Fatmanur Ertuğrul

Sabancı University · Istanbul, Turkey
fatmanur.ertugrul@sabanciuniv.edu

Education

Ph.D. in Physics 2025.09 – Present, Istanbul, Turkey
Sabancı University, Faculty of Engineering and Natural Sciences
Advisor: Prof. Dr. Ünal Ertan

MSc in Physics 2022.09 – 2025.08, Istanbul, Turkey
Sabancı University, Faculty of Engineering and Natural Sciences
Advisor: Prof. Dr. Ünal Ertan
Research focus: Astrophysics – LMXBs, Accretion Discs

BSc in Physics 2017.09 – 2022.06, Istanbul, Turkey
Boğaziçi University, The Faculty of Arts and Sciences

Research Experience

MSc Thesis, Long-term X-ray Luminosity and Rotational Evolution of AMXPs 2022.09 – 2025.08
Sabancı University
Advisor: Prof. Dr. Ünal Ertan

- Conducted as part of the TÜBİTAK Project "Neutron Stars in Low-Mass X-ray Binaries" (No. 23F083).
- Investigated the long-term spin and X-ray luminosity evolution of accreting millisecond X-ray pulsars (AMXPs) within the framework of disc–field interaction models.

Publications

- Gençali, A. A., Ertan, Ü., Ertuğrul, F., Demirok,Ş., Niang, N. (2026). Evolution of Calvera and Descendants of Calvera-like Central Compact Objects *Monthly Notices of the Royal Astronomical Society, Volume 551, Issue 2, September 2026, stag1431*
- Ertuğrul, F., Gençali, A. A., Ertan, Ü., Niang, N. (2026). The Torques Acting on Accreting Millisecond X-Ray Pulsars in the Outburst and Quiescent States, and During the Long-Term Evolution. *Monthly Notices of the Royal Astronomical Society, Volume 549, Issue 4, July 2026, stag946*
- Niang, N., Ertan, Ü., Gençali, A. A., Ertuğrul, F., Ulubay, A., Devlen, E., Alpar, M. A. (2026). Binary and Neutron Star Evolution in Low-Mass X-Ray Binaries on The Evolutionary Tracks of Accreting Millisecond X-Ray Pulsars. *Monthly Notices of the Royal Astronomical Society, Volume 548, Issue 3, May 2026, stag745*

Conferences and Schools Attended

Presentations

- **Ertuğrul, F.**, Gençali, A. A., Niang, N., Ertan, Ü. (2026). Kütle Aktaran Milisaniye X-Işını Pulsarlarına Parlama ve Durgun Evreleri ile Uzun Dönem Evrimlerinde Etki Eden Torklar
  Poster presentation National Astronomy Congress, Erzurum, Turkey.
- **Ertuğrul, F.**, Gençali, A. A., Niang, N., Ertan, Ü. (2025). Long-term rotational evolution of accreting millisecond X-ray pulsars.
  Contributed talk at the European Astronomical Society (EAS) Annual Meeting, Cork, Ireland.
- **Ertuğrul, F.**, Gençali, A. A., Niang, N., Ertan, Ü. (2025). Long-term rotational evolution of accreting millisecond X-ray pulsars.
  Contributed talk at the III. Beyazıt High Energy Astrophysics Meeting, Istanbul, Turkey.

Participation

- 21st Heidelberg Summer School on Cosmic Multiplicity: Evolution and Fate of Binary Stars, IMPRS 2026.09
- High Energy Astrophysics Winter School, TBAE 2026.02
- The Science Academy Astrophysics Summer Camp, The Nesin Maths Village 2024.09

Teaching Experience

Graduate Teaching Assistant, Sabancı University 2022.09 – Present

- Completed a teaching certificate program focusing on teaching methods and student-centred course design.
- Teaching assistant for the undergraduate courses Science of Nature, Inside The Milky Way, and Oscillations, Waves and Optics.
- Hold weekly recitations hours, graded homework and exams.

Instructor at Science Workshop For Kids, Can Gürses Academy 2024.02 – 2025.01

- Taught fundamental science concepts with experiments and practices to the elementary school students.

Undergraduate Laboratory Assistant, Boğaziçi University 2021.04 – 2022.05

- Assisted the teaching assistant in first- and second-year introductory physics laboratory courses with class preparation, attendance tracking, and exam proctoring.

Skills

Programming: FORTRAN, Python

Languages: Turkish (Native), English (Professional Working Proficiency)

Professional Society Membership

Turkish Astronomical Society 2024.09 – Present