Dr Lachlan G. Burton

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`https://lnbn.github.io/`

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. My webpage (link at top right of this document) is probably more up to date than this document, and is certainly more colorful.

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, **Thesis Title**: *Transfer Operator Approaches to Quantitative Ecology.*
2014 - 2017	**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 committee 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, Machine Learning

References

- Professor Eduardo G. Altmann

- Professor Holger R. Dullin

- Professor Georg Gottwald