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Dr. Maria Messineo
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I am a scientist with a master and PhD in astronomy, and I like the idea to dedicate 4 years to pursue a PhD in History of the Ancient World and their astronomical knowledge.

I was looking for astronomical jobs when I saw your ads on linkedin. From October 2015 to November 2021 I was in China where I was hired as a senior researcher by the University of Science and Technology of China (USTC). Since December I am back in Europe, I am currently continuing my astronomical research while applying for new positions. I am currently in Berlin/Potsdam, and I am fully vaccinated. I have not been offered any position yet, and due to present circumstances (global political situation and pandemic) I guess I have a few chances to further continue as an associate professor. Therefore, I may be happy to have some more fun learning more about Ancient World, which is fascinating.

I am an infrared observational astronomer. I have mainly worked at infrared wavelengths using cameras and spectrographs. I have observationally contributed to our knowledge of resolved stellar populations in the dusty Disk with the identification of massive stars, by aiming for a better understanding of the structure and history of the inner Galaxy. I have experience in the creation of stellar databases using archival and literature information.

During my University studies, I liked very much a course about history of astronomy, and sometimes I read books about it. So far, it has been only a pleasure, but I would be happy to support studies of Ancient Astronomy and those interesting circles.

Now, I understand that you may find non proper my request, since I am 51 years old, but I am not aware of any age limit. Please, consider my application also for other possible forms of collaborative work at your Research center.

Following your requirements, I have enclosed my CV, a research statement, and the names of two referees.
Thank you for taking the time to consider my application.

Dr. Maria Messineo

Rings on the planet Earth

Maria Messineo born in Salinella (Petralia Soprana)



Fig. 1: Medicine Wheel

The ancient ringed temples indicate some astronomical knowledge; they are the first astronomical observatories. For example, it seems that the Medicine Wheel was built to be aligned with stars and sun during the summer solstice (Eddy J. A., Science, New Series, Vol. 184, No. 4141, pag. 1035). Some temples were made with stones, and some other with woods. For the latter, in North Europe, only signs of their surrounding ditches remain impressed in the land. In North America, the famous Medicine Wheel is made of small stones and there is no surrounding ditch. In Germany, the oldest dated temple is in Goseck, and it is dated 5000 BC, with the two southern entrances being illuminated by the sun light each winter solstice (<http://www.ancient-wisdom.com>).

Like in Stonehenge, sacred temples are often found to be surrounded by burial mounds. These mounds have spherical shapes and recall the starred sky, a terrestrial cemetery to wish their defuncts to stay in heaven. Their spatial arrangement may have been indicating a constellation of stars. Thornborough mounds recall the Orion belt (Fig. 2). Perhaps, these sites are the first cities of our planets and some wars or pandemics did transform it in a single collective tumulus, which still remains near the temple.

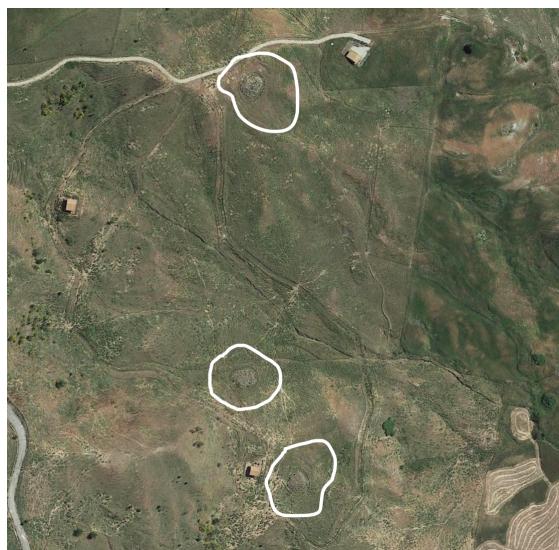
My knowledge on the topic is still quite limited; I would like to collect information from literature about known sites to build an online representative catalog of Google Earth images, and to review the sizes and astronomical alignments of the Neolithic temples.



Fig. 2 Megalithic complex in Thornborough

The ancient city next to the cave.

The reason that makes me curious about ancient rings, it is that I noticed some rings around a Sicilian salt cave. Perhaps, these rings are not prehistoric, but signs of work done for the cave. I am not sure yet, one needs to arrange a geological inspection of the site. Meanwhile, I would like to arrange for a study/overview of features seen in known temples, so to identify these sacred sites.



Perhaps, a neolithic village near the current city of Raffo (Petralia Soprana). Three main sites are visible.



Below the three stone structures, there is a marked ring with a central smaller ring (Google Earth image on the left, and ground foto on the right). The larger circle has a diameter of about 50 m. At least two entrances are visible; one is in the south direction. It is located behind the entrance of the salt cave of Raffo (Petralia Soprana). In front of the cave, in the Salinella ward, in a declining land, there are several circles, perhaps ancient tumuli. The most circular feature is enlarged in the right-panel photo.



Per comparison one of the Aldbourne barrows in UK is shown below. The barrows were excavated at the end of the 19th century; skeletons and objects were found inside. These barrows are dated 2500-1500 BC. (<https://www.megalithic.co.uk/>)

P.S.: photos here presented are from Google Earth, for the solely purpose to show the objects and should not be distributed.

Curriculum Vitae et Studiorum

Maria Messineo

Personal Information:

Name : Maria Messineo
Nationality : Italian
Web : <https://messineomaria.files.wordpress.com/>
Email address : maria.messineo@hotmail.com
Current Location : Berlin, Europe
Fully vaccinated for COVID19

Education history:

30 June 2004 : PhD Defense, Leiden University, The Netherlands.

Thesis Title : *Late-type Giants in the Inner Galaxy*

21 Mar 1997 : Master in Astronomy, Bologna University, Italy. Thesis Title :
The mixing problem in stellar evolution and the primordial He abundance determination from population ratios in globular clusters

Employment history:

Nov 2021 - : Currently with a status of freelancer
: keep carrying astronomy research in Berlin/Potsdam
: USTC affiliation granted for six extra months
Oct 2015 - Nov 2021 : Senior researcher at the University of Science and Technology of China (USTC),
: Hefei, Anhui, China
Oct 2010 - Oct 2015 : Senior researcher at the Max Planck Institute for Radioastronomy (MPIfR)
: Bonn, Germany
Oct 2009 - Oct 2010 : Research fellow at the European Space Agency (ESA),
: Nordwijk, The Netherlands
Jul 2007 - Jul 2009 : Researcher at the Rochester Institute of Technology (RIT),
: Rochester, NY, USA
Sep 2004 - Jul 2007 : Research fellow at European Southern Observatory (ESO),
: Garching, Germany
Dec 1999 - Jun 2004 : Doctorate in Science at the University of Leiden,
: Leiden, The Netherlands
Apr - Nov 1999 : Research Assistant at the Bologna Observatory,
: Bologna, Italy
Jun - Nov 1998 : Summer Research Assistant at the Space Telescope Science Institute,
: Baltimore, USA

Prizes and tokens of esteem:

- 1997 graduation in Astronomy *cum laude*
- 2004-2007 Diplomat status in Germany as a ESO employee (Sonderweisung)
- 2015-2021 Expert certificate from the Republic of China
- 2015-2021 Co-founder member of the Associazione Accademici Italiani in Cina (AAIIC); *aaiic.org*
- 2019-2021 Contact person for Italians in Hefei nominated by the Shanghai Consulate
- 2022 Friend member of the Associazione Accademici Italiani in Cina (AAIIC); *aaiic.org*

Committee:

- 2017: Expert advisor for the CAS
(April 20th at NAOC)
- 2016: Expert advisor for the CAS
(October 26th at NAOC)
- 2016: Referee for the ESO Observing Programmes Office for P98
(May 18-20, Munich).
- 2015: Referee for the ESO Observing Programmes Office for P96.
- 2013: Member of the committee for the Premium GAL Hassin 2013
http://www.associazioneastrofiliisnello.it/gal_hassin.htm

Grants:

- 2010: Awarded grant from ESA/ESTEC to host Dr. Zhu in summer 2010
- 2009: Co-Investigator of the awarded ERC Advanced Investigator Grant GLOSTAR (247078); PI Prof. K. M. Menten.
- 2015: Awarded a start-up grant paid by USTC (Nov 2015 - Nov 2018).
- 2017: Co-Investigator and PI of an awarded NSF/China grant on Red Supergiants (Jan 2018 - 2021).

Supervisions:

- Master Thesis of Dr. Dominic Schnitzeler at the Leiden Univ.
Title: Evolved stars and mass loss at the centre of 47 Tuc. 20 Jan 2002
- PhD Thesis of Dr. Lies Verheyen at the Bonn Univ.
Title: The Dusty, Molecular Envelopes of Red Supergiant Stars: VY Canis Majoris as the Archetypical Example. 2012

- Financially supporting the fellowship of: Dr. Chang-Hui Chen at MPIfR.
- Financially supporting the fellowship of: Dr. D. Bish at USTC.

Other relevant activities:

- Co-organizer of Astronomical Journal clubs
- Popular Seminars
- Co-organizer of several conferences, for example:

27 - 31 Aug 2018 : IAU Symp. 347: EArly Science with ELTs (EASE), Vienna, Austria
 28 - 30 Jul 2008 : Massive stars and massive clusters in the Milky Way, Rochester, USA
 10 - 11 Apr 2003 : Future Directions in AGB research.
 On the Occasion of the Retirement of Harm Habing, Leiden, The Netherlands
 10 - 14 Apr 2000 : ISOGAL meeting at the Lorentz Center/Leiden, The Netherlands

- I have served as a referee for major astronomical journals (ApJ, AJ, A&A, MNRAS, PASJ.)
- I have given 21 Astronomical Colloquia, and 29 Talks in conferences.
- Observatory astronomer: As an ESO fellow, I carried out service mode observations with the VLT-UT4 SINFONI and NACO instruments
- Experience in team legacy projects: As a member of the ISOGAL team, I contributed to the mid-infrared ISOGAL point source catalog, focusing on the absolute photometric calibration and completeness (Omont et al. 2003; Schuller et al. 2003).
- Experience with infrared and millimetric observations
- Experience with photometric and spectroscopic data analysis, large catalogs.
- Installation of Operating Systems : Linux and MacOS
- Experience with software (IDL, Fortran, Python, SuperMongo, Fortran 77, HTML, LaTeX)
- Experience with astronomical packages (e.g. IRAF, GILDAS, DAOPHOT)
- Environment : electrical grounding of monitors and computers

Invited Colloquia:

- 23 Nov 2021 Friendly Seminar about the Milky Way at the USTC1958 Coffee
11 Jun 2019 Colloquium, University of Science and Technology of China, Hefei, CN
Something about red supergiants in the Galaxy
13 Feb 2018 Colloquium, Osservatorio di Capodimonte, Napoli, IT
A new sample of Galactic Red Supergiants
03 Jul 2015 Colloquium, USTC, Hefei, China
Massive stars and clusters in the Inner MW
20 Jan 2015 Informal Seminar, MM group, MpifR, Germany
Evolved massive stars in G23.3-0.3
06 Jun 2013 Colloquium, Astronomical Observatory and University of Bologna
A starred walk in the Milky Way
29 Jun 2012 Colloquium, ESO Vitacura,Santiago, Chile
16 Jun 2011 Colloquium, University of Chile, Santiago, Chile
Massive young stellar clusters in the Milky Way
16 Jun 2011 Colloquium, Pontificia Universidad Catolica de Chile , Santiago, Chile
15 Jun 2011 Informal discussion, ESO Vitacura, Santiago, Chile
Clusters via massive stars
14 Jun 2011 Colloquium, Vitacura ESO , Santiago, Chile
1 Dec 2010 Lunch seminar, University of Bonn/MpifR, Germany
23 Apr 2010 Lunch seminar at RIT, Rochester (NY), USA
03 Feb 2010 Colloquium Hertfordshire 2010, Hatfield, UK
09 Mar 2009 Colloquium, RIT, Rochester, NY, USA
Young stellar clusters in the Milky Way
05 Dec 2008 Colloquium, University of Bonn/MpifR, Germany
Young stellar clusters in the Milky Way
17 Jul 2008 Colloquium, UCLA, California, USA
Massive young stellar clusters
10 Jan 2007 Informal discussion, ESO, Germany
Speculations on Galactic Structure
25 May 2005 Colloquium, Osservatorio Astronomico di Palermo, Italy
La struttura della nostra Galassia svelata attraverso lo studio di stelle AGB
06 Aug 2004 Colloquium, Univ. & MPIfR Bonn, Germany
SiO maser stars in the inner Galaxy
22 Apr 2003 Lunch seminar, MPIfR Bonn, Germany
86 GHz SiO maser survey in the inner Galaxy
21 Feb 2003 Colloquium, ASTRON/JIVE Dwingeloo, The Netherlands
86 GHz SiO maser survey in the inner Galaxy
25 Nov 1999 Colloquium, Astronomical Observatory of Bologna, Italy
*HST photometry of the globular cluster NGC 288:
binaries, blue stragglers and other blue stars*

- : **Participation in conferences:**
- : 23 Oct 2021 PERC-eption event of EURAXESS China
 - : Dec 2020 IAU symposium of Anhui
 - : 19 - 21 Aug 2019 Stars and their variability, Observed from Space 2019, Wien.
 - : 30 Jun-July 4 2019 IAUS 353: Galactic Dynamics in the Era of Large Surveys, Shanghai, CN
 - : 11 - 13 Oct 2018 2018 Experience China in Golden Autumn
 - : A Cultural Tour of Central China For Foreign Experts in Higher Education
 - : 28 - 29 Aug 2018 IAU Focus Meeting FM7: Radial metallicity gradients in star forming galaxies
 - : 28 - 31 Aug 2018 IAU Symposium 347: Early Science with ELTs (EASE)
 - : 26 Nov 2017 Forum of Chaohu Overseas Chinese
 - : 24 Nov 2017 2017 Propaganda of the European Research and Innovation in Hefei China
 - : 11 - 15 Sept 2017 Stellar Populations and the Distance Scale, Kavli, Beijing (talk)
 - : 4 - 8 Sept 2017 The amazing life of stars, Cefalu', Italy (talk)
 - : 3 - 7 Jul 2017 Asia-Pacific Regional IAU Meetings, Tapei, Taiwan (talk)
 - : 1 - 3 Jul 2017 Cross-Strait Symposium of Astrophysics: Taiwan (talk)
 - : 23 Jun 2017 Giornata della Ricerca Italiana in Cina, Beijing
 - : 4 Mar 2017 2017 CfA@USTC Junior Cosmology Symposium:
 - : Early Universe & Ali (Ngari) CMB Polarization Telescope
 - : 10 Dec 2016 Annual meeting of the Key Laboratory for Researches in Galaxies and Cosmology, Emeishan, Sichuan, CN (talk)
 - : 28 Nov - 02 Dec 2016 The lives and death-throes of massive stars, Auckland, NZ
 - : 21 - 25 Nov 2016 Galactic Archaeology & Stellar Physics, Canberra, AU (talk)
 - : 19 - 23 Sep 2016 The Milky Way and its environment: gaining insights into the drivers of galaxy formation and evolution, Paris
 - : 06 - 10 Jun 2016 Cool Stars 19, Uppsala, Sweden
 - : 21 - Apr 2016 SINO-ITALY Trade and Technology matchmaking conference within the 4th China (Shanghai) International Technology Fair (CSITF)
 - : 04 - 06 Dec 2015 Astrophysics Symposium, Suzhou, China (talk)
 - : 03 - 15 Aug 2015 IAU XXIX General Assembly, Honolulu (USA)
 - : 05 - 07 May 2015 Massive Stars and the Gaia-ESO Survey, Brussels, Belgium (talk)
 - : 17 - 20 Nov 2014 Wide-field InfraRed Surveys: Science and Techniques, Pasadena, USA (talk)
 - : 03 - 07 Nov 2014 The early life of stellar clusters: formation and dynamics - Copenhagen, Denmark (talk)
 - : 02 - 06 Jun 2014 The dance of stars: dense stellar systems from infant to old - Bad Honnef, Germany
 - : 02 - 06 Dec 2013 Fifth in the series of Guillermo Haro Conferences - Massive Young Star Clusters Near and Far: From the Milky Way to Re-ionization, Puebla, Mexico (talk)
 - : 04 - 07 Jul 2013 GAL Hassin 2013 - The sky from the Astronomical Garden on the Madonie mountains (talk)
 - : 28 - 02 Sep 2011 AHAR, Astronomy at High Angular Resolution, Bad Honnef, Germany
 - : 18 - 22 Jul 2011 Galactic plane surveys, Hatfield, UK (talk)
 - : 23 - 27 May 2011 Stellar Clusters & Associations, A RIA workshop on Gaia, Granada, Spain (talk)
 - : 7 - 10 Nov 2010 Spiral structure in the Milky Way, Bahia Inglesa, Chile (talk)
 - : 6 - 10 Sep 2010 JENAM 2010, Lisbon, Portugal (talk)
 - : 13 - 17 Sep 2010 Astronomische Gesellschaft, Bonn , Germany (2 talks)
 - : 6 - 10 Apr 2010 From Stars to Galaxies, Florida, USA
 - : 28 - 30 Jul 2008 **Co-organizer: Maria Messineo** Massive stars and massive clusters in the Milky Way, Rochester, USA (talk)
 - : 17 - 19 Dec 2007 Workshop 'Science from UKIDSS', Garching, Germany (talk)
 - : 10 - 14 Dec 2007 Massive Stars as cosmic engines, Kauai, Hawaii, USA
 - : 10 - 16 Dec 2006 Stellar Populations as Building Blocks of Galaxies, La Palma, Spain
 - : 18 - 22 Apr 2006 Galactic Center Workshop, Bad Honnef, Germany
 - : 09 - 10 Nov 2005 Panoramic near-Infrared Astronomy Workshop, Edinburgh, UK
 - : 10 - 14 Oct 2005 Science Perspectives for 3D Spectroscopy, Garching, Germany (talk)
 - : 16 - 20 May 2005 Massive Star Birth: A Crossroads of Astrophysics, IAU symposium 227, Acireale, Italy
 - : 10 - 13 May 2005 ESO Fellow Symposium, Garching, Germany (talk)
 - : 24 Sep 2004 Alma Day, ESO, Garching, Germany
 - : 14 Jun 2004 ISM meeting, Pannekoek Institute, Amsterdam, The Netherlands (talk)
 - : 10 - 11 Apr 2003 *Future Directions in AGB research.*
On the Occasion of the Retirement of Harm Habing, Leiden, The Netherlands
 - : **Co-Organizer: Maria Messineo** *Galactic Center Workshop; The central 300 pc*, Kailua-Kona, Hawai'i, USA
 - : *Mass-losing pulsating stars and their circumstellar matter*, Sendai, Japan (talk)
 - : *EARA workshop*, MPA, Garching, Germany
 - : ISM meeting, Pannekoek Institute, Amsterdam, The Netherlands (talk)
 - : *Cosmic masers*, IAU symposium 206, Brazil
 - : *Nova fall school 2000*, Dwingeloo, The Netherlands (talk)
 - : *Young European Radio Astronomers Conference*, YERAC, Granada, Spain (talk)
 - : *Oort Centenary Symposium*, Leiden, The Netherlands
 - : *ISOGAL meeting*, Lorentz Center/Leiden, The Netherlands (talk)
 - : **Organizers: Harm Habing & Maria Messineo** *Stellar populations as cosmic clocks. From the far-infrared to the millimetric.*
Italian national school for astrophysics, Carloforte, Italy (talk)

Astronomical Visits made:

- 12-23 Apr 2010: Visitor at RIT.
- 21-11-2014: Visitor at UCLA.
- 18-19 Feb 2016: Visitor at the Max Planck Institute for Radioastronomy.
- 24 Sep 2017: Meeting in Nainjing with Prof. A. Omont.
- 09 Dec 2017: Meeting in Nainjing with Prof. A. Omont.

Astronomical Visits received:

- 20-30 Sept 2006 – Harm Habing at ESO.
- 22 Apr-22 May 2008 – Valentin Ivanov at RIT.
- 05 May 2008 – Tiziana Di Matteo at RIT.
- 19 May 2008 – Maria Rosa Cioni at RIT.
- 4 June 2010 – Maria Rosa Cioni at ESA.
- August 2010: Visit of Dr. Zhu - ESA.
- 16 Sept 2011 – Prof. Dr. Rolf Peter Kudritzki at MPIfR.
- 14 March 2014 – Prof. Ferraro Francesco at MPIfR.
- 9 March 2017 – Prof. Thijs Kouwenhoven at USTC.
- 1-5 April 2017 – Prof. Paul van der Werf and Marianne at USTC.
- 21 Nov 2017 – Prof. Richard de Grijs at USTC.
- 8-11 July 2019 – Dr. Lorant Sjouwerman from VLA Socorro.
- 22 Dec 2020 – Online seminar by Dr. Claus Leitherer.

Publications

A number of 37 referred papers have been already pushing with Dr. Maria Messineo as a coauthors, and several others are in preparations. 21 of the 37 referred papers have Dr. Maria Messineo has a first author. Using the ADS database, the H-index calculated on the 37 referred papers amounted to 19 points and the total number of citations amounted to 1,887. The H-index calculated on the 21 referred papers amounted to 11 points with a total number of citations of 351.

Refereed papers

1. Ferraro F. R., **Messineo M.**, Fusi Pecci F., de Palo M. A., Straniero O., Chieffi A., Limongi M., *The Giant, Horizontal, and Asymptotic Branches of Galactic Globular Clusters. I. The Catalog, Photometric Observables, and Features*, 1999, AJ 118, 1738.
2. Bellazzini M., Fusi Pecci F., **Messineo M.**, Monaco L., Rood R. T., *Deep Hubble Space Telescope WFPC2 Photometry of NGC 288. I. Binary Systems and Blue Stragglers*, 2002, AJ 123, 1509.
3. Bellazzini M., Fusi Pecci F., Montegriffo P., **Messineo M.**, Monaco L., Rood R. T., *Deep Hubble Space Telescope WFPC2 Photometry of NGC 288. II. The Main-Sequence Luminosity Function*, 2002 AJ, 123, 2541.
4. Ortiz R., Blommaert J., Copet E., Ganesh S., Habing H. J., **Messineo M.**, Omont A., Schultheis M., Schuller F., *OH/IR stars in the inner bulge detected by ISOGAL*, 2002, A&A 388, 279.
5. Pasquali A., Nota A., Smith L. J., Akiyama S., **Messineo M.**, Clampin, M., *Multiwavelength Study of the Nebula Associated with the Galactic LBV Candidate HD 168625*, 2002, AJ 124, 1625.
6. **Messineo M.**, Habing H., Sjouwerman L., Omont A. & Menten K., *86 GHz SiO maser survey of late-type stars in the Inner Galaxy. I. Observational data*, 2002, A&A 393, 115.
7. van Loon J. T., Gilmore G. F., Omont A., Blommaert J., Glass, I. S., **Messineo M.**, Schuller F., Schultheis M., Yamamura I., Zhao H. S., *Infrared stellar populations in the central parts of the Milky Way galaxy*, 2003, MNRAS 338, 857.
8. Omont A., Gilmore G. F., Alard C., Aracil B., August T., Baliyan K., Beaulieu S., Begon S., Bertou X., Blommaert J. A. D. L., Borsenberger J., Burgdorf M., Caillaud B., Cesarsky C., Chitre A., Copet E., de Batz B., Egan M. P., Egret D., Epchtein N., Felli M., Fouqu P., Ganesh S., Genzel R., Glass I. S., Gredel R., Groenewegen M. A. T., Guglielmo F., Habing H. J., Hennebelle P., Jiang B., Joshi U. C., Kimeswenger S., **Messineo M.**, Miville-Deschenes M. A., Moneti A., Morris M., Ojha D. K., Ortiz R., Ott S., Parthasarathy M., Prault M., Price S. D., Robin A. C., Schultheis M., Schuller F., Simon G., Soive A., Testi L., Teyssier D., Tiphne D., Unavane M., van Loon J. T., Wyse R., *ISOGAL: A deep survey of the obscured inner Milky Way with ISO at 7 μm and 15 μm and with DENIS in the near-infrared*, 2003, A&A 403, 975.

9. Schuller F., Ganesh S., **Messineo M.**, Moneti A., Blommaert J. A. D. L., Alard C., Aracil B., Miville-Deschenes M.-A., Omont A., Schultheis M., Simon G., Soive A., Testi L., *Explanatory supplement of the ISOGAL-DENIS Point Source Catalogue*, 2003, A&A 403, 955.
10. Sjouwerman L., **Messineo M.**, Habing H., *43 GHz SiO Masers and Astrometry with VERA in the Galactic Centre*, 2004, PASJ 56, 45.
11. **Messineo M.**, Habing H., Menten K., Omont A. & Sjouwerman L. *86 GHz SiO maser survey of late-type stars in the Inner Galaxy. II. Infrared photometry of the SiO target stars*, 2004, A&A 418, 103.
12. **Messineo M.**, PhD thesis, *Late-type Giants in the Inner Galaxy*, 2004, Leiden University.
13. **Messineo M.**, Habing H., Menten K., Omont A. , Sjouwerman L. & Bertoldi, F. *86 GHz SiO maser survey of late-type stars in the Inner Galaxy. III. Interstellar extinction and colours of the SiO targets*, 2005, A&A 435, 575.
14. Bedin L.R., Piotto G., Baume G., Momany Y., Carraro G., Anderson J., **Messineo M.** and Ortolani S. *Star cluster detection with WFC/ACS in M 33 - 33 new clusters and 51 candidates*, 2005, A&A 444, 831.
15. Habing H.J., Sevenster M.N., **Messineo M.**, van de Ven G., Kuijken K. *The distribution of maser stars in the inner Milky Way: the effect of a weak, rotating bar*, 2006, A&A, 458, 151.
16. **Messineo M.**, Petr-Gotzens M.G., Schuller F., Menten K.M., Habing H.J., Kissler-Patig M., Modigliani A., Reunanen, J. *Integral-field spectroscopy of the Galactic cluster [DBS2003]8. Discovery of an ultra-compact HII region and its ionizing star in the bright rimmed cloud SFO49*, 2007, A&A, 472, 471.
17. **Messineo M.**, Figer D.F., Davies B., Rich R.M., Valenti E., Kudritzki, R.P. *Discovery of a Young Massive Stellar Cluster near HESS J1813-178*, 2008, ApJ, 683, 155.
18. Clark J. S., Negueruela I., Davies B., Larionov V. M., Ritchie B. W., Figer D. F., **Messineo M.**, Crowther P. A., Arkharov, A. A., *A third red supergiant rich cluster in the Scutum-Crux arm*, 2009, A&A, 498, 109.
19. **Messineo M.**, Davies B., Ivanov V.D., Figer D.F., Schuller F., Habing H.J., Menten K.M., Petr-Gotzens M.G. *Near-Infrared Spectra of Galactic Stellar Clusters Detected on Spitzer/GLIMPSE Images.*, 2009, ApJ, 697, 701
20. Clark J. S., Davies B., Najarro F., MacKenty J., Crowther P.A. Figer D. F., Crowther P. A., Arkharov, A. A., **Messineo M.**, Thompson M.A., *The P Cygni supergiant [OMN2000] LS1 - implications for the star formation history of W51*, 2009, A&A, 504, 429.
21. **Messineo, Maria**; Figer, Donald F.; Davies, Ben; Kudritzki, R. P.; Rich, R. Michael; MacKenty, John; Trombley, Christine, *HST/NICMOS observations of the GLIMPSE9 stellar cluster*, 2010, ApJ, 708, 1241
22. Minniti D., Lucas P. W., Emerson J. P., Saito R. K., Hempel M., Pietrukowicz P., Ahumada A. V., Alonso M. V., Alonso-Garcia J., Arias J. I., and 57 coauthors, *VISTA Variables in the Via Lactea (VVV): The public ESO near-IR variability survey of the Milky Way*, 2010, NewA, 15, 433.

23. **Messineo, Maria**; Davies, Ben; Figer, Donald F.; Kudritzki, R. P.; Valenti, Elena; Trombley, Christine; Najarro, F.; Rich, R. Michael, *Massive Stars in the Cl 1813-178 Cluster: An Episode Of Massive Star Formation in the W33 Complex*, 2011 *ApJ*, 733, 41.
24. **Messineo Maria**; Menten, K., Churchwell, E., and Habing, H., *Near- and Mid-Infrared colors of evolved stars in the Galactic plane. The Q1 and Q2 parameters.*, 2012 *A&A*, 537,10
25. Verheyen L., **Messineo M.**, Menten K.M., *SiO maser emission from red supergiants across the Galaxy. I. Targets in massive star clusters.*, 2012, *A&A* 541,36
26. **M. Messineo**, K. M. Menten, D. F. Figer, B. Davies, J. S. Clark, V. D. Ivanov, R.-P. Kudritzki, R.M. Rich, J.W. MacKenty, C. Trombley *Massive stars in the giant molecular cloud G23.3-0.3 and W41.*, 2014, *A&A*, 569, 20.
27. **Maria Messineo**, Qingfeng Zhu, Valentin D. Ivanov, Karl M. Menten, Ben Davies, Donald F. Figer, Rolf P. Kudritzki, and C.-H. Rosie Chen, *Near-infrared Spectroscopy of a few candidate Red Supergiant Stars in Clusters*, 2014, *A&A*, 571, 43.
28. **Maria Messineo**, Donald F. Figer, J. Simon Clark, Rolf-P. Kudritzki, F. Najarro, R. Michael Rich, Karl M. Menten, Valentin D. Ivanov, Elena Valenti, Christine Trombley, C.-H. Rosie Chen, and Ben Davies, *Massive stars in the W33 giant molecular complex*, 2015, *ApJ*, 805, 110.
29. **Messineo M.**, Zhu Q., Menten K.M., Ivanov V.D., Figer D.F., Kudritzki R.-P. & Chen C.-H. R., *Discovery of an Extraordinary Number of Red Supergiants in the Inner Galaxy*, 2016, *ApJL*, 822, 5.
30. **Messineo M.**, Zhu Q., Menten K.M., Ivanov V.D., Figer D.F., Kudritzki R.-P. & Chen C.-H. R., *Red Supergiants in the Inner Galaxy: Stellar Properties*, 2017, *ApJ*, 836, 65.
31. **Messineo M.**, Habing H. J., Sjouwerman L. O., Omont A. & Menten K. M., *86 GHz SiO maser survey of late-type stars in the Inner Galaxy. IV. SiO emission and infrared data for sources in the Scutum and Sagittarius-Carina arms, $20^\circ < l < 50^\circ$.*, 2018, *A&A*,619,35.
32. **Messineo M.**, Menten K. M., Figer D.F., Chen C.-H. R., & Rich R.M. *Detections of the massive stars in the cluster MCM2005B77, in the star-forming regions GRS G331.3400.36 (S62) AND GRS G337.9200.48 (S36).*, 2018, *ApJ* 862,10.
33. **Messineo M.**, Brown, A. G. A. *A Catalog of Known Galactic K-M Stars of Class I Candidate Red Supergiants in Gaia DR2.*, 2019, *AJ*, 158, 20.
34. **Messineo M.**, Sjouwerman, L. O., Habing, H. J., Omont A. *86-GHz SiO masers in Galactic centre OH/IR stars.*, 2020, *PASJ*, 72, 63.
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Universiteit Leiden

Rector Magnificus

ENGLISH TRANSLATION OF THE DOCTORAL DEGREE CERTIFICATE ISSUED BY LEIDEN UNIVERSITY

To whom it may concern.

The Rector and the College of Faculty Deans of Leiden University salute the readers:

Our ancestors, in their wisdom, have judiciously determined that students, prior to putting their knowledge into practice, on completion of their academic studies, should attempt to obtain documentary proof of their diligence and learning.

Accordingly, when after fulfilling the graduation requirements of the University, the distinguished mrs. **M. Messineo** strove to attain the highest academic degree, we, the undersigned, in order to support this most honourable cause, did not only examine her in the subjects of the Faculty of Science but we also heard the defence of her thesis submitted under the title "LATE-TYPE GIANTS IN THE INNER GALAXY".

Whereas in all this she has given us convincing proof of her erudition and care, we have presented her the honourable certificate of competence [i.e. the doctoral degree certificate] to which she is entitled.

Consequently, by virtue of the authority bestowed upon us, we have created and claimed her a doctor in the approved way, and we have granted her all the rights and honours which by law and custom regularly pertain to those legitimately admitted to the doctorate¹.

As confirmation and testimony hereof, the present official diploma, signed by the Rector Magnificus, the Supervisor(s) of the thesis, and the Secretary, and certified with the Great Seal of the University, was handed over to her by us.

Issued at Leiden, on the 30th day of the month June in the year 2004.

signature
Rector Magnificus

Prof.Dr. P.E. van der Heijden
rector magnificus

signature(s)
Supervisor(s)

signature
Secretary of the Committee of
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¹ For the readers' information: the holder of the doctoral degree certificate is entitled to add to his/her name the title of 'doctor' (abbr. 'dr.').



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IN PETRALIA SOPRANA (PALERMO, ITALY)

AT THIS UNIVERSITY PASSED THE FINAL DEGREE EXAMINATION IN
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ON 21ST OF MARCH 1997 WITH A GRADE OF 110 OUT OF 110 CUM LAUDE
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