

Adric R. Riedel

Department of Physics and Astronomy
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Education:

Georgia State University 2006 – 2011 (Expected)
Atlanta, GA
Astronomy PhD candidate

Villanova University 2002-2006
Villanova, PA

Major: Bachelor of Science, Astronomy and Astrophysics

GPA: 3.64 (Cum Laude)

Honors Program

Recipient, Edwin F. Bailey Astronomy award for Excellence 2002

Delaware Space Grant (part of NASA's National Space Grant College and Fellowship Program), 2006

Research Experience:

Spectral Typing work. Along with Mr. Thom Beaulieu, Dr. Todd J. Henry and RECONS, developed a new system of spectral classification for M and K type stars (publication pending)

Parallax Reduction. Using the RECONS pipeline, reduced several trigonometric parallaxes.

Barnard's Star. Determined the rotational period, magnetic activity and habitable zones of Barnard's Star, a nearby red dwarf star, with Dr. Edward F. Guinan.

- Analysis of archival X-ray and Far Ultraviolet spectra from space telescopes
- Spectral analysis of visible data from robotic telescope
- Programming custom reduction routines, IDL data reduction, stellar modeling
- Poster at the 206th AAS meeting

Proxima Centauri. An attempt to determine the rotational period and magnetic activity of Proxima Centauri, the closest star to the solar system, with Dr. Edward F. Guinan.

- Spectral analysis of archival Far Ultraviolet data from NASA's International Ultraviolet Explorer
- IDL data reduction

Cataclysmic Variables. Determined the accretion rates, masses, inclinations and distances of three white dwarf/main sequence binary systems with dwarf novae outbursts (SW UMa, BC UMa, TY Psc), with Dr. Edward M. Sion.

- Stellar disk modeling with archival Hubble Space Telescope and International Ultraviolet Explorer data
- Research programming

Published work:

- Hamilton, R.T.; Urban, J.A.; Sion, E.M.; Riedel, A.R.; Voyer, E.N.; Marcy, J.T.; Lakatos, S.L. 2007. "An International Ultraviolet Explorer Archival Study of Dwarf Novae in Outburst", ApJ 667, 1139.
- Riedel, A.R.; Sion, E.M. 2005. "An Analysis of the Accretion Rates and Binary Parameters of Three Dwarf Novae in Outburst with Newly Determined Distances". AAS #207, 70.13
- Riedel, A.R.; Guinan, E.F.; DeWarf, L.E.; Engle, S.G.; McCook, G.P. 2005. "Barnard's Star as a Proxy for Old Disk dM Stars: Magnetic Activity, Light Variations, XUV Irradiances, and Planetary Habitable Zones". AAS #206, 9.04

Observational Experience:

- Complete lightcurve of VW Cephei via photoelectric photometry
- CCD spectroscopy of select bright stars
- CCD imaging of night sky targets
- Reduction of personally acquired photometry and spectroscopy

Teaching Experience:

Teaching Assistant, Georgia State Department of Physics and Astronomy, Fall 2006-

- Responsible for teaching and grading up to three introductory labs
- Minor student instruction in astronomical topics

Teaching Assistant, Villanova Astronomy Department, Fall 2003-Spring 2006

- Assisting and troubleshooting computer-aided astronomy software
- Minor student instruction in astronomical topics
- Grading labs for as many as four class sections (Fall 2005)

Teaching Assistant, Villanova Physics Department, Spring 2004

- Lab grading for two class sections

Astronomical Presentations

- Georgia State seminar series 2006-2008
- Villanova Colloquia series 2003, 2004, 2005
- "Barnard's Star: A representative of Old Disk dM stars"
- "Rotation and Activity of M Dwarfs"
- Philadelphia Area Astronomers' Meeting 2004 presentation on Proxima Centauri
- Numerous in-class presentations:
 - "Nubecula Major"
 - "Thick Disks"
 - "Triton: The World that Should not Be"
 - "Luminous Blue Variables: The Big and the Bigger"
 - "The Rotation Periods of Barnard's Star and Proxima Centauri"
 - "Other Worlds" (parallel universes)
- Poster at 206th AAS meeting in Minneapolis. "Barnard's Star as a Proxy for Old Disk dM Stars: Magnetic Activity, Light Variations, XUV Irradiances, and Planetary Habitable Zones"

Public Observatory Operator

- Operating the Astronomy department's public telescope for students and local groups in a departmental setting

Computer skills:

Programming in C, C++, BASH, IDL

Familiar with DOS, Microsoft Windows (95-XP) and UNIX (specifically Linux)

Familiar with Microsoft Word, Excel, Powerpoint, Redwip, IDL and IRAF software

Activities:

Villanova Astronomical Society 2002 – 2006

President 2005-2006, arranged trip to the Green Bank National Radio Observatory, various campus events.

Villanova Singers 2002 – 2006

International tours in Austria and Germany (2003), Puerto Rico (2004), and Italy and the Vatican (2005).

Engineering and Science Recruitment Network, 2004-2006

Department tours for prospective science and especially astronomy students

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