

# Maria Teresa Valdivia-Mena

Giessenbachstrasse 1, 85748 Garching, Germany

☎ +49 (0)89 30000-3546 | ✉ mvaldivi@mpe.mpg.de | 🏠 tere-valdivia.github.io | 📺 tere-valdivia

## Education

### PhD (Dr. rer. nat) in Astrophysics

September 2020 - Present

MAX PLANCK INSTITUTE FOR EXTRATERRESTRIAL PHYSICS (INTERNATIONAL MAX PLANCK RESEARCH SCHOOL)

Garching, Germany

- Expected thesis defense date: February 2024
- Thesis title: Observations and analysis of the physical and chemical structure of a large sample of young protostars and links to protoplanetary disks

### M.Sc. in Astronomy

March 2018 - August 2020

UNIVERSIDAD DE CHILE

Santiago, Chile

- Thesis title: Molecular Clouds in Extreme Environments of the Low-Metallicity Magellanic System
- Graduated with maximum distinction (Grade 6.8 out of a maximum of 7.0)

### B.Sc. in Astronomy

March 2014 - December 2017

UNIVERSIDAD DE CHILE

Santiago, Chile

- Obtained a Minor in Scientific Computing together with the B.Sc.
- Graduated with maximum distinction (Grade 6.2 out of a maximum of 7.0).

## Publications

### As first author:

- Valdivia-Mena, M. T., Pineda, J. E., Segura-Cox, D. M., et al., *Flow of gas detected from beyond the filaments to protostellar scales in Barnard 5*, 2023, accepted for publication in *Astronomy & Astrophysics*, on July, 2023
- Valdivia-Mena, M. T., Pineda, J. E., Segura-Cox, D. M., et al., *PRODIGE - Envelope to disk with NOEMA I. A 3000 au streamer feeding a Class I protostar*, 2022, *Astronomy & Astrophysics*, 667, A12
- Valdivia-Mena, M. T., Rubio, M., Bolatto, A. D., et al., *ALMA resolves molecular clouds in metal-poor Magellanic Bridge A*, 2021, *Astronomy & Astrophysics*, 641, A97

### As co-author:

- Hsieh, T. H. et al (incl. Valdivia-Mena, M. T.), 2023, *Astronomy & Astrophysics*, 669, A137

## Scholarships and Awards

July 2018 **Adelina Gutierrez Grant**, *Sociedad Chilena de Astronomía*. The grant funded the assistance to the Second Binational AAA-SOCHIAS Meeting

March 2018 **Scholarship for National Master Studies**, *Comisión Nacional de Investigación en Ciencia y Tecnología (CONICYT)*. The scholarship funds master studies done in Chilean universities

## Telescope proposals and experience

**Atacama Large Millimeter/Submillimeter Array (ALMA)**: PI of accepted projects 2023.1.00572.S (grade B), 2022.1.00898.S (grade C), plus experience with calibration and imaging.

**Northern Extended Millimetre Array (NOEMA)**: PI of accepted project W22AH (grade A), member of the calibration and imaging group of the PRODIGE MPI-IRAM Large Program, plus experience with calibration and imaging.

**Green Bank Telescope (GBT)**: PI and on-site observer of accepted project GBT22B-163 (2022B). Also obtained qualification as remote observer.

**IRAM 30m**: PI of accepted project 124-21 (2022A) and remote observing experience for this project. On-site and remote observing experience for project 090-21 (PI: J. Pineda), where I participate as Co-I.

**Atacama Pathfinder Explorer (APEX)**: PI of accepted project C104-9709 (2019B). On-site observer for Chilean time in three occasions: June 2017 (2017A), April 2018 (2018A) and May 2019 (2019A)

## Talks

### SEMINARS

Dec. 12th 2022	<b>Tuesday UVA / NRAO Astronomy (TUNA) Lunch Talk</b> , Title: “Rivers in the sky: streamers discovered towards two young embedded sources in Perseus”, NRAO	Charlottesville, USA
Dec. 12th 2022	<b>IRAM-Wisc-CAS Seminar</b> , Title: “Rivers in the sky: streamers discovered towards two young embedded sources in Perseus”	Virtual
Nov. 8th 2022	<b>Star and Planet Formation Seminar</b> , Title: “Rivers in the sky: streamers discovered towards two Class I sources in Perseus”, ESO	Garching, Germany

## CONFERENCES

Aug. 4th 2022	<b>From Clouds to Planets II: The Astrochemical Link</b> , Title: “Rivers in the sky: streamers discovered towards two Class I sources in Perseus”	Berlin, Germany
Jun. 30th 2022	<b>European Astronomical Society Annual Meeting 2022</b> , Title: “Rivers in the sky: Streamers discovered towards two embedded protostars in Perseus”	Valencia, Spain
Mar. 4th 2022	<b>Meeting of ALMA Young Astronomers</b> , Title: “Rivers in the sky: streamers discovered towards two Class I sources in Perseus”	Virtual
Nov. 5th 2021	<b>12th IMPRS Students Symposium</b> , Title: “River in the sky: A streamer feeding a Class I protostar”	Garching, Germany
Oct. 29th 2021	<b>Gaps, Rings, Spirals, and Vortices: Structure Formation in Planet-Forming Disks</b> , Title: “A Class I protostar with a high streamer mass infall rate”, Munich Institute for Astro- and Particle Physics	Garching, Germany
Jun. 30th 2021	<b>European Astronomical Society Annual Meeting 2021</b> , Title: “River in the sky: A streamer feeding a Class I protostar”	Virtual
Nov. 8th 2019	<b>Latin American Regional IAU Meeting 2019</b> , Title: “ALMA observations of molecular tracers in R136 in 30Dor: How does cold gas survive?”, Hotel Antofagasta	Antofagasta, Chile

## Skills

<b>Languages</b>	Spanish (native), English (C1), German (A2)
<b>Programming languages</b>	Python (expert), C, Java, R
<b>CASA</b>	Experience in Data reduction and Imaging of interferometric data
<b>GILDAS</b>	Experience with CLASS, MAPPING and CLIC
<b>Version controlling tools</b>	Git, Google Docs

## Workshops

Aug. 22th - 26th, 2022	<b>17th IMPRS Heidelberg Astronomy Summer School: Astronomy, astrochemistry &amp; the origin of life</b> , International Max Planck Research School for Astronomy and Cosmic Physics, University of Heidelberg	Heidelberg, Germany
Aug. 3rd - 5th 2022	<b>Green Bank Telescope (GBT) Remote Observer Training Workshop</b> , NRAO	Virtual
Nov. 15th - 23rd 2021	<b>10th IRAM 30-meter School on Millimeter Astronomy</b> , Institut de Radioastronomie Millimétrique	Virtual
Mar. 14th - 19th 2021	<b>2021 Submillimeter Array Interferometry School</b> , Harvard & Smithsonian Center for Astrophysics, in conjunction with the ASIAA and the University of Hawaii	Virtual
Oct. 7th - 11th, 2019	<b>European Radio Interferometry School 2019</b> , Onsala Space Observatory and Chalmers University of Technology	Gothenburg, Sweden
Oct. 1st - 5th 2018	<b>II International Astrochemistry School</b> , Universidad Autónoma de Chile	Santiago, Chile
Aug. 20th - 29th 2018	<b>La Serena School for Data Science: Applied Tools for Data Driven Sciences</b> , Association of Universities for Research in Astronomy, National Science Foundation (USA) and Agencia Nacional de Investigación y Desarrollo (Chile)	La Serena, Chile

## Outreach

	<b>Member of “Cazadoras de Estrellas” Project</b> , <i>DIRVEX, Universidad de Chile</i> . This outreach project is lead by	
Jul. 2018 - Present	a group of female graduate students and alumni from the Astronomy Department in Universidad de Chile. The goal is to give high school girls a hands-on experience with astronomical data and meet female astronomers so that they can solve any vocational doubts about this career	Chile
Aug. 30th 2022	<b>Public Talk “Discos protoplanetarios, el origen de los mundos”</b> , Programa Ciencia Abierta, Par Explora RM Norte. Liceo Bicentenario Provincial Santa Teresa de los Andes	Colina, Chile
Jul. 23rd 2022	<b>Public Talk “How to feed baby stars”</b> , Soapbox Science Munich	Munich, Germany
Jun. 27th, 2019	<b>Public Talk “Eclipses: Luces y Sombras en el Universo”</b> , Municipalidad de El Bosque.	Santiago, Chile
Mar. 21st 2019 - Apr. 9th 2019	<b>Public Talk “Astroinformática para principiantes”</b> , Done at DUOC UC Puente Alto and at Centro de Extensión de la Universidad de Talca.	Santiago, Chile
	<b>Scientific Counselor for “Festival de Teatro y Ciencias” (FETYC)</b> , Par Explora Sur Oriente, CONICYT. The	
Jun. 2018 - Nov. 2018	FETYC is a theatre competition organized by the National Comission of Scientific and Technologic Investigation (CONICYT) where several schools prepare a play around a scientific inquiry. The Scientific Counselor guides the scientific content of the plays.	Santiago, Chile
Mar. 2018 - Aug. 2018	<b>Tourist Guide at National Astronomical Observatory</b> , Departamento de Astronomía, Universidad de Chile.	Santiago, Chile

## Teaching

Sep. 2018 - Jul. 2019	<b>Teaching Assistant for the course “Experimental Astronomy”</b> , Undergraduate course, Includes giving classes, marking and supervising activities	Universidad de Chile
Mar. 2019 - Jul. 2019	<b>Teaching Assistant for the course “Introduction to Cosmology”</b> , Undergraduate course, Includes giving classes, marking and supervising activities	Universidad de Chile
Jan. 2019	<b>Teaching Assistant for “Planetary Sciences”</b> , High School, Escuela de Verano	Universidad de Chile
Sep. 2017 - Oct. 2017	<b>Teaching Assistant for the Data Visualization Diploma</b> , Undergraduate diploma	Pontificia Universidad Católica de Chile
Mar. 2017 - Jul. 2017	<b>Teaching Assistance for the course “Mechanics”</b> , Undergraduate course, Includes giving classes, marking and supervising activities	Universidad de Chile

## References

**Prof. Dr. Paola Caselli**, Director, Max Planck Institute for Extraterrestrial Physics, [caselli@mpe.mpg.de](mailto:caselli@mpe.mpg.de)

**Prof. Dr. Mónica Rubio**, Full Professor, Departamento de Astronomía, Universidad de Chile, [mrubio@das.uchile.cl](mailto:mrubio@das.uchile.cl)

**Dr. Jaime E. Pineda**, Staff Scientist, Max Planck Institute for Extraterrestrial Physics, [jpineda@mpe.mpg.de](mailto:jpineda@mpe.mpg.de)