Marcel Neeleman

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Scientific Interests

Gas accretion and galaxy formation, physical conditions of the interstellar medium, quasar absorption line systems

Education

University of California, San Diego — **San Diego**
Ph.D. Physics, The Physical Conditions of Atomic Gas at high Redshift — *2009–2015*
advisors: Dr. A. M. Wolfe & Dr. J. X Prochaska

University of California, Santa Barbara — **Santa Barbara**
B.S. Physics and Mathematics — *2003–2006*
Minor in Astronomy and Planetary Science

Experience

Research

University of California, Santa Cruz — **Santa Cruz**
Postdoctoral Researcher — *2015–*
Connecting Damped Ly-α Systems (DLAs) with galaxies at high redshift

University of California, San Diego — **San Diego**
Graduate Student Researcher — *2009–2015*
Probing the Physical Conditions of DLAs at high redshift

University of California, Santa Barbara — **Santa Barbara**
Undergraduate Student Researcher — *2005–2006*
Cosmology and Instrumentation

Teaching

University of California, Santa Cruz — **Santa Cruz**
Adjunct Faculty — *2016*
Ast230 - Graduate Course in Diffuse Matter

San Diego Mesa College — **San Diego**
Adjunct Faculty — *2014*
Ast101 - Introductory Course in Astronomy

University of California, San Diego — **San Diego**
Teaching Assistant — *2009–2011*
Phys 1L AB, Phys 2L AB - Undergraduate Physics Labs

Computer skills

UNIX,IDL,PYTHON,LaTeX

Selected Talks and Conferences

Half a Decade of ALMA — **Indian Wells, CA**
Lighting up Shadows: CO and [C II] Detections of Absorption-Selected Galaxies — *August 2016*

Santa Cruz Galaxy Workshop — **Santa Cruz, CA**
Using ALMA and Keck to study the CGM of High-z Galaxies — *August 2016*

IMPS Seminar — **Santa Cruz, CA**
Using ALMA and Keck to study the CGM of High-z Galaxies — *September 2015*

IGM Matters — **Heidelberg, Germany**
Using DLAs to Study the Physical Conditions of Gas in High-z Galaxies — *June 2014*

IGM Matters — **Copenhagen, Denmark**
Using DLAs to Study the Physical Conditions of Gas in High-z Galaxies — *June 2014*

IoA Galaxies Discussion Group — **Cambridge, England**
Using DLAs to Study the Physical Conditions of Gas in High-z Galaxies — *June 2014*

Higgs workshop on the IGM — **Edinburgh, Scotland**
Fundamental Plane of Damped Lyman Alpha Systems — *June 2013*

ENIGMA workshop — **Heidelberg, Germany**
Fundamental Plane of Damped Lyman Alpha Systems — *June 2013*

Keck Science Meeting — **San Diego, CA**
Understanding the Correlations in Damped Lyman Alpha Systems — *September 2012*

Observing Experience

- W.M. Keck Observatory: HIRES, ESI, LRIS — 25 nights
- Arecibo Observatory: L-Wide — 7 nights
- Palomar Observatory: TripleSpec — 5 nights
- Lick Observatory: Kast, Nickle Imaging — 5 nights
- Las Campañas Observatory: FIRE, MagE, FourStar — 5 nights

Awards, Grants and Fellowships

2015 IMPS Fellowship: postdoctoral research fellowship

2014 ALMA Student Observing Support: SOSPA2-002

2009 Regents' Fellowship: Awarded to promising first year graduate students

2006 Honors Award: Awarded to students graduating in the top 5 percent

Publications

1. **Neeleman, M.**, Kanekar, N., Prochaska, J. X., Rafelski, M., Carilli, C. L., Wolfe, A. M. 2016, Science, submitted. *Absorption and Emission from Galaxies 1.5 Billion Years after the Big Bang.*

2. Rafelski, M., Gardner, J. P., Fumagalli, M., **Neeleman, M.**, Teplitz, H. I., Grogin, N., Koekemoer, A. M., Scarlata, C. 2016, ApJ, 825, 87. *The Star-Formation Rate Efficiency of Neutral Atomic-Dominated Hydrogen Gas in the Outskirts of Star-Forming Galaxies from $z \sim 1$ to $z \sim 3$.*

3. **Neeleman, M.**, Prochaska, J. X., Zwaan, M. A., Kanekar, N., Christensen, L., Dessauges-Zavadsky, M., Fynbo, J. P. U., Van Kampen, E., Møller, P., Zafar, T. 2016, ApJL, 820, L39. *First Connection Between Cold Gas in Emission and Absorption: CO Emission from a Galaxy-Quasar Pair.*
4. **Neeleman, M.**, Prochaska, J. X., Ribaudo, J., Lehner, N., Howk, J. C., Rafelski, M., Kanekar, N. 2016, ApJ, 818, 113. *The HI Content of the Universe over the Past 10 GYRS.*
5. Berg, T. A. M., **Neeleman, M.**, Prochaska, J. X., Ellison, S. L., Wolfe, A. M. 2015, PASP, 127, 167. *The Most Metal-Rich Damped Lyα Systems at $z \sim 1.5$*

6. Bird, S., Haehnelt, M., **Neeleman, M.**, Genel, S., Vogelsberger, M., Hernquist, L. 2015, MNRAS, 447, 1834. *Reproducing the Kinematics of Damped Lyman α Systems.*

7. **Neeleman, M.**, Prochaska, J. X., Wolfe, A. M. 2015, ApJ, 800, 7. *Probing the Physical Conditions of Atomic Gas at High Redshift.*
8. Pei, L., Barth, A. J. et al. 2014, ApJ, 795, 38. *Reverberation Mapping of the Kepler Field AGN KA1858+4850.*
9. Rafelski, M., **Neeleman, M.**, Fumagalli, M., Wolfe, A. M., Prochaska, J. X. 2014, ApJL, 782, L29. *The Rapid Decline in Metallicity of Damped Lyα Systems at $z \sim 5$.*
10. **Neeleman, M.**, Wolfe, A. M., Prochaska, J.X., Rafelski, M. 2013, ApJ, 769, 54. *The Fundamental Plane of Damped Lyα Systems.*
11. Rafelski, M., Wolfe, A. M., Prochaska, J. X., **Neeleman, M.**, Mendez, A. J. 2012, ApJ, 755, 89. *Metallicity Evolution of Damped Lyα Systems out to $z \sim 5$.*