

## Christopher J. Crockett

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CONTACT INFORMATION	Lowell Observatory 1400 W Mars Hill Rd Flagstaff, AZ 86001 USA	<i>Voice:</i> 928-233-3220 <i>E-mail:</i> crockett@lowell.edu <i>WWW:</i> www.lowell.edu/users/crockett/
RESEARCH INTERESTS	Extrasolar planets, young stars, astrobiology, optical and infrared instrumentation	
EDUCATION	<b>University of California</b> , Los Angeles, CA	
	Ph.D., Astrophysics, August 2011 (expected)	
	<ul style="list-style-type: none"><li>• Thesis Topic: Giant Planet Companions to Young Stars</li><li>• Advisor: Dr. Lisa Prato</li></ul>	
	M.S., Astrophysics, June 2008	
	<ul style="list-style-type: none"><li>• Thesis Topic: Morphological Evolution of Distant Galaxies</li><li>• Advisor: Dr. James Larkin</li></ul>	
	<b>Cornell University</b> , Ithaca, NY	
	M.Eng., Electrical Engineering, May 2000	
	<ul style="list-style-type: none"><li>• Design Project: Electrical Systems for RoboCup 2000</li><li>• Advisor: Dr. Raffaello D'Andrea</li><li>• Specialization in Systems Engineering</li></ul>	
	B.S., Electrical Engineering, May 1999	
	<ul style="list-style-type: none"><li>• Internship with SALIX Technologies, Rockville, MD</li><li>• Specialization in Telecommunications and Data Networks</li></ul>	
RESEARCH APPOINTMENTS	<i>Predoctoral Fellow</i> Lowell Observatory, Flagstaff, AZ	<b>July 2008 - Present</b>
	<ul style="list-style-type: none"><li>• Principal investigator for near-infrared radial velocity survey to identify the giant planet population around T Tauri stars.</li><li>• P.I. on several observing proposals resulting in over 100 nights of awarded telescope time.</li><li>• Created data reduction and spectrum modeling techniques capable of achieving radial velocity precision of <math>50 \text{ m s}^{-1}</math> using the CSHELL spectrograph on the IRTF.</li><li>• Developed star spot simulations to predict the impact of spots on radial velocity measurements at multiple wavelengths for a variety of star and spot parameters.</li></ul>	
	<i>Graduate Student Researcher</i> University of California, Los Angeles, CA	<b>June 2007 - June 2008</b>
	<ul style="list-style-type: none"><li>• Developed fully-automated galaxy surface brightness fitting algorithm for bulge-disk decomposition study to investigate the K-band morphological evolution of disk galaxies out to <math>z \sim 1</math> with Keck NGS AO.</li><li>• Assisted in the testing of the HAWAII-2RG infrared array detector for both MOS-FIRE and GPI instruments.</li></ul>	
	<i>Research Assistant</i> University of Maryland, College Park, MD	<b>Jan 2005 - Aug 2006</b>
	<ul style="list-style-type: none"><li>• Member of the science team for NASA's Deep Impact mission to explore comet 9P/Tempel 1.</li></ul>	

- Assisted in spacecraft instrument calibration including wavelength resolution, instrument pointing drift, and photometric calibration.
- Tracked comet photometry throughout mission; data used to generate light curves, determine nucleus rotation state, and characterize outbursts.
- Extensive analysis of pre- and post-impact inner coma morphology and visible spectrum of nucleus and coma.
- Developed education and public outreach products including teacher materials, public release photos and movies of impact event.

AWARDED  
TELESCOPE  
PROPOSALS

McDonald Observatory, 2011A: 7 nights on 2.1-m w/ Sandiford Echelle Spectrograph  
 NASA InfraRed Telescope Facility, 2011A: 7 half-nights using CSHELL  
 McDonald Observatory, 2010C: 7 nights on 2.1-m w/ Sandiford Echelle Spectrograph  
 NASA InfraRed Telescope Facility, 2010B: 7 nights using CSHELL  
 McDonald Observatory, 2010A: 8 nights on 2.1-m w/ Sandiford Echelle Spectrograph  
 NASA InfraRed Telescope Facility, 2010A: 8 nights using CSHELL  
 McDonald Observatory, 2009C: 7 nights on 2.1-m w/ Sandiford Echelle Spectrograph  
 NASA InfraRed Telescope Facility, 2009B: 7 half-nights using CSHELL  
 McDonald Observatory, 2009A: 8 nights on 2.1-m w/ Sandiford Echelle Spectrograph  
 NASA InfraRed Telescope Facility, 2009A: 7 half-nights using CSHELL  
 McDonald Observatory, 2008C: 9 nights on 2.1-m w/ Sandiford Echelle Spectrograph  
 NASA InfraRed Telescope Facility, 2008B: 7 nights using CSHELL

ADDITIONAL  
OBSERVING  
EXPERIENCE

Keck Observatory, 2010B: 2 nights using NIRSPEC  
 Kitt Peak National Observatory 2010A: 5 nights on 4-m using echelle spectrograph  
 Kitt Peak National Observatory 2009A: 8 nights on 4-m using echelle spectrograph

TEACHING AND  
PUBLIC  
OUTREACH

*Astronomer Mentor*  
 Lowell Observatory Navajo-Hopi Outreach **2008 - present**  
 Worked with 5th - 8th grade teachers on the Navajo and Hopi Reservations to develop science education materials for disadvantaged native students. Conducted in-class hands-on lessons, acted as a science liaison for teachers, organized star parties for the community, and coordinated overnight field trips for students to visit the Lowell Observatory.

*Planetarium Coordinator*  
 University of California, Los Angeles, CA **Aug 2007 - June 2008**  
 Oversaw planetarium outreach activities including weekly public talks and private shows reaching several thousand attendees a year. Responsibilities included coordi-

nating speakers, designing new presentations, maintaining equipment, and acting as a central point-of-contact for public inquiries.

*Museum Guide*

Griffith Observatory, Los Angeles, CA **July 2007 - June 2008**  
 Gave public talks to provide insight into exhibits, handled patron inquiries, and presented night time tours of the sky.

*Lab Designer/Instructor*

Center for Adaptive Optics Professional Development Program **Oct 2008**  
 Designed and taught lab activities for an instrumentation course at Maui Community College using inquiry teaching methods to expose native Hawaiian students to digital image storage, transmission, and processing.

*Teaching Assistant*

University of California, Los Angeles, CA **Aug 2006 - June 2007**  
 Taught weekly lab sessions for an introductory astronomy course for non-science majors. Lead TA for Winter and Spring Quarters which entailed overseeing a staff of seven TA's and two graders, running weekly TA meetings, and serving as a liaison between professors, TAs, and graders.

*Private Tutor*

Strathmore Tutoring, Rockville, MD **Sept 2004 - June 2006**  
 Worked one-on-one with high school students seeking help in algebra, calculus, and physics.

*High School Teacher*

Montgomery County Public Schools, Rockville, MD **Jan 2003 - June 2004**  
 Developed and taught daily lessons for high school general science and physics courses for a socio-economically diverse student body. Participated in extensive professional development through the Johns Hopkins Master of Arts in Teaching (MAT) program.

*Teaching Assistant*

Cornell University, Ithaca, NY **Sept 1999 - May 2000**  
 Instructor for weekly sophomore and junior level electrical design labs for engineering majors.

PROFESSIONAL  
DEVELOPMENT

*Stars as Homes for Habitable Planetary Systems*  
 Sagan Exoplanet Summer Workshop, Pasadena, CA **July 26 - 30, 2010**

*Twelfth Synthesis Imaging Workshop*  
 NRAO Summer School, Socorro, NM **June 8 - 15, 2010**

*Learning from Inquiry in Practice*  
 ISEE PDP Community Interchange Conference, Santa Cruz, CA **Jan 16 - 17, 2010**

*Experiencing and Applying Inquiry in Science Learning & Teaching*  
 CfAO Professional Development Workshop, Lahaina, Maui, HI **Mar 13 - 17, 2008**

*Re-Thinking Science Learning & Teaching*  
 CfAO Professional Development Workshop, Santa Cruz, CA **Nov 30, 2007**

*Improving the College Introductory Astronomy Course Through Active Engagement*  
 NASA Center for Astronomy Education Workshop, Austin, TX **Jan 5 -6, 2007**

HONORS AND AWARDS	Recipient, Chambliss Astronomy Achievement Student Award	<b>Jan 2011</b>
	Recipient, Sigma Xi Grant-in-Aid of Research	<b>Dec 2010</b>
	Honorable Mention, Chambliss Astronomy Achievement Student Award	<b>Jan 2010</b>
	Recipient, Lowell Observatory Predoctoral Fellowship	<b>July 2008</b>

SERVICE AND OTHER EXPERIENCES	<b>Board of Directors, Business Manager</b> June 2002 - May 2004, <i>Montgomery Playhouse</i> , Gaithersburg, MD
	<b>Hardware Engineer</b> April 2001 - Jan 2003, <i>Megisto Systems, Inc.</i> , Germantown, MD
	<b>Hardware Engineer</b> July 2000 - April 2001, <i>Tellabs</i> , Germantown, MD
	<b>Engineering Intern</b> Jan 1998 - Aug 1998, <i>SALIX Technologies, Inc.</i> , Gaithersburg, MD

REFEREED PUBLICATIONS	<b>Crockett, C. J.</b> , Mahmud, N., Prato, L., Johns-Krull, C.M., Jaffe, D.T., Beichman, C.A. " <i>Precision Radial Velocities with CSHELL</i> ". 2011, ApJ, submitted
	Li, J-Y, A'Hearn, M.F., Belton, M. J. S., <b>Crockett, C. J.</b> , Farnham, T. L., Lisse, C. M., McFadden, L. A., Meech, K. J., Sunshine, J. M., Thomas, P. C., Veverka, J. " <i>Deep Impact photometry of Comet 9P/Tempel 1</i> ", 2007, Icarus, 191, 161
	Farnham, T. L., Wellnitz, D. D., Hampton, D. L., Li, J.-Y., Sunshine, J. M., Groussin, O., McFadden, L. A., <b>Crockett, C. J.</b> , A'Hearn, M. F., Belton, M. J. S., Schultz, P., Lisse, C. M. " <i>Dust coma morphology in the Deep Impact images of Comet 9P/Tempel 1</i> ", 2007, Icarus, 191, 146
	Li, J-Y, A'Hearn, M.F., Belton, M. J. S., <b>Crockett, C. J.</b> , Farnham, T. L., Lisse, C. M., McFadden, L. A., Meech, K. J., Sunshine, J. M., Thomas, P. C., Veverka, J. " <i>Deep Impact photometry of Comet 9P/Tempel 1</i> ", 2006, Icarus, 187, 41
	Farnham, T. L., Wellnitz, D. D., Hampton, D. L., Li, J.-Y., Sunshine, J. M., Groussin, O., McFadden, L. A., <b>Crockett, C. J.</b> , A'Hearn, M. F., Belton, M. J. S., Schultz, P., Lisse, C. M. " <i>Dust coma morphology in the Deep Impact images of Comet 9P/Tempel 1</i> ", 2006, Icarus, 187, 26

A'Hearn, M. F., Belton, M. J. S., Delamere, W.A., Kissel, J., Klaasen, K. P., McFadden, L. A., Meech, K. J., Melosh, H. J., Schultz, P. H., Sunshine, J. M., Thomas, P. C., Veverka, J., Yeomans, D. K., Baca, M. W., Busko, I., **Crockett, C. J.**, Collins, S. M., Desnoyer, M., Eberhardy, C. A., Ernst, C. M., Farnham, T. L., Feaga, L., Groussin, O., Hampton, D., Ipatov, S. I., Li, J.-Y., Lindler, D., Lisse, C. M., Mastrodemos, N., Owen, W. M., Richardson, J. E., Wellnitz, D. D., White, R. L. "*Deep Impact: Excavating Comet Tempel 1*", 2005, Science, 310, 258

CONFERENCE  
PROCEEDINGS

**Crockett, C. J.**, Mahmud, N., Prato, L., Johns-Krull, C. M., Hartigan, P., Jaffe, D. T., Beichman, C.A. “*Finding the Youngest Planets*”. 2010, in ASP Conf. Ser. XXX, Cool Stars 16, eds. C. Johns-Krull, A. West, M. Browning (San Francisco, CA: ASP)

Morzinski, K. M., **Crockett, C. J.**, Crossfield, I. J. “*Digital Image Exploration at Maui Community College*”. 2010, in ASP Conf. Ser. 436, Learning from Inquiry in Practice, eds. L. Hunter, A. J. Metevier (San Francisco, CA: ASP)

TALKS

“*Searching for the Youngest Planets*”. 2010, U. S. Naval Observatory Colloquium

“*A Search for Young Planetary Systems*”. 2009, Astrobiology Graduate Conference, Seattle, WA

SELECTED  
POSTERS

“*Searching For The Youngest Planets With CSHELL*”. 2011, AAS Meeting 217, #253.13

“*Finding the Youngest Planets*”. 2010, Cool Stars 16, Seattle, WA

“*Detection of the Youngest Known Exoplanet*”. 2010, AAS Meeting 215, #421.02

“*Radial Velocity Survey of T Tauri Stars in Taurus-Auriga*”. 2009, AAS Meeting 213, #402.01

“*Morphological Evolution of Distant Galaxies from CATS*”. 2007, AAS Meeting 211, #52.06

REFERENCES

**Lisa Prato**

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