

## Curriculum Vita

### Rajib Ganguly

Department of Physics & Astronomy  
 The University of Wyoming (Dept. 3905)  
 1000 East University Avenue  
**phone** work: (307) 766-3053 cell: (307) 399-6361  
**fax:** (307) 766-2652  
**email:** ganguly@uwyo.edu  
**web:** <http://physics.uwyo.edu/~ganguly>

**Born:** Los Angeles, California, U.S.A.

#### Education:

The Pennsylvania State University (1996-2002) Ph.D., Astronomy & Astrophysics  
 Dissertation Title: “Origins and Properties of Quasar-Intrinsic Absorption Lines”  
 Dissertation Advisors: Jane C. Charlton, Michael Eracleous  
 The University of Arizona (1991-1996) B.S., Physics & Astronomy

#### Employment:

Postdoctoral Research Scientist  
 Department of Physics & Astronomy,  
 The University of Wyoming (2005-)  
 Postdoctoral Research Scientist  
 The Space Telescope Science Institute (2002-2005)  
 Resident Astronomer  
 Hobby-Eberly Telescope  
 McDonald Observatory (2000)  
 Research Assistant  
 Department of Astronomy & Astrophysics,  
 The Pennsylvania State University (1998-2002)  
 Teaching Assistant  
 Department of Astronomy & Astrophysics,  
 The Pennsylvania State University (1996-1998)

#### Awards, Scholarships, and Grants

NSF grant, “Understanding Quasar Central Engines Using Narrow Intrinsic Absorption Lines” (PI: Michael Eracleous, Penn State, 2008-, pending review)  
 ATFP grant, “Probing Large Scale Structure in the Ultraviolet”  
 (PI: David Buote, UC Irvine, 2008-, pending review)

Swift Cycle 4 observing grant, “Are There Young Stars Associated With Post-Starburst Quasars?” (PI: Rajib Ganguly, 2008-2009, pending review)  
 GALEX Cycle 4 archival grant, “The Young Stellar Content of Post-Starburst Quasars” (PI: Rajib Ganguly, 2008-, pending review)  
 HST Cycle 13 archival grant, “Searching for Quasar-Intrinsic Absorption Through Time Variability” (PI: Rajib Ganguly, 2003-2007)  
 FUSE Cycle 3 grant, “Monitoring the Intrinsic Absorption Complex Toward RX J1230.8+0115” (PI: Rajib Ganguly, 2002-2004)  
 HST Cycle 9, “A Snapshot Survey of Variability of Narrow and Broad Associated Absorption Lines in Quasars” (PI: Jane Charlton, Penn State, 2000-2002)  
 HST Cycle 9, “The Cause of Narrow Absorption Lines Intrinsic to Quasi-Stellar Objects” (PI: Jane Charlton, Penn State, 2000-2002)  
 The Pennsylvania State University, Zaccheus Daniel Scholarship (1999-2000)  
 The Pennsylvania State University, Oscar J. Roberts Fellowship (1996-1997)

#### **Professional Societies and Community Service:**

Wyoming Infrared Observatory Observing Pool (2005-)  
 Hobby-Eberly Telescope JCAM Team (2000-2002)  
 American Astronomical Society (1996-)  
 Phi Beta Kappa (1996-)  
 Referee for *Astrophysical Journal*, *Astrophysical Journal Letters*,  
 Publications of the Astronomical Society of Australia

#### **Refereed Publications:**

18. **Ganguly, R.**, Cen, R., Fang, T., Sembach, K. R. 2008, *ApJL*, submitted  
 “Correlations Between O VI Absorbers and Galaxies at Low Redshift”
17. Berrington, R. C., Brotherton, M. S., Gallagher, S. C., **Ganguly, R.**, Shang, Z., Lacy, M., Gregg, M. D., Hall, P. B., Laurent-Muehleisen, S. A. 2008, *ApJ*, submitted  
 “The X-ray Spectrum and Spectral Energy Distribution of FIRST J155633.8+351758: A Beamed Radio-Quiet Quasar with a Polar Outflow”
16. **Ganguly, R.**, Brotherton, M. S. 2008, *ApJ*, 672, 102  
 “On the True Fraction of Quasars With Outflows”
15. **Ganguly, R.**, Brotherton, M. S., Cales, S., Scoggins, B., Shang, Z., Vestergaard, M. 2007, *ApJ*, 665, 990  
 “Outflows and the Physical Properties of Quasars”
14. Misawa, T., Charlton, J. C., Eracleous, M., **Ganguly, R.**, Tytler, D., Kirkman, D., Suzuki, N., Lubin, D. 2007, *ApJS*, 171, 1  
 “A Census of Intrinsic Narrow Absorption Lines in the Spectra of Quasars at  $z = 2 - 4$ ”
13. **Ganguly, R.**, et al. 2007, *AJ*, 133, 479  
 “Hubble Space Telescope Ultraviolet Spectroscopy of 14 Low-Redshift Quasars”

12. Narayanan, A., Misawa, T., Charlton, J. C., **Ganguly, R.** 2006, AJ, 132, 2099  
“The Advantage of Increased Resolution in the Study of Quasar Absorption Systems”
11. **Ganguly, R.**, Sembach, K. R., Tripp, T. M., Savage, B. D., Wakker, B. P.  
2006 ApJ, 645, 868  
“High-Resolution Absorption Spectroscopy of Multiphase, High-Metallicity Gas Associated with the Luminous Quasar HE 0226–4110”
10. **Ganguly, R.**, Sembach, K. R., Tripp, T. M., Savage, B. D. 2005, ApJS, 157, 251  
“Highly Ionized Gas in the Galactic Halo and the High-Velocity Clouds toward PG 1116+215”
9. Tripp, T. M., Jenkins, E. B., Bowen, D. V., Prochaska, J. X., Aracil, B., **Ganguly, R.**  
2005, ApJ, 619, 714  
“Discovery of a Primitive Damped Ly-alpha Absorber near an X-Ray-bright Galaxy Group in the Virgo Cluster”
8. Wise, J. H., Eracleous, M., Charlton, J. C., **Ganguly, R.** 2004, ApJ, 613, 129  
“Variability of Narrow Associated Absorption Lines in Nearby Quasars”
7. **Ganguly, R.**, Masiero, J., Charlton, J. C., Sembach, K. R. 2003, ApJ, 598, 922  
“An Intrinsic Absorption Complex Toward RX J1230.8+0115”
6. Rosenburg, J. L., **Ganguly, R.**, Giroux, M. L., Stocke, J. T. 2003, ApJ, 591, 677  
“Probing the Size of Low-Redshift Lyman-alpha Absorbers”
5. **Ganguly, R.**, Charlton, J. C., Eracleous, M. 2001, ApJL, 556, 7  
“Variable UV Absorption in the Spectrum of MRC 2251–178”
4. **Ganguly, R.**, Charlton, J. C., Bond, N. A. 2001, ApJL, 553,101  
“The Absorbers Toward CSO 118: Superclustering at  $z \sim 3$ , or an Intrinsic Absorption Complex”
3. **Ganguly, R.**, Bond, N. A., Charlton, J. C., Eracleous, M., Brandt, W. N., Churchill, C. W.  
2001, ApJ, 549, 133  
“On the Origin of Narrow Absorption Line Gas Intrinsic to Low Redshift QSOs”
2. **Ganguly, R.**, Eracleous, M., Charlton, J. C., Churchill, C. W. 1999, AJ, 117, 2594  
“Intrinsic Narrow Absorption Lines in KECK/HIRES Spectra of a Sample of Six Quasars”
1. **Ganguly, R.**, Churchill, C. W., Charlton, J. C. 1998, ApJ, 498, L103  
“An Aluminum-Enriched Cloud at  $z = 1.94$ ”

#### Papers in Preparation:

- Ganguly, R.**, Lynch, R. S., Charlton, J. C., Eracleous, M., Tripp, T. M.,  
Palma, C., Sembach, K. R., Misawa, T., Masiero, J. R., Milutinovic, N.,  
Lackey, B. D., Jones, T. M.  
“A Census of Quasar-Intrinsic Absorption in the Hubble Space Telescope Archive I:  
Systems from High Resolution Spectra”
- Ganguly, R.**, Brotherton, M. S., Shang, Z., Cales, S.  
“The Ultraviolet Though Near Infrared Properties of Post-Starburst Quasars”

- Brotherton, M. S., Stoll, R., Paul, C., Diamond-Stanic, A., Shang, Z., Cales, S.,  
**Ganguly, R.**, Canalizo, G., Vanden Berk, D.  
 “A Catalog of Post-Starburst Quasars”
- Brotherton, M. S., Stoll, R., Paul, C., Diamond-Stanic, A., Shang, Z., Cales, S.,  
**Ganguly, R.**, Canalizo, G., Vanden Berk, D.  
 “The Environments of Post-Starburst Quasars”
- Cales, S., Brotherton, M. S., Shang, Z., **Ganguly, R.**  
 “Morphologies of Post-Starburst Quasars”
- Hawthorn, M. J., Grier, C., **Ganguly, R.**, Charlton, J. C., Eracleous, M.,  
 Sembach, K. R.  
 “A Census of Quasar-Intrinsic Absorption from the HST Archive II:  
 Time Variability Results”
- Runnoe, J., **Ganguly, R.**, Brotherton, M. S., Shang, Z.  
 “Rest-frame Optical Properties of High-redshift, Radio-selected, Broad Absorption  
 Line Quasars”
- Wu, J., Charlton, J. C., Misawa, T., Eracleous, M., **Ganguly, R.**  
 “Photoionization Models of Quasar-Intrinsic Absorbers in the VLT Archive”
- Yuan, Q., Brotherton, M. S., Green, R. F., **Ganguly, R.**, Shang, Z., Kriss, G. A.  
 “Outflowing Winds from Narrow-Line Seyfert 1 Galaxies: The Case of Mrk 478”

#### Conference Proceedings:

- Yuan, Q., Brotherton, M. S., Green, R. F., **Ganguly, R.**, Shang, Z., Kriss, G. A. 2007  
 “A Decelerating Wind Observed in Mrk 478”  
 in *The Central Engine of Active Galactic Nuclei*, ed. L. C. Ho and J.-M. Wang
- Misawa, T., Eracleous, M., Charlton, J. C., **Ganguly, R.**, Tytler, D., Kirkman, D.,  
 Suzuki, N., Lubin, D. 2007  
 “Probing Quasar Outflows with Intrinsic Narrow Absorption Lines”  
 in *The Central Engine of Active Galactic Nuclei*, ed. L. C. Ho and J.-M. Wang
- Ganguly, R.**, Misawa, T., Lynch, R., Charlton, J. C., Eracleous, M., Hawthorn, M. J.,  
 Grier, C. 2007  
 “Quasar-Intrinsic Absorption in the HST Archive”  
 in *The Central Engine of Active Galactic Nuclei*, ed. L. C. Ho and J.-M. Wang
- Ganguly, R.**, Sembach, K. R., Savage, B. D., Tripp, T. M. 2006  
 “Kinematics, Ionization, and Abundances of the High Velocity Clouds Toward  
 PG 1116+215”  
 in *Astrophysics in the Far Ultraviolet: Five Years of Discovery with FUSE*,  
 ed. Sonneborn, G., Moos, H. W., Andersson, B.-G.,
- Ganguly, R.**, Sembach, K. R., Charlton, J. C., Eracleous, M., Palma, C., Tripp, T. M. 2004  
 “Intrinsic Narrow Absorption Lines in the HST/STIS Echelle Archive”  
 in *AGN Physics with the Sloan Digital Sky Survey*, ed. Richard, G. T., Hall, P. B.

- Ganguly, R.**, Sembach, K. R., Charlton, J. C. 2003  
 “A Comparison Of Virgo Cluster Absorption Along Two Sight Lines”  
 in *The IGM/Galaxy Connection: The Distribution of Baryons at  $z = 0$* ,  
 ed. Rosenberg, J. L., Putman, M. E.
- Ganguly, R.**, Masiero, J., Charlton, J. C., Sembach, K. R. 2003  
 “The Exquisite Spectrum of RX J1230.8+0115”  
 in *Hubble’s Science Legacy: Future Optical/Ultraviolet Astronomy from Space*  
 ed. Sembach, K. R., Blades, J. C., Illingworth, J. D., Kennicutt, Jr., R. C.
- Ganguly, R.** 2002  
 “Properties of QSO-Intrinsic Narrow Ultraviolet Absorption”  
 in *Mass Outflow in Active Galactic Nuclei: New Perspectives*,  
 ed. Crenshaw, D. M., Kraemer, S. B., George, I. M.
- Ganguly, R.**, Bond, N. A., Charlton, J. C., Eracleous, M., Brandt, W. N.,  
 Churchill, C. W. 2001  
 “On the Origins of QSO-intrinsic Narrow Absorption Lines”  
 in *Guillermo Haro Advanced Lectures on the Starburst-AGN Connection*,  
 ed. Mujica, R., Aretxaga, I., Kunth, D.  
 (URL: <http://www.inaoep.mx/~agn00/posters.html>)
- Ganguly, R.**, Bond, N. A., Charlton, J. C., Eracleous, M., Brandt, W. N.,  
 Churchill, C. W. 2000  
 “On the Origins of QSO-intrinsic Narrow Absorption Lines”  
 in *A Decade of HST Science*, ed. Livio, M., Noll, K., Stiavelli, M.

#### Abstracts and Circulars:

- Ganguly, R.**, Brotherton, M. S. 2008  
 “What Fraction Of AGN Actually Show Outflows?”, *Bull. AAS*, 211
- Berrington, R. C., Brotherton, M. S., Gallagher, S. C., **Ganguly, R.**, Shang, Z.,  
 Lacy, M., Gregg, M. D., Hall, P. B., Laurent-Muehleisen, S. A. 2008  
 “The X-ray Spectrum and Spectral Energy Distribution of FIRST J155633.8+351758:  
 A Beamed Radio-Quiet Quasar with a Polar Outflow”, *Bull. AAS*, 211
- Einsig, D., Misawa, T., Narayanan, A., Charlton, J. C., **Ganguly, R.** 2008  
 “A Survey of Intrinsic Narrow Absorption Lines in 75 VLT/UVES Quasars”, *Bull. AAS*, 211
- Runnoe, J., Brotherton, M. S., **Ganguly, R.**, Shang, Z. 2008  
 “Rest-Frame Optical Properties of High-Redshift, Radio-Selected, Broad Absorption  
 Lines Quasars”, *Bull. AAS*, 211
- Brotherton, M. S., Stoll, R., Paul, C., Diamond-Stanic, A., Shang, Z., Cales, S.,  
**Ganguly, R.**, Canalizo, G., Vanden Berk, D. 2007  
 “A Catalog of Post-Starburst Quasars”, *Bull. AAS*, 210, 217

- Ganguly, R.**, Lynch, R. S., Charlton, J. C., Eracleous, M., Tripp, T. M., Palma, C., Sembach, K. R., Misawa, T., Masiero, J. R., Milutinovic, N., Jones, T. M. 2006  
 “Intrinsic Absorption in the HST Archive II: Partial Covering and Associated O VI Systems”, *Bull. AAS*, 38, 987
- Grier, C., Hawthorn, M., **Ganguly, R.**, Charlton, J. C., Eracleous, M., Sembach, K. R. 2007  
 “Intrinsic Absorption in the HST Archive I: Search for Time Variable Systems”, *Bull. AAS*, 38, 986
- Norris, J., Kutyrev, A., **Ganguly, R.**, Canterna, R., Pierce, M. 2006  
 “GRB 060211b: WIRO NIR observations”, GRB Coordinates Network, Circular Service, 4766, 1
- Norris, J., Kutyrev, A., **Ganguly, R.**, Canterna, R., Pierce, M. 2006  
 “GRB 060211a: WIRO NIR observations”, GRB Coordinates Network, Circular Service, 4760, 1
- Ganguly, R.**, Cen, R., Fang, T., Sembach, K. R. 2005  
 “The Relationship Between O VI WHIM Absorption and Galaxies from Hydrodynamic Simulations”, *Bull. AAS*, 37, 1361
- Hornschemeier, A. E., Lochner, J. C., **Ganguly, R.**, Feaga, L. M., Ford, K. E. S. 2005  
 “Big Explosions, Strong Gravity: Making Girl Scouts ACEs of Space through Chandra Outreach”, *Bull. AAS*, 37, 1263
- Misawa, T., Charlton, J. C., Eracleous, M., **Ganguly, R.**, Tytler, D., Kirkman, D., Suzuki, N., Lubin, D. 2005  
 “A Census of Intrinsic Narrow Absorption Lines at  $z \sim 3.0$ ”, *Bull. AAS*, 37, 1185
- Ganguly, R.**, Sembach, K. R., Tripp, T. M., Savage, B. D., Wakker, B. P. 2004  
 “Extreme Ultraviolet Spectroscopy of O III, O IV, O V, and O VI Absorption Associated with the Quasar HE 0226–4110”, *Bull. AAS*, 36, 1586
- Hornschemeier, A. E., Lochner, J. C., Feaga, L. M., **Ganguly, R.**, Ford, K. E. S. 2004  
 “Big Explosions and Strong Gravity: Packaged Activities for Girl Scouts”, *Bull. AAS*, 36, 1347
- Misawa, T., Eracleous, M., Charlton, J., **Ganguly, R.**, Tytler, D., Kirkman, D., O’Meara, J., Suzuki, N., Lubin, D. 2003  
 “A Census of Intrinsic Narrow Absorption Lines at  $z \sim 3.0$ ”, *Bull. AAS*, 35, 1329
- Ganguly, R.**, Sembach, K. R., Tripp, T. M., Savage, B. D. 2003  
 “Highly Ionized Gas in the Galactic Halo and the High Velocity Clouds Toward PG 1116+215”, *Bull. AAS*, 35, 1270
- Ganguly, R.**, Masiero, J., Charlton, J. C., Sembach, K. R. 2002  
 “An Intrinsic Absorption Complex Toward RX J1230.8+0115: Geometry and Photoionization Conditions”, *Bull. AAS*, 34, 1286

- Wise, J., Eracleous, M., Charlton, J. C., **Ganguly, R.** 2001  
 “A Search for Variability in Quasar Narrow, Associated Absorption Lines”,  
*Bull. AAS*, 33, 1456
- Bond, N. A., **Ganguly, R.**, Charlton, J. C. 2001  
 “Constraining the Location and Physical Conditions of Intrinsic NAL Gas  
 in QSOs”, *Bull. AAS*, 33, 1456
- Ganguly, R.** 2001  
 “Origins and Properties of QSO-intrinsic Absorption Lines and their Host  
 QSO”, *Bull. AAS*, 33, 1421
- Ganguly, R.**, Charlton, J. C. 2000  
 “The Absorbers Toward CSO 118: Hierarchical Clustering at  $z \sim 3$ , or an  
 Intrinsic Absorption Complex?”, *Bull. AAS*, 32, 1511
- Ganguly, R.**, Bond, N. A., Charlton, J. C., Eracleous, M., Brandt, W. N.,  
 Churchill, C. W. 1999  
 “On the Origin of Intrinsic UV Narrow Absorption Lines in Low-Redshift QSOs II:  
 A Multiwavelength Analysis”, *Bull. AAS*, 31, 1400
- Bond, N. A., **Ganguly, R.**, Charlton, J. C., Churchill, C. W., Eracleous, M.,  
 Brandt, W. N. 1999  
 “On the Origin of Intrinsic UV Narrow Absorption Lines in Low-Redshift QSOs I:  
 A Survey”, *Bull. AAS*, 31, 1399
- Ganguly, R.**, Eracleous, M., Charlton, J. C., Churchill, C. W. 1998  
 “Intrinsic Narrow Quasar Absorption Line Properties at  $z \sim 2$ ”,  
*Bull. AAS*, 30, 1413
- Ganguly, R.**, Churchill, C. W., Charlton, J. C. 1997  
 “An Aluminum Enriched Cloud at  $z \sim 2$ ”, *Bull. AAS*, 29, 1349
- Ganguly, R.**, Hill, J. M., Oegerle, W. R. 1996  
 “Dynamics of the Rich Cluster of Galaxies Abell 2255”, *Bull. AAS*, 28, 831

### Teaching and Management Experience:

- Anirban Bhattacharjee (2007-) – supervised thesis work regarding models of what drives the terminal velocity of mass outflows in active galaxies. Anirban is currently a graduate student in astronomy at the University of Wyoming.
- Jessie Runnoe (2007) – supervised work regarding rest-frame optical properties, and physical properties of high-redshift radio-selected broad absorption-line quasars, as part of a project under the Summer Undergraduate Research Assistantship Program (SURAP) of the University of Wyoming, Department of Physics & Astronomy. Jessie is currently in her senior year at Whitman College.
- Sabrina Cales (2005-) – supervised work on physical properties of quasars showing mass outflows, as well as thesis work on the environments of post-starburst quasars. Sabrina is currently a graduate student in astronomy at the University of Wyoming.

- Catherine Grier (2006) – supervised work regarding the search for time-variable absorption-line systems in the spectra of quasars, as part of a project under the SURAP program of the University of Wyoming, Department of Physics & Astronomy  
Catherine is currently a graduate student in astronomy at Ohio State University.  
Journal Club Organizer, Department of Physics & Astronomy,  
University of Wyoming (2005-2006)
- Melanie Hawthorn (2004-2005) – supervised work regarding the search for time-variable absorption-line systems in the spectra of quasars, as part of a project under the Summer Student program at the Space Telescope Science Institute. Melanie is currently a graduate student in astronomy at Cambridge University.
- Organizer of Postdoc Tea, Space Telescope Science Institute (2002-2005)
- Joseph Masiero (2002) – supervised work regarding the discovery, analysis and modelling of a complex of intrinsic absorption-lines systems in the spectra of the quasar RX J1230.8+0115. Joe is currently a graduate student in astronomy at the University of the Hawaii.
- Nicholas Bond (2001) – supervised work regarding the search for quasar absorption-line systems appearing at redshifts comparable to the quasars, and understanding potential differences between quasars showing such systems and those that do not. Nick recently defended his Ph.D. dissertation at Princeton University, and is a postdoctoral fellow at the Department of Physics & Astronomy at Rutgers University.
- Teaching Assistant for Astro 120 at Penn State (1997) – Astro 120 is a cosmology course for non-science majors. Jane Charlton was the instructor for the course. I taught the first few classes, as well as interjecting explanations on various topics during the course. I graded homework and held office hours.
- Astronomy Lab Instructor (1996-1997) – taught lab course for non-science majors at Penn State. Unlike other institutions, the labs are not coupled to a lecture. These are fully autonomous courses in which I had to prepare a syllabus, lesson plan, instruct the class, grade homework, and assign grades.

### References:

- Jane C. Charlton, 525 Davey Lab, Department of Astronomy & Astrophysics, University Park,  
The Pennsylvania State University, State College, PA 16802,  
**email:** charlton@astro.psu.edu, **phone:** 814-863-6040
- Kenneth R. Sembach, The Space Telescope Science Institute, 3700 San Martin Drive,  
Baltimore, MD 21218,  
**email:** sembach@stsci.edu, **phone:** 410-338-5051
- Michael S. Brotherton, Department of Physics & Astronomy, University of Wyoming,  
1000 East University Ave, Laramie, WY 82071,  
**email:** mbrother@uwyo.edu, **phone:** 307-766-5402