

# Daniel de la Riva Massaad

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## Academic Formation :

- **Bachelor of Mathematics**, Pontifícia Universidade Católica do Rio de Janeiro  
Grant: **Bolsa Arquimedes**.
  - **Master of Mathematics (Probability)**, Pontifícia Universidade Católica do Rio de Janeiro.  
Grants: Bolsa **CAPES** | **Bolsa Aluno Nota 10 (High Performance Grant) FAPERJ**.
  - **Ph.D. in Mathematical Statistics**, Stockholm University (01/09/2020-01/04/2022, transferred to UBC)  
Grant: Swedish Research Council grant.
  - **Ph.D. in Mathematics (Probability)**, University of British Columbia (Expected to graduate in 2026)  
Grants: **Faculty of Science PhD Tuition Award** | **President's Academic Excellence Initiative PhD Award** | **International Tuition Award**.
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## Skills:

- **Programming**: LaTeX, Excel, MatLab, C++, **Python, Pandas, NumPy, GitHub**.
  - **Research Expertise**: **Probability, Noise Sensitivity**, Percolation Theory, **Opinion Dynamics**, Interacting Particle Systems, Graph Theory.
  - **Other**: Problem-solving, Multitasking, **Communication**, Project Management, **Leadership**, Volunteering.
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## Language Skills:

- **Portuguese**: Native | **English** : Fluent | **Spanish**: Advanced | **French**: Intermediate | **Mandarin**: Intermediate | **Korean**: Beginner
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## Completed Courses (Graduate Level):

- **Probability** | Logic | Proof Theory | **Networks and Epidemics** | **Brownian Motion** | **Data Science** | **Stochastic Differential Equations** | **Stochastic Processes** | Interactive Particle Systems | Schramm-Loewner Evolution | Mathematical Statistics.
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## Courses taught (as Teaching Assistant):

- **Stochastic Processes** at UBC | **Probability 3 (Masters Level)**, and **Probability 1** at Stockholm University.
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## Experience:

- **Mathematics**: As a Ph.D., I have been **involved in multiple research projects**, significantly improving my **teaching and communication skills** by presenting articles and results at renowned conferences. In addition, **learning in depth the mathematical foundations** involved in **Probability, Statistics, and Quantitative Finance** puts me ahead of many others who have the practical knowledge but lack a **deep theoretical understanding**.
  - **Finance**: I have always been interested in **finance**, which is one of the main reasons I chose to study **mathematics**. From actively managing my portfolio at **InteractiveBrokers** to reading the online materials they provide for those interested in becoming a **quant**, finance is a fundamental pillar of modern society and a fascinating topic I constantly seek to learn more about.
  - **Leadership**: Organized seminars and readings and actively participated in research groups throughout my university years at PUC-Rio, SU, and UBC. I am extremely **proactive**, always seeking to **learn**, and constantly **managing** and **organizing** groups and workshops in multiple areas.
  - **Communication**: Attending numerous mathematics conferences, **presenting** seminars, **teaching**, and participating in workshops in **English** poetry and translation have improved my **communication** skills.
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## Academic Production :

- **Published Articles**: D. Ahlberg, D. de la Riva, and S. Griffiths, "On the rate of convergence in Quenched Voronoi Percolation," **Electronic Journal of Probability**.
  - **Preprint**: D, Ahlberg, D. de la Riva, "Is 'being above the median' a noise sensitive property?," arXiv.
  - **Work in progress**: "Exclusion Sensitivity and Stability for the Voter Model," "Existence and Sharpness of Phase Transition of Frog Models on Transitive Graphs."
  - **Master's Thesis**: "An invitation to Noise Sensitivity and Applications to Quenched Voronoi Percolation." Link: <https://www.maxwell.vrac.puc-rio.br/49615/49615.PDF>
  - **Undergraduate Research Project**: "Boolean Functions and Noise Sensitivity."
  - **Poster**: "Wavelet Theory and its connection with Art History."
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**Talks :**

- **Institut Fourier Grenoble:** “Exclusion Sensitivity and Stability for the Voter Model.” 2024, Probability Seminar.
  - **CIRM Marseille:** “Noise Sensitivity beyond the Boolean setting.” 2023, Percolation and Interactions.
  - **UBC:** “Is being above the median a Noise Sensitive property?” 2022, PIMS Summer School.
  - **ETH Zurich:** “On the rate of convergence in Quenched Voronoi Percolation,” 2021, Percolation Today.  
Link: <https://percolation.ethz.ch/zoom-talks/d-ahlberg-and-d-de-la-riva-on-the-rate-of-convergence-in-quenched-voronoi-percolation/>
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**Prizes in Mathematics Competitions:**

- **Certificate of Appreciation: Undergraduate Poster Competition** | KAUST | Jeddah 2018.
  - **Honorable Mention: CIIM | South American Mathematical Olympiad** | Quito 2017.
  - **Honorable Mention: CIIM | South American Mathematical Olympiad** | Manaus 2016.
  - **Honorable Mention: Mathematics PUC-Rio Challenge** | 2015.
  - **Honorable Mention: Rio de Janeiro Mathematical Olympiad** | 2014.
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**Other Awards :**

- **Chinese Bridge Competition: Speaking Contest**, First Place, VIFF , April 2024
- **Multilingual Poetry Slam Contest** (Translation), Second Place, UBC, November 2022.
- **IELTS:** 8,5 out of 9,0, August 2024.
- **CELP:** 11 out of 12, June 2024.
- **TOEFL iBT:** 111 out of 120, January 2022.
- **Certificate of Appreciation: “Accessibility: Inclusion of people with physical and visual disabilities,”** PUC-RJ, June 2019.