

# Yong Zheng (郑永)

Miller Postdoctoral Fellow  
University of California, Berkeley  
Department of Astronomy  
501 Campbell Hall #3411, Berkeley, CA 94720

Telephone: (646)330-3617  
Email: [yongzheng@berkeley.edu](mailto:yongzheng@berkeley.edu)  
ORCID: [0000-0003-4158-5116](https://orcid.org/0000-0003-4158-5116)  
Website: <https://yzhenggit.github.io/yongzheng/>

## RESEARCH INTERESTS

---

4. Gaseous Galaxy Halos, aka Circumgalactic Medium (CGM)
3. Baryon Cycle between Galaxies and CGM, including Inflows, Outflows, Recycling, and Turbulence
2. Optical and UV Spectroscopy, Integral Field Units, Radio Single-dish and Interferometry Observations
1. Synthetic Observations of Milky-Way-Mass Galaxies with Cosmological Hydrodynamic Simulations

## 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

---

5. Miller Fellow, Miller Institute Postdoctoral Scholar Award, UC Berkeley 2018-2021
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 10/2019-10/2022  
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 10/2018-10/2021  
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 10/2017-10/2020  
Title: Mapping Gas Flows from the Disk to the Circumgalactic Medium

## ADVISING & TEACHING

---

- |   |                     |
|---|---------------------|
| 11. Advisor, R. Zhu, Undergraduate, University of California, Berkeley        | Fall 2019-present   |
| Project: Studying Disk-wide Inflows and Outflows in LMC with HST/COS          |                     |
| 10. Advisor, S. L. Denny, Graduate Student, Florida State University          | 2018-present        |
| Project: GBT Follow-Up of a Very-High Velocity Cloud Near Wright's Cloud      |                     |
| 9. Co-advisor, H. Cook, Undergrad Summer Research/Thesis, Columbia University | 2018-2019           |
| Project: Column Density Comparison of H I in GALFA-H I and HI4PI Surveys      |                     |
| 8. Mentor, Society of Women in the Physical Sciences, UC Berkeley             | Fall 2018           |
| 7. Co-advisor, A. Johnson, Undergrad Research, Columbia University            | Spring 2018         |
| Project: H I limits of Local Group Dwarf Galaxies in GALFA-H I                |                     |
| 6. Co-advisor, L. Li, Undergrad Summer Research, Columbia University          | Summer 2015         |
| Project: H I Fiber Structures Detected in GALFA-H I                           |                     |
| 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

---

- |   |         |
|---|---------|
| 30. (Upcoming) Invited Colloquium, Department of Astronomy, Xiamen University   | 12/2019 |
| 29. (Upcoming) Invited Colloquium, Department of Astronomy, Tsinghua University   | 12/2019 |
| 28. Invited Colloquium, SOFIA Team, NASA Ames Research Center, Mountain View, CA  | 10/2019 |
| 27. Conference Talk, The Cosmic Baryon Cycle: Impact on Galaxy Evolution,<br>Seventh Annual GMT Community Science Meeting, Carlsbad, California | 09/2019 |
| 26. Conference Talk, What matter(s) between Galaxies: Unraveling the Knots<br>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?<br>Munich Institute for Astro- and Particle Physics, Munich, Germany         | 07/2017 |
| 14. Conference Talk, What Matter(s) Around Galaxies: Resolving the Physics of the<br>Circumgalactic Medium, Durham University, Durham, UK       | 06/2017 |
| 13. Conference Talk, Life Cycle of Metals Throughout the Universe: Celebrating 50 Years<br>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,<br>NRAO, Charlottesville, Virginia                                   | 10/2015 |
| 8. Conference Talk, Life Cycle of Gas in Galaxies: A Local Perspective,<br>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

## 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
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

## PUBLIC OUTREACH

---

8. Lecturer at Berkeley Public Library, Talk: <i>Galaxy's Climate System, when it rains, when it thunders, &amp; when it dries up</i>	06/2019
7. Lecturer at Astronomy on Tap in New York, Talk: <i>Astronomy Version X</i>	09/2017
6. Weekly Math Tutor for Kindergarteners from Low-income Families, Reading Team Math Program for Kindergarteners and 1st-grades, Bronx, New York	2017-2018
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: <i>The Gas that Fills Invisible Space</i>	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

## LANGUAGES

---

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

## 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](#)  
jegpeek@stsci.edu  
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

# Yong Zheng

## *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*, 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

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*, accepted for publication on [ApJ](#), 2019, [arXiv:1904.11014](#).
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.