

# JOHAN VAN DER MOLEN MORIS

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## 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

- MRC Postdoc, U. of Cambridge* 2021- 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.
- Tutor', U. of Cambridge* 2021- Demonstrator and Group Supervisor – MRC BIOSTATISTICS UNIT, UNIVERSITY OF CAMBRIDGE  
Demonstrator for the module “Advanced Biostatistics for Health Data Science” and group supervisor in the MPhil programme in Population Health Sciences.
- Teaching Assistant, U. of Chile* 2020 Teaching Assistant – UNIVERSITY 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.
- Tutor, U. of Edinburgh* 2016-2019 Tutor – UNIVERSITY 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 D1111009. [www.ciae.cl](http://www.ciae.cl)  
Contact: Roberto ARAYA · +56 2 978 2590 · [roberto.araya@ciae.uchile.cl](mailto: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](mailto:roberto.araya@ciae.uchile.cl)

2009 Teaching Assistant – PONTIFICAL CATHOLIC UNIVERSITY OF CHILE

Teaching Assistant  
Catholic Univ.

(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

Sep 2021 Unsupervised characterization of lessons according to temporal patterns of teacher talk via topic modeling

Neurocomputing

To appear in Neurocomputing.

Authors: Matías ALTAMIRANO, Pablo URIBE, Danner SCHLOTTERBECK, Abelino JIMÉNEZ, Roberto ARAYA, Johan VAN DER MOLEN MORIS, Daniela CABALLERO

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

#### 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, L<sup>A</sup>T<sub>E</sub>X, MATLAB, ARENA, XPRESS.

*Transferable Skills*

FOUNDER AND ORGANISER of Statistics PhD Discussion Group at U. of Edinburgh ·  
LEADER OF STUDENT HELPERS at ISBA 2018.

*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