

Dr. Yara L. Jaffé - Curriculum Vitae

PERSONAL INFORMATION

European Southern Observatory
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Languages: Native in Spanish, fluent in English and conversational proficiency in Italian.

HIGHER EDUCATION

PhD in Astronomy at The University of Nottingham, UK (2007-2011).

Thesis: “*The formation and evolution of galaxies as a function of environment*”.

Advisor: Prof. Alfonso Aragón-Salamanca.

Included a one-year studentship by the European Southern Observatory (ESO-Germany).

Licenciatura (5-year Undergraduate degree) in Physics at Universidad Simón Bolívar, Caracas, Venezuela.
Graduated **Cum Laude** (2001-2007)

Thesis project at Centro de Investigaciones de Astronomía (CIDA), Mérida, Venezuela (2006).

Thesis title: “*Kinematic Study of RR Lyrae stars in the inner halo of the Milky Way*”.

Advisor: Dr. Katherina Vivas.

Thesis awarded **honoric distinction**, and followed by a two-month internship at NASA’s Goddard Space Flight Center, USA (2007).

RESEARCH POSITIONS

3) Postdoctoral research fellow at ESO, Santiago, Chile, with 80 nights per year of duties as support astronomer for the Very Large Telescope at Paranal Observatory in the Atacama desert (2015-Present).

2) Postdoctoral research fellow funded by FONDECYT at Universidad de Concepción, Chile (2012-2015).

1) Postdoctoral research associate at the INAF - Astronomical Observatory of Padova, Italy (2011-2012).

TEACHING & MENTORING EXPERIENCE

- Co-supervising a PhD student from the University of Birmingham at ESO (Santiago) through an ESO Studentship Programme (2015-Present).

- Taught a post-graduate astronomy course on *Galaxy Formation and Evolution* at Universidad de Concepción (2013).

- Teaching assistant of first year undergraduate students in physics at University of Nottingham (2007 - 2008).

- Teaching assistant in *Physics* and *Physics Laboratory* for first and second-year undergraduate students at Universidad Simón Bolívar (2004-2005).

- Lecturer of *Module of Physics* for senior High School year at Institutos Educativos Asociados in Venezuela (2004).

GRANTS, SCHOLARSHIPS AND AWARDS

- ESO Fellowship in Chile worth over \$200,000 US (2015-Present).

- FONDECYT fellowship in Chile worth over \$110,000 US (2012-2015).

- *Science Without Borders* fellowship in Brazil (2012, declined).

- Second place in the Shell “very early career woman physicist of the year” award at the Institute of Physics, London, UK (2010).

- Award in student poster competition at “Galaxy evolution and environment”, Kuala Lumpur, Malaysia (2009).

- Studentship at the European Southern Observatory in Garching, Germany (2008).

- Scholarship from the *Academia de Ciencias Físicas, Matemáticas y Naturales de Venezuela* to study abroad (2008).

- Scholarship from the School of Physics & Astronomy of The University of Nottingham (2007).

- Studentship from NASA - Goddard Space Flight Center, USA (2007).

PROFESSIONAL
SERVICE

- Referee for *The Astrophysical Journal* (ApJ) and *Astronomy & Astrophysics* (A&A) in several occasions.
- Reviewer in European grant reviewing committees.
- Pannel member of the Fellowship and Studentship Selection Committee at ESO-Chile.
- Member of the MUSE Science Verification Team at ESO.
- Session Chair in several astronomy conferences.

OBSERVING
EXPERIENCE

- Over 130 nights of bserving experience at the Very Large Telescope (VLT) in Paranal Observatory and additional experience on medium-size (1-4m) and large (8m) international telescopes.
- PI and Co-I on dozens of accepted proposals to obtain infrared, optical and sub-mm data on various world-class telescopes, including VLT and the Hubble Space Telescope.

REFEREED
PUBLICATIONS

32 published articles (23 refereed), including 11 first-author publications (7 refereed), and a second-author *Nature* paper. 240 citations to date.

23) B. M. Poggianti, **Y. L. Jaffé**, A. Moretti, M. Gullieuszik, M. Radovich, S. Tonnesen, J. Fritz, D. Bettoni, B. Vulcani, G. Fasano, C. Bellhouse; G Hau, A. Omizzolo. “*Ram pressure feeding supermassive black holes*”, *Nature*, **accepted**.

22) F. Vogt, et al (including **Y. L. Jaffé**) “*Detection and implications of laser-induced Raman scattering at astronomical observatories*”, *Physical Reviews X*, **accepted**.

21) B. M. Poggianti, A. Moretti, M. Guillieuszik, J. Fritz, **Y. L. Jaffé**, D. Bettoni; G. Fasano; C. Bellhouse; G. Hau; B. Vulcani; A. Biviano; A. Omizzolo; A. Paccagnella; M. D’Onofrio; A. Cava; Y-K. Sheen; W. Couch & M. Owers, “*GASP I. Gas Stripping Phenomena in galaxies with MUSE*”, *ApJ*, **accepted** (arXiv:1704.05086) .

20) C. Bellhouse, **Y. L. Jaffé**, et al., “*GASP II. A MUSE view of extreme ram-pressure stripping along the line of sight: kinematics of the jellyfish galaxy JO201*”, submitted to *ApJ*, **accepted** (arXiv:1704.05087).

19) J. Rhee, R. Smith, H. Choi, S. K. Yi, **Y. L. Jaffé**, G. N. Candlish & R. Sanchez-Janssen, “*Phase-space analysis in the group and cluster environment: Time since infall and mass loss*” (2017) *ApJ*, in press (arXiv:1704.04243).

18) Y. K. Sheen, R. Smith, **Y. L. Jaffé**, M. Kim, S. K. Yi, P-A. Duc, J. Nantais, G. Candlish, R. Demarco & E. Treister, “*Discovery of ram pressure stripped gas around an elliptical galaxy in Abell 2670*” (2017) *ApJL*, 840, 7.

17) H. Yoon, A. Chung, R. Smith & **Y. L. Jaffé**, “*A history of HI stripping in Virgo: a phase-space view of VIVA galaxies*” (2017) *ApJ*, 838, 81

16) A. Paccagnella, B. Vulcani; B. M. Poggianti, J. Fritz, G. Fasano, A. Moretti, **Y. L. Jaffé**, A. Biviano, M. Gullieuszik, D. Bettoni, A. Cava, W. Couch & M. D’Onofrio, “*OMEGAWINGS: The first complete census of post starburst galaxies in clusters in the local Universe*”, (2017) *ApJ*, 838, 148.

15) X. Fernández, Hansung B. G., J. H. van Gorkom, M. S. Yun, E. Momjian, A. Popping, L. Chomiuk, K. M. Hess, L. Hunt, K. Kreckel, D. Lucero, N. Maddox, T. Oosterloo, D. J. Pisano, M. A. W. Verheijen, C. A. Hales, A. Chung, R. Dodson, K. Golap, J. Gross, P. Henning, J. Hibbard, **Y. L. Jaffé**, et al. “*Highest Redshift Image of Neutral Hydrogen in Emission: A CHILES Detection of a Starbursting Galaxy at $z = 0.376$* ” (2016) *ApJ Letters*, 824, 1.

14) Y. K. Sheen, S. K. Yi, C. H. Ree, **Y. L. Jaffé**, R. Demarco, E. Treister, *Recent Galaxy Mergers and Residual Star Formation of Red Sequence Galaxies in Galaxy Clusters* (2016) *ApJ*, 827,32.

13) **Y. L. Jaffé**, M. A. Verheijen, C. P. Haines, R. Cybuslky, M. Montero-Castano, A. Chung, B. Z. Deshev, X. Fernandez, J. van Gorkom, B. M. Poggianti, R. Smith, H. Yoon, M. S. Yun, A. Finoguenov, G. Smith, N. Okabe, “*BUDHIES III: The fate of HI and the quenching of galaxies in evolving environments*” (2016) *MNRAS*, 461, 1202.

12) R. Cybuslky, -including **Y. L. Jaffé**- et al., “*Early Science with the Large Millimeter Telescope: COOL BUDHIES I – a pilot study of molecular and atomic gas at $z\sim0.2$* ” (2016) *MNRAS*, 459, 3287.

11) B. M. Poggianti, G. Fasano, A. Omizzolo, M. Gullieuszik, D. Bettoni, A. Moretti, A. Paccagnella, **Y. L. Jaffe**, B. Vulcani, J. Fritz, W. Couch, M. D’Onofrio, “*Jellyfish galaxy candidates at low redshift*”

(2016), *AJ*, 151, 78.

10) E. Pompei, C. Adami, F. Gastaldello, S. Lavoie, B. Poggianti, B. Altieri, **Y. L. Jaffé**, E. Koulouridis, I. Valtchanov, F. Pacaud, M. Pierre, and T. Sadibekova, “*The XXL survey XIII: observing the birth of a massive cluster*” (2016), *A&A Letters*, 692, 6.

9) E. Koulouridis, B. Poggianti, B. Altieri, I. Valtchanov, **Y. L. Jaffé**, C. Adami, A. Elyiv, O. Melnyk, S. Fotopoulou, F. Gastaldello, C. Horellou, M. Pierre, F. Pacaud, M. Plonis, T. Sadibekova, J. Surdej, “*The XXL survey XII. Optical spectroscopy of X-ray-selected clusters and the frequency of AGN in superclusters*”, (2016) *A&A*, 592, 11.

8) **Y. L. Jaffé**, R. Smith, G. N. Candlish, B. M. Poggianti, Y-K. Sheen, M. Verheijen, “*BUDHIES II: A phase-space view of gas stripping and galaxy quenching in a cluster at $z=0.2$* ” (2015), *MNRAS* 448, 1715.

7) **Y. L. Jaffé**, A. Aragon-Salamanca, B. Ziegler, H. Kuntschner, D. Zaritsky, G. Rudnick, B. M. Poggianti, C. Hoyos, C. Halliday, R. Demarco, “*Ionized gas disks in Elliptical and S0 galaxies at $z < 1$* ” (2014), *MNRAS*, 440, 3491.

6) **Y. L. Jaffé**, B. M. Poggianti, M. Verheijen, B. Deshev, and J. van Gorkom “*BUDHIES I: characterizing the environment in and around two clusters at $z \sim 0.2$* ” (2013), *MNRAS*, 431, 2111

5) **Y. L. Jaffé**, B. M. Poggianti, M. Verheijen, B. Deshev, and J. van Gorkom “*Gas reservoirs and star formation in a forming galaxy cluster at $z \sim 0.2$* ” (2012), *ApJ Letters*, 756, 28.

4) **Y. L. Jaffé**, A. Aragon-Salamanca, H. Kuntschner, S. Bamford, C. Hoyos, G. De Lucia, C. Halliday, B. Milvang-Jensen, B. Poggianti, G. Rudnick, R. P. Saglia, P. Sanchez-Blazquez and D. Zaritsky “*The effect of the environment on the gas kinematics and the structure of distant galaxies*” (2011b) *MNRAS* 417, 1996.

3) **Yara L. Jaffé**, A. Aragon-Salamanca, G. De Lucia, P. Jablonka, G. Rudnick, R. Saglia and D. Zaritsky “*The colour-magnitude relation of Elliptical and Lenticular galaxies in the ESO Distant Cluster Survey*” (2011a) *MNRAS*, 410, 280.

2) M. Crenshaw, S. Kraemer, H. Smith, **Yara L. Jaffé**, R. P. Deo and N.R. Collins “*The Geometry of Mass Outflow and Infall in the Seyfert 2 Galaxy Mrk 3*”. (2010) *AJ*, 139, 871

1) A. K. Vivas, **Yara L. Jaffé**, R. Zinn, R. Winnick, S. Suffau and C. Mateu.. “*Spectroscopy of Bright QUEST RR Lyrae Stars: Velocity Sub- structures towards Virgo*”. (2008) *AJ*, 136, 1645

PENDING
PUBLICATIONS

4) B. Vulcani; B. Poggianti; A. Moretti; M. Mapelli; G. Fasano; J. Fritz; **Y. L. Jaffé**; D. Bettoni; M. Gullieuszik; S. Tonnesen “*GASP VII: Evidence for gas accretion in an isolated galaxy in the local Universe*”, To be submitted to *ApJ* within a week.

3) A. Moretti; B. Poggianti, M. Gullieuszik, M. Mapelli, **Y. L. Jaffé**, A. Biviano, G. Fasano, D. Bettoni, M. DOnofrio. “*A Hoags jellyfish: Ram-pressure stripping of a ring galaxy in a massive cluster*”, submitted to *Nature Communications*.

2) M. Gullieuszik, B. M. Poggianti, A. Moretti, J. Fritz, **Y. L. Jaffé**, et al., “*GASP IV. A MUSE view of extreme ram-pressure stripping in the plane of the sky: The case of Jellyfish galaxy JO204*”, submitted to *ApJ*.

1) J. Fritz, A. Moretti, B. M. Poggianti, M. Gullieuszik, G. Bruzual, B. Vulcani, F. Nicastro, **Y. L. Jaffé**, et al., “*GASP III. JO36: A case of multiple environmental effects at play?*”, submitted to *ApJ* (arXiv:1704.05088).

CONFERENCE
PROCEEDINGS

9) B. Poggianti & The GASP team “*GASP: Gas stripping and the outskirts of galaxies as a function of environment*” (2017) Formation and Evolution of Galaxy Outskirts, Proceedings of the International Astronomical Union, IAU Symposium, Volume 321, pp. 202-204.

8) G. Zhong, S. Tonnesen, **Y. L. Jaffé**, C. Bellhouse, B. Poggianti, “*Ram Pressure Stripping of Galaxy JO201*” (2016) American Astronomical Society, AAS Meeting #229, id.347.43.

7) R. Demarco, A. Rettura, C. Lidman, J. Nantais, **Y. L. Jaffé**, R. Piero, “*Early-type galaxy formation: understanding the role of the environment*” (2015) IAU Symposium: Galaxies in 3D across the Universe.

6) **Yara L. Jaffé**, “*BUDHIES: A Blind Ultra Deep HI Environmental Survey*” (2014) XIV Latin American Regional IAU Meeting, Revista Mexicana de Astronomía y Astrofísica, 44, 80.

5) **Yara L. Jaffé**, B. Poggianti, M. Verheijen, J. van Gorkom, B. Deshev, “*The effect of environment on star formation and gas reservoirs with BUDHIES*” (2013) Tracing Cosmic Evolution with Clusters of

Galaxies, a conference held 1-5 July, 2013 in Sexton, Italy.

4) A. K. Vivas, R. Zinn, S. Duffau, **Yara L. Jaffé**, “*Sub-structures in the inner halo of the Milky Way*” (2102) Assembling the Puzzle of the Milky Way, Le Grand-Bornand, France.

3) **Yara L. Jaffé**, “*The effect of the environment on the gas kinematics and morphologies of distant galaxies*” (2011) Environment and the Formation of Galaxies: 30 years later, Astrophysics and Space Science Proceedings, ISBN 978-3-642-20284-1. Springer-Verlag Berlin Heidelberg, 2011, p. 131.

2) M. Crenshaw, S. Kraemer, H. Smith, **Y. L. Jaffé**, R. P. Deo and N.R. Collins “*Outflows and Fueling Flows in the Seyfert 2 Galaxy Mrk 3*” (2010) American Astronomical Society, AAS Meeting #215, #411.27; Bulletin of the American Astronomical Society, Vol. 41, p.244.

1) A. K. Vivas, **Yara L. Jaffé**, R. Zinn, R. Winnick, S. Suffau and C. Mateu. “*Sub-structures in the Milky Way’s Halo towards Virgo*”. (2009) Revista Mexicana de Astronomia y Astrofisica (Serie de Conferencias) Vol. 35, pp. 125-126.

OTHER PUBLICATIONS

SELECTED TALKS (PAST 3 YEARS)

1) **Yara L. Jaffé**, A. Stroe, S. Xu “*Fellows at ESO*” (2016) The Messenger, 166, 68.

- Invited talk at the “European Week of Astronomy and Space Science (EWASS, Symposium S8)” in Prague, Czech Republic (2017).
- Invited talk at the “7th Friends of Friends Meeting” in Córdoba, Argentina (2017).
- Invited (plenary) talk on “The hard life of galaxies in clusters” at the annual meeting of SOCHIAS (Chilean Astronomical Society) in Maitencillo, Chile (2017).
- Colloquium at Universidad de Valparaíso, Chile (2016).
- Cosmology Seminar at Pontificia Universidad Católica de Valparaíso, Chile (2016).
- Invited talk at the conference: “Mapping the Pathways of Galaxy Transformation Across Time and Space” in California, USA. (2016, could not attend)
- Colloquium at the School of Physics and Astronomy of the University of Nottingham, UK (2016).
- Invited talk at Max-Planck Institute workshop: “Unravelling galaxies: Where do the stars form?” in Frauenchiemsee, Germany (2016).
- Invited talk at ISSI workshop on “The Effect of Dense Environments on Gas in Galaxies over 10 Billion Years of Cosmic Time” in Bern, Switzerland (2015).
- Invited talk at the conference “In the footsteps of galaxies: Tracing the evolution of environmental effects” in Soverato, Italy (2015).
- Seminar at the Kapteyn Instituut, Groningen, The Netherlands (2015).
- Invited talk at the workshop “The Life and Death of Satellite Galaxies” in the Lorentz Center, Leiden, The Netherlands (2015).
- Seminar at INAF-Astronomical Observatory of Padova, Italy (2015).
- Contributed talk at workshop at “Third Workshop on Numerical and Observational Astrophysics”, Buenos Aires, Argentina (2014).
- Invited lecture at joint physics and astronomy lecture series at U. de Antofagasta, Chile (2014).
- Joint colloquium for U. Andrés Bello and Universidad Diego Portales, Santiago, Chile (2014).
- Colloquium at Pontificia Universidad Católica de Chile (2014).

OUTREACH & PUBLIC ENGAGEMENT

- Several media releases about the discovery of an early-type “jellyfish galaxy. Articles in english, french and korean can be found in <http://www.sc.eso.org/~yjaffe/outreach.html>.
- Talk via skype to school kids from *Institutos Educacionales Asociados* as part of the “Superheroes” talk series. Caracas, Venezuela (2017).
- Video link from Paranal Observatory to *XX Festival de Astronomía*, Villa de Leyva, Boyaca, Colombia (2017).
- Several media releases to newspapers, news agencies, radio and TV about “Jellyfish galaxies” and the GASP project as part of a “Media Day” organized by SOCHIAS. Selected articles are listed in <http://www.sc.eso.org/~yjaffe/outreach.html> (2017).
- Assisting the construction of a radio telescope for the public at Observatorio Roan Jase, Cajón del

Maipo, Chile (2016-Present).

- Co-organizer of *Astronomy for everyone* at ESO, Chile (2015-current).
- Public talk on “The Secret Life of Galaxies” to school children at Museo Interactivo Mirador (MIM) for the event “Fiesta de la Ciencia” in Santiago, Chile (2016).
- Cosmology lecture for school teachers, Fundación Astromanía, Santiago, Chile (2016).
- Several public talks to the general public and to school teachers in Concepción, and Talca, Chile (2012-2015).
- Tutor and evaluator of school kids for projects presented at the *Congreso Astronómico Escolar del Bio Bio* organized by Embiggen in Coronel, Chile (2015).
- Public lecture on “The Life of Stars” for the “Astronomy Public Lectures Series” at the University of Nottingham (2010).