

Aitor Azemar

Didcot
Oxfordshire
United Kingdom

aitorazemarc@gmail.com
Aitor.Azemar.xyz
+447307978005

Mathematical researcher, specialized on studying the evolution of stochastic systems over time.

Employment

Current Jul 2024	Energy Modelling Analyst Modelling long term financial behaviour of projects involving battery storage.	Aurora Energy Research
	<ul style="list-style-type: none">• Ensured the model is accurate enough to reflect the reality of the German electricity market, while being able to simulate several years in a short time.• Adapted client requirements into model features, making sure these are compatible with other existing features.• Designed and developed automated tests to ensure final product is aligned with client expectation.	
Jul 2024 Sep 2019	Maclaurin Scholarship Lecturer position held part time during the Ph.D.	University of Glasgow
	<ul style="list-style-type: none">• Lectured theory classes to cohorts of up to 200 students.• Acted as course head for two courses.• Tutored problem solving sessions for smaller groups of around 20 students.• Prepared lecturing material, including slides, exams, problem sheets, and automated online grading systems.	
Aug 2019 Dec 2018	Gaming Mathematician Mathematician in the design team of the videobingo division.	IGT
	<ul style="list-style-type: none">• Adjusted the odds of new videobingo machines to ensure desired payout.• Scanned for and fixed exploitable behaviour.• Redesigned internal mathematics to comply with more restrictive regulation, allowing expansion to the USA.• Modelled player behaviour to simulate machine use.• Analysed data obtained from users, as well as simulations.	
Dec 2018 Aug 2018	Junior Software Engineer Entry level programming position, coded data treatment applications for a bank.	Better Consultants
Apr 2018 Oct 2017	Teaching Assistant	Universität Bonn

Education

2024	Ph.D. in Mathematics Supervised by Maxime Fortier Bourque and Vaibhav Gadre	University of Glasgow
2018	M.Sc. in Mathematics Supervised by Ursula Hamenstädt	Universität Bonn
2016	B.Sc. in Mathematics	Universitat Autònoma de Barcelona

Selected publications

- *Stationary measures on the circle from hyperbolic surfaces with cusps cannot be straightened by quasi-symmetries* (with Vaibhav Gadre), **preprint**.

Combining techniques of functional analysis and Teichmüller geometry we solve a question posed by Field medallist McMullen, making a significant advance towards fully solving the singularity conjecture.

- *Mathematical modelling of a silicon carbide (SiC) pilot furnace* (with Charles Egan, James Andrews, Atrayee Bhattacharya, Andrew Lacey, Brady Metherall, and Nicholas Ryan), **MIIR**.

A continuous, 1-dimensional modelling of a novel method of fabricating silicon carbide, which could potentially reduce carbon dioxide emitted during its production by a factor of 3.

- *Random walk speed is a proper function on Teichmüller space* (with Vaibhav Gadre, Sébastien Gouëzel, Thomas Haettel, Pablo Lessa and Caglar Uyanik), **Journal of Modern Dynamics**, to appear.

We prove the singularity conjecture outside of a compact subset of Teichmüller space by combining the novel pivoting technique developed by Gouëzel and the limiting trees theory of Haettel.

A full list of academic achievements, containing 2 industry collaborations, 8 academic publications and 7 presentations, can be found at Aitor.Azemar.xyz

Awards

William Jack prize for the best PhD of the year in the Mathematical Sciences	University of Glasgow (UofG)
Jon Nimmo Prize for teaching excellence	University of Glasgow (UofG)
Emmy Noether prize for the best Bachelor Thesis of the year in Mathematics	Catalan society of Mathematics (SCM)
Bronze Medal	International Physics Olympiad (IPhO)
Golden Medal	Spanish Physics Olympiad (RSEF)
Bronze Medal	Spanish Mathematics Olympiad (RSEM)

Other information

- Notice period of 3 months
- Right to work in the UK