

# Manuel Pichardo Marcano

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## Education

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- *Joint European Master Degree in Space Science & Technology*  
M.S., Space and Science Technology, Luleå tekniska universitet (2014 - 2016)  
M.S., Astrophysics, Université Paul Sabatier Toulouse III (2014 - 2016)
- *Bachelor of Science, Physics*  
Utah State University (2014)

## Research Experience

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- Spring 2016: *Research Project, Research Institute in Astrophysics and Planetology (IRAP).*  
Working with Dr. Natalie Webb in a project studying the spectral signatures of compact objects in two globular clusters (NGC 6397 and Omega Centauri) with data taken by the Multi Unit Spectroscopic Explorer (MUSE) instrument of the Very Large Telescope. The goal is to determine the atmosphere of the neutron stars and study different populations of cataclysmic variables to better understand the evolution and formation of binaries in globular clusters.
- Summer 2015: *Summer Project, Institute for Gravitational Research, University of Glasgow.*  
Worked with Dr. Martin Hendry in a project developing a graphical user interface for gravitational wave data analysis. <https://github.com/manuelmarcano22/aLIGO-wxPython>
- 2013-2014: *Undergraduate Researcher, Utah State University, Astrophysics Group.*  
Worked with Dr. Shane Larson and Dr. Jeff Hazboun in a project establishing a limit in the mass of the graviton using Pulsar Timing Arrays. <http://arxiv.org/abs/1311.3153>
- Summer 2013: *Undergraduate Researcher, National Center for Atmospheric Research*  
Worked with Dr. Scott McIntosh on project using observations of the Solar Dynamics Observatory (SDO) spacecraft (especially the Helioseismic and Magnetic Imager - SDO/HMI) to study the evolution of the photospheric magnetic field in the build up to the most powerful solar flares and CMEs of the current solar cycle.
- Summer 2012: *Undergraduate Researcher, Stanford University, Geophysics Dep.*  
Worked with Dr. Howard Zebker and Dr. Lin Liu on project to try to use the remote sensing technique called InSAR (Interferometric Synthetic Aperture Radar) to study the hydrodynamics of two interconnected lakes in the Dominican Republic.

## Publications & Preprints

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### *Papers*

- *Limiting alternative theories of gravity using gravitational wave observations*  
Jeffrey S. Hazboun, Manuel Pichardo Marcano and Shane L. Larson; preprint [arxiv/1311.3153](https://arxiv.org/abs/1311.3153)

## Talks and Posters

- ▶ *"Big Flare Hunting"*  
Poster. Summer Program in Solar and Space Physics. Boulder, CO. 2013
- ▶ *"Measuring Water Level Fluctuations of Two Connected Wetlands in the Dominican Republic Using InSAR"*  
Poster. SHPE National Conference. Dallas, TX. 2012
- ▶ *"Measuring Water Level Fluctuations of Two Connected Wetlands in the Dominican Republic Using InSAR"* Talk.  
USU Physics Department Colloquium. 2012

## Teaching Experience

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- ▶ *Undergraduate Teaching Fellow*. PHYS 2215: Physics for Scientists and Engineers Lab I - Utah State, Fall 2013.

## Recognitions & Leadership Experiences

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- ▶ Erasmus Mundus Scholarship: 2-year scholarship awarded by the European Commission
- ▶ Presidential Scholarship: Full 4-year scholarship awarded by the Dominican Government
- ▶ Member: *Sigma Pi Sigma*, The Physics Honor Society
- ▶ Vice-President: *Society of Hispanic Professional Engineers*. 2011-2012
- ▶ Outreach Coordinator: *Society of Hispanic Professional Engineers*. 2012-2013
- ▶ Lawrence R. and Abeline Megill Scholarship: *USU Physics Department*

## Technical Skills

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- ▶ *Operating Systems*: GNU/Linux, OS X, Windows
- ▶ *Programming*: Proficient with Python. Good experience with shell (bash), Mathematica, and Matlab scripting
- ▶ *Software*: Experienced working with Mathematica and  $\text{\LaTeX}$ . Some experience with Matlab, IRAF and version control (git)

## Languages

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- ▶ *Spanish*: Native Language
- ▶ *English*: Fluent
- ▶ *French*: Intermediate knowledge

## Outreach

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- ▶ *Author at Astrobites*: Spanish sister site of Astrobites. Our goal is to present interesting research papers in astronomy in a brief format that is accessible to undergraduate students in the physical science. URL: <http://astrobites.org/>

## References

*Dr. Natalie Webb*

Researcher

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31028 Toulouse Cedex 4, France

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*Dr. Martin Hendry*

Head of School

Professor of Gravitational Astrophysics and Cosmology

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*Dr. Shane Larson*

Research Associate Professor

Center for Interdisciplinary Exploration

and Research in Astrophysics

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*Dr. Scott W. McIntosh*

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*Dr. David Peak*

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