

GIACOMO CORDONI

Personal Info

DOB 28 Oct 1994
Nationality Italian
Homepage www.gcordoni.com
Email giacomo.cordoni@unipd.it
Personal Email gcordoni94@gmail.com
Google Scholar [Giacomo Cordoni](#)
Publications [ADS bibliography](#)
ORCID [Giacomo Cordoni](#)



Academic experience

Oct 2021– **Postdoctoral fellowship**, *University of Padova, Padova, Italy*.
Oct 2022 Project: Multiple Stellar Populations in Star Clusters
Supervisor: Prof. Antonino P. Milone
Jul 2018– **Summer fellowship**, *University of Padova, Padova, Italy*.
Sep 2018 Project: Multiple Stellar Populations in Magellanic Cloud Clusters
Supervisor: Prof. Antonino P. Milone

Education and training

2018–2021 **Astronomy Ph.D.**, *University of Padova, Padova, Italy, final score: Honors*.
(13 Dec 2021) Ph.D. project: Multiple Stellar Populations in Star Clusters
Supervisor: Prof. Antonino P. Milone
<https://www.research.unipd.it/handle/11577/3416212>
2016–2018 **Astronomy Master degree**, *University of Padova, Padova, Italy, final score 110L/110*.
(21 Jun 2018) Final thesis: Multiple Stellar Populations in Magellanic Cloud Clusters: disentangling between age spread and rotation
Supervisor: Prof. Antonino P. Milone, Co-supervisor: Dr. Anna F. Marino
<http://tesi.cab.unipd.it/61306/>
2013–2016 **Physics Bachelor degree**, *University of Padova, Padova, Italy, final score 97/110*.
(26 Sep 2016) Final thesis: Giant planet formation with “pebbles” accretion
Supervisor: Prof. Francesco Marzari
<https://thesis.unipd.it/handle/20.500.12608/28103>

Prizes and awards

Jul 2022 **Honourable Mention Tacchini prize** for best Ph.D. thesis in Astrophysics - XVII Edition 2022
<https://www.sait.it/node/697>
Jul 2020 **Stefano Magini Award** for best Master thesis in Astrophysics <https://www.arcetri.inaf.it/ricerca/premio-stefano-magini>

Research in numbers

One year after the conclusion of my three-year PhD, here are my research achievements:

- h-index of **14**
- **27** refereed papers (author and co-author) in peer-review journals with almost 600 citations (plus two currently in review)
- **5** first-author publications (plus one currently in review) with more than 100 citations
- **5** conference proceedings
- **1** HST proposal as P.I.

- 4 HST/JWST/ESO proposal as co-I.
- 5 contributed talks and/or poster presentation at international conferences

Scientific experience

Teaching, mentoring and related

- Present Astronomy Bachelor/Master thesis **co-supervisor**: Andrea Troia and Francesco Guidolin
- Present **Scientific referee** for the Astrophysical Journal
- Oct 2021 – Jan 2023 **Assistant professor**, Astronomy Lab. 1, University of Padova
- Oct 2022 – Jan 2023 **Assistant professor**, Physics 1, University of Bergamo
- Oct 2018– Jun 2019 Tutoring activity in Calculus 1, *University of Padova, Padova, IT.*
- Jun 2018 Tutoring activity for the ESTAGE project with the GALFOR group, *University of Padova, Padova, IT.* <http://progetti.dfa.unipd.it/GALFOR/outreach.html>

International collaborations

- Oct 2019– Dec 2019 Visiting Ph.D. student at the *Research School of Astronomy and Astrophysics, Australian National University, Canberra, AU.* **Collaboration with Prof. Gary S. Da Costa and Dr. David Yong**
- Jun 2019 Visiting Ph.D. student at the *University of Indiana Bloomington, Bloomington, Indiana, US.* **Collaboration with Prof. Enrico Vesperini**
- Feb 2019 Visiting Ph.D. student at the *Max-Planck-Institut für Astronomie, Heidelberg, DE.* **Collaboration with Dr. Alessandra Mastrobuono-Battisti**

Conferences and workshops

- 12 - 23 International Summer School on the Interstellar Medium of Galaxies, from the Epoch of Reionization to the Milky Way. <https://ismgalaxies2021.sciencesconf.org/>
- 2 - 4 Cool Stars 20.5 - virtually cool. *Cambridge Workshops of Cool Stars, Stellar Systems and the Sun*
- Mar 2021 **Contributed Talk.** <http://coolstars20.cfa.harvard.edu/cs20half/index.html>
- 31 Aug - 4 Sep 2020 The Local Group: Assembly and Evolution, STScI, Baltimore, MD, US. **Contributed Talk.** <https://www.stsci.edu/contents/events/stsci/2020/april/the-local-group-assembly-and-evolution>
- 26 - 31 Jun 2019 European Week of Astronomy and Space Science, Lyon, FR. **Contributed Talk.** <https://eas.unige.ch/EWASS2019/>
- 3 - 7 Jun 2019 Summer School in Statistics for Astronomers XV, University of Pennsylvania Eberly College of Science, State College, US.
- 27 - 31 May 2019 Star Clusters: from the Milky way to the Early Universe, IAU Symposium, Bologna, IT. **Poster.** <http://iausymp351.oas.inaf.it/>
- 8 Jun 2018 International Conference of Young Astrophysicists and Astronomers 2018, Padova, IT. **Contributed Talk..** <https://indico.cern.ch/event/715567/>

Observing proposals

- Principal Investigator** **HST cycle 27**, GO 15495, *A two orbits proposal to solve the age spread dilemma in young Magellanic Clouds clusters*, **P.I. Cordoni, G.**
<http://www.stsci.edu/hst/observing/program-information>
- Co-Investigator** **HST cycle 30**, GO 17075, *Characterization of internal chemical spread in outer halo globular clusters*, **P.I. Lagioia, E. P.**
<http://www.stsci.edu/hst/observing/program-information>
- Co-Investigator** **HST cycle 28**, GO 16289, *Multiple stellar populations in Globular Clusters: exploring the low mass regime*, **P.I. Milone, A. P.**
<http://www.stsci.edu/hst/observing/program-information>

Co-Investigator JWST cycle 1, GO 2560, *Solving the globular clusters multiple population enigma through JWST*, P.I. Marino, A. F.

<http://www.stsci.edu/hst/observing/program-information>

Co-Investigator ESO program, *The Li puzzle and the role of AGB stars in NGC 2808*, P.I. Carlos, M.

Personal Skills

Digital competences

Programming skills PYTHON (expert), SUPERMONGO (expert), C++ (beginner), R (beginner), MATHEMATICA (beginner), MATLAB (beginner)

Other competences

2022 IBM AI engineering Professional Certificate, Introduction to Computer Vision and Image Processing, *Coursera*

2022 AWS & Deep Learning AI, Practical Data Science specialization, *Coursera*

2021 IBM Data Science Professional certificate, *Coursera*, 7/10 single courses

2019 Summer School in Statistics for Astronomers, *Penn State University*

Languages

ITALIAN (native speaker), ENGLISH (proficient user)

Communication skills

Team work Over the course of the past four years, I have worked in a motivated and productive research team, where weekly meetings were held to exchange ideas and results. At the Research School of Astronomy & Astrophysics I joined a research group which counted more than 20 active members, both senior and PhD students. Collaboration among members was highly encouraged.

Public speaking As listed above, I attended numerous scientific international conferences where I presented my work and results, with written and oral presentation. This improved and enhanced my communication skills.

Social skills As I spent three months at the Australian National University, a multicultural environment, and I attended different international schools, I learned to interact and share ideas in a scientific stimulating and heterogeneous environments.

In compliance with the GDPR and the Italian Legislative Decree no. 196 dated 30/06/2003, I hereby authorize you to use and process my personal details contained in this document.

09/01/2023
Giacomo Cordoni

Summary of research

One year after my three-year PhD, my research has resulted in 26 refereed papers in peer-reviewed international journals (two more are currently in review), including 5 first-author publications (and one more in review in A&A), one of which has been published in the prestigious Nature Communications. My articles received more than 600 citations, including more than 100 to my first-author articles. **My current h-index is 14.**

List of publications

First author refereed publications

- 28 **Cordoni et al.**, *in review to A&A, Photometric binaries physical parameters of 78 Galactic Open clusters*
- 27 **Cordoni et al. 2022**, *Nature Communications, NGC1818 unveils the origin of the extended Main-Sequence Turn-Off in young Magellanic Clouds clusters.*
<https://ui.adsabs.harvard.edu/abs/2022NatCo...13.4325C/abstract>
- 26 **Cordoni et al. 2021**, *MNRAS, Exploring the Galaxy's halo and very metal-weak thick disk with SkyMapper and Gaia DR2*
<https://ui.adsabs.harvard.edu/abs/2021MNRAS.503.2539C/abstract>
- 25 **Cordoni et al. 2020b**, *ApJ, Gaia and Hubble unveil the kinematics of stellar populations in the Type II globular clusters ω Centauri and M 22.*
<https://ui.adsabs.harvard.edu/abs/2020ApJ...898..147C/abstract>
- 24 **Cordoni et al. 2020a**, *ApJ, Three-Component Kinematics of Multiple Stellar Populations in Globular Clusters with Gaia and VLT*
<https://ui.adsabs.harvard.edu/abs/2020ApJ...889...18C/abstract>
- 23 **Cordoni et al. 2018**, *ApJ, Extended Main-sequence Turnoff as a Common Feature of Milky Way Open Clusters*
<https://ui.adsabs.harvard.edu/abs/2018ApJ...869..139C/abstract>

Coauthor refereed publications

- 22 Milone, Cordoni et al. *In review A&A, Hubble-Space Telescope survey of Magellanic Cloud star clusters. Photometry and astrometry of 113 clusters and early results*
<https://ui.adsabs.harvard.edu/abs/2022arXiv221207978M/abstract>
- 21 Carlos et al. 2022 *MNRAS, The chemical compositions of multiple stellar populations in the globular cluster NGC 2808*
<https://ui.adsabs.harvard.edu/abs/2023MNRAS.519.1695C/abstract>
- 20 Jang et al. 2022 *MNRAS, Chromosome maps of Globular Clusters from wide-field ground-based photometry*
<https://ui.adsabs.harvard.edu/abs/2022MNRAS.517.5687J/abstract>
- 19 Legnardi et al. 2022 *ApJ, Constraining the original composition of the gas forming first-generation stars in globular clusters*
<https://ui.adsabs.harvard.edu/abs/2022MNRAS.tmp..839L/abstract>
- 18 Dondoglio et al. 2022 *ApJ, Survey of Multiple Populations in Globular Clusters among Very-low-mass Stars*
<https://ui.adsabs.harvard.edu/abs/2022ApJ...927..207D/abstract>
- 17 Marino et al. 2021 *ApJ, Spectroscopy and photometry of the least-massive Type-II globular clusters: NGC1261 AND NGC6934*
<https://ui.adsabs.harvard.edu/abs/2021ApJ...923...22M/abstract>
- 16 Jang et al. 2021 *ApJ, Integrated photometry of multiple stellar populations in Globular Clusters*
<https://ui.adsabs.harvard.edu/abs/2021ApJ...920..129J/abstract>
- 15 Tailo et al. 2021 *ApJ, Mass-loss law for red giant stars in simple population globular clusters*

- <https://ui.adsabs.harvard.edu/abs/2021MNRAS.503..694T/abstract>
- 14 Lagioia et al. 2021 *ApJ*, *Multiple stellar populations in Asymptotic Giant Branch stars of Galactic Globular Clusters*
<https://ui.adsabs.harvard.edu/abs/2021ApJ...910...6L/abstract>
- 13 Dondoglio et al. 2021 *ApJ*, *Multiple Stellar Populations along the Red Horizontal Branch and Red Clump of Globular Clusters*
<https://ui.adsabs.harvard.edu/abs/2021ApJ...906...76D/abstract>
- 12 Tailo et al. 2020 *MNRAS*, *Mass loss along the red giant branch in 46 Globular Clusters and their multiple populations*
<https://ui.adsabs.harvard.edu/abs/2020MNRAS.498.5745T/abstract>
- 11 Milone et al. 2020 *MNRAS*, *A chromosome map to unveil stellar populations with different magnesium abundances. The case of Omega Centauri*
<https://ui.adsabs.harvard.edu/abs/2020MNRAS.497.3846M/abstract>
- 10 Milone et al. 2020 *MNRAS*, *Multiple populations in globular clusters and their parent galaxies*
<https://ui.adsabs.harvard.edu/abs/2020MNRAS.491..515M/abstract>
- 9 Milone et al. 2020 *MNRAS*, *The Hubble Space Telescope UV Legacy Survey of Galactic Globular Clusters. - XXI. Binaries among multiple stellar populations*
<https://ui.adsabs.harvard.edu/abs/2020MNRAS.492.5457M/abstract>
- 8 Lagioia et al. 2019, *AJ*, *The Role of Cluster Mass in the Multiple Populations of Galactic and Extragalactic Globular Clusters*
<https://ui.adsabs.harvard.edu/abs/2019AJ...158..202L/abstract>
- 7 Marino et al. 2019, *ApJ*, *Chemical abundances along the 1G sequence of the chromosome maps: The Globular Cluster NGC 3201*
<https://ui.adsabs.harvard.edu/abs/2019ApJ...887...91M/abstract>
- 6 Marino et al. 2019, *MNRAS*, *The Hubble Space Telescope UV Legacy Survey of Galactic Globular Clusters. XVIII. A Chemical Tagging of the Multiple Stellar Populations along the chromosome maps*
<https://ui.adsabs.harvard.edu/abs/2019MNRAS.487.3815M/abstract>
- 5 Zennaro et al. 2019, *MNRAS*, *Four stellar populations and extreme helium variation in the massive outer-halo globular cluster NGC 2419*
<https://ui.adsabs.harvard.edu/abs/2019MNRAS.487.3239Z/abstract>
- 4 Tailo et al. 2019, *MNRAS*, *Is helium the key parameter in the extended color spread of the first generation stars in M3?*
<https://ui.adsabs.harvard.edu/abs/2019MNRAS.486.5895T/abstract>
- 3 Li et al. 2019, *ApJ*, *Extended main-sequence turnoffs in the double cluster η and χ Persei: The complex role of stellar rotation*
<https://ui.adsabs.harvard.edu/abs/2019ApJ...876...65L/abstract>
- 2 Tailo et al. 2019, *ApJ*, *Mass loss of different stellar populations in Globular Clusters: the case of M4*
<https://ui.adsabs.harvard.edu/abs/2019ApJ...873..123T/abstract>
- 1 Milone et al. 2018, *ApJ*, *The Hubble Space Telescope UV Legacy Survey of Galactic Globular Clusters. XVI. The helium abundance of multiple populations*
<http://adsabs.harvard.edu/abs/2018ApJ...869..139C>

Conference proceedings

- 5 **Cordoni et al. 2019**, IAU proceedings, *Kinematics of multiple stellar populations in globular clusters with Gaia*
<https://ui.adsabs.harvard.edu/abs/2019arXiv190811692C/abstract>
- 4 Lagioia et al. 2021, The 20.5th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun, *Multiple Stellar Populations in AGB stars of Galactic Globular Clusters*
<https://ui.adsabs.harvard.edu/abs/2021csss.confE.137L/abstract>
- 3 Tailo et al. 2021, The 20.5th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun, *Mass-loss from multiple populations: hint of a universal mass loss-law for Pop II stars?*
<https://ui.adsabs.harvard.edu/abs/2021csss.confE.247M/abstract>
- 2 Legnardi et al. 2019, The 20.5th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun, *Constraining the composition of pristine material through multiple populations in Globular Clusters*
<https://ui.adsabs.harvard.edu/abs/2021csss.confE..61L/abstract>
- 1 Lagioia et al. 2019, IAU proceedings, *Helium variations in Galactic and extragalactic Globular Clusters*
<https://ui.adsabs.harvard.edu/abs/2019arXiv190811702L/abstract>

In compliance with the GDPR and the Italian Legislative Decree no. 196 dated 30/06/2003, I hereby authorize you to use and process my personal details contained in this document.

09/01/2023
Giacomo Cordoni
