Lachlan Burton

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Personal Statement

I am an applied mathematician from Queensland, Australia. I received my PhD in Dynamical Systems from the University of Sydney in 2024. My research interests include transient chaos, Hamiltonian mechanics, and complex systems. I am also an enthusiast of scientific computing, particularly using the Julia programming language.

Education

Jul 2019 - Feb 2024	**Doctor of Philosophy** The University of Sydney, Sydney NSW Applied Mathematics, **Thesis Title**: *Transient Chaos in Dissipative Chaotic Scattering*
2018 - 2018	**Bachelor of Arts (Honours I)** The University of Queensland, Brisbane QLD Mathematics
2014 - 2018	**Bachelor of Science/Bachelor of Arts** The University of Queensland, Brisbane QLD Physics/Mathematics

Research

2023	**Probabilistic Description of Dissipative Chaotic Scattering** Physical Review E. [**Paper**]. [**Repository**]. *Published*
2024	**Transient Chaos in the Copenhagen Problem with dissipation** *In preparation*

Teaching/Tutoring History

I have 8 years of experience as both a teaching assistant and private tutor for undergraduate classes in mathematics at the lower and advanced levels. Please see my webpage for more information.

2019 - 2023	**Casual Academic** The University of Sydney, Sydney NSW Mathematics
2016 - 2018	**Casual Academic** The University of Queensland, Brisbane QLD Mathematics

Conference/Seminar Talks

I have presented my PhD work at several conferences. Due to restrictions imposed by the COVID-19 pandemic, this was often limited to domestic/nearby events, such as:

2022 **Sydney Dynamics Group Annual Meeting**
Auckland, New Zealand

2021 **Australia and New Zealand Industrial and Applied Mathematics (ANZIAM) conference**
Virtual
For this conference I served on the executive committe as Student Representative.

2020 **Sydney Dynamics Group Annual Meeting**
Jervis Bay, New South Wales, Australia

2020 **Australia and New Zealand Industrial and Applied Mathematics (ANZIAM) conference**
Hunter Valley, New South Wales, Australia

2019 **Sydney Dynamics Group Annual Meeting**
Margaret River, Western Australia, Australia

I have also contributed several talks to both the Mathematics Postgraduate Seminar (MaPS) series and as part of the Complex Systems and Data Science group at the University of Sydney.

Skills

- **Programming:** Julia, Python, C++, MATLAB
- **Tools:** MS Office, LaTeX
- **Skills:** Mathematics, Mathematical Modelling, Data Science