

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

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

- 2018 **Ashwyn Groot**, *The Earth as an exoplanet*, MSc thesis, TU Delft.
 2017 **Javier Berzosa Molina**, *Detectability of exomoons in polarization*, MSc thesis, TU Delft.
 2016 **Michael Hogenboom**, *Circular polarisation of Earth-like exoplanets*, MSc thesis, TU Delft.
 2015 **Nicolas Bott**, *Polarimetry of Venus clouds in the CO₂ absorption band*, MSc internship, Paris Obs..

Publications

Peer-reviewed

- 2018 **Berzosa-Molina, Rossi and Stam**, *Traces of exomoons in computed flux and polarization phase curves of starlight reflected by exoplanets*, in *Astronomy & Astrophysics*, in press.
<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 O₂ 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/VEx*, in *Planetary and Space Science*, Vol. 113-114; pp. 159-168.
<http://dx.doi.org/10.1016/j.pss.2014.11.011>

Communications

Oral presentations

- 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*

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- 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*

Computer skills

- Op. Systems GNU/Linux, Microsoft Windows
- Languages Python, Fortran, \LaTeX , Beamer, IDL, C, Bash
- Software Vim, Git, SVN, LibreOffice suite, Matlab, Gnuplot

Responsibilities

- EGU 2017 **Session Convener**, *Polarimetry as an invaluable tool to study the solar system and beyond*, PS1.4, AS4.45, ST1.11.
- 2014–Present **Twitter Community Manager**, on behalf of EGU Planetary and Solar System sciences division, @EGU_PS.
- 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**, *The Astrophysical Journal*, *Icarus*.
- Reviewer for funding bodies**, *French Remote Sensing Program (PNTS)*.

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

Languages

- CEFR C2 French (Mother tongue), English, Esperanto
- CEFR C1 German
- CEFR A1 Dutch