SHUO ZHANG

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APPOINTMENTS

Assistant Professor of Physics — **January 2020 - present**
Bard College — Annandale-on-Hudson, NY

NASA Hubble Fellowship - Einstein Fellow — **August 2019 - January 2020**
Boston University Institute for Astrophysical Research — Boston, MA

Postdoctoral Scholar and Heising-Simons Fellow — **September 2016 - July 2019**
Massachusetts Institute of Technology — Cambridge, MA

EDUCATION

Columbia University, Department of Physics — **New York, NY**
Ph.D. in Physics — June 2016
Thesis: "Investigating the Physics of Hard X-ray Outbursts from the Galactic Center Supermassive Black Hole Sagittarius A"*

Tsinghua University, Department of Engineering Physics — **Beijing, China**
B.S. in Engineering Physics — July 2010
Thesis: "Experimental Demonstration for Super-high Angular Resolution Imaging Principle for Coded-mask X-ray Telescopes"

AWARDS AND FELLOWSHIPS

- 2020 Breakthrough Prize in Fundamental Physics (Event Horizon Telescope collaboration) 2019
- NASA Hubble Fellowship Program - Einstein Fellowship 2019
- Heising-Simons Research Fellowship 2018
- McGill Space Institute Fellowship & McGill Astrophysics Fellowship (Declined) 2016
- NASA Earth and Space Science Fellowship (NESSF) 2013-2016
- NASA Group Achievement Award (NuSTAR Galactic Plane Survey team) 2016
- NASA Group Achievement Award (NuSTAR project team) 2015
- NASA Group Achievement Award (NuSTAR science team) 2014
- Columbia University Faculty Fellowship 2010-2012
- International Astronomical Union (IAU) Symposium 322 Travel Award 2016
- National Astronomical Observatory of China Scholarship 2009
- Tsinghua University Outstanding Scientific Research Scholarship 2008, 2009
- Friends of Tsinghua Scholarship for Academic Excellence (Tsinghua Univeristy) 2007

SUCCESSFUL RESEARCH PROPOSAL AND GRANTS

Total external grants brought to host institutes as PI during 2017-2021: $713,611.00
Total external grants brought to Bard College as PI since 2020: $308,498.00

- **PI**, *NuSTAR* GO Cycle-7 "Unveiling the Nature of a Unique Galactic Center X-ray Filament XMM 0.173-0.413 using NuSTAR and MeerKAT", 120 ks, **$75,687, 2021-2022**, brought to Bard College
- **PI**, *Chandra* Cycle-22 Archive Proposal "A Study of Galactic Center X-ray Filaments using 11.7 Ms Archival Chandra Data from 1999 to 2019", **$69,100, 2021-2023**, brought to Bard College
- **PI**, *NuSTAR* GO Cycle-6 "Joint NuSTAR and EHT Probe of Sgr A*: Flares, Blackhole Shadows and a New Hard X-ray Source", 100 ks, **$69,911, 2021-2022**, brought to Bard College
- **PI**, *NuSTAR* GO Cycle-5 "Unveiling the Nature of a Galactic Center X-ray Filament G0.13-0.11: Pulsar Wind Nebula or Magnetic Structure?", 100 ks, **$69,909, 2020-2021**, brought to Bard College
- **PI**, *XMM-Newton* AO Cycle-16 #80241, "Probing Galactic Center MeV-GeV Cosmic-ray Population with Sgr B2 Fe Kα Line Emission", 100 ks, **$56,633, 2018-2021**, brought to Bard College and MIT
- **PI**, *Chandra* Cycle-20 Archive Proposal #20620472, "A Systematic Analysis on M31* X-ray Variability with 3 Ms of Chandra Data from 1999 to 2016", **$55,000, 2019-2020**, brought to MIT
- **Science PI**, NASA Hubble Fellowship Program - Einstein Fellowship, "Supermassive Black Holes and Exotic Physics in Local Galaxies", **$317,371, 2019-2022**, brought to Boston University
- **Science PI**, *Chandra* GTO Cycle-19 #19610778, "Probing MeV-GeV Electrons in the X-ray Regime Using Molecular Cloud Bania's Clump 2", 100 ks
- **PI**, *NuSTAR* GO Cycle-1 #01302, "Investigating Mysterious Hard X-ray source in the SNR-MC Interaction Region of IC 443 with NuSTAR", 100 ks
- **Co-I**, *NuSTAR* GO Cycle-7, "Joint NuSTAR/Event Horizon Telescope Observations of Supermassive Black Hole System", 2021
- **Co-I**, *NuSTAR* GO Cycle-7, "Broad-band X-ray survey of a Galactic Pevatron accelerator associated with the microquasar SS433", 2021
- **Co-I**, *NuSTAR* GO Cycle-6, "X-ray Jets & BH Shadows: NuSTAR, EHT, and Chandra on M87", 2020
- **Co-I**, *NuSTAR* GO Cycle-4, "Optimizing Sensitivity to Sterile Neutrino Dark Matter in the Galactic Center", 100 ks, 72,000, 2019-2020
- **Co-I**, *XMM-Newton* GO, cycle-16 #080269, "XMM Observation of ten Hard X-ray source discovered in the Galactic Center"
- **FI**, NASA Earth and Space Science Fellowship, Grant "NNX13AM31","Investigating Hard X-ray Outbursts from the Galactic center Supermassive Black Hole Sgr A*", **$90,000**, 2013-2016, brought to Columbia University
- Columbia University Faculty Fellowship, **$150,000**, 2010-2012

SCIENTIFIC COLLABORATIONS

- Member of the Event Horizon Telescope (EHT) Collaboration 2020-present
- Member of the Event Horizon Telescope (EHT) Multi-wavelength Science Working Group 2018-present
- Member of *eXTP* Space Telescope Observatory Science Working Group 2017-present
- Member of *Chandra*/ACIS Instrument Team 2016-present
- Member of Sgr A* X-ray Visionary Observation Campaign Team 2013-2016
- Member of *NuSTAR* Space Telescope Science Team 2012-present
- Member of *NuSTAR* Space Telescope X-ray Transient Monitoring Team 2012-2014
- member of *NuSTAR* Space Telescope Ground Calibration Team 2011-2012

TEACHING

PHYS 142: Intro to Physics II (E&M)	as Professor	Bard College	2021 S
PHYS 142 LBA/LBB: Intro Physics II labs	as Professor	Bard College	2021 S
PHYS 141: Intro to Physics I (Mechanics)	as Professor	Bard College	2020 S, F
PHYS 141 LBA: Intro to Physics I lab	as Professor	Bard College	2020 S, F
PHYS 142 LBB: Intro to Physics II lab	as Professor	Bard College	2020 S
Graduate-level Astrophysics I (G6011)	as Teaching Assistant	Columbia University	2013, 2016
Thermal & Statistical Physics (W4023)	as Teaching Assistant	Columbia University	2014
General Physics I & II (W1201, F1202)	as Recitation Instructor	Columbia University	2012
Intro to Experimental Physics Lab (W1493)	as Instructor	Columbia University	2012
General Physics Lab (W1291)	as Instructor	Columbia University	2010-2012

STUDENT MENTORING

at Bard College:

- **Senior Projects**: 2020-2021: Nathalie Jones (Bard′21) Thesis title: "Brightening of the "Bridge" molecular cloud: Reflection of a Past Sgr A* Outburst"
- **Bard Summer Research Institute (BSRI)**: 2020 summer: Grace Sanger-Johnson (Bard′23), Nathalie Jones (Bard′21), Yan-pei Deng (Bard′21); 2021 summer: Rose Xu (Bard′23), Grace Sanger-Johnson (Bard′23)
- **Research projects during semesters**: 2020F: Jade Dinkins (Bard′24), Grace Sanger-Johnson (Bard′23); 2021S: Rose Xu (Bard′23), Grace Sanger-Johnson(Bard′23), Sasha Fraser (Bard′24), 2021F: Grace Sanger-Johnson(Bard′23), Rose Xu (Bard′23)

External:

- **PhD students**: Field Rogers (MIT Physics, 2020-2021)
- **MS students**: Zhenlin Zhu (visiting graduate student at MIT, 2017-2018, now PhD student at Leiden University)
- **Undergrad students**: Afura Taylor (MIT Physics′21, 2018-2019), Jonathon Brown (MIT Physics′20, 2018-2019), Ivy Li (MIT Physics′20, 2017-2019, now PhD student at Rice University), Evan Tey (MIT

Physics′19, 2017-2018, now graduate student at MIT), Allen Cheng (MIT Physics′19, 2017), Ben Hord (Columbia CC′17, 2015-2016), Armani Garvin (Columbia CC′19, 2015-2016), Alicia Canipe (Columbia GS′16, 2014-2015, now scientist at Space Telescope Science Institute), Meera Desai (Barnard′18, 2014-2015, now Helen Fellow at Museum of Natural History)

COLLOQUIA, SEMINARS AND CONFERENCE ORAL PRESENTATIONS

50. **Invited Talk**, #239th AAS conference SOFIA Special Session: "the extreme ISM in the inner 200 pc of the Galaxy", Salt Lake City, UT, to be held in Jan. 2022.
49. **Colloquium Talk**, University of Michigan, Extreme Astrophysics, virtual, February 2021
48. **Invited Talk**, #236th AAS Press Release "Galactic Center: To & Fro", virtual, June 2020
47. Talk, #236th AAS Conference, virtual, June 2020
46. Talk, #235th AAS Conference, Honolulu, Hawaii, Jan. 2020
45. Talk, "20 Years Science of Chandra" meeting, Boston, MA, October 2019
44. **Invited Talk**, 2019 Hubble Fellowship Symposium, DC, October 2019
43. **Institute Colloquium**, Tsung-Dao Lee Institute, Shanghai, China, June 2019
42. Talk, the 29th New England Regional Quasar and AGN Meeting, Cambridge, MA, May 2019
41. **Department Colloquium**, Brandeis University Department of Physics, Waltham, MA, April 2019
40. Talk, 17th AAS HEAD meeting, Monterey Bay, CA, March 2019
39. **Department Colloquium**, Fordham University Department of Physics, New York, NY, Jan. 2019
38. **Department Colloquium**, Tsinghua University Center for Astrophysics, Beijing, China, Jan. 2019
37. Talk, #233rd AAS Conference, Seattle, WA, Jan. 2019
36. **Department Colloquium**, Bard College Physics Program, Annandale-on-Hudson, NY, Nov. 2018
35. **Department Colloquium**, Texas A&M University - Commerce, Commerce, TX, Nov. 2018
34. **Department Colloquium**, Drexel University Department of Physics, Philadelphia, PA, Nov. 2018
33. **Invited Talk**, "Future for Future" Vision for the Next Decades in Astrophysics with Gravitational Waves and Other Cosmic Messengers Workshop, New York, NY, Nov. 2018
32. **Invited Talk**, Columbia University High-energy Astrophysics Meeting, New York, NY, Nov. 2018
31. **Department Colloquium**, Northeastern University Department of Physics, Boston, MA, Oct. 2018
30. **Department Colloquium**, Black Hole Initiative at Harvard University, Cambridge, MA, Sep. 2018
29. Talk, 42nd COSPAR Scientific Assembly, Pasadena, CA, July 2018
28. Talk, The 28th New England Regional Quasar and AGN Meeting, New Haven, CT, May 2018
27. **Invited Talk**, Harvard CfA Quasar tea talk, Cambridge, MA, May 2018
26. **Invited Talk**, Nanjing University Astronomy Research Forum, Nanjing, Jiangsu, China, May 2018

25. **Invited Talk**, Xiamen University Astronomy Research Forum, Xiamen, Fujian, China, April 2018
24. Talk, MIT High-energy plasma group meeting, Cambridge, MA, March 2018
23. Talk, MIT High-energy astrophysics group meeting, Cambridge, MA, Feb. 2018
22. Talk, 16th AAS HEAD meeting, Sun Valley, ID, Aug. 2017
21. Talk, Chandra annual meeting "From Chandra to Lynx", Cambridge, MA, Aug. 2017
20. **Invited Talk**, 1st Nanjing University Astronomy Research Forum, Nanjing, China, June 2017
19. **Invited Seminar**, Purple Mountain Observatory, CAS, Nanjing, China, June 2017
18. Talk, 10th MIT Kavli Institute Postdoc Symposium, Cambridge, MA, May 2017
17. **Invited Talk**, Harvard CfA High-energy Astrophysics group meeting, Cambridge, MA, April 2017
16. **Colloquium**, Tsinghua University Center for Astrophysics, Beijing, China, March 2017
15. Talk, eXTP science meeting "High-throughput X-ray astronomy in eXTP Era", Rome, Italy, Feb. 2017
14. Thesis Talk, #227th AAS Conference, Kissimmee, FL, Jan. 2016
13. **Invited Talk**, Northwestern University CIERA theory group meeting, Evanston, IL, Nov. 2015
12. **Invited Talk**, UCLA Astrophysics Journal Club, Los Angeles, CA, Nov. 2015
11. **Invited Talk**, Caltech Tea Talk, Pasadena, CA, Nov. 2015
10. Talk, Harvard CfA High-energy astrophysics group meeting, Cambridge, MA, Oct. 2015
9. Talk, MIT High-energy astrophysics group meeting, Cambridge, MA, Oct. 2015
8. Talk, IAU XXIX General Assembly, Honolulu, HI, Aug. 2015
7. Talk, Peking University Kavli Institute lunch meeting, Beijing, China, March 2015
6. **Invited Seminar**, Tsinghua University Center for Astrophysics, Beijing, China, March 2015
5. **Invited Seminar**, Institute of High Energy Physics, CAS, Beijing, China, March 2015
4. **Invited Seminar**, Shanghai Astronomical Observatory, CAS, Shanghai, China, March 2015
3. **Invited Seminar**, Tongji University Department of Physics, Shanghai, China, March 2015
2. Talk, #225th AAS Conference, Seattle, WA, Jan. 2015
1. **Observatory Colloquium**, National Astronomical Observatory of China, CAS, Beijing, Dec. 2012

ADVISED STUDENTS' SCIENTIFIC PRESENTATION

*Student authors I supervised.

4. Talk, Field Rogers*, **Shuo Zhang**, Kerstin Perez, & Afura Taylor*, "New Constraints on Cosmic Particle Populations at the Galactic Center using X-ray Observations of the Molecular Cloud Sagittarius B2", 37th International Cosmic Ray Conference (ICRC 2021), Berlin, Germany, July 2021

3. Poster, Nathalie Jones* & **Shuo Zhang**, "Continuing Brightening of a Sgr A Complex Molecular Cloud: Revealing More Details about Past Sgr A* Activities", the 238th AAS meeting, June 2021

2. Poster, Yanpei Deng*, Grace Sanger-Johnson*, Nathalie Jones*, & **Shuo Zhang**, "NuSTAR 2020 Observation of Galactic Center Non-thermal X-ray Filament G0.13-0.11", the 238th AAS meeting, June 2021

1. Talk, Yanpei Deng*, Grace Sanger-Johnson*, Nathalie Jones*, & **Shuo Zhang**, "NuSTAR Observations of a Galactic Center Non-thermal X-ray Filament", Columbia High-energy Astrophysics Summer Meeting, July 2020

SELECTED PUBLICATIONS

Counts: **26** papers published in major peer-reviewed journals; **1** paper submitted; **2** manuscripts in preparation.
Total citation: **1843**, h-index: **16**
Google Scholar webpage: https://scholar.google.com/citations?hl=en&user=4AOaaIQAAAAJ
For papers with more than 10 authors, I list the total number of authors and my rank.
*Student authors I supervised.

29. The Event Horizon Telescope Collaboration, including **Zhang, S.**, *EHT Sgr A⋆ Paper 2: Observations, Data Analysis, MWL*, submitting to the Astrophysical Journal in (2021)

28. Boyce, H., Haggard, D. et al., including Zhang, S., Sagittarius A*'S Multi-wavelength Variability in 2019, submitting to the Astrophysical Journal in (2021)

27. Rogers, F.*, **Zhang, S.**, Perez, K., Clavel, M., & Taylor, A.*, *New Constraints on Cosmic Particle Populations at the Galactic Center using X-ray observations of the Molecular cloud Sgr B2*, arXiv:2108.13399, submitted to the Astrophysical Journal in Aug. (2021)

26. GRAVITY Collaboration: R. Abuter, A. Amorim, M. Ashby, et al., including **Zhang, S.** (alphabetical), *Constraining particle acceleration in Sgr A⋆ with simultaneous GRAVITY, Spitzer, NuSTAR and Chandra observations*, A&A, 654, A22 (2021)

25. **Zhang, S.**, Zhu, Z.*, Li, H., Pasham, D., Li, Z., Clavel, M., Baganoff, F. K., Perez, K., Mori, K., Hailey, C. J., *NuSTAR and Chandra Observation of the Galactic Center Non-thermal X-ray Filament G0.13-0.11: a Pulsar Wind Nebula Driven Magnetic Filament*, Astrophysical Journal, 893, 3 (2020)

24. Cooper, A. J., Gaggero, D., Markoff, S., **Zhang, S.**, *High-energy Cosmic Ray Production in X-ray Binary Jets*, Mon. Not. R. Astro. So., 493, 3212-3222 (2020)

23. The Event Horizon Telescope Collaboration, including **Zhang, S.**, *First M87 Event Horizon Telescope Result.V. Physical Origin of the Asymmetric Ring*, AstroPhysical Journal Letters, 875, L5 (2019)

22. The Event Horizon Telescope Collaboration, including **Zhang, S.**, *First M87 Event Horizon Telescope Results.I. The Shadow of the Supermassive Black Hole*, AstroPhysical Journal Letters, 875, L1 (2019)

21. Kuznetsova, E., Krivonos, R., Clavel, M., Lutovinov, A., Chernyshov, D., Hong, J., Mori, K., Ponti, G., Tomsick, J., **Zhang, S.**, *Investigating the Origin of the Faint Non-thermal Emission of the Arches Cluster Using the 2015-2016 NuSTAR and XMM-Newton X-ray Observations"*, Mon. Not. R. Astro. So., 484(2), 1627-2636 (2019)

20. Zhu, Z., Li, Z., Morris, M., **Zhang, S.** & Liu, S.,*A Deep Chandra View of the Parsec-Scale Jet Candidate from the Galactic Center Black Hole*, AstroPhysical Journal, 875, 44 (2019)

19. **Zhang, S.**, Tang, X., Zhang, X., et al. (1 out of 13), *NuSTAR Detection of a Hard X-ray Source in the Supernova Remnant - Molecular Cloud Interaction Site of IC 443*, AstroPhysical Journal, 859, 141 (2018)

18. in't Zand, J. M., Bozzo, E., Qu, J. L.., et al., including **Zhang, S.** (182 out of 184, alphabetical after key authors), eXTP White Paper *Observatory Science with eXTP*, Science China Physics, Chemistry & Mechanics, 62(2), 029506 (2018)

17. Mori, K., Gotthelf, E. V., Hailey, C. J. et al., including **Zhang, S.** (8 out of 16), *NuSTAR Hard X-ray Observation of the Gamma-ray Binary Candidate HESS J1832-093*, AstroPhysical Journal, 848, 80 (2017)

16. **Zhang, S.**, Baganoff, F. K., Ponti, G., et al. (1 out of 20), *Sagittarius A* High Energy X-ray Flare Properties during NuSTAR Monitoring of the Galactic Center from 2012 to 2015*, AstroPhysical Journal, 843, 96 (2017)

15. Ponti, G., George, E., Scaringi, S., **Zhang. S.**, et al. (4 out of 24), *A Powerful Flare from Sgr A* Confirms the Synchrotron Nature of the Emission*, Mon. Not. R. Astro. So., 468, 2447 (2017)

14. Hailey, C. J., Mori, K., Perez, K., et al., including **Zhang, S.** (16 out of 17, alphabetical after first six authors), *Evidence for Intermediate Polars as the Origin of the Galactic Center Hard X-ray Emission*, AstroPhysical Journal, 826, 160 (2016)

13. Hong, J., Mori, K., Hailey, C. J., Nynka, M., **Zhang, S.**, et al. (5 out of 44), *NuSTAR Hard X-ray Survey of the Galactic Center Region II: X-ray Point Sources*, AstroPhysical Journal, 825, 132 (2016)

12. Lotti, S., Natalucci, L., Mori, K., et al., including **Zhang, S.** (15 out of 16, alphabetical after first three authors), *NuSTAR and XMM-Newton Observations of 1E1743.1-2843: Indications of a Neutron Star LMXB Nature of the Compact Object*, AstroPhysical Journal, 822, 57 (2016)

11. **Zhang, S.**, Hailey, C. J., Mori, K., et al. (1 out of 18), *Hard X-ray Morphological and Spectral Studies of the Galactic Center Molecular Cloud Sgr B2: Constraining Past Sgr A* Flaring Activity'*, AstroPhysical Journal, 815, 132 (2015)

10. Mori, K., Hailey, C. J., Krivonos, et al., including **Zhang, S.** (9 out of 38), *NuSTAR Hard X-ray Survey of the Galactic Center Region I: Hard X-ray Morphology and Spectroscopy of the Diffuse Emission*, Astrophysical Journal, 814, 94 (2015)

9. Li, Y. P., Yuan, F., Yuan, Q., Wang, D. Q., Chen, P. F., Neilsen, J., Fang, T. T., **Zhang, S.** & Dexter, J., *Statistics of X-ray Flares of Sgr A*: Evidence for Solar like Self-organized Criticality Phenomena*, AstroPhysical Journal, 810, 1 (2015)

8. Ponti, G., De Marco, B., Morris, M. R., et al., including **Zhang, S.** (8 out of 15), *Fifteen Years of XMM-Newton and Chandra Monitoring of Sgr A*: Evidence for a Recent Increase in the Bright Flaring Rate*, Mon. Not. R. Astro. So., 454, 1525 (2015)

7. Feng, H., Ho, L. C., Kaaret, P., Tao, L., Yamaoka, K., **Zhang, S.** & Grise, F., *A Luminous X-ray Flare from The Nucleus of The Dormant Bulgeless Spiral Galaxy NGC 247*, AstroPhysical Journal, 807, 185 (2015)

6. Perez, K., Hailey, C. J., Bauer, F. E., et al., including **Zhang, S.** (20 out of 22, alphabetical after first five authors), *Extended Hard X-ray Emission in the Inner Few Parsecs of the Galaxy*, Nature, 520, 646 (2015)

5. Nynka, M., Hailey, C. J., **Zhang, S.**, et al. (3 out of 16), *G359.97−0.038: A Hard X-Ray Filament Associated with a Supernova Shell-Molecular Cloud Interaction*, AstroPhysical Journal , 800, 119 (2015)

4. Barriere, N. M., Tomsick, J. A., Baganoff, F. K., et al., including **Zhang, S.** (15 out of 16, alphabetical after first two authors), *NuSTAR Detection of High-energy X-ray Emission and Rapid Variability from Sagittarius A⋆ Flares*, AstroPhysical Journal, 786, 46(2014)

3. **Zhang, S.**, Hailey, C. J., Baganoff, F. K., et al. (1 out of 14), *High-energy X-Ray Detection of G359.89-0.08 (Sgr A-E): Magnetic Flux Tube Emission Powered by Cosmic Rays?*, AstroPhysical Journal, 784, 6 (2014)

2. Nynka, M., Hailey, C. J., Mori, K., et al., including **Zhang, S.** (14 out of 15, alphabetical after first three authors), *High-energy X-rays from J174545.5−285829, the Cannonball: A Candidate Pulsar Wind Nebula Associated with Sgr A East*, AstroPhysical Journal, 778, 31, (2013)

1. Mori, K., Gotthelf, E. V., **Zhang, S.**, et al. (3 out of 23), *NuSTAR Discovery of a 3.76-second Transient Magnetar Near Sagittarius A⋆*, AstroPhysical Journal Letters, 770, 23 (2013)

CONFERENCE PAPER AND ATEL REPORTS

*Student authors I supervised.

5. Rogers, F.*, **Zhang, S.**, Perez, K., Clavel, M., Taylor, A.*, *New Constraints on Cosmic Particle Populations at the Galactic Center using X-ray Observations of the Molecular Cloud Sagittarius B2*, 37th International Cosmic Ray Conference, DOI: 10.22323/1.395.0288 (2021)

4. Li, Y. P., Yuan, Q., Wang, Q. D., Chen, P. F., Neilsen, J., Fang, T. T., **Zhang, S.**, & Dexter, J, *Statistical and Theoretical Studies of Flares from Sagittarius A⋆*, Proc. of IAU 11(S322):31-38 (2016)

3. Mori, K., Gotthelf, E. V., Barriere, N. M., Hailey, C. J., Harrison, F. A., Kaspi, V. M., Tomsick, J. A., **Zhang, S.**, *NuSTAR Discovert of a 3.76 second pulsar in the Sgr A⋆ region*, Astronomer's Telegram, 5020 (2013)

2. Gotthelf, E. V., Mori, K., Halpern, J., et al., including **Zhang, S.** (12 out of 12), *Spin-down Measurement of PSR J1745-2900: A New Magnetar*, Astronomer's Telegram, 5046 (2013)

1. Brejnholt, N. F., Christensen, F. E., Jakobsen, A. C., et al., including **Zhang, S.** (10 out of 15, *NuSTAR Ground Calibration: the Rainwater Memorial Calibration Facility (RaMCaF)"* Proc. of SPIE, 8147, 01 (2011)

PROFESSIONAL SERVICES

External

- Referee for *Nature, Astrophysical Journal (ApJ), Monthly Notices of the Royal Astronomical Society (MNRAS)* since 2015
- NSF reviewer (January 2021)

- Board of Directors for Astronomical Society of New York State (ASNY) (since 2021)
- Institutional Representative for Astronomical Society of New York State (ASNY) (since Nov. 2020)
- Chair for #235th AAS Conference oral presentation session: Milky Way & Galactic Center (2020)
- Panel reviewer for *Hubble* Telescope Cycle-28 Guest Observation Time Allocation Committee (2020)
- Panel reviewer for Future Investigators in NASA Earth and Space Science and Technology Program (2020)
- Panel reviewer for *NuSTAR* Cycle-5 Guest Observation Time Allocation Committee (2019)
- Panel reviewer for *Chandra* Cycle-21 Guest Observation Time Allocation Committee (2019)
- Organizer for Galactic Nuclear Regions of Nearby Galaxies Workshop, Shanghai, China (2019)
- Organizer for MIT IAP Astrophysics Activities (2018)
- Panel reviewer for NASA Astrophysics Data Analysis Program (ADAP 2017)
- Panel reviewer for *Swift* Cycle-14 Guest Observation Time Allocation Committee (2017)
- Judge for AAS Chambliss Undergraduate Award (2015)

At Bard College

- Participant, "Building Community for Astronomers at Primarily Undergraduate Institutions" conference (Aug. 2021)
- Member for Physics faculty search committee (April - June 2021)
- Member for President's Commission on Racial Equity and Justice (July 2020 - Jan. 2021)
- Co-organizer for weekly Physics Colloquia at Bard College (2020 Fall, 2021 Spring)
- Organizer and lecturer for "X-ray Astronomy Summer Bootcamp 2020" (June 2020)
- Physics Senior Project Midway Boards for: Ethan Richman, Logan Kaelbling (Mar. 2020); Bruno Becher, Yanpei Deng, Joshua Etukudo, Zachary Hait, Nathalie Jones, Andrew Poverman (Dec. 2020; Feb. 2021)
- Physics Senior Project Defense Boards for: Cole Cecchetto (Dec. 2020), Nathalie Jones (May 2021)

PRESS AND PUBLIC OUTREACH

- Chandra Space Telescope Blog "The Origins of Particle Ribbons in the Center of our Galaxy" (August 2020)
- American Astronomical Society #236 Press Release "Galactic Center: To & Fro: Revealing the Powerful Particle Accelerator in the Galactic Center" (June 2020)
- Bard College News "Bard Physics Professor Shuo Zhang Discusses Her Research on Galactic Center Filaments at American Astronomical Society Press Conference" (June 2020)
- MIT News "Breakthrough Prize in Fundamental Physics awarded to Event Horizon Telescope Collaboration for black hole observation" (2019)
- NASA Hubble Telescope Site Press Release "NASA Awards 2019 Postdoctoral Fellowships" (2019)

- Speaker for Boston Astronomy on Tap (2019)
- Speaker for MIT public lectures of Astrophysics Activities (2018)
- Speaker for Columbia University Public lecture & Stargazing: "Our Monster Blackhole" (2015)
- High-energy Astrophysics Picture of the Week, "Monster Stirring" (2012)
- Astronomy Picture of the Day on 2012 November 2, "The Black Hole in the Milky Way Center" (2012)
- Founder and executive editor-in-chief of Tsinghua Student Research Journal (2008-2010)