

Alexandre SANTERNE

RESEARCH INTERESTS: EXOPLANETS (Detection and characterisation through transit and Doppler methods, statistical properties), DATA ANALYSIS (Bayesian methods).

PERSONAL & PROFESSIONAL DATA

PLACE & DATE OF BIRTH, CITIZENSHIP: Beauvais, France | 30 August 1986 | French
INSTITUTE: Laboratoire d'Astrophysique de Marseille
PROFESSIONAL ADDRESS: 38 rue Joliot-Curie, 13388 Marseille Cedex, France
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EMPLOYEMENT

Current | **Junior Astronomer (Astronome Adjoint)** at AIX-MARSEILLE UNIVERSITY
OCT 2016 | *Laboratoire d'Astrophysique de Marseille, Marseille, France*
Half time working on exoplanet detection and characterisation from space- and ground-based data, a third time working on the preparation of ESA's M3 PLATO mission (leader of several PSM and PDC WPs), a sixth time teaching.

SEP 2016 | **Marie Curie Fellow** at INSTITUTO DE ASTROFÍSICA E CIÊNCIAS DO ESPAÇO
OCT 2014 | *Centro de Astrofisica da Universidade do Porto, Porto, Portugal*
Statistical validation of Earth-sized exoplanets with the PASTIS software, accounting for stellar activity. Grant agreement reference 627202.

SEP 2014 | **Advanced ERC Post-doc** at CENTRO DE ASTROFISICA DA UNIVERSIDADE DO PORTO
JAN 2013 | *Centro de Astrofisica da Universidade do Porto, Porto, Portugal*
Characterisation of exoplanets from the NASA *Kepler* space mission with ground-based spectrographs.

DEC 2012 | **Temporary Teaching and Research Assistant** at AIX-MARSEILLE UNIVERSITY
OCT 2012 | *Laboratoire d'Astrophysique de Marseille, Marseille, France*

EDUCATION AND DEGREES

2009 – 2012 | **Doctorate in Astrophysics and Cosmology**
AIX-MARSEILLE UNIVERSITY, Marseille, France
Thesis: "Characterisation of transiting exoplanets with radial velocity"
Advisors: C. MOUTOU & F. BOUCHY
Institute: Laboratoire d'Astrophysique de Marseille

2007 – 2009 | **Master in Astrophysics, Space Science and Planetology**
UNIVERSITY PAUL SABATIER, TOULOUSE III, Toulouse, France

2004 – 2007 | **Bachelor in fundamental physics**
UNIVERSITY OF BORDEAUX 1, Bordeaux, France

MENTORING EXPERIENCE

Post-Docs | Hugh Osborn (2017 – 2019), Dominico Nardiello (2019+), Sophia Sulis (2020+)
PhD students | Théo Lopez (2017 - 2020)
Undergraduate students | C. Dalibot (2010), W. Fakhardji (2014), A. Jindal (2014)
E. Moreia (2015,2016), S. Hojjatpanah (2016), H. Gosselin (2017)
H. Vivien (2018), E. Carli (2018), A. Figot (2019)

RESEARCH EXPERIENCE

PUBLICATIONS	128 peer-review publications, more than 4400 citations H-index: 37 including 12 as first author (520 citations).
SPACE MISSIONS INVOLVEMENT	Member of the <i>CoRoT</i> (CNES) Exoplanet Science Team (2009 – 2015) Member of the <i>Kepler</i> (NASA) False-Positive WG (2013) Member of the <i>CHEOPS</i> (ESA) Data Analysis (B2) WG (2015 - 2016) Member of the <i>PLATO</i> (ESA) consortium (since 2011) Leader of the <i>PLATO</i> (ESA) PSM WPs 113200, 114200,132320 (since 2016) Leader of the <i>PLATO</i> (ESA) PDC WPs 367000, 367200 (since 2016)
OTHER PROJECT INVOLVEMENT	Leader of the PASTIS software development (since 2014) Leader of the ESO-K2 team (2014 – 2018) Leader of the <i>Kepler</i> follow-up program and member of the exoplanet-search programs with the SOPHIE spectrograph (since 2010)
PI OF ACCEPTED PROPOSALS	ESO: 3 normal proposals on HARPS (21 nights in total) and 1 proposal on UVES@VLT (31 hours) + 1 large programme on HARPS (70 nights) + 1 monitoring programme on ESPRESSO@VLT (95h) OPTICON: 7 proposals (15 nights HARPS-N, 6 nights SOPHIE, 4 nights CARMENES) CFHT: 2 proposals on ESPaDOnS (94 hours) FRENCH TELESCOPES: 8 normal proposals (43 nights) + 1 large programme (124 nights) on SOPHIE/OHP + 1 proposal (77 hours) on NARVAL/TBL. NASA K2: 1 normal proposal + 1 DDT
REVIEWING EXPERIENCE	Referee for ApJ, A&A, PASP, Science, MNRAS, Icarus Exoplanet panel member for the NASA K2 mission (one cycle) Member of the ESO Observing Programme Committee (2 semesters) Member of the Topical Teams for ESA's Voyage2050
CONFERENCES & OUTREACH	Invited talk in international conferences: 3 Invited talk for seminars: 15 LOC and/or SOC member of 6 international conferences and workshops (chair of LOC & SOC for 2 of them) Regular outreach talks (> 40 since 2005). Several thousands people reached Leader for an outreach project for the International Year of Astronomy (2009)

HONORS, PRIZES AND GRANTS

- October 2014: Marie-Curie Intra-European Fellowship (score: 92.3/100).
- October 2012: ESO photo ambassador.

LIST OF 3 RELEVANT PUBLICATIONS

- *An Earth-sized exoplanet with a Mercury-like composition*
Santerne, A., Brugger, B., Armstrong, D., et al., 2018, *Nature Astronomy*, 2, 393
- *SOPHIE velocimetry of Kepler transit candidates. XVII. The physical properties of giant exoplanets within 400 days of period*
Santerne, A., Moutou, C., Tsantaki, M., et al., 2016, *A&A*, 587, A64
- *SOPHIE velocimetry of Kepler transit candidates. VII. A false-positive rate of 35% for Kepler close-in giant candidates*
Santerne, A., Díaz, R., Moutou, C., et al., 2012, *A&A*, 545, A76