BECKI GREEN

Passionate postdoctoral researcher with a keen interest in applying statistical methods to understand factors influencing brain health and pathology. Pronouns: she/her.

🎓 EDUCATION

2022 | 2019

PhD, Neuroscience

Institute of Psychology, Psychiatry and Neuroscience - King's College London

- Project: *"Linking blood metabolites to early dementia using systems biology"*, Supervisors: Dr Petroula Proitsi & Professor Marcus Richards. Funders: NIHR Biomedical Research Centre PhD studentship
- Utilising network, pathway, and metabolome-wide approaches to highlight key metabolites associated with early markers of dementia - including imaging, blood, and cognition measures - in large cohort studies. Using statistical genetics approaches, such as Mendelian randomisation and polygenic scores, to further understand the nature of these relationships.

2018 | 2017

MSc, Genes, Environment and Development in Psychology and Psychiatry (Distinction, 78%)

Institute of Psychology, Psychiatry and Neuroscience - King's College London

- Project: *"Investigating the relationships between polygenic risks scores for hypothalamic pituitary axis function, stressful life events, and the development of emotional problems."* Supervisor: Professor Edmund Sonuga-Barke.

2015 | 2014

MSc, Biomedical Sciences Research (Merit, 69%)

Medical Sciences - University of Bristol

- Project: *"Developing and evaluating the use of a cognitive-motor task as a quantitative measure of fatigue using functional fMRI in healthy volunteers."* Supervisor: Dr Jade Thai.

2013 | 2010

BSc, Physiological Science (2:1)

Medical Sciences - University of Bristol

- Project: *"Investigating the role of glucose toxicity in the development of Alzheimer's disease".* Supervisor: Professor Elek Molnar.

💻 RESEARCH & INDUSTRY EXPERIENCE

2024 | 2022

Postdoctoral Research Fellow

MRC Unit for Lifelong Health and Ageing - UCL

- Investigating associations between common pathogens and neuropathologies in large population-based cohort studies. Testing whether pathogens mediate or modify relationships between APOE genotype and neuropathologies. Contributing to projects as part of large consortia, and collaborating with research groups based at other universities.

CONTACT

- ✉ rebecca.e.green@ucl.ac.uk
- 🐦 becki_e_green
- github.com/beckigreen
- 🔗 beckigreen.netlify.app
- in linkedin.com/in/rebecca-green-b8264b138

KEY SKILLS

Data preprocessing and analysis

Coding (R, Python, SQL, bash, git, GitHub/GitLab, Juptyer, RMarkdown)

Reproducible research

Science communication

Mentoring and teaching

HOBBIES

Adventure sports, music, comedy, travel.

RESOURCES

CV made with the R package pagedown. Code available here.

2022
|
2021

● **DECOVID** Project Collaborator

The Alan Turing Institute

· Working with and characterising electronic health record data collected during the COVID-19 pandemic in two large hospital trusts. Creating reproducible pipelines to enable collaboration across research teams. Assessing data quality and evaluating against a data ethics framework. Led by Dr Kirstie Whitaker.

2021

● Transfer Learning Project Collaborator

The Alan Turing Institute

· Developing and applying transfer learning methodologies to map non-overlapping features and build prediction models for dementia. Led by Professor David Llewellyn.

2019
|
2018

● Freelance Editor/Science Writer

Cactus Communications - Worldwide

· Editing, formatting, and proofreading scientific manuscripts prior to journal submission in the field of Life Sciences.

2017
|
2016

● Assistant Research Officer

NIHR Clinical Research Network West of England - Bristol

· Managing the set up and delivery of primary care clinical research studies in 59 sites. Championing research in the West of England, and leading events to promote patient and public involvement. Undertaking audits into research delivery and performance.

2016

● Research Assistant (Healthcare)

NIHR Clinical Research Network West of England - Bristol

· Supporting the delivery of clinical trials. Leading study specific training in the West of England as well as utilising clinical skills to carry out and document trials.

👥 SUPERVISION EXPERIENCE

2021

● MSc Supervision (day to day)

MSc Developmental Psychology & Psychopathology

· Supervision for a 6-month MSc project: *"Investigating the presence of shared genetic architecture between Major Depressive Disorder and Alzheimer's Disease"* - Lachlan Gilchrist. Lachlan is now a PhD researcher in our group.

2019

● MSc Supervision (day to day)

MSc Neuroscience

· Supervision for a 6-month MSc project: *"Assessing Genetic Overlap and Causality Between Blood Plasma Proteins and Alzheimer's Disease"* - Alex Handy. Alex's MSc work has now been published.

🖥️ TEACHING EXPERIENCE

2022
|
2021

● Module Lead

BSc, King's College London

· **Courses:** Big Data in Python (BSc; 2021, 2022)
· Course design and material creation, seminar and practical leader, marking, forum management, evaluation and feedback.

2021
|
2019

Graduate Teaching Assistant

BSc & MSc, King's College London

· **Courses:** Origins of Individual Differences (BSc; 2019, 2020, 2021), Statistics in R (MSc; 2021), Big Data in Python (BSc; 2020), Research Methods (MSc & BSc; 2019, 2020), Mendelian Randomisation (MSc; 2019, 2020).
· Material creation, seminar and practical leader, marking, evaluation and feedback.

2021
|
2019

Workshop Assistant

Global researchers

· **Courses:** Reproducible Reporting Using Markdown (DEMON Network; 2021), Polygenic Summer School (King's College London; 2019).
· Assisting with design and delivery.

🌐 VOLUNTEER WORK

2019
|
2018

Rethink Mental Illness - London, UK

Raising funds and participating in photoshoots and blogs to encourage others to fundraise.

2017
|
2014

Crisis at Christmas - Birmingham, UK

Assisting with the set up and delivery of food, shelter and entertainment for Crisis service users over the Christmas period.

2014
|
2012

Kissing it Better - Warwick, UK

Assisting and implementing strategies to improve care environments for inpatients with dementia.

2012
|
2010

Cherry Trees Care Home - Alcester, UK

Assisting with care and entertainment in a local nursing home for individuals with dementia.

💬 ORAL PRESENTATIONS

2022

DEMON Network (Prevention Working Group) [Invited speaker]

2022

Leeds OMICS Research in Progress Seminar [Invited speaker]

📍 University of Leeds

2021

Turing Community Week

📍 The Alan Turing Institute

2021

Turing Student Seminar

📍 The Alan Turing Institute

2021

Research Showcase

📍 The Alan Turing Institute

2020

Maurice Wohl Clinical Neuroscience Institute Centre Talk

📍 King's College London

2020

Maudsley BRC Training Conference

📍 King's College London

2020	Dementias Platform UK Datathon
	📍 University of Oxford (virtual)
2020	International Society of Clinical Biostatistics Annual Conference [Invited speaker]
	📍 Krakow (virtual)
2019	Maudsley BRC Annual Conference
	📍 King's College London
2019	Dementia Research Open Day (Patients & Public)
	📍 King's College London

📄 POSTER ONLY PRESENTATIONS

2020	Alzheimer's Association International Conference
	📍 Amsterdam (virtual)
2020	Alzheimer's Research UK Conference
	📍 Cardiff (virtual)
2019	World Congress of Psychiatric Genetics
	📍 Anaheim, USA

🏆 GRANTS & AWARDS

2022
|
2021

Enrichment Scholarship Student

The Alan Turing Institute

· Awarded funding to carry out my research at the Institute, with access to facilities, mentoring, and courses.

2021
|
2020

Engage (Virtual Enrichment) Scholarship Student

The Alan Turing Institute

2019
|
2022

NIHR Biomedical Research Centre PhD Studentship

NIHR Maudsley Biomedical Research Centre, South London and Maudsley NHS Trust

2019

Guarantors of Brain Travel Grant - £1000

Brain

2018

King's Experience Interdisciplinary Award in Art, Science & Mental Health

King's College London

👥 LEADERSHIP ROLES

2022

Application Panel Reviewer for the Turing Enrichment Scheme

The Alan Turing Institute

2021
|
2020

Turing Steering Group: Student Member

The Alan Turing Institute

2015
|
2014

MSc Student Council Representatitve

University of Bristol

2013 | 2012

Co-chair and Co-founder of MedSciSoc (BSc Medical Sciences Society)

University of Bristol

💻 COURSES

ONS Accredited Researcher

Expiry date: 14/07/2027

Courses ranging from statistical genetics to software engineering, and a national datathon.

Highlights: Mendelian Randomisation, Research Software Engineering, Ethical Data Science, High Performance and High Throughput Computing, Data Skills for Open Research, Dementias Platforms UK Datathon, Prediction Modelling, Machine Learning, Advanced Python for Biologists, Molecular Pathways and Networks.

✏️ MEMBERSHIP

International Society of Clinical Biostatistics

Student Member

Alzheimer's Association International Society to Advance Alzheimer's Research and Treatment (ISTAART)

Student Member

📖 PUBLICATIONS

2022

Multiomics profiling of human plasma and CSF reveals ATN derived networks and highlights causal links in Alzheimer's disease

medRxiv

· Shi, L., Xu, J., <u>Green, R.</u>, Wretlind, A., Homann, J., Buckley, N.J., ... Legido-Quigley, C.

2022

Investigating associations between blood metabolites, later life brain imaging measures, and genetic risk for Alzheimer's disease

medRxiv (under review elsewhere)

· <u>Green, R.</u>, Lord, J., Scelsi, M.A., Xu, J., Wong, A., Naomi-James, S., ... Protisi, P.

2022

Metabolic correlates of late midlife cognitive outcomes: findings from the 1946 British Birth Cohort

Brain Communications

· <u>Green, R.</u>, Lord, J., Xu, J., Maddock, J., Kim, M., Dobson, R., ... Protisi, P.

2021

Sex-Specific Metabolic Pathways Were Associated with Alzheimer's Disease (AD) Endophenotypes in the European Medical Information Framework for AD Multimodal Biomarker Discovery Cohort

Biomedicines

· Xu, J., <u>Green, R.</u>, Kim, M., Lord, J., Ebshiana, A., Westwood, S., ... Legido-Quigley, C.

2021 ● **Assessing Genetic Overlap and Causality Between Blood Plasma Proteins and Alzheimer's Disease**

Journal of Alzheimer's Disease

· Handy, A., Lord, J., <u>Green, R.</u>, Xu, J., Aarsland, D., Velayudhan, L., ... Proitsi, P.

2021 ● **Disentangling independent and mediated causal relationships between blood metabolites, cognitive factors, and Alzheimer's Disease**

Biological Psychiatry: Global Open Science

· Lord, J., <u>Green, R.</u>, Choi, S.W., Hubel, C., Aarsland, D., Velayudhan, L., ... Proitsi, P.

2021 ● **Mendelian randomization identifies blood metabolites previously linked to midlife cognition as causal candidates in Alzheimer's disease**

PNAS

· Lord, J., Jermy, B., <u>Green, R.</u>, Wong, A., Xu, J., Legido-Quigley, C., ... Proitsi, P.

2020 ● **Integrated lipidomics and proteomics network analysis highlights lipid and immunity pathways associated with Alzheimer's disease**

Translational Neurodegeneration

· Xu, J., Bankov, G., Min, K., Wretlind, A., Lord, J., <u>Green, R.</u>, ... Legido-Quigley, C.

2019 ● **Investigating the role of blood metabolites as biomarkers of cognitive function and dementia in the MRC 1946 British Birth Cohort**

European Neuropsychopharmacology [Conference Abstract]

· <u>Green, R.</u>, Lord, J., Maddock, J., Kim, M., Dobson, R., Legido-Quigley, C., ... Proitsi, P.

📖 BOOK CHAPTERS

2019 ● **The Turing Way: A Handbook for Reproducible Data Science**

Cowrote Creating Project Repositories and virtual collaboration [WIP] chapters. Reviewed multiple chapters.

· <u>The Turing Way Community</u>, Arnold, B., Bowler, L., Gibson, A.,, Herterich, P., Higman, R., ... Whitaker, K.