

Luis Maximiliano Fredes Carrasco

Curriculum Vitae

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Higher Education

- September 2016-Currently Ph.D in pure mathematics, University of Bordeaux.
Advisor: Jean François Marckert.
- September 2015-June 2016 (MSc) Master class in planar statistical physics, one year plan, University of Geneva.
- March 2014 -April 2015 Mathematical engineering thesis and master thesis in Operations research, University of Chile.
Advisor: Prof. Daniel Remenik (with highest honor).
- 2014 -2015 Operation research master, two years plan, University of Chile (with highest honor).
- 2008 -2013 Bachelor of Engineering sciences, mention in Mathematics, University of Chile (with highest honor).
- Summer 2013 Two summer courses, probability and Markov chains, IMPA, Rio de Janeiro, Brazil.
- 2002 - 2007 Complete high school, Instituto Nacional José Miguel Carrera (with great honor).

Professional Experience

- 2008-2011 Academic Staff, Mathematical Olympiads Tournament "CMAT" organized by University of Santiago
Professor in charge: Rafael Labarca.
- 1st. Internship , 2012 Advanced Research Center in Education (CIAE), University of Chile.
Topic: Adaptation of a facial recognition software.
- 2nd. Internship, 2012 Advanced Research Center in Education (CIAE), University of Chile..
Topic: Study of children's behavior in the classroom with data from facial recognition software.
- 3nd. Internship, 2014 Mine planning laboratory, University Adolfo Ibañez.
Topic: Programming a model of stochastic optimization to plan the ore extraction.

Papers:

- 2017 Invariant measures of discrete interacting particle systems: Algebraic aspects. *Arxiv: 11711.07713*
- 2018 Survival and coexistence for spatial population models with forest fire epidemics, *Arxiv: 1811.12468*.
- 2019 Tree-decorated planar maps, *Arxiv: 1901.04981*.

Talks:

- 2017 Universidad de Chile, Nucleo milenio Stochastic models of complex and disorder systems.
- 2018 LaBRI, Université de Bordeaux, seminar in combinatorics.
- 2018 St. Flour, 48th summer school in probability.
- 2019 Université Paris-Sud Orsay, Probability group seminar.
- 2019 JCB 2019, Université de Bordeaux, LaBRI.

- 2019 École polytechnique, Plateau Saclay Combinatorics Seminar.
- 2019 ALEA marseille, CIRM.
- 2019 Journée Cartes, Université Paris 13.
- 2019 Random Trees and Graphs Summer School, CIRM.

Poster sessions:

- 2015 CLAPEM, Cartagena de Indias, Colombia.
- 2018 EDMI day, Université de Bordeaux.
- 2019 EDMI day, Université de Bordeaux.

Conferences, workshops and schools

- 2014, December Information and randomness, Puerto Varas, Chile.
- 2014, September XIII Clapem, Cartagena de Indias, Colombia.
- 2015, July ICMP 2015, Santiago, Chile.
- 2016, February Workshop on statistical mechanics, Les Diablerets, Switzerland.
- 2017, January LaBRI: Journées de combinatoire de Bordeaux, Bordeaux, France.
- 2017, March CIRM: Journées Aléa, Luminy, France.
- 2017, June Statistical Mechanics, random planar geometry and interacting random walks, Lyon, France.
- 2017, June BGSMath Random Discrete Structures and Beyond, Barcelona, Spain.
- 2017, October ALEA in Europe Workshop, Vienna, Austria.
- 2018, February LaBRI: Journées de combinatoire de Bordeaux, Bordeaux, France.
- 2018, March CIRM: Journées Aléa, Luminy, France.
- 2018, May Eurandom: Franco-Dutch YEP Workshop, Eindhoven, The Netherlands.
- 2018, July 48th Probability Summer School Saint-Flour, Saint-Flour, France.
- 2018, December Random physical systems, Patagonia 2018, Puerto Natales, Chile.
- 2019, February LaBRI: Journées de combinatoire de Bordeaux, Bordeaux, France.
- 2019, March CIRM: Journées Aléa, Luminy, France.
- 2019, April CIRM: Journée cartes, Paris, France.
- 2019, May Random maps and matrices from a geometric perspective, Lyon, France.
- 2019, June Walking through the Brownian zoo, Paris, France.
- 2019, July Random Trees and Graphs Summer School, Luminy, France.

Research visits

- 2016, November NYU Shanghai, China.
- 2016, December DIM, Santiago, Chile.
- 2017, December DIM, Santiago, Chile.
- 2018, October Université Lyon 1, Lyon, France
- 2018, November DIM, Santiago, Chile.
- 2019, March École polytechnique, France.

Collaborations

- Amitai Linker.
- Jean François Marckert.
- Daniel Remenik.
- Avelio Sepúlveda.

Teaching experience

- 2017 Instructor, Introduction to informatics, University of Bordeaux.
2018 Instructor, Coloration Informatics, University of Bordeaux.
2010-2014,2018,2019 As teaching assistant in semester courses:
 - Advanced Calculus.
 - Probability.
 - Markov Processes.
 - Probability and statistics.
 - Stochastic models applied to engineering.
 - Models and algorithms for optimization.
 - Computational Statistic.
 - Stochastic simulation: theory and laboratory.

Languages skills

- French Advanced.
English Advanced.
Spanish Native.

Computational Skills

- Programing languages Java, C/C++ , Python.
Mathematical software MATLAB, Mathematica, Maple.