

**JULIA S. DENEVA**  
CURRICULUM VITAE

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**EDUCATION**

- Ph. D. in Astronomy, Cornell University, expected graduation: Fall 2009.
- M. S. in Astronomy, Cornell University, January 2007.
- B. A. in Astronomy and Computer Science, Vassar College, May 2003

**RESEARCH INTERESTS**

Pulsars near the Galactic center, radio transients, pulsar searching and timing, periodicity and single pulse search algorithms, neutron star populations.

**RESEARCH EXPERIENCE**

- *Graduate Research Assistant, Cornell University (2004 - Present)*
  - Galactic center pulsar surveys with the Green Bank telescope.
  - The Arecibo Pulsar ALFA Survey (PALFA): observations, data processing, software development.
- *Research Assistant, Arecibo Observatory (Summer 2002)*
  - Determination of binary pulsar orbital parameters.
- *Research Assistant, Vassar College (2000 - 2003)*
  - Smoothed Particle Hydrodynamics simulations of neutron star collisions and mergers.
- *Research Assistant, Wesleyan University (Summer 2001)*
  - Investigation of dwarf spheroidal galaxy properties and dark matter halo structure.

**OBSERVING EXPERIENCE**

- *Arecibo Telescope*: PALFA survey observing (>100 hours), drift mode (>10 hours), timing mode (>10 hours), Single-Dish Summer School.
- *Green Bank Telescope*: Galactic center pulsar surveys (>100 hours).
- *Very Large Array*: Interferometry Summer School.

**HONORS AND AWARDS**

- *Observing Support Grant (2008)*  
National Radio Astronomy Observatory
- *Pre-doctoral Fellowship (2007)*  
National Astronomy and Ionosphere Center

- *Conference Travel Grant* (2006)  
Cornell University Graduate School
- *Second Prize in the NVO Summer School software development competition* (2005)  
National Virtual Observatory
- *Lucy Kellogg English Prize for excellence in Physics* (2003)  
Vassar College Department of Physics and Astronomy
- *Phi Beta Kappa* (2003 - Present).
- *Sigma Xi* (2003 - Present).

## TEACHING EXPERIENCE

- *Graduate Teaching Assistant, Cornell University Department of Astronomy* (Fall 2004 - Spring 2005).
  - *Writing in the Majors*: teaching lectures, grading essays, advising students; completed the training course for teaching writing classes from the John S. Knight Institute for Writing in the Disciplines.
  - *Our Solar System*: teaching labs and sections, advising students, grading homeworks and exams.

## SKILLS

- C/C++, Fortran, Matlab.
- PHP, Python, HTML, csh, Latex.
- Linux, Unix, Windows.
- Fluent spoken and written English, Bulgarian; fair Spanish, Russian.

## PUBLICATIONS

- Preprints & In Preparation

**Deneva, J. S.**, Cordes, J. M., McLaughlin, M. A., Nice, D. J., Lorimer, D. R., Edel, S., Crawford, F., Bhat, N. D. R., Camilo, F., Champion, D. J., Freire, P. C. C., Hessels, J. W. T., Jenet, F. A., Kasian, L., Kaspi, V. M., Kramer, M., Lazarus, P., van Leeuwen, J., Ransom, S. M., Stairs, I. H., Stappers, B. W., Venkataraman, A., *Arecibo Pulsar Survey Using ALFA. III. Probing Radio Pulsar Intermittency*, 2008, in preparation

**Deneva, J. S.**, Cordes, J. M., Lazio, T. J., *Discovery of Two Highly Dispersed Pulsars Near Sgr A\**, 2009, in preparation

- Refereed

Hessels, J. W. T., Nice, D. J., Gaensler, B. M., Kaspi, V. M., Lorimer, D. R., Champion, D. J., Lyne, A. G., Kramer, M., Cordes, J. M., Freire, P. C. C., Camilo, F., Ransom, S. M., **Deneva, J. S.**, Bhat, N. D. R., Cognard, I., Crawford, F., Jenet, F. A., Kasian, L., Lazarus, P., van Leeuwen, J., McLaughlin, M. A., Stairs, I. H., Stappers, B. W., Venkataraman, A., *PSR J1856+0245: Arecibo Discovery of a Young, Energetic Pulsar Coincident with the TeV Gamma-ray Source HESS J1857+026*, 2008, ApJ, 2008arXiv0806.1200H

Champion, D. J., Ransom, S. M., Lazarus, P., Camilo, F., Bassa, C., Kaspi, V. M., Nice, D. J., Freire, P. C. C., Stairs, I. H., van Leeuwen, J., Stappers, B. W., Cordes, J. M., Hessels, J. W. T., Lorimer, D. R., Arzoumanian, Z., Backer, D. C., Bhat, N. D. R., Chatterjee, S., Cognard, I., **Deneva, J. S.**, Faucher-Giguere, C. -A., Gaensler, B. M., Han, J. L., Jenet, F. A., Kasian, L., Kondratiev, V. I., Kramer, M., Lazio, J., McLaughlin, M. A., Venkataraman, A., Vlemmings, W., *An Eccentric Binary Millisecond Pulsar in the Galactic Plane*, 2008, Science, 10.1126/science.1157580

Lorimer, D. R., Stairs, I. H., Freire, P. C., Cordes, J. M., Camilo, F., Faulkner, A. J., Lyne, A. G., Nice, D. J., Ransom, S. M., Arzoumanian, Z., Manchester, R. N., Champion, D. J., van Leeuwen, J., McLaughlin, M. A., Ramachandran, R., Hessels, J. W., Vlemmings, W., Deshpande, A. A., Bhat, N. D., Chatterjee, S., Han, J. L., Gaensler, B. M., Kasian, L., **Deneva, J. S.**, Reid, B., Lazio, T. J., Kaspi, V. M., Crawford, F., Lommen, A. N., Backer, D. C., Kramer, M., Stappers, B. W., Hobbs, G. B., Possenti, A., D'Amico, N., Burgay, M., *Arecibo Pulsar Survey Using ALFA. II. The Young, Highly Relativistic Binary Pulsar J1906+0746*, 2006, ApJ, 640, 428

Cordes, J. M., Freire, P. C. C., Lorimer, D. R., Camilo, F., Champion, D. J., Nice, D. J., Ramachandran, R., Hessels, J. W. T., Vlemmings, W., van Leeuwen, J., Ransom, S. M., Bhat, N. D. R., Arzoumanian, Z., McLaughlin, M. A., Kaspi, V. M., Kasian, L., **Deneva, J. S.**, Reid, B., Chatterjee, S., Han, J. L., Backer, D. C., Stairs, I. H., Deshpande, A. A., Faucher-Giguere, C.-A., *Arecibo Pulsar Survey Using ALFA. I. Survey Strategy and First Discoveries*, 2006, ApJ, 637, 446

Lombardi, J. C., Thrall, A. P., **Deneva, J. S.**, Fleming, S. W., Grabowski, P. E., *Modelling Collision Products of Triple-Star Mergers*, 2003, MNRAS, 345, 762

- Conference Proceedings

**Deneva, J. S.**, Cordes, J. M. and Lazio, T. J., *Uncovering the Galactic Center Pulsar Population: Discovery of Two Highly Dispersed Pulsars Near Sgr A\**, 2008, URSI General Assembly

**Deneva, J. S.**, *Pulsar surveys present and future: The Arecibo pulsar-ALFA survey and projected SKA survey*, 2007, Max Planck Institute Report, 291, 52

**Deneva, J. S.**, Cordes, J. M., Lazio, T. J., Bhat, R., Chatterjee, S., Ransom, S. M., Bower, G., Vlemmings, W., Demorest, P. and Backer, D. C., *First Results from a Galactic Center Search for Pulsars and Transients: A Rotating Radio Transient Candidate*, 2007, AAS 209, 15908D

**Deneva, J. S.** and Cordes, J.M., *Assessment of Pulsar and Rotating Radio Transient Detection Rates for the Arecibo Pulsar-ALFA Survey*, 2006, AAS 208, 0406D

Lazio, J., **Deneva, J. S.**, Bower, G. C., Cordes, J. M., Hyman, S. D., Backer, D. C., Bhat, R., Chatterjee, S., Demorest, P., Ransom, S. M. and Vlemmings, W., *Radio Pulsars and Transients in the Galactic Center*, 2006, JPhys Conf. Ser., 54, 110

Arms, W. Y., Aya, S., Calimlim, M., Cordes, J. M., **Deneva, J. S.**, Dmitriev, P., Gehrke, J., Gibbons, L., Jones, C. D., Kuznetsov, V., Lifka, D., Riedewald, M., Riley, D., Ryd, A. and Sharp, G. J., *Three Case Studies of Large-Scale Data Flows*, 2006, Proc. of the IEEE Workshop on Workflow and Data Flow for Scientific Applications

**Deneva, J. S.** and Shannon, R. M., *The Pulsar ALFA Survey and an NVO-Enabled Search for Pulsar Jets and Bowshocks*, 2005, AAS 207, 18701D

Calimlim, M., Cordes, J. M., Demers, A. J., **Deneva, J. S.**, Gehrke, J., Kifer, D., Riedewald, M. and Shanmugasundaram, J., *A Vision for PetaByte Data Management and Analysis Services for the Arecibo Telescope*, 2004, IEEE Data Eng. Bulletin, 27, 12

**Deneva, J. S.**, *Determining the Orbital Parameters of Binary Pulsars: Elliptical Systems*, 2002, Proc. of the KNAC Research Symposium

**Deneva, J. S.**, *Spherical Galaxy Models with Light and Dark Matter Halos*, 2001, Proc. of the KNAC Research Symposium

**Deneva, J. S.**, *Fatal Attraction: Modelling Binary Neutron Stars*, 2000, Proc. of the KNAC Research Symposium

## REFERENCES

- James Cordes, Thesis Advisor  
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