

Dipartimento di Fisica e Astronomia "Galileo Galilei"
Università degli Studi di Padova
Vicolo dell'Osservatorio 3
35122 Padova (PD), Italy

<https://orcid.org/0000-0002-3122-6809>
<https://vsquicciarini.github.io/>
Email: vito.squicciarini@phd.unipd.it
Twitter: [@AstroVito11](https://twitter.com/AstroVito11)

EMPLOYMENT HISTORY

Current Position

2019 - Present* PhD Student Università degli Studi di Padova
*Expected to graduate: September 2022

EDUCATION

2017-2019 Master in Astronomy University of Padova, Italy
2013-2017 Bachelor in Physics University of Padova, Italy

RESEARCH

My career so far has been focused on two main paths:

1. studying the occurrence for giant planets around intermediate and massive stars to have insights on their formation mechanisms;
2. assessing the possibility of biotic oxygen build-up in the atmospheres of habitable Earth-like planets.

To achieve these goals I have:

- (a) contributed to data reduction and analysis of the ongoing direct-imaging BEAST survey;
- (b) improved kinematic techniques to indirectly estimate stellar ages of B stars for a better mass determination of directly-imaged exoplanets and brown dwarfs;
- (c) developed a tool bridging stellar evolution models with large catalogues to rapidly turn automatically collected photometric data of stellar samples into mass and age estimates;
- (d) created a model that incorporates experimental evidence of photosynthetic bacteria thriving under the irradiation of M stars within the framework of models of the Earth's oxygenation history.

Main Research Projects

SpHere INfrared survey for Exoplanets (SHINE)

Guaranteed time direct-imaging search for exoplanets using the Spectro-Polarimetric High-contrast Exoplanet REsearch ([SPHERE](#)) planet-finder camera at VLT
Contributions: derivation of masses for the new binary systems discovered in Bonavita et al. (2021).

B-star Exoplanet Abundance Study (BEAST)

Large program searching for exoplanets through the SPHERE planet-finder camera at VLT
Contributions: data reduction and analysis; confirmation and characterization of candidate companions; age and mass determinations for the stellar host and the confirmed companions; interpretation of the results in the light of the existing models.

Atmospheres in a test tube

Experiment studying the possibility for oxygenic photosynthesis to occur on habitable planets around M stars
Contributions: development of a toy model assessing the possibility of biotic oxygen buildup for a Earth-like planet orbiting a less massive star than the Sun.

LATEST SEMINARS AND TALKS

2022	selected speaker	ESO Hypatia Colloquium 2022	Garching, Germany*
2021	contributed talk	ESO Workshop: The Star-Planet Connection	virtual event
2021	contributed talk	From Clouds to Discs: A Tribute to the Career of Lee Hartmann	Dublin, Ireland*
2021	contributed talk	Star Clusters: the Gaia Revolution	Barcelona, Spain*
2021	contributed talk	EPSC 2021 – Europlanet Science Congress 2021	virtual event
2021	contributed talk	AbGradCon 2021 – Astrobiology Graduate Conference	virtual event
2021	invited talk	Journal Club - The Royal Observatory, Edinburgh	Edinburgh, UK*
2021	contributed talk	NASA 2021 Sagan Exoplanet Summer Virtual Workshop	Pasadena, US*
2021	contributed talk	ISM 2021 – Structure, characteristic scales, and star formation	Beirut, Lebanon*
2021	contributed talk	XVI Congresso Nazionale di Scienze Planetarie	Padova, Italy

* held virtually

TRAINING AND CAREER DEVELOPMENT

2021	workshop	ENGAGE 2021 – Comunicazione e divulgazione della scienza	Venice, Italy
2021	program	The Physics of the Emergence of Life	Garching, Germany
2021	PhD School	RED'21 School – Astrobiology Introductory Course	Le Teich, France*
2021	PhD School	10th VLT School of Interferometry	Sophia-Antipolis, France*
2021	PhD School	Summer School in Statistics for Astronomers XVI	State College, USA*
2021	symposium	IX ELSI International Symposium - Science in Society	Tokyo, Japan*
2020	course	Python Course 2020	Padova*, Italy
2020	workshop	ENGAGE 2020 – Comunicazione e divulgazione della scienza	Pisa*, Italy

* held virtually

OUTREACH

2021	panelist	Notte europea dei ricercatori 2021	Padova, Italy
2021	contributed video	Percorsi Galileiani – PhD edition	Padova, Italy

PUBLICATION RECORD

Publications Currently Under Review

2021 Squicciarini, V. et al. *A scaled-up Solar System around a massive star*, submitted to SCIENCE

Complete Publication List

- 2021 Janson, M. et al, including Squicciarini V., *A wide-orbit giant planet in the high-mass β Centauri binary system*, [Nature](#), **600**, 231
- 2021 Squicciarini V., Gratton R., Bonavita M., et al., *Unveiling the star formation history of the Upper Scorpius association through its kinematics*, [MNRAS](#), **507**, 1381
- 2021 Mesa D., Marino S., Bonavita M., et al., including Squicciarini V., *Limits on the presence of planets in systems with debris discs: HD 92945 and HD 107146*, [MNRAS](#), **503**, 1276
- 2021 Bonavita M., Gratton R., Desidera S., et al., including Squicciarini V., *New binaries from the SHINE survey*, [arXiv](#), [arXiv:2103.13706](#)
- 2021 Janson M., Squicciarini V., Delorme P., et al., *BEAST begins: sample characteristics and survey performance of the B-star Exoplanet Abundance Study*, [A&A](#), **646**, A164
- 2021 Claudi R., Alei E., Battistuzzi M., et al., including Squicciarini V., *Super-Earths, M Dwarfs, and Photosynthetic Organisms: Habitability in the Lab*, [arXiv](#), [arXiv:2101.04448](#)
- 2021 Carleo I., Desidera S., Nardiello D., et al., including Squicciarini V., *The GAPS Programme at TNG. XXVIII. A pair of hot-Neptunes orbiting the young star TOI-942*, [A&A](#), **645**, A71