

# Curriculum Vitae for Trifon Trifonov

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- Education** 2014 - Ph.D., Astronomy, Ruprecht-Karls-Universität, Heidelberg, Germany  
2009 - M.A., Astronomy and Astrophysics, Sofia University, Sofia, Bulgaria  
2008 - B.A., Physics, Sofia University, Sofia, Bulgaria
- PhD Dissertation** Planetary dynamics and high precision optical and near infrared spectroscopy. Testing the planetary hypothesis around evolved K-giants.  
*supervisor: Andreas Quirrenbach*
- Previous academic** 2014–2016, Postdoctoral Research Associate at the Department of Earth Science at the University of Hong Kong  
*with Man Hoi Lee*
- Current academic positions** 2016–now, Postdoctoral Research Associate at Max Planck Institute for Astronomy (MPIA).  
*with Thomas Henning and Martin Kürster*
- Fellowships** 2019–2020, Bulgarian National Science Programme “Young Scientists and Postdoctoral Candidates 2019” fellowship.  
2014–2014, Heidelberg Graduate School of Fundamental Physics (HGSFP) fellowship.  
2010–2014, International Max Planck Research School for Astronomy (IMPRS-HD) fellowship.
- Research work** Search of extrasolar planets via precise Doppler spectroscopy around low-mass Main Sequence stars and evolved intermediate-mass G and K-giant stars.  
Dynamical analysis of multiple exoplanetary systems and S-type planet-binary systems.  
Observations. RV data reduction and analysis. Scientific software tools development.
- Successful Observ. Proposals** **ESO CRIRES, VLT, Chile**  
IDs: 088.D-0132, 089.D-0186, 090.D-0155 and 091.D-0365 (main Co-PI)  
**ESO HARPS, La Sila, Chile**  
IDs: 097.C-0090, 0100.C-0414, 0101.C-0232, 0102.C-0338, 0103.C-0548 (PI)  
**MPG FEROS, La Sila, Chile**  
IDs: 099.A-9009, 0100.A-9006, 0103.A-9011, 0104.A-9004 (PI)  
**CAHA CARMENES, Calar Alto, Spain**  
IDs: F17-3.5-019, F18-3.5-016 (PI)  
**ESO SPHERE, VLT, Chile**  
IDs: 0101.C-0887 (main Co-PI)

<b>Conference poster contributions</b>	<p>2019 - Extreme Solar Systems IV, Reykjavik, Iceland</p> <p>2015 - Extreme Solar Systems III, Hawaii, USA</p> <p>2013 - Protostars and Planets VI, Heidelberg, Germany</p> <p>2013 - IAU Symposium 299: Exploring the Formation and Evolution of Planetary Systems, Victoria, Canada</p>
<b>Conference talk contributions</b>	<p>2019 - From protoplanetary discs to planetary systems, Ringberg, Germany</p> <p>2019 - Planetary Dynamics Conference, Heidelberg, Germany</p> <p>2019 - 10th CARMENES scientific meeting, Seville, Spain</p> <p>2018 - 9th CARMENES scientific meeting, Barcelona, Spain</p> <p>2018 - Japanese-German meeting on Exopl. and Pl. Formation, Edesheim, Ger.</p> <p>2018 - Exoplanets II, Cambridge, UK</p> <p>2017 - Exoplanets and Planet Formation, Shanghai, China</p> <p>2017 - Annual Meeting of the Astronomische Gesellschaft, Göttingen, Germany</p> <p>2017 - Formation and Dynamical Evolution of Exoplanets, Aspen, Colorado, US</p> <p>2016 - 5th CARMENES scientific meeting, Heidelberg, Germany</p> <p>2015 - Triple Evolution &amp; Dynamics in Stellar and Planetary Systems, Haifa, Israel</p>
<b>Invited science talks</b>	<p>2019 - OPINAS colloquium, MPE, Garching, Germany</p> <p>2019 - ARI colloquium, ARI, Heidelberg, Germany</p> <p>2018 - ESO, Vitacura, Santiago, Chile</p> <p>2017 - Thüringer Landessternwarte, Tautenburg, Germany</p> <p>2016 - National Academy of Science of Ukraine at MAO, Kiev, Ukraine</p> <p>2014 - DES seminar and the University of Hong Kong, Hong Kong</p> <p>2014 - Dep. of Astrophysics, Tel Aviv University, Israel</p> <p>2014 - Dep. of Astronomy, University of Szczecin, Poland</p> <p>2014 - Dep. of Physics and Astronomy, Aarhus University, Denmark</p> <p>2014 - Königstuhl Colloquium (KoCo), Heidelberg, Germany</p>
<b>Invited public talks</b>	<p>2018 - “Exoplanet systems: Chaos and order around the stars“, The Department of Astronomy at the University of Sofia, Bulgaria</p>
<b>Organization of international conferences</b>	<p>2019 - Planetary Dynamics Conference, Heidelberg, Germany – SOC member (Chair) &amp; main organizer</p>
<b>Scientific software</b>	<p><b>R</b>adial<b>V</b>elocity <b>m</b>odeling (RV<b>M</b>OD) &amp; <b>T</b>ransit and <b>R</b>adial velocity <b>I</b>nteractive <b>F</b>itting tool for <b>O</b>rbital analysis and <b>N</b>-body simulations: (THE EXO-STRIKER) see: <a href="https://github.com/3fon3fonov/exostriker">https://github.com/3fon3fonov/exostriker</a></p>
<b>Teaching experience</b>	<p>2011–2013 Assistant of Observational Astronomy Course, Heidelberg University</p>
<b>Regular scientific referee</b>	<p>Astronomy &amp; Astrophysics (A&amp;A), AAS Journals (ApJ/AJ), Monthly Notices of the Royal Astronomical Society (MNRAS), Nature Astronomy</p>

# Relevant papers

- Luque, R., **Trifonov, T.**, S. Reffert, A. Quirrenbach, M. H. Lee, S. Albrecht, M. Fredslund Andersen, V. Antoci, F. Grundahl, C. Schwab, and V. Wolthoff., (2019, A&A, 631 A136): *Precise radial velocities of giant stars. XIII. A second Jupiter orbiting in 4:3 resonance in the 7 CMa system.*
- Morales, et al. including **Trifonov, T.**, (2019, Science 365 (6460):1441-1445): *A giant exoplanet orbiting a very-low-mass star challenges planet formation models.*
- Luque, et al. including **Trifonov, T.**, (2019, A&A 628 A39): *Planetary system around the nearby M dwarf GJ 357 including a transiting, hot, Earth-sized planet optimal for atmospheric characterization.*
- Zechmeister, et al. including **Trifonov, T.**, (2019, A&A 627 A49): *The CARMENES search for exoplanets around M dwarfs. Two temperate Earth-mass planet candidates around Teegarden's Star.*
- Reichert, K., Reffert, S., Stock, S., **Trifonov, T.**, Quirrenbach, A., (2019, A&A, 625, 22): *Precise radial velocities of giant stars. XII. Evidence against the proposed planet Aldebaran b*
- Quirrenbach, A., **Trifonov, T.**, Lee, M.H., Reffert, S. (2019, A&A, 624, 17): *Precise radial velocities of giant stars. XI. Two brown dwarfs in 6:1 mean motion resonance around the K giant star  $\nu$  Ophiuchi*
- Trifonov, T.**, et al. (2019, AJ, 157, 93): *Two Jovian planets around the giant star HD 202696. A growing population of packed massive planetary pairs around massive stars?*
- Trifonov, T.**, et al. (2019, A&A, 622L, 7): *TESS exoplanet candidates validated with HARPS archival data. A massive Neptune around GJ 143 and two Neptunes around HD 23472*
- Luque, R., Nowak, G., Pallé, E., Kossakowski, D., **Trifonov, T.**, et al. (2018, A&A, 620, 171): *The CARMENES search for exoplanets around M dwarfs: The warm super-Earths in twin orbits around the mid-type M dwarfs Ross 1020 (GJ 3779) and LP 819-052 (GJ 1265)*
- Wang, S., Jones, M., Shporer, A., Fulton, B. J., Paredes, L., **Trifonov, T.**, et al. (2019, 157, 51): *HD 202772 Ab: A Transiting Hot Jupiter Around A Bright, Mildly Evolved Star In A Visual Binary Discovered By Tess*
- Ribas, I., Tuomi, M., Reiners, A., Butler, R. P., ... **Trifonov, T.**, ... et al. (2018, Natur, 563, 365): *A super-Earth planet candidate orbiting at the snow-line of Barnard's star*
- Trifonov, T.**, et al. (2018, RNAAS, 2, 180): *New HARPS and FEROS Observations of GJ 1046*
- Tal-Or, L., **Trifonov, T.**, et al. (2018, MNRAS, 484L, 8): *Correcting HIRES radial velocities for small systematic errors*
- Kaminski, A., **Trifonov, T.**, et al. (2018, A&A, 618, 115): *The CARMENES Search for Exoplanets around M Dwarfs: A Neptune-mass planet traversing the habitable zone around HD 180617*
- Sarkis, P., Henning, Th., Kürster, M., **Trifonov, T.**, et al. (2018, AJ, 155, 257): *The CARMENES Search for Exoplanets around M Dwarfs: A Low-mass Planet in the Temperate Zone of the Nearby K2-18*
- Trifonov, T.**, et al. (2018b, AJ, 155, 174): *Dynamical Analysis of the Circumprimary Planet in the Eccentric Binary System HD 59686*
- Trifonov, T.**, et al. (2018a, A&A, 609, 117): *The CARMENES search for exoplanets around M dwarfs. First visual-channel radial-velocity measurements and orbital parameter updates of seven M-dwarf planetary systems*
- Trifonov, T.**, et al. (2017, A&A, 602L, 8): *Three planets around HD 27894: A close-in planet pair with a 2:1 period ratio and an eccentric Jovian planet at 5.4 AU*
- Ortiz, M., Reffert, S., **Trifonov, T.**, et al. (2016, A&A, 595, 55): *Precise radial velocities of giant stars. IX. HD 59686 Ab: a massive circumstellar planet orbiting a giant star in a 13.6 au eccentric binary system*
- Trifonov, T.**, et al. (2015, A&A 582, 54): *Precise radial velocities of giant stars VIII. Testing for the presence of planets with CRIRES Infrared Radial Velocities*
- Kürster, M., **Trifonov, T.**, et al. (2015, A&A 577, 103): *Disentangling 2:1 resonant radial velocity orbits from eccentric ones and a case study for HD 27894*
- Reffert, S., Bergmann, C., Quirrenbach, A., **Trifonov, T.**, et al. (2015, A&A 574, 116): *Precise radial velocities of giant stars. VII. Occurrence rate of giant extrasolar planets as a function of mass and metallicity*
- Trifonov, T.**, et al. (2014, A&A 568, 64): *Precise radial velocities of giant stars. VI. Discovery and stability analysis of the planetary system around the K giant star  $\eta$  Cet*
- Mitchell, D. S., Reffert, S., **Trifonov, T.**, et al. (2013, A&A 555, 87): *Precise radial velocities of giant stars. V. A brown dwarf and a planet orbiting the K giant stars  $\tau$  Geminorum and 91 Aquarii*