

ALICE SOMIGLIANA

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Italian

EMPLOYMENT AND RESEARCH EXPERIENCE

Max Planck Institute for Astronomy, Heidelberg (DE) 2025-ongoing
Postdoctoral Researcher | Planet Formation and Exoplanets (PFE) Department
Advisors: Giulia Perotti, Myriam Benisty (MPIA)

EDUCATION

PhD in Physics 2021-2024
European Southern Observatory (ESO), Garching bei München (DE)
Awarding institute: Ludwig-Maximilians-Universität München (LMU), magna cum laude (1.0)
Supervisor: Prof. Leonardo Testi

Masters in Physics 2019-2021
University of Milan, 110/110 cum laude
Thesis: *A population synthesis model for young stars and their disks*
Supervisor: Prof. Giuseppe Lodato

Bachelors in Physics 2015-2018
University of Milan, 105/110
Thesis: *Evolution of protoplanetary disks undergoing photoevaporation*
Supervisor: Prof. Giuseppe Lodato

RESEARCH INTERESTS

Secular evolution of protoplanetary disks and its impact on planet formation and disk observables, approached from the theoretical and numerical perspective. Population synthesis modelling, including dedicated software development. Disc chemistry, JWST/MIRI-MRS observations.

FIRST-AUTHOR PEER-REVIEWED PUBLICATIONS

Somigliana A., Testi L., Rosotti G., Toci C., Lodato G., Anania R., Tabone B., Tazzari M., Klessen R., Lebreuilly U., Hennebelle P. and Molinari S. (2024), *The evolution of the $M_d - M_\star$ and $\dot{M} - M_\star$ correlations traces protoplanetary disc dispersal*, A&A, 689, A285. Citations: 4

Somigliana A., Testi L., Rosotti G., Toci C., Lodato G., Tabone B., Manara C. F. and Tazzari M. (2023), *The Time Evolution of M_d/\dot{M} in Protoplanetary Disks as a Way to Disentangle between Viscosity and MHD Winds*, ApJL, 954, L13. Citations: 16

Somigliana A., Toci C., Rosotti G., Lodato G., Tazzari M., Manara C. F., Testi L., and Lepri F. (2022), *On the time evolution of the $M_d - M_\star$ and $\dot{M} - M_\star$ correlations for protoplanetary discs: the viscous time-scale increases with stellar mass*, MNRAS, 514, 5927-5940. Citations: 20

Somigliana A., Toci C., Lodato G., Rosotti G. and Manara C. F. (2020), *Effects of photoevaporation on protoplanetary disc 'isochrones'*, MNRAS, 492, 1120-1126. Citations: 29

CO-AUTHOR PEER-REVIEWED PUBLICATIONS

Kurtovic N., et al., including **Somigliana A.** (2026), *MINDS: Young binary systems with JWST/MIRI: Variable water-rich primaries and extended emission*. A&A, 705, A97.

Tabone B., et al., including **Somigliana A.** (2025), *The ALMA survey of Gas Evolution in PROto-planetary disks (AGE-PRO): VII. Testing accretion mechanisms from disk population synthesis*. ApJ, 989, 7. Contribution: main software developer, software user support.

Malanga L., Rosotti G., Lodato G., **Somigliana A.**, et al. (2025), *The survivorship bias of proto-planetary disc populations. Internal photoevaporation increases the median total disc mass with time*. Contribution: co-supervisor of Masters' student (Malanga L.), main software developer.

Zallio L., et al., including **Somigliana A.** (2024), *On the accretion of MHD wind-driven proto-planetary discs: the $M_D - \dot{M}_*$ relation*, A&A, 692, A93.

Lebreuilly U., et al., including **Somigliana A.** (2024), *Synthetic populations of protoplanetary disks - Impact of magnetic fields and radiative transfer*.

ACCEPTED OBSERVING PROPOSALS

JWST

On the shoulders of a giant. Towards a chemical inventory of Herbig discs. Cycle 5. 16.9 h. **PI: Alice Somigliana**

ALMA

The missing piece of disc evolution: disc demographics in 25 Orionis, an old region with low UV radiation. Cycle 10. 15.2 h. PI: Francesco Zagaria

An ALMA Band 1 and VLA survey to probe the solid reservoir of Lupus disks. Cycle 10. 28.6 h. PI: Laura Perez

NOEMA

Protoplanetary discs at the end of their life-time. 2022. 6 h. PI: Benoît Tabone

SOFTWARE DEVELOPMENT

Diskpop and popcorn

Main active developer. *Diskpop* is a Python tool to perform population synthesis of protoplanetary disks, whose raw output is analysed with the *popcorn* library. I wrote the documentation and tutorials to both codes, released in Somigliana et al. 2024.

TALKS

PSF Seminar, ESO, Garching.	March 2026
Lunch Talk, Leiden.	February 2026
ExoCam Seminar, Cambridge. Invited seminar	January 2026
Italian National Conference of Star and Planet Formation, Sexten. Invited talk	January 2025
New Heights in Planet Formation, ESO, Garching. Contributed talk	July 2024
OPINAS Seminar, MPE, Garching.	July 2024
EAS 2024, Padova. Two contributed talks	July 2024
SESTAS Seminar, MPA, Garching.	January 2024
Milan XMas Meeting, Milan. Contributed talk	December 2023
Core2diskIII, Paris. Contributed talk	October 2023
TOP Seminar, Observatoire de la Cote d'Azur, Nice.	September 2023

PSF Seminar, MPIA, Heidelberg.	July 2023
EAS 2023, Krakow. Contributed talk	July 2023
AGE-PRO workshop, Leiden.	January 2023
Disks and Planets across the ESO Facilities. Contributed talk	November 2022
Arcetri Observatory Seminar, Florence.	June 2022
IMPRS Symposium, MPE, Garching. Contributed talk	June 2022
Milan XMas Meeting, Milan. Contributed talk	December 2021
ECOGAL Seminar, online	September 2021
Milan Xmas Meeting, Milan. Contributed talk	December 2019

SUPERVISION

<i>Gloria Giamberardini</i>	2026
Erasmus Traineeship student at MPIA.	
<i>Jasmine Khalil</i>	2025
Summer Student at MPIA. Co-supervised with Francesco Zagaria (MPIA).	
<i>Lorenzo Malanga</i>	2024
Master's student at the University of Milan. Co-supervising with Giovanni Rosotti and Giuseppe Lodato (University of Milan). Results in Malanga et al. (2025). Currently PhD Student at the University of Milan.	
<i>Daria Zaremba</i>	2023
Summer Student at ESO. Co-supervised with Marta de Simone and Łukasz Tychoniec (ESO). Results in Giani et al. (in prep).	

GRANTS AND AWARDS

<i>ESO Science Internship</i>	2023
Awarded to supervisors to support Master's students visits at ESO. I obtained funding to allow Lorenzo Malanga to visit ESO for three months (March - June 2024) to work with me on his thesis. Total value ~ 4500 €.	

SOC AND LOC EXPERIENCE

<i>DUSTBUSTERS New Heights in Planet Formation</i>	2024
LOC member	
<i>EAS 2024</i>	2023
SOC Member of the proposed Special Session <i>Young protostellar disks: the initial conditions for planet formation</i> .	
<i>Disks and Planets across the ESO Facilities</i>	2022
LOC member	
<i>IMPRS Symposium</i>	2022
LOC member	

COMMUNITY SERVICE AND OUTREACH

<i>MPIA PFE Coffee Organiser</i>	2025-ongoing
Topical weekly seminar at MPIA. Responsibilities include finding speakers, managing communications and reminders.	

<i>ESO Journal Club Organiser</i>	<i>2023-2024</i>
Weekly meeting gathering the whole ESO Office for Science. Responsibilities include finding speakers, managing communications and reminders, chairing, acquiring refreshments.	
<i>Student Representative</i>	<i>2022-2024</i>
Currently in charge of communication with the Office for Science (2023-2024), previously welcoming new students and providing help with bureaucracy (2022-2023).	
<i>SPF Coffee Organiser</i>	<i>2021-2024</i>
Topical weekly coffee at ESO	
<i>OPC Scientific Assistant</i>	<i>Cycle 112, 113</i>
Assisting panelists reviewing ESO proposals	
<i>Volunteer at ESO Supernova</i>	<i>2021-2024</i>
Exhibition, Planetarium, and ESO HQ tours in italian for high school students.	

LANGUAGE SKILLS

Italian (Native speaker), English (Proficient), German (B1), French (Basic)