

**Genomics of Brain Disorders
18-20 March 2020**

**Wellcome Genome Campus,
Hinxton, Cambridge, UK**

Draft Conference Programme

Wednesday, 18 March

- 11:45-13:00 **Registration with lunch**
- 13:00-13:10 **Welcome and introductions**
Alison Goate
- 13:10-14:10 **Keynote lecture**
The nature of schizophrenia
Michael Owen
Cardiff University, UK
Chair: Alison Goate
- 14:10-15:20 **Session I: Systems Biology**
Chair: Alison Goate
- 14:10 CRISPR-based functional genomics for brain diseases
Martin Kampmann
University of California, San Francisco, USA
- 14:50 The role of neuroinflammation in Parkinson's disease
Caleb Webber
University of Oxford, UK
- 15:20 Genetic Identification of Cell Types Underlying Brain Complex
Traits Yields Novel Insights Into the Etiology of Parkinson's Disease
Nathan Skene
Imperial College London, UK
- 15:20-15:50 **Afternoon Tea**

15:50-17:30

Session 2: Modelling disease

Chair: Kristen Brennand

15:50 Stem cell modeling of FTD in 3 and 4D
Sally Temple
Neural Stem Cell Institute, USA

16:20 Title TBC
Beatriz Rico
Kings College London, UK

16:50 Population-scale profiling of dopaminergic neuron development
Julie Jerber
Wellcome Sanger Institute, UK

17:05 The effects of the 15q11.2 BP1-BP2 copy number variant on white matter microstructure
Ana Silva
Cardiff University, UK

17:20-18:00

Lightning talks

Chair: Michael Owen

18:00-19:30

Poster session I (odd numbers) with drinks reception

19:30

Buffet dinner

19:30

Cash bar

Thursday, 19 March

09:00-10:30

Session 3: Tools (single cells, proteomics, metabolomics, spacial transcriptomics)

Chair: Kristen Brennand

09:00 Identification and Massively Parallel Characterization of Regulatory Elements Driving Neural Induction
Anat Kreimer
UC Berkeley, USA

09.30 In vivo Perturb-seq: Study gene function at scale in developing tissues
Xin Jin
Harvard University, USA

10.00 Cell type and cortex-specific RNA editing in single human neurons informs neuropsychiatric disorders
Melanie Bahlo
Walter and Eliza Hall Institute, Australia

10.15 Dysregulation of splicing in human brain from individuals with Lewy body disease informs disease mechanisms
Regina Reynolds
University College London, UK

10:30-11:00

Morning coffee

11:00-12:30

Session 4: Population Studies

Chair: Michael Owen

11:00 Mendelian randomization combining GWAS and eQTL data reveals new loci, extensive pleiotropy and genetic determinants of complex and clinical traits
Eleonora Porcu
University of Lausanne, Switzerland

11:30 Genetic risk loci and polygenic architecture of ADHD
Ditte Demontis
Aarhus University, Denmark

12:00 Gene-environment interaction study suggests significant interaction between gestational age at birth and genetic risk for psychiatric disease on cognition at age four
Harriet Cullen
Kings College London, UK

12:15 Investigating Causality of Environmental and Lifestyle Risk Factors Associated with Parkinson's Disease: A Mendelian Randomization Study
Carmen Domínguez
Brigham and Women's Hospital, USA

12:30-14:00

Lunch

14:00-15:30

Session 5: Genetic Architecture

Chair: Michael Owen

14:00 The genetic architecture of Parkinson's disease
Andy Singleton
NIH, USA

14:30 How might the genetic contribution to major depressive disorder inform diagnosis, course and treatment?
Cathryn Lewis
Kings College London, UK

15:00 Analysis of neurodevelopmental de novo risk alleles in schizophrenia
Elliott Rees
Cardiff University, UK

15:15 Exploring the phenome-wide consequences of Anorexia Nervosa associated genes
Jessica Johnson
Icahn School of Medicine at Mount Sinai, USA

15:30 Human-lineage-specific genomic elements are present at high density within genes implicated in neurodegenerative diseases and are enriched for heritability of intelligence
Zhongbo Chen
UCL Institute of Neurology, UK

15:45-16:15

Afternoon tea

16:15-17:30

Session 6: Delivery of genomic results

Chair: Mina Ryten

16:15 Your DNA Your Say: global public attitudes towards genomic data sharing
Anna Middleton
Wellcome Genome Campus, UK

16:45 Title TBC
Tonu Esko
University of Tartu Pärnu College, Estonia

17.15 Results of genetic testing in adult patients with psychiatric disorders and intellectual disability or cognitive regression
Anneke Kievit
Erasmus MC Rotterdam, The Netherlands

17:30-18:00

Lightning talks

Chair: Alison Goate

18:00-19:30

Poster session 2 (even numbers) with drinks reception

19:30 prompt

Silver service conference dinner

19:30

Cash Bar

Friday, 20 March

09:00-10:00

Keynote lecture

Will genetic risk prediction be useful in psychiatry and neurology?

Naomi Wray
University of Queensland, Australia
Chair: Mina Ryten

10:00-10:30

Morning coffee

10:30-12:45

Session 7: Using genomics to drive therapeutics

Chair: Mina Ryten

10:30 Title TBC

Stefan Aigner

UC San Diego School of Medicine, USA

11:00 Using human genetics to discover new medicines

Jeff Barrett

Genomics plc, UK

11:30 Genome-wide meta-analysis, fine-mapping, and integrative prioritization identify new Alzheimer's disease risk genes

Jeremy Schwartzentruber

EBML-EBI, UK

11:45 Discussion

12:30

Closing remarks

Michael Owen

12:40

Lunch

12:45

Coaches depart to Heathrow Airport via Stansted Airport

13:00

Coaches depart to Cambridge Train Station and Cambridge City Centre