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## Publication summary

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|---|
| Publications (total, 1st author) : 32, 10 |
| Refereed publications (total, 1st author): 25, 7 |
| Citations (total, 1st author): 1637, 173 |
| Normalized citations (total, 1st author): 132, 28 |
| h-index: 17 |

Data from SAO/NASA Astrophysics Data System, November 13, 2026.

**Full list of publications available at:**
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## Publication list

### Refereed publications

**- First-author publications:**

1) **Torniamenti S.**, Mapelli M., Boco L., Simonato F., Iorio G., et al., *Optically thick winds of very massive stars suppress intermediate-mass black hole formation*, 2026, A&A, 707, A38. DOI: 10.1051/0004-6361/202557817.

2) **Torniamenti S.**, Mapelli M., Périgois C., Arca Sedda M., Artale M. C., et al., *Hierarchical binary black hole mergers in globular clusters: mass function and evolution with redshift*, 2024, A&A, 688, A148. DOI: 10.1051/0004-6361/202449272.

3) **Torniamenti S.**, Gieles M., Penoyre Z., Jerabkova T., Wang L., et al., *Stellar-mass black holes in the Hyades star cluster?*, 2023, MNRAS, 524, 1965. DOI: 10.1093/mnras/stad1925.

4) **Torniamenti S.**, Rastello S., Mapelli M., Di Carlo U. N., Ballone A., et al., *Dynamics of binary black holes in young star clusters: The impact of cluster mass and long-term evolution*, 2022, MNRAS, 517, 2953. DOI: 10.1093/mnras/stac2841.

5) **Torniamenti S.**, Pasquato M., Di Cintio P., Ballone A., Iorio G., et al., *Hierarchical generative models for star clusters from hydrodynamical simulations*, 2022, MNRAS, 510, 2097. DOI: 10.1093/mnras/stab3608.

6) **Torniamenti S.**, Ballone A., Mapelli M., Gaspari N., Di Carlo U. N., et al., *The impact of binaries on the evolution of star clusters from turbulent molecular clouds*, 2021, MNRAS, 507, 2253. DOI: 10.1093/mnras/stab2238.

7) **Torniamenti S.**, Bertin G., and Bianchini P., "A simple two-component description of energy equipartition and mass segregation for anisotropic globular clusters", 2019, A&A, 632, A67. DOI: 10.1051/0004-6361/201935878.

**- Publications as scientific supervisor:**

8) Simonato F., **Torniamenti S.**, Mapelli M., Iorio G., Boco L., et al., *Impact of stellar winds on the pair-instability supernova rate*, 2025, A&A, 703, A215. DOI: 10.1051/0004-6361/202555490.

**- Publications as co-author:**

9) Angeloni F., Kritos K., Schneider R., Berti E., Graziani L., et al. (incl. **Torniamenti S.**), *Investigating the formation channel of GW231123: Population III stars or hierarchical mergers?*, 2026, A&A, 710, L14. DOI: 10.1051/0004-6361/202660148.

10) Angeloni F., Kritos K., Schneider R., Berti E., Graziani L., et al. (incl. **Torniamenti S.**), *Milky Way globular clusters: Nurseries for dynamically formed binary black holes*, 2026, A&A, 708, A364. DOI: 10.1051/0004-6361/202558422.

11) Boco L., Mapelli M., Sander A., Mesini S., Ramachandran, V., et al. (incl. **Torniamenti S.**), *Metal-poor single Wolf-Rayet stars: the interplay of optically thick winds and rotation*, A&A, 703, A243. DOI: 10.1051/0004-6361/202556187.

12) Prodan G. P., Pasquato M., Iorio G., Ballone A., **Torniamenti S.**, et al., *A machine learning framework to generate star cluster realisations*, 2024, A&A, 690, A274. DOI: 10.1051/0004-6361/202450995.

13) Iorio G., **Torniamenti S.**, Mapelli M., Dall'Amico M., Trani A. A., et al., *The boring history of Gaia BH3 from isolated binary evolution*, 2024, A&A, 690, A144. DOI: 10.1051/0004-6361/202450531.

14) Mestichelli B., Mapelli M., **Torniamenti S.**, Arca Sedda M., Branchesi M., et al., *Binary black hole mergers from Population III star clusters*, 2024, A&A, 690, A106. DOI: 10.1051/0004-6361/202450667.

15) Vaccaro M. P., Mapelli M., Périgois C., Barone D., Artale M. C., et al., (incl. **Torniamenti S.**), *Impact of gas hardening on the population properties of hierarchical black hole mergers in AGN disks*, 2024, A&A, 685, A51. DOI: 10.1051/0004-6361/202348509.

16) Dall'Amico M., Mapelli M., **Torniamenti S.**, Arca Sedda M., *Eccentric black hole mergers via three-body interactions in young, globular and nuclear star clusters*, 2024, A&A, 683, A186. DOI: 10.1051/0004-6361/202348745.

17) Rastello S., Iorio G., Mapelli M., Arca Sedda M., Di Carlo U. N., et al. (incl. **Torniamenti S.**), *Dynamical formation of Gaia BH1 in a young star cluster*, 2023, MNRAS, 526, 740. DOI: 10.1093/mnras/stad2757.

18) Ballone A., Costa G., Mapelli M., MacLeod M., **Torniamenti S.**, et al., *Formation of black holes in the pair-instability mass gap: Hydrodynamical simulations of a head-on massive star collision*, 2023, MNRAS, 519, 5191. DOI: 10.1093/mnras/stac3752.

19) Di Carlo U. N., Mapelli M., Pasquato M., Rastello S., Ballone A., et al. (incl. **Torniamenti S.**), *Intermediate-mass black holes from stellar mergers in young star clusters*, 2021, MNRAS, 507, 5132. DOI: 10.1093/mnras/stab2390.

20) Rastello S., Mapelli M., Di Carlo U. N., Iorio G., Ballone A., et al. (incl. **Torniamenti S.**), *Dynamics of binary black holes in low-mass young star clusters*, 2021, MNRAS, 507, 3612.. DOI: 10.1093/mnras/stab2355.

21) Mapelli M., Dall'Amico M., Bouffanais Y., Giacobbo N., Arca Sedda M., et al. (incl. **Torniamenti S.**), *Hierarchical black hole mergers in young, globular and nuclear star clusters: the effect of metallicity, spin and cluster properties*, 2021, MNRAS, 505, 339. DOI: 10.1093/mnras/stab1334.

22) Ballone A., **Torniamenti S.**, Mapelli M., Di Carlo U. N., Spera M., et al., *From hydrodynamics to N-body simulations of star clusters: mergers and rotation*, 2021, MNRAS, 501, 2920. DOI: 10.1093/mnras/staa3763.

23) Di Carlo U. N., Mapelli M., Giacobbo N., Spera M., Bouffanais Y., et al. (incl. **Torniamenti S.**), *Binary black holes in young star clusters: the impact of metallicity*, 2020, MNRAS, 498, 495. DOI: 10.1093/mnras/staa2286.

24) Ballone A., Mapelli M., Di Carlo U. N., **Torniamenti S.**, Spera M., et al., *Evolution of fractality and rotation in embedded star clusters*, 2020, MNRAS, 496, 49. DOI: 10.1093/mnras/staa1383.

**- Publications in large collaborations:**

25) Abac A., Abramo R., Albanesi S., Albertini A., Agapito A., et al. (incl. **Torniamenti S.**), *The Science of the Einstein Telescope*, 2026, Journal of Cosmology and Astroparticle Physics, 2026, 081. DOI: 10.1088/1475-7516/2026/03/081.

**Full list of refereed publications available at:**
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## Non-refereed publications

**- Submitted publications:**

26) **Torniamenti S.**, Hoyer N., Neumayer N., Smith P. J., Arca Sedda M., *Intermediate-mass black hole seeding in galactic nuclei from star cluster migration*, submitted to A&A. DOI: 10.48550/arXiv.2606.14852.

27) Simonato F., Arca Sedda M., Ryu T., Klencki J., Iorio G., et al. (incl. **Torniamenti S.**), *The STARfall pathway: forging intermediate-mass black holes through stellar collisions in dense star clusters*, submitted to A&A. DOI: 10.48550/arXiv.2611.03812.

28) Bosi M., Boco L., **Torniamenti S.**, Rinaldi S., Sgalletta C., et al., *Shaping binary black hole merger efficiency with gravitational wave observations*, submitted to A&A. DOI: 10.48550/arXiv.2609.37770.

29) Bellomo N., Bosi M., Libanore S., Liguori M., Mapelli M., et al. (incl. **Torniamenti S.**), *Breaking binary formation mechanism degeneracies with gravitational wave clustering*, submitted to A&A. DOI: 10.48550/arXiv.2609.09083.

30) Mestichelli B., Arca Sedda M., Volonteri M., Mapelli M., **Torniamenti S.**, et al., *Pebbles to Gems: Intermediate-mass black holes in the first star clusters*, submitted to A&A. DOI: 10.48550/arXiv.2607.03536.

**- Contributions to conferences and symposia**

31) **Torniamenti S.**, "A novel generative method for star clusters from hydro-dynamical simulations", 2022, Proceedings of the International Astronomical Union (IAU) - IAU Symposium 362, Cambridge University Press. DOI: 10.1017/S1743921322001703.

32) **Torniamenti S.**, Bertin G., Bianchini P., "A simple two-component description of mass segregation for anisotropic globular clusters", 2020, Proceedings of the International Astronomical Union (IAU) - IAU Symposium 351 & MODEST-19, Cambridge University Press. DOI: 10.1017/S1743921319006707.

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