

REBECCA GEORGINA SMITH

CONTACT INFORMATION

Work

C2.26 MRC SGDP Centre,
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BIOGRAPHY

I earned a BSc in Genetics from the University of Leeds in 2005. In 2007, I began working at the Social, Genetic and Developmental Psychiatry Centre (SGDP), King's College London as a research assistant working under Prof Ian Craig, Dr Katherine Aitchison and Prof Peter McGuffin on the GENDEP project investigating SNPs and VNTRs in a large unipolar depression cohort. In 2009, I started my PhD at the SGDP in psychiatric genetics with Dr Jonathan Mill and Prof Ian Craig working on my thesis investigating behavioural and molecular changes associated with advanced paternal age and also contributing to work on allele-specific methylation and the role of epigenetics on psychiatric disease. Currently, I am a post-doctoral researcher at the SGDP with Dr Mill investigating epigenetic changes associated with Alzheimer's disease as well as continuing my investigation into paternal age and psychiatric disease with Dr Cathy Fernandes and Dr Abraham Reichenberg.

EDUCATION

PhD in Psychiatric Genetics

Jan 2009 – Jan 2012

MRC Social, Genetic and Developmental Psychiatry Centre,
Institute of Psychiatry, Kings College London
Behavioural and Molecular Changes Associated with Advanced Paternal Age

BSc Honours in Genetics

Sept 2002 – Jun 2005

University of Leeds
Grade 2.ii

WORK EXPERIENCE

Research Assistant Mar 2007 – Dec 2008

MRC Social, Genetic and Developmental Psychiatry Centre,
Institute of Psychiatry, Kings College London

Dr Katherine Aitchison – GENDEP Project
Research Assistant Aug 2006 – Dec 2006
MRC Centre for Developmental Neurobiology,
Guy's Hospital, Kings College London
Prof Sarah Guthrie

PUBLICATIONS AND PAPERS

- Smith, R.G.**, Reichenberg, A., Kember, R.L., Buxbaum, J.D., Schalkwyk, L.C., Fernandes, C., and Mill, J. (2012). Advanced paternal age is associated with altered DNA methylation at brain-expressed imprinted loci in inbred mice: implications for neuropsychiatric disease. *Mol Psych* 10.1038/mp.2012.88.
- Huezo-Diaz, P., Perroud, N., Spencer, E.P., **Smith, R.**, Sim, S., Virding, S., Uher, R., Gunasinghe, C., Gray, J., Campbell, D., et al. (2012). CYP2C19 genotype predicts steady state escitalopram concentration in GENDEP. *J Psychopharmacol* 26, 398-407.
- Smith, R.**, and Mill, J. (2011). Epigenetics and Chronic Diseases: An Overview. In *Epigenetic Aspects of Chronic Disease*. (Springer).
- Keers, R., Uher, R., Huezo-Diaz, P., **Smith, R.**, Jaffee, S., Rietschel, M., Henigsberg, N., Kozel, D., Mors, O., Maier, W., et al. (2011). Interaction between serotonin transporter gene variants and life events predicts response to antidepressants in the GENDEP project. *Pharmacogenomics J* 11, 138-145.
- Schalkwyk, L.C., Meaburn, E.L., **Smith, R.**, Dempster, E.L., Jeffries, A.R., Davies, M.N., Plomin, R., and Mill, J. (2010). Allelic skewing of DNA methylation is widespread across the genome. *Am J Hum Genet* 86, 196-212.
- Drago, A., Serretti, A., **Smith, R.**, Huezo-Diaz, P., Malitas, P., Albani, D., Ronchi, D.D., Pae, C.-U., and Aitchison, K.J. (2010). No association between genetic markers in BDNF gene and lithium prophylaxis in a Greek sample. *International Journal of Psychiatry in Clinical Practice* 14, 154-157.
- Uher, R., Huezo-Diaz, P., Perroud, N., **Smith, R.**, Rietschel, M., Mors, O., Hauser, J., Maier, W., Kozel, D., Henigsberg, N., et al. (2009). Genetic predictors of response to antidepressants in the GENDEP project. *Pharmacogenomics J* 9, 225-233.
- Smith, R.G.**, Kember, R.L., Mill, J., Fernandes, C., Schalkwyk, L.C., Buxbaum, J.D., and Reichenberg, A. (2009). Advancing paternal age is associated with deficits in social and exploratory behaviors in the offspring: a mouse model. *PLoS One* 4, e8456.
- Perroud, N., Aitchison, K.J., Uher, R., **Smith, R.**, Huezo-Diaz, P., Marusic, A., Maier, W., Mors, O., Placentino, A., Henigsberg, N., et al. (2009). Genetic predictors of increase in suicidal ideation during antidepressant treatment in the GENDEP project. *Neuropsychopharmacology* 34, 2517-2528.

Huezo-Diaz, P., Uher, R., **Smith, R.**, Rietschel, M., Henigsberg, N., Marusic, A., Mors, O., Maier, W., Hauser, J., Souery, D., et al. (2009). Moderation of antidepressant response by the serotonin transporter gene. *Br J Psychiatry* 195, 30-38.

COURSES

Enhancing Academic Practice Programme **October 2012 – August 2013**
Kings College London

Bioinformatics for Geneticists – Summer School **July 2009**
MRC Social, Genetic and Developmental Psychiatry Centre,
Institute of Psychiatry, Kings College London

Phlebotomy Training **June 2009**
St Thomas' Hospital

Home Office Personal Licence Course **Jan 2009**
Guy's Hospital

Microarrays and Gene expression – Summer School **July 2007**
MRC Social, Genetic and Developmental Psychiatry Centre,
Institute of Psychiatry, Kings College London

TEACHING

Lecture on Epigenetics on MSc Neuroscience **October 2012 – February 2013**
MRC Social, Genetic and Developmental Psychiatry Centre,
Institute of Psychiatry, Kings College London

Personal Tutor for student on MSc Neuroscience **October 2012 – June 2013**
MRC Social, Genetic and Developmental Psychiatry Centre,
Institute of Psychiatry, Kings College London

Project Supervisor for project on MSc Neuroscience **April – August 2012**
MRC Social, Genetic and Developmental Psychiatry Centre,
Institute of Psychiatry, Kings College London

Introduction to Molecular Methods in Functional Genomics – Summer School **June 2012**
MRC Social, Genetic and Developmental Psychiatry Centre,
Institute of Psychiatry, Kings College London
Demonstrator

Introduction to Molecular Methods in Functional Genomics – Summer School **July 2010**
MRC Social, Genetic and Developmental Psychiatry Centre,

Institute of Psychiatry, Kings College London
Demonstrator

Introduction to Molecular Methods in Functional Genomics – Summer School July 2008

MRC Social, Genetic and Developmental Psychiatry Centre,
Institute of Psychiatry, Kings College London
Demonstrator

AWARDS

Recipient of Mouse Genetics Travel Award June 2011

Mouse Genetics Conference, Washington, DC, USA

Recipient of IMGC Travel Award October 2010

24th IMGC, Crete, Greece

CONFERENCE PRESENTATIONS

Behavioural and Molecular Changes Associated with Advanced June 2011

Paternal Age: A Mouse Model – Poster

Mouse Genetics Conference, Washington, DC, USA

Advancing Paternal Age is Associated with Deficits in Social and March 2011

Exploratory Behaviours in the Offspring – Poster

Epigenetics and Developmental Programming Conference, Newcastle upon Tyne

Advancing Paternal Age is Associated with Deficits in Social and October 2010

Exploratory Behaviours in the Offspring – Oral Presentation and Poster

25th IMGC, Crete, Greece

Advancing Paternal Age is Associated with Deficits in Social and September 2010

Exploratory Behaviours in the Offspring – Data Blitz and Poster

Parental Brain Conference, University of Edinburgh, Edinburgh

TECHNICAL SKILLS

Animal Testing

Holeboard, open field, novel object, social recognition

Laboratory Techniques

PCR, Agarose and SDS-page gel electrophoresis, nucleic acid extraction and purification from blood, cheek swabs and human and animal tissue, DNA sequencing, Taqman, SNaPshot, ABI 3130 genetic

analyser sequencing, Sequenom EpiTyper, Sequenom iPLEX, Nimblegen microarrays, Affymetrix microarrays, cryosectioning, paraffin sectioning, bisulfite treatment, cell culture, Illumina HiScan Infinium HumanMethylation450 BeadChips and HumanCore genotyping BeadChips.

Analysis and Computer skills

R statistical environment, HTML web design,

REFERENCES

Prof Jonathan Mill
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Psychiatry Centre,
Institute of Psychiatry,
Kings College London
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Prof Ian Craig
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