

# Yerai Peña Sanchez

## Curriculum Vitae

### Education

- 2012–2016 **Renewable Energy Engineering**, *Euskal Herriko Unibertsitatea (EHU)*, Eibar,  
*Duration*: 4 years (240 ECTS).  
*Average grade*: 7,76 (out of 10).
- 2016–2020 **PhD in Electronic Engineering**, *National University of Ireland, Maynooth*, Ireland,  
*Duration*: 4 years.

### Research experience

- 2022–Present **Postdoctoral researcher**, *University of the Basque Country (EHU)*, Leioa, Spain,  
*Department*: Mathematics.  
*Project title*: A cooperative fault detection and fault-tolerant control approach for offshore wind farms.  
*Supervisor*: David Pardo Zubiaur · david.pardo@ehu.eus
- 2020–2021 **Postdoctoral researcher**, *National University of Ireland, Maynooth*, Ireland,  
*Research centre*: Centre for Ocean Energy Research (COER).  
*Project title*: Design, development, and testing of test benches to validate and optimise control/estimation strategies for wave energy converters.  
*Supervisor*: John Vincent Ringwood · john.ringwood@mu.ie
- 2016–2020 **PhD in Marine Renewable Energy Modelling, Estimation, and Prediction**,  
*National University of Ireland, Maynooth*, Ireland,  
*Research centre*: Centre for Ocean Energy Research (COER).  
*Thesis title*: Hydrodynamic excitation force estimation and forecasting for wave energy applications.  
*Supervisor*: John Vincent Ringwood · john.ringwood@mu.ie
- 2015–2016 **Engineer degree final project**, *University of the Basque Country*, Eibar.  
*Title*: Prototyping, printing, and characterisation of a Turgo turbine, using 3d printing.  
*Obtained mark*: 9,5 (out of 10).  
*Supervisor*: Iñigo Urrea · inigo.urra@ehu.eus

### Research projects

- 2016–2021 **Development of the next generation of controllers for wave energy devices**,  
*National University of Ireland, Maynooth*, Ireland,  
*Research centre*: Centre for Ocean Energy Research (COER).  
*Principal investigator*: John Vincent Ringwood · john.ringwood@mu.ie

2021–present **A cooperative fault detection and fault-tolerant control approach for offshore wind farms.**, *University of the Basque Country, Leioa, Spain.*  
*Principal investigator:* David Pardo Zubiaur · david.pardo@ehu.euse

## Experience as supervisor

- 2019 **Masters final project**, *National University of Ireland, Maynooth, Ireland*,  
*Student:* Hakim Bouhali.  
European master in renewable energies (EUREC)  
*Title:* Design and construction of small-scale wave energy converter prototypes using 3D printing.
- 2021 **Engineer degree final project**, *National University of Ireland, Maynooth, Ireland*,  
*Student:* Xabier Goñi.  
Mechanical Engineering  
*Title:* Development and testing of an all-electric hardware-in-the-loop simulation for point absorber wave energy converters.
- 2021 **Engineer degree final project**, *National University of Ireland, Maynooth, Ireland*,  
*Student:* Louis Martin.  
Mechanical Engineering  
*Title:* Control design for a wind and wave renewable energy platform stabilisation.

## Teaching experience

- 2019 **Assistant lecturer - introduction to system dynamics**, *National University of Ireland, Maynooth, Ireland.*
- 2021 **Lecturer - fluid dynamics**, *University of the Basque Country, Bilbao, Spain.*
- 2022 **Assistant lecturer - mathematics**, *University of the Basque Country, Leioa, Spain.*

## Publications (from Google scholar)

**Articles** 23  
**Citations** 260  
**h-index** 9  
**i10-index** 9

## Language knowledge

**Spanish** Mother tongue  
**Basque** Fluent (B2 equivalent title)  
**English** Fluent (8 out of 9 in IELTS)

## Computer skills

Basic HOMER Energy, QGIS, CHEQ4, PVsyst, EES  
Intermediate PYTHON, Linux, R, Adobe Illustrator  
Advance MATLAB/Simulink, L<sup>A</sup>T<sub>E</sub>X, Microsoft Office, Siemens Solid Edge, GIMP, Inkscape, Slic3r and CURA (3D printing)