

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

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

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

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

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

- 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

- 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

- 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

English: mother tongue

French: intermediate proficiency

Publications list

h-index = 7

First author peer reviewed

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

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

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