

# Federico Marocco

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## Education

<b>BSc</b> , <i>Università degli Studi di Torino</i> , Torino (Italy).	<b>2004–2007</b>
<b>MSc</b> , <i>Università degli Studi di Torino</i> , Torino (Italy).	<b>2007–2010</b>
<b>PhD</b> , <i>University of Hertfordshire</i> , Hatfield (UK).	<b>2010–2014</b>

## PhD thesis

**title:** *A spectroscopic study of a large sample of L/T transition brown dwarfs*

**supervisors:** Prof. Hugh R. A. Jones, Prof. David J. Pinfield, Dr. Avril Day-Jones

**url:** <http://hdl.handle.net/2299/14480>

## Experience

**Trainee**, *Osservatorio Astrofisico di Torino*, Pino Torinese (Italy) **May–Aug 2007**

I worked on the determination of the astrometric parameters (parallax, proper motion and mass-ratio) of visual binary systems.

**Post Doctoral Research Fellow**, *University of Hertfordshire*, Hatfield (UK) **Oct 2014–now**

My current work focuses on the exploitation of *Gaia* in combination with ground-based optical and near-infrared surveys to find and characterize ultra-cool dwarfs in multiple systems, so called “benchmark systems”.

## Main Research Interests

- Low-mass stars and brown dwarfs
- Near-infrared photometry
- Near-infrared spectroscopy
- Astrometry

## Projects & collaborations

- PARSEC, NPARSEC & IPERCOOL: I have been part of the FP7 staff exchange schemes PARSEC, NPARSEC and IPERCOOL, for the interpretation and characterization of ultra-cool dwarfs. Participating institutes were: Osservatorio Astrofisico di Torino (Italy), University of Hertfordshire (UK), Shanghai Astronomical Observatory (China), and Observatório Nacional do Rio de Janeiro (Brazil). I maintain links with all participating institutions via Dr. R. L. Smart (Torino), Prof. M. G. Lattanzi (Torino), Prof. Z. X. Qi (Shanghai), Prof Z. H. Tang (Shanghai), and Prof. A. H. Andrei (Rio de Janeiro).

- *Gaia*: I am an affiliated member of the “*Gaia* Data Processing and Analysis Consortium” (CU8: Astrophysical characterisation) for the selection and characterization of UCDs, in preparation for the DR2 and beyond. I contribute to the realization of a spectroscopic database of ultra-cool dwarfs to be used for quality assurance of the *Gaia* results. I also maintain close *Gaia* links through Dr. R. L. Smart (CU3, Torino), Prof. L. M. Sarro (CU8, Madrid, GAIA UCD atmospheric characterization lead) and Prof. M. G. Lattanzi (Deputy CU3, PI of *Gaia* Italia, and coordinator of the astrometric verification unit).

## Honours & Awards

**Severo Ochoa Fellowship**, *Instituto de Astrofísica de Canarias*, 2014  
La Laguna (Spain), declined.

**Researcher Skills Development Fund**, *University of Hertfordshire*, 2015  
Hatfield (UK).

## Invited seminars & Talks

- Universidad de Chile, Santiago (Chile) – 2011
- Universidad de Valparaiso (Chile) – 2011
- “Mind the Gap”, University of Hertfordshire (UK) – 2013
- “*Gaia* and the unseen”, Università degli Studi di Torino (Italy) – 2014
- European Southern Observatory, Santiago (Chile) – 2015
- Universidad de Valparaiso (Chile) – 2015
- Instituto de Astrofísica de Canarias, La Laguna (Spain) – 2015
- University of Warwick, Warwick (UK) – 2016

## Teaching and other duties

- Tutor for the module “Engineering Applications of Mathematics” (2016–2017)
- Demonstrator for the outreach program at Bayfordbury Observatory (UK) (2010–2014)
- Co-advisor for the MSc projects of M. J. Rickard and L. Dover (University of Hertfordshire)

## Languages

**Italian:** native

**English:** fluent

**Spanish:** basic

## References

**Prof. David J. Pinfield**, *University of Hertfordshire*, Hatfield (UK),  
d.j.pinfield@herts.ac.uk.

**Prof. Hugh R. A. Jones**, *University of Hertfordshire*, Hatfield (UK),  
h.r.a.jones@herts.ac.uk.

**Dr. Richard L. Smart**, *Osservatorio Astrofisico di Torino*, Pino  
Torinese (Italy), smart@oato.inaf.it.

**Prof. Mario G. Lattanzi**, *Osservatorio Astrofisico di Torino*, Pino  
Torinese (Italy), lattanzi@oato.inaf.it.

**Dr. José A. Caballero**, *Centro de Astrobiología*, Madrid (Spain),  
caballero@cab.inta-csic.es.