JOHAN VAN DER MOLEN MORIS

⚲ Edificio Rolando Chuaqui
Campus San Joaquín
Avda. Vicuña Mackenna 4860
Santiago, Chile

✉ johan.vandermolen@uc.cl
jvandermm@gmail.com
📞 (mobile) +56 957505278
🌐 https://jvandermolen.com

I am an Adjunct Professor of Statistics at the Pontifical Catholic University of Chile. My research interests include Bayesian methods and Machine Learning techniques, especially for nonparametric and high-dimensional models, as well as their applications in molecular medicine and education.

EDUCATION

PhD Statistics

2015-2020   PhD Statistics – University of Edinburgh

School of Mathematics. School of Mathematics. College of Science & Engineering
Thesis: *Bayesian Semiparametric estimation of densities with unknown support.*
Supervisor: Dr. Natalia BOCHKINA

MSc Statistics and Operational Research

2014-2015   MSc Statistics & Operational Research – U. of Edinburgh

First Class (Distinction) · School of Mathematics. College of Science & Engineering
Thesis: *Estimation of the lower support point of an unknown density.*
Supervisor: Dr. Natalia BOCHKINA

Mathematical Engineering

2006-2011   Mathematical Engineering degree – University of Chile

First Class Honours · Faculty of Physical and Mathematical Sciences
Thesis: *Educational Data Mining: Prediction models for elementary schools students' performance.*
Supervisors: Dr. Roberto ARAYA, Dr. Raúl GORMAZ & Dr. Jaime SAN MARTÍN

BSc Engineering Sciences in Mathematics

2006-2010   BSc Engineering Sciences in Mathematics – U. of Chile

Second Class Honours · Faculty of Physical and Mathematical Sciences.

EMPLOYMENT

Adjunct Professor, Pontifical Catholic U. of Chile

2024-   Adjunct Professor – PONTIFICAL CATHOLIC UNIVERSITY OF CHILE

Research and teaching position at the Department of Statistics in the Faculty of Mathematics. Teaching "Bayesian Methods" and "Probability and Statistics".

MRC Postdoc, U. of Cambridge

2021-2023   MRC Postdoctoral Fellow – MRC BIOSTATISTICS UNIT, UNIVERSITY OF CAMBRIDGE

Working with Dr. Paul Kirk on the development and refinement of Bayesian models that combine multiple omics datasets, with the aim of identifying patient subgroups and disease subtypes that are both reproducible and clinically actionable.

Lecturer and Tutor, U. of Cambridge

2021-2023   Lecturer, Demonstrator and Group Supervisor – MRC BIOSTATISTICS UNIT, UNIVERSITY OF CAMBRIDGE

Lecturer (Cluster Analysis) and Demonstrator (Cluster Analysis and Multi-state Models) in the module "Advanced Biostatistics for Health Data Science"; group supervisor of 3 students in the MPhil programme in Population Health Sciences. Lecturer of "Bayesian Nonparametrics in Molecular Medicine" in the module "Statistics in Medical Practice" in the Part III MASt/MMath programme.

2020 Teaching Assistant – University of Chile

Teaching Assistant,
U. of Chile

(Sep-Dec) Teaching Assistant of the course "Experimentation and Modelling approach to Mathematics Cognition and Education". Working remotely, I have participated in the design of the course and delivered online lectures covering statistical topics such as Random Effects and Multilevel modelling, and an introduction to machine learning methods. I also covered applications using programming languages R and Python.

2016-2019 Tutor – University of Edinburgh

Tutor,
U. of Edinburgh

Tutor of Nonparametric Regression, Multivariate Data Analysis, Linear Statistical Modelling, Statistics 2 (including summer course), Statistical Methodology, Credit Scoring, Methodology Modelling and Consulting Skills, Engineering Mathematics.

2013-2014 Assistant Researcher – Center for Advanced Research in Education, University of Chile

Assistant
Researcher,
U. of Chile

Development of automatic speech recognition models. Application of machine learning algorithms to identify content and teaching practices in classes. In collaboration with Prof. Bhiksha Raj and Prof. Rita Singh from Carnegie Mellon University. Project FONDEF D11i1009. www.ciae.cl
Contact: Roberto Araya · +56 2 978 2590 · roberto.araya@ciae.uchile.cl

2011 Internship – Center for Advanced Research in Education, University of Chile

Internship,
U. of Chile

(Jan) Study of prediction models of elementary school students' performance in an online exercising system.
Contact: Roberto Araya · +56 2 978 2590 · roberto.araya@ciae.uchile.cl

2009 Teaching Assistant – Pontifical Catholic University of Chile

Teaching Assistant
Pontifical Catholic
U. of Chile

(Mar-Jul) Teaching Assistant of Algebra (Year 1). Faculty of Mathematics.

2008-2009 Teaching Assistant – University of Chile

Teaching Assistant
U. of Chile

Teaching Assistant of Linear Algebra (Year 1). Faculty of Physical and Mathematical Sciences.

PUBLICATIONS

Jul 2022 Bayesian nonparametric mixture inconsistency for the number of components: How worried should we be in practice?

Preprint

Submitted to Journal of Machine Learning Research. Available on arXiv:2207.14717.
Authors: Yannis Chaumeny, Johan van der Molen Moris, Anthony C. Davison, Paul D.W. Kirk

Jul 2022 "Teacher, Can You Say It Again?" Improving Automatic Speech Recognition Performance over Classroom Environments with Limited Data

AIED 2022

Artificial Intelligence in Education. AIED 2022. Lecture Notes in Computer Science.
Authors: Danner Schlotterbeck, Abelino Jiménez, Roberto Araya, Daniela Caballero, Pablo Uribe, Johan van der Molen Moris

May 2022 Unsupervised characterization of lessons according to temporal patterns of teacher talk via topic modeling

Neurocomputing

Neurocomputing.
Authors: Matías Altamirano, Pablo Uribe, Danner Schlotterbeck, Abelino Jiménez, Roberto Araya, Johan van der Molen Moris, Daniela Caballero

Nov 2021 Developing computational thinking teaching strategies to model pandemics and containment measures

IJERPH International Journal of Environmental Research and Public Health.
Authors: Roberto Araya, Masami Isoda, Johan van der Molen Moris

Oct 2021 An Automatic Teacher Activity Recognition System based on Speech Transcriptions

LACLO 2021 XVI Latin American Conference on Learning Technologies (LACLO) 2021.
Authors: Pablo Uribe, Danner Schlotterbeck, Abelino Jiménez, Roberto Araya, Daniela Caballero, Johan van der Molen Moris

Jun 2021 TARTA: Teacher Activity Recognizer from Transcriptions and Audio

AIED 2021 Artificial Intelligence in Education. AIED 2021. Lecture Notes in Computer Science.
Authors: Danner Schlotterbeck, Pablo Uribe, Abelino Jiménez, Roberto Araya, Johan van der Molen Moris, Daniela Caballero

Sep 2020 Bayesian Semiparametric estimation of densities with unknown support

PhD Thesis University of Edinburgh.
Author: Johan van der Molen Moris. Supervisor Natalia Bochkina

Oct 2015 Mining Social Behavior in the Classroom

7th ICCCI 2015 Proceedings of 7th International Conference ICCCI 2015. Lecture Notes in Computer Science.
Authors: Roberto Araya, Ragnar Behncke, Amitai Linker, Johan van der Molen

Sep 2013 Causal dependence among contents emerges from the collective online learning of students

5th ICCCI 2013 Proceedings of 5th International Conference ICCCI 2013. Lecture Notes in Computer Science.
Authors: Roberto Araya, Johan van der Molen

Jul 2013 Impact of a blended ICT adoption model on Chilean vulnerable schools correlates with amount of on online practice

LT4D @AIED 2013 Proceedings of LT4D Workshop @AIED 2013.
Authors: Roberto Araya, Johan van der Molen

ORAL PRESENTATIONS

Mar 2023 OxCSML Seminar, University of Oxford

OxCSML 2023 Invited talk. Department of Statistics, U. of Oxford, Oxford, UK.

Dic 2022 CMStatistics 2022, London

CMStatistics 2022 Talk in organised invited session "Advances in Bayesian factor analysis". King's College, London, UK.

Nov 2022 Data Science and Statistics Seminar, U. of Essex

University of Essex Seminar Invited talk. U. of Essex, Colchester, UK.

Oct 2022 Bayesian Nonparametrics 13, Puerto Varas

BNP 13 Contributed talk at 13th International Conference on Bayesian Nonparametrics. Puerto Varas, Chile.

	Mar 2022 CITIID Seminar, University of Cambridge
CITIID PhD and Postdoc Seminar	Talk at Phd and Postdoc seminar of the Cambridge Institute of Therapeutic Immunology and Infectious Disease (CITIID). U. of Cambridge, UK.
	Oct 2021 BSU-IEU Symposium, U. of Cambridge and U. of Bristol
BSU-IEU Symposium	Talk at joint MRC Biostatistics Unit and Integrative Epidemiology Unit virtual symposium. U. of Cambridge and U. of Bristol, UK.
	Sept 2021 Bayes4Health, Cambridge
Bayes4Health 2021	Talk at postdoc away day of the Bayes4Health workshop. U. of Cambridge, UK.

HONOURS & AWARDS

	2016-2019 Travel Grants for Poster Presentations
Travel Grants	Several scholarships covering registration fees and travel or accommodation for poster presentations at BNP12 (Oxford, 2019), ISBA(Edinburgh, 2018), BNP11(Paris, 2017), CRiSM Master Class (Warwick, 2016).
	2015-2019 Becas-Chile Scholarship for PhD Degrees
Becas-Chile Scholarship	Scholarship by CONICYT from Chilean Ministry of Education for PhD programmes. It covers tuition fees ($\approx £14,500$ per year) and living expenses ($\approx £1,400$ per month).
	2014-2015 Becas-Chile Scholarship for Master's Degrees
Becas-Chile Scholarship	Scholarship by CONICYT from Chilean Ministry of Education for Master's studies. It covers tuition fees ($\approx £17,500$) and living expenses ($\approx £1,400$ per month).
	2006-2008 Academic Excellence
Academic Excellence	Honour award for academic excellence during undergraduate studies at University of Chile.
	2006 University of Chile Scholarship
U. of Chile Scholarship	Academic Excellence Scholarship by U. of Chile that covers tuition fees for undergraduate studies.

OTHER INFORMATION

Computer Skills	R, Python, LaTeX, Julia, Matlab, Arena, Xpress.
Transferable Skills	FOUNDER AND ORGANISER of Statistics PhD Discussion Group at U. of Edinburgh · LEADER OF STUDENT HELPERS at ISBA 2018 · CHAIR of session "Bernstein-von Mises theorem: Recent results" at CMStatistics 2022.
Languages	SPANISH (Mother Tongue), ENGLISH (7.5 IELTS test), GERMAN (Level A-2.1, Goethe Institut), JAPANESE (basic level, Chilean-Japanese Institute of Culture).
Interests	Bayesian Nonparametrics · Biostatistics · Machine Learning