

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

Education

Jul 2019 - Feb 2024	Doctor of Philosophy The University of Sydney, Sydney NSW Applied Mathematics, Thesis Title: <i>Transient Chaos in Dissipative Chaotic Scattering</i>
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]. <i>Published</i>
2024	Transient Chaos in the Copenhagen Problem with dissipation <i>In preparation</i>

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, L^AT_EX
- **Skills:** Mathematics, Mathematical Modelling, Data Science

References

- Professor Eduardo G. Altmann
- Professor Holger R. Dullin
- Professor Georg Gottwald