

Dr. Elena Manjavacas

Curriculum Vitae

Steward Observatory - Arizona University
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Personal information

Born Mota del Cuervo, Spain Citizenship: Spanish

Current position

Sep. 2016 - present **Postdoctoral Research Associate** at Steward Observatory. University of Arizona. Tucson. USA.

Past positions

June 2015 - July 2016 **EMIR Postdoctoral fellow** at Instituto de Astrofísica de Canarias, San Cristóbal de La Laguna, Tenerife, Spain.

Feb. 2015 - May 2015 **Postdoc fellow** at Max-Planck-Institut für Astronomie. Heidelberg, Germany.

Education

2011-Feb. 2015 **PhD student at Max-Planck-Institut für Astronomie. Heidelberg, Germany.**

Subject: *Physical Properties of Brown Dwarfs.*

Supervisors: Prof. T. Henning, Dr. B. Goldman and Dr. S. Reffert.

2010-2011 **Masters in Astrophysics.** Universidad Complutense de Madrid. Spain.

2005-2010 **Degree in Physics.** Universidad Complutense de Madrid. Spain.

Scholarships and Rewards

Oct. 2011- Feb. 2015 **IMPRS PhD fellowship, Heidelberg, Germany.**

2010-2011 **Trainee at ESAC, European Space Agency Center** (Villanueva de la Cañada, Madrid).

Subject: *Analysis of gravitational microlensing events using OSIRIS on board Rosetta.*

Supervisors: Dr. M. Kueppers and Dr. Börn Grieger.

Summer 2010 **Instituto de Astrofísica de Canarias (IAC) Summer Research Scholarship.**

Subject: *Mode-Identification of the pulsating stars in the cluster NGC 6811.*

Supervisor: Dr. Orlagh Creevey. and Dr. Brandon Tingley.

2009-2010 **Scholarship from the Spanish Government (Ministerio de Ciencia e Innovación) to collaborate with Física de la Tierra, Astronomía y Astrofísica department.** Universidad Complutense de Madrid.

Subject: *Construcción de una estación de detección de bólidos en la Universidad Complutense de Madrid.*

Supervisor: Dr. Jaime Zamorano.

2005-2010 **Annual scholarship from the Spanish Government (Ministerio de Ciencia e Innovación) to complete the Degree on Physics and the Master on Astrophysics** at Universidad Complutense de Madrid, 2005-2011.

Referee of international publications

2014 **Nature**: 1 manuscript

2017 **ApJ**: 1 manuscript

Teaching experience

2012 Lab assistant for *Wavefront analysis with a Shack-Hartmann sensor*, University of Heidelberg, during 6 months.

2010-2011 Teaching assistant during 4 months for the subject *Mathematical Analysis* in the Physics Faculty, Universidad Complutense de Madrid.

2005-2010 Mathematics, Physics and Chemistry teacher.

Accepted proposals

2016 12.5h awarded at VLT/XSHOOTER: *Robust test of low-gravity indicators in spectra of brown dwarf members of open clusters*.

2016 10h awarded at GTC/CIRCE: *Brown dwarf variability with GTC*.

2014 5 nights awarded at CAHA/CAFOS: *Polarization of young brown dwarfs*.

2013 17.5 h awarded in VLT/ISAAC: *Extending the young brown dwarf ISAAC spectral library*.

2011-2013 3 Accepted proposals in CAHA/OMEGA2000. *Measuring Brown Dwarf Parallaxes*.

Observing experience

2016 24 nights in La Palma/GTC, Spain, **EMIR spectrograph commissioning**.

2015 6 nights at La Silla, Chile, 2.2 m telescope/WFI, imaging.

2014 4 nights at CAHA, Spain, 2.2 m telescope/CAFOS, polarimetry.

2013 12 nights at La Silla, 2.2 m telescope/FEROS optical spectrograph & GROND optical and near infrared imager, Chile

2011 2 nights at CAHA, Spain. 2.2 m telescope/CAFOS, optical imaging.

2010 8 nights at IAC 80/optical imaging. Observatorio de El Teide, Tenerife, Spain.

Press releases

July 2017 Polarized light from a brown dwarf: where lies the dust at play? Press release of Calar Alto Observatory.

Computer Skills

Languages IDL and MIDAS. Latex.

Packages IRAF, MATLAB

VO Topcat, Aladin, VOSA
Platforms Unix, Linux and Windows
Photometry Optical & near infrared: IAC80/Observatorio de El Teide, CAFOS/Calar Alto, OMEGA2000/Calar Alto, GTC/EMIR
Spectroscopy Optical & near infrared: VLT/X-Shooter, VLT/ISAAC, GTC/EMIR.

Languages

Spanish **Mother Tongue**
English **Advanced**
German **Advanced**

Conference organization

September 2010 *IX Scientific Meeting of the Spanish Astronomical Society (SEA)*, Madrid. **LOC member**
November 2006 *III Jornadas Astronómicas de la Comunidad de Madrid*, Madrid. **LOC member.**

Selected leadership experience

2008-2010 Student's representative in the Faculty of Physics at Universidad Complutense de Madrid.
2007-2008 Vice-president of ASAAF-UCM Astronomical Amateur Organization at Universidad Complutense de Madrid.
2006-2007 Secretary of ASAAF-UCM Astronomical Amateur Society at Universidad Complutense de Madrid.

Extra

Summer 2003 **Prize to participate in Ruta Quetzal BBVA 2003: *Rumbo a las Montañas del Parayso.***
Endorse by UNESCO, sponsored by BBVA with the academic program directed by Universidad Complutense de Madrid.

References

Prof. Daniel Apai

Supervisor at Steward Observatory
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Dr. Bertrand Goldman

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Refereed Publications

1. **Manjavacas, E.**; Lodieu, N.; Béjar, V. J. S.; Zapatero-Osorio, M.R.; Apai, D. *Spectroscopic Low-gravity Indicators for Brown Dwarfs*, 2017, in preparation.
2. **Manjavacas, E.**; Apai, D.; Zhou, Y.; Lew, B.; Karalidi, T.; Scheider, G. et al.;. *Cloud Atlas: Discovery of Rotational Spectral Modulation in a low-mass, L-Type Brown Dwarf Companion to a Star*, 2017, submitted to ApJ.
3. **Manjavacas, E.**; Miles-Páez, P. A.; Zapatero-Osorio, M. R.; Goldman, B.; Buenzli, E.; Pallé, E.; Henning, T., MNRAS, 468, 3024. *Polarization of young brown dwarfs*.
4. **Manjavacas, E.**; Goldman, B; Alcalá, J. M.; Bonnefoy, M.; Zapatero-Osorio, M. R.; Homeier, D.; Béjar, V. J. S.; Smart, R. L.; Allard F.; Henning, T.; 2016, MNRAS, 455, 1341. *Hunting for brown dwarf binaries and testing atmospheric models using X-Shooter spectra*.
5. **Manjavacas, E.**; Bonnefoy, M.; Goldman, B.; Chauvin, G.; Rojo, P. et al. 2014, 564, 55, A&A. *New constraints on the formation and settling of dust in the atmosphere of young M and L dwarfs*.
6. **Manjavacas, E.**; Goldman, B.; Reffert, S.; Henning, T. 2013, 560, 52 A&A. *Parallaxes of cool brown dwarfs*.
7. M. Marks; E. L. Martín; N. Lodieu; V. J. S. Béjar; P. Kroupa; I. Thies; **E. Manjavacas**; R. Rebolo López; S. Velasco. *A testable prediction to distinguish between peripheral and star-like formation*. Accepted for publication in A&A
8. F. Garzón; N. Castro; M. Insausti; **E. Manjavacas**; M. Miluzio; Peter Hammersley; N. Cardiel; S. Pascual; C. González-Fernández; J. Molgó; M. Barreto; P. Fernández; E. Joven; P. López; A. Mato; H. Moreno; M. Núñez; J. Patrón; J. Rosich; N. Vega. *EMIR at the GTC: results on the commissioning at the telescope*. SPIE digital library: <http://dx.doi.org/10.1117/12.2232885>.
9. Biller, B. A.; Vos, J.; Buenzli, E.; Baxter, C.; Crossfield, I. J. M.; Allers, K.; Liu, M. C.; Bonnefoy, M.; Deacon, N.; Brandner, W.; Schlieder, J. E.; Dupuy, T.; Kopytova, T. G.; **Manjavacas, E.**; Allard, F.; Homeier, D.; Henning, T.; 2015, ApJ Letters, 813, 23. *Variability in a Young, L/T Transition Planetary Mass Object*.
10. Kopytova, T. G.; Crossfield, I. J. M.; Deacon, N. R.; Brandner, W.; Bayo, A.; Buenzli, E.; Schlieder, J. E.; **Manjavacas, E.**; Biller, B. A.; Kopon, D.; 2014, ApJ, 797, 3. *Deep z-band observations of the coolest Y dwarf*.

Oral contributions to international conferences

- June 2016 *Cool Stars 19 Conference*. Uppsala (Sweden). **Talk: Manjavacas, E.**; Miles-Páez, P. A.; Zapatero-Osorio, M. R.; Goldman, B.; Buenzli, E.; Pallé, E.; Henning, T. *Polarization of young brown dwarfs*.
- July 2015 *From super-Earths to Brown Dwarfs: Who's who?*. Paris (France). **Talk: Manjavacas, E.**; B. Goldman, J. M. Alcalá, M. Bonnefoy, M. R. Zapatero-Osorio, D. Homeier, F. Allard, R. L. Smart, V. J. S. Béjar, T. Henning, 2014. *Hunting brown dwarf binaries and testing atmospheric models using X-Shooter spectra*
- September 2014 *Meeting of the Spanish Astronomical Society (SEA)*, Teruel, Spain. **Talk: Manjavacas, E.**; B. Goldman, J. M. Alcalá, M. Bonnefoy, M. R. Zapatero-Osorio, D. Homeier, F. Allard, R. L. Smart, V. J. S. Béjar, T. Henning, 2014. *Hunting brown dwarf binaries using X-Shooter spectra*

- March 2014 *Gaia and the Unseen The Brown Dwarf Question*. Torino (Italy). **Talk:** **Manjavacas, E.**; Bonnefoy, M.; Goldman, B.; Chauvin, G.; Rojo, P. et al. 2013. *New constrains on the formation and settling of dust in the atmosphere of young M and L dwarfs*
- October 2012 *50 years of Brown Dwarfs*, Ringberg Castle (Germany). **Talk:** *Towards a complete brown dwarf binary fraction including spectroscopic binaries.*
- October 2008 *IV Jornadas Astronómicas de la Comunidad de Madrid*. **Talk:** La Astronomía en la Historia de la Comunidad de Madrid (History of Astronomy in Madrid), Madrid.

Poster contributions to international conferences

- June 2014 **Manjavacas, E.**; B. Goldman, J. M. Alcalá, M. Bonnefoy, M. R. Zapatero-Osorio, D. Homeier, F. Allard, R. L. Smart, V. J. S. Béjar, T. Henning, 2014. *Hunting brown dwarf binaries and testing atmospheric models using X-Shooter spectra. Cool Stars 18 Meeting*. Flagstaff (USA). **Poster.**
- July 2013 **Manjavacas, E.**; Bonnefoy, M.; Goldman, B.; Chauvin, G.; Rojo, P. et al. 2013. *New constrains on the formation and settling of dust in the atmosphere of young M and L dwarfs. Protostars and Planets VI*. Heidelberg (Germany). **Poster.**
- May 2013 **Manjavacas, E.**; Goldman, B.; Reffert, S.; Henning, T. 2013. *Parallaxes of cool brown dwarfs. Brown dwarfs come to Age*. Fuerteventura (Spain). **Poster.**
- July 2012 **Manjavacas et al. 2013. Posters:** *Frequencies and oscillation modes of variable stars in σ -orionis and NGC 6811*. Montes et al. 2013. *Kinematics of exoplanet host stars: membership in young moving groups and the thin/thick disc. Meeting of the Spanish Astronomical Society (SEA)*. Valencia (Spain).
- 2011 Ocaña, F.; Zamorano, J.; Sanchez de Miguel, A.; Izquierdo, J.; **Manjavacas, E.**; Ramirez-Moreta, P.; Ponce, R. *Setting-Up a Fireball Detection Station at UCM Observatory*, 2011. **Poster** contribution *International Meteor Conference, Armagh*, Northern Ireland.
- September 2010 Zamorano, J.; Gallego, J.; Ocaña, F.; Sanchez de Miguel, A.; Izquierdo, J.; **Manjavacas, E.**; Ponce, R.; Garcia, L.; Saez, G.; Ramirez, P. *IX Scientific Meeting of the Spanish Astronomical Society (SEA)*, Madrid (Spain). **Poster:** *The Universidad Complutense of Madrid meteor and fireball patrol station.*
- September 2009 Montes, D.; Caballero, J. A.; Fernandez-Rodríguez, C. J.; Alloza, L. J.; Bertrán de Lis, S.; Garrido-Rubio, A.; Grecaino, R.; Herranz-Luque, J. E.; Juarez-Martínez, I.; **Manjavacas, E.**; Ocaña, F.; Pila-Díez, B.; Sánchez de Miguel, A.; Tapia-Ayuga, C. E. **Poster:** *Estimating the Age of Exoplanet's Host Stars by their Membership in Moving Groups and Young Associations. Pathways Towards Habitable Planets workshop, September 2009*, Barcelona (Spain).

Outreach publications

1. **E. Manjavacas.** *Calendarios Islámico y Hebreo (Islamic and Hebreum calendar)*. Neomenia. Numero 30. ISBN: 1887-4258. 2009.