

NICOLÁS ZALDUENDO

PhD Student at IECL Université de Lorraine - Inria Grand Est, Nancy.

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HIGHER EDUCATION

PhD student in Applied Mathematics,

Oct 2020 - Today

Université de Lorraine, Nancy, France.

INRIA Contract. BIGS Team.

Subject: The multi-type bisexual Galton-Watson branching process.

Supervisors: Coralie Fritsch and Denis Villemonais.

Master M2 “Mathématiques de l’Aléatoire”,

Sept 2019 - Sept 2020

Université Paris-Saclay, Orsay, France.

Internship supervisors: Coralie Fritsch, Emma Horton and Denis Villemonais.

My manuscript is [here](#).

Master of Engineering Sciences in Applied Mathematics,

March 2018 - January 2019

Universidad de Chile, Santiago, Chile.

Supervisor: Daniel Remenik.

Graduated with highest honors. My manuscript in spanish is [here](#)

Mathematical Engineering,

March 2012 - Dec 2017

Universidad de Chile, Santiago, Chile.

Graduated with highest honors.

Bachelor of Engineering Sciences, Mention Mathematics,

March 2012 - Dec 2015

Universidad de Chile, Santiago, Chile.

PROFESSIONAL EXPERIENCE

Master M2 Internship. IECL, Université de Lorraine.

April - Sept 2020

Description: Study of the existent bibliography on the bisexual Galton-Watson branching process.

Supervisors: Coralie Fritsch, Emma Horton and Denis Villemonais.

Assisant. Academic Management Direction. Universidad de O’higgins.

March - July 2019

Description: In charge of assisting the academic management director in the coordination of all the courses in the university, through the web platform *UCampus.cl*.

Center for Advance Research on Education. Universidad de Chile.

Oct - Nov 2018

Description: In charge of develop mathematical problems for an intervention to high school teachers in the context of the ARPA program.

3rd Professional Internship. Biomedical Sciences Institute.

Sept - Oct 2017

Description: Assist in the organization and visual representation of data used in a medical research on senil dementia.

2nd Professional Internship. Universidad de Chile.

July 2017

Description: Help in the development of an interview for school teachers and school directors, in the context of a research in the Center for Advance Research on Education.

1st Professional Internship. Biomedical Sciences Institute.

January 2016

Description: Implementation of decision trees to determinate the best estimator for linear regression for data arising from heavy tailed distributions.

Assistant to the Executive Teaching Director. Universidad de Chile.

July 2015 - April 2017

Description: In charge of coordinate the supervision, correction and reclamation of the tests and exams on all the mathematical courses of the first two years in the Faculty of Physical and Mathematical Sciences.

PUBLICATIONS

Preprints:

The Multi-type Bisexual Galton-Watson Branching Process.

with Coralie Fritsch and Denis Villemonais (currently in revision for Annales de l'Institut Henri Poincaré). [Arxiv](#) [Hal](#).

Restricted Maximum of Non-Intersecting Brownian Bridges.

with Yamit Yalanda. [Arxiv](#).

SUPERVISIONS

Project 3A (M2) École des Mines de Nancy. Hassan Berrada.

Sept 2022 - Feb 2023

Subject: Study and simulation of a continuous time bisexual birth and death process. Co-supervised with Coralie Fritsch.

TEACHING EXPERIENCE

École des Mines de Nancy: as *Chargé de TD (20 hrs each)* in the courses:

-Probabilités I.

Sept - Dec 2022

-Analyse Numérique.

Sept - Dec 2022

-Probabilités I.

Sept - Dec 2021

-Analyse Numérique.

Sept - Dec 2021

-Probabilités II.

Sept - Dec 2020

Universidad de Chile: (this course was taught online)

Lecturer (45 hrs), Introduction to Algebra.

March - June 2021

Universidad de O'higgins

Lecturer (45h), Mathematics for Public Administration.

March - June 2019

Universidad Técnica Federico Santa María

Lecturer (45 hrs), Statistics.

March - June 2019

Universidad de Chile: Summer School for High School students.

Lecturer (40 hrs), Basics of Linear Algebra.

January 2019

Universidad Andrés Bello

Lecturer (45 hrs), Probabilities and Statistics.

June - Dec 2018

Universidad Santo Tomás

Assistant Professor (20 hrs), Linear Algebra.

March 2017 - June 2017

Universidad de Chile: as *Assist. Professor (30 hrs each)* in the courses:

March 2014 - June 2019

-Stochastic Calculus (*2 times*).

-Abstract Algebra (*1 time*).

-Markov Processes (*2 times*).

-Probabilities (*2 times*).

-Probabilities and Statistics (*3 times*).

-Linear Algebra (*9 times*).

-Advanced Calculus and Applications (*1 time*).

-Introduction to Algebra (*2 times*).

-Multivariable Calculus (*1 time*).

-Differential and Integrable Calculus (*2 times*).

-Introduction to Calculus (*1 time*).

TALKS

Mathematical Models in Ecology and Evolution. Reading University, England.	<i>July 2022</i>
Journées de Probabilités. Orbey, France.	<i>June 2022</i>
Etheridge Group Seminar. Oxford University, England.	<i>July 2021</i>
École de Recherche de la Chaire MMB. Aussois, France.	<i>June 2021</i>

DISTINCTIONS

Master Scholarship. <i>Sophie Germain Excellence Student Scholarship.</i> Fondation Mahtématique Jacques Hadamard, Paris, France.	<i>Sept 2019 - Aug 2020</i>
Graduated with the highest honors. Master of Engineering Sciences in Applied Mathematics.	<i>January 2019</i>
Graduated with the highest honors. Mathematical Engineering.	<i>January 2019</i>
Outstanding Student Award. Faculty of Physical and Mathematical Sciences. Santiago, Chile.	<i>December 2017</i>
Outstanding Student Award. Faculty of Physical and Mathematical Sciences. Santiago, Chile.	<i>December 2012</i>

EXTRACURRICULAR ACTIVITIES

Elected member to the faculty council.	<i>Dec 2017 - Dec 2018</i>
Member of the faculty students center directive board. <i>Charge:</i> Teaching representative.	<i>March - Dec 2017</i>
Member of the mathematical engineering students center. <i>Charge:</i> Teaching representative.	<i>March 2016 - March 2017</i>

LANGUAGE SKILLS

English.	<i>Advanced</i>
French.	<i>Advanced</i>
Spanish.	<i>Native</i>