

# José Luis Bernal

Max Planck Institute for Astrophysics  
Karl-Schwarzschild-Str. 1  
85748 Garching, Germany

jlbernal@MPA-Garching.MPG.DE  
<https://jl-bernal.github.io>  
<https://github.com/jl-bernal>

RESEARCH INTERESTS      Cosmology: large-scale structure, line-intensity mapping, dark matter, Hubble constant tension, agnostic modeling and data analysis, neutrino cosmology, primordial non-Gaussianity, blinding methods in cosmology.

PROFESSIONAL CAREER      Max Planck Institute for Astrophysics, Postdoctoral research fellow      Oct 2022 – present  
Johns Hopkins University, Davis Postdoctoral Fellowship      Oct 2019 – Sept 2022  
Department of Physics and Astronomy  
University of Barcelona, FPI fellow PhD Candidate      Sept 2015 – Sept 2019  
Quantum Physics and Astrophysics Department, Institute of Cosmos Sciences

EDUCATION      Ph.D. in Physics, University of Barcelona      Sept 2019  
PhD Thesis: *Cosmology on the edge of  $\Lambda$ CDM*, (excellent *Summa Cum Laude*)  
Advisor: Licia Verde  
M.Sc. in Theoretical Physics, Universidad Autónoma de Madrid      Jun 2015  
Master Thesis: *A consistency test of General Relativity using Expansion History and Growth of Structures*  
Advisors: Licia Verde, Antonio J. Cuesta, Alexander Knebe  
Bachelor Degree in Physics with honors, Universidad Autónoma de Madrid      June 2014

HONORS & AWARDS      Second Prize of the XXV Prize ‘Claustre de Doctors’ of the University of Barcelona      2021  
Doctoral Extraordinary Prize at the University of Barcelona, class 2018-2019      2021  
Spanish Astronomy Society Thesis Prize to the best Doctoral Thesis in A&A      2020  
Allan C. and Dorothy H. Davis Postdoctoral Fellowship, JHU      2019  
FPI Fellowship for the formation of doctors, Spanish MINECO      2015  
Postgraduate Fellowship to study the Master in Theoretical Physics, UAM+CSIC      2014  
Extraordinary Prize for the Best Academic Record of Physics 2014 Class, UAM      2014  
Excellent Fellowship, Madrid regional Government      2013, 2012, 2011, 2010

TEACHING      Teaching Assistant at the University of Barcelona  
Astronomy      Spring 2017  
Ordinary Differential Equations and Vector Calculus      Spring 2017, Spring 2018

PEER REVIEW      Astrophysics and cosmology journals, including:  
ApJ, JCAP, A&A, PDU, EPJC, Universe, IJMPD  
External reviewer:  
Universidad Computense de Madrid’s program ‘Ayudas para la realización de proyectos I+D para jóvenes doctores’      2022

External reviewer for NASA's FINESST program

2020, 2021, 2022

|                         |   |   |
|-------------------------|---|---|
| MENTORING               | Graduate students:<br>Gabriela Sato-Polito (3 publications), Hector A. Cruz; current graduate students at JHU<br>Katie Short (2 publication); current graduate student at ICC-UB  |   |
| PUBLICATION METRICS     | 31 refereed journal publications (14 first-authored), 1700+ citations, $h$ -index=18<br>1 additional first-author article accepted at PRL, 1 article accepted at PRD and other 4 submitted (2 to PRL, 1 to PRD, and 1 to JCAP). |   |
| OUTREACH                | Round table about dark matter for the "Dark Matter Day"   | 2018  |
|                         | At what speed does the Universe expands? - Invited talk, Sabadell Astronomy Group   | 2018  |
|                         | Unravelling the dark Universe - Exhibition about cosmology, gravity and black holes   | 2017  |
|                         | Physics Experiments - UB (demonstrations for High school students)  | 2016, 2017, 2018  |
|                         | Walk on the Dark Side - Invited talk for Physics bachelor students  | 2016  |
|                         | Physis - UB (demonstrations for High school students)   | 2016  |
| PROFESSIONAL ACTIVITIES | Member of the HETDEX collaboration  | 2022 - present  |
|                         | Member of the SKA Cosmology group and Graviational Waves group  | 2018 - present  |
|                         | Member of the Australian SKA Pathfinder (ASKAP) Cosmology group   | 2018 - present  |
|                         | Postdoc representative in the "Joint JHU/STScI Colloquium Committee"  | 2021 - 2022   |
|                         | Founder and coordinator of "Physics and Astronomy Postdocs and Research Scientists" association at JHU  | 2020 - 2022   |
|                         | Organizer of the "Particle theory seminars" at JHU  | 2020 - 2022   |
|                         | Founder and organizer of the "PhD & Science" meetings at the ICCUB  | 2018 - 2019   |
|                         | LOC member in "Venice Cosmology Workshop 2018: The Island"  | 2018  |
| VISITING RESEARCH       | Department of Physics and Astronomy, JHU (funded by María de Maeztu)  | April 2018  |
|                         | Institute for Astronomy, University of Edinburgh (funded by ICCUB)  | October 2017  |
|                         | Radcliffe Institute of Advanced Study, Harvard (funded by FPI fellowship)   | April - June 2016   |
| REFERENCES              | <u>Marc Kamionkowski</u><br>Johns Hopkins University<br>(+1) 410-516-0373<br>kamion@jhu.edu   | <u>Licia Verde</u><br>Institute of Cosmos Sciences (ICC-UB)<br>(+34) 934031328<br>liciaverde@icc.ub.edu |
|                         | <u>Ely D. Kovetz</u><br>Ben-Gurion University<br>(+972) 545-953349<br>kovetz@bgu.ac.il  | <u>Alvise Raccanelli</u><br>University of Padova<br>(+39) 0498277113<br>alvise.raccanelli.1@unipd.it    |