José Manuel Barrientos Ortiz
Curriculum Vitae

PERSONAL DETAILS

Birth	March 8, 1989. La Serena, Chile
Address	Zitná 25, 115 67 Praha 1, Czech Republic
Phone	+420 773 173 542
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CURRENT POSITION

Postdoctoral Researcher `2021`

Institute of Mathematics of the Czech Academy of Sciences, Prague, Czech Republic hosted by Professor Marcello Ortaggio

EDUCATION

Doctor of Physical Sciences `2016-2020`

Universidad de Concepción, Facultad de Ciencias Físicas y Matemáticas, Departamento de Física
    Thesis: *Torsional Horndeski's theory and gravitational waves*
    Advisor: Dr. Fernando Izaurieta

Master of Sciences in Physics `2012-2015`

Universidad de Concepción, Facultad de Ciencias Físicas y Matemáticas, Departamento de Física
    Thesis: $f(R, T)$ *Gravity, Palatini Variation and Surface Singularities*
    Advisor: Dr. Guillermo F. Rubilar

Professional Tittle: Astronomer `2007-2012`

Universidad de Concepción, Facultad de Ciencias Físicas y Matemáticas, Departamento de Astronomía

Bachelor in Astronomy `2007-2010`

Universidad de Concepción, Facultad de Ciencias Físicas y Matemáticas, Departamento de Astronomía

WORK EXPERIENCE

Teacher Assistant `2018`

Universidad de Concepción
    Assistant of Quantum Field Theory Lectures, dictated by Dr. Julio Oliva

Physics Teacher `2015`

Universidad Católica del Norte
    Teaching: **Physics I**, *Engineering in Prevention of Risk and Aquaculture* · **Physics I**, *Industrial Engineering* · **Physics II**, *Industrial Engineering* · **Laboratory Physics II**, *Industrial Engineering*

Physics Teacher `2014`

Preuniversitario Universidad Católica

Teacher Assistant `2012`

Universidad de Concepción
    Assistant of General Relativity Lectures, dictated by Dr. Guillermo Rubilar

RESEARCH AND SCIENTIFIC ACTIVITIES

Talk 2020

Cycle of talks in Physics, Universidad de La Serena, La Serena, Chile

Seminar 2020

Gravity and Cosmology Group Udec, Universidad de Concepción, Concepción, Chile

Short Talk 2020

School of Gravity and General Relativity, Centro de Estudios Científicos (CECs), Valdivia, Chile

Poster 2016

"Palatini $f(R,T)$ gravity and Surface curvature singularities of polytropic spheres" at "XX Simposio Chileno de Física", Universidad Tecnológica Metropolitana, Santiago, Chile

Poster 2011

"Hertzprung-Russell Diagram" at "XIV Congreso Internacional de Astronomía Aficionada", Antofagasta, Chile

Poster 2010

"Tidal Tails in our Galaxy" at "The Milky Way from the South in the South", Universidad Andrés Bello, Santiago, Chile

GRANTS AND PROJECT PARTICIPATION

Fellowship 2016-2019
ANID
Agencia Nacional de Investigación y Desarrollo, ANID PhD National grant (21160784)

Fellowship 2013
ANID
Agencia Nacional de Investigación y Desarrollo, ANID Masters National grant (221320369)

Project Participation 2016-2018
FONDECYT
Fondo Nacional de Desarrollo Cienfífico y Tecnológico, FONDECYT project (1150719)

Project Participation 2010
FONDECYT
Fondo Nacional de Desarrollo Cienfífico y Tecnológico, FONDECYT project (1100540)

RESEARCH STAYS

Internship 2018-2019
Institute of Mathematics, Czech Academy of Sciences, Prague
Research Internship supervised by Dr. Marcello Ortaggio. Research stay supported by National Research and Development Agency ANID

LIST OF PUBLICATIONS

[1] **Luminal propagation of gravitational waves in scalar-tensor theories: The case for torsion**, Physical Review D **100**, 124039 (2019)

[2] **Nonminimal couplings, gravitational waves, and torsion in Horndeski's theory**, Physical Review D **96**, 084023 (2017)

[3] **Four-dimensional black holes with scalar hair in nonlinear electrodynamics**, European Physical Journal C **76**, 677 (2016)

[4] **Surface curvature singularities of polytropic spheres in Palatini $f(R,T)$ gravity**, Physical Review D **93**, 024021 (2016)

[5] **Comment on "$f(R,T)$ gravity"**, Physical Review D **90**, 028501 (2014)

Preprint **Wave Operators, Torsion, and Weitzenböck Identities**, arXiv:1903.04712v2 **[gr-qc]** (2019)

SKILLS

Languages	Spanish (mother tongue)
	English (fluent)
Software	Maple, LaTeX, Mathematica, WxMaxima, Reduce