

Yong Zheng

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RESEARCH INTERESTS

Galaxy Evolution, Cosmic Baryon Cycle, Circumgalactic Medium, Spectral Line Analysis
Tools: H I 21cm/Optical/Ultraviolet Spectroscopy, Cosmological Hydrodynamic Simulations

EDUCATION & PROFESSIONAL APPOINTMENTS

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|---|-----------|
| 6. Assistant Professor, Department of Astronomy, Tsinghua University | 2022- |
| 5. Postdoctoral Researcher, Department of Astronomy
University of California, Berkeley | 2021-2022 |
| 4. Miller Postdoctoral Fellow, Miller Institute for Basic Research in Science,
Department of Astronomy, University of California, Berkeley | 2018-2021 |
| 3. Ph.D., Astronomy, Columbia University, New York | 2018 |
| 2. M.A. & M.Phil., Astrophysics, Columbia University, New York | 2014 |
| 1. B.S., Astronomy, Peking University, Beijing, China | 2012 |

PROPOSALS & GRANTS

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| 10. PI, “Braving the Storm: Quantifying the Effects of Ram Pressure
and Stellar Feedback in the Large Magellanic Cloud”,
Hubble Space Telescope, Cycle 29, AR 16640 | 07/2021 |
| 9. CoI, “Mainly on the Plane: Solving the Milky Way CGM Anomaly
with Low-Galactic-Latitude QSOs”,
Hubble Space Telescope, Cycle 29, GO 16679 | 07/2021 |
| 8. CoI, “The Circumgalactic Medium at the Lowest Mass End”,
Hubble Space Telescope, Cycle 28, GO 16301 | 06/2020 |
| 7. CoI, “What Holds Up the CGM?”,
Hubble Space Telescope, Cycle 28, AR 16140 | 06/2020 |
| 6. PI, “Probing M33’s Multiphase Disk-Halo Interface with Resolved Kinematics”,
W. M. Keck Observatory, DEIMOS, 2019B, U061, Two Half Nights | 09/2019 |
| 5. CoI, “METAL-Z: Metal Evolution, Transport, and Abundance at Low Metallicity”,
Hubble Space Telescope, Cycle 27, GO 15880 | 07/2019 |
| 4. PI, “Observations of H I toward the Halo of a Dwarf Galaxy”,
Green Bank Telescope, 18B-376 | 11/2018 |
| 3. CoI, “QuaStar: The First Unobscured View of the Milky Way’s Circumgalactic
Medium”, Hubble Space Telescope, Cycle 26, GO 15656 | 10/2018 |
| 2. CoI, “Constraining the Origin of A Very High-Velocity Cloud Toward
M33 with GBT”, Green Bank Telescope, 18B-331 | 02/2018 |
| 1. PI, “Mapping Gas Flows from the Disk to the Circumgalactic Medium”,
Hubble Space Telescope, Cycle 25, GO 15156 | 06/2017 |

INVITED TALKS

19. Conference Talk at “Hot Universe Baryon Surveyor” Workshop, Xiamen, China	10/2021
18. KITP Group Conversation Initiator & Tutorial Talk, “Fundamentals of Gaseous Halos”, Virtual KITP Conference	01-02/2021
17. Colloquium at Carnegie Observatories, Pasadena, USA	11/2020
16. Seminar at Galaxy Journal Club, Space Telescope Science Institute, USA	07/2020
15. Seminar at Galread Extragalactic Discussion Group, Princeton University, USA	06/2020
14. Conference Talk at “The Circumgalactic Medium around Galaxies: When Baryons Invest Halos”, Institut Astrophysique de Paris, France	06/2020
13. Colloquium at Department of Astronomy, Xiamen University, China	12/2019
12. Seminar at Department of Astronomy, Tsinghua University, China	12/2019
11. Colloquium at NASA Ames Research Center, SOFIA Team, USA	10/2019
10. Colloquium at Department of Astronomy, University of Washington, Seattle, USA	05/2019
9. Seminar at Center for Astrophysics & Space Sciences, University of California San Diego, USA	04/2019
8. Colloquium at Department of Astronomy and Astrophysics, University of California Santa Cruz, USA	02/2019
7. Seminar at Princeton Thunch Seminar, Princeton University, USA	09/2017
6. Seminar at American Museum of Natural History, USA	10/2016
5. Talk at the Arthur M. Wolfe Symposium in Astrophysics, Department of Astronomy and Astrophysics, University of California Santa Cruz	02/2016
4. Seminar at Astrophysical & Planetary Sciences, University of Colorado Boulder, USA	02/2016
3. Seminar at Kavli Institute for Astronomy & Astrophysics, Peking University, China	09/2015
2. Seminar at National Astronomy Observatory of China, China	09/2015
1. Seminar at Department of Astronomy and Astrophysics, University of California Santa Cruz, USA	05/2015

CONTRIBUTED TALKS & CONFERENCES

18. Conference Talk, “Spring Symposium: The Local Group Assembly and Evolution”, Space Telescope Science Institute, USA	09/2020
17. Highlighted Conference Talk, “The Cosmic Baryon Cycle: Impact on Galaxy Evolution”, 7th Annual GMT Community Science Meeting, USA	09/2019
16. Conference Talk, “What Matter(s) Between Galaxies: Unraveling the Knots in the Cosmic Web”, Abbazia di Spineto, Italy	06/2019
15. Lunch Talk at Department of Astronomy, University of California Berkeley, USA	09/2018
14. Dissertation Talk at 231st AAS Meeting, USA	01/2018
13. Seminar at Department of Physics, Massachusetts Institute of Technology, USA	12/2017
12. Seminar at Department of Astronomy & Astrophysics, University of Chicago, USA	11/2017
11. Seminar at Department of Astronomy and Astrophysics, University of California Santa Cruz, USA	11/2017
10. Seminar at Department of Astronomy, California Institute of Technology, USA	11/2017
9. Conference Talk, “In & Out. What Rules the Galaxy Baryon Cycle?” Munich Institute for Astro- and Particle Physics, Germany	07/2017
8. Conference Talk, “What Matter(s) Around Galaxies: Resolving the Physics of the Circumgalactic Medium”, Durham University, UK	06/2017
7. Conference Talk, “Life Cycle of Metals Throughout the Universe: Celebrating 50 Years of UV Astronomy”, Space Telescope Science Institute, USA	04/2017
6. Conference Talk, “Observational Evidence of Gas Accretion onto Galaxies”, National Radio Astronomy Observatory, USA	10/2015

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| 5. Conference Talk, “Life Cycle of Gas in Galaxies: A Local Perspective”,
ASTRON, Dwingeloo, Netherlands | 09/2015 |
| 4. Conference Talk, “The Role of Hydrogen in the Evolution of Galaxies”, Malaysia | 09/2014 |
| 3. Poster at 221st AAS Winter Meeting, USA | 01/2013 |
| 2. Conference Talk, “Third Korean-Chinese Informal Workgroup on Astro-dynamics
for Stars and Galaxies”, National Astronomy Observatory of China, China | 12/2011 |
| 1. Conference Talk, “Symposium of Astronomy Undergraduate Students”,
Kavli Institute for Astronomy and Astrophysics, Peking University, China | 09/2011 |

ADVISING & TEACHING SERVICE

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| 7. Research Advisor of Undergraduate R. Zhu, University of California Berkeley | 2019-2021 |
| 6. Research Co-advisor of Undergraduate H. Cook, Columbia University | 2018-2019 |
| 5. Research Co-advisor of Undergraduate A. Johnson, Columbia University | Spring 2018 |
| 4. Research Co-advisor of Undergraduate L. Li, Columbia University | Summer 2015 |
| 3. Lab Observing Instructor, Astronomy Labs I & II, Columbia University | 2014-2015 |
| 2. Lab Instructor, Stars, Galaxies and Cosmology (W1904), Columbia University | Spring 2014 |
| 1. Lab Instructor, Earth, Moon, and Planets (W1903), Columbia University | Fall 2013 |

PEER REVIEW SERVICE

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| 5. Referee for Nature Astronomy, the Astrophysical Journal, &
Monthly Notices of the Royal Astronomical Society |
| 4. Panelist for Hubble Space Telescope, Cycle 29 |
| 3. Panelist for NASA Astrophysics Data Analysis Program |
| 2. Reviewer for Future Investigators in NASA Earth and Space Science and Technology Program |
| 1. Reviewer for China Telescope Access Program |

OUTREACH

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| 16. Invited Guest Speaker at Riverside Astronomical Society , California | 07/2021 |
| 15. Co-Leader of the Miller Diversity, Equity, & Inclusion Working Group,
Miller Institute for Basic Research in Science, University of California Berkeley | Fall 2020 -
Spring 2021 |
| 14. Initiator of the “Meet a Miller Fellow” Outreach Program to Connect
High-School Students with Scientists at Miller Institute | Fall 2020 |
| 13. Member of the Astronomy Postdoc Team to Dismantle Anti-Blackness
Department of Astronomy, University of California Berkeley | Fall 2020 -
Spring 2021 |
| 13. Science Ambassador for the Adopt-A-Class Program to Interact with
Students from a K5 Classroom in Bay Area, California | Fall 2020 |
| 12. Invited Guest Speaker for the Mount Tam Astronomy Program, California | 08/2020 |
| 11. Guest Speaker for the Berkeley Public Library, California | 06/2019 |
| 10. Mentor for Society of Women in the Physical Sciences
University of California Berkeley | Fall 2018 |
| 9. Member of the Reading Team Math Program in Bronx, New York to
Teach Math to Kindergarteners from Low-Income Families Every Friday | 2017-2018 |
| 8. Guest Speaker for Astronomy on Tap in New York | 09/2017 |
| 7. Experiment Leader for Girls Science Day at Columbia University | 10/2016 |
| 6. Mentor for GOALS for Girls Summer Intensive Program at The Intrepid Museum | 2016, 2017 |
| 5. Guest Speaker at Columbia Public Lectures and Stargazing Nights, New York | 03/2016 |

4. Telescope Volunteer, World Science Festival, Brooklyn Bridge Park, New York	06/2016
3. Mentor for Astronomy Undergraduate Mentoring Program, Columbia University	2015-2017
2. Mentor for Astronomy Peer Mentoring Program, Columbia University	2015-2017
1. Volunteer for Columbia Public Lectures and Stargazing Nights, New York	2012 - 2018

REFERENCES

- Mary E. Putman
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Professor of Astronomy
Department of Astronomy, Columbia University
- Jason X. Prochaska
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Professor of Astronomy Astrophysics
Department of Astronomy Astrophysics, University of California, Santa Cruz
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- Jessica K. Werk
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Associate Professor
Department of Astronomy, University of Washington
- Joshua E. G. Peek
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Associate Astronomer, Project Scientist
Data Science Mission Office, Space Telescope Science Institute

PUBLICATION LIST

FIRST-AUTHORED JOURNAL ARTICLES

7. **Y. Zheng**, A. Emerick, M. E. Putman, J. K. Werk, E. N. Kirby, J. Peek, *Characterizing the Circumgalactic Medium of the Lowest-Mass Galaxies: A Case Study of IC 1613*, [2020, ApJ, 905, 133](#)
6. **Y. Zheng**, M. S. Peeples, B. W. O'Shea, R. C. Simons, C. Lochhass, L. Corlies, J. Tumlinson, B. Smith, R. Augustin, *Figuring Out Gas & Galaxies in Enzo (FOGGIE). III. The Mocky Way: Investigating Biases in Observing the Milky Way's Circumgalactic Medium*, [2020, ApJ, 896, 143Z](#).
5. **Y. Zheng**, M. E. Putman, A. Emerick, K. B. W. McQuinn, J. K. Werk, F. J. Lockman, B. D. Oppenheimer, A. J. Fox, E. N. Kirby, J. N. Burchett. *The Circumgalactic Medium of the Isolated Low-Mass Dwarf Galaxy WLM*, [2019, MNRAS, 490, 467Z](#).
4. **Y. Zheng**, J. E. G. Peek, M. E. Putman, & J. K. Werk. *Revealing the Milky Way's Hidden Circumgalactic Medium with the Cosmic Origins Spectrograph Quasar Database for Galactic Absorption Lines*, [2019, ApJ, 871, 35](#).
3. **Y. Zheng**, J. E. G. Peek, J. K. Werk, & M. E. Putman. *HST/COS Observations of Ionized Gas Accretion at the Disk-Halo Interface of M33*, [2017, ApJ, 834, 179Z](#).
2. **Y. Zheng**, J. K. Werk, J. E. G. Peek, & M. E. Putman. *The Discovery and Origin of A Very-High Velocity Cloud toward M33*, [2017, ApJ, 840, 65Z](#).
1. **Y. Zheng**, M. E. Putman, J. E. G. Peek, & M. R. Joung. *The Circumgalactic Medium of the Milky Way is Half Hidden*, [2015, ApJ, 807, 103Z](#).

SECOND/THIRD-AUTHORED JOURNAL ARTICLES

4. M. E. Putman, **Y. Zheng**, A. M. Price-Whelan, J. Grcevich, E. Tollerud, J. E. G. Peek, *The Gas Content and Stripping of Local Group Dwarf Galaxies*, [2021, ApJ, 913, 53](#).
3. J. X. Prochaska, & **Y. Zheng**, *Probing Galactic Halos with Fast Radio Bursts*, [2019, MNRAS, 485, 648P](#).
2. J. E. G. Peek, B. L. Babler, **Y. Zheng**, S. E. Clark, K. Douglas, E. J. Korpela, M. E. Putman, S. Stanimirovic, S. Gibson, C. Heiles. *The GALFA-HI Survey Data Release 2*, [2018, ApJS, 234, 2P](#).
1. R. de Grijs, C. Li, **Y. Zheng**, L. Deng, Y. Hu, M. B. N. Kouwenhoven, & J. E. Wicker. *Gravitational Conundrum? Dynamical Mass Segregation versus Disruption of Binary Stars in Dense Stellar Systems*, [2013, ApJ, 765, 4D, 2013](#).

OTHER CO-AUTHORED JOURNAL ARTICLES

9. H.V. Bish; J.K. Werk; J. Peek; **Y. Zheng**; M. Putman, *The QuaStar Survey: Detecting Hidden Low-Velocity Gas in the Milky Way's Circumgalactic Medium*, [2021, ApJ, 912, 8B](#)
8. R. Simons, M. Peeples, J. Tumlinson, B. O'Shea, B. Smith, L. Corlies, C. Lochhaas, **Y. Zheng**, R. Augustin, D. Prasad, G. Snyder, E. Tollerud, *Figuring Out Gas & Galaxies In Enzo (FOGGIE). IV. The Stochasticity of Ram Pressure Stripping in Galactic Halos*, [2020, ApJ, 905, 167](#).

7. Y. Li, M. Gendron-Marsolais, I. Zhuravleva, S. Xu, A. Simionescu, G. Tremblay, C. Lochhass, G. Bryan, E. Quataert, N. Murray, A. Boselli, J. Hlavacek-Larrondo, **Y. Zheng**, M. Fossati, M. Li, E. Emsellem, M. Sarzi, L. Arzamasskiy, T. Ethan, *Direct Detection of Black Hole-driven Turbulence in the Centers of Galaxy Clusters*, [2019, ApJ, 889, 1](#).
6. J. K. Werk, K. H. R. Rubin, H. V. Bish, J. X. Prochaska, **Y. Zheng**, J. M. O'Meara, D. Lenz, C. Hummels, & A. J. Deason. *The Nature of Ionized Gas in the Milky Way Galactic Fountain*, [2019, ApJ, 887, 89W](#).
5. H. Bish, J. K. Werk, J. X. Prochaska, K. H. R. Rubin, J. O'Meara, **Y. Zheng**, & A. J. Deason, *Galactic Gas Flows from Halo to Disk: Tomography and Kinematics at the Milky Way's Disk-Halo Interface*, [2019, ApJ, 882, 76B](#).
4. T. Finzell, L. Chomiuk, B. Metzger, F. M. Walter, J.D. Linford, K. Mukai, T. Nelson, J. H. S. Weston, **Y. Zheng**, J. L. Sokoloski, et al. *A Detailed Observational Analysis of V1324 Sco, the Most Gamma-Ray-luminous Classical Nova to Date*, [2018, ApJ, 852, 108F](#).
3. J. H. S. Weston, J. L. Sokoloski, B. D. Metzger, **Y. Zheng**, L. Chomiuk, M. I. Krauss, J. D. Linford, T. Nelson, A. J. Mioduszewski, M. P. Rupen, T. Finzell, & K. Mukai. *Non-thermal Radio Emission from Colliding Flows in Classical Nova V1723 Aql*, [2016, MNRAS, 457, 887, 2016](#).
2. J. E. G. Peek, R. Bordoloi, H. Sana, J. Roman-Duval, J. Tumlinson, & **Y. Zheng**. *The First Distance Constraint on the Renegade High-Velocity Cloud Complex WD*, [2016, ApJ, 828L, 20P](#).
1. M. S. Xiang, X. W. Liu, H. B. Yuan, Z. Y. Huo, Y. Huang, **Y. Zheng**, H. W. Zhang, B. Q. Chen, H. H. Zhang, N. C. Sun, C. Wang, Y. H. Zhao, J. R. Shi, A. L. Luo, G. P. Li, Z. R. Bai, Y. Zhang, Y. H. Hou, H. L. Yuan, G. W. Li. *Relative Flux Calibration for the LAMOST Spectroscopic Survey of the Galactic Anticentre*, [2015, MNRAS, 448, 90-103](#).