BECKI GREEN, PHD

Passionate postdoctoral researcher with a keen interest in applying statistical methods to better understand factors influencing health and disease. 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

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 anxiety and depression."* Supervisor: Professor Edmund Sonuga-Barke.

2015 | 2014

MSc, Biomedical Sciences Research

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

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 relationships between common infections, brain health, and neuropathologies in large population-based cohort studies (led by Dr Dylan Williams). Contributing to the CONVALESCENCE consortium exploring risk factors and consequences of long COVID. Creating projects for students and providing research supervision. Managing multiple research projects and responsibilities.

CONTACT

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

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

2023

● **MSc Supervision (primary supervisor)**

MSc Cardiovascular Sciences

· *"Investigating associations between herpesviruses and arterial stiffness"*

2021

● **MSc Supervision (day to day)**

MSc Developmental Psychology & Psychopathology

· *"Investigating the presence of shared genetic architecture between Major Depressive Disorder and Alzheimer's Disease"*

2019

● **MSc Supervision (day to day)**

MSc Neuroscience

· *"Assessing Genetic Overlap and Causality Between Blood Plasma Proteins and Alzheimer's Disease"*.

🖥 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

Kissing it Better charity [Invited speaker to discuss academic careers]

📍 Warwickshire

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**
Member

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

📖 PUBLICATIONS

2023 ● **Investigating associations between blood metabolites, later life brain imaging measures, and genetic risk for Alzheimer's disease**

Alzheimer's Research & Therapy

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

2023 • **Multiomics profiling of human plasma and CSF reveals ATN derived networks and highlights causal links in Alzheimer's disease**

Alzheimer's and Dementia

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

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.

2019 • **Investigating the role of modifiable risk factors on the causal pathway to Alzheimer's disease**

European Neuropsychopharmacology [Conference Abstract]

· Lord, J., <u>Green, R.</u>, Hubel, C., Richards, M., Sham, P., 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.