

Born 1989-04-19 in Avignon, France.

### Education

- 2015 **PhD in astronomy and astrophysics**, *Study of Venus cloud layers by polarimetry using data from SPICAV-IR onboard Venus Express*, under the supervision of Franck Montmessin and Emmanuel Marcq, University of Versailles Saint-Quentin-en-Yvelines (UVSQ).
- 2010–2012 **Masters in Astronomy and Astrophysics**, *Magistère de Physique Fondamentale*, University Paris 11/Paris Observatory.  
Including one year as an Erasmus student at the University of Glasgow, Scotland.
- 2009–2010 **Licence in Fundamental Physics**, *Magistère de Physique Fondamentale*, University Paris 11, Orsay.
- 2007–2009 **Preparatory Classes student**, *MPSI - MP*, Lycée Paul Cézanne, Aix-en-Provence.

### Research

#### Positions

- 2018– **Researcher**, LATMOS/CNRS.  
Modelling of HDO in the martian atmosphere
- 2015–2018 **Researcher**, *Faculty of Aerospace Engineering, Delft University of Technology, The Netherlands*.  
Spectropolarimetry of exoplanets
- 2012–2015 **PhD Student**, LATMOS/University Versailles St-Quentin-en-Yvelines, Guyancourt.
- 2012 **Masters Internship**, LESIA, Meudon Observatory, 3 months.  
“Study of Venus during the 2012 transit” under the supervision of Thomas Widemann
- 2011 **Masters Internship**, APC, Paris 7 University, 2 months.  
“Study of the effect of aberration on the CMB” under the supervision of Cyrille Rosset
- 2011–2012 **Year project**, *University of Glasgow*.  
“Plasma parameters in solar prominences” under the supervision of Nicolas Labrosse
- 2010 **Licence Internship**, IAS, Paris 11 University, 2 months.  
“Analysis of spectral data from OMEGA/MEx” under the supervision of François Poulet

#### Observations/Proposals

- 2018 **Observation time**, *ESO VLT/SPHERE*, Sylvestre M., Teanby N., Rossi L., Seignovert B., Vinatier S., Lagadec E., Proposal 0101.C-0881.  
Polarimetric study of Titan’s aerosols during its northern summer

### Responsibilities

- 2017–Present **Europlanet Diversity Committee member**, Committee working for a more inclusive Europlanet society and EPSC, Also Diversity representative for the Europlanet Hub for France.
- EGU 2017 **Session Convener**, *Polarimetry as an invaluable tool to study the solar system and beyond*, PS1.4, AS4.45, ST1.11.
- 2013, 2014 **Elbereth conference organiser**, member of the LOC of the Elbereth conference, for PhD students in astronomy and astrophysics in Île-de-France.
- Reviewer for journals**, *Icarus, Planetary and Space Science, Astrophysical Journal, Astrophysics and Space Science, Atmosphere*.

**Reviewer for funding bodies**, *French Remote Sensing Program (PNTS)*.

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## Outreach

- 2017- **Responsible for astronomy section**, *International Esperantist Science Association (ISAE)*, promotion of science and astronomy in the language Esperanto.
- 2017- **YouTube videos**, *D-ro Loĉjo*, science communication about astronomy and planetary science, videos in Esperanto.  
Link to channel

## Teaching

- 2012–2015 **Online course redaction**, *Project “Sciences pour les Exoplanètes et les Systèmes Planétaires”*, LabEx ESEP.
- 2014 **Teaching assistant in Physics**, *Medecine first year*, PACES, UVSQ.
- 2012–2013 **Teaching assistant in physics**, *Physics first year*, Lab sessions, UVSQ.
- 2012 **Lab session supervision**, *Physics first year*, UVSQ.

### Students

- 2016- **Gourav Mahapatra**, *Polarimetry of Venus*, PhD thesis, TU Delft.  
co-supervisor with D.M. Stam
- Master students**, *2 students in first year and 3 students in second year.*

## Publications

### Peer-reviewed

- 2021 **Rossi L., Vals M., Montmessin F., Forget F., Millour E., Fedorova A., Trokhimovskiy A., Korablev O.**, *The effect of the Martian 2018 global dust storm on HDO as predicted by a Mars Global Climate Model*, in *Geophysical Research Letters*, In Press.  
<https://doi.org/10.1029/2020GL090962>
- 2020 **Groot A., Rossi L., Trees V., Cheung J., Stam D.**, *Colors of an Earth-like exoplanet: Temporal flux and polarization signals of the Earth*, in *Astronomy & Astrophysics*, Vol. 640, A121.  
<https://doi.org/10.1051/0004-6361/202037569>
- 2018 **Berzosa-Molina, Rossi and Stam**, *Traces of exomoons in computed flux and polarization phase curves of starlight reflected by exoplanets*, in *Astronomy & Astrophysics*, Vol. 618, A162.  
<https://doi.org/10.1051/0004-6361/201833320>
- 2018 **Rossi et al.**, *PyMieDAP: a radiative transfer tool with polarization*, in *Astronomy & Astrophysics*, Vol. 616, A147.  
<https://doi.org/10.1051/0004-6361/201832859>
- 2018 **Rossi and Stam**, *Circular polarization signals of cloudy (exo)planets*, in *Astronomy & Astrophysics*, Vol. 616, A117.  
<https://doi.org/10.1051/0004-6361/201832619>
- 2017 **Rossi et al.**, *Using polarimetry to retrieve the cloud coverage of Earth-like exoplanets*, in *Astronomy & Astrophysics*, Vol. 607, A57.  
<https://doi.org/10.1051/0004-6361/201730586> or <https://arxiv.org/abs/1708.07009>
- 2017 **Faucher, Rossi and Stam**, *The O<sub>2</sub> A-Band in Fluxes and Polarization of Starlight Reflected by Earth-Like Exoplanets*, in *ApJ*, Vol. 842, 41.  
<https://doi.org/10.3847/1538-4357/aa6e53> or <https://arxiv.org/abs/1704.06247>
- 2015 **Rossi et al.**, *Preliminary study of Venus cloud layers with polarimetric data from SPICAV/VEEx*, in *Planetary and Space Science*, Vol. 113–114; pp. 159–168.  
<http://dx.doi.org/10.1016/j.pss.2014.11.011>

## White papers

- 2019 **Rossi et al.**, *Spectropolarimetry as a Tool for Understanding the Diversity of Planetary Atmospheres*, for the ESA Voyage 2050 Science programme.  
link to document

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## Communications

### Seminars

- March 2019 Seminar at IAS (Orsay, France); *Polarimetry for the study of planetary systems*

### Oral presentations

- Sept. 2020 Virtual EPSC; *Modeling of the effect of the MY34 Global Dust Storm on the martian HDO cycle*  
May. 2020 Virtual EGU; *Modeling of HDO in the martian atmosphere*  
Sept. 2019 EPSC, Geneva, Switzerland; *Modeling of HDO in the martian atmosphere*  
Sept. 2018 EPSC, Berlin, Germany; *Investigating cloud cover variability on Earth-like exoplanets using polarimetry*  
Sept. 2017 EPSC, Riga, Latvia; *Using polarimetry to retrieve the cloud coverage of Earth-like exoplanets*  
May. 2017 JpGU/AGU meeting, Chiba, Japan; **Invited talk**; *Using polarimetry to retrieve the cloud coverage of Earth-like exoplanets*  
Apr. 2015 Venus Conference, Oxford, UK; *Latitudinal and temporal variability of venus clouds and hazes observed by polarimetry with SPICAV-IR*  
Sept. 2015 EPSC, Nantes, France; *Retrieval of Venus' clouds and hazes properties with polarimetric data from SPICAV/VEx*  
Sept. 2015 Future of polarimetry, Brussels; **Invited talk**; *Modeling the polarization of Venus*  
Sept. 2014 EPSC, Estoril, Portugal; *Polarimetric study of Venus' cloud layers with SPICAV/VEx*  
July 2014 SPICAM/SPICAV Team Meeting, Poros, Greece  
May 2014 EGU, Vienna, Austria; *Study of Venus cloud layers with polarimetric data from SPICAV/VEx*  
Sept. 2013 EPSC, London, UK; *Study of Venus' cloud layers by polarimetry with SPICAV/VEx*  
June 2013 SPICAM/SPICAV Team Meeting, Catania, Sicily
- ### Posters/PICO
- Sept. 2018 EPSC, Berlin, Germany; *Modeling of HDO in the Martian atmosphere*  
April 2016 EGU; PICO; *Using polarimetry to retrieve the cloud coverage of Earth-like exoplanets*  
October 2016 DPS/EPSC; *Characterization of cloud coverage on Earth-like exoplanets with polarimetry*  
April 2016 EGU; PICO; *Pymiedap: a versatile radiative transfer code with polarization for terrestrial (exo)planets*  
April 2015 EGU; *Retrieval of Venus' clouds parameters with polarization using SPICAV-IR onboard Venus Express*  
May 2014 Astronomical Polarimetry 2014, Grenoble, France  
June 2013 International Venus Workshop, Catania, Italy; *Study of Venus' cloud layers by polarimetry using SPICAV/VEx*  
April 2013 EGU; *Study of Venus' cloud layers by polarimetry using SPICAV/VEx*