Şirin Çalışkan

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Natural Sciences Phone: +90-216-483-9000 ext.2109

G001D, Orhanlı, Tuzla Mobile: +90-532-702-3460

Istanbul, 34956, Turkey

CITIZENSHIP Born June 26, 1982 in Shumen, Bulgaria

Turkish and Bulgarian dual citizen

EMPLOYMENT July 2015 - present

Visiting Instructor, Foundations Development Directorate

Sabancı University, Istanbul, Turkey

February 2013 - June 2015

Postdoctoral scholar, Foundations Development Directorate

Sabancı University, Istanbul, Turkey

EDUCATION Ph.D., Physics, 2013

Sabancı University, Istanbul, Turkey

Thesis Title: On the Evolution of Young Neutron Stars With Fallback Disks

Advisor: Assoc. Prof. Ünal Ertan

B.S., Astrophysics, 2005

California Institute of Technology, Pasadena, CA, USA

High school, 2000

TEVİTÖL, Kocaeli, Turkey (http://www.tevitol.k12.tr/en) The only high school in Turkey for gifted and talented children.

TEACHING EXPERIENCE Sabancı University, Istanbul, Turkey

Instructor for MATH101/102

September 2015 - present

Course instructor for MATH101/102 - Calculus. Responsible for giving lectures each week, assigning quizzes, online homework sets, worksheets, midterm and final exams.

Coordinator for MATH101/102

February 2013 - present

Course coordinator for MATH101/102 - Calculus. Responsible for (i) the preparation and grading of quizzes/exams, (ii) coordinating 800+ students, 40+ assistants and 30+ recitations, (iii) helping the other instructors as needed.

ASP Teaching Assistant for MATH101 September 2011 - January 2013

Academic Support Program TA for MATH101. Responsible for holding oneon-one tutoring sessions with struggling students.

Teaching Assistant for NS101

September 2005 - January 2012

TA for NS101 - Science of Nature (freshman Physics course). Responsible for (i) holding weekly problem-solving recitation sessions and office hours, (ii) supervising and grading weekly quizzes, (iii) supervising physics experiments and grading lab reports, (iv) proctoring and grading exams.

California Institute of Technology, Pasadena, CA, USA

Teaching Assistant for APh23 - Optics September 2002 - December 2002 Responsible for holding office hours to help students with the coursework.

RESEARCH EXPERIENCE

Sabancı University, Istanbul, Turkey

TÜBİTAK Research Assistant

September 2007 - February 2013

Studied the properties of fallback disks around young neutron star systems with Dr. Unal Ertan.

Marie Curie Research Assistant

September 2005 - September 2007

Worked with Dr. Emrah Kalemci. Did INTEGRAL (SPI) data analysis for an accreting NS and tried to constrain the EOS by studying the redshifted and broadened 2.2 MeV neutron capture line.

University of Leicester, Leicester, England, UK

Visiting Researcher

March 2010 - May 2010

Worked with Prof. Graham Wynn. Studied the collision probabilities of neutron stars in binaries after a supernova explosion if the newborn NS has an accretion disk.

California Institute of Technology, Pasadena, CA, USA

Summer Undergraduate Research Fellow

June 2002 - August 2002

Worked with Prof. Lynne Hillenbrand. Did photometry and astrometry on three young star clusters. Produced HR diagrams to reveal ages and magnitudes of stars. Calculated exact positions (RA, Dec) for future spectroscopic studies.

- Publications [9] Benli, O., Çalışkan, Ş., & Ertan, Ü., Long-term Evolution, X-ray Outburst and Optical/Infrared Emission of SGR 0501+4516, 2015, MNRAS, 447, 2282
 - [8] Ertan, U., Çalışkan, S., Benli, O., & Alpar, M. A., Long-Term Evolution of Dim Isolated Neutron Stars, 2014, MNRAS, 444, 1559
 - [7] Benli, O., Çalışkan, Ş., Ertan, Ü., Alpar, M. A., Trümper, J. E., & Kylafis, N. D., X-Ray Enhancement and Long-Term Evolution of SWIFT J1822.3-1606, 2013, The Astrophysical Journal, 778, 119
 - [6] Çalışkan, Ş., Ertan, Ü., Alpar, M. A., Trümper, J. E., & Kylafis, N. D., On The Evolution of The Radio Pulsar PSR J1734-3333, 2013, MNRAS, 431, 1136
 - [5] Çalışkan, Ş., & Ertan, Ü., On the X-ray Outbursts of Transient Anomalous X-ray Pulsars and Soft Gamma-ray Repeaters, 2012, The Astrophysical Journal, 758, 98
 - [4] Alpar, M. A., Ertan, Ü., & Çalışkan, Ş., SGR 0418+5729 How does a young neutron star spin down to a 9 s period with a dipole field less than 10^{13} G?, 2011, The Astrophysical Journal Letters, 732, 4
 - [3] Çalışkan, Ş., Kalemci, E., Baring, M. G., Boggs, S. E., & Kretschmar, P., Search for a redshifted 2.2 MeV neutron capture line from A0535+262 in outburst, 2009, The Astrophysical Journal, **694**, 593

- [2] Ertan, Ü., Alpar, M. A., Erkut, M. H., Ekşi, K. Y., & <u>Calışkan, Ş.</u>, Anomalous X-ray pulsars: persistent states with fallback disks, 2007, Astrophysics and Space Science, **308**, 73
- [1] Ertan, Ü., & Çalışkan, Ş., Optical and infrared emission from the anomalous X-ray pulsars and soft gamma-ray repeaters, 2006, The Astrophysical Journal Letters, 649, 87
- PROCEEDINGS Alpar, M. A., Ertan, Ü., & Çalışkan, Ş., Fallback Disks, Magnetars and Other Neutron Stars, 2013, Feeding Compact Objects: Accretion on All Scales, Proceedings of the IAU Symposium 290, p.93
 - Çalışkan, Ş., & Ertan, Ü., X-ray outbursts of AXPs and SGRs, 2011, The Proceedings of ASTRONS 2010, p.199
 - Ertan, Ü., Çalışkan, Ş., Ekşi, K. Y., Erkut, M. H., & Alpar, M. A., A Natural Limit on the Observable Periods of Anomalous X-ray Pulsars and Soft Gamma-ray Repeaters, 2011, The Proceedings of ASTRONS 2010, p.160
 - Çalışkan, Ş., Kalemci, E., & Boggs, S. E., Search for redshifted 2.2 MeV line from 4U 1820-30, 2007, The Obscured Universe. Proceedings of the VI INTEGRAL Workshop, p.123
- CONFERENCE Çalışkan, Ş., & Ertan, Ü, X-ray Outbursts of Transient Anomalous X-ray Pulsars and Presentations Soft Gamma-ray Repeaters, poster presentation at The Physics of Neutron Stars Conference, Saint Petersburg, Russia (July 2011)
 - Çalışkan, Ş., & Ertan, Ü, X-ray outbursts of AXPs and SGRs, poster presentation at The ASTRONS Conference, Çeşme, Turkey (August 2010)
 - Çalışkan, Ş., Kalemci, E., & Boggs, S. E., Search for redshifted 2.2 MeV line from A0535+26, poster presentation at the ASTRONS Workshop, Istanbul, Turkey (July 2007)
 - Çalışkan, Ş., Kalemci, E., & Boggs, S. E., Search for a redshifted 2.2 MeV neutron capture line from A0535+26 during an outburst, oral presentation at the SPI Science Meeting at MPE, Garching, Germany (March 2007)
 - Çalışkan, Ş., Kalemci, E., & Boggs, S. E., Search for a redshifted 2.2 MeV neutron capture line from accreting neutron stars, oral presentation at the SPI Science Meeting at CESR, Toulouse, France (October 2006)
 - Çalışkan, Ş., Kalemci, E., & Boggs, S. E., Search for a redshifted 2.2 MeV neutron capture line from accreting neutron stars, oral presentation at the High Energy Astrophysics Workshop at Sabancı University, Istanbul, Turkey (September 2006)
 - Ertan, Ü, Alpar, M. A., Erkut, M. H., Ekşi, K. Y., & Çalışkan, Ş., Optical and infrared emission from AXPs in persistent states, oral presentation at the 15th National Astronomy Conference at Istanbul Kültür University (August 2006)
 - Çalışkan, Ş., Kalemci, E., & Boggs, S. E., Search for gravitationally redshifted 2.2 MeV line from 4U 1820-30, poster presentation at the 6th INTEGRAL Workshop, Moscow, Russia (July 2006)
 - Oğretme, M., Çalışkan, Ş., Pekön, Y., & Kulaksiz, S., The misconception about normal force in mechanics, oral presentation at the 18th National Physics Conference at Çukurova University, Adana, Turkey (the only high school or undergraduate students invited to the conference) (October 1999)

SPECIAL TRAINING

NewCompStar: The Many Faces of Compact Stars: Barcelona School, IEEC, Barcelona, Spain (September 2014)

FERMI Data Analysis Workshop, Sabancı University, Istanbul, Turkey (August 2010)

CompSchool 2009: NBIA Summer School on Stellar Collapse, Compact Objects, Supernovae, and Gamma-Ray Bursts, Niels Bohr Institute, Copenhagen, Denmark (August 2009)

Astrophysics Summer School on Neutron Stars and Accretion Disks, Feza Gürsey Institute, Istanbul, Turkey (July 2001)

Public Outreach

Sabancı University, Istanbul, Turkey

Galileo Teacher Training Program Mentor

January 2011 - present

Taught teachers, educators and teacher candidates how to do simple physics and astronomy experiments and how to use the sky atlas. Oversaw stellar and solar observations with optical telescopes.

 $NS101\ OpenCourseWare\ Assistant$

February 2011 - June 2011

Videotaped NS101 (freshman physics) lectures. Created and maintained the open course website.

Sabancı Communications Center, Istanbul, Turkey

"Astronomy in Science Education" Mentor

October 2008 - June 2009

Taught middle school and high school teachers how to perform simple physics and astronomy experiments and demonstrations for their students.

AWARDS AND

TA incentive award, Sabancı University (2012)

Honors

67th place out of $\sim 200,000$ in LES (Turkish National Graduate School Entrance Examination) (2004)

Milton & Jane Mohr Scholarship, Caltech (2003)

Milton Chang Scholarship, Caltech (2002) Edwin Hubble Scholarship, Caltech (2001)

Caltech Alumni Scholarship (2000)

TECHNICAL SKILLS

UNIX, Linux, FORTRAN, IDL, gnuplot, Mathematica, MS Office

Memberships

Turkish Astronomical Society (2006 - present)

Personal

Art history, traveling, animal rescue

Interests