., Göring, H.H., Carless, M.A., Blangero, J., Dougherty, R., Leemans, A., Handwerker, D.A., Frick, L., Marcotte, E.M., Mumford, J. (2015). Long-term neural and physiological phenotyping of a single human. *Nature Communications*, 6, 8885.
52. **Shine, J.M.**, Koyejo, O., Bell, P.T., Gorgolewski, K.J., Gilat M. and Poldrack, R.A. (2015). Estimation of dynamic functional connectivity using Multiplication of Temporal Derivatives. *NeuroImage*,122:399-407.
53. **Shine, J.M.**, Muller, A.J., O'Callaghan, C., Hornberger, M., Halliday, G.M. and Lewis, S.J.G. (2015). Abnormal connectivity between the default mode and the visual system underlies the manifestation of visual hallucinations in Parkinson's disease: a task-based fMRI study. *Nature Parkinson's Disease*, 15003, 1.
54. Szeto, J.Y.Y., O'Callaghan, C., **Shine, J.M.**, Walton, C.C., Lewis, S.J.G. (2015). The relationships between mild cognitive impairment and phenotype in Parkinson's disease. *Nature Parkinson's Disease*, 15015, 1.
55. Handojoseno, A. M., **Shine, J. M.**, Nguyen, T. N., Tran, Y., Lewis, S. J. G. and Nguyen, H. (2015). Analysis and prediction of freezing of gait using EEG brain dynamics. *IEEE Trans Neural Syst Rehabil Eng*, 23(5), 887-95.
56. Walton, C. C., **Shine, J. M.**, Mowszowski, L., Gilat, M., Hall, J. M., O'Callaghan, C., Naismith, S. L., and Lewis, S. J. G. (2015). Impaired cognitive control in Parkinson's disease patients with freezing of gait in response to cognitive load. *Journal of Neural Transmission*, 122(5), 653-60.
57. Lee, J. M., **Shine, J. M.**, and Lewis, S. J. G. (2015). What matters to people with Parkinson's disease living in Australia? *Journal of Clinical Neuroscience*, 22(2), 338-41.
58. Walton, C. C., **Shine, J. M.**, Hall, J. M., O'Callaghan, C., Mowszowski, L., Gilat, M., Szeto, J. Y., Naismith, S. L., and Lewis, S. J. G. (2015). The major impact of freezing of gait on quality of life in Parkinson's disease. *Journal of Neurology*, 262(1): 108-15.
59. **Shine, J. M.**, Keogh, R., O'Callaghan, C., Muller, A. J., Lewis, S. J. G. and Pearson, J. (2015). Imagine that: elevated sensory strength of mental imagery in individuals with Parkinson's disease and visual hallucinations. *Proceedings of the Royal Society B*, 282, 20142047.
60. O'Callaghan, C., **Shine, J. M.**, Lewis, S. J. G., Andrews-Hanna, J. R., and Irish, M. (2015). Shaped by our thoughts – a new task to assess spontaneous cognition and its associated neural correlates in the default network. *Brain and Cognition*, 93, 1-10.
61. Walton, C. C., Szeto, J. Y. Y., **Shine, J. M.**, and Lewis, S. J. G. (2015). The 'Cognitions' index of the Parkinson's disease Questionnaire-39 relates to sleep disturbance and hallucinations. *Parkinsonism and Related Disorders*, 21(3), 349-50.
62. **Shine, J. M.**, Mills, J. M. Z., Qiu, J., O'Callaghan, C., Terpening, Z., Halliday, G. M., Naismith, S. L. and Lewis, S. J. G. (2015). Validation of the Psychosis and Hallucinations

Questionnaire in Non-demented patients with Parkinson's disease. *Movement Disorders: Clinical Practice*, 2(2), 175-81.

63. Hall, J.M., **Shine, J.M**., O'Callaghan, C., Walton CC, Gilat, M., Naismith, S. L., and Lewis SJG (2015). Freezing of Gait and its Associations in the Early and Advanced Clinical Motor Stages of Parkinson's Disease: A Cross-Sectional Study. *Journal of Parkinson's disease*, 5(4), 881-91.
64. Walton, C. C., O'Callaghan, C., Hall, J. M., Gilat, M., Mowszowski, L., Naismith, S. L., Burrell, J. R., **Shine, J. M.**, and Lewis, S. J. G. (2015). Antisaccade errors reveal cognitive control deficits in Parkinson's disease with freezing of gait. *Journal of Neurology*, 262(12), 2745-54.

2014

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Book Chapters

1. Lewis, S.J.G., **Shine, J.M.**, Brooks, D.B. and Halliday, G.H., (2014). Hallucinogenic mechanisms: pathological and pharmacological insights. In *The Neuroscience of Visual Hallucinations*.
2. Ehgoetz Martens, K.A., **Shine, J.M.** and Lewis, S.J.G. (2016). Using virtual reality to advance the understanding and rehabilitation of gait impairments in Parkinson's disease. In *Locomotion and Balance in Elderly and PD*.

Invited Talks

2019: Stanford University, California, USA.

2019: Cognitive Neuroscience Society, San Francisco, USA.

2019: Conference for Brain Function, Noosa, Queensland.

2018: MRC Cognition and Brain Sciences Unit, Cambridge.

2018: QIMR Berghofer, Queensland.

2018: The University of Newcastle, New South Wales.

2018: Whistler Conference for Brain Function, Canada.

2017: Plenary Speaker, Organization for Human Brain Mapping, Canada.

2017: Marcs Institute, The University of Western Sydney.

2016: Whistler Conference for Brain Function, Canada.

2016: Nanosymposium Presenter, Society for Neuroscience, United States.

2016: Psychology Department, Stanford University. *Multiple*.

2016: Faculty of Medicine, Stanford University.

2016: Psychology Department, Carnegie Mellon University.

2016: Lewis-Peacock Lab, The University of Texas at Austin.

2016: Departmental Seminar, The University of Texas at San Antonio.

2015: Organization for Human Brain Mapping, United States

2013: Movement Disorders Society - International Congress, Australia

2014: Association for Psychiatric Research, New Zealand

2013: Association for Psychiatric Research, Australia

Teaching

Associate Supervisor for two successful (Moran Gilat and Courtney Walton) and one current PhD candidates (Matthew Georgiades).

Currently supervising two Honours candidates (Omar Shadid and Benjamin Hyung), and have previously mentored two students to First-Class Honours (Elie Matar and Alana J. Muller).

Peer Review

Ad hoc reviewer for Brain, Movement Disorders, Neuroimage, Parkinson's disease, Journal of Parkinson's Disease, Parkinsonism and Related Disorders, Neurobiology of Aging, Journal of Neurology, Journal of Neural Transmission, American Journal of Geriatric Psychiatry, Journal of the Neurological Sciences, Gait & Posture, Brain Topography, Sensors, Cerebral Cortex and others.

Shine has conducted more than 120 reviews in total (see Publons Review profile – https://publons.com/author/357271/james-m-shine#profile)

Public Outreach and Social Media

Public outreach: Frequent attendance at Parkinson's disease outreach sessions (~15 from 2011-2014), which were organized around both urban and rural NSW. Shine actively engages in scientific Twitter conversations (@jmacshine), and recently took part in the 2nd annual 'Twitter Brain Conference', in which a standard talk is condensed down into a series of six short tweets.

School outreach: He has participated in the Skype a Scientist program, speaking with a year 6 class from rural Japan about his work using functional neuroimaging to understand cognition. While in the United States, he visited the local school district in San Antonio, Texas, where he spoke to three separate high school classes about the way that our brains make us who we are.

Referees

Professor Russell A Poldrack – Director, Center for Reproducible Neuroscience, Stanford University
- russpold@stanford.edu

Professor Glenda M Halliday – NHMRC Senior Principal Research Fellow, University of Sydney
- glenda.halliday@sydney.edu.au

Professor Michael Breakspear – Queensland Institute of Medical Research Berghofer, Brisbane
- michael.breakspear@qimrberghofer.edu.au