

# Juan C. Ibáñez-Mejía

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## Personal Information

Born **July 20, 1987.**  
Bogotá, Colombia

Nationality **Colombian.**

Sex **Male.**

Marital Status **Married.**

Occupation **Post-doctoral researcher.**  
Theoretical Astrophysics Group  
I. Physikalisches Institut  
Universität zu Köln

## Education

2005–2010 **Bachelor in Physics, Universidad Nacional de Colombia.**  
Bogotá, Colombia, October 7, 2010.  
Spin evolution of a solar type star magnetically coupled to an accretion disk. Advisor: Giovanni Pinzón Estrada.

2010–2012 **Master in Astrophysics, Universität Bonn, Argelander Institut für Astronomie.**  
Bonn, Germany, September 28, 2012.  
Stability of magnetic fields in stellar interiors. Advisor: Jonathan Braithwaite.

2012–2016 **PhD in Physics, Universität Heidelberg, Institut für Theoretische Astrophysik.**  
Heidelberg, Germany, July 5, 2016.  
Formation, evolution and collapse of molecular clouds in a galactic environment. Advisors: Ralf S. Klessen & Mordecai-Mark Mac Low.

## Teaching Experience

April–July 2014 **Graduate Teaching Assistant, Astrophysical Fluid Dynamics, Institut für Theoretische Astrophysik, Heidelberg Universität.**  
Supported students with their enquiries about the lecture, the exercise list and grading.

April–September 2012 **Graduate Teaching Assistant, Hydrodynamics and Astrophysical Magnetohydrodynamics, Argelander Institut für Astronomie, Bonn Universität.**  
Developed the weekly exercise list for the lecture. Supported students with their enquiries about the lecture, the exercise list and grading.

October 2011 – February 2012 **Graduate Teaching Assistant, Stars and Stellar Evolution, Argelander Institut für Astronomie, Bonn Universität.**  
Supported students with their enquiries about the lecture, the exercise list and grading.

September–December 2009 **Undergraduate Teaching Assistant, Astronomical Symposium, National Observatory, Universidad Nacional de Colombia.**  
Coordinated and graded the excersices for the José Celestino Mutis Symposium "Astronomy for everybody".

February–June 2009 **Undergraduate Teaching Assistant, Museum of Science and Joy, Bogotá Colombia.**  
Part of the team that developed the "Museum Suitcase" in Astronomy; an outreach program taking scientific knowledge to marginal communities in Colombia.

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## Past and Current Grants

- 2016 **XSEDE Computer Grant**, *Co-PI*, Awarded 4.4 M hours..  
Drafted the grant document "Star Formation in the Galactic Environment: The effects of stellar feedback". Allocation corresponding to the final runs of the PhD thesis and implementation of stellar feedback modules.
- 2015 **XSEDE Computer Grant**, *Co-I*, Awarded 0.7 M hours..  
Contributed to the grant document "Can inflowing gas fuel star formation?".
- 2015 **XSEDE Computer Grant**, *Co-PI*, Awarded 3.8 M hours..  
Drafted the grant document "Star Formation in the Galactic Environment". Main allocation to run PhD thesis simulations of the ISM.
- 2014 **XSEDE Computer Grant**, *Co-I*, Awarded 2.7 M hours.  
Contributed to the grant document "Simulations of the Formation of Stars and Planets in Disks".

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## Awards and Scholarships

- 2005 – 2010 **PAES award**, *Universidad Nacional de Colombia*.  
Full tuition scholarship for undergraduate studies.

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## Languages

Spanish	<b>Native Speaker</b>	
English	<b>Fluent</b>	<i>excellent command</i>
Italian	<b>Fluent</b>	<i>good working knowledge</i>
German	<b>Intermediate</b>	<i>conversational</i>
French	<b>Beginner</b>	<i>basic reading skills</i>
Arabic	<b>Beginner</b>	<i>basic reading skills</i>

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## Invited Talks

- February 2017 **Big Data and Monte Carlo Methods**, *Heidelberg, Germany*.  
Invited Lecture: Modeling and Analyzing the Interstellar Medium of the Milky Way Galaxy.
- March 2016 **ISM-SPP Students meeting**, *Freising, Germany*.  
Invited Lecture: Modeling the multiphase, turbulent interstellar medium.
- February 2016 **ISM Day**, *Garching, Germany*.  
Accreting Clouds in a Turbulent Interstellar Medium.
- December 2015 **Institut d'Astrophysique Spatiale ISM Jam Session**, *Paris, France*.  
The origin of the velocity dispersion-size relation in molecular clouds.
- December 2015 **Astronomical National Observatory Seminar**, *Bogotá, Colombia*.  
Formation and evolution of molecular clouds in the Galaxy.
- October 2015 **Center for Astrochemical Studies Seminar**, *Garching, Germany*.  
The origin of the velocity dispersion-size relation in molecular clouds.
- March 2015 **Astrowin Workshop**, *Gainesville, FL, USA*.  
Gravitational collapse in a Supernova-driven, turbulent, interstellar medium
- March 2015 **ALMA/VLA/CASA Workshop**, *Gainesville, FL, USA*.  
Exploring the initial conditions of star formation in a turbulent ISM
- February 2015 **ISM Seminar at Columbia University**, *New York, NY, USA*.  
Growing molecular clouds in a turbulent interstellar medium

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## Contributed Talks

- April 2017 **Multi-Scale Star Formation Meeting**, *Morelia, Mexico*.  
Dynamics and collapse of magnetized clouds in a turbulent interstellar medium

- February **ISM Meeting**, *Cologne, Germany*.  
2017 Collapsing super-Alfvénic molecular clouds in a turbulent interstellar medium
- May 2015 **Harvard-Heidelberg Star Formation Workshop**, *Cambridge, MA, USA*.  
The life of molecular clouds in a turbulent interstellar medium
- June 2013 **Photoevaporation in Astrophysical Systems**, *Stockholm, Sweden*.  
Formation of turbulent molecular clouds.
- July 2010 **Congreso Colombiano de Astronomía**, *Bogotá, Colombia*.  
Spin evolution of a solar type star magnetically connected to an accretion disk.

## Posters

- July 2017 **Current and future perspectives of chemical modeling in astrophysics**, *Hamburg, Germany*.  
Charge distribution of dust grains in the ISM.
- October 2014 **Filamentary Structure in Molecular Clouds**, *Charlottesville, VA, USA*.  
Gas dynamics in filamentary cloud complexes.
- May 2014 **The Olympian Symposium on Star Formation**, *Paralia Katerini, Greece*.  
Formation of dense clouds in a turbulent interstellar medium.
- October 2013 **Physical Processes in the ISM**, *Garching, Germany*.  
Turbulent assembly of molecular clouds.
- July 2012 **Galactic Scale Star Formation**, *Heidelberg, Germany*.  
Magnetohydrodynamics instabilities in stellar radiative zones.

## Outreach Events

### Panels

- February **Kids Week**, *Intrepid Museum, New York, NY, USA*.  
2015 Meet the scientist.
- October 2014 **Family Party Science Center**, *American Museum of Natural History, New York, NY, USA*.  
Meet the scientist.

### Talks

- June 2015 **Invited talk at Tenafly High School**, *Tenafly, NJ, USA*, Talk.  
Space Exploration and Scientific Revolutions
- May 2015 **Astronomy Night**, *Intrepid Museum, New York, NY, USA*, Talk.  
Space Exploration and Scientific Revolutions

## miscellaneous

- 2015-present **Author for Astrobites in Spanish**.  
Astrobites in Spanish is a blog where we summarize recent papers in astrophysics and present them at an undergraduate students level.