

**DR MARÍA TERESA BELMONTE SAINZ-EZQUERRA**  
**Research Associate, Fourier Transform Spectroscopy Laboratory**  
**Imperial College London (UK)**

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## EDUCATION

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12/11/2012- 31/08/2016	<b>PhD in Plasma Spectroscopy (International)</b> (Honours) University of Valladolid (Spain)
01/10/2011- 31/07/2012	<b>Master of Science in Instrumentation in Physics</b> (Honours) University of Valladolid (Spain)
01/2006- 31/06/2011	<b>Bachelor of Science in Physics</b> University of Valladolid (Spain)

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## RESEARCH EXPERIENCE

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01/09/2016 – Present	<b>Research Associate in Laboratory Astrophysics</b> Department of Physics Imperial College London (UK)
13/04/2019 – 03/05/2019	<b>Visiting Researcher</b> National Institute of Standards and Technology (USA)
07/09/2015- 05/09/2015	<b>Visiting Researcher</b> Fourier Transform Spectroscopy Laboratory Imperial College London (UK)
25/08/2014- 22/11/2014	<b>Visiting Researcher</b> Plasma Spectroscopy Laboratory Novi Sad University (Serbia)
07/09/2013- 07/12/2013	<b>Visiting Researcher</b> Plasma Spectroscopy Laboratory Novi Sad University (Serbia)

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## TEACHING AND SUPERVISING EXPERIENCE

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01/10/2017 – Present	Assistant in <b>supervision/mentoring of PhD student</b>
01/09/2016 – Present	<b>Demonstrator in Spectroscopy Laboratory</b> Second Year Students of Physics Imperial College London (UK)
01/02/2014 – 31/06/2016	<b>Assistant Teacher, University of Valladolid (Spain)</b> - Laboratory in Optometric Instruments Degree in Optics and Optometry (2 <sup>nd</sup> Year) - Optics (Introduction to Plasma Spectroscopy) Degree in Physics (3 <sup>rd</sup> year)

## SCHOLARSHIPS AND AWARDS

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06/06/2018	<b>Prize “Excellence in the support of Teaching and Learning”</b> Faculty of Natural Sciences Imperial College London (United Kingdom)
28/04/2017	<b>Prize Best Poster “Accurate Atomic Data for Galactic Surveys”, Conference “Astrometry and Astrophysics in the Gaia sky”, 2017, Nice (France)</b>
07/09/2015- 05/12/2015	<b>University of Valladolid Short-term Fellowship 2800 €</b> (spent at Imperial College London, UK)
25/08/2014- 22/11/2014	<b>University of Valladolid Short-term Fellowship 2800 €</b> (spent at Novi Sad University, Serbia)
07/09/2013- 07/12/2013	<b>University of Valladolid Short-term Fellowship 2800 €</b> (spent at Novi Sad University, Serbia)
12/11/2012- 31/06/2016	<b>University of Valladolid PhD Fellowship, 51830 €</b> Theoretical, Atomic and Optical Physics University of Valladolid (Spain)
01/11/2011- 31/01/2012	<b>Santander “Introduction to Research” Fellowship 3000 €</b> , Theoretical, Atomic and Optical Physics University of Valladolid (Spain)
01/10/2010- 31/06/2011	<b>Spanish Ministry of Education Research Collaboration Grant 2700 €</b> , Theoretical, Atomic and Optical Physics University of Valladolid (Spain)
01/10/2009- 31/06/2010	<b>University of Valladolid Research Collaboration Grant 1644 €</b> , Theoretical, Atomic and Optical Physics University of Valladolid (Spain)
04/09/2012	<b>Award</b> <b>Young Researchers “Spanish Optical Society”</b> Prize – invited talk to ~ 200 people

## OTHER

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- Lead **editor** Special Issue “Atomic and Molecular Data Needs for Astronomy and Astrophysics”, *Galaxies Journal* (ISSN 2075-4434), 2018.
- **Organiser of the Workshop** “Spectroscopy for families: Discovering the mysteries of light” within the Imperial College Science Festival, 27-29 April 2018.
- **Organiser of the all-day Special Session** “Atomic and Molecular data needs for astronomy and astrophysics” (16 talks, 12 posters), European Week of Astronomy and Space Science + National Astronomy Meeting (EWASS), 3-6 April 2018.

- Reviewer in Journals *ApJS*, *A&A*, *Atoms and Galaxies*.
- Co-founder outreach organisation “Young Minds – University of Valladolid” (**European Physical Society**)

## PUBLICATIONS

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- “**The Laboratory Astrophysics Programme at Imperial College London**”. M. T. Belmonte, J. C. Pickering, C. Clear, F. Concepción Mairey and F. Liggins. *Galaxies*, 6, 109 (2018).
- “**Fe I Oscillator Strengths for Transitions from High-lying Odd-parity Levels**”. M. T. Belmonte, J. C. Pickering, M. P. Ruffoni, E. A. Den Hartog, J. E. Lawler, A. Guzman and U. Heiter. *The Astrophysical Journal Supplement Series*, 848:125 (2017).
- “**Lifetime measurements and oscillator strengths in singly ionised scandium and the solar abundance of scandium**”. A. Pehlivan Rhodin, M. T. Belmonte, L. Engstrom, H. Lundberg, H. Nilsson, H. Hartman, J. C. Pickering, C. Clear, P. Quinet, V. Fivet and P. Palmeri. *Monthly Notices of the Royal Astronomical Society (MNRAS)*, 472, 3337-3353 (2017).
- “**Accurate atomic data for Galactic Surveys**”. M. T. Belmonte, J. C. Pickering, C. Clear, F. Liggins and A. P. Thorne. *Proceedings of the International Astronomical Union*, 12, S330, 203-205 (2017).
- “**Experimentally measured radiative lifetimes and oscillator strengths in neutral vanadium**”. C. E. Holmes, J. C. Pickering, M. P. Ruffoni, R. Blackwell-Whitehead, H. Nilsson, L. Engstrom, H. Hartman, H. Lundberg and M. T. Belmonte. *The Astrophysical Journal Supplement Series*, 224:35 (2016).
- “**Experimental Stark halfwidths of the ionized oxygen and silicon spectral lines**”. L. Gavanski, M. T. Belmonte, I. Savić and S. Djurović. *Monthly Notices of the Royal Astronomical Society (MNRAS)*, 457, 4038-4050 (2016).
- “**Kr II transition probability measurements for the UV spectral region**”. M. T. Belmonte, L. Gavanski, R. J. Peláez, J. A. Aparicio, S. Djurović and S. Mar. *Monthly Notices of the Royal Astronomical Society (MNRAS)*, 2015, 456(1):518-524.
- “**Improved and expanded measurements of transition probabilities in UV Ar II spectral lines**”. M. T. Belmonte, S. Djurović, R. J. Peláez, J. A. Aparicio and S. Mar. *Monthly Notices of the Royal Astronomical Society (MNRAS)*, 445, 4, 3345-3351 (2014).
- “**Stark parameter measurement of Ar II UV spectral lines**”. S. Djurović, M. T. Belmonte, R. J. Peláez, J. A. Aparicio and S. Mar. *Monthly Notices of the Royal Astronomical Society (MNRAS)*, 433, 2, 1082-1093 (2013).
- “**Integration of an ICCD camera for accurate spectroscopic measurements**”. R. Peláez, S. Mar, J. A Aparicio, M. T. Belmonte. *Applied Spectroscopy*, 66, 8, 970-978 (2012).

## CONTRIBUTIONS IN CONFERENCES, WORKSHOPS AND SEMINARS

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- “*What can atomic laboratory spectroscopy do for astronomers? An overview of capabilities and new results*”. M. T. Belmonte, J. C. Pickering, C. Clear, F. Concepcion. The legacy of the Gaia-ESO Survey, 24-27/09/2019, Florence (Italy). (**Contributed talk**).

- “Fourier Transform Spectroscopy as a tool to measure atomic transition probabilities”. M. T. Belmonte, J. C. Pickering, C. Clear, F. Concepcion. ASOS 2019, 23-27/06/**2019**, University of Fudan (China). **(Invited talk)**.
- “What can laboratory spectroscopy do for astronomers?”. M. T. Belmonte, Astronomy Department Seminars, 22/05/**2019**, University of Warwick (UK). **(Invited talk)**.
- “The measurement of transition probabilities using Fourier Transform Spectroscopy”. M. T. Belmonte, J. C. Pickering, C. Clear, F. Concepcion. ICAMDATA 2018, 11-15/11/**2018**, Harvard University (USA). **(Contributed talk)**.
- “The Laboratory Astrophysics Program at Imperial College London using Fourier Transform Spectroscopy”. M. T. Belmonte, J. C. Pickering, C. Clear, F. Concepcion, F. Liggins. NASA Laboratory Astrophysics, 8-11/04/**2018**, University of Georgia (USA) (Poster)
- “The importance of very accurate experimental log(gf)-values for the calculation of chemical abundances”. M. T. Belmonte, J. C. Pickering, C. Clear, F. Concepcion, F. Liggins.

Conference: European Week of Astronomy and Space Science, 3-6/04/2018, Liverpool (UK) - Contribution: I was **organiser** and **chair** of the all-day Special Session “Atomic and Molecular data needs for astronomy and astrophysics” (16 speakers, 12 posters) + Poster.

- “New accurate atomic data for iron for astrophysics applications”. F. Concepción, J. C. Pickering, M. T. Belmonte. (EWASS), 3-6/04/**2018**, Liverpool (UK) (Poster).
- “Accurate experimental log(gf)-values and their impact on the calculation of chemical abundances”. M. T. Belmonte, J. C. Pickering, C. Clear, F. Liggins and A. P. Thorne.

Gaia-ESO Survey, Fourth Science Meeting. 4-8/09/**2017**, Catania (Italy) **(Contributed talk)**

- “High accuracy atomic parameters for Galactic Surveys”. M. T. Belmonte, J. C. Pickering, C. Clear, F. Liggins and A. P. Thorne. National Astro. Meeting, 2-6/07/**2017**, Hull (UK) (Poster)
- “Measurement of accurate transition probabilities with Fourier Transform Spectroscopy”. M. T. Belmonte. Intensive Workshop in Computational Atomic Physics, 13-21/06/**2017**, Queen’s University Belfast (UK)
- “Accurate atomic data for Galactic Surveys”. M. T. Belmonte, J. C. Pickering, C. Clear, F. Liggins and A. P. Thorne. Proceedings of the International Astronomical Union, 12 (S330), 203-205. ISBN: 978-11-0717-008-7. Astrometry and Astrophysics in the Gaia Sky, 24-28/04/**2017**, Nice (France) **(Poster - Prize Best Poster)**
- “Transition probabilities of some UV Kr II spectral lines”. M. T. Belmonte, L. Gavansky, R. J. Pelaez, J. A. Aparicio, S. Djurovic, S. Mar. ISBN: 978-86-84539-14-6. 28<sup>th</sup> International Symposium on Physics of Ionized Gases (SPIG). 29/08-02/09/**2016**, Belgrade (Serbia) (Poster)
- “Stark halfwidths of several O II spectral lines”. L. Gavansky, M. T. Belmonte, I. Savic, S. Djurovic. ISBN: 978-86-84539-14-6. 28<sup>th</sup> International Symposium on the Physics of Ionized Gases (SPIG). 29/08-02/09/**2016**, Belgrade (Serbia) (Poster)

- “*Estimación de la incertidumbre de probabilidades de transición medidas mediante espectroscopia de emisión en un plasma pulsado*”. M. T. Belmonte, L. Gavansky, R. J. Peláez, J. A. Aparicio, S. Djurovic, S. Mar. ISBN 978-84-606-9611-7. XXXV Bienal de la Real Sociedad Española de Física, 13-17/07/2015, Gijón (Spain) (**Contributed talk**)
- “*Transition Probabilities Measurements of several UV Ar II lines*”. M. T. Belmonte, L. Gavansky, J. A. Aparicio, R. J. Peláez, S. Djurovic, S. Mar. ISBN 978-86-7762-600-6. 27<sup>th</sup> International Symp. on Physics of Ionized Gases. 26-30/08/2014, Belgrade (Serbia) (Poster)
- “*Transition Probabilities Measurements of several Xe II lines*”. M. T. Belmonte, J. A. Aparicio, R. J. Peláez, S. Djurovic, S. Mar. ISSN 978-86-7031-242-5. 26<sup>th</sup> International Symp. on Physics of Ionized Gases. 27-31/08/2012, Zrenjanin (Serbia) (Poster)
- “*Medida de las probabilidades de transición del Argón ionizado en la región del ultravioleta*”. M. T. Belmonte, R. J. Peláez, S. Djurovic, J. A. Aparicio, S. Mar. X Reunión Nacional de Óptica, 4-7/09/2012, Zaragoza (Spain) (**Invited Talk -Prize Young Researchers**)