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# Pamela L. Gay

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- Education**
- 2002 University of Texas  
**In Candidacy for Doctorate of Philosophy in Astronomy**  
Advisors: Dr. Gary Hill and Dr. John Kormendy  
Dissertation Title: Using Radio Sources to Find Galaxy Clusters: A New Method for Mapping Large Scale Structure
- 1998 University of Texas  
**Master of Arts in Astronomy**  
Advisor: Dr. Edward L. Robinson  
Thesis Title: Variable Stars in the Ursa Minor Dwarf Spheroidal Galaxy: A Story of Stellar Evolution told by the Horizontal Branch
- 1996 Michigan State University  
**Bachelor of Science in Astrophysics with Honors**  
Advisor: Dr. Horace A. Smith  
Senior Thesis Title: Period Changes of RR Lyrae Stars in Globular Clusters
- Fellowships & Awards**
- 1999, 2001 Fred T. Goettings, Jr. Memorial Endowed Presidential Scholarship for Excellence in Teaching
- 1999-2000 Outstanding TA/AI for UT Department of Astronomy
- 2000 Winner of UT Graduate Student Research Poster Competition
- 1999 Austin Branch of the American Association of University Women Graduate Fellowship
- 1996 Michigan Association of Governing Boards of State Universities Outstanding Student Award for Extraordinary Contributions to Michigan Higher Education
- Research Experience**
- 1998 - 2000 McDonald Observatory  
**Research Assistant for Dr. Gary Hill**  
Topic: The TexOx Galaxy Cluster Survey
- 1996 - 1998 McDonald Observatory  
**Research Assistant for Dr. David Lambert**  
Topics: MgH Isotopic abundance ratio measurements for main sequence stars; High Resolution Spectroscopy R Corona Borealis during outburst
- 1993 - 1996 Michigan State University  
**Junior Research Assistant for Dr. Horace A. Smith**  
Topics: Observation and data reduction of RR Lyrae variable stars; analysis of RR Lyrae period evolution
- Summer 1994 National Radio Astronomy Observatory - Tucson  
**REU Student for Dr. Phillip Jewell**  
Topics: Development of graphical interface for radio telescope

## Teaching Experience

2000 - UT Astronomy Department, Austin, TX  
**Research/Teaching Assistant for Dr. John Kormendy**  
Topic: Multi-Media Educational Development

1999 - Swinburne Astronomy Online

### Project Supervisor

- Author of several educational units
- Project Supervisor for observational projects

1998 - 2000 UT Astronomy Department

### Assistant Instructor, AST 103L: Observational Astronomy

- Author of Course Handbook
- Instructor for multiple laboratory sections with lecture component
- Supervision Bee Caves Observatory (9" amateur facility)
- Supervisor of multiple teaching assistants

## Science Publications\*

Gay, P.L. and Lambert D.L. 2000, "Magnesium Isotope Abundances"  
*Astrophysical Journal* 533, 260

Smith, H.A.; Barnett, M.; Silbermann, N.A. and Gay, P.L. 1999, "The Blazhko Effect of AR Her." *Astronomical Journal* 118, 572

Smith, H.A.; Gay Rathbun, P.; Simon, C.; 1998, "Irregularities in RR Lyrae Pulsations." *A Half Century of Stellar Pulsation Interpretations: A Tribute to Arthur N. Cox*, Ed. by Paul A. Bradley and Joyce A. Guzik p. 48

Gay Rathbun, P. and Smith, H.A. 1997, "Period Changes of RR Lyrae Stars in Globular Clusters." *Publications of the Astronomical Society of the Pacific* 109, 1128

Abett, A.P.; Beaver, M.; Barry, D.; Georgobiani, D.; Rathbun, P.; and Stein, R. 1997, "Solar Convection: Convection of Numerical Simulations and Mixing Length Theory." *Astrophysical Journal* 480, 395

Lee, K.; Gay, P. and Smith, H.A. 1996, "The Blazhko Effect of V421 Herculis." *Publications of the Astronomical Society of the Pacific* 108, 659

Purdue, P., Silberman, N.A., Gay, P. and Smith, H.A. 1995. "Double-Mode RR Lyrae Stars in the Globular Cluster M15", *Astronomical Journal* 110, 1712.

Gay, P. and Jewell, P. 1995, "Maptool: A New Graphical Interface for the 12m" *NRAO 12m memorandum series*

## Educational Publications

Gay, P.L. 2002, "The Whole Shebang: An Introduction to Cosmology," *Barnes and Nobles University*

Bash, F. and Gay, P.L. 2001, "Origins of the Universe," *University of Texas Department of Geological Sciences Outreach Lecture Series*

Gay, P.L. "Module 9: White Dwarfs and Associated Phenomena" *HET 614 Introduction to Particle Physics and High Energy Astrophysics* (2001; Centre for Astrophysics & Supercomputing, Swinburne University of Technology)

Gay, P.L. "Module 21: GUTs, Supersymmetry, Predictions and Theories of Everything" *HET 614 Introduction to Particle Physics and High Energy Astrophysics* (2001; Centre for Astrophysics & Supercomputing, Swinburne University of Technology)

Gay, P.L. *AST103L Handbook* (2000; University of Texas at Austin, Astronomy Department)

Gay, P.L. "Module 10: Principles of CCD Data Reduction" *HET609 Astrophotography & CCD Imaging* (2001; Centre for Astrophysics & Supercomputing, Swinburne University of Technology)

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\* Some publication appear under the name Pamela Rathbun

**Invited Talks**

Keynote Speaker, "Origins of the Universe" given at Expanding Your Horizons, Feb. 24/Mar. 24, 2001.

Evening Speaker, "Discovery of Moderate Red-shift Galaxy Clusters: The New Radio Signpost Method" at the Texas Star Party, May 16, 2001

**Posters & Abstracts**

Gay, P.L. and Hill, G.J. 2001, "The TexOx Cluster Survey: Using Radio Sources as Galaxy Cluster Signposts," *Revista Mexicana de Astronomia y Astrofisica*, 10, 154

Gay, P.L.; Hill, G.J.; Rawlings, S.; and Croft, S.D. 2001, "The TexOx Survey: Using Radio Signposts to Find Intermediate Redshift Galaxy Clusters," *Gas and Galaxy Evolution, ASP Conference Proceeding, Vol 240*, Ed. J.E. Hibbard, M. Rupen, and J.H. van Gorkon, p. 642

Gay, P.L. 1998, "Variables Stars in the Ursa Minor Dwarf Spheroidal Galaxy," 193<sup>d</sup> *Bulletin of the American Astronomical Society*. #70.05.

Smith, H.A.; Gay Rathbun, P.; Simon, C.; 1998, "Irregularities in RR Lyrae Pulsations." *A Half Century of Stellar Pulsation Interpretations: A Tribute to Arthur N. Cox*, Ed. by Paul A. Bradley and Joyce A. Guzik p. 48

Gay, P.L.; Smith, H.A.; Braden, J.G.; Silbermann, N.A. 1995, "Coupling of Period Change to Pulsation in RR Lyrae Stars." 187<sup>th</sup> *Bulletin of the American Astronomical Society*. #102.09

**Community Service**

1996 - Expanding Your Horizons

**Facilities Chair**

- Arrange for all Equipment through UT and Motorola
- Determine Room Assignments
- Act as liaison to Lone Star Girl Scout Council and UT staff

1998 - UT Astronomy Students' Association

**Graduate Student Advisor**

- Organize yearly trip to McDonald Observatory
- Advice students of available resources
- Organize undergraduate mentoring

2001 - Tomorrow's Women in Science and Technology

**Board Member**

2001 - American Association of University Women  
**chair: Local Scholarships Fundraising** (member since 1998)

**Computer Skills  
portfolio available**

*Languages:* C, C++, HTML, AWK, minimal Pearl and Fortran

*Operating Systems:* Windows, Mac OS, UNIX/LINUX

*Program Expertise with:* MS Word, MS Excel, MS PowerPoint, Adobe Photoshop, Adobe Illustrator, Adobe AfterEffects

**Interests**

Graphical Arts, Photography, Public Speaking, Equestrian Sports

**References**

Dr. John Kormendy, Curtis T. Vaughan, Jr. Centennial Chair In Astronomy  
15.308 RLM, Astronomy Dept. - C1400 512-471-8191

Dr. Edward L. Robinson, William B. Blakemore II Regents Professor In Astronomy  
17.318 RLM, Astronomy Dept. - C1400 512-471-3401

Dr. Elaine Rich, Sr Lecturer, Ph.D.  
3.126 TAY, Computer Science Dept. - C0500 512-471-9706