

BECKI GREEN

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

EDUCATION

2022
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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 influencing early markers of dementia - including imaging, blood, and cognition measures - in large cohort studies. Teasing apart the involvement of risk factors across the life course. Using statistical genetics approaches, such as Mendelian randomisation and polygenic scores, to further understand the nature of these relationships.

2018
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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
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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
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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

2022
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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.

CONTACT

✉ rebecca.e.green@kcl.ac.uk
🐦 [becki_e_green](https://twitter.com/becki_e_green)
🔗 github.com/beckigreen
🔗 beckigreen.netlify.app
🌐 linkedin.com/in/rebecca-green-b8264b138

KEY SKILLS

Data preprocessing and analysis

Coding (R, Python, SQL, bash, git, GitHub/GitLab, Jupyter, 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](#).

- 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
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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
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2018



Rethink Mental Illness - London, UK

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

2017
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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
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2012



Kissing it Better - Warwick, UK

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

2012
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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
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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
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2020 ● **Engage (Virtual Enrichment) Scholarship Student**
The Alan Turing Institute
- 2019
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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

- 2021
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2020 ● **Turing Steering Group: Student Member**
The Alan Turing Institute
- 2015
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2014 ● **MSc Student Council Representative**
University of Bristol
- 2013
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2012 ● **Co-chair and Co-founder of MedSciSoc (BSc Medical Sciences Society)**
University of Bristol



COURSES

- 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 ● [Investigating associations between blood metabolites, later life brain imaging measures, and genetic risk for Alzheimer's disease](#)
medRxiv (under review elsewhere)
• [Green, R.](#), 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
• [Green, R.](#), 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., [Green, R.](#), 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., [Green, R.](#), 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., [Green, R.](#), 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., [Green, R.](#), 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., Wretling, A., Lord, J., [Green, R.](#), ... 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]
• [Green, R.](#), 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.
• [The Turing Way Community](#), Arnold, B., Bowler, L., Gibson, A., Herterich, P., Higman, R., ... Whitaker, K.