

# Dr. Mariana Jaber

Cosmologist



## About me

I am a cosmologist working on the interface between theory and observations, linking theoretical models with the computational analysis of astronomical data.

## Personal information

**Name:** Mariana Jaber Bravo  
**Nationality:** Mexican

## Areas of specialization

Theoretical and Observational Cosmology • Large Scale Structure • Peculiar Velocities • Cosmic web • Galaxy surveys • Dark Energy and Modified gravity • N-body simulations

## Referee

Modern Physics Letters A  
Physical Review Letters  
Physical Review D  
Astronomy & Astrophysics  
The Astrophysical Journal

## Membership in Collaborations

WST (Active)  
CLUES (Active)  
LSST-DESC (Seeking Rights)  
DESI (2018-2019)  
eBOSS (2014-2019)

## Community Service

**Supernova Foundation:**  
Leadership Board (since 2023),  
Mentor (since 2020)  
**SMF & INALI:** Member of the  
Editing Team (2017)  
**UV-Peraj:** Tutor (2009-2010),  
Directive Board (2010-2012)

## Languages

Spanish (native)  
English (proficient)  
French (intermediate)  
Polish (basic)

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MarianaJBr

www.marianajaber.com

## RESEARCH EXPERIENCE

|                         |                                                                                                                                                      |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| April 2026– Present day | <b>National Centre for Nuclear Research</b><br>PRINCIPAL INVESTIGATOR · Warsaw, PL 📍                                                                 |
| Sept 2021– March 2026   | <b>Center of Theoretical Physics, Polish Academy of Sciences</b><br>POSTDOCTORAL RESEARCHER (3 YEARS) PRINCIPAL INVESTIGATOR (1 YEAR) · Warsaw, PL 📍 |
| Sept 2019– Aug 2021     | <b>Nicolaus Copernicus University (Postdoctoral Researcher)</b><br>FACULTY OF PHYSICS, ASTRONOMY AND INFORMATICS · Toruń, PL 📍                       |

## TEACHING EXPERIENCE

|                |                                                                                                                                                                          |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8-22 Oct 2021  | <b>Short specialised courses</b><br>COMPUTATIONAL COSMOLOGY GROUP WORKSHOP · Świeradów-Zdrój, PL 📍<br>"Multipoles of BOSS DR12 LRG catalog" & Themed Discussion Sessions |
| Apr, Nov, 2017 | <b>Short specialised courses</b><br>CINVESTAV · CDMX, MX 📍<br>"Constraining cosmological parameters with Cosmic Clocks" & "Use of N-body kit"                            |
| 2014-2016      | <b>Lecturer</b><br>PHYSICS I · Curso UNAM CDMX, MX 📍<br>6-8 groups of 30+ students per semester, 4 semesters                                                             |
| 2015-2016      | <b>Teaching Assistant</b><br>PHYSICAL COSMOLOGY · Faculty of Sciences, CDMX, MX 📍<br>14 students per class, 2 semesters                                                  |

## EDUCATION

|             |                                                                                  |
|-------------|----------------------------------------------------------------------------------|
| Jan, 2019   | <b>PhD, summa cum laude</b><br>PHYSICS · IF-UNAM<br>CDMX, MX                     |
| July, 2014  | <b>M.Sc.</b><br>PHYSICS · IF-UNAM<br>CDMX, MX                                    |
| March, 2011 | <b>B.S., summa cum laude</b><br>PHYSICS · Fac. of Physics,<br>UV<br>Veracruz, MX |

## AWARDS & GRANTS

|                    |                               |
|--------------------|-------------------------------|
| <b>2024</b>        | NCN - SONATA grant            |
| <b>2023</b>        | CFT - Young Scientists Grant. |
| <b>2019 - 2023</b> | SNI (Candidate)               |
| <b>2018</b>        | ARC-SDSS Travel grant         |

## EVENTS ORGANISED

|             |                                                                 |
|-------------|-----------------------------------------------------------------|
| <b>2024</b> | Symposium on alternative theories of gravity (20+ participants) |
| <b>2022</b> | II Roman Juskiewicz Symposium (65+ participants)                |
| <b>2017</b> | Hands-on Python workshop CinvesPy (70+ participants)            |
| <b>2017</b> | Num & Stat Methods in Cosmology (40+ participants)              |

## THESIS

2025 Director of Master thesis (Masaryk University, Brno, Czech Republic )  
2024-2025 Director of bachelor thesis (UW, Warsaw, PL)  
2023-2024 Director of master thesis (UJ, Kraków, PL)  
April 2024 - Jury member. Master in Astrophysics (UNAM, MX)  
July 2019 - Jury member. Master in Astrophysics (UNAM, MX)

## ACADEMIC EVENTS

|                        |                                                                                             |
|------------------------|---------------------------------------------------------------------------------------------|
| <b>Research visits</b> | 6                                                                                           |
| <b>Seminars</b>        | 14                                                                                          |
| <b>Conferences</b>     | 14 (contributions) & 21 (participation)                                                     |
| <b>Outreach talks</b>  | 6                                                                                           |
| <b>Popular Sci.</b>    | "The inheritance of economic inequality" (published)                                        |
| <b>Book chapter</b>    | Programming exercises in Python "PRAXIS. Física I". MacMillan Editorial, ISBN:9786075403052 |
| <b>Papers</b>          | 10 Published (8 as first or second author)                                                  |