


Lionel J. Garcia

born in 1994 in France

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EDUCATION

2019 - 2023 University of Liège Belgium	PhD in Astronomy Towards the detailed characterization of temperate rocky exoplanets <i>Supervisor: Michaël Gillon (SPECULOOS & TRAPPIST teams)</i>
2016 - 2017 University of Bordeaux France	MSc in Computer Science IT - High performance computing and Image processing
2014 - 2017 Institut d'Optique France	MSc in Instrumentation Photonics and Instrumentation
2012 - 2014 University of Paris-Sud France	BS in Physics Applied Physics

POSITIONS

2019 - 2021 University of Liège Belgium	Teaching assistant Supervision of tutorial sessions at undergraduate and graduate levels (150h/year)
2018 (1 year) ESA-ESTEC Netherlands	Young Graduate Trainee Development of novel strategies to build better spacecraft precursor models
2017 (6 months) CERN Switzerland	Technical Student Characterization and prototyping of next-generation Beam Wire Scanners for the LHC injectors upgrade
2016 (3 months) ESA-ESTEC Netherlands	Trainee Development and validation of a CCD cosmic ray impact simulator against Gaia in-orbit data

TEACHING

- University of Liège** **Mechanics 101** Tutorials - Undergraduate
2019 - 2021 From Newtonian mechanics to the study of solids' motion
Professor: Pierre Dauby
- Mathematical modeling for the environment** Tutorials - Graduate
Dynamical modeling of populations and their environments
Professor: Marilaure Grégoire
- Astronomical observations** Tutorials and Lectures - Graduate
Telescope observations and applications to Astrophysics (including practical sessions at the Oukaimeden observatory, Morocco)
Professor: Emmanuel Jehin

SKILLS

Languages	Programming
English and French (fluent)	Python C++ C Julia
Spanish (intermediate)	JS - HTML - CSS LaTeX git

PUBLICATIONS

- 2022 **Unveiling hidden transits with nuance**
[Garcia L. J.](#), Foreman-Mackey, D. *in prep. for A&A*
- 2022 **HST/WFC3 transmission spectroscopy of the cold rocky planet TRAPPIST-1h**
[Garcia L. J.](#), Moran S., Rackham B. V. et al. *A&A, in press.*
- 2022 **prose: a Python framework for modular astronomical images processing**
[Garcia L. J.](#), Timmermans, Mathilde, Pozuelos, Francisco J. et al. *MNRAS 509 4817-4828*
- 2018 **Validation of a CCD cosmic ray event simulator against Gaia in-orbit data**
[Garcia L.](#), Prod'homme T., Lucsanyi D. et al. *Proc. SPIE 10709*

- 2022 **Observation Scheduling and Automatic Data Reduction for the Antarctic telescope, ASTEP+**
Dransfield, G., Mekarnia, D., Triaud, A. H. M. J., et al. (including Garcia L. J.) *arXiv e-prints*, *arXiv:2208.04501*
- 2022 **TESS discovery of a sub-Neptune orbiting a mid-M dwarf TOI-2136**
Gan, T., Soubkiou, A., Wang, S. X., et al. (including Garcia L. J.) *MNRAS*, *514*, 4120
- 2022 **A study of flares in the ultra-cool regime from SPECULOOS-South**
Murray, C. A., Queloz, D., Gillon, M., et al. (including Garcia L. J.) *MNRAS*, *513*, 2615
- 2022 **Complex Modulation of Rapidly Rotating Young M Dwarfs: Adding Pieces to the Puzzle**
Günther, M. N., Berardo, D. A., Ducrot, E., et al. (including Garcia L. J.) *AJ*, *163*, 144
- 2022 **TOI-1442 b and TOI-2445 b: two ultra-short period super-Earths around M dwarfs**
Morello, G., Parviainen, H., Murgas, F., et al. (including Garcia L. J.) *arXiv e-prints*, *arXiv:2201.13274*
- 2022 **TOI-2257 b: A highly eccentric long-period sub-Neptune transiting a nearby M dwarf**
Schanche, N., Pozuelos, F. J., Günther, M. N., et al. (including Garcia L. J.) *A&A*, *657*, A45
- 2021 **A large sub-Neptune transiting the thick-disk M4 V TOI-2406**
Wells, R. D., Rackham, B. V., Schanche, N., et al. (including Garcia L. J.) *A&A*, *653*, A97
- 2021 **Six transiting planets and a chain of Laplace resonances in TOI-178**
Leleu, A., Alibert, Y., Hara, N. C., et al. (including Garcia L. J.) *A&A*, *649*, A26
- 2021 **SPECULOOS: Ultracool dwarf transit survey. Target list and strategy**
Sebastian, D., Gillon, M., Ducrot, E., et al. (including Garcia L. J.) *A&A*, *645*, A100
- 2020 **Development of the SPECULOOS exoplanet search project**
Sebastian, D., Pedersen, P. P., Murray, C. A., et al. (including Garcia L. J.) *Proc. SPIE*, *11445*, 1144521
- 2020 **π Earth: A 3.14 day Earth-sized Planet from K2's Kitchen Served Warm by the SPECULOOS Team**
Niraula, P., Wit, J. de., Rackham, B. V., et al. (including Garcia L. J.) *AJ*, *160*, 172
- 2020 **A super-Earth and a sub-Neptune orbiting the bright, quiet M3 dwarf TOI-1266**
Demory, B.-O., Pozuelos, F. J., Gómez Maqueo Chew, Y., et al. (including Garcia L. J.) *A&A*, *642*, A49
- 2020 **GJ 273: on the formation, dynamical evolution, and habitability of a planetary system hosted by an M dwarf at 3.75 parsec**
Pozuelos, F. J., Suárez, J. C., de Elía, G. C., et al. (including Garcia L. J.) *A&A*, *641*, A23
- 2020 **Photometry and performance of SPECULOOS-South**
Murray, C. A., Delrez, L., Pedersen, P. P., et al. (including Garcia L. J.) *MNRAS*, *495*, 2446

OTHER COMMUNICATIONS

- 2022 - Talk **HST/WFC3 transmission spectroscopy of the cold rocky planet TRAPPIST-1h**
Garcia L. J., Moran S., Rackham B. V. et al. *NAM 2022 (Warwick, UK)*
- 2022 - Poster **The bright future of PSF photometry using convolutional neural networks**
Garcia L. J. *NAM 2022 (Warwick, UK)*
- 2022 - Poster **Transmission spectroscopy of the cold rocky planet TRAPPIST-1h**
Garcia L. J., Moran S., Rackham B. V. et al. *Exoplanet IV (Las Vegas, USA)*
- 2021 - Talk **TRAPPIST-1h transmission spectrum: Knowing the star**
Garcia L. J., Moran S., Rackham B. V. et al. *SAG21 symposium (online)*
- 2019 - Poster **specphot: a suite for SPECULOOS data analysis**
Garcia L. J. & the SPECULOOS team *TRAPPIST-1 conference (Liège, Belgium)*

GRANTS

- 2021 **FRIA Doctoral scholarship**
Belgian Fund for Scientific Research (F.R.S.-FNRS)

SCHOOLS

- 2019 **Evry Schatzman school: Star-planets interactions**
Aussois, France

MISCELLANEOUS

Ultra-trail running - Illustration - Open-source dev