

# Beatriz Tucci Schiewaldt

PhD Student at Max Planck Institute for Astrophysics (MPA)

@ beatriz.tucci@gmail.com

@ tucci@mpa-garching.mpg.de

wwwmpa.mpa-garching.mpg.de/~tucci

## Education

### PhD in Astrophysics

Max Planck Institute for Astrophysics

📅 October 2021 – Present 📍 Garching, Germany

🔗 <https://www.imprs-astro.mpg.de/>

Likelihood-free inference for galaxy clustering  
Supervisor: Fabian Schmidt

### Master in Physics

Department of Mathematical Physics - Institute of Physics -  
University of Sao Paulo (IFUSP)

📅 August 2020 – October 2021 📍 Sao Paulo, Brazil

🔗 <http://portal.if.usp.br/ifusp/en>

The spin bias of dark-matter halos  
Supervisors: Profs. Luis Raul Weber Abramo and Antonio  
Montero Dorta

### Bachelor in Molecular Sciences

University of Sao Paulo

📅 August 2016 – July 2020 📍 Sao Paulo, Brazil

🔗 <http://cecm.usp.br/en>

## Publications

### BAO scale inference from biased tracers using the EFT likelihood

JCAP, 048P 0322

📅 August 2022

🔗 <https://arxiv.org/abs/2203.06177>

🔗 <https://doi.org/10.1088/1475-7516/2022/08/007>

Ivana Babić, Fabian Schmidt, [Beatriz Tucci](#)

### Mimicking the halo-galaxy connection using machine learning

MNRAS, 514 2

📅 August 2022

🔗 <http://arxiv.org/abs/2008.08607>

🔗 <https://doi.org/10.1093/mnras/stac1469>

Natalí S. M. de Santi, Natália V. N. Rodrigues, Antonio D. Montero-Dorta, L. Raul Abramo, [Beatriz Tucci](#), M. Celeste Artale

### On the kinetic Sunyaev-Zel'dovich effect as an observational probe for halo spin bias

MNRAS, 504 3

📅 July 2021

🔗 <http://arxiv.org/abs/2008.08607>

🔗 <https://doi.org/10.1093/mnras/stab1026>

Antonio D. Montero-Dorta, M. Celeste Artale, L. Raul Abramo, [Beatriz Tucci](#)

## Fellowships

### Sao Paulo Research Foundation

Grant number: 2020/10520-5

📅 Nov 2020 – Oct 2021 📍 University of Sao Paulo

🔗 <https://fapesp.br/en>

- Masters: The spin bias of dark-matter halos
- Supervisors: Profs. Luis Raul Weber Abramo and Antonio Montero Dorta

### Sao Paulo Research Foundation

Grant number: 2018/17688-9

📅 Nov 2018 – July 2020 📍 University of Sao Paulo

- Undergraduate Project: The halo-galaxy connection
- Supervisors: Profs. Luis Raul Weber Abramo and Antonio Montero Dorta

## The physical origins of low-mass spin bias

MNRAS, 500 3

📅 January 2021

🔗 <http://arxiv.org/abs/2007.10366>

🔗 <https://doi.org/10.1093/mnras/staa3319>

Beatriz Tucci, Antonio D. Montero-Dorta, L. Raul Abramo, Gabriela Sato-Polito, M. Celeste Artale

## The manifestation of secondary halo bias on the galaxy population from IllustrisTNG300

MNRAS, 496 2

📅 August 2020

🔗 <http://arxiv.org/abs/2001.01739>

🔗 <https://doi.org/10.1093/mnras/staa1624>

Antonio D. Montero-Dorta, M. Celeste Artale, L. Raul Abramo, [Beatriz Tucci](#), Nelson Padilla, Gabriela Sato-Polito, Iván Lacerna, Facundo Rodriguez, Raul E. Angulo

## Talks

### Vipolže 2022

Vila Vipolže

📅 July 2022

📍 Vipolže, Slovenia

*The spin bias of dark-matter halos*

### Summer School on Cosmology 2022

ICTP - International Centre for Theoretical Physics

📅 July 2022

📍 Trieste, Italy

*The spin bias of dark-matter halos*

### Advances in Cosmology through Numerical Simulations

MIAPbP

📅 June 2022

📍 Garching, Germany

*The spin bias of dark-matter halos*

### XLII Paulo Leal Ferreira Congress

Institute for Theoretical Physics

📅 October 2019

📍 Sao Paulo, Brazil

*What determines the spatial distribution of Dark Matter halos in the Universe?*

**Award:** Best undergraduate oral presentation prize

### Mini Workshop on Assembly Bias

Pontifical Catholic University of Chile

📅 October 2019

📍 Santiago, Chile

*Secondary Bias from the MultiDark Simulations*

### Dead Physicists Society

IFUSP

📅 October 2019

📍 Sao Paulo, Brazil

*What determines the spatial distribution of Dark Matter halos in the Universe?*

📅 October 2018

📍 Sao Paulo, Brazil

*What is the Cosmos?*

## Digital Skills

C/C++ 

Python 

Linux 

LaTeX 

Fortran 

HTML 

CSS 

## Languages

Portuguese 

English 

German 

Spanish 

## Research Interests

Large Scale Structure

- Assembly Bias;
- Likelihood-free inference;
- Field-level inference;
- Galaxy-Halo Connection;
- N-body Simulations;
- Machine Learning;
- Primordial Non-Gaussianities;
- Parity violation.

# Extracurricular Experience

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## Vipolže 2022

Vila Vipolže

📅 July 2022

📍 Vipolže, Slovenia

🔗 <http://bccp.berkeley.edu/2022-Smartno>

Cosmology workshop

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## Summer School on Cosmology 2022

ICTP - International Centre for Theoretical Physics

📅 July 2022

📍 Trieste, Italy

🔗 <https://indico.ictp.it/event/9810>

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## Advances in Cosmology through Numerical Simulations

MIAPbP - Munich Institute for Astro-, Particle and BioPhysics an institute of the Excellence Cluster ORIGINS

📅 June 2022

📍 Garching, Germany

🔗 <https://www.munich-iapbp.de/cosmology22>

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## Likelihood-free in Paris

ENS - École Normale Supérieure

📅 April 2022

📍 Paris, France

🔗 <https://indico.in2p3.fr/event/25496>

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## GGI Lectures on the Theory of Fundamental Interactions

Galileo Galilei Institute for Theoretical Physics

📅 07/01/2020 - 24/01/2020

📍 Florence, Italy

🔗 <http://ggi.infn.it/ggilectures/ggilectures2020/>

- Positive Geometry of the Real World (Nima Arkani-Hamed)
  - Cosmological Fluctuations and their Bootstrap (Guilherme Pimentel)
  - QFTs on the lattice (Luigi Del Debbio)
  - Neutrino Physics (Silvia Pascoli)
  - Gravitational waves: A modern approach (Rafael Porto)
  - QCD and Collider Physics (Jesse Thaler)
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## 2nd Latin American School on Parallel Programming for High Performance Computing

ICTP-SAIFR

📅 02/12/2019 - 13/12/2019

📍 Institute for Theoretical Physics (IFT), Sao Paulo, Brazil

🔗 <https://www.ictp-saifr.org/school-on-parallel-programing-for-high-performance-computing/>

- Computer architectures for HPC and optimization
  - Parallel programming tools (MPI & OpenMP)
  - Parallel programming best practices
  - Floating-point math
  - Profiling and Debugging
  - Principles and Practices of ParallelSW Development
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## One-Day Relativity Workshop

ICTP-SAIFR

📅 5/11/2019

📍 IFT, Sao Paulo, Brazil

🔗 <http://ictp-saifr.org/one-day-relativity-workshop/>

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## XLII Paulo Leal Ferreira Congress

ICTP-SAIFR

📅 30/10/2019 – 01/11/2019

📍 IFT, Sao Paulo, Brazil

🔗 <http://professores.ift.unesp.br/congressoPauloLealFerreira/index.html>

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## Mini Workshop on Assembly Bias

Pontifical Catholic University of Chile

📅 10/10/2019 – 11/10/2019

📍 Santiago, Chile

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## FAPESP-JSPS Workshop on dark energy, dark matter, and galaxies

University of Sao Paulo

📅 18/02/2019 – 20/02/2019

📍 IFUSP, Sao Paulo, Brazil

🔗 <http://fma.if.usp.br/~abramo/FAPESP-JSPS/index.html>

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## XX Swieca Summer School on Particles and Fields

Hotel Orotour Garden

📅 27/01/2019 – 09/02/2019

📍 Campos do Jordao, Brazil

🔗 <http://sbfisica.org.br/~evjaspc/xx/index.php/pt/>

- Introduction to Cosmological Perturbation Theory (Phill Bull)
  - Introduction to String Theory (Herman Verlinde)
  - Introduction to the Standard Model of Particles (Pedro Machado)
  - Physics Beyond the Standard Model (Csaba Csáki)
  - Large Scale Structure on the Backward Lightcone (Ruth Durrer)
  - Advanced Topics in String Theory (Aristomenis Donos)
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## The Sound of Space-time: The Dawn of Gravitational Wave Science

ICTP-SAIFR

📅 26/11/2018 – 14/12/2018

📍 IFT, Sao Paulo, Brazil

🔗 <http://ictp-saifr.org/the-sound-of-space-time-the-dawn-of-gravitational-wave-science/>

- Modeling of extreme mass ratio in spirals (Adam Pound)
  - Introduction to the post-Newtonian expansion of General Relativity and analytic modeling of gravitational waves (Luc Blanchet)
  - Numerical Relativity (Sascha Husa)
  - Studying non vacuum spacetimes (Luis Lehner)
  - Black hole (g)astrophysics (Rodrigo Nemmen)
  - Gravitational waves data analysis (Riccardo Sturani)
  - Multimessenger astronomy (Daniel Siegel)
  - An introductory course on Effective-One-Body formalism and gravitational waveform construction (Jan Steinhoff)
  - Continuous and transient gravitational wave sources (Sylvia Zhu)
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## II South American Dark Matter Workshop

ICTP-SAIFR

📅 21/11/2018 – 23/11/2018

📍 IFT, Sao Paulo, Brazil

🔗 <http://ictp-saifr.org/ii-south-american-dark-matter-workshop/>

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## School and Workshop on Dark Matter and Neutrino Detection

ICTP-SAIFR

📅 23/07/2018 – 03/08/2018

📍 IFT, Sao Paulo, Brazil

🔗 <http://ictp-saifr.org/school-on-dark-matter-and-neutrino-detection/>

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## First Joint ICTP-Trieste/ICTP-SAIFR School on Particle Physics

### ICTP-SAIFR

📅 18/06/2018 – 29/06/2018

📍 IFT, Sao Paulo, Brazil

🔗 <http://ictp-saifr.org/first-joint-ictp-triesteictp-saifr-school-on-particle-physics/>

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## XL Paulo Leal Ferreira Congress

### Institute for Theoretical Physics

📅 17/10/2017 – 19/10/2017

📍 IFT, Sao Paulo, Brazil

🔗 <http://if.ufrgs.br/if/event/xl-congresso-paulo-leal-ferreira-de-fisica/>

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## Carmen Lys Ribeiro Braga Physics Winter School

### University of Sao Paulo

📅 July 2017

📍 IFUSP, Sao Paulo, Brazil

- Classical Field Theory (Joao Luis Meloni Assirati)
  - Group Theory (Maria Fernanda Araujo de Resende)
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## I South American Dark Matter Workshop

### ICTP-SAIFR

📅 10/05/2017 – 12/05/2017

📍 IFT, Sao Paulo, Brazil

🔗 <http://ictp-saifr.org/sao-paulo-dark-matter-workshop/>

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## XIX Swieca Summer School on Particles and Fields

### Beach Hotel Maresias

📅 30/01/2017 – 10/02/2017

📍 Maresias, Brazil

🔗 <http://sbfisica.org.br/~evjaspc/xix/>

- Structure formation in theory and in practice (Raul Abramo)
- Testing gravity with cosmology (Luca Amendola)
- The Standard Model of Particle Physics (Enrico Bertuzzo)
- Physics Beyond the Standard Model at the crossroads (Adam Falkowski)
- Introduction to Holography (João Penedones)
- Introduction to Cosmology (Rogerio Rosenfeld)