GABRIEL MATEUS BERNARDO HARRINGTON

Research profile

Currently a final-year PhD student at Keele University based in the Spinal Studies group at The Robert Jones and Agnes Hunt Orthopaedic Hospital. Spinal cord injury (SCI) is damage to the spinal cord due to trauma, degeneration or disease that results in a temporary or permanent change to its neurological function, recovery from which is highly variable. SCI can lead to devastating consequences for both the physical and mental health of patients, particularly due to the uncertainty of neurological outcomes in the first two weeks post-injury. The variability of recovery has also stymied development of novel therapies as it makes powering clinical trials extremely difficult.

I endeavour to discover novel biomarkers of SCI outcomes, both to minimise this uncertainty and to expand our understanding of the underlying pathology of neurological recovery. I use a combination of modelling historic patient data and proteomic techniques to this end, and have found evidence of a relationship between markers of liver health and SCI recovery. I am currently validating our prior models with external datasets and seeking to carry out a metabolomics experiment to better elucidate the link between the liver and SCI.

CONTACT INFO

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GitHub: H-Mateus

Personal website

For more information, please see my personal website linked above, or contact me via email.

EDUCATION

2016 — **Lancaster University**
BSc in Biological Sciences — Lancaster, UK

Dissertation: 5-prime genotyping of Enterovirus 71

2017 | present (Expected submission 2021) — **Keele University**
PhD Student — Oswestry, UK

Thesis: Exploring the serum proteome of spinal cord injured patients: Identifying prognostic biomarkers and new treatment targets

SKILLS

Experience in:

- Statistical learning models
- Proteomics
- Patient data
- Electronic health data
- Use of super computers for modelling
- Submission for ethical approval of research
- Working under the jurisdiction of the Human Tissue Act
- Both technical and lay-friendly science communication via oral and poster presentation at multiple conferences, career guidance at local schools and booth presentations at science fairs.
- Highly skilled in R, Bash, Python, LaTeX, SQL, Linux

Last updated on 2021-03-27.

RESEARCH EXPERIENCE

2016 | 2017

Graduate Research Internship
Bionics Institute — Melbourne, Australia

- Began initial work towards building a next-generation cochlea implant
- Established the viability of using a viral vector for optogenetic modification of mouse cochlea
- Gained extensive experience in immunohistochemistry, cryosectioning, imaging, research animal handling

SELECTED PUBLICATIONS

2020

A Preliminary Cohort Study Assessing Routine Blood Analyte Levels and Neurological Outcome after Spinal Cord Injury
Journal of Neurotrauma 2020 Jan 9

Sharon J. Brown, **Gabriel Mateus Bernardo Harrington**, Charlotte H. Hulme, Rachel Morris, Anna Bennett, Wai-Hung Tsang, Aheed Osman, Joy Chowdhury, Naveen Kumar, and Karina T. Wright

2020

Routinely Measured Hematological Markers Can Help to Predict American Spinal Injury Association Impairment Scale Scores after Spinal Cord Injury
Journal of Neurotrauma 2020 Aug 28
Gabriel Mateus Bernardo Harrington

Gabriel Mateus Bernardo Harrington, Paul Cool, Charlotte Hulme, Aheed Osman, Joy Roy Chowdhury, Naveen Kumar, Srinivasa Budithi, and Karina Wright

ORAL PRESENTATIONS

2018

Biomarkers for SCI
Postgraduate Conference, 2018 — Keele University

Gabriel Mateus Bernardo Harrington

2019

Reproducible Research
Centre for Doctoral Training (CDT) Conference, 2019
Manchester University

Gabriel Mateus Bernardo Harrington

2021

SCI and the liver
Research day, 2021
The Robert Jones and Agnes Hunt Orthopaedic Hospital, Virtual

Gabriel Mateus Bernardo Harrington

POSTER PRESENTATIONS

2020

Proteomic analysis of bloods from SCI patients
CDT Joint conference, 2020 — Virtual

Gabriel Mateus Bernardo Harrington, Charlotte H. Hulme, Paul Cool, Karina T. Wright