

# Daniel R. Blanquicett Tordecilla

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## EDUCATION

<b>Ph.D. in Mathematics</b> Instituto Nacional de Matemática Pura e Aplicada (IMPA)	2015-2019
<b>MA in Mathematics</b> Instituto Nacional de Matemática Pura e Aplicada	2013-2015
<b>BA in Mathematics</b> Universidad de Córdoba (Colombia)	2007-2011

## TEACHING EXPERIENCE

<b>Assistant Professor at UC Davis</b> Probability MAT135A, Combinatorics MAT145, Intro to Abstract Math. MAT108, Integral Calculus MAT21B	2019-2020
<b>Assistant Professor at IMPA</b> Linear algebra and optimization	2019-2019
<b>Teaching assistant at IMPA</b> Mathematical methods in finance, PDEs in finance, Linear PDE theory, Probability, Markov Chains, Real analysis, Analysis in $\mathbb{R}^n$	2015-2019
<b>Assistant Professor at the Universidad de Córdoba</b> Differential, Integral and Vector Calculus, ODEs	2012-2012
<b>Teaching assistant at the Universidad de Córdoba</b> Analytic Geometry, Calculus, Linear Algebra, ODEs, PDEs	2009-2011

## RESEARCH INTERESTS

Probability, Combinatorics, Graph Theory and Statistical Physics. Currently (2020) focused on bootstrap percolation and its applications, for example, to the Glauber dynamics of the Ising model. Interested in machine learning and topics related to phase transitions in random simplicial complexes.

## PUBLICATIONS

- Anisotropic bootstrap percolation in three dimensions. *Annals of Probability*. Volume 48, Number 5 (2020), 2591-2614. arXiv:1908.11556
- Fixation for two-dimensional  $\mathcal{U}$ -Ising and  $\mathcal{U}$ -voter dynamics. *Submitted*. arXiv:2003.02420

## CONFERENCE PRESENTATIONS

- UC Davis Virtual Seminar. Anisotropic bootstrap percolation  
[https://www.math.ucdavis.edu/research/seminars/?talk\\_id=5888](https://www.math.ucdavis.edu/research/seminars/?talk_id=5888) Apr 2020
- 10th Annual Davis Math Conference. Bootstrap percolation  
<https://galois.math.ucdavis.edu/doku.php?id=dmc> Jan 2020
- Universidad de Antioquia Workshop. Percolación de bootstrap  
<https://www.matematicasudea.co/cpr> Jun 2019
- UFRJ Seminar. Anisotropic bootstrap percolation  
<http://www.im.ufrj.br/index.php/pt/noticias-e-eventos/ciclos-de-palestras-e-seminarios-do-im/seminarios-de-probabilidade> Apr 2019
- IMPA Seminar. Markov Chains and Ergodicity  
<http://seminariosimpa.br/visualizar?id=6789> Jun 2016
- IMPA Course. Percolação na Rede Triangular  
<http://videoimpa.br/index.php?page=processos-estocasticos-2015> May 2015

## GRANTS

- Arthur J. Krener Asst. Prof. Postdoc Fellowship 2019-2022
- CAPES Ph.D. Fellowship 2015-2019
- CNPq M. Sc. Fellowship 2013-2015

## Referee for Journals

- Combinatorics, Probability and Computing.
- SIAM Journal on Discrete Mathematics (SIDMA).
- Stochastic Processes and their Applications.

## PARTICIPATION AT CONFERENCES AND SEMINARS

- 10th Annual Davis Math Conference. UC Davis MSB, Davis CA. 2020.
- 1st Workshop de Combinatoria, Probabilidad y Representaciones. UdeA, Medellín. 2019.
- ICM 2018. Rio de Janeiro. 2018.
- ICM 2018 Satellite mtg., Combinatorics: Extremal, Probabilistic and Additive. USP, São Paulo. 2018.
- Introductory Workshop: Geometric and Topological Combinatorics. MSRI, Berkeley. 2017.
- Summer School on Random Graphs and Probabilistic Methods. The Fields Institute, Toronto. 2017.
- IMPA-Bath Workshop in Mathematics. IMPA, Rio de Janeiro. 2017.
- Workshop on First-Passage Percolation. Cabo Frio. 2014.

## LANGUAGES

- Spanish: Native language.
- English: Fluent.
- Portuguese: Fluent.
- French: Intermediate.

## COMPUTER SKILLS

- Proficient in Windows and Linux environment.
- Familiar with LaTeX, Matlab and R programming.

## REFERENCES

- **Dr. Janko Gravner.** Mathematics Department, UC Davis, USA; [gravner@math.ucdavis.edu](mailto:gravner@math.ucdavis.edu)
- **Dr. Robert Morris.** (Ph.D. advisor) IMPA, Brazil; [rob@impa.br](mailto:rob@impa.br)
- **Dr. Jorge Passamani Zubelli.** IMPA, Brazil; [zubelli@impa.br](mailto:zubelli@impa.br)
- **Dr. Roberto Imbuzeiro Oliveira.** IMPA, Brazil; [rimfo@impa.br](mailto:rimfo@impa.br)
- **Dr. Augusto Teixeira.** IMPA, Brazil; [augusto@impa.br](mailto:augusto@impa.br)
- **Dr. Hubert Lacoïn.** IMPA, Brazil; [lacoïn@impa.br](mailto:lacoïn@impa.br)