

CURRICULUM VITÆ: MANUELA ZOCCALI

FULL PROFESSOR, PUC

PERSONAL INFORMATION

Name: Manuela
Surname: Zoccali
Birth place: Reggio Calabria, Italy
Birth date: September 11th, 1971
Citizenship: Italian
Family Status: married, 1 child - born July 19th, 2010
Current Position: Profesor Titular
Instituto de Astrofísica, Facultad de Física
Pontificia Universidad Católica de Chile
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SPOKEN LANGUAGES

Italian: mother tongue
English: fluent
Spanish: fluent

EDUCATIONAL BACKGROUND

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, in Italy)
Thesis title: *Observational Constraints on the Evolutionary and Dynamical Properties of Low Mass Stars*.
Advisor: Prof. G. Piotto

EMPLOYMENT HISTORY

2000 – 2003 Post-doctoral Fellowship at the European Southern Observatory (ESO), Garching bei München, Germany
2003 – 2004 Post-doctoral Princeton-PUC Prize Fellowship between the University of Princeton (NJ, USA) and the P. Univ. Católica de Chile.
2004 – 2008 Assistant Professor, P. Universidad Católica de Chile.
2008 – 2016 Associate Professor, P. Universidad Católica de Chile.
2017 – today Full Professor, P. Universidad Católica de Chile.

PRIMARY RESEARCH INTERESTS

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

TEACHING ACTIVITIES

Astronomía Galáctica (optative for graduate and undergraduate), 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
Astronomía (mínimo 1^{er} semestre u optativo otras facultades), 2009B, 2010A, 2015B, 2016B, 2017B, 2018B
Formación de Galaxias (optative for graduate and undergraduate), 2008B
Poblaciones Estelares (optative for graduate and undergraduate), 2013A, 2014A, 2015A, 2016A, 2017A, 2018A
Tópicos de Astrofísica (graduate), 2015B

DIRECTION OF B.Sc., M.Sc. and PhD Theses

Bachelors: Osvaldo Palma (2005), Pilar Lapuente (2007), Christian Vega (2007), Oscar Gonzalez (2008), Maria Luisa Alonso (2008), Sergio Vasquez (2010), Alvaro Rojas (2011), Jorge Anais (2014), Nicolas Godoy (2014), Gabriela Navarro (2016), Julio Olivares (2016).

Masters: Daniel Castillo (2008), Faviola Molina (2008), Alvaro Rojas (2013), Felipe Gran (co-directed with D. Minniti), Julio Olivares (ongoing)

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 (ongoing), Felipe Gran (ongoing), Miriam Rojas (ongoing).

RESEARCH GRANTS and PRIZES (since 2005; most prestigious 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 – Sponsor: FONDECYT Post-Doctoral Fellowship 3060096, Dr. C. Weidner, *The Stellar Initial Mass Function*
- 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 – Co-I, **Núcleo, Iniciativa Científica Milenio: The Milky Way Millennium Nucleus**
- 2006 – Sponsor: FONDECYT Post-Doctoral Fellowship, 3100013, Dr. A. Alves Brito, *Stellar Archeology: red giant stars as probes of Galactic Chemical Evolution*
- 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 – Co-I, **Iniciativa Científica Milenio: Instituto Milenio de Astrofísica (Director since March 2016)**
- 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.*

PAST ADMINISTRATIVE DUTIES & COMMITTEE WORK (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, from March 2013 to April 2015
- UC representative in the Chilean Participation Group in SDSS-IV, Aug 2013 to present (chair since 2016)
- **Head of Undergraduate Program**, Aug 2012-Aug 2015 (including "Acreditación Licenciatura")
- Member of the FONDECYT "Grupo de Estudio", 2013-2015 (**Director in 2015**)

CURRENT ADMINISTRATIVE DUTIES at PUC

- **Director Millennium Institute of Astrophysics**, since March 2016
- Member of the Undergraduate Program Committee, since Aug 2015
- Member of the "Comisión Evaluación y Promoción", Instituto de Astrofísica, since Dec 2016
- Member of the Qualifying Exam Committee, Instituto de Astrofísica, since March 2017
- Member of the "Comisión de Promoción a Asociado", Vicerrectoría Académica UC, since April 2017
- Member of the "Consejo de Facultad", Facultad de Física, since April 2018
- Member of the "Comité Curricular", Instituto de Astrofísica, since April 2018

ORGANIZATION OF CONFERENCES, WORKSHOPS, SCHOOLS (in the last 5 years)

- 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
- SOC, 7th VVV Workshop, Antofagasta (Chile), March 2016
- SOC (Chair) XII Reunión Anual Sociedad Chilena de Astronomía, Puerto Varas (Chile), March 2015
- SOC, 6th VVV Workshop, Puerto Varas (Chile), March 2015
- SOC (CoChair) Conference "ADeLA Astronomía Dinámica en Latino-América", Santiago (Chile), Sep 2014
- SOC, 5th VVV Workshop, ConCon (Chile), Apr 2014
- SOC, ESO Workshop "Metal Production and Distribution in a Hierarchical Universe", Paris (France), Oct 2013
- SOC, CTIO@50yr "Fifty Years of Wide Field Studies in the Southern Hemisphere", La Serena (Chile), May 2013
- SOC, IAU Symposium 298 "Setting the Scene for GAIA and LAMOST", Lijiang (China), May 2013

MEMBERSHIP IN PROFESSIONAL SOCIETIES

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

SCIENTIFIC TALKS, SEMINARS and COLLOQUIA (in the last 5 years)

- 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 VVV Science Meeting, Edinburgh, UK

- Dec 2016 – *The two metallicity components of the Galactic bulge*
Seminar at the European Southern Observatory, Santiago, Chile
- Nov 2016 – *The two metallicity components of the Galactic bulge*
talk at the Workshop of the South American Network, Santiago, Chile
- Jul 2016 – *The Galactic bulge, an observational perspective*
Invited review talk at the European Week of Astronomy and Space Science, Atenas, Greece
- Oct 2015 – *The GIRAFFE Inner Bulge Survey*
Invited review talk at the Workshop “Rainbows in the Southern Sky”, ESO Garching, Germany
- May 2015 – *Spectroscopic Follow-ups of the VVV Survey*
talk at the Vatican VVV Workshop “A new Galactic Survey”, Albano Laziale, Italy
- Oct 2014 – *The Galactic Bulge*
Invited review talk at the Workshop “Resolved and Unresolved Stellar Populations”, ESO Garching, Germany
- Apr 2014 – *The Giraffe Inner Bulge Survey (GIBS)*
Invited talk at the VVV Workshop, Viña del Mar, Chile
- Jan 2014 – *The Stellar Population of the Galactic bulge*
Colloquium at the Instituto de Astrofísica de Canarias, Tenerife, Spain
- Nov 2013 – *The VVV Survey Status*
Invited review talk at the XIV Latin American Regional IAU Meeting, Florianopolis, Brazil
- Oct 2013 – *The Stellar Population of the Galactic bulge*
Colloquium at the Instituto de Astrofísica PUC, Santiago, Chile
- Sep 2013 – *Chemical Abundances in the Galactic Bulge*
Invited talk at Conference “Chemical Evolution in the Universe”, Castiglione della Pescaia, Italy
- Aug 2013 – *The Stellar Population of the Galactic Bulge*
Invited review talk at the INCAI Workshop, Santiago, Chile
- May 2013 – *Abundances, Kinematics and the 3D structure of the Galactic Bulge*
Talk at the Conference on “The role of Bars in Galaxy Evolution”, Granada, Spain
- May 2013 – *Chemical Abundances in the Galactic Bulge*
Invited review talk at Conference for 50yr of Cerro Tololo Observatory, La Serena, Chile
- Mar 2013 – *The Structure and Stellar Population of the Galactic Bulge*
Colloquium at the Physics Department, Universidad de Chile, Chile

OUTREACH ACTIVITIES (in the last 2 years)

- Short articles (“columnas”) in El Mercurio Online with the series “Tendencia de la Astronomía”, since March 2016
- Interview for Radio U. de Chile within the program “Viceversa”, Oct 2016
- Public Conference “Explorando el Corazón de la Vía Láctea”, Biblioteca Regional Antofagasta, Nov 2016
- Public Conference “Buscando Fósiles en la Vía Láctea”, Planetario USACH, Santiago, April 2017
- Public Conference “Buscando Fósiles en la Vía Láctea”, Valparaíso, May 2017
- Public Conference “Buscando Fósiles en la Vía Láctea”, Valparaíso, May 2017
- Talk at the “Verbo Divino” high School, Aug. 2017
- Interview for Radio ADN within the program “Agenda de Género”, Aug 2017
- Speaker at the Speed Dating Event organized by Inspiring Girls, Santiago, Sept. 2017
- Speaker at the TEDxUDP Event, Santiago, Oct 2017
- Talk at the Fundación Mundo Ideal “La Vía Láctea”, Dec 2017
- Opening talk “Why studying Astronomy in School” at the School for Teachers, Concepción, Jan 2018
- Public Conference “Buscando Fósiles en la Vía Láctea”, Concepción, Jan 2018
- Public Conference “Buscando Fósiles en la Vía Láctea”, La Florida, Santiago, Mar 2018
- Public Conference “Explorando el Corazón de la Vía Láctea” (for hearing impaired people), Santiago, Jun 2018
- Astronomy activities at the Juvenile Detention Center in San Joaquín, Santiago
- Astronomy activities at the Women Detention Center in San Joaquín, Santiago

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

SUMMARY OF PUBLICATIONS IN INTERNATIONAL REFEREED JOURNALS

159 Refereed Articles, 8105 citations
 16 articles as 1st author, 1445 citations
h-index 52

Publication list
Refereed articles only (2013-2018)

1. "Chemically Dissected Rotation Curves of the Galactic Bulge from Main-sequence Proper Motions"
Clarkson, W. I., Calamida, A., Sahu, K. C., Brown, T. M...Zoccali, M., 2018, ApJ, 858, 46
2. "On the Chemical Abundances of Miras in Clusters: V1 in the Metal-rich Globular NGC 5927"
D'Orazi, V., Magurno, D., Bono, G., Matsunaga, N...Zoccali, M., 2018, ApJ, 855, L9
3. "On the RR Lyrae Stars in Globulars. V. The Complete Near-infrared "
Braga, V. F., Stetson, P. B., Bono, G., Dall'Ora, M...Zoccali, M., 2018, AJ, 155, 137
4. "The central spheroids of Milky Way mass-sized galaxies"
Tissera, P. B., Machado, R. E. G., Carollo, D., Minniti, D...Zoccali, M., 2018, MNRAS, 473, 1656-1666
5. "Stellar Populations in a semi-analytic model I: Bulges of Milky Way-like galaxies"
Gargiulo, I. D., Cora, S. A., Vega-Martínez, C. A., Gonzalez, O. A...Zoccali, M., 2017, MNRAS, 472, 4133-4143
6. "Proper motions in the VVV Survey: Results for more than 15 million stars across NGC 6544"
Contreras Ramos, R., Zoccali, M., Rojas, F., Rojas-Arriagada, A, et al., 2017, A&A, 608, A140
7. "The Emergence of the Infrared Transient VVV-WIT-06"
Minniti, D., Saito, R. K., Forster, F., Pignata, G...Zoccali, M., 2017, ApJ, 849, L23
8. "Extinction Ratios in the Inner Galaxy as Revealed by the VVV Survey"
Alonso-García, J., Minniti, D., Catelan, M., Contreras Ramos, R...Zoccali, M., 2017, ApJ, 849, L13
9. "Galactic bulge population II Cepheids in the VVV survey: period-luminosity relations and a distance to the Galactic centre"
Bhardwaj, A., Rejkuba, M., Minniti, D., Surot, F...Zoccali, M., 2017, A&A, 605, A100
10. "Separation of stellar populations by an evolving bar: implications for the bulge of the Milky Way"
Debattista, V. P., Ness, M., Gonzalez, O. A., Freeman, K...Zoccali, M., 2017, MNRAS, 469, 1587-1611
11. "Microlensing Constraints on the Mass of Single Stars from HST Astrometric Measurements"
Kains, N., Calamida, A., Sahu, K. C., Casertano, S...Zoccali, M., 2017, ApJ, 843, 145
12. "Sloan Digital Sky Survey IV: Mapping the Milky Way, Nearby Galaxies, and the Distant Universe"
Blanton, M. R., Bershad, M. A., Abolfathi, B., Albareti, F. D...Zoccali, M., 2017, AJ, 154, 28
13. "The Gaia-ESO Survey: Low-"
Recio-Blanco, A., Rojas-Arriagada, A., de Laverny, P., Mikolaitis, S...Zoccali, M., 2017, A&A, 602, L14
14. "The Gaia-ESO Survey: Exploring the complex nature and origins of the Galactic bulge populations"
Rojas-Arriagada, A., Recio-Blanco, A., de Laverny, P., Mikolaitis, Š...Zoccali, M., 2017, A&A, 601, A140
15. "Characterization of the VVV Survey RR Lyrae Population across the Southern Galactic Plane"
Minniti, D., Dékány, I., Majaess, D., Palma, T...Zoccali, M., 2017, AJ, 153, 179
16. "Abundances of disk and bulge giants from high-resolution optical spectra. II. O, Mg, Ca, and Ti in the bulge sample (Corrigendum)"
Jönsson, H., Ryde, N., Schultheis, M., Zoccali, M., et al., 2017, A&A, 600, C2
17. "FSR 1716: A New Milky Way Globular Cluster Confirmed Using VVV RR Lyrae Stars"
Minniti, D., Palma, T., Dékány, I., Hempel, M...Zoccali, M., 2017, ApJ, 838, L14
18. "The GIRAFFE Inner Bulge Survey (GIBS). III. Metallicity distributions and kinematics of 26 Galactic bulge fields"
Zoccali, M., Vasquez, S., Gonzalez, O. A., Valenti, E, et al., 2017, A&A, 599, A12
19. "Abundances of disk and bulge giants from high-resolution optical spectra. II. O, Mg, Ca, and Ti in the bulge sample"
Jönsson, H., Ryde, N., Schultheis, M., Zoccali, M., et al., 2017, A&A, 598, A101
20. "The Gaia-ESO Survey: Calibration strategy"
Pancino, E., Lardo, C., Altavilla, G., Marinoni, S...Zoccali, M., 2017, A&A, 598, A5
21. "Discovery of RR Lyrae Stars in the Nuclear Bulge of the Milky Way"
Minniti, D., Contreras Ramos, R., Zoccali, M., Rejkuba, M, et al., 2016, ApJ, 830, L14

22. "Mapping the outer bulge with RRab stars from the VVV Survey"
Gran, F., Minniti, D., Saito, R. K., Zoccali, M., et al., 2016, A&A, 591, A145
23. "The 3D Structure of the Galactic Bulge"
Zoccali, M., Valenti, E., et al., 2016, PASA, 33, e025
24. "High-resolution abundance analysis of red giants in the metal-poor bulge globular cluster HP 1"
Barbuy, B., Cantelli, E., Vemado, A., Ernandes, H...Zoccali, M., 2016, A&A, 591, A53
25. "Comparing the properties of the X-shaped bulges of NGC 4710 and the Milky Way with MUSE"
Gonzalez, O. A., Gadotti, D. A., Debattista, V. P., Rejkuba, M...Zoccali, M., 2016, A&A, 591, A7
26. "Interstellar extinction curve variations towards the inner Milky Way: a challenge to observational cosmology"
Nataf, D. M., Gonzalez, O. A., Casagrande, L., Zasowski, G...Zoccali, M., 2016, MNRAS, 456, 2692-2706
27. "Stellar density profile and mass of the Milky Way bulge from VVV data"
Valenti, E., Zoccali, M., Gonzalez, O. A., Minniti, D., et al., 2016, A&A, 587, L6
28. "High resolution spectroscopic analysis of seven giants in the bulge globular cluster NGC 6723"
Rojas-Arriagada, A., Zoccali, M., Vásquez, S., Ripepi, V., et al., 2016, A&A, 587, A95
29. "Heavy elements Ba, La, Ce, Nd, and Eu in 56 Galactic bulge red giants"
Van der Swaelmen, M., Barbuy, B., Hill, V., Zoccali, M., et al., 2016, A&A, 586, A1
30. "The GIRAFFE Inner Bulge Survey (GIBS). II. Metallicity distributions and alpha element abundances at fixed Galactic latitude"
Gonzalez, O. A., Zoccali, M., Vasquez, S., Hill, V., et al., 2015, A&A, 584, A46
31. "Reinforcing the link between the double red clump and the X-shaped bulge of the Milky Way"
Gonzalez, O. A., Zoccali, M., Debattista, V. P., Alonso-García, J., et al., 2015, A&A, 583, L5
32. "The VVV Survey Reveals Classical Cepheids Tracing a Young and Thin Stellar Disk across the Galaxy"
Dékány, I., Minniti, D., Majaess, D., Zoccali, M., et al., 2015, ApJ, 812, L29
33. "Calcium triplet metallicity calibration for stars in the Galactic bulge"
Vásquez, S., Zoccali, M., Hill, V., Gonzalez, O. A., et al., 2015, A&A, 580, A121
34. "Zinc abundances in Galactic bulge field red giants: Implications for damped Lyman-"
Barbuy, B., Friaça, A. C. S., da Silveira, C. R., Hill, V...Zoccali, M., 2015, A&A, 580, A40
35. "High-precision astrometry with VVV - I. An independent reduction pipeline for VIRCAM@VISTA"
Libralato, M., Bellini, A., Bedin, L. R., Anderson, J...Zoccali, M., 2015, MNRAS, 450, 1664-1673
36. "Chemical Abundances of the Highly Obscured Galactic Globular Clusters 2MASS GC02 and Mercer 5"
Peñaloza, F., Pessev, P., Vaázquez, S., Borissova, J...Zoccali, M., 2015, PASP, 127, 329
37. "The Hubble Space Telescope UV Legacy Survey of Galactic Globular Clusters. I. Overview of the Project and Detection of Multiple Stellar Populations"
Piotto, G., Milone, A. P., Bedin, L. R., Anderson, J...Zoccali, M., 2015, AJ, 149, 91
38. "The Hubble Space Telescope UV Legacy Survey of galactic globular clusters - II. The seven stellar populations of NGC 7089 (M2)"
Milone, A. P., Marino, A. F., Piotto, G., Bedin, L. R...Zoccali, M., 2015, MNRAS, 447, 927-938
39. "Mass accretion rates from multiband photometry in the Carina Nebula: the case of Trumpler 14"
Beccari, G., De Marchi, G., Panagia, N., Valenti, E...Zoccali, M., 2015, A&A, 574, A44
40. "The Gaia-ESO Survey: the most metal-poor stars in the Galactic bulge"
Howes, L. M., Asplund, M., Casey, A. R., Keller, S. C...Zoccali, M., 2014, MNRAS, 445, 4241-4246
41. "Milky Way demographics with the VVV survey. III. Evidence for a great dark lane in the 157 million star bulge color-magnitude diagram"
Minniti, D., Saito, R. K., Gonzalez, O. A., Zoccali, M., et al., 2014, A&A, 571, A91
42. "High-resolution abundance analysis of red giants in the globular cluster NGC 6522"
Barbuy, B., Chiappini, C., Cantelli, E., Depagne, E...Zoccali, M., 2014, A&A, 570, A76

43. "The Gaia-ESO Survey: metallicity and kinematic trends in the Milky Way bulge"
Rojas-Arriagada, A., Recio-Blanco, A., Hill, V., de Laverny, P...Zoccali, M., 2014, A&A, 569, A103
44. "Str"
Calamida, A., Bono, G., Lagioia, E. P., Milone, A. P...Zoccali, M., 2014, A&A, 565, A8
45. "Chemical evolution of fluorine in the bulge. High-resolution K-band spectra of giants in three fields"
Jönsson, H., Ryde, N., Harper, G. M., Cunha, K...Zoccali, M., 2014, A&A, 564, A122
46. "N-body simulation insights into the X-shaped bulge of the Milky Way: kinematics and distance to the Galactic Centre"
Gardner, E., Debattista, V. P., Robin, A. C., Vázquez, S...Zoccali, M., 2014, MNRAS, 438, 3275-3290
47. "The GIRAFFE Inner Bulge Survey (GIBS). I. Survey description and a kinematical map of the Milky Way bulge"
Zoccali, M., Gonzalez, O. A., Vasquez, S., Hill, V., et al., 2014, A&A, 562, A66
48. "Helium enhanced stars and multiple populations along the horizontal branch of NGC 2808: direct spectroscopic measurements"
Marino, A. F., Milone, A. P., Przybilla, N., Bergemann, M...Zoccali, M., 2014, MNRAS, 437, 1609-1627
49. "Time-series BVI Photometry for the Globular Cluster NGC 6981"
Amigo, P., Stetson, P. B., Catelan, M., Zoccali, M., et al., 2013, AJ, 146, 130
50. "Stellar ages through the corners of the boxy bulge"
Valenti, E., Zoccali, M., Renzini, A., Brown, T. M, et al., 2013, A&A, 559, A98
51. "Manganese abundances in Galactic bulge red giants"
Barbuy, B., Hill, V., Zoccali, M., Minniti, D, et al., 2013, A&A, 559, A5
52. "VVV Survey Near-infrared Photometry of Known Bulge RR Lyrae Stars: The Distance to the Galactic Center and Absence of a Barred Distribution of the Metal-poor Population"
Dékány, I., Minniti, D., Catelan, M., Zoccali, M., et al., 2013, ApJ, 776, L19
53. "3D kinematics through the X-shaped Milky Way bulge"
Vázquez, S., Zoccali, M., Hill, V., Renzini, A, et al., 2013, A&A, 555, A91
54. "Main-Sequence Star Populations in the Virgo Overdensity Region"
Jerjen, H., Da Costa, G. S., Willman, B., Tisserand, P...Zoccali, M., 2013, ApJ, 769, 14
55. "Reddening and metallicity maps of the Milky Way bulge from VVV and 2MASS. III. The first global photometric metallicity map of the Galactic bulge"
Gonzalez, O. A., Rejkuba, M., Zoccali, M., Valent, E, et al., 2013, A&A, 552, A110