



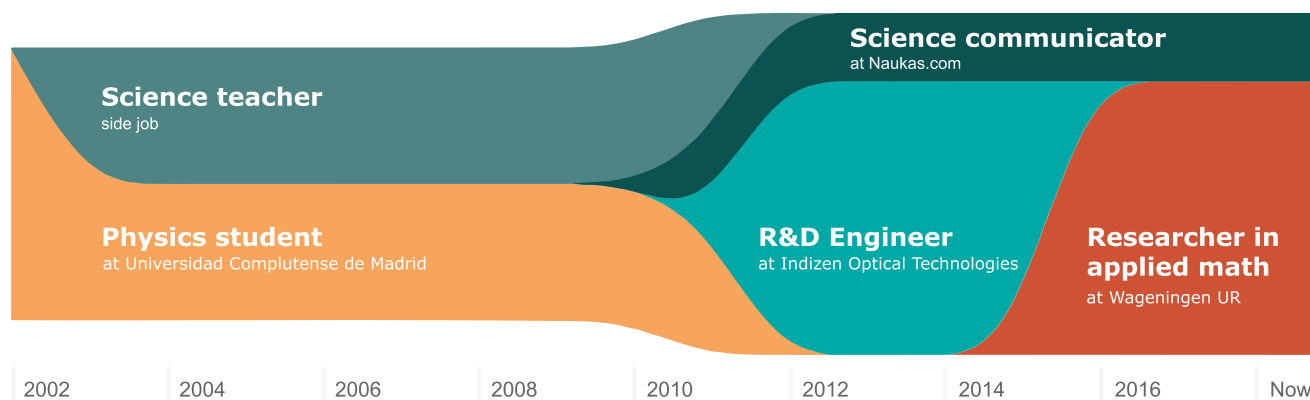
Pablo Rodríguez-Sánchez

Applied mathematician. Science communicator

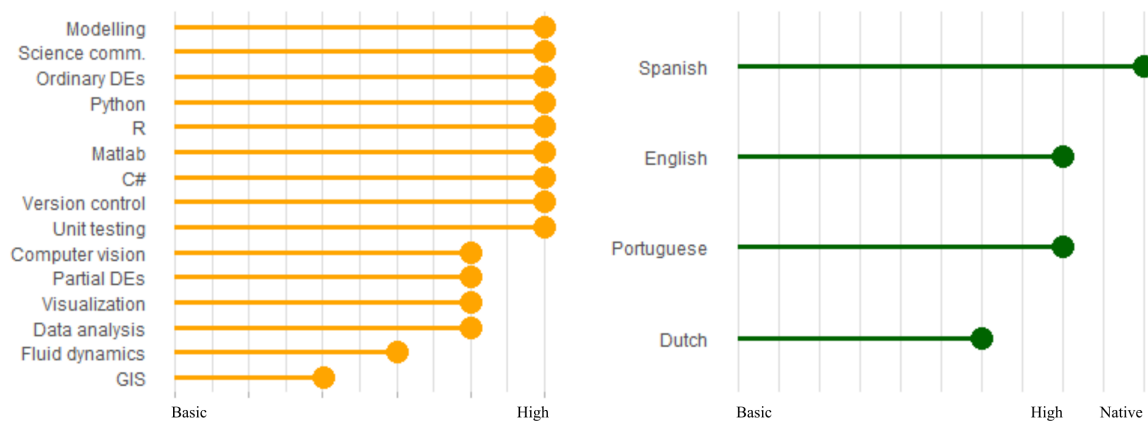
- Birth: October 13th 1984 • Nationality: Spanish • Currently based in the Netherlands
- pabrod.github.io • pablo.rodriguez.sanchez@gmail.com • (+31) 629 177 277

Visual CV

My timeline



Relevant skills



Work experience



Marie Curie Early Stage Researcher. Aquatic ecology department, Wageningen UR.
October 2015 – September 2019

PhD student in mathematical modelling, simulation and analysis of biological systems; with a focus on the forecast of regime shifts using experimental time series. This project is part of the CRITICS (CRITICAL Transitions In Complex Systems) Intensive Training Network, coordinated by Imperial College London



R&D Engineer and IT security manager. Indizen Optical Technologies, Madrid.
July 2012 – September 2015

IOT is an ophthalmic lens design company. My work focused on the numerical simulations, optimization of lens surfaces' shapes, ray tracing, design of clinical trials, software development and maintenance and the research of new technologies and methods. I also developed tailored software for internal use, and provided training for employees and partners



Science tutor. Academia Oxford, Guadalajara. 2003–2011

Physics, chemistry and mathematics tutor. Student levels from high school to first university years

Side jobs



Science communicator. Naukas.com. April 2011 – Now

Frequent collaborations in media, theaters and universities in the form of short essays, live talks, interactive applets and even stand-up comedy. The full list can be found in my personal webpage



Teaching assistant. Faculty of physics, Complutense University of Madrid. 2007–2009

In charge of Single Variable Calculus, introduction to Electromagnetism and introduction to Thermodynamics



Activities and Promotion Coordinator. Marie Curie Alumni Association. April 2016 – April 2017

Relevant publications

Submitted

- Climbing Escher's stairs: a way to approximate stability landscapes in multidimensional systems. Rodríguez-Sánchez P, van Nes EH, Scheffer M. 2019. ArXiv ID: 1903.05615
- Neutral competition boosts chaos in food webs. Rodríguez-Sánchez P, van Nes EH, Scheffer M. 2018. ArXiv ID: 1807.06901

Coauthorships

- Horizontal and vertical diversity jointly shape food web stability against small and large perturbations. Zhao et al. 2019. Ecology letters. DOI: 10.1111/ele.13282

Book chapters

- Tipping points, zo werken ze!. Netherlands Earth System Science Centre. 2018.

Scientific coding

- Rolldown. Rodríguez-Sánchez P. 2019. DOI: 10.5281/zenodo.2591550
- More at github.com/PabRod

Other

- 90 science communication blog entries
- 24 demonstration applets for students
- 11 science popularization shows
- 7 minor scientific coding projects

Education

- **MSc in Physics, Universidad Complutense de Madrid.** September 2002 – September 2012

Licenciatura / MSc in Fundamental Physics.
Master's thesis available (in Spanish):
pabrod.github.io/pdfs/TAD.pdf

Relevant postgraduate courses

- **From working code to software package,** *Complexity Lab Utrecht.* 2019
- **Mathematics and industry,** *Imperial College.* London. 2018
- **Advanced High Performance Cluster course,** *Wageningen UR.* 2017
- **Modelling environmental resilience,** *École Normale Supérieure.* Paris. 2016
- **Orientation on mathematical modelling in biology,** *Wageningen UR.* 2016
- **Data Science Specialization,** *Coursera & Johns Hopkins University.* 2015
- **Statistical inference applied to clinical trials,** *Indizen optical technologies.* 2015
- **Design patterns,** *Indizen optical technologies.* 2013
- **Communication skills,** *Indizen optical technologies.* 2013
- **Object-oriented programming, focused on C++,** *Universidad Complutense de Madrid.* 2011
- **Computational physics, focused on Maple,** *Universidad Complutense de Madrid.* 2009
- **Numerical analysis,** *Universidad Complutense de Madrid.* 2003

Technical skills

Professional proficiency

- **Matlab :** professional use since 2005
- **R:** professional use since 2012
- **Python:** professional use since 2014
- **C#:** 3 years of professional use
- **SQL:** 3 years of professional use
- **GeoGebra:** personal use since 2005
- **L^AT_EX:** personal use since 2005



L^AT_EX

Intermediate proficiency

- **C++**
- **Java**
- **Mathematica**
- **Maple**



Teaching experience

- **Continuous integration with Travis CI,** *Workshop for PhDs at WUR.* 2019
- **Introduction to Unit Testing with pytest,** *Workshop for PhDs at WUR.* 2018
- **Practical introduction to partial differential equations,** *Workshop for PhDs at WUR.* 2018
- **Unit Testing with Matlab,** *Workshop for PhDs at WUR.* 2017
- **Crash course on linear algebra,** *Workshop for PhDs at WUR.* 2016
- **Introduction to object oriented programming, focused on Matlab and C#,** *Indizen Optical Technologies, Madrid.* 2013

As teaching assistant

- **Practical aquatic ecology and water management,** *WUR.* 2018
- **Theoretical ecology,** *WUR.* 2017
- **Ecology, classics and trends,** *WUR.* 2016
- **Introduction to thermodynamics,** *Facultad de física, Universidad Complutense de Madrid.* 2008
- **Introduction to electromagnetism,** *Facultad de física, Universidad Complutense de Madrid.* 2008
- **Single variable calculus,** *Facultad de física, Universidad Complutense de Madrid.* 2007

Personal webpage

For detailed information, please click or type:

pabrod.github.io

Or catch this QR code:



Latest update July 8, 2019