## Hannah Sheahan

University of Oxford, sheahan.hannah@gmail.com


### Education

**PhD Engineering**, University of Cambridge (UK) 2014 - 2018
Thesis title: The role of planning in motor learning
Coursework: Computational Neuroscience, Machine Learning

**AI Summer School**, Microsoft Research (UK) 2018

**Bachelor of Engineering (Hons)**, University of Auckland (NZ) 2010 - 2014
Specialisation: Mechatronics Engineering
Graduated top in class: GPA 8.78/9.0
Deans Honours List (top 5% each year - 2010/'11/'12/'13)

### Research Experience

**Postdoctoral Research Associate**, University of Oxford (UK) 2018 - 2020
Research Associate of Wadham College
Group: Human Information Processing Lab, Experimental Psychology
Research: Structure learning in humans and neural networks
PI: Prof. Christopher Summerfield

**PhD Research**, University of Cambridge (UK) 2014 - 2018
Group: CBL, Information Engineering
Research: Human motor learning of novel dynamics
Supervisor: Prof. Daniel Wolpert

**Undergraduate Research**, University of Auckland (NZ) 2013
Design and build of a stroke rehabilitation robot

**Research Assistant**, University of Auckland (NZ) 2012
3D human motion recording and kinematics analysis

### Journal Publications


[1] **Sheahan, H.***, Luyckx, F.*, Nelli, S., Teupe, C., & Summerfield C. 2020. Neural state space alignment for magnitude generalization in humans and recurrent networks. *biorXiv.* 2020.07.22.215541

[2] Summerfield, C., Luyckx, F., & **Sheahan, HR**. 2020. Structure learning and the posterior parietal cortex. *Progress in Neurobiology. 184*

[3] Albert, S., Jang, J., **Sheahan, HR**., Teunissen, L., Vandevoorde, K., & Shadmehr, R. 2019. An implicit memory of errors limits human sensorimotor adaptation. *biorXiv.* 868406

[4] Sadeghi, M., **Sheahan, HR**., Ingram, JN., & Wolpert, DM. 2019. The visual geometry of a tool modulates generalization during adaptation. *Scientific Reports.* 9, (2731)

[5] **Sheahan, HR**., Ingram, JN., Zalalyte, GM. & Wolpert, DM. 2018. Imagery of movements immediately following performance allows learning of motor skills that interfere. *Scientific Reports.* 8 (14330)

[6] **Sheahan, HR**., Franklin, DW. & Wolpert, DM. 2016. Motor Planning, Not Execution, Separates Motor Memories. *Neuron.* 92 (4), 773-779

[7] Milsom, SA., Sweeting, JA., **Sheahan HR**., Haemmerle, E. & Windsor, JA. 2015. Naso-enteric tube placement: a review of methods to confirm tip location, global applicability and requirements. *World Journal of Surgery.* 39 (9), 2243-2252

[8] **Sheahan HR**., & Maxwell, E. 2013. ReachHab: a bilateral upper limb rehabilitation device for stroke. *UoA Mechatronics Research Journal.* 6, 8-15

## Industry Experience

**Mechanical Engineer**, Beca (NZ) 2014
Engineering consulting

**Research & Design Engineer (intern)**, Adept Ltd. (NZ) 2012-13
Design of shop floor robots and industrial research

## Awards and Funding

Non-Stipendiary Research Associate, Wadham College, University of Oxford 2018
£2,200 over 2 years

Benefactor's Scholarship, St John's College, University of Cambridge 2014
£1,300

Cambridge-Rutherford Memorial Scholarship, Royal Society of New Zealand 2013
3 yr full funding postgraduate award worth £115,000
3 awarded nationally/year in New Zealand

Fulbright Scholarship 2013
postgraduate research award worth US$26,000 (offer declined)

Beca & Rotary Club of Auckland Scholarship, University of Auckland 2013
awarded to the most outstanding all-round final year engineering student, NZ$5,000

Rotary Youth Leadership Award 2013

Auckland University Engineering Association Scholarship, University of Auckland 2012
NZ$2,500

Summer Student Research Scholarship, University of Auckland 2011
NZ$5,000

Beca Part II Engineering Scholarship, University of Auckland 2011
NZ$2,500

## Teaching

**Supervisor**, Experimental Psychology Department, University of Oxford 2019
Part I, Cognitive Neuroscience

**TA/Tutor**, Summer School for Advanced Modeling of Behaviour, Institut dEstudis Catalans 2019

**Supervisor**, Engineering Department, University of Cambridge 2018
Engineering Tripos, IIA; 3G3 Introduction to Neuroscience

**Demonstrator**, Engineering Department, University of Cambridge 2017
Engineering Tripos, IIA; 3F2 Systems & Control

**TA/Tutor**, Engineering Department, University of Auckland 2011-12
All courses in Bachelor of Engineering, Part I

## Languages

Python, C#, C++, Unity, MATLAB, PyTorch https://github.com/hannahsheahan

## Other Interests

Research Associate, Wadham College, University of Oxford 2018-20
Athena SWAN Committee, Cambridge University Engineering Department 2018
Cambridge University Association Football Club (Women's Eagles) 2014-16
Women's Welfare Officer, St John's College SBR, Cambridge University 2014-16
Part II, III, IV Class Representative, University of Auckland 2011-13

**Referees**

Prof. Chris Summerfield (Postdoc supervisor)
University of Oxford, UK
christopher.summerfield@psy.ox.ac.uk

Prof. Daniel Wolpert (PhD supervisor)
Columbia University, USA
wolpert@columbia.edu

Dr. Andrew Saxe (collaborator)
University of Oxford, UK
andrew.saxe@psy.ox.ac.uk