VITO SQUICCIARINI

CURRICULUM VITAE

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EMPLOYMENT HISTORY

Current Position

dec. 2022 - present	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 ongoing direct-imaging BEAST survey;
- 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 stellar evolution models with large catalogues to rapidly turn automatically collected photometric data of stellar samples into mass and age estimates;

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.

LATEST SEMINARS AND TALKS

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

OUTREACH

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

REVIEWING WORKS

Referee for Astronomy & Astrophysics

PUBLICATION RECORD

2023 Viswanath, G., Janson, M., Gratton, R., et al., including Squicciarini V., *a brown dwarf companion to a B-type star*, under review on A&A

2023 Engler, N., Milli, J., Vigan, A., et al., including Squicciarini V., *The high-albedo, low polarization disk around HD 114082. Constraints from VLT/SPHERE*, 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 Desidera, S., Damasso, M., Gratton, R., et al., including Squicciarini V., *TOI-179: a young system with a transiting compact Neptune-mass planet and a low-mass companion in outer orbit*, A&A in press, preprint: arXiv:2210.07933

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

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

2022 Mesa D., Ginski C., Gratton R., et al, including Squicciarini V., *Signs of late infall and possible planet formation around DR Tau using VLT/SPHERE and LBTI/LMIRCam*, A&A 658, A63

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 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 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 Squicciarini V., Claudi R., La Rocca N., *Searching for the oxygen footprint of light-harvesting organisms*, doi: 10.5194/epsc2021-763

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

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