Ignacio Alcántara
Associate Professor

Curriculum Vitae
Mar 2025

📍 Biostatistics Unit, Public Health Department, Faculty of Veterinary, Universidad de la República
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Interests

➤ Data Sciences
➤ Bioestatistics and spatial analysis
➤ Pharmacoepidemiology
➤ Environmental sciences
➤ Statistics for Process Control

Education

Degrees

2021 (in progress)	**PhD in Animal Production**	Faculty of Veterinary Medicine, UdelaR

Montevideo, Uruguay
➤ Thesis title: Pharmacoeconomics and pharmacoepidemiology of acaricide consumption habits in Uruguayan agricultural systems
➤ Advisor: Dr. Gonzalo Suárez

2015 - 2019	**Master's in Geosciences**	Faculty of Sciences - PEDECIBA, UdelaR

Montevideo, Uruguay
➤ Thesis title: Risk levels of exposure to Cyanobacterial blooms in the Uruguay River; environmental forcings and prediction models
➤ Advisors: Dr. Carla Kruk, Dr. Claudia Piccini, Dr. Madeleine Renom

2009 - 2015	**Bachelor's in Biological Sciences (Ecology option)**	Faculty of Sciences, UdelaR

Montevideo, Uruguay
➤ Thesis title: Effects of environmental variability on the presence, community structure, and blooms of Microcystis aeruginosa Complex
➤ Advisors: Dr. Carla Kruk, Dr. Claudia Piccini

Latest relevant courses

2023	**Second School on Data Science and Machine Learning**	NCC-UNESP - ICTP - SAIFR, São Paulo, Brazil

Coordinators: Raphael Cobe, Sergio F. Novaes, Thiago Tomei (NCC-UNESP/AI2, Brazil)
➤ Keywords: Machine Learning | Neural Networks | Generative Models| Natural Language Processing

2023	**Monitoring outbreaks for disease surveillance in a data science context**	MOOD project European Union's

Horizon 2020 No. 874850
Coordinators: Tomislav Hengl (Open GeoHub, Netherlands), Elena Arsevska (CIRAD, France)
➤ Keywords: One Health | Geospatial | Epidemiology | Machine Learning

2023	**Big Data and digital tools applied to livestock production**	National agricultural research institute (INIA - Uruguay)

Coordinators: Dr. Guilherme Rosa (University of Wisconsin-Madison), Dr. Joao Dorea (University of Wisconsin-Madison), Dr. Daniel Gianola (INIA - Uruguay)
➤ Keywords: Machine Learning | Precision livestock | High dimensional data

2022	**Analytical Statistics: logistic regression and introduction to mixed models**	Graduate School Faculty of Dentistry,

UdelaR - Montevideo, Uruguay
Coordinators: Dr. Natalia Cernicchiaro (Kansas State University, USA)
➤ Keywords: Logistic Regression | Epidemiology | GLMM Models

2020	**Time Series Analysis Tools**	CURE, UdelaR - Rocha, Uruguay

Coordinators: Dr. Gonzalo Perera
➤ Keywords: ARMA, ARIMA, and SARIMA | Parameter Estimation | Spectral Analysis

2020   **The CODATA-RDA Research Data Science Summer School**   ICTP (Trieste, Italy) - Virtual Edition
Coordinators: Dr. Robert Quick (Indiana University, USA), Dr. Hugh Shanahan (Royal Holloway University, United Kingdom)

➤ Keywords: Data Science | Reproducibility | Data Governance

2019   **Extreme Data Statistics**   CURE, UdelaR - Rocha, Uruguay
Coordinators: Dr. Gonzalo Perera

➤ Keywords: Extreme Distributions | POT

2018   **The CODATA-RDA Research Data Science**   ICTP- SAIFR - São Paulo, Brazil
Coordinators: Dr. Marcela Alfaro Córdoba (University of Costa Rica, Costa Rica), Dr. Robert Quick (Indiana University, USA)

➤ Keywords: Data Science | Open Source Software | Statistics and Visualization | Data Reproducibility

2017   **Summer School in Advanced Statistical Methods in Ecology and Evolution** CURE, UdelaR - Maldonado, Uruguay
Coordinators: Dr. Pablo Inchausti

➤ Keywords: R Language | GLMM | GAM

Short courses (less than 30 hours)

2021   **International Teacher Training Workshop: Uses of Technology in Veterinary Education**   MARCA Program - Ibero-American General Secretariat - MERCOSUR Educativo (virtual)
Coordinators: M.Vet. Indiana Rodriguez, Dr. José Passarini

➤ Keywords: ICTs | Veterinary Education | Teacher Training

2021   **Open Data Steward Instructor Training**   European Commission FAIR Data Forum (virtual edition)
Coordinators: FAIRsFAIR Programme

➤ Keywords: Data Governance | Open Data | Information Security | Pedagogy

2021   **Research Writing in the Sciences**   AuthorAID, England
Coordinators: International Network for Advancing Science and Policy (virtual edition)

➤ Keywords: Scientific Writing | Research Ethics | Publications

2021   **Pharmacometrics Spring School: Modeling Using MonolixSuite Virtual Course**   Lixoft (Simulations Plus)
Coordinators: Dr. Géraldine Ayral, Dr. Pauline Traynard, Dr. Monika Twarogowska, Dr. Claude Magnard

➤ Keywords: Pharmacometrics | Population Modeling | Clinical Trials

2019   **Spatial Statistical Analysis in R**   Faculty of Agronomy, UdelaR - Montevideo, Uruguay
Coordinators: Dr. Paul Harris (Rothamsted Research, United Kingdom), Dr. Alexis Comber (Leeds University, United Kingdom)

➤ Keywords: Spatial Data | Multi-scale Geographical Regressions | Statistical Maps

2018   **Scientific Writing and Publishing Workshop**   Uruguayan Society of Microbiology (SUM) and American Society of Microbiology (ASM) - Montevideo, Uruguay
Coordinators: Dra. Claudia Etchebere, MSc. María José Gonzalez

➤ Keywords: Scientific Writing | Communication

2013   **Multivariate Statistics for Biologists and Introduction to R**   IIBCE, MEC - Montevideo, Uruguay
Coordinators: Dr. Angel Segura, Dr. Carla Kruk

➤ Keywords: Biostatistics | Linear Modeling | Multivariate Analysis | R Language

2013   **Evolutionary Adaptation of Zooplankton to Global Change**   Mini-course – XV Latin American Congress of Marine Sciences - Maldonado, Uruguay
Coordinators: Dr. Hans G. Dam (University of Connecticut, USA)

➤ Keywords: Evolution | Ecology | Climate Change

Scolarships

03/2025 - 03/2026	**Scholarships to support the completion of postgraduate studies at Udelar, Doctorate** CAP, UdelaR

03/2025 - 03/2026   **Scholarships to support the completion of postgraduate studies at Udelar, Doctorate**   CAP, UdelaR
Pharmacoeconomics and Pharmacoepidemiology of Acaricide Consumption Habits in Agricultural Systems in Uruguay

03/2022 - 03/2025   **Scholarships for Faculty Support for Postgraduate Studies at UdelaR, Doctorate**   CAP, UdelaR
Pharmacoeconomics and Pharmacoepidemiology of Acaricide Consumption Habits in Agricultural Systems in Uruguay

05/2016 - 05/2018   **Master's Scholarships - National Postgraduate Programs**   ANII
Prediction of Cyanobacterial Blooms Based on Meteorological, Hydrological, and Environmental Variables for Early Warning Systems

08/2016   **UC Winter School Doctoral Program - Ecology Area (Full Scholarship)**   Pontifical Catholic University of Chile
(Chile)
Global Change Ecology Workshop

08/2014 - 08/2015   **Initiation in Research Scholarship**   ANII
Effects of Environmental and Climatic Variability on Harmful Cyanobacterial Blooms in the Uruguay River and Rio de la Plata

06/2014 - 10/2014   **Initiation in Research Internship**   PEDECIBA Geosciences
Effects of Environmental Variability on the Presence, Community Structure, and Blooms of Microcystis aeruginosa Complex

06/14   **Research Support Fund for Undergraduate Students**   Uruguayan Society of Microbiology
Effects of Environmental Gradients on the Distribution, Abundance, and Morphology of Colonies of the Microcystis spp. Complex (Cyanobacteria): Uruguay River and Rio de la Plata

09/2014 - 02/2015   **Undergraduate Scholarship**   Administrative Commission of the Uruguay River (CARU)
Blooms of the Microcystis aeruginosa Complex (Cyanobacteria) in the Uruguay River and Rio de la Plata System

Creation of Knowledge

Academic Articles Published in Peer-Reviewed Journals

First Author

2025   **Assessing trends in ectoparasiticidal drugs used to control ticks and flies in farm animals: A four-year analysis reveal differences between epidemiological zones at country level in Uruguay**   Preventive Veterinary Medicine
Alcántara I., Suárez G.
➤ https://doi.org/10.1016/j.prevetmed.2024.106412

2022   **A reply to 'Relevant factors in the eutrophication of the Uruguay River and the Río Negro'** Science of Total Environment
Alcántara I., Somma A., Chalar G., Fabre A.,[...], García-Rodriguez F.
➤ 10.1016/j.scitotenv.2021.151854

2018   **Improved biovolume estimation of Microcystis aeruginosa colonies: A statistical approach**   Journal of microbiological methods
Alcántara I., Piccini C., Segura A. M., Deus S., González C., Martínez de la Escalera G., Kruk, C
➤ https://doi.org/10.1016/j.mimet.2018.05.021

Co - authoring

2023   **Relationship between strains of Holstein cows, feeding strategies and udder health**   Agrociencia
Morales-Piñeyrúa J.T., Bobadilla P., Alcántara I., De Torres E.
➤ https://doi.org/10.31285/agro.27.1150

2022   **Caenorhabditis elegans as a valuable model for the study of anthelmintic pharmacodynamics and drug-drug interactions: The case of ivermectin and eprinomectin**   Front. Pharmacol.
Suárez, G., Alcántara I., Salinas G.
➤ 10.3389/fphar.2022.984905

2021 **Benefits of Silvopastoral Systems for Keeping Beef Cattle** Animals
Huertas S.M., Bobadilla P., Alcántara I., Akkermans E., van Eerdenburg F.

➤ https://doi.org/10.3390/ani11040992

2020 **El Índice de Actividad Individual de los estudiantes en EVA y sus rendimientos académicos: el caso de Bioestadística Veterinaria** Inter-Cambios. Dilemas y Transiciones de la Educación Superior
Bobadilla P., Alcántara I., Rosenstock N., Borlido C., Cabral P., Huertas S., Passarini J.

➤ https://doi.org/10.29156/INTER.7.2.15

2019 **Floración excepcional de Cianobacterias tóxicas en la costa de Uruguay, verano 2019** Innotec
Kruk C., Martínez A., Martínez de la Escalera G., Trinchin R., Manta G., Segura A. M., Piccini C., Brena B., Fabiano G., Pírez M., Gabito L., Alcántara I., Yannicelli B

➤ https://doi.org/10.26461/18.06

2018 **Variabilidad y tendencia de la temperatura superficial de los grandes embalses del Río Negro** Innotec
Manta G., Alcántara I.

➤ https://doi.org/10.26461/16.07

2017 **A multilevel trait-based approach to the ecological performance of Microcystis aeruginosa complex from headwaters to the ocean** Harmful Algae
Kruk C., Segura A. M., Nogueira L., Alcántara I., Calliari D., Martínez de la Escalera G., Carballo C., Cabrera C., Sarthou F., Scavone P., Piccini, C.

➤ https://doi.org/10.1016/j.hal.2017.10.004

2017 **Increased sampled volume improves Microcystis aeruginosa complex (MAC) colonies detection and prediction using Random Forests** Ecological Indicators
Segura A. M., Piccini C., Nogueira L., Alcántara I., Calliari D., Kruk C

➤ http://dx.doi.org/10.1016/j.ecolind.2017.04.047

2017 **Dynamics of toxic genotypes of Microcystis aeruginosa complex (MAC) through a wide freshwater to marine environmental gradient** Harmful Algae
Martínez de la Escalera G., Kruk C., Segura A. M., Nogueira L., Alcántara I., Piccini C.

➤ http://dx.doi.org/10.1016/j.hal.2016.11.012

2015 **Herramientas para el monitoreo y sistema de alerta de floraciones de cianobacterias nocivas: Río Uruguay y Río de la Plata** Innotec
Kruk C., Segura A., Nogueira L., Carballo C., Martínez de la Escalera G., Calliari D., Ferrari G., Simoens M., Cea J., Alcántara I., Vico P., Míguez D., Piccini C.

➤ <http://ojs.latu.org.uy/index.php/INNOTEC/article/view/311>

Awards and distinctions

2019 **Best Master's Thesis - PEDECIBA Geosciences**
Directorate for the Development of Science and Knowledge, Ministry of Education and Culture (MEC), Uruguay

➤ 3rd Recognition Day for Science; Together in Research and Development

2018 **Honorable Mention for Best Oral Presentation**
VII Geosciences Conference, Montevideo, Uruguay
➤ Work: "Cyanobacterial Blooms in the Uruguay River: Frequency, Distribution, and Relationship with Meteorological and Hydrological Variables"

2014 **Honorable Mention for Best Poster**
I National Meeting of Young Microbiologists. Uruguayan Society of Microbiology
➤ Work: "Dynamics of the Microcystis aeruginosa Complex (Cyanobacteria): Shape, Biomass, and Toxin Production"

2014 **Special Mention for the project: "Tools for monitoring harmful algal blooms (HABs): Development of a tool for rapid detection and quantification of toxic cyanobacteria in aquatic systems based on real-time PCR"**
L'Oréal-UNESCO Award - For Women in Science

➤ Project Leader: Claudia Piccini. Role: Team Member

Author ORCID

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