Curriculum Vitae – Yong Zheng

Miller Postdoctoral Fellow
University of California, Berkeley
Department of Astronomy
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(Update as of 07/31/2020)

Research Interests

- Topics: Circumgalactic Medium (CGM), Fast Radio Bursts,
  Ram Pressure Stripping and Stellar Feedback, Dwarf Galaxies in the Local Group
- Tools: Optical/UV spectroscopy, Radio H I 21cm, Cosmological hydrodynamic simulations

Education & Career Path

4. Miller Postdoctoral Fellow, Miller Institute for Basic Research in Science, 2018-2021
   Department of Astronomy, University of California, Berkeley
3. Ph.D., Astronomy, Columbia University, New York 06/2018
   Dissertation: The Cycle of Gaseous Baryons between the Disk and Halo
   Advisors: Mary E. Putman, Joshua E. G. Peek
2. M.A. & M.Phil., Astrophysics, Columbia University, New York 2014
1. B.S., Astronomy, Peking University, Beijing, China 07/2012

Proposals

7. CoI, Hubble Space Telescope, Cycle 28, GO 16301, 43 Orbits 10/2020-10/2023
   Title: The Circumgalactic Medium at the Lowest Mass End
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, 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, 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 2019-2020
    Project: Studying Disk-wide Inflows and Outflows in LMC with HST/COS
10. Advisor, S. L. Denny, Graduate Student, Florida State University 2018-2019
    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

33. **Invited Seminar**, Galaxy Journal Club, STScI — 07/2020
32. **Invited Talk**, Princeton Galread Extragalactic Discussion Group, Princeton — 06/2020
31. **Invited Conference Talk**, The Circumgalactic Medium around Galaxies: When Baryons Invest Halos, Annual IAP Colloquium, Paris — 06/2020
30. **Colloquium**, Department of Astronomy, Xiamen University, Xiamen, China — 12/2019
29. **Invited Seminar**, Department of Astronomy, Tsinghua University, Beijing, China — 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 08/2020
   Talk: Galactic Weather
8. Public Talk at Berkeley Public Library, 06/2019
   Talk: Galaxy's Climate System, when it rains, when it thunders, & when it dries up
7. Math Tutor for Kindergarteners from Low-income Families Every Friday, 2017-2018
   Reading Team Math Program for Kindergarteners and 1st-grades, Bronx, New York
6. Lecturer at Astronomy on Tap in New York, 09/2017
   Talk: Astronomy Version X
5. Experiment leader for Girls Science Day at Columbia University, 10/2016
   Drafted Astronomy Experiment Proposal for High-School Girl Visits
4. Volunteer/Telescope Operator for Columbia Public Lectures and Stargazing Nights 2012 - 2018
3. Lecturer for Columbia Public Lectures and Stargazing Nights, 03/2016
   Talk: The Gas that Fills Invisible Space
2. Mentor for 8th/9th-Grade Girls to Share Experience as a Woman in STEM, 07/2016, 07/2017
   GOALS for Girls Summer Intensive Program, Aviation and Space Science Mentorship Day, The Intrepid Sea, Air Space Museum, New York
1. Telescope Volunteer, World Science Festival, Brooklyn Bridge Park, New York 06/2016

Peer Review Service

Peer review for NASA NSPIRES/FINESST program, Nature Astronomy

Awards

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

Schools & Internships

6. NAIC/NRAO Single-Dish & NAASC Interferometry Schools, 07/2015
   Green Bank Telescope, Charlottesville, Virginia
   Project: Measuring H I Masses of Shocked Post-Starburst Galaxies
   Advisor: Robert F. Minchin

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 — Summer 2013
   Project: Modeling the Non-thermal Radio Emission of a Classical Nova V1723Aql
   Advisors: Michael Rupen, Amy Mioduszewski
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

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

Publication List – Yong Zheng

(My publication record can also be found on ADS; update as of 07/31/2020)

FIRST-AUTHORED JOURNAL ARTICLES

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*, submitted to ApJ.
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

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*, arXiv:2004.14394.
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.