

John K. Parejko

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Research Interests

Active Galaxies and Galaxy Evolution, Large Scale Surveys, Astronomy Education and Outreach

Education

- 2010 **Ph.D. Physics (expected)**, Drexel University, Philadelphia, PA.
Adviser: Dr. Michael S. Vogeley
Thesis: *Hosts and Environments of Low Luminosity Active Galaxies in the Local Universe*
- 2007 **M.S. Physics**, Drexel University, Philadelphia, PA.
- 2002 **B.A. Physics**, Carleton College, Northfield, MN - *Cum Laude*.
2001 Budapest Semester in Mathematics, Budapest, Hungary

Academic Employment

- 2002–2004 **Space Physics Research Lab**, University of Michigan, Ann Arbor, MI.
Software Development and Data Analysis, Cassini/Huygens INMS team
- Summer 2001 **Space Physics Research Lab**, University of Michigan, Ann Arbor, MI.
NSF Research Experience for Undergraduates, Cassini/Huygens CAPS team

Peer Reviewed Publications

Interacting void galaxies in the SDSS

Parejko, J., Vogeley, M. S., Pan, D., White, A., 2010, ApJ, Submitted

Galaxy Zoo Green Peas: discovery of a class of compact extremely star-forming galaxies

Cardamone, C., Schawinski, K., Sarzi, M., Bamford, S. P., Bennert, N., Urry, C. M., Lintott, C., Keel, W. C., **Parejko**, J., Nichol, R. C., Thomas, D., Andreescu, D., Murray, P., Raddick, M. J., Slosar, A., Szalay, A., & Vandenberg, J. 2009, MNRAS, 1256

Eight-Dimensional Mid-Infrared/Optical Bayesian Quasar Selection

Richards, G. T., Deo, R. P., Lacy, M., Myers, A. D., Nichol, R. C., Zakamska, N. L., Brunner, R. J., Brandt, W. N., Gray, A. G., **Parejko**, J. K., Ptak, A., Schneider, D. P., Storrie-Lombardi, L. J., & Szalay, A. S. 2009, AJ, 137, 3884

Source Matching in the SDSS and RASS: which Galaxies are Really X-Ray Sources?

Parejko, J. K., Constantin, A., Vogeley, M. S., & Hoyle, F. 2008, AJ, 135, 10

The Cassini Ion and Neutral Mass Spectrometer (INMS) Investigation

Waite, J. H., Lewis, W. S., Kasprzak, W. T., Anicich, V. G., Block, B. P., Cravens, T. E., Fletcher, G. G., Ip, W.-H., Luhmann, J. G., McNutt, R. L., Niemann, H. B., **Parejko**, J. K., Richards, J. E., Thorpe, R. L., Walter, E. M., & Yelle, R. V. 2004, Space Science Reviews, 114, 113

Awards

- 2008 **Chambliss Astronomy Student Poster**, *AAS 211th meeting*, Austin, TX.
Honorable Mention
- 2008 **International Science & Engineering Visualization Challenge**,
NSF/AAAS.
Semifinalist, Informational/Explanatory Graphics
- 2008 **Physics Graduate Student Award for Research and Service**, *Drexel University*, Philadelphia, PA.

Accepted Proposals and Grants

- 2009 **Chandra Deciphers the Optically 'Dull' X-ray Bright Galaxies at $z \sim 0$** ,
PI: Dr. Anca Constantin, Chandra Observing Proposal.
- 2008 **Investigating the Properties of Interacting Void Galaxies from the SDSS**,
PI: John Parejko, NOAO Kitt Peak Observing Proposal.
- 2007 **The Relationship Between AGN Spectral Energy Distribution and Feedback**,
PI: Gordon Richards, NASA ADP Grant.
- 2005-2008 **Urban Astronomy in Philadelphia: Hands-On Student Observing and Teacher Enhancement**,
PI: Dr. David Goldberg, NASA 3 year OSS/EPO.

Posters and Presentations

- January 2010 **The Environments of Bona-fide Low Luminosity AGN in the Local Universe**,
215th AAS Meeting, Washington D.C., Dissertation talk.
- June 2009 **Interacting Void Galaxies in the SDSS**, *The Monster's Fiery Breath: Feedback in galaxies, groups and clusters*, Madison, WI.
- January 2009 **Hunting for Low Luminosity AGN Using Optical and X-ray Emission**,
213th AAS Meeting, Long Beach, CA.
- August 2008 **X-ray Emitting Galaxies in the SDSS**, *The Sloan Digital Sky Survey: From Asteroids to Cosmology*, Chicago, IL.
- January 2008 **The Soft X-ray Properties of "Ordinary" SDSS Galaxies**, *211th AAS Meeting*, Austin, TX.
- March 2007 **The X-ray Sources of "Ordinary" SDSS Galaxies**, *2007 SDSS Collaboration Meeting*, Drexel University, Philadelphia, PA.
- January 2007 **The Spectral Energy Distributions of Normal and Weakly-Active Galaxies**,
209th AAS Meeting, Austin, TX.

Outreach

- 2004–2009 **Lynch Observatory**, *Drexel University*, Philadelphia, PA.
Open House Coordinator
<http://www.physics.drexel.edu/observatory/>
- 2005–2008 **Astronomy for Teachers**, *Drexel University*, Philadelphia, PA.
Seminar Series Instructor/Coordinator
- 2005–2008 **6th Grade Astronomers**, *Drexel University*, Philadelphia, PA.
Observatory Instructor/Coordinator
- 2000–2002 **Goodsell Observatory**, *Carleton College*, Northfield, MN.
Open House Assistant

Invited Public Talks

- Feb 2008 **Delaware Valley Amateur Astronomers**, Plymouth Meeting, PA.
Invited Speaker - *Where Have All The Quasars Gone?*
- May 2008 **Rittenhouse Amateur Astronomers**, Philadelphia, PA.
Invited Speaker - *Two Observatories (and a Robot)*

Service

- 2007-2009 **Physics Graduate Student Association**, *Drexel University*, Philadelphia, PA.
Co-founder, Co-chair and talk organizer
<http://www.physics.drexel.edu/~pgsa/>

Teaching

Drexel University

- 2008-2009 Astrophysics, Undergraduate Research Mentor
- Fall 2005 Physics 232: *Observational Astrophysics*, Teaching Assistant
- Summer 2005 Physics 211: *Applied Physics III*, Teaching Assistant
- Spring 2005 Physics 131: *Survey of the Universe*, Teaching Assistant
- Winter 2005 Physics 153: *Introductory Physics II*, Teaching Assistant
- Fall 2004 Physics 131: *Survey of the Universe*, Teaching Assistant

Carleton College

- Spring 2002 Astronomy 113: *Observational Astronomy*, Teaching Assistant
- 2001–2002 Math Skills Center, Math Tutor

Programming and Technical Skills

Programming Languages

Python, C/C++. Java, Javascript, HTML/CSS, SQL, LATEX, IDL, IRAF

Operating Systems

GNU/Linux (Debian), Mac OS X, Solaris, Windows XP

Experience

- Simulated flyby of the \$3 billion dollar Cassini/Huygens mission through a global circulation climate model atmosphere of Saturn's Moon Titan. This was used for validation/verification of the data pipeline to demonstrate whether future (closer) flybys could be conducted safely and successfully.
- Programmed internal INMS Operations Network (ION) data access portal for mission critical data retrieval (used by about 20 researchers).
- Constructed JUnit test suite for ION website as part of test-driven development.
- Refactored and documented IDL data analysis software and data visualization software for Cassini/Huygens INMS.
- Created instrument data tables for INMS measurements. These tables replaced the original tables and were used for the first INMS measurements of Saturn and Titan.
- Converted open source Gnuplot.py interface (available on Sourceforge) from Numeric to Numpy.
- Developed and documented PyRAF-based spectroscopic reduction script for data from GoldCam on the Kitt Peak National Observatory 2.1m telescope.
- Developed and documented Python interface for parallel C++ code, used within the Drexel physics department.
- Designed, coded, tested and documented Python-based, type-aware CSV parser, used within the Drexel physics department.

References

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