

BRYCE CROLL

September 14th, 2016

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RESEARCH INTERESTS:

- Near-infrared observations from the ground.
- Extrasolar planets.
- Ultra-cool dwarf variability.
- Stellar spot modelling.

EMPLOYMENT:

Senior Postdoctoral Associate, Boston University, Boston, MA.

(March 2015 – August 2016).

Sagan Postdoctoral Fellow, Massachusetts Institute of Technology, Cambridge, MA.

(September 2011 – August 2014).

EDUCATION:

Ph.D. 2011, University of Toronto (UofT), Astronomy & Astrophysics. Toronto, ON.

Supervisors: Professors Dr. Norman Murray & Dr. Ray Jayawardhana

Thesis Title: *Near-infrared Characterization of the Atmospheres of Alien Worlds.*

B.Sc. 2006, University of British Columbia (UBC), Honours Physics. Vancouver, B.C.

REFEREED PUBLICATIONS:

(27 total publications, 856 citations, h-index of 15)

(14 first author papers, 460 first author citations, first author h-index of 11)

27. **Croll, B.** et al. (2016) "Long-term, Multiwavelength Light Curves of Ultra-Cool Dwarfs: II. The evolving Light Curves of the T2.5 SIMP 0136 & the Uncorrelated Light Curves of the M9 TVLM 513." *Monthly Notices of the Royal Astronomical Society*, submitted 2016 September 6th, astro-ph/1609.03587, [NASA/ADS link](#).
26. **Croll, B.** et al. (2016) "Long-term, Multiwavelength Light Curves of Ultra-cool Dwarfs: I. An Interplay of Starspots & Clouds Likely Drive the Variability of the L3.5 dwarf 2MASS 0036+18." *Monthly Notices of the Royal Astronomical Society*, submitted 2016 September 6th, astro-ph/1609.03586, [NASA/ADS link](#).
25. Rappaport, S., Gary, B., Kaye, T., Vanderburg, A., **Croll, B.**, Benni, P. & Foote, J. (2016) "Drifting Asteroid Fragments around WD 1145+017." *Monthly Notices of the Royal Astronomical Society*, 458, 3904, [NASA/ADS link](#).
24. **Croll, B.** et al. (2015) "Multiwavelength Transit Observations of the Candidate Disintegrating Planetesimals Orbiting WD 1145+017." *Astrophysical Journal*, submitted 2015 October 8th, astro-ph/1510.06434, [NASA/ADS link](#).
23. Balaji, B., **Croll, B.**, Levine, A. & Rappaport, S. (2015) "Tracking the Stellar Longitudes of Starspots in short-period Kepler Binaries." *Monthly Notices of the Royal Astronomical Society*, 448, 429, [NASA/ADS link](#).
22. **Croll, B.** et al. (2015) "The Relation between the Transit Depths of KIC 12557548b & the Stellar Rotation Period." *Monthly Notices of the Royal Astronomical Society*, 2015, 449, 1408, [NASA/ADS link](#).
21. **Croll, B.** et al. (2015) "Near-infrared Thermal Emission Detections of a number of hot Jupiters and the Systematics of Ground-based Near-infrared Photometry." *Astrophysical Journal*, 802, 28, [NASA/ADS link](#).
20. **Croll, B.** et al. (2014) "Multiwavelength Observations of the Candidate Disintegrating sub-Mercury KIC 12557548b." *Astrophysical Journal*, 786, 100, [NASA/ADS link](#).

19. Sullivan, P.W., **Croll, B.** & Simcoe, R.A. (2013) "Precision of a Low-Cost InGaAs Detector for Near Infrared Photometry." *Publications of the Astronomical Society of the Pacific*, 125, 1021, [NASA/ADS link](#).
18. de Mooij, E.J.W., Brogi, M., de Kok, R.J., Snellen, I.A.G., **Croll, B.** et al. (2013) "Search for Rayleigh Scattering in the Atmosphere of GJ1214b." *Astrophysical Journal*, 771, 109, [NASA/ADS link](#).
17. Cowan, N.B., Machalek, P., **Croll, B.** et al. (2012) "Thermal Phase Variations of WASP-12b: Defying Predictions." *Astrophysical Journal*, 747, 82, [NASA/ADS link](#).
16. **Croll B.** et al. (2011) "Broadband Transmission Spectroscopy of the super-Earth GJ 1214b suggests a low mean molecular weight atmosphere." *Astrophysical Journal*, 736, 78, [NASA/ADS link](#).
15. **Croll B.** et al. (2011) "Near-Infrared Thermal Emission from WASP-12b: detections of the secondary eclipse in Ks, H & J." *Astronomical Journal*, 141, 30, [NASA/ADS link](#).
14. Steinbring, E., Carlberg, R., **Croll, B.** et al. (2010) "First Assessment of Mountains of Northwestern Ellesmere Island, Nunavut, as Potential Astronomical Observing Sites." *Publications of the Astronomical Society of the Pacific*, 122, 1092, [NASA/ADS link](#).
13. **Croll B.** et al. (2010) "Near-Infrared Thermal Emission from TrES-3b: a Ks-band Detection and an H-band Upper Limit on the Depth of the Secondary Eclipse." *Astrophysical Journal*, 718, 920, [NASA/ADS link](#).
12. **Croll B.** et al. (2010) "Near-Infrared Thermal Emission from the Hot Jupiter TrES-2b: Ground-Based Detection of the Secondary Eclipse." *Astrophysical Journal*, 717, 1084, [NASA/ADS link](#).
11. Ahmic, M., **Croll, B.**, & Artymowicz, P. (2009) "Dust Distribution in the Beta Pictoris Circumstellar Disks." *Astrophysical Journal*, 705, 529, [NASA/ADS link](#).
10. Huber, D., Matthews, J.M., **Croll, B.** et al. (2009) "A search for p-modes and other variability in the binary systems 85 Pegasi using MOST photometry." *Astronomy & Astrophysics*, 505, 715, [NASA/ADS link](#).
9. Pribulla, T., Rucinski, S.M., DeBond, H., de Ridder, A., Karmo, T., Thomson, J.R., **Croll, B.** et al. (2009) "Radial Velocity Studies of Close Binary Stars. XIV." *Astronomical Journal*, 137, 3646, [NASA/ADS link](#).
8. Boisse, I., Moutou, C., Vidal-Madjar, A., Bouchy, F., Pont, F., Hebrard, G., Bonfils, X., **Croll, B.** et al. (2009) "Stellar activity of planetary host star HD 189733." *Astronomy & Astrophysics*, 495, 959, [NASA/ADS link](#).
7. Miller-Ricci, E., Rowe, J.F., Sasselov, D., Matthews, J.M., Kuchnig, R., **Croll, B.** et al. (2008). "MOST Spacebased Photometry of the Transiting Exoplanet System HD 189733: Precise Timing Measurements for Transits Across an Active Star." *Astrophysical Journal*, 682, 593, [NASA/ADS link](#).
6. Walker, G.A.H., **Croll, B.** et al. (2008) "MOST Detects variability on tau Bootis possibly induced by its planetary companion." *Astronomy & Astrophysics*, 482, 691, [NASA/ADS link](#).
5. **Croll B.** et al. (2007). "Looking for Super-Earths in the HD 189733 system: A search for transits in MOST space-based photometry." *Astrophysical Journal*, 671, 2129, [NASA/ADS link](#).
4. Walker, G.A.H., **Croll, B.** et al. (2007) "The Differential Rotation of kappa1 Ceti as observed by MOST." *Astrophysical Journal*, 659, 1611, [NASA/ADS link](#).
3. **Croll B.** et al. (2007) "Looking for giant Earths in the HD 209458 system: A search for transits in MOST space-based photometry." *Astrophysical Journal*, 658, 1328, [NASA/ADS link](#).
2. **Croll, B.** (2006) "Markov Chain Monte Carlo Methods Applied to Photometric Spot Modeling." *Publications of the Astronomical Society of the Pacific*, 118, 1351, [NASA/ADS link](#).
1. **Croll, B.** et al. (2006) "Differential Rotation of Epsilon Eridani Detected by MOST." *Astrophysical Journal*, 648, 607, [NASA/ADS link](#).

UNREFEREED PUBLICATIONS:

5. Sullivan, P.W., **Croll, B.**, & Simcoe, R.A. (2014) "Near-infrared InGaAs detectors for background-limited imaging and photometry." In *Society of Photo-Optical Instrumentation Engineers (SPIE)*, Volume 9154, [NASA/ADS link](#).
4. **Croll, B.** (2012) "How Amateurs Can Contribute to the Field of Transiting Exoplanets." *The Journal of the American Association of Variable Star Observers*, 40, 456, [NASA/ADS link](#).

3. **Croll, B.** (2011) "Lessons from detections of the near-infrared thermal emission of hot Jupiters." *The Astrophysics of Planetary Systems: Formation, Structure, and Dynamical Evolution, Proceedings of the International Astronomical Union*, 276, 154, [NASA/ADS link](#).
2. Devost, D., Albert, L., Teeple, D. **Croll, B.** (2010) "High-precision photometry with WIRCam at the CFHT." In *Society of Photo-Optical Instrumentation Engineers (SPIE)*, Volume 7737, [NASA/ADS link](#).
1. Steinbring, E., Leckie, B., Welle, P., Hardy, T., Cole, B., Bayne, D., **Croll, B.** et al. (2008) "Inuksuit: robotic astronomical site-testing stations in the Canadian High Arctic." In *Society of Photo-Optical Instrumentation Engineers (SPIE)*, Volume 7012, [NASA/ADS link](#).

SELECTED AWARDS:

NSERC Postdoctoral Fellowship: 2010-2012 - \$80,000
 University of Toronto Alumni Association Graduate Scholar: 2010 - \$1,000
 Jui Lin (Allen) Yen Research Award: 2010 - \$1,000
 Michael Fieldus Memorial Award: 2009 - \$1,000
 NSERC Alexander Graham Bell CGS Doctoral: 2008 – 2011 - \$105,000
 Chorafas Prize: 2008 – 2009 - \$4,000
 NSERC PGS-M: 2007 – 2008 - \$17,300

GRANTS AWARDED:

BU Arts Initiative "Special Projects" Grant (April 2015) "The Art of Astrophysics at Boston University." Amount: \$750.

Independent Activities Period Grant (November 2013) "The Art of Astrophysics." Amount: \$500.

MKI Research Development Grant (PI R. Simcoe), (January 2012) "Evaluation of Commercial InGaAs Sensors for Astronomical Use." Amount: \$33,600

Dean's Student Initiatives Fund (November 2010) "A Series to WIDEN Graduate-Student Experience: Workshops for Inter-Discipline Exchange and Novelty." Amount: \$300.

Astronomy Society of the Pacific SEED Grant (September 2009) "Portable Planetarium." Amount: \$2500.

Dean's Student Initiatives Fund (February 2009) "The Stars Belong to Everyone: UofT Astronomy Public Outreach during the 2009 International Year of Astronomy." Amount: \$1000.

Spitzer Space Telescope GO Program Grant (2008-2009) "As the World Turns: Discrete Observations of a Pseudo-Synchronized Eccentric Transiting Planet." Amount: \$50,000.

CONFERENCE PRESENTATIONS: (First-author only)

Croll, B. et al. (2016) "Multiwavelength Photometry of Ultra-Cool Dwarfs: 2Mass 0036+018, SIMP 0136 & TVLM 513-46546." Cool Stars #19, Uppsala, Sweden (Poster).

Croll, B. et al. (2016) "The Actively Disintegrating Minor Planet(s) Orbiting the White Dwarf WD 1145+017." CASCA, Winnipeg, Manitoba (Talk).

Croll, B. (2016) "Multiwavelength Transit Observations of the Candidate Disintegrating Planetesimals Orbiting a White Dwarf." American Astronomical Society Meeting #227, Kissimmee, Florida (Talk).

Croll, B. (2015) "Multiwavelength Transit Observations of the Candidate Disintegrating Planetesimals Orbiting a White Dwarf." Extreme Solar Systems III, Waikoloa, Hawaii (Talk).

Croll, B. et al. (2015) "Precise Near-infrared Photometric Detections of the Thermal Emission of a bunch of hot Jupiters." CASCA, Hamilton, Ontario (Talk).

Croll, B. et al. (2015) "The Applications of Precise, Near-infrared, Ground-based Photometry to the Thermal Emission of hot Jupiters, & the Search for Habitable Earth-sized Planets." 2015 Sagan Fellows Symposium. Pasadena, CA (Invited Talk).

Croll, B. et al. (2014) "Near-infrared Detections of the Thermal Emission of a number of hot Jupiters and the Systematics of Ground-based Near-infrared Photometry." CASCA, Quebec City, Quebec (Poster).

Croll, B. et al. (2014) "Multiwavelength Observations of the candidate disintegrating sub-Mercury KIC 12557548b." American Astronomical Society Meeting #223. Washington, D.C. (Talk).

Croll, B. et al. (2013) "TETREs: Thermal Emission of Transiting Exoplanets." CFHT 2013 Users' Meeting. Campell River, B.C. (Invited Talk).

Croll, B. et al. (2012) "Achieve Precise Near-infrared Photometry from the Ground and its Application to the Thermal Emission of hot Jupiters." 2012 Sagan/Michelson Fellows Symposium. Pasadena, CA (Invited Talk).

- Croll, B.** et al. (2012). "Near-infrared Thermal Emission of hot Jupiters." American Astronomical Society Meeting #218. Austin, TX (Talk).
- Croll, B.** et al. (2011). "Near-infrared Thermal Emission of hot Jupiters and the Spectral Features of super-Earths." Extreme Solar Systems II. Jackson Hole, WY (Talk).
- Croll, B.** et al. (2011) "Near-infrared Thermal Emission of hot Jupiters and the Spectral Features of super-Earths." The Future of Astronomy: Fellows at the Frontiers of Science. Evanston, IL (Invited Talk).
- Croll, B.** et al. (2011) "Near-infrared Thermal Emission of hot Jupiters and the Spectral Features of super-Earths." CASCA. London, Ontario (Talk).
- Croll, B.** et al. (2011) "Thermal Emission of hot Jupiters and the Spectral Features of super-Earths in the near-infrared." Exploring Strange New Worlds. Flagstaff, AZ (Talk).
- Croll, B.** et al. (2011) "Using Precise Ground-based Photometry in the Near-infrared to Characterize hot Jupiter's Thermal Emission and the Spectral Features of super-Earths." American Astronomical Society Meeting #217. Seattle, WA (Talk).
- Croll, B.** et al. (2010) "The Applications of Precise Near-infrared Photometry to brown dwarfs, hot Jupiters and super-Earths." CFHT Users Meeting. Taipei, Taiwan (Invited Talk).
- Croll, B.** et al. (2010) "Ground-based Near-infrared Thermal Emission from the hottest of the hot Jupiters." IAU Symposium 276. Torino, Italy (Talk).
- Croll, B.** et al. (2010) "Near-infrared thermal emission from the hot Jupiters TrES-3b, TrES-2b, WASP-3b and WASP-12b." CASCA. Halifax, Nova Scotia (Talk).
- Croll, B.** et al. (2010) "Near-infrared Thermal Emission from the Hottest of the Hot Jupiters." KITP Exoplanets Rising. Santa Barbara, CA (Poster).
- Croll, B.** et al. (2010) "Near-infrared Thermal Emission From The Hottest Of The Hot Jupiters." American Astronomical Society Meeting #215. Washington, D.C. (Talk).
- Croll, B.** et al. (2009) "Discrete Observations of the Eccentric Transiting Planet HD 17156b." Spitzer's Growing Legacy. Pasadena, CA (Poster).
- Croll, B.** et al. (2009) "As the World Turns: Discrete Observations of the Eccentric Transiting Planet HD 17156b." CASCA. Toronto, Ontario (Poster).
- Croll, B.** et al. (2009) "A Ground-based Search for Thermal Emission from the Hottest of the Hot Jupiters." American Astronomical Society Meeting #213. Long Beach, CA (Poster).
- Croll, B.** et al. (2008) "Constraining the hot Jupiter Kozai Mechanism Connection." American Astronomical Society Meeting #211. Austin, TX (Talk).
- Croll, B.** et al. (2007) "Looking for transiting Super-Earths in the HD 209458 and HD 189733 systems with MOST." CASCA. Kingston, Ontario (Talk).
- Croll, B.** et al. (2007) "StarSpotz: A Sensitive Probe of the Differential Rotation Profile of Stars using MOST Photometry." American Astronomical Society Meeting #209. Seattle, WA (Talk).
- Croll, B.** et al. (2006) "StarSpotz - a versatile spot modeling program applied to MOST photometry of Epsilon Eridani." CASCA. Calgary, Alberta (Poster).
- Croll, B.** et al. (2005) "MOST space-based photometry of the transiting exoplanet system HD 209458: II. Search for transits at other periods." American Astronomical Society Meeting #207, Washington, D.C. (Poster).

COLLOQUIA & SEMINARS:

- Colloquium, Lowell Observatory (Flagstaff, AZ) March 17th, 2016.
- Seminar, University of Toronto (Toronto, ON) February 24th, 2016.
- Colloquium, Universite de Montreal (Montreal, QC) October 15th, 2015
- Astrophysics Colloquium, Boston University (Boston, MA) October 13th, 2015
- Astronomy Seminar, Canada-France-Hawaii Telescope (Waimea, HI, USA) March 27th, 2014
- CfA Exoplanet Pizza Lunch, Harvard/CfA (Cambridge, MA), Dec. 17th, 2013
- CfA Exoplanet Pizza Lunch, Harvard/CfA (Cambridge, MA), Nov. 20th, 2012
- CfA Optical Infrared Seminar, Harvard/CfA (Cambridge, MA), May 2nd, 2012
- SSP Seminar, Harvard/CfA (Cambridge, MA), Dec. 6th 2010
- Seminar, UC Berkeley (Berkeley, CA.), Nov. 12th 2010
- Planetary Lunch, UC Santa Cruz (Santa Cruz, CA.), Nov. 9th 2010
- Earth, Atmospheric and Planetary Sciences Seminar, MIT (Cambridge, MA), Sept. 28th 2010
- Astronomy Seminar, Laboratory of Astrophysics of Marseille (France), July 8th, 2010

Astronomy Seminar, Isaac Newton Group of Telescopes (La Palma, Spain), June 11th, 2009
Astronomy Seminar, Gemini-North Telescope (Hilo, HI, USA), Oct. 24th, 2008
Astronomy Seminar, Canada-France-Hawaii Telescope (Waimea, HI, USA) Oct. 14th, 2008

PUBLIC OUTREACH CONTRIBUTIONS:

Coordinator of Dunlap Institute Venus Eclipse Glasses Initiative (Volunteer). 2011-2012.

- Initiated and coordinated a program to design, buy and distribute 43,000 "Transit of Venus" Solar Eclipse glasses across Canada so that a great number of Canadians could safely view the Transit of Venus on June 5th, 2012. Funds for this program were generously donated by the Dunlap Institute at the University of Toronto. Glasses were distributed via the two amateur astronomy associations in Canada (the RASC, and the FAAQ), and by mailing the glasses directly to professional astronomers. Highlights from this program include ~5000-plus individuals viewing the transit at the University of Toronto, ~1000-plus at the University of Western Ontario, and hundreds at various locations around Canada, including my high school and a neighbouring high school, where I gave talks on the Transit of Venus, while also handing out eclipse glasses so students could safely observe the Sun. Photos from this program and a map detailing the geographic extent of the program are available here:
http://space.mit.edu/home/croll/Croll_TOV.html

Public Tour Coordinator (Volunteer). University of Toronto, Department of Astronomy & Astrophysics Free Public Tour: June 2007-September 2009.

- Coordinator of a monthly public tour program featuring a talk by a UofT astronomer, and followed by a public telescope viewing. Highlights include: oversaw a three-fold increase in our monthly public tour attendance to nearly ~180 individuals per month, increased the number of telescopes from one to four at our monthly observing sessions, and wrote a grant to partially fund an inflatable planetarium that was eventually deployed in the basement of the Astronomy building.

Keynote Lecture Coordinator (Volunteer). University of Toronto (2009 & 2011).

- Initiated an annual keynote public lecture organized by graduate students, and led these organizational efforts for the September 2009 (Professor David Charbonneau; ~200 attendees), and June 2011 lectures (Dr. Jill Tarter; ~500 attendees).

MIT Independent Activities Period Public Outreach & "Art of Astrophysics" Co-Organizer (Volunteer). Fall, 2013 – Winter, 2014

- Co-organizer of MIT's astronomy activities for the public and undergraduates during the MIT Independent Activities Period (IAP) in January 2014. Activities included lab tours, a number of public talks by postdoctoral fellows and graduate students, and an astronomy art/multimedia contest entitled "The Art of Astrophysics." "The Art of Astrophysics" contest featured a \$700 prize purse and a \$300 first prize; the contest attracted 49 wonderful entries that were displayed online and at a gallery-show in MIT's Memorial Lobby. "The Art of Astrophysics" online gallery and photos from our gallery show are available here: <https://www.flickr.com/photos/artofastro/sets/>

BU "Art of Astrophysics" Organizer & Curator (Volunteer),

March, 2015 – February, 2016

- Initiated and organized an astronomy art contest at Boston University entitled "The Art of Astrophysics." Our contest attracted 80 astro-art entries from 47 astro-artists or groups of astro-artists. Our gallery show took place on February 10th, 2016 and attracted over 200 attendees. Boston University's "The Art of Astrophysics" contest distributed \$850 in prize money to Boston University students & alumni, as well as the outside community. The 2016 "Art of Astrophysics" online gallery is available here: <https://www.flickr.com/photos/artofastro/sets/>

PUBLIC OUTREACH TALKS:

Cambridge Science Festival: "How to Find & Characterize a Habitable Earth-like Planet." April 21st, 2013

MIT IAP talk: "How to Find & Characterize a Habitable Earth-like Planet." January 15th, 2013

Rick Hansen Secondary School & Abbotsford Traditional Secondary School: "The Transit of Venus: Eclipses, Exoplanets & Eye-shades." May 16th & 17th, 2012

Royal Society of Canada Annual Symposium: "Glimpses of Alien Worlds." (Ottawa, ON, Invited Talk) October 16th 2009

WIDEN Graduate Student Seminar: "Portraits of Planets in Other Solar Systems." April 14th 2009

UofT Astronomy Free Public Tour: "Oh, What a Wonderful Exo-World!" December 4th 2008

UofT Astronomy Day Tour: "Oh, What a Wonderful Exo-World!" May 10th 2008
UofT Astronomy Free Public Tour: "A Day in the life of an Astronomer." Nov 1st 2007
UofT Astronomy Day Tour: "Exoplanet Potpourri." April 21st 2007

TEACHING EXPERIENCE:

Teaching assistant, Department of Astronomy & Astrophysics, University of Toronto, 2006-2011. Courses include: AST 101, 201, 210, 251 and 325/326.

- Highlights include leading the laboratory portion of the undergraduate observing course for two years, and designing the assignments and the final term project for this course. I also led Astronomy lectures/tutorials twice a week for ~100 students for 1 year for an introductory course for non-science majors.

Teaching assistant, Science One Program, University of British Columbia, 2004-2006.

- Highlights include leading Math and Physics tutorials once to twice a week for ~30 students for ~3 years.

TELESCOPE TIME ALLOCATIONS:

Xu, S. et al. Hubble Space Telescope (Cycle 24): "A White Dwarf with an Actively Disintegrating Asteroid." 12 HST orbits.

Croll, B. et al. (2016/Q2) Perkins, & Hall Telescopes: "Simultaneous Near-infrared & Optical Photometric Monitoring of an Ultra-Cool Dwarf." 10 nights, & 9 nights, respectively.

Xu, S. et al. Hubble Space Telescope (mid-cycle): "A White Dwarf with an Actively Disintegrating Asteroid." 5 HST orbits.

Croll, B. et al. (2016/Q1) Perkins, Hall and Discovery Channel Telescopes: "Multiwavelength Observations of Transiting Disintegrating Planetesimals around a White Dwarf." 20 nights, 15 nights and 5 nights, respectively.

Croll, B. et al. (2015/Q4) Perkins Telescope: "Near-infrared Photometric Monitoring of Two Variable Brown Dwarfs." 21 nights.

Croll, B. et al. (2015/Q3) Perkins Telescope: "Near-infrared Photometric Monitoring of Two Variable Brown Dwarfs." 25 nights.

Croll, B. et al. (2012B) Magellan Telescopes: "Peering through breaks in the Clouds: Accurate Spectrophotometry of a highly variable Brown Dwarf at the L/T transition." 2 nights.

Demory, B.-O., **Croll, B.** et al. (2012B) Magellan Telescopes: "The Near-infrared Thermal Emission of the hot Jupiter WASP-18b." 2 nights.

Rappaport et al. Hubble Space Telescope (Cycle 20): "Possible Disintegrating Short-Period Super-Mercury Orbiting KIC 12557548." 8 hours.

Croll, B. Magellan Telescope (2011B): "Near-infrared Thermal Emission of the hottest of the Southern hot Jupiters." 6.5 hours.

Jayawardhana, R., **Croll, B.** et al. Canada-France-Hawaii Telescope (2010B-2012B): "Thermal Emission of Transiting Exoplanets." 168 hours.

Croll, B. et al. Canada-France-Hawaii Telescope (2011A): "Refining the Broadband Spectrum of the Super-Earth GJ 1214b." 12 hours.

Albert, L., **Croll, B.** et al. Canada-France-Hawaii Telescope (2011A): "A Direct Test of Brown Dwarf Models - Measuring the Secondary Eclipse of a Newly-Discovered Eclipsing Brown Dwarf." 13 hours.

Machalek, P., Cowan, N., **Croll, B.** et al. Spitzer Space Telescope (Cycle 7): "Balancing the Budget: Simultaneous Near- and Mid-IR Phase Curves of WASP-12b." 72.5 hours.

Croll, B. et al. Canada-France-Hawaii Telescope (2010B): "The First Broadband Transmission Spectrum of a Super-Earth." 9 hours.

Croll, B. et al. Canada-France-Hawaii Telescope (2010A & 2010B): "Multi-wavelength near-infrared thermal emission from the hottest of the hot Jupiters." 25 & 20 hours.

Croll, B. et al. Canada-France-Hawaii Telescope (2009B): "Multi-wavelength near-infrared thermal emission of the extremely hot exoplanet WASP-12b." 16 hours.

Croll, B. et al. Gemini-North (2009B): "Searching for Atmospheric Absorption in the Transmission Spectra of HAT-P-1." 12 hours.

Croll, B. et al. Canada-France-Hawaii Telescope (2009A & 2008B): "Thermal Emission from the hottest of the hot Jupiters." 24 & 23.5 hours.

Croll, B. et al. Gemini-South (2008B & 2009A) & Gemini-North (2008B & 2009A): "Searching for Atmospheric Absorption in the Transmission Spectra of hot Jupiters." 27.0 & 27.0 hours, 8.5 & 16 hours.

Croll, B. et al. Spitzer Space Telescope (Cycle 5): "As the World Turns: Discrete Observations of an Eccentric Transiting Planet." 30 hours.

Croll, B. et al. Gemini-North (2008A & 2008B): "Imaging Long-Period RV companions to Exoplanet Host Stars." 15.5 & 8.2 hours.

PROFESSIONAL SERVICE:

Referee for *The Astrophysical Journal*, *The Astronomical Journal*, *Monthly Notices of the Royal Astronomical Society*, *Astronomy & Astrophysics*, and *Astronomische Nachrichten*.

Referee for the Canadian Time Allocation Committee.

NASA Exoplanet Research Review Program Panelist.

OTHER VOLUNTEER EXPERIENCE:

President, University of Toronto Triathlon Club: April 2008 - May 2010.

Graduate Student Union Council Representative: Sept. 2010 – August 2011.

Social Coordinator, University of British Columbia Triathlon Club: Sept 2004 – August 2006.

PERSONAL INTERESTS:

Swimming: Completed the 28.5 mile Manhattan Island Marathon Swim (New York City, June 2014), the 19.7 km Rottneest Channel Swim (Perth, Australia, February 2014), and the 9-km Bay Challenge (Vancouver, B.C.; July 2012).

Bicycling: Cycled across Canada from Tofino, B.C. to St. John's, NL (from Toronto, ON to Halifax, N.S. over 10 days in July 2011; Vancouver, BC to Toronto, ON over 20 days in August 2011; Halifax, N.S. to St. John's, NL over 10 days in September 2012), and from Vancouver, B.C. to San Diego, CA over 20 days in October & November 2014.

Triathlons: completed 8 Ironman Triathlons and competed in the 2008 Ironman World Championships in Kona, Hawaii and the 2009 Ironman 70.3 World Championships in Clearwater, Florida.