

# David Vance Martin - Curriculum Vitae

From Melbourne, Australia, born 1989

Swiss National Science Foundation Fellow at the University of Chicago

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## Research interests

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Circumbinary planets  
Celestial mechanics of multi-body systems  
Radial velocity and photometric observational surveys  
Exoplanet architectures  
Formation of close binary systems  
Tidal interactions of close binaries and hot Jupiters  
Numerical simulations  
Student development and public outreach

## Education

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Université de Genève, Switzerland	2013 - 2017
PhD in Astronomy & Astrophysics	
Advisor: Prof. Stéphane Udry	
Thesis title: <i>"Orbital Dynamics in the Analysis and Observation of Circumbinary Planets"</i>	
Monash University, Australia	2012
First Class Honours in Astrophysics	
Advisor: Dr. Rosemary Mardling	
Thesis title: <i>"A Modern Study of Exoplanets: Transit Timing, Misaligned Circumbinary Planets and Numerical Tools"</i>	
Monash astrophysics award	
Monash University, Australia	2007 - 2011
Bachelor of Science Advanced	
Double major in pure mathematics	
Minors in physics and astrophysics	
GPA: 4.0/4.0	

## Research positions

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University of Chicago	2017 - 2019
Fellow of the Swiss National Science Foundation	
Université de Genève	2017
Postdoctoral researcher in extra-solar planets	
Monash University	2010 - 2011
Research scholarship on Brownian motion on 3D topologies	
Monash Centre for Synchrotron Science	2009 - 2010
Research scholarship on optimal gamma ray medical imaging design	

## Telescope time awarded

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CORALIE @ Swiss 1.2 m, La Silla 8 nights / semester BEBOP radial velocity survey for circumbinary planets Principal investigator	2013 - 2017
HARPS @ ESO 3.6 m, La Silla 7 nights BEBOP pilot survey of high-precision radial velocities on single-lined binaries Co-Investigator	2017
SOPHIE @ French 1.9 m, Observatoire de Haute Provence 2 nights / semester Follow-up of Kepler exoplanet discoveries Co-Investigator	2017 - Present
CORALIE @ Swiss 1.2 m, La Silla 4 nights / semester EBLM survey for low mass eclipsing binaries Co-Investigator	2013 - Present

## Invited colloquia and seminars

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- University of Cambridge, UK, June, 2016
- Monash University, Australia, March, 2016
- Cerro Tololo Inter-American Observatory, Chile, August, 2015
- University of Geneva, Switzerland, April, 2015
- University of Toronto, Canada, February 2015
- University of Geneva, Switzerland, September, 2013

## Conference oral presentations

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- Planets in binaries workshop, Bern, Switzerland, March 2017
- European Week of Space Science, Tenerife, Spain, June, 2015
- Triple Evolution & Dynamics, Haifa, Israel, May - June, 2015
- Planet-S Kick-off conference, Geneva, Switzerland, October, 2014
- Living together: planets, host stars and binaries, Litomysl, Czech Republic, September, 2014
- European Week of Space Science, Geneva, Switzerland, June - July, 2014

## Academic service

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- 4 months on site observing at La Silla (Chile), OHP (France) and La Palma (Spain)
- Instructor and supervisor of new observers at the Swiss Telescope at La Silla
- Contribution of "*Populations of planets in binary star systems*" to the Exoplanet Handbook (release: 2018), editors: Deeg, Hans, Belmonte, Juan Antonio, Batalha, Natalie (section editor)
- Referee for The Astrophysical Journal (ApJ) and Publications of the Astronomical Society of Australia (PASA)
- Organiser of introductory seminars given by new exoplanet students at Geneva
- Organiser of "Planets in binaries" workshop in Bern, Switzerland in March 2017
- Public outreach tour guide at Geneva Observatory

## Languages

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English: mother tongue

French: intermediate proficiency

## Publications list

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h-index = 7

## First author peer reviewed

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1. "Populations of planets in binary star systems," **Martin, D. V.**, invited review chapter in Handbook of Exoplanets, to be published in 2018, editors: Deeg, Hans, Belmonte, Juan Antonio, Batalha, Natalie (section editor)
2. "Transit probability of precessing circumstellar planets in binaries and exomoons," **Martin, D. V.**, 2017, MNRAS, 467, 1694
3. "Circumbinary planets - II. when transits come and go," **Martin, D. V.**, 2017, MNRAS, 465, 3235
4. "Kozai-Lidov cycles towards the limit of circumbinary planets," **Martin, D. V.**, Triaud, A. H. M. J., 2016, MNRAS, 455, L46
5. "No circumbinary planets transiting the tightest Kepler binaries - a possible fingerprint of a third star," **Martin, D. V.**, Mazeh, T., Fabrycky, D. C., 2015, MNRAS, 453, 3554
6. "Circumbinary planets - why they are so likely to transit," **Martin, D. V.**, Triaud, A. H. M. J., 2015, MNRAS, 449, 781
7. "Planets transiting non-eclipsing binaries," **Martin, D. V.**, Triaud, A. H. M. J., 2014, A&A, 570, A91

## Other peer reviewed

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1. "The EBLM Project. IV. Spectroscopic orbits of over 100 eclipsing M dwarfs masquerading as transiting hot Jupiters," Triaud, A. H. M. J., **Martin, D. V.**, et al., 2017, A&A accepted, arXiv: 1707.07521
2. "The EBLM project III. A Saturn-size low-mass star at the hydrogen-burning limit," von Boetticher, A. et al. incl **Martin, D. V.**, 2017, A&A, 604, L6
3. "Transit probability of precessing circumstellar planets in binaries and exomoons," **Martin, D. V.**, 2017, MNRAS, 467, 1694
4. "GAIA's potential for the discovery of circumbinary planets," Sahlmann, J., Triaud, A. H. M. J., **Martin, D. V.**, 2015, MNRAS, 447, 287
5. "On the abundance of circumbinary planets," Armstrong, D. J., Osborn, H., Brown, D., Faedi, F., Gómez Maqueo Chew, Y., **Martin, D. V.**, Pollacco, D., Udry, S., 2014, MNRAS, 444, 1873
6. "Placing limits on the transit timing variations of circumbinary exoplanets," Armstrong, D., **Martin, D. V.**, et al., 2013, MNRAS, 434, 3047
7. "Towards Optimal Collimator Design for the PEDRO Hybrid Imaging System," Nguyen, C. V., Gillam, J. E., Brown, J. M. C., **Martin, D. V.**, Nikulin, D. A., Dimmock, M. R., 2011, IEEE Transactions on Nuclear Science, 58, 3

## Conference proceedings

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1. "The Prospects of Finding Planets Transiting Non-Eclipsing Binaries with Kepler," **Martin, D. V.**, Triaud, A. H. M. J., 2015, ASP Conference Series, Vol. 496
2. "Detecting Circumbinary Exoplanets: Understanding Transit Timing," Armstrong, D. J., **Martin, D. V.**, Pollacco, D., 2013, IAU Symposium No. 299
3. "Hybrid-collimator design for a small animal imager: PEDRO," Nguyen, C. V., Brown, J. M. C., Lewis, R. A., **Martin, D. V.**, Dimmock, M. R., Nikulin, D. A., Gillam, J. E., 2010, IEEE Nuclear Science Symposium & Medical Imaging Conference, 3042