

# 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.



## 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

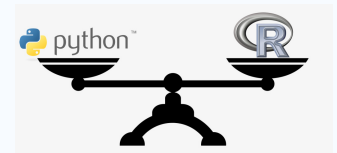


## SKILLS



### 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



## 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.

*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