

CONTACT INFORMATION	Peyton Hall Department of Astrophysical Sciences Princeton University Princeton, NJ 08544	<i>Voice:</i> Cell: (646) 346-4610 Dept.: (212) 854-3257 <i>Fax:</i> (212) 854-8121 <i>E-mail:</i> dsp@astro.princeton.edu / dddave@gmail.com
CITIZENSHIP	<b>USA</b>	
EDUCATION	<b>Columbia University</b> , New York, NY Ph.D., Astronomy Thesis Title: “On Constraining Nontrivial Properties of Exoplanets, and Other Topics in Astrophysics” Committee: Frits Paerels, Zoltan Haiman, Caleb Scharf, Kristen Menou, Scott Gaudi M.Phil Astronomy, 2005; M.A., Astronomy, 2004  <b>Amherst College</b> , Amherst, MA B.A., Mathematics, 1999, Summa Cum Laude	
HONORS AND AWARDS	Columbia Univ: Won Astro Department’s “Outstanding Teaching Assistant” Award, 2005 Amherst College: graduated Summa Cum Laude, High Honors in Mathematics, 1999 Amherst College: Won Breusch Prize, given to author of best mathematics thesis, 1999 Amherst College: Won Walker Prize, given to top freshman/sophomore in mathematics, 1996, 1997	
GRADUATE SCHOOL	<b>Columbia University</b> , New York, NY <i>Research Projects</i> <span style="float: right;"><b>September, 2001 - present</b></span> <ul style="list-style-type: none"> <li>• Habitability of terrestrial planets</li> <li>• Difficult-to-measure properties of extrasolar giant planets (rotation rate of transiting planets, composition of planets near the galactic center)</li> <li>• Discovery and analysis of the nearest microlensing event</li> <li>• Search for X-ray emission from galaxy groups at redshift <math>\sim 0.5</math></li> <li>• Feasibility of observing the warm-hot intergalactic medium in absorption against a QSO</li> <li>• Diagnostic models of horizontal/vertical structure in Jupiter’s vortices</li> </ul> <i>Instructor</i> <span style="float: right;"><b>September 2001 - Summer 2005</b></span> <ul style="list-style-type: none"> <li>• Named “Outstanding Teaching Assistant” (2005)</li> <li>• Head Teaching Assistant (9/2003 - 5/2004)</li> <li>• Designed the curriculum for, taught, and graded my section of undergraduate astronomy lab course. Also ran a weekly help session for the introductory astronomy lecture course. (Sept. 01 - May 04)</li> <li>• Ran weekly recitation section for introductory astrophysics course for astronomy majors. Helped design and grade homework problem sets and exams. (9/2004 - 12/2004)</li> <li>• Excellent student evaluations (<a href="http://www.culpa.info/?root=psearch&amp;process=viewprof&amp;prof=2467&amp;target=spiegel">http://www.culpa.info/?root=psearch&amp;process=viewprof&amp;prof=2467&amp;target=spiegel</a>)</li> </ul> <i>Outreach</i> <span style="float: right;"><b>September 2001 - present</b></span> Since my first year of graduate school, I have been actively involved in bringing astronomy to the public. As such, I have participated in and planned Public Observing nights and Family Astro days. For the last 4 years, I was co-coordinator of the Columbia Astronomy Department’s outreach programs. This has involved recruiting and training other graduate students, postdocs, and faculty, to help with our outreach activities. Furthermore, I have sought out elementary, middle, and high school groups and planned astronomy activities with them. I helped to plan and develop a pilot program in astronomy enrichment with the 7th grade class at the Anderson School in Manhattan.	

GENERAL

**Skills and Interests**

- Programming: C, C++, FORTRAN 77, Java, Unix shell scripting, Matlab, Mathematica
- Operating Systems: Unix, Linux, Mac OS
- Interests: Cooking, trying to speak French, gymnastics

PROFESSIONAL  
EXPERIENCE

**Scripps Institution of Oceanography**, San Diego, CA

*Scientific Programmer*

**September, 2000 - May, 2001**

Wrote code in C, C++, and Matlab to analyze deep sea measurements of ocean upwelling and to compare with model winds generated by a global circulation model.

**MIT**, Cambridge, MA and **Goddard Space Flight Center**, Greenbelt, MD

*Scientific Programmer*

**July, 1999 - June, 2000**

Used Mars Global Surveyor data to fix Lat/Lon coord.s on old (Viking, 1980) images of Mars surface

**Harvard School of Public Health**, Cambridge, MA

*Lab Assistant/Programmer*

**Summers of 1996, 1997**

Operated and calibrated magnetometer to determine mechanical stiffness of bovine arterial endothelial cells, by measuring the response to a torquing magnetic field of small ferromagnetic beads bound to the cells.

INVITED TALKS

- William Patterson University, , date
- American Museum of Natural History; Manhattan, NY; 20 July 2007
- Goddard Space Flight Center; Greenbelt, MD; 20 December 2007
- Stanford University, KIPAC/SLAC; 19 June 2008

FIRST AUTHOR  
PAPERS

**Refereed**

Spiegel, D. S.; Menou, K., Scharf, C. A. "Habitable Climates" 2008 ApJ, 681, p. 1609

Spiegel, D. S.; Haiman, Z.; Gaudi, B. S. "On Constraining a Transiting Exoplanet's Rotation Rate With Its Transit Spectrum" 2007 ApJ, 669, p. 1324

Spiegel, D. S.; Paerels, F.; Scharf, C. A. "A Possible Dearth of Hot Gas in Galaxy Groups at Intermediate Redshift" 2007 ApJ, 658, p. 288

Spiegel, D. S.; Zamojski, M.; Gersch, A.; Donovan, J.; Haiman, Z. "Can We Probe the Atmospheric Composition of an Extrasolar Planet from Its Reflection Spectrum in a High-Magnification Microlensing Event?" 2005 ApJ, 628, p. 478

**Non-Refereed**

Spiegel, D. S.; Menou, K., Scharf, C. A. "Habitable Climates: The Influence of Obliquity" 2008 arXiv0711.4856 (submitted to ApJ)

Spiegel, D. "Symmetries of the Helmholtz Equation and Its Separable Coordinate Systems" Amherst College Senior Honors Thesis 1999

OTHER PAPERS

**Refereed**

Gaudi, B. S.; Patterson, J.; Spiegel, D. S.; Krajić, T.; Koff, R.; Pojmanski, G.; Dong, S.; Gould, A.; Prieto, J. L.; Blake, C. H.; Roming, P. W. A.; Bennett, D. P.; Bloom, J. S.; Boyd, D.; de Ponthiere, P.; Mirabal, N.; Morgan, C. W.; Remillard, R. R.; Vanmunster, T.; Wagner, R. M.; Watson, L. C. "Discovery of a Very Bright, Nearby Gravitational Microlensing Event" 2008 ApJ, 677, p. 1268

Pourati, J.; Maniotis, A.; Spiegel, D.; Schaffer, J. L.; Butler, J. P.; Fredberg, J. J.; Ingber, D. E.; Stamenovic, D.; Wang, N.; "Is Cytoskeletal Tension a Major Determinant of Cell Deformability in Adherent Endothelial Cells?" 1998 Am. J. Physiol., c1283-c1289