

Alexandra Pike

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EDUCATION

Doctor of Philosophy, Psychiatry 2015-present
Merton College, University of Oxford
Supervisors: Professor Philip Cowen and Professor Rebecca Park
Provisional title: Compulsivity and eating disorders: pharmacological and neural approaches.

Masters of Science, Neuroscience 2014-2015
Merton College, University of Oxford
Awarded September 2015

Bachelor of Arts, Psychology and Philosophy 2011-2014
New College, University of Oxford
Congratulatory 1st Class Honours Degree

RESEARCH EXPERIENCE

D.Phil Projects

Compulsivity and Recovered Anorexia: an MRI study 2016-present
Investigating brain activity using 1) a task which probes compulsivity 2) resting state MRI in those who have recovered from anorexia nervosa and healthy controls.

- Lead investigator responsible for day-to-day running of this multi-modal MRI study.
- Worked with external collaborators to select and implement a compulsivity task to use with task MRI.
- Worked with external collaborators and Oxford researchers to implement a cutting-edge multi-echo acquisition method for the resting state MRI.

Glutathione Levels and Compulsivity 2015-present
Using N-acetyl cysteine in an at-risk group for eating disorders to investigate whether increasing brain glutathione decreases markers of compulsivity.

- Lead investigator responsible for day-to-day running of the study including design, data collection and analysis.
- Trained in and achieved competence in phlebotomy for small venous blood samples.
- Analysed data using R and MATLAB, including implementing a computational model of one of the tasks used.
- Currently preparing a manuscript for submission.

Eating Disorders and Learning about Causal Statistics 2017-present
Additional supervision: Dr Michael Browning.
A computational study to examine whether eating disorder risk groups display cognitive inflexibility because they do not learn relevant statistics about the environment.

- Lead investigator responsible for day-to-day running of the study.
- Currently on the data collection stage.
- Will be trained on fitting a computational model to behavioural data.

MSc Projects

MSc Project 1: ZNF804A

Winter 2014-2015

Harrison Lab, University of Oxford

Studied expression of ZNF804A in human SH-SY5Y cells and its homologue in the mouse.

MSc Project 2: Cyclic voltammetry

Spring-Summer 2015

Cragg Group, University of Oxford

Used in-vivo cyclic voltammetry of serotonin release in the amygdala in mouse brain slices.

Undergraduate Projects

3rd Year Undergraduate Project: Distractor inhibition

2013-2014

Attention Group, Oxford Centre for Human Brain Activity, University of Oxford

Studied whether ability to inhibit distractors (measured using a novel computer task) was related to depression and anxiety symptomatology.

British Psychological Society Funded Research Assistant

Summer 2013

Psychopharmacology and Emotion Research Lab, University of Oxford

Studied the effects of fluoxetine on chronic anger.

Honorary Research Assistantship

Summer 2012

Brain and Cognition Laboratory, University of Oxford

Investigated how learning is affected by sleep.

TEACHING

Undergraduate tutorials for Psychology Prelims

2016-2017

Jesus College, Oxford. Taught 14 of the 16 tutorials for Preliminary Examinations in Psychology, covering Perception, Developmental Psychology, Cognitive Psychology and Biological Psychology.

Undergraduate tutorials for Biomedical Sciences Part I

2016-2017

St John's College, Oxford. Taught two tutorials on the topic of Personality, Individual Differences and Psychological Disorders for a second year Biomedical Sciences student.

Undergraduate tutorials for First BM Part 2

2016-2017

Jesus College, Oxford. Taught two tutorials on the topic of Psychology for Medicine to four second-year medical students.

PUBLICATIONS

Park, R.J., Singh, I., **Pike, A.C.**, Tan, J.O.A., Deep brain stimulation for Psychiatric Disorders: Hope for the Hopeless or Exploitation of the Vulnerable? The Oxford Neuroethics Gold Standard Framework. *Frontiers in Psychiatry*. 2017 March 8;44.

Godlewska, B.R., **Pike, A.**, Sharpley, A.L., Ayton, A., Park, R.J., Cowen, P.J., & Emir, U.E. Brain glutamate in anorexia nervosa: A magnetic resonance spectroscopy case control study at 7 Tesla. *Psychopharmacology*. 2016 Dec 1;234(3):421-6.

Noonan M.P., Adamian N., **Pike A.**, Printzlau F, Crittenden BM, Stokes MG. Distinct Mechanisms for Distractor Suppression and Target Facilitation. *The Journal of Neuroscience*. 2016 Feb 10;36(6):1797-807.

CONFERENCE PRESENTATIONS	British Association for Psychopharmacology Summer Meeting	2017
	Harrogate, United Kingdom (Poster Presentation)	
	International Conference on Eating Disorders	2017
	Prague, Czech Republic (Paper presentation)	
	The Brain Conference on New Insights into Psychiatric Disorders	2016
	Copenhagen, Denmark (Poster presentation)	
AWARDS	LSNeuron Conference	2016
	London, UK (Poster presentation)	
	Neuroscience Symposium	2015
	Oxford, UK (Poster presentation)	
	British Association of Psychopharmacology Travel Bursary	2017
	Department of Psychiatry & Medical Research Council DPhil Studentship	2015
TRAINING	Congratulatory First Class Degree	2014
	Gibbs Prize for Best performance in the Philosophy papers in PP Finals	2014
	Gibbs Prize for Best performance in the Psychology papers in PP Finals	2014
	New College Academic Scholarship	2012-2014
	British Psychological Society Funded Research Assistant	2013
PUBLIC ENGAGEMENT	Computational Psychiatry Course , Zurich	2017
	Software Carpentry Workshop including R, Git, Bash	2017
	Teaching and Learning Part 1 and 2 teaching course	2017
	Research, Impact and the UK Parliament training day	2017
	FMRIB Graduate Course on MRI physics and analysis of MRI data	2016-2017
	Research Integrity Course	2016
EXTRA-CURRICULAR	Phlebotomy training	2016
	Public Engagement with Research Fund Co-Applicant	2017
	Part of a team application for funding to develop "toolboxes" to facilitate public engagement work on the theme of mental health	
	PubHD	2017
	Will present my DPhil ideas and experiments in ten minutes to a general audience	
EXTRA-CURRICULAR	Science Museum Lates & Royal Society	2015-2017
	Help with the "Neurococktails" event on genes and drugs of abuse	
	Merton MCR Colloquium Series	2017
	Presented some of the key ideas behind my research to a general audience	
	Oxfordshire Science Festival	2016
	Helped with an event focussing on emotion recognition research and its applications	
EXTRA-CURRICULAR	Currency Review Editor for Elsevier	2017
	St John Ambulance First Aider	2017-present
	Social Media Manager for It Gets Brighter	2016-2017
	Research Assistant for "For Brighter Minds" project	2017
	Social Secretary for Merton College MCR	2015-2016
	Secretary-General for OxIMUN	2012-2013