

FRANCISCO RICHTER

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EDUCATION

PhD Candidate

2015-2019

Johann Bernoulli Institute for Mathematics and Computer Science,
Groningen Institute for Evolutionary Life Sciences,
University of Groningen.

Project : Simultaneous estimation and selection of species diversification models.

Mathematical Engineer

2012

Universidad Técnica Federico Santa María, Valparaíso, Chile.

Thesis : Mathematical Modelling Applied to Photometric Correction in Astronomical Observations

Bachelor of Science in Mathematics

2011

Universidad Técnica Federico Santa María, Valparaíso, Chile.

International Student, Engineering Mathematics Program

2009

KTH, Royal Technical University of Stockholm, Sweden.

WORK EXPERIENCE

Senior Research Analyst

2013-2015

Evalueserve

Viña del mar, Chile

Working in a Mathematical Modelling team as Data Scientist, supporting client's operations in the US.
Duties include Mathematical Modelling, Data Analytics, Programming, Statistics, Research and Data Sciences applied to Operational Risk field (<http://www.evalueserve.com/>).

Research Associate

2012

European Southern Observatory (ESO)

Santiago, Chile

Design of mathematical methods on photometric correction for the world's most advanced optical telescope, VLT (<http://www.eso.org/public/teles-instr/vlt>).

Research Assistant

2009-2012

Universidad Tecnica Federico Santa Maria

Valparaíso, Chile

Develop Artificial Intelligence tools for astronomical applications. (<https://csrg.inf.utfsm.cl/twiki/bin/view/LIRAE/WebHome>).

Summer Internship

Summer 2012

European Southern Observatory (ESO)

Paranal Observatory, Cerro Paranal, Chile

Develop Artificial Intelligence tools (fuzzy logic) with mathematical knowledge (Markov process) applied to log analysis for VLT telescopes.

Summer Internship

Summer 2011

Universidad Valparaíso, Physics and Astronomy Department

Valparaíso, Chile

Develop Numerical analysis tools for meteorological analysis in astronomy.

TEACHING EXPERIENCE

- **Lecturer** on Calculus courses for engineering core curriculum, Universidad Técnica Federico Santa María, 2015
- **Teacher: Data Science Program (DSP)** on Statistics and R modules, Evalúeserve, 2013-2014
 - Leading the R (statistical software) module.
 - Conducting lessons.
 - Developing course materials related to statistical knowledge.
- **Teacher: Analytics Carrier Path (ACP)** on statistical modules, Evalúeserve, 2013
 - Conducting lessons.
 - Developing course materials (Statistics).
- **Teacher Assistant** of Mathematical courses, Universidad Técnica Federica Santa María, 2006-2012. Courses includes: Mathematical modeling, Analysis, Statistics, Calculus and standard math courses.

CONFERENCE TALKS

- Statistical Validation Methods for Complex Systems, Thessaloniki, Greece. Contributed talk: "Generalizing species diversification models", Sept. 2018.
- Mathematics for Planet Earth (MPE) meeting: Statistical methods for dynamical systems, Utrecht, The Netherlands. Invited Speaker: "A statistical approach to species diversification dynamics", March 2018.
- Mathematical Models in Ecology and Evolution, London, UK. Contributed talk: "Generalizing species diversification models", July 2017.
- 32nd International Workshop on Statistical Modelling, Groningen, NL. Contributed talk: "A general statistical framework to study the diversification of species", July 2017.

CONFERENCE POSTERS

- 2017 Congress of the European Society for Evolutionary Biology, University of Groningen, NL. *A general framework for estimation and selection of species diversification models.*
- SemStat Winter School "Statistical Network Science", Eurandom, Eindhoven, NL. March 2017. *Generalizing species diversification models.*
- 2016 Conference on Complex Systems. Beurs Van Berlage, Amsterdam, NL. *Simultaneous estimation and selection of species diversification models.*
- Third Annual Symposium on the Future of Computation in Science and Engineering, Jan 2013. Harvard University, Cambridge, MA, U.S . *Nice Curves: Enhancing Variable Star Astronomy through Data Science.*

PUBLICATIONS

- RICHTER ET AL. (2017). *A general statistical framework to study the diversification of species.* Proceedings of the 32nd International Workshop on Statistical Modelling, vol. 1, pp. 339-334.
- GREGORIO. R, RICHTER. F, HOFFSTADT. A, AND SOLAR M. (2011) *A tabu search approach to ALMAs array scheduling problem.* Technical Report, Departamento de Informática, Universidad Técnica Federico Santa María, 2011.