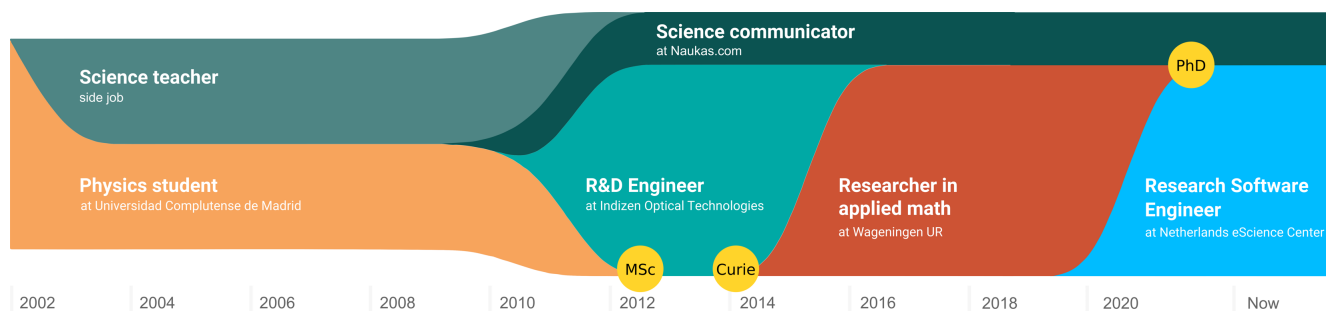# Pablo Rodríguez-Sánchez

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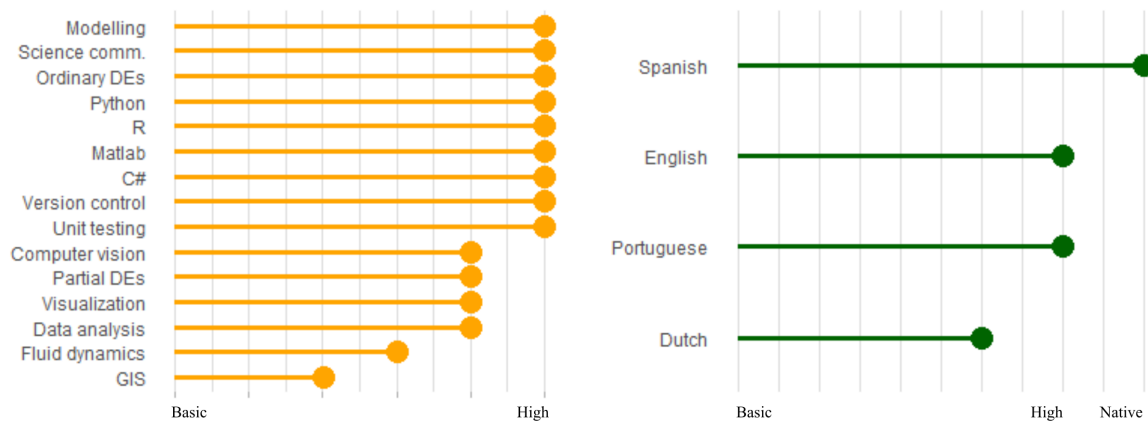
• Birth: October 13th 1984 • Nationality: Spanish • Currently based in the Netherlands
• pabrod.github.io • pablo.rodriguez.sanchez@gmail.com • (+31) 629 177 277

Visual CV

My timeline

Relevant skills

Relevant work experience

Research Software Engineer. Netherlands eScience Center.
November 2019 – Now

Developer of scientific software in different fields, such as Earth Observation technologies, efficient fluid dynamics computing and biomedic monitoring.

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

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

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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 software

- Kinematics. Rodríguez-Sánchez P. 2019. DOI: 10.5281/zenodo.5107804

- More at github.com/PabRod

Other

- 117 science communication blog entries

- 24 demonstration applets for students

- 17 science popularization shows

- 7 minor scientific coding projects

Education

- **PhD in Applied Mathematics,** *Wageningen University.* **October 2015 – October 2019**

  Doctoral thesis, *Cycles and interactions: a mathematician among biologists*, available online: 10.18174/520571

- **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
- **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
- **Solid state physics with applications to electronics**, *Universidad Complutense de Madrid.* 2011

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
- **LaTeX:** personal use since 2005

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: