

# Aitor Azemar

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Languages English  
Spanish  
Catalan

Mathematical researcher, mostly focused on Network theory, Dynamics and Probability.

## Education

2019 – Current	Ph.D. in Mathematics Supervised by Maxime Fortier Bourque and Vaibhav Gadre <i>Not yet awarded</i>	University of Glasgow
2018	M.Sc. in Mathematics Supervised by Ursula Hamenstädt <i>Highest honor</i>	Universität Bonn
2016	B.Sc. in Mathematics <i>Highest honor</i>	Universitat Autònoma de Barcelona

## Employment

2019 – Current	Maclaurin scholarship  Lecturer position held part time during the Ph.D. <ul style="list-style-type: none"><li>• Lectured theory classes to cohorts of up to 200 students.</li><li>• Acted as course head for two courses.</li><li>• Tutored problem solving sessions for smaller groups of around 20 students.</li><li>• Prepared lecturing material, including slides, exams, problem sheets, and automated online grading systems.</li></ul>	University of Glasgow
2019	Gaming Mathematician  Mathematician in the design team of the videobingo division. <ul style="list-style-type: none"><li>• Adjusted the odds of new videobingo machines to ensure desired payout.</li><li>• Scanned for and fixed exploitable behaviour.</li><li>• Redesigned internal mathematics to comply with more restrictive regulation, allowing expansion to the USA.</li><li>• Modelled player behaviour to simulate machine use.</li><li>• Analysed data obtained from users, as well as simulations.</li></ul>	IGT
2018	Junior Software Engineer  Entry level programming position, coded data treatment applications for a bank.	Better Consultants
2017	Teaching assistant	Universität Bonn

## Selected publications

- *Mathematical modelling of a silicon carbide (SiC) pilot furnace* (with Charles Egan, James Andrews, Atrayee Bhattacharya, Andrew Lacey, Brady Metherall, and Nicholas Ryan), **MIIR**, to appear.
- *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.
- *A qualitative description of the horoboundary of the Teichmüller metric*, **Algebraic & Geometric Topology**, to appear.

A full list of academic achievements, containing 7 publications and 6 presentations, can be found at [Aitor.Azemar.xyz](http://Aitor.Azemar.xyz)

## Programming

Python	Numerical experiments, data analysis, simulations	Ph.D., Hobby projects
Maxima	Automated grading system	Maclaurin scholarship
C++	Micro-controller programming, game development	Hobby projects
Java	Backend, simulations	Gaming mathematician
R	Data analysis	Ph.D., Gaming mathematician
COBOL	Backend, data treatment	Junior Software Engineer
C	Undergrad courses	B.Sc.

## Additional skills

Linux Systems	Ph.D., Hobby projects
Version control	Ph.D., Gaming mathematician, Hobby projects
API use	Ph.D., Hobby projects
Micro soldering and electronics	Hobby projects, Volunteering

## Awards

Maclaurin Scholarship	University of Glasgow (UofG)
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)