

Curriculum Vitae – Yong Zheng

Miller Postdoctoral Fellow
University of California, Berkeley
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(Last Update on 02/26/2020)

RESEARCH INTERESTS

- Topics: Circumgalactic Medium (CGM),
Baryonic Cycles between Galaxies and CGM,
Interplay between Ram Pressure Stripping and Stellar Feedback,
Time-Resolved Metal Census of Dwarf Galaxies in the Local Group
- Tools: Optical/UV spectroscopy, Radio H I 21cm,
Synthetic CGM observations with cosmological hydrodynamic simulations

EDUCATION & CAREER PATH

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| 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
Dissertation: The Cycle of Gaseous Baryons between the Disk and Halo
Advisors: Mary E. Putman, Joshua E. G. Peek | 06/2018 |
| 2. M.A. & M.Phil., Astrophysics, Columbia University, New York | 2014 |
| 1. B.S., Astronomy, Peking University, Beijing, China | 07/2012 |

PROPOSALS

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| 6. PI , W. M. Keck Observatory, DEIMOS, 2019B, U061, Two Half Nights
Title: Probing M33's Multiphase Disk-Halo Interface with Resolved Kinematics | 09/2019 |
| 5. CoI, Hubble Space Telescope, Cycle 27, GO 15880 (PI Roman-Duval), 77 Orbits
Title: METAL-Z: Metal Evolution, Transport, and Abundance at Low Metallicity (Z) | 10/2019-10/2022 |
| 4. PI , Green Bank Telescope, 18B-376
Title: Observations of H I toward the Halo of a Dwarf Galaxy | 11/2018 |
| 3. Co I, Hubble Space Telescope, Cycle 26, GO 15656 (PI Peek), 75 Orbits
Title: QuaStar: The First Unobscured View of the Milky Way's Circumgalactic Medium | 10/2018-10/2021 |
| 2. Co I, Green Bank Telescope, 18B-331 (PI Denny)
Title: Constraining the Origin of A Very High-Velocity Cloud Toward M33 with GBT | 02/2018 |
| 1. PI , Hubble Space Telescope, Cycle 25, GO 15156, 32 Orbits
Title: Mapping Gas Flows from the Disk to the Circumgalactic Medium | 10/2017-10/2020 |

ADVISING & TEACHING

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| 11. Advisor, R. Zhu, Undergraduate, University of California, Berkeley
Project: Studying Disk-wide Inflows and Outflows in LMC with HST/COS | Fall 2019-present |
| 10. Advisor, S. L. Denny, Graduate Student, Florida State University
Project: GBT Follow-Up of a Very-High Velocity Cloud Near Wright's Cloud | 2018-2019 |
| 9. Co-advisor, H. Cook, Undergrad Summer Research/Thesis, Columbia University
Project: Column Density Comparison of H I in GALFA-H I and HI4PI Surveys | 2018-2019 |
| 8. Mentor, Society of Women in the Physical Sciences, UC Berkeley | Fall 2018 |

7. Co-advisor, A. Johnson, Undergrad Research, Columbia University Project: H I limits of Local Group Dwarf Galaxies in GALFA-H I	Spring 2018
6. Co-advisor, L. Li, Undergrad Summer Research, Columbia University Project: H I Fiber Structures Detected in GALFA-H I	Summer 2015
5. Lab Observing Instructor, Astronomy Labs I & II, Columbia University	Fall 2014-Fall 2015
4. Lab Instructor, Stars, Galaxies and Cosmology (W1904), Columbia University	Spring 2014
3. Lab Instructor, Earth, Moon, and Planets (W1903), Columbia University	Fall 2013
2. Mentor, Astronomy Undergraduate Mentoring Program, Columbia University	2015-2017
1. Mentor, Astronomy Peer Mentoring Program, Columbia University	2015-2017

TALKS & CONFERENCES

34. Invited Conference Talk , The Circumgalactic Medium around Galaxies: When Baryons Invest Halos, Annual IAP Colloquium, Paris	06/2020
33. Invited Conference Talk , Galactic and Extragalactic High Velocity Clouds Workshop, University of Georgia, Athens, GA	05/2020
32. Colloquium , Carnegie Observatory, Pasadena	04/2020
31. Conference Talk, 2020 Spring Symposium – The Local Group: Assembly and Evolution, Space Telescope Science Institute, Baltimore	04/2020
30. Colloquium , Department of Astronomy, Xiamen University	12/2019
29. Invited Seminar , Department of Astronomy, Tsinghua University	12/2019
28. Colloquium , SOFIA Team, NASA Ames Research Center, Mountain View, CA	10/2019
27. Highlight Talk , The Cosmic Baryon Cycle: Impact on Galaxy Evolution, Seventh Annual GMT Community Science Meeting, Carlsbad, California	09/2019
26. Conference Talk, What matter(s) between galaxies: Unraveling the knots in the Cosmic Web, Abbazia di Spineto, Italy	06/2019
25. Colloquium , University of Washington, Seattle	05/2019
24. Invited Seminar , Center for Astrophysics & Space Sciences, UC San Diego	04/2019
23. Colloquium , UC Santa Cruz, California	02/2019
22. Lunch Talk, UC Berkeley, California	09/2018
21. Dissertation Talk, 231st AAS Meeting, DC	01/2018
20. Brown Bag Seminar, MIT, Boston, Massachusetts	12/2017
19. Seminar, University of Chicago, Chicago, Illinois	11/2017
18. UCSC FLASH Seminar, Santa Cruz, California	11/2017
17. Caltech Tea Talk Seminar, Los Angeles, California	11/2017
16. Invited Seminar , Princeton Thunch Seminar, New Jersey	09/2017
15. Conference talk, In & Out. What Rules the Galaxy Baryon Cycle? Munich Institute for Astro- and Particle Physics, Munich, Germany	07/2017
14. Conference talk, What Matter(s) Around Galaxies: Resolving the Physics of the Circumgalactic Medium, Durham University, Durham, UK	06/2017
13. Conference talk, Life Cycle of Metals Throughout the Universe: Celebrating 50 Years of UV Astronomy, STScI Spring Symposium, Maryland	04/2017
12. Invited Seminar , American Museum of Natural History, New York	10/2016
11. Invited Talk, JILA Seminar, University of Colorado Boulder, Colorado	02/2016
10. UCSC IMPS Winter Retreat, Santa Cruz, California	02/2016
9. Conference talk, Observational Evidence of Gas Accretion onto Galaxies, NRAO, Charlottesville, Virginia	10/2015
8. Conference talk, Life Cycle of Gas in Galaxies: A Local Perspective, ASTRON, Dwingeloo, Netherlands	09/2015

7. Invited Talk , KIAA Seminar, Peking University, Beijing, China	09/2015
6. NAOC Seminar, Beijing, China	09/2015
5. Invited Talk , UCSC Seminar, Santa Cruz, CA	05/2015
4. Conference Talk, The Role of Hydrogen in the Evolution of Galaxies, Kuching, Malaysia	09/2014
3. Poster, AAS Winter Meeting, Maryland	01/2013
2. Third Korean-Chinese Informal Workgroup Meeting on Astro-dynamics for Stars and Galaxies, NAOC, Beijing, China	12/2011
1. Symposium of Astronomy Undergraduate Students, Kavli Institute for Astronomy and Astrophysics & Peking University, Beijing, China	09/2011

PUBLIC OUTREACH

9. Invited Public Talk at the Mount Tam Astronomy Program (MTAP), Bay Area, CA Talk: Galactic Weather	07/2020
8. Public Talk at Berkeley Public Library, Talk: Galaxy's Climate System, when it rains, when it thunders, & when it dries up	06/2019
7. Math Tutor for Kindergarteners from Low-income Families Every Friday, Reading Team Math Program for Kindergarteners and 1st-grades, Bronx, New York	2017-2018
6. Lecturer at Astronomy on Tap in New York, Talk: Astronomy Version X	09/2017
5. Experiment leader for Girls Science Day at Columbia University, Drafted Astronomy Experiment Proposal for High-School Girl Visits	10/2016
4. Volunteer/Telescope Operator for Columbia Public Lectures and Stargazing Nights	2012 - 2018
3. Lecturer for Columbia Public Lectures and Stargazing Nights, Talk: The Gas that Fills Invisible Space	03/2016
2. Mentor for 8th/9th-Grade Girls to Share Experience as a Woman in STEM, GOALS for Girls Summer Intensive Program, Aviation and Space Science Mentorship Day, The Intrepid Sea, Air Space Museum, New York	07/2016, 07/2017
1. Telescope Volunteer, World Science Festival, Brooklyn Bridge Park, New York	06/2016

AWARDS

4. Dean's Fellowship, Graduate School of Arts and Science, Columbia University	2012-2018
3. First Prize, Linbridge Prize for Excellent Undergraduate Research Projects in Astronomy and Astrophysics, Kavli Institute for Astronomy and Astrophysics, Beijing, China	2011
2. Scholarship of Astronomical Alumni Fund for Excellent Undergraduates in Astronomy, Kavli Institute for Astronomy and Astrophysics, Beijing, China	2011
1. Scholarship of National Astronomical Observatories, Chinese Academy of Sciences (NAOC) Beijing, China	2010

SCHOOLS & INTERNSHIPS

6. NAIC/NRAO Single-Dish & NAASC Interferometry Schools, Green Bank Telescope, Charlottesville, Virginia Project: Measuring H I Masses of Shocked Post-Starburst Galaxies Advisor: Robert F. Minchin	07/2015
5. Academic Writing for International Students, American Language Program, School of Professional Studies, Columbia University	Fall 2013

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| 4. Graduate Internship, Very Large Array, NRAO, Socorro, New Mexico
Project: Modeling the Non-thermal Radio Emission of a Classical Nova V1723Aql
Advisors: Michael Rupen, Amy Mioduszewski | Summer 2013 |
| 3. English Pronunciation for International Teaching Fellows,
School of Professional Studies, Columbia University | Fall 2012 &
Spring 2013 |
| 2. Observational Astronomy School, Kavli Institute for Astronomy & Astrophysics,
Peking University & National Astronomical Observatories,
Chinese Academy of Sciences (NAOC), Beijing, China | 10/2011 |
| 1. Undergraduate Summer Internship, Shanghai Astronomical Observatory, China | Summer 2011 |

LANGUAGES

Fuzhounese, Mandarin, English

REFERENCES

- [Mary E. Putman](#)
mputman@astro.columbia.edu
Associate Professor of Astronomy
Department of Astronomy, Columbia University
- [Jason Prochaska](#)
xavier@ucolick.org
Professor of Astronomy & Astrophysics
Department of Astronomy & Astrophysics, University of California, Santa Cruz
- [Joshua E. G. Peek](#)
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Associate Astronomer, Project Scientist
Data Science Mission Office, Space Telescope Science Institute
- [Jessica K. Werk](#)
jwerk@uw.edu
Assistant Professor
Department of Astronomy, University of Washington
- [Daniel Weisz](#)
dan.weisz@berkeley.edu
Assistant Professor
Department of Astronomy, University of California, Berkeley

Publication List – Yong Zheng

(My publication record can also be found on [ADS](#); last update on 02/26/2020)

FIRST-AUTHORED JOURNAL ARTICLES

6. **Y. Zheng**, M. S. Peebles, 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*, submitted to ApJ, [arXiv:2001.07736](#).
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

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

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. OMeara, 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](#).