

## SAMPLE CV: RESEARCH FOCUS

*GSAS Career Services note: Compare this research-focused CV with the same person's teaching-focused CV in the next sample. Note what information she has selectively included in each, and the order in which she presents it. Here she includes relevant professional experience. We recommend placing all dates to the left throughout.*

### Sarah Jane Dormann

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#### Educational Background

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- Ph.D. *University of Virginia*, Astronomy Department, Charlottesville, VA Jan. 2007  
Dissertation "Knowing Our Neighbors: Fundamental Properties of Nearby Stars"  
Adviser Joe Good Guy
- M.S. *University of Virginia*, Astronomy Department, Charlottesville, VA 2001  
Thesis "A Barnard's Star Perturbation Search Using McCormick Observatory  
Photographic Plate Material" Adviser Joe Good Guy
- B.S. *Rensselaer Polytechnic Institute*, Physics Department, Troy, NY 1990  
Senior project "Tomography of Near Spherical Objects" Director John Doe

#### Research Interests

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#### Dissertation Abstract

Most of what we know and study in astronomy reflects the substantial, luminous objects we can see, but we know many more undersized, dim ones exist. Therefore, our understanding of the Milky Way Galaxy relies on an incomplete survey of our solar neighborhood. Similarly, the cosmic distance scale rests on the measurement of trigonometric parallaxes and absolute magnitudes, but, for many objects within the reach of ground-based astrometry, these measurements have not yet been made. This dissertation contributes to the census of the region within 25 parsecs of our Sun in several ways.

Our own Solar System contains nine major planets and thousands of minor ones. Although increasing numbers of extrasolar planets are being discovered, we do not know what fraction of stars within our solar neighborhood hosts planetary systems. The residuals remaining after the calculation of stellar parallaxes and proper motions may reveal perturbations due to planets. I am performing time-series analyses of such

residuals for stars observed by the Southern Parallax Program, which is led by Philip A. Ianna of the University of Virginia. To date, analyses of nine dwarfs reveal no clear indication of unseen companions.

As part of the Cerro Tololo Inter-American Observatory Parallax Investigation (CTIOPI), I am obtaining astrometric, photometric, and spectroscopic observations of 42 stars. Based on less accurate photometric and spectroscopic distance estimates, these stars are candidates for membership in the solar neighborhood. From the astrometric and photometric data, I will confirm or deny their membership in this fundamental sample. The spectroscopic observations will lead to either improved, or in many cases initial, spectral types for these stars. This study of nearby stars is part of a larger effort to identify and characterize fully all stars within 10 parsecs, which is lead by James Good Mentor of Georgia State University (Atlanta, GA).

Through this work, I am identifying members of the solar neighborhood and characterizing them in terms of position, distance (parallax), transverse velocity (proper motion), luminosity, spectral type, and multiplicity (presence of companions).

## Professional Experience

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### Research Positions

- 1998–present University of Virginia, Department of Astronomy, Graduate Research Assistant under direction of Joe Good Guy  
Dissertation and thesis work described above. Studying feasibility of infrared parallax program with data reduction pipeline at Fan Mountain Observatory. Reducing astrometric, photometric, and spectroscopic data using IRAF and Figaro. Participated in the *2005 Michelson Summer Workshop: Discovering New Worlds Through Astrometry* and Yale Summer Workshop on Basic Astrometric Methods
- Summer 2002 Australian National University, Research School of Astronomy & Astrophysics (Canberra, ACT), Observatory Visitor/University of Virginia, Astronomy Department, Graduate Research Assistant.  
Reduced astrometric data with Figaro from Southern Parallax Program at Mount Stromlo Observatory. Investigated plate-scale variation with temperature of Siding Spring 0.9-meter telescope. Made photometric, astrometric, and asteroid observations at Siding Spring Observatory.

### Selected Teaching Positions

- 2002–present University of Virginia, Athletics Department, Astronomy Tutor
- Summer 2005 University of Virginia, Astronomy Department, Graduate Instructor
- Summer 2004 University of Virginia, Astronomy Department, Graduate Instructor
- 2003–2004 University of Virginia, Astronomy Department, Head Teaching Assistant
- Summer 2003 University of Virginia, Astronomy Department, Graduate Instructor
- 2001–2002 Hampden-Sydney College, Physics and Astronomy Department (Hampden-Sydney, VA), Visiting Assistant Professor
- Summer 2001 University of Virginia, Astronomy Department, Graduate Instructor

## Selected Engineering Positions

- 1998–2000 Litton Marine Systems (Charlottesville, VA), Systems Engineer II  
Designed computer hardware systems. Prepared system requirements documents, purchase part specifications, and manufacturing instructions. Maintained production schedules and program logs.
- 1996–1997 Lockheed-Martin Missiles and Space (Newington, VA), Associate Systems Engineer  
Served as a real-time technical advisor to operations personnel for a complex satellite system. Maintained detailed understanding of all associated hardware and software systems. Analyzed all anomalous situations and initiated appropriate response. Extended background investigation
- 1995–1996 Virginia Employment Commission (Richmond, VA), Computer Systems Engineer  
As interim information security officer developed and implemented information security plan and coordinated of risk analysis. Assisted with long-range, strategic information technology planning. For Internal Audit Services, analyzed technology issues and undertook computer systems-related projects. Assisted with audits of technical areas.
- 1987-1988 Harris Corporation, Alexandria, VA. Engineering Intern  
Assignments included technical writing, technical editing of white papers and manuals, illustrating manuals, developing data bases and the code to manipulate them. Work related to military satellite communications for Defense Communications Agency and Defense Communications Engineering Center. Secret clearance

## Honors and Awards

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- 2004-2006 University of Virginia, Governor's Fellowship
- 2004, 2005 F. H. Levinson Fund of the Peninsula Community Foundation, Research support
- 2005 Yale University, Astronomy Department, travel grant for "Yale Summer Workshop on Basic Astrometric Methods"
- 2004 US Naval Observatory, travel grant for "Astrometry in the Age of the Next Generation of Large Telescopes"
- 2001 University of Virginia, Astronomy Department, Laurence W. Fredrick Teaching Assistant Award, department award for excellence
- 1999 Litton Marine Systems, Incentive award for organizing program management tasks
- 1998 Lockheed-Martin Missiles and Space, Team award for successful test in which I coordinated our participation
- 1996 Lockheed-Martin Missiles and Space, Incentive award for response to satellite anomaly

1990 Rensselaer Polytechnic Institute, Initiated ΣΠΣ

### Professional Associations

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American Astronomical Association  
International Dark-Sky Association  
Virginia Academy of Science

### Professional Service

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- 1998–present University of Virginia, Astronomy Department, Public Night Committee, member (2004–present)
- 1998–present University of Virginia, Astronomy Department, Astronomy Question & Answer webpage contributor
- 2002–2005 University of Virginia, Astronomy Department, Teaching + Technology Support Partner, see <http://cti.itc.virginia.edu/~ttspastr/>

### Publications

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Dormann, S.J., & Guy, J.G. 2003, “Barnard’s Star: Planets or Pretense,” *VA Journal of Science*, 54, 54 (published abstract) see [www.astro.virginia.edu/~jlb2j/research](http://www.astro.virginia.edu/~jlb2j/research)

Dormann, S.J., & Guy, J.G., & Begam, M. C. 2002, “A Search for Astrometric Companions to Southern Nearby Stars,” *Bulletin of the American Astronomical Society*, 34, 658 (published abstract) see [www.astro.virginia.edu/~jlb2j/research](http://www.astro.virginia.edu/~jlb2j/research)

Dormann, S.J., & Guy, J.G. 2001, “A Barnard's Star Perturbation Search Using McCormick Observatory Photographic Plate Material,” *Bulletin of the American Astronomical Society*, 33, 891 (published abstract)  
covered in popular press see [www.astro.virginia.edu/~jlb2j/research](http://www.astro.virginia.edu/~jlb2j/research)

Costa, Edgardo, Méndez, René A., Jao, W.-C., Henry, Todd J., Subasavage, John P., Brown, Misty A., Guy, Joe G., & Dormann, Sarah J. 2005, “The Solar Neighborhood. XIV: Parallaxes from the Cerro Tololo Inter-American Observatory Parallax Program—First Results from the 1.5 m Program,” *Astronomical Journal*, 130, 337–349

Jao, W.-C., Henry, Todd J., Subasavage, John P., Brown, Misty A., Guy, Joe G., Dormann, Sarah J., Costa, Edgardo, & Mendez, René A. 2005, “The Solar Neighborhood. XIII: Parallax Results from the CTIOPI 0.9 Meter Program: Stars with  $\mu \geq 1.0'' \text{ yr}^{-1}$  (MOTION Sample),” *Astronomical Journal*, 129, 1954–1967

### References

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