

CURRICULUM VITÆ: MANUELA ZOCCALI
FULL PROFESSOR / PROFESORA TITULAR
PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE

updated Jan 2023

PERSONAL INFORMATION

Name: Manuela
Surname: Zoccali
Birth place: Reggio Calabria, Italy
Birth date: September 11th, 1971
Citizenship: italian
Civil state: single
Children: 1 child - born July 19th, 2010

Current Position: Profesor Titular / Full Professor
Instituto de Astrofísica, Facultad de Física
Pontificia Universidad Católica de Chile
Av. Vicuña Mackenna 4860,
782-0436, Macul, Santiago, Chile

Telephone: +56-2-2354-7253
Fax: +56-2-2354-4948
e-mail: mzoccali@astro.puc.cl

SPOKEN LANGUAGES

Italian: mother tongue
English: fluent
Spanish: fluent
French: school level (good reading, basic speaking)

EDUCATION

- 1995 – **Laurea (Bachelor) Degree in Astronomy**, Università di Padova, Italy, Magna cum Laude
Thesis title: *Funzione di luminosità e di massa dell'ammasso globulare galattico NGC1261*.
Advisors: Prof. M. Capaccioli, Prof. G. Piotto
- 2000 – **PhD in Astronomy**, Università di Padova, Italy, (no marks for Phd)
Thesis title: *Observational Constraints on the Evolutionary and Dynamical Properties of Low Mass Stars*.
Advisor: Prof. G. Piotto

EMPLOYMENT

- 2000–2003 Post-doctoral Fellowship at the European Southern Observatory (ESO), Garching bei München, Germany
- 2003–2004 Post-doctoral Princeton-PUC Prize Fellowship, University of Princeton (NJ, USA) + Pontificia Universidad Católica de Chile (CH).
- 2004–2008 Assistant Professor, Pontificia Universidad Católica de Chile.

2008–2016 Associate Professor, Pontificia Universidad Católica de Chile.

2016–present Full Professor, Pontificia Universidad Católica de Chile.

PRIMARY RESEARCH INTERESTS

Stellar Populations, The Milky Way Galaxy, The Galactic Bulge, Chemical Abundances and Kinematics in Stars, Variable Stars, Star Clusters, The Initial Mass Function, Galaxy Formation and Evolution

TEACHING AND STUDENT SUPERVISION

▪ Undergraduate and Graduate Courses

Astronomía Galáctica (optative for graduate and undergrads): 2005A

Física Clásica (mandatory for students in Engineering): 2006B

Taller de Astronomía I (mandatory 2nd year): 2006A, 2007A, 2008A, 2011A

Taller de Astronomía II (mandatory 2nd year): 2005B, 2006B, 2007B, 2008B, 2012B, 2013B, 2014B, 2018B (shared)

Astronomía (mandatory 1st year, or optative other programs): 2009B, 2010A, 2015B, 2016B, 2017B, 2018B, 2019A, 2021A, 2022A, 2023A

Formación de Galaxias (optative for graduate and undergrads): 2008B

Poblaciones Estelares (optative for graduate and undergrads): 2013A, 2014A, 2015A, 2016A, 2017A, 2018A, 2020B, 2022B

Tópicos de Astrofísica (graduate): 2015B

Fronteras de la Astrofísica (astro-ph lead by professors): 2022A, 2022B

Astrofísica Experimental (shared among 4 professors): 2022B

▪ Direction of Bachelor (Licenciatura), Master (Magister) and PhD (Doctorado) Theses

Bachelors: Osvaldo Palma (2005), Pilar Lapuente (2007), Christian Vega (2007), Oscar Gonzalez (2008), Maria Luisa Alonso (2008), Sérgio Vásquez (2010), Álvaro Rojas (2011), Jorge Anais (2014), Nicolas Godoy (2014), Gabriela Navarro (2016), Julio Olivares (2016), Melissa Aguilar (2018), Alvaro Valenzuela (2019), Carlos Quezada (2020), Anell Cornejo (2020), Rogelio Albarracín (2021), Macarena Flores (2022), Valentina Ceballos (2022), José Plaza (2022)

Masters: Daniel Castillo (2008), Faviola Molina (2008), Álvaro Rojas (2013), Felipe Gran (2016), Julio Olivares (2020)

PhD: Anna Marino (2010, co-directed with G. Piotto - Univ. di Padova), Juan Carlos Beamín (co-directed with D. Minniti), Sérgio Vásquez (2017), Javier Minniti (2021), Felipe Gran (2022), Álvaro Valenzuela (ongoing), Julio Olivares (ongoing), Camila Ordenes (ongoing), Carlos Quezada (ongoing)

▪ Participation in PhD referee committees, other institutions

- Silvia Ballero – advisor Prof. Francesca Matteucci, University of Trieste, Italy, 2007

- Sara Saracino – advisor Prof. Francesco Ferraro, University of Bologna, Italy, 2018

- Silvia Raso – advisor Prof. Francesco Ferraro, University of Bologna, Italy, 2018

- Giovanni Strampelli – advisor Prof. Antonio Aparicio, University of La Laguna, Spain, 2021

▪ Supervision of Postdocs

2006-2008 – Sponsor: FONDECYT Post-Doctoral Fellowship, Dr. Carsten Weidner

2008-2014 – Sponsor: FONDECYT Post-Doctoral Fellowship, Dr. Alan Alves Brito

2014-2016 – Sponsor: FONDECYT Post-Doctoral Fellowship, Dr. Karla Peña Ramírez

2015-2016 Supervisor: Millennium Institute of Astrophysics Postdoc, Dr. Luca Sbordone

2015-2017 Supervisor: Millennium Institute of Astrophysics Postdoc, Dr. Sonia Duffau
2018-2020 – Sponsor: FONDECYT Post-Doctoral Fellowship, Dr. Alvaro Rojas Arriagada
2015-present – Supervisor: Millennium Institute of Astrophysics Postdoc, Dr. Rodrigo Contreras-Ramos
2021-present – Supervisor: Millennium Institute of Astrophysics Postdoc, Dr. Michele De Leo
2022-present – Co-Supervisor: Millennium Institute of Astrophysics Postdoc, Dr. Scarlet Elgueta (with Paula Jofré, UDP, Chile)

RESEARCH

▪ Research Grants and Prizes (since 2005; important ones highlighted)

2005 – PI, VRAID Proyecto de Inicio Carrera 2005/08PI, The Formation of the Galactic Bulge
2005 – Co-I, Centro de Astrofísica FONDAP
2006 – Co-I, CNPq/CONICYT International Scientific Collaboration Program 018/DRI/061, The Sun in Time: The History of Evolution of the Angular Momentum in the Sun
2008 – **PI, FONDECYT Regular 1085278**, Formation and Evolution of the Milky Way Spheroid
2008 – Co-I, CATA Centro de Astrofísica y Tecnologías Afines, Proyecto BASAL
2009 – **Iniciativa Científica Milenio**, The Milky Way Millennium Nucleus (Co-I)
2010 – Co-I, Proyecto Anillo Conicyt: Development of technologies for astronomical Observations
2010 – **PI, FONDECYT Regular 1110393**, A Complete Characterization of the Galactic Bulge Stellar Population
2011 – **John Simon Guggenheim Prize Fellowship**, financing a sabbatical year in Italy and Germany
2013 – **Iniciativa Científica Milenio, Instituto Milenio de Astrofísica (MAS)** (Co-I 2013-2016, Director 2016-2019; Deputy 2019-present)
2014 – PI, VRA 119/13 Concurso de apoyo para estadía breve en el extranjero
2014 – PI, VRI 25/2014 Concurso de apoyo para la organización de reuniones científicas
2015 – **PI, FONDECYT Regular 1150345**, 3D Structure, 3D Kinematics and Chemical Abundances of the Spheroid and Bar in the Milky Way inner region.
2019 – **PI, FONDECYT Regular 1191505**, The First wide field study of the Stellar Population in the inner 600pc of the Milky Way
2019 – PI, Proyecto Explora Conicyt, “Túnel Solar, un viaje estelar”
2023 – **PI, FONDECYT Regular 1230731**, Understanding the formation of the Galactic bulge

▪ Summary of Publications in International Refereed Journals

ORCID 0000-0002-5829-2267

205 Refereed Articles, 13.389 citations (h-index 62)

67 Articles in the last 5 years

20 articles as 1st author

28 articles as 2nd author (mostly student supervision)

22 articles as 3rd author

Full list: <https://ui.adsabs.harvard.edu/search/>

[https://ui.adsabs.harvard.edu/search/?filter_databasefq_database=AND&filter_databasefq_database=database%3A%22astronomy%22&fq=%7B!type%3D%20v%3D%24fq_database%7D&fq_database=\(database%3A%22astronomy%22\)&q=%3A*%20author%3A%22zoccali%2C%20M.%22&sort=date%20desc%2C%20bibcode%20desc&p=0](https://ui.adsabs.harvard.edu/search/?filter_databasefq_database=AND&filter_databasefq_database=database%3A%22astronomy%22&fq=%7B!type%3D%20v%3D%24fq_database%7D&fq_database=(database%3A%22astronomy%22)&q=%3A*%20author%3A%22zoccali%2C%20M.%22&sort=date%20desc%2C%20bibcode%20desc&p=0)

▪ Recent Scientific Talks, Seminars, Colloquia and Lectures outside the UC [past 5 years]

Oct 2022 – The Stellar Population of the Galactic bulge

Invited seminar at the Astronomy Department, Universidad Federal do Rio Grande do Sul, Brazil

Oct 2022 – Stellar Populations in the Milky Way

seminar for the Student Center (“Centro de Alumnos”) of the Physics Faculty, UC

Aug 2022 - The Stellar Population of the Galactic bulge
Invited talk at the Conference Alvio@80 in honor of Prof. Alvio Renzini, Crete, Grece

July 2022 - Stellar Populations in the Milky Way
 talk at the Science Day of the Instituto de Astrofísica UC [with all my group]

May 2022 - Observational Properties of the Milky Way bulge
Invited review talk at the Conference "Inward Bound: bulges from high redshift to the Milky Way",
 Garching bei München, Germany

April 2022 - The Stellar Population of the Galactic bulge
Invited seminar at INAF- Osservatorio Astronomico dell'Abbruzzo, Italy

Oct 2021 - Working Group 3: The Boxy/Peanut bulge
 talk at the 4th MOONS Science Meeting, Florence, Italy

Jun 2021 - The Stellar Population of the Galactic bulge
Invited talk at the Institute of Cosmology and Gravitation, Portsmouth, UK

Mar 2021 - The formation of the Inner Milky Way
Invited ESO Duologue with V.P.Debattista, ESO Garching, Germany

Feb 2020 - The Metallicity Ladder in Resolved Stellar Populations
Invited Lecture at the La Silla Summer School 2020, Santiago, Chile

May 2019 - The old Milky Way
4 Invited Lectures (2hr each) at the Valongo Winter School 2019, Rio de Janeiro, Brazil

Dec 2018 - The Mass and Stellar Population of the Galactic Bulge
Invited talk at the Conference "The Galactic Bulge at the Crossroads", Pucón, Chile

Sep 2018 - The Stellar Population, 3D structure and Kinematics of the Galactic Bulge
Invited Review Talk at the II Binational SOCHIAS-AAA Conference, La Serena, Chile

Sep 2017 - Followup of Optical Spectroscopic Surveys of the Galactic Bulge
 talk at the 2nd MOONS Science Meeting, Lisbon, Portugal

Sep 2017 - The 3D Structure of the Galactic Bulge
Invited Review Talk at the Conference "The Amazing Life of Stars", Cefalù, Italy

July 2017 - Kinematics and Abundances in the Inner Bulge with GIBS and APOGEE
 talk at the 8th VV Science Meeting, Edinburgh, UK

▪ **Organization of Conferences, Workshops and Schools** [past 5 years]

- SOC, "Wide-Field Spectroscopy vs Galaxy Formation Theory", Texas (USA), Mar 2023
- SOC (CoChair), "The Galactic Bulge at the CrossRoads", Pucon (Chile), Dec 2018
- SOC, IAUS 334, "Rediscovering our Galaxy", Potsdam (Germany), July 2017
- SOC, IAUS 330, "Astrometry and Astrophysics in the Gaia Sky", Nice (France), April 2017

▪ **Membership in Professional Societies**

- Chilean Astronomical Society (SOCHIAS)
- Società Astronomica Italiana (SAIt)
- International Astronomical Union (IAU)

ADMINISTRATIVE DUTIES and COMMITTEES

▪ **Past Duties** [Summary, main duties highlighted]

- **Director of UC Observatory**, Dec 2004 to Mar 2007
- Member of the Undergraduate Program Committee, Mar 2007 to Jul 2011
- Member of the Graduate Program Committee, Aug 2008 to Nov 2010
- Member of the Chilean Time Allocation Committee CNTAC (2008-2009)

- Member of the ESO Observing Program Committee OPC (2007-2008)
- Chilean Representative in the ESO User Committee ESO-UC (2009-2012)
- Member of the ALMA CONICYT Committee (2013-2015)
- UC representative in the Chilean Participation Group in SDSS-IV, Aug 2013 to present (chair 2016-2021)
- **Head of Undergraduate Program** (2012-2015; including "Acreditación Licenciatura")
- Member of the **FONDECYT "Grupo de Estudio"**, 2013-2015 (**Director** in 2015)
- Member of the Qualifying Exam Committee, Instituto de Astrofísica, 2017-2018
- Member of the "Comisión Evaluación y Promoción", Instituto de Astrofísica, 2016-2018
- Member of the Committee for the "Acreditación" of the University as a whole, in the area of Research. Responsible for the sub-committee of UC "Centers and Interdiscipline" (Set-Nov 2017)
- Member of the "Consejo de Facultad", Facultad de Física, (2018-2020)
- Member of the "Comisión Mujer y Academia", VRA, (2018-2019)
- Member and Founder of the "Comité de Género", Facultad de Física (2018-2021)
- **Member of the "Comisión de Promoción a Asociado"**, Vicerrectoría Académica UC, (2017-2019)
- **Chilean representative in the ESO Observing Program Committee OPC (2019-2021)**
- Member of the Chilean Ministry of Science Advisory Committee on Light Pollution (Sep 2020-March 2021)

▪ **Current Duties at the UC**

- **Deputy Director of the Institute of Astrophysics**, UC, since Sept 2020
- Member of the Undergraduate Program Committee, Institute of Astrophysics, since Aug 2015
- Member of the "Consejo de Facultad", Physics Faculty, since Jul 2022
- Member of the "Comisión de Apelación", Secretaría General UC, since July 2020
- Member of the "Comisión de Promoción a Titular", Vicerrectoría Académica UC, since March 2021
- Member of the "Eje Liderazgo Femenino, Proyecto Ciencia2030 UC", since March 2021

OUTREACH

Responsible of the outreach activities of the Millennium Institute of Astrophysics, in the framework of our massive outreach program ObservaMAS (www.astrofiscamas.cl/en/extension-2). Direct participation in several of them (see below).

▪ **Recent Outreach Activities** [past 5 years]

- Jan 2023 – Online Lecture, "Variable Star Zoo: a citizen science experiment", School for Professors of Latin America, Valparaiso, Chile
- Jan 2023 – Two Public Conferences, "What do we see in the sky tonight", in the framework of 2 public star parties, at the "Parque las 7 tazas", Chile
- Jan 2023 – Lecture, "Stellar Populations in the Milky Way", School for Professors organized by the Heidelberg Center for Latin America, Santiago
- Nov 2022 – talk "Sotto i cieli del Sud", at the Scuola Italiana, Santiago
- Oct 2022 – Online Conference "La historia de formación de la Vía Láctea a través de sus estrellas más viejas" in the Workshop "Ella y Las Estrellas", Texas, USA
- Mar 2021 – Online Keynote talk "Europe to the Stars", at the Launch of the Chilean Chapter of the Marie Curie Alumni Association
- Nov 2020 – Online Public Conference "Luz y Sombras en el Sol y la Luna" organized by the Universidad Austral
- Nov 2020 – Online Panelist "Cuantos estudiantes caben entre Marte y Júpiter" within the Festival MAS-arte,
- Oct 2020 – Online Public Conference "The formation of the Milky Way" invited by the Sociedad Astronomía Queretana (Mexico)

Dec 2019 – Inauguration of the itinerant exposition “Tunel Solar” (proyecto Explora) at the Planetarium USACH, Santiago

Dec 2019 – Inauguration of the permanent Exposition Scale Solar System at the Campus San Joaquín UC, Santiago

Oct 2019 – Public Conference “Los astros a nuestro alcance”, Templo Bahá’í, Santiago

Oct 2019 – Talk “De bichos, ovis, hielos y mentiras”, at the “Maria Luisa Bombal” School, Santiago

Jul 2019 – Public Conference “Luz y Sombras en el Sol y la Luna” during the Total Solar Eclipse event, Cachiyuyo

Jun 2019 – Public Conference “Luz y Sombras en el Sol y la Luna” at the Universidad Autonoma, Santiago

Mar 2019 – Talk about “The Moon” at the “Philippe Cousteau” School, La Florida

Jan 2019 – Public Conference “Los astros en nuestro panorama”, Pueblito Las Vizcachas, Santiago [16,000 attendees]

2018 – Astronomy activities at the Women Detention Center in San Joaquín, Santiago

2018 – Astronomy activities at the Juvenile Detention Center in San Joaquín, Santiago

2017-2020 Author of several Astronomy outreach articles (“columnas”) for El Mercurio Online (EMOL)

2018-2020 Several participations at forums and panels about Women in Science, Santiago

Jun 2018 – Public Conference “Explorando el Corazón de la Vía Láctea” (for hearing impaired people), Santiago

Mar 2018 – Public Conference “Buscando Fósiles en la Vía Láctea”, La Florida, Santiago

Jan 2018 – Public Conference “Buscando Fósiles en la Vía Láctea”, Concepción

Jan 2018 – Opening talk “Why teaching Astronomy in School” at a School for School Teachers, Concepción