Personal Information

- Institutional address: London South Bank University, 116, 100 London Rd, Elephant and Castle, London SE1 6NJ.
- Contact information: Daniel.Adams@lsbu.ac.uk, +44 (0) 7555275941.
- Professional Website: https://daniel-t-s-adams.com/

- Nationality: British.
- Languages: English (Native proficiency), Portuguese (Basic proficiency).

Professional Interests

- Particle Systems, Stochastic Differential Equations, Large Deviations.
- Optimal Transport, Entropic Wasserstein Gradient Flows, Operator Splitting.
- MCMC sampling of non-Equilibrium Dynamics.
- Machine Learning and Algorithmic Trading.

Employment

- *Maths and Stats Developer*, London South Bank University, July 2024 - present.
- *Postdoctoral Researcher*, Université Dauphine, January 2024 - April 2024.
- *Research Fellow*, Heriot-Watt University, November 2022- October 2023.
- *Tutor*, University of Sussex, January 2016-June 2016.
- *Teaching Assistant*, University of Sussex/Hove Park School, September 2015-February 2016.

Education

- *PhD in Mathematics*, University of Edinburgh, 2022, *Regularised variational schemes for non-gradient systems, and large deviations for a class of reflected McKean-Vlasov SDE,* Advisor: G.d.Reis.
- *MSc in Mathematics (First-Class)*, University of Bristol, 2018, Project: *Interacting Particles, Second Class Particles and Distributions,* Advisor: M.Balázs.
- *BSc in Mathematics (First-Class)*, University of Sussex, 2017.
- *Ongoing Professional Development through Coursera.*

Mathematical Dissemination

- Participant, Summer school "Sampling high-dimensional probability measures", CERMICS 2023.
- Organiser and Speaker, minisymposium on Non-reversible Processes: Theory and Applications , 14th International Conference on Monte Carlo Methods and Applications, Paris, Sorbonne University 2023.
- Organiser, Reading Group on Optimal Transport, Edinburgh, 2022.
- Speaker, Interacting Particle Systems and Applications, Trento Italy, 2022.
- Poster Presentation, Connections between Interacting Particle Dynamics and Data Science, Isle of Skye Scotland, 2022.
- Speaker, mini-symposium on Non-reversible Processes: Analysis and Computations, BAMC Loughborough, 2022.
- Organiser, minisymposium on Wasserstein Gradient Flows and their Applications, 13th International Conference on Monte Carlo Methods and Applications, 2021.
- Speaker, Probability Working Seminar, Edinburgh, 2021.

Awards & Grants

- Maxwell Institute Fellowship (1 year)- Heriot-Watt University.
- Full PhD Scholarship (4 years)- EPSRC.
- BSc Performance Award: Membership to the institute of mathematics and its applications (1 year)- University of Sussex.

Research Articles

- D. Adams, M. H. Duong, and G. d. Reis, Operator-splitting schemes for degenerate conservative-dissipative systems, Discrete and Continuous Dynamical Systems-Series A (2022).
- M. H. Duong, D. Adams, and G. dos Reis, Entropic regularisation of non-gradient systems, SIAM Journal on Mathematical Analysis (2022).
- D. Adams, G. Dos Reis, R. Ravaille, W. Salkeld, and J. Tugaut, Large deviations and exit-times for reflected McKean–Vlasov equations with self-stabilising terms and superlinear drifts, Stochastic Processes and their Applications 146 (2022).
- D. Adams, J.Jay, M.Balázs, Second Class Particle Behaviour in ASEP Under Blocking, ArXiv:2305.16769.

Supervision

- Yuebo Yang, MSc in Financial Mathematics Edinburgh University 2024, *Sequential Predictive Models for Limit-Order-Book Trading using Deep Learning*.
- Ananya Jaishankar, MSc Financial Mathematics Edinburgh University 2024, *Limit-Order Book Trading using Reinforcement Learning*.

Skills

- Julia.
- Python.
- Maple.
- MATLAB.
- LaTex.
- Microsoft Office.

Hobbies

- Rock Climbing.
- Cycling.
- Board-games.