

# Jean Teyssandier

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## Biographical Information

- Citizenship: French
- Date of Birth: 16 May 1988

## Position

- 2019 - Research Fellow (chargé de recherche FNRS), naXys, University of Namur.
- 2017 - 2019 Research Associate, Cornell University.
- 2014 - 2017 STFC Postdoctoral Research Associate, DAMTP, University of Cambridge.

## Education

- 2011 - 2014 Ph.D. in Astrophysics, Institut d'Astrophysique de Paris, Université Pierre & Marie Curie. Dissertation: *Evolution of eccentricity and orbital inclination caused by planet-disc interactions*. Advisor: Caroline Terquem.
- 2012 - 2014 Long-term visitor at the Department of Physics, University of Oxford.
  - March - Visiting pre-doctoral fellow, Northwestern University. Master's Dissertation: *Formation of hot Jupiters via secular perturbations*. Advisors: Frederic Rasio & Smadar Naoz.
  - Sept. 2011
- 2009 - 2011 Master's degree in Astronomy & Astrophysics, Observatoire de Paris, Université Paris-Sud XI.
  - May - Undergraduate summer project, Northwestern University. Topic: *Secular planetary dynamics*.
  - August 2010 Advisors: Frederic Rasio & Smadar Naoz
- 2008 - 2009 Undergraduate studies at Université Paris-Sud XI (equivalent to a B.A. in Physics & Astrophysics).
- 2006 - 2008 Preparatory classes (a two-year intensive course in advanced mathematics and physics), Lycée Paul Valéry, Paris.

## Teaching Experience

- 2016-2017 Supervision of an undergraduate Astrophysics project: *formation of hot Jupiters via high-eccentricity migration*, Alexander Fritzsche, Part III astronomy student, Cambridge University.
- 2015 - 2017 Supervisions, Astrophysical Fluid Dynamics, Part II Physics, Cambridge University (12 hours/year)
- 2011 - 2013 Teaching assistant (72 hours/year) for undergraduate courses (*Introduction to dynamics and Mechanical and luminous waves*), Faculty of Physics, Université Pierre & Marie Curie.

## Grants & Awards

- 2019 FNRS research fellowship.
- 2014 ISIMA fellowship, Canadian Institute for Theoretical Astrophysics.

## Skills

- Programming skills: good knowledge of Python, C, Fortran, Matlab.
- Presentation skills and public speaking.
- Languages: French (native), English (fluent).

## Services

- Reviewer for the three main astrophysical journals: ApJ, MNRAS, A&A.
- Panel reviewer for NASA.
- Organization of the weekly Astrophysics Seminars, DAMTP, Cambridge.
- Member of the LOC for the Kavli Workshop: “The migration issue: from protoplanets to supermassive blackholes”, Cambridge ( May 2017).

## Outreach

- The Royal Institution Mathematics Masterclass: Celestial Mechanics (year 8).
- Science open day, DAMTP, Cambridge.

## Publications

- *A simplified model for the secular dynamics of eccentric discs and applications to planet-disc interactions*, **Teyssandier, J.** & Lai, D., MNRAS, 490, 4353.
- *Formation of hot Jupiters through secular chaos and dynamical tides*, **Teyssandier, J.**, Lai, D. & Vick, M., MNRAS, 486, 2265.
- *Eccentricity evolution during planet-disc interaction*, Ragusa, E., Rosotti, G., **Teyssandier, J.**, Booth, R., Clarke, C., Lodato, G., 2018, MNRAS, 474, 4460
- *Secular evolution of eccentricity in protoplanetary discs with gap-opening planets*, **Teyssandier, J.** & Ogilvie, G., 2017, MNRAS, 467, 4577.
- *The origin of the eccentricity of the hot Jupiter in CI Tau*, Rosotti, G., Booth, R., Clarke, C., **Teyssandier, J.** Facchini, S. & Mustill, A., 2017, MNRAS, 464, L114
- *Growth of eccentric modes in disc-planet interactions*, **Teyssandier, J.** & Ogilvie, G., 2016, MNRAS, 458, 3221.
- *Torque on an exoplanet from an anisotropic evaporative wind*, **Teyssandier, J.**, Owen, J., Adams, F., & Quillen, A., 2015, MNRAS, 452, 1743.
- *Evolution of eccentricity and orbital inclination of migrating planets in 2:1 mean motion resonance*, **Teyssandier, J.** & Terquem, C., 2014, MNRAS, 443, 568.
- *Extreme orbital evolution from hierarchical secular coupling of two giant planets*, **Teyssandier, J.**, Naoz, S., Lizarraga, I. & Rasio, F., 2013, ApJ, 779, 166.
- *Secular dynamics in hierarchical three-body systems*, Naoz, S., Farr, W., Lithwick, Y., Rasio, F. & **Teyssandier, J.**, 2013, MNRAS, 431, 2155.
- *Orbital evolution of a planet on an inclined orbit interacting with a disc*, **Teyssandier, J.**, Terquem, C. & Papaloizou, J., 2013, MNRAS, 428, 658.
- *Hot Jupiters from secular planet-planet interactions*, Naoz, S., Farr, W., Lithwick, Y., Rasio, F. & **Teyssandier, J.**, 2011, Nature, 473, 187.

## Colloquia & Seminars

- Astrophysics Colloquium, Leuven University, October 2018.

- Penn State CEHW Seminar, September 2018.
- Cornell Astrophysics Lunch Seminar, November 2018.
- Naxys Seminar, Namur University, March 2018.
- Exoplanets and Disks Meeting, University of Amsterdam, March 2018.
- Colloquium, Royal Edinburgh Observatory, March 2017.
- Astronomy and Dynamical Systems Seminar, IMCCE, Paris Observatory, May 2016.
- Astrophysics Seminar - Laboratory of Astrophysics of Bordeaux, May 2016.
- Exoplanet Seminar - Institute of Astronomy, University of Cambridge, June 2015.
- Astrophysics Seminar - DAMTP, University of Cambridge, October 2014.
- Exoplanet Seminar - Tel Aviv University, February 2014.
- Astrophysics Seminar - Technion (Israel Institute of Technology), February 2014.

## Conference Talks & Posters

- Planetary Dynamics Conference, Heidelberg (2019) - Talk.
- UK Community Exoplanet Conference, London (2019) - Talk.
- Planets, Stars and Disks: A Golden Age for the Dynamics of Particles and Gas, Oxford - **Invited Talk.**
- UK Community Exoplanet Conference, Oxford (2018) - Talk.
- The Accreting Universe, TD Lee Institute, Shanghai Jiao Tong University - **Invited Talk.**
- UK Community Exoplanet Conference, Saint-Andrews (2017) - Poster.
- Exoplanets I, Davos (2016) - Poster.
- Astro Fluids conference, Paris (2016) - Talk.
- UK Community Exoplanet Conference, Exeter (2016) - Talk.
- Protoplanetary discussions, Edinburgh (2016) - Talk.
- UK Community Exoplanet Conference, Warwick (2015) - Poster.
- UK Community Exoplanet Conference, Cambridge (2014) - Poster.
- European Planetary Science Congress, London (2013) - Talk.
- Oxford Extrasolar Planet and Planetary Research Group Meetings, Oxford (2013) - Talk.
- Extreme Solar Systems II, Wyoming (2011) - Poster.