NICOLÁS ZALDUENDO

PhD Student at IECL Université de Lorraine - Inria Grand Est, Nancy.
nzalduendo.github.io ◇ zalduend1@univ-lorraine.fr

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, throgh 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 researh 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.

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), Stastistics. *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 times).*
-Differential and Integrable Calculus *(2 times).*
-Introduction to Calculus *(1 time).*

PUBLICATIONS

Preprints:

The Multi-type Bisexual Galton-Watson Branching Process.
with Coralie Fritsch and Denis Villemonais (currently in revision on Annales de l'Institut Henri Poincaré). Arxiv Hal.

Restricted Maximum of Non-Intersecting Brownian Bridges.
with Yamit Yalanda. Arxiv.

TALKS

Mathematical Models in Ecology and Evolution. *July 2022*
Reading University, England.

Journées de Probabilitiés. *June 2022*
Orbey, France.

Etheridge Group Seminar. *July 2021*
Oxford University, England.

École de Recherche de la Chaire MMB. *June 2021*
Aussois, France.

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.

DISTINCTIONS

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

EXTRACURRICULAR ACTIVITIES

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

LANGUAGE SKILLS

English. *Advanced*
French. *Advanced*
Spanish. *Native*