

Yong Zheng (郑永)

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RESEARCH INTERESTS

4. Galaxy halo gas, aka circumgalactic medium
3. Baryonic cycles between galaxies and halos – gas inflows, outflows, and recycling
2. Synthetic observations of MW-mass galaxies with cosmological hydrodynamic simulations
1. Optical/UV spectroscopy, IFUs, Radio H I 21cm emission line observations

EDUCATION

3. Columbia University, New York, NY, USA 2012-2018
Ph.D., Astronomy
Thesis Project: *The Cycle of Gaseous Baryons between the Disk and Halo*
Thesis Advisors: Mary E. Putman, Joshua E. G. Peek
M.A., M.Phil., Astrophysics
2. Peking University, Beijing, China 2008-2012
B.S., Astronomy
1. Fuzhou No.1 High School, Fuzhou, Fujian, China 2005-2008

AWARDS

7. Miller Fellow, Miller Institute Postdoctoral Scholar Award, UC Berkeley 2018-2021
6. Hubble Fellow, NASA Hubble Fellowship Program Postdoctoral Fellowship (Declined) 2018
5. Finalist for MIT Pappalardo Fellowship 2017
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

PROPOSALS

6. **PI**, W. M. Keck Observatory, DEIMOS, 2019B, U061, two half nights 09/2019
Title: Probing M33's Multiphase Disk-Halo Interface with Resolved Kinematics
5. CoI, Hubble Space Telescope, Cycle 27, GO 15880 (PI Roman-Duval), 77 orbits 06/2019
Title: METAL-Z: Metal Evolution, Transport, and Abundance at Low Metallicity (Z)
4. **PI**, Green Bank Telescope, 18B-376 11/2018
Title: Observations of H I toward the halo of a dwarf galaxy
3. Co I, Hubble Space Telescope, Cycle 26, GO 15656 (PI Peek), 75 orbits 10/2018
Title: QuaStar: The first unobscured view of the Milky Way's Circumgalactic Medium
2. Co I, Green Bank Telescope, 18B-331 (PI Denny) 02/2018
Title: Constraining the Origin of A Very High-Velocity Cloud Toward M33 with GBT
1. **PI**, Hubble Space Telescope, Cycle 25, GO 15156, 32 orbits 06/2017
Title: Mapping Gas Flows from the Disk to the Circumgalactic Medium

TALKS & CONFERENCES

27. (Upcoming) Invited Colloquium, SOFIA Team, NASA Ames Research Center 10/2019
26. Conference Talk, What matter(s) between galaxies: Unraveling the knots
in the Cosmic Web, Abbazia di Spineto, Italy 06/2019
25. Invited Colloquium, University of Washington, Seattle 05/2019
24. Invited Seminar Talk, Center for Astrophysics & Space Sciences, UC San Diego 04/2019
23. Invited 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 Talk, 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

ADVISING & TEACHING

9. Mentor, Society of Women in the Physical Sciences, UC Berkeley Fall 2018
8. Co-advisor, Undergrad H. Cook's Summer Research and Thesis, Columbia Univ. Summer 2018-present
7. Co-advisor, Undergrad A. Johnson's Undergrad Research, Columbia Univ. Spring 2018
6. Advisor, Undergrad L. Li's Summer Research, Columbia Univ. Summer 2015
5. Lab Observing Instructor, Astronomy Labs I & II, Columbia Univ. Fall 2014-Fall 2015
4. Lab Instructor, Stars, Galaxies and Cosmology (W1904), Columbia Univ. Spring 2014
3. Lab Instructor, Earth, Moon, and Planets (W1903), Univ. Fall 2013
2. Mentor, Astronomy Undergraduate Mentoring Program, Columbia Univ. 2015-2017
1. Mentor, Astronomy Peer Mentoring Program, Columbia Univ. 2015-2017

SCHOOLS & INTERNSHIPS

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| 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 |
| 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. Summer Internship, Shanghai Astronomical Observatory, Shanghai, China | Summer 2011 |

PUBLIC OUTREACH

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

LANGUAGES

福州话/Fuzhounese (Native), 汉语/Mandarin (Native), English (Fluent)

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Publication List

(My publication record can also be found on [ADS](#))

FIRST-AUTHORED JOURNAL ARTICLES

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*, submitted to MNRAS, 04/2019.
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*, [ApJ](#), **871**, 35, (2019), & [ADS Link](#)
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*, [ApJ](#), **834**, 179Z, (2017), & [ADS Link](#)
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*, [ApJ](#), **840**, 65Z, (2017), & [ADS Link](#)
1. **Y. Zheng**, M. E. Putman, J. E. G. Peek, & M. R. Joungh. *The Circumgalactic Medium of the Milky Way is Half Hidden*, [ApJ](#), **807**, 103Z, (2015), & [ADS Link](#)

CO-AUTHORED JOURNAL ARTICLES

8. 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*, submitted to ApJ. Arxiv: [1904.11014](#), 04/2019.
7. 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*, submitted to ApJ, 02/2019.
6. J. X. Prochaska, & **Y. Zheng**, *Probing Galactic Halos with Fast Radio Bursts*. MNRAS, 2019, in press; [arXiv: 1901.11051](#), & [ADS Link](#)
5. 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*, [ApJS](#), **234**, 2, (2018), & [ADS Link](#)
4. 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*, [MNRAS](#), **457**, 887-901, (2016), & [ADS Link](#)
3. 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*, [ApJ](#), **828L**, 20P, (2016), & [ADS Link](#)

2. 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*, [MNRAS](#), **448**, 90-103, (2015), & [ADS Link](#)
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*, [ApJ](#), **765**, 4D, (2013), & [ADS Link](#)