

## MacRobertson Travel Scholarship Report

### About me

My name is Shreya Sonthalia. I am from India and have lived in the UK since 2012. I am in the second year of my PhD journey within the MRC/CSO Social and Public Health Sciences Unit at the University of Glasgow. I was awarded the MacRobertson Travel Scholarship in 2022 for a 2-month research visit to the Brain and Mind Centre (BMC) at the University of Sydney, Australia.



### Reasons for applying for the Travel Scholarship

I applied for the travel scholarship to be able to learn from an experienced team applying system dynamics modelling to mental health policy. The Head of Systems Modeling, Simulation & Data Science and Co-Director of the Mental Wealth Initiative, Dr Jo-An Occhipinti is an international advisor for my PhD and has a wealth of knowledge in mental health, system dynamics modelling, informing policy and stakeholder engagement, which are the central aspects of my PhD.



My research focuses on developing a system dynamics model to understand the dynamic complexity between employment conditions and the prevalence of common mental disorders in Scotland, exploring the differences between men and women. The BMC team has expertise across a range of topics required for my project including stakeholder engagement, data analysis and model development and testing. I wanted to learn both the “hard” technical research aspects and the “soft” interpersonal and contextual aspects of designing and implementing a modelling project in health policy.

## Details of my visit

I travelled to Sydney at the end of March 2023, and worked on my PhD from the Brain and Mind Centre until early June 2023. I was warmly welcomed by the team and had the privilege of working closely with experts in systems modeling, including Dr Jo-An Occhipinti, Nicholas Ho, Dr Adam Skinner, Dr Hossein Hosseini and Dr Catherine Vacher.



During my visit, I was involved in weekly technical meetings with the team where emerging issues with their model were discussed. I had the opportunity to access and examine the models they have built. Additionally, I had one-to-one meetings problem-solving modelling issues the team is facing. This gave me insight into the types of issues and questions that arise and how they are approached and addressed. It also helped me think creatively and develop my understanding of modelling.

In terms of my research, I worked on adapting parts of their model that would be relevant to my PhD, specifically modelling population aging to capture the changing labour force. A seemingly straightforward task given the extensively used existing structure for population demographics, this led to days of work trying to calibrate the model and understanding the number of small decisions to be made. I considered different ways of modelling the structure and engaged in discussions on aging structures with the team. I also had a session to clarify my understanding with Mark Heffernan, a veteran in system dynamics modelling, whom I was introduced to by the BMC team. Through these discussions, I developed a deeper understanding of the issues and the things to consider and test.

In terms of research process and methods, I was able to discuss stakeholder engagement, learning about challenges and good practices, and getting input on my ideas and plans. Working closely with the team, I have also seen the importance placed on data to make the model useful, which has informed the workplan for my PhD.



On holidays, I took the opportunity to explore Sydney, go for coastal walks and travel within Australia, visiting a former colleague in Melbourne, diving in the Great Barrier Reef and travelling to the island of Tasmania. I made some new friends and reconnected with a school friend who now lives in Sydney.

## **Impact of the Travel Scholarship**

My visit to Sydney has influenced my thinking greatly. Being immersed in an experienced team was very insightful and I was able to see the issues other modelling projects face and how they address it. This will have an invaluable impact on my PhD and future research.

The opportunity to experience a new country and culture helped me grow and was immensely valuable. I will cherish my time in Sydney.

Most importantly, I have developed strong foundations for a collaboration with the team, hoping to get input on my PhD as my work progresses. I also facilitated connections between other researchers at SPSHU and BMC, helping consolidate the building blocks for longer-term collaborations between the two universities.

Without the MacRobertson Travel scholarship, I would not have had the means to embark on and undertake this enriching chapter in my PhD journey.