VITO SQUICCIARINI

CURRICULUM VITAE

Dept. of Physics and Astronomy
University of Exeter
Stocker Road
EX4 4QL, Exeter, United Kingdom

ORCID: 0000-0002-3122-6809
https://vsquicciarini.github.io/
Email: v.squicciarini@exeter.ac.uk
Twitter: @AstroVito11

EMPLOYMENT HISTORY

jan. 2025 - present	Postdoctoral Research Fellow	University of Exeter
dec. 2022 - nov. 2024	Postdoctoral Researcher	LESIA – Observatoire de Paris

EDUCATION

2019-2022	PhD in Astronomy (*with distinction*)	University of Padova, Italy
2017-2019	Master in Astronomy (*cum laude*)	University of Padova, Italy
2013-2017	Bachelor in Physics	University of Padova, Italy

RESEARCH

My career so far has been mostly focused on contraining the occurrence of giant planets around intermediate and massive stars to get insights on their formation mechanisms. To achieve this goal I have:

- contributed to data reduction and analysis of the direct imaging BEAST, SHINE, and GPIES surveys;
- improved kinematic techniques to indirectly estimate stellar ages of B stars for a better mass determination of directly-imaged exoplanets and brown dwarfs;
- developed a tool, MADYS, bridging (sub)stellar evolution models with large catalogues to rapidly derive parameter (e.g., mass, age) estimates from automatically collected photometric data;
- undertaken a full re-analysis of $\sim$ 1000 archival directly imaged stars, observed either with SPHERE@VLT or GPI@Gemini South by means of advanced post-processing algorithms. This led to the discovery of one new giant planet orbiting two stars.

Main Research Projects

SpHere INfrared survey for Exoplanets (SHINE): guaranteed time direct-imaging program using SPHERE@VLT
Contributions: derivation of masses for the new binary systems discovered in Bonavita et al. (2021).

B-star Exoplanet Abundance Study (BEAST): large planet-hunting program with SPHERE@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.

COupling data and techniques for BReakthroughs in EXoplanetary systems exploration (COBREX): ERC-funded project aimed at applying new data processing techniques on existing direct-imaging observations to improve the detectability of planets and disks in the 5-20 AU region.
Contributions: data reduction and analysis; confirmation and characterization of candidate companions; comparison with formation models.

HONORS AND AWARDS

2023	Tacchini Prize for the best PhD Thesis in astrophysics (*special mention*)	Italian Astronomical Society

LATEST SEMINARS AND TALKS

2025	contributed talk	51 Pegasi b – Cool giant planets and their systems	OHP, France
2025	contributed talk	EAS 2025 – European Astronomical Society Annual	Cork, Ireland
2024	invited talk	Astro Seminar – University of Exeter	Exeter, UK
2024	contributed talk	When stars meet planets: exploiting high-resolution observations	Sexten, Italy
2024	contributed talk	EAS 2024 – European Astronomical Society Annual Meeting	Padova, Italy
2024	poster	Exoplanets 5	Leiden, Netherlands
2023	poster	Astronomical Data Analysis Software & Systems XXXIII	Tucson, US*
2023	poster	NASA 2023 Sagan Exoplanet Summer Virtual Workshop	Pasadena, US**
2023	poster	European Astronomy Society Annual Meeting	Krakow, Poland*
2023	poster	Europlanet Research Infrastructure Meeting	Bratislava, Slovakia*
2023	invited talk	Oberseminar – Inst. of Geophysics and Extraterrestrial Physics	Braunschweig, Germany*
2023	contributed talk	ExoSystèmes III	Marseille, France
2022	invited talk	Astropizza – Istituto Nazionale di Astrofisica	Padova, Italy
2022	poster	EPSC 2022 – Europlanet Science Congress 2022	Granada, Spain
2022	poster	NASA 2022 Sagan Exoplanet Summer Virtual Workshop	Pasadena, US*
2022	contributed talk	COSPAR 2022 – 44^{th} Scientific Assembly	Athens, Greece*
2022	invited talk	PSF Coffee – Max Planck Institute for Astronomy	Heidelberg, Germany*
2022	contributed talk	The Sharpest Eyes on the Sky	Exeter, UK*
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	poster	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

2022	course	Hands-on course on Machine Learning with Python	Padova, Italy
2022	PhD School	Summer School in Astroinformatics II	State College, USA*
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 VLTI 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

TEACHING AND SUPERVISING

2025 Co-supervisor of the master theses of E. Turner, C. Ferris and H. Dunham.

2024 PSL week – Search and Characterization of Exoplanets. Co-responsible for the hands-on session on direct imaging.

OUTREACH

2024	article	Giornale di Astronomia n. 1/2024	
2021	panelist	Notte europea dei ricercatori 2021	Padova, Italy
2021	contributed video	Percorsi Galileiani – PhD edition	Padova, Italy

REVIEWING WORKS

Referee for Astronomy & Astrophysics and the Journal of Open Source Software

OBSERVING EXPERIENCE AND TIME ALLOCATION

2024 SPHERE@ESO-VLT (1h), P115. A decade-long chase: the most promising new exoplanet candidates out of a complete re-analysis of the GPI archive.

2024 SPHERE@ESO-VLT (8h), P114. Confirming the most promising exoplanet candidates from a complete reanalysis of ~ 800 archival observations from GPI@Gemini.

PUBLICATION RECORD

The following list is not meant to be complete. The full record can be recovered via the NASA ADS service.

2025 Squicciarini, V., Mazoyer, J., Wilkinson, C., et al., *GPI+SPHERE detection of a 6.1 MJup circumbinary planet around HD 143811*, A&A 702, A702

2025 Chomez, A., Delorme, P., Lagrange, A.-M., et al., including Squicciarini V., *The SPHERE infrared survey for exoplanets (SHINE): IV. Complete observations, data reduction and analysis, detection performances, and final results*, A&A 697, A99

2025 Gratton, R., Bonavita, M., Mesa, D, et al., including Squicciarini V., *A study of the frequency and characteristics of stellar companions and Jupiter-like planets in nearby open clusters*, A&A 694, A175

2024 Squicciarini, V., Mazoyer, J., Lagrange, A.-M., et al., *The COBREX archival survey: improved constraints on the occurrence rate of wide-orbit substellar companions. I. A uniform re-analysis of 400 stars from the GPIES survey*, A&A 693, A54

2024 Cesario, L., Lichtenberg, T., Alei, E., et al., including Squicciarini V., *Large Interferometer For Exoplanets (LIFE). XIV. Finding terrestrial protoplanets in the galactic neighborhood*, A&A 692, A172

2024 Delorme, P., Chomez, A., Squicciarini, V., et al., *Giant planets population around B stars from the first part of the BEAST survey*, A&A 692, A263

2024 Lagrange, A.-M., Kiefer, F., Squicciarini, V., et al., *Searching for substellar companions candidates with absolute astrometry*, A&A accepted, preprint: arXiv:2501.10488

2024 Wilkinson, C., Charnay, B., Mazevet, S., et al., including Squicciarini V., *Breaking degeneracies in the interior of exoplanets through self-consistent atmosphere-interior modelling*, A&A 692, A113

2024 Gratton, R., Bonavita, M., Mesa, D., et al., including Squicciarini V., *Stellar companions and Jupiter-like planets in young associations*, A&A 685, A119

2023 Gratton, R., Squicciarini, V., Nascimbeni, V., et al., *Multiples among B-stars in the Scorpius-Centaurus Association*, A&A 678, A93

2023 Chomez, A., Squicciarini, V., Lagrange, A.-M., et al., *An imaged 15 MJup companion within a hierarchical quadruple system*, A&A 676, L10 ESO picture of the week

2023 Viswanath, G., Janson, M., Gratton, R., et al., including Squicciarini V., *BEAST detection of a brown dwarf and a low-mass stellar companion around the young bright B star HIP 81208*, A&A 675, A54 A&A 672, A1

2023 Ray, S., Hinkley, S., Sallum, S., et al., including Squicciarini V., *Detecting planetary mass companions near the water frost-line using JWST interferometry*, MNRAS 519, 2718

2022 Squicciarini, V. & Bonavita, M., *MADYS: the Manifold Age Determination for Young Stars*, A&A 666, A15 EMAC@NASA

2022 Squicciarini, V., Gratton, R., Janson, M., et al., *A scaled-up planetary system around a supernova progenitor*, A&A 664, A9 Nature highlight A&A highlight

2022 Bonavita, M., Fontanive, C., Gratton, R., et al., including Squicciarini V., *Results from The COPAINS Pilot Survey: four new brown dwarfs and a high companion detection rate for accelerating stars*, MNRAS, 513, 5588

2022 Bonavita M., Gratton R., Desidera S., et al., including Squicciarini V., *New binaries from the SHINE survey,* A&A 663, A144

2021 Janson M., Gratton R., Rodet L., et al, including Squicciarini V., *A wide-orbit giant planet in the high-mass b Centauri binary system*, Nature, 600, 231

2021 Squicciarini V., Gratton R., Bonavita M. & Mesa, D., *Unveiling the star formation history of the Upper Scorpius association through its kinematics,* MNRAS,507,1381

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*, Life,11,10