Pep Covas Vidal
P. B. Covas
Curriculum Vitae

Personal information

Name	Josep Blai Covas Vidal
Birthdate	17/05/1993
Birthplace	Palma (Spain)
Email	pep.covas.vidal@aei.mpg.de, blaipep@hotmail.com

Education

2011–2015 **Physics degree**, *Universitat de les Illes Balears*, Bachelors thesis: "Neutron stars as sources of gravitational waves". Thesis director: Dr. Alicia Sintes. Grade: 9.0

2013–2014 **SICUE exchange at Universitat Barcelona**, *Optional subjects: Astronomy, Observational Astronomy, Astrophysics and Cosmology, General Relativity*

2015–2016 **Masters degree in Advanced Physics and Applied Mathematics (with a specialty in General Relativity and Astrophysics)**, *Universitat de les Illes Balears*, Masters thesis: "Characterization of the Hough all-sky search for continuous gravitational wave signals using LIGO data". Thesis director: Dr. Alicia Sintes. Grade: 9.0

2016–2020 **Doctoral Degree in Physics**, *Universitat de les Illes Balears*, Title: "Searching for continuous gravitational waves with Advanced LIGO". Thesis director: Dr. Alicia Sintes

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Work experience

2015–2017 **Scientific/Technical support at the Relativity and Gravitation group of the University of the Balearic Islands**, *Maintainer of the group web page (grg.uib.es), Twitter account manager (@UIBGRG), maintainer of the group computational assets (clusters, wikis, ...)*, Hired by Garantia Juvenil 01/12/2015 - 30/11/2017 094977 - PEJ-2014-P-00477 J. B. COVAS

2018–2020 **PhD student with FPI-CAIB FPI/2134/2018 fellowship**

2020–2022 **Junior postdoc at the Continuous Gravitational Waves group of the Max Planck Institute for Gravitational Physics**

2022–2024 **Marie Curie Individual Fellowship at the Continuous Gravitational Waves group of the Max Planck Institute for Gravitational Physics**

2024 **Junior postdoc at the Continuous Gravitational Waves group of the Max Planck Institute for Gravitational Physics**

▬ Papers with direct contribution

A full list of refereed papers can be found here: `https://orcid.org/0000-0002-1845-9309`

2024 **Search for continuous gravitational waves from unknown neutron stars in binary systems with long orbital periods in O3 data**, *P. B. Covas et al.*, arXiv

2024 **New framework to follow up candidates from continuous gravitational-wave searches**, *P. B. Covas et al.*, Physical Review D

2024 **Bayesian $\mathcal{F}$-statistic-based parameter estimation of continuous gravitational waves from known pulsars**, *A. Ashok et al.*, Physical Review D

2022 **Improved all-sky search method for continuous gravitational waves from unknown neutron stars in binary systems**, *P. B. Covas et al.*, Physical Review D

2022 **Improved short-segment detection statistic for continuous gravitational waves**, *P. B. Covas et al.*, Physical Review D

2022 **Constraints on r-modes and Mountains on Millisecond Neutron Stars in Binary Systems**, *P. B. Covas et al.*, The Astrophysical Journal Letters

2020 **Effects of proper motion of neutron stars on continuous gravitational-wave searches**, *P. B. Covas*, Monthly Notices of the Royal Astronomical Society

2020 **First All-Sky Search for Continuous Gravitational-Wave Signals from Unknown Neutron Stars in Binary Systems Using Advanced LIGO Data**, *P. B. Covas et al.*, Physical Review Letters

2019 **All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO O2 data**, *LIGO Scientific Collaboration et al.*, Physical Review D

2019 **New method to search for continuous gravitational waves from unknown neutron stars in binary systems**, *P. B. Covas et al.*, Physical Review D

2018 **Identification and mitigation of narrow spectral artifacts that degrade searches for persistent gravitational waves in the first two observing runs of Advanced LIGO**, *LSC Instrument Authors et al.*, Physical Review D

▬ Projects

2018 **PI of FPI-CAIB FPI/2134/2018**, *Grant to carry out the PhD project "Searching for continuous gravitational waves with Advanced LIGO"*, December 2018 - November 2022

2019 **PI of computational grant at RES with CTE/Power9 computer (Barcelona Supercomputing Center)**, *AECT-2019-1-0021: All-sky searches of continuous gravitational-wave signals from spinning neutron stars in binary systems*, March 1st - June 30th (2019)

2019 **PI of computational grant at RES with CTE/Power9 computer (Barcelona Supercomputing Center)**, *AECT-2019-3-0011: All-sky searches of continuous gravitational-wave signals from spinning neutron stars in binary systems using Advanced LIGO O3 data*, November 1st - February 28th (2019-2020)

2022 **PI of Marie Curie Individual Fellowship 101029058**, *Grant to carry out the project "All-sky search for continuous gravitational waves from neutron stars in binary systems"*, May 2022 - April 2024

2022 **PI of computational grant at PRACE with JUWELS Booster computer (Jülich Supercomputing Centre)**, *2021250054 (24th project access call): Continuous gravitational waves from unknown neutron stars in binary systems, April 2022 - March 2023*

Research stays

2017 **LIGO Hanford Observatory**, *LSC Fellow, work related to detector characterization and line/comb hunting, May - July 2017*

2018 **Sapienza Università di Roma**, *STSM belonging to the Cost Action CA16104, work related to adapting SFDB input data to LALSuite code, September 2018*

2018 **Max Planck Institute for Gravitational Physics**, *STSM belonging to the Cost Action CA16214, work related to LISA data analysis, October 2018*

2019 **LIGO Hanford Observatory**, *LSC Fellow, work related to detector characterization, line/comb hunting and calibration, March - June 2019*

Reviewer of

2019 **Advanced LIGO O2 all-sky results from FrequencyHough pipeline**

2022– **Physical Review D journal**

Teaching and mentoring

2018 - 2019 **Partial Differential Equations I**, *Assistant lecturer, University of the Balearic Islands*

2018 - 2019 **Mentoring master student**, *Rodrigo Tenorio, Master thesis: "Towards a reformulation of the Hough method for continuous gravitational wave searches"*

2019 - 2020 **Partial Differential Equations I**, *Assistant lecturer, University of the Balearic Islands*

2022 - 2024 **Co-director of master thesis**, *Paul Ophardt, Master thesis: "Impact of detector networks on the sensitivity of continuous gravitational wave searches"*

2023 **Introduction to data analysis**, *Lecturer at IMPRS Lecture Week 2*

Outreach and congress organization activities

2015 **Member of the local organizing committee of the "Spanish Relativity Meeting 2015"**, *7-10 September 2015*, Palma, Spain

2016 **Participant in the "III Jornades de Ciencia per a Tothom"**, *5-7 May 2016*, Palma, Spain

2016 **Participant in the "IV Jornadas de divulgacion Innovadora"**, *21-22 October 2016*, Zaragoza, Spain

2017 **Participant in the TV programme "Balears fa ciència. Mirant al cel: ones gravitacionals, xips, i nines enginyeres"**, *31 December 2017*, Palma, Spain

2020 **Participant in the "1st UIB scientific outreach competition", article "Gravitational waves and neutron stars"**, *01 February 2020*, Palma, Spain

2024 **Main organizer of the "Continuous gravitational waves and neutron stars workshop":** `https://plan.events.mpg.de/event/133/`, *17-20 June 2024*, Hannover, Germany

▬▬ Computer skills

OS	Windows, Mac OS X, Linux (as a user and administrator)
Languages	C, CUDA, Bash, TeX, Python, MATLAB, HTML
	Contributed to several codes part of the LALSuite library `git.ligo.org/lscsoft/lalsuite`

▬▬ Languages

Catalan	Mothertongue
Spanish	Mothertongue
English	C2 (Cambridge English Language Assessment)
German	B2 level

Last update: December 2, 2024