

Kerlyns MARTÍNEZ



POSTDOCTORANT AT INRIA, SOPHIA-ANTIPOLIS

Ph.D. in Mathematics

PERSONAL INFORMATION

PLACE AND DATE OF BIRTH: Los Teques, Venezuela | January 28th, 1993.

EMAIL: kerlyns.martinez-rodriguez@inria.fr, kerlynsmartinez@gmail.com

RESEARCH INTEREST

Mathematical Modelling, Probability and Statistics, Stochastic Processes and Stochastic Differential Equations, Numerical Probability, Stochastic Optimal Control Problems, Lagrangian Turbulent Flow Models and Calibration of Model Parameters, Kinetic Models.

EDUCATION

July 2019	Doctorate in Mathematics
MARCH 2015	<i>Universidad de Valparaíso, Chile</i> Thesis Title: Penalized stochastic optimal control problems for singular McKean-Vlasov Dynamics and turbulent kinetic energy: modeling, calibration and simulation.
2009-2014	Bachelor degree in Mathematics <i>Universidad Central de Venezuela</i> Thesis Title: Kac-Rice Formulas in Differential Manifolds.

AWARDS AND SCHOLARSHIPS

November 2018 - February 2019	CONICYT Grant: Complementary benefits for internship at National Research University HSE, Moscow
2016	CONICYT Scholarship Doctorate
2015	PhD Scholarship in Mathematics, Universidad de Valparaíso
2014	Special Grade Award. 1st place in the promotion. Faculty of Sciences, Universidad Central de Venezuela

PUBLICATIONS AND COMMUNICATIONS

JUNE 2020	Article in preparation , Bossy Mireille, Jabir Jean-François, Martínez Kerlyns Stochastic models for turbulent kinetic energy: modeling, calibration and simulation.
JUNE 2020	Article in preparation , Jabir Jean-François, Martínez Kerlyns Weakly constrained problems for controlled McKean-Vlasov dynamics.
MAY 2020	Accepted in Bernoulli , Bossy Mireille, Jabir Jean-François, Martínez Kerlyns On the weak convergence rate of an exponential Euler scheme for SDEs governed by coefficients with superlinear growth. arXiv:1904.09441

- FEBRUARY 2020 | **Submitted at Applied Mathematical Modelling**, Bossy Mireille, Henry Christophe, Maftai Radu, Martínez Kerlyns, Shekarforush Seyedafshin
CFD simulations of particle-laden flows: a new spatial decomposition method for accurate, mesh-independent agglomeration predictions.[hal-02497721](#)
- January 2020 | **Accepted Poster**, Congrès Français sur les Aérosols, *ASFERA*
Poster title: Particle agglomeration in a flow: A Partitioning Algorithm for Well-Mixed Condition (PAWMC) in CFD simulations
- June 2018 | **Accepted Abstract Conference ([link](#))**, *University of Cergy-Pontoise*
Calibration on Lagrangian Turbulent Flow Models.
- December 2016 | **Accepted Poster**, VII Jornada de investigación DIUV
Poster title: Optimal Control Problems for Weakly Constrained Diffusion Process.

ORAL PRESENTATIONS

- August 2020 | Bernoulli-IMS One World Symposium 2020
Title: On the weak convergence rate of an exponential Euler scheme for SDEs governed by coefficients with superlinear growth.
- December 2018 | LSA winter meeting, *National Research University High School of Economics*
Title: Turbulent Kinetic Energy modeling, calibration and numerical approximation by means of Lagrangian Turbulent Flow models.
- July 2018 | CIMFAV Seminar, *Universidad de Valparaíso*
Título: Turbulent Kinetic Energy modeling and Calibration on Lagrangian turbulent Flow Models.
- June 2018 | Conference on non-stationarity, *University of Cergy-Pontoise*
Title: Calibration on Lagrangian Turbulent Flow Models.
- November 2017 | REDES Workshop , *Universidad de Valparaíso*
Title: Calibration on Lagrangian Turbulent Flow Models.
- February 2017 | Doctoral seminar of TOSCA team, *INRIA*
Title: Stochastic Optimal Control Problems with distribution constraint.
- August 2016 | Econometrics and Financial Statistics Workshop, *PUCV*
Title: An Overview of Stochastic Optimal Control Problems in Finance.
- June 2014 | Jornadas de Investigación y Extensión
Universidad Central de Venezuela
Title: Fórmula de Kac-Rice en Variedades Diferenciales.

CONGRESS AND PROJECTS

- June. 2020 - August 2020 | Mission INRIA Covid-19
Sophia Antipolis, Francia.
Project title: Spreading Factors: Sensitivity of droplet dispersion to emission properties and ambient air.
- Oct. 2019 - August 2020 | Postdoctorant, INRIA Team CALISTO
Sophia Antipolis, Francia.
Project title: Approches stochastiques pour la simulation de l'agrégation de particules dans des flux complexes: analyses mathématiques et numériques.

2016-2018	<p>CONICYT, REDES Project 150038 Valparaíso, Chile. Project title: Stochastic methods for parametric and nonparametric Bayesian calibration models applied to fluid dynamics.</p>
June 2016	<p>SVAN 2016 <i>Instituto de Matemáticas Puras y Aplicadas, IMPA</i> Rio de Janeiro, Brasil. Minicourses on: Stochastic Optimal Control, Stochastic Variational Inequalities.</p>
March 2016	<p>Workshop: Analysis and Applications of Stochastic Systems. <i>Instituto de Matemáticas Puras y Aplicadas, IMPA</i> Rio de Janeiro, Brasil.</p>
January 2016	<p>2do Mini-summer school in Probability and Stochastic Processes. <i>Centro de Modelamiento Matemático, CMM</i> Santiago de Chile, Chile.</p>
2015-2016	<p>Research FONDECYT Initiation Project 11130705. Valparaíso, Chile. Project Title: McKean-Vlasov type stochastic models with singular interactions and applications.</p>
September 2014	<p>3rd Summer School in Mathematics of Valparaiso. <i>PUCV, UTFSM, UV.</i> Valparaíso, Chile. Minicourses: Fractional Sobolev Spaces, Non-parametric estimation, Elliptic Curves.</p>

INTERNSHIPS AND DOCTORAL VISITS

<p>November-January 2018 February-March 2019</p>	<p>Internship <i>Laboratory of Stochastic Analysis and its Applications</i> National Research University High School of Economics, Moscow.</p>
<p>January-February 2019</p>	<p>Research Visit <i>Institut National de Recherche en Informatique et en Automatique</i> Sophia Antipolis, Francia.</p>
<p>January-February 2017 August-October 2017 February 2018</p>	<p>Research Visit <i>INRIA / Laboratory of Fluids Dynamics, ENSAM</i> Paris / Sophia Antipolis, Francia. Collaboration work with Bossy Mireille (INRIA, Sophia Antipolis), Cinnella Paola (ENSAM, Paris) and Jean-François Jabir (HSE, Moscow) Project title: Calibration on Lagrangian turbulent flow models and quantification of uncertainty on wind energy</p>

WORK EXPERIENCE

Currently | Postdoctorant research
October 2019 | *INRIA, Sophia-Antipolis.*

2015 - 2019 | Professor, conventional dedication
Universidad Católica de Valparaíso, Instituto de Matemáticas
Basic curses on Algebra, Calculus, Differential Equations, Numerical methods.

2014 | Professor Instructor, conventional dedication ([link](#))
Universidad Central de Venezuela

LANGUAGES

SPANISH: Mothertongue

ENGLISH: Fluent

FRENCH: Beginner

COMPUTER SKILLS

Scientific languages: Maple, Mathematica, Matlab, R

Programming: SQL, C/C++, Python, \LaTeX