

Jaime E. FORERO-ROMERO

PERSONAL INFORMATION

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CITIZENSHIP: Colombian
BIRTH DATE: October 14, 1981

RESEARCH INTERESTS

- Galaxy Formation
- Observational Cosmology

EDUCATION

NOVEMBER 2007 **PhD. Physics**
AUGUST 2005 at the Ecole Normale Supérieure de Lyon (France)

JULY 2005 **M.Sc. Physics**
AUGUST 2003 at the Ecole Normale Supérieure (Paris, France)

JULY 2003 **Undergraduate Physics studies** (3rd & 4th year)
AUGUST 2001 at the Instituto Balseiro (Argentina)

JULY 2001 **Undergraduate Physics studies** (1st & 2nd year)
JULY 1999 at the U. Nacional de Colombia

ACADEMIC POSITIONS

PRESENT DAY **Associate Professor**
AUGUST 2015 Physics Department, Universidad de los Andes (Colombia)

JULY 2015 **Assistant Professor**
AUGUST 2012 Physics Department, Universidad de los Andes (Colombia)

JULY 2012 **Gruber Fellow**
OCTOBER 2011 Astronomy Department UC Berkeley (USA)

SEPTEMBER 2011 **Postdoctoral Researcher**
SEPTEMBER 2007 Leibniz Insititute for Astrophysics at Potsdam(Germany)

AUGUST 2007 **Graduate Student**
AUGUST 2006 Ecole Normale Supérieure de Lyon (France)

JULY 2006 **Élève (Sélection Internationale)**
SEPTEMBER 2003 Ecole Normale Supérieure (Paris, France)

AUGUST 2003 **Undergraduate Fellow**
AUGUST 2001 Instituto Balseiro (Bariloche, Argentina)

RESEARCH

BIBLIOMETRICS

- Refereed journal articles: 26 (since 2007).
- Google Scholar statistics. Total Number of Citations: 562. H-index: 13.
- ADS statistics. Total Number of Citations: 517. H-index: 13.

REFEREED PUBLICATIONS

2016

- 26 *Quantifying and controlling biases in dark matter halo concentration estimates*, C.N. Poveda-Ruiz, **J.E. Forero-Romero**, J.C. Muñoz-Cuartas. Accepted for publication in ApJ Letters, 2016.
- 25 *Boosting Ly α and HeII 1640Å Line Fluxes from Pop III Galaxies: Stochastic IMF Sampling and Departures from Case-B*. L. Mas-Ribis, M. Dijkstra, **J.E. Forero-Romero**, Accepted for publication in ApJ, 2016.
- 24 *Impact of Cosmic Variance on the Galaxy-Halo Connection for Lyman- α emitters*. J.E. Mejía-Restrepo, **J.E. Forero-Romero**, ApJ, 821, 1, 2016
- 23 *SPOKES: An end-to-end simulation facility for spectroscopic cosmological surveys*, Nord, B.; Amara, A.; Réfrégier, A.; Gamper, La.; Gamper, Lu.; Hambrecht, B.; Chang, C.; **Forero-Romero, J. E.**; Serrano, S.; Cunha, C.; Coles, O.; Nicola, A.; Busha, M.; Bauer, A.; Saunders, W.; Jouvel, S.; Kirk, D.; Wechsler, R., Astronomy and Computing, 15, 1, 2016

2015

- 22 *Tensor anisotropy as a tracer of cosmic voids*, S. Bustamante, **J.E. Forero-Romero**, MNRAS, 453, 497, 2015
- 21 *The Local Group in the cosmic web*, **J.E. Forero-Romero**, R. González, ApJ, 799, 1, 2015.

2014

- 20 *Cosmological constraints from the redshift dependence of the Alcock-Paczynski effect in the galaxy density gradient field*, X-D. Li, C. Park, **J.E. Forero-Romero**, J. Kim, ApJ, 796, 2, 2014.
- 19 *The impact of gas bulk rotation on the lyman-alpha line* J.N. Garavito-Camargo, **J.E. Forero-Romero**, M. Dijkstra, ApJ, 795, 2, 2014.
- 18 *Characterizing SL2S galaxy groups using the Einstein radius*, T. Verdugo, V. Motta, G. Foëx, **J. E. Forero-Romero**, R. P. Muñoz, R. Pello, M. Limousin, A. More, R. Cabanac, G. Soucail, J. P. Blakeslee, A. J. Mejía-Narváez, G. Magris, J. G. Fernández-Trincado, Astronomy & Astrophysics, 571, id.A65, 2014.
- 17 *Systematic uncertainties from halo asphericity in dark matter searches* N. Bernal, **J.E. Forero-Romero**, R. Garani, S. Palomares-Ruiz, JCAP, 09, 004, 2014.

- 16 *Cosmic web alignments with the shape, angular momentum and peculiar velocities of dark matter halos*, **J.E. Forero-Romero**, S. Contreras, N. Padilla, MNRAS, 443, 1090, 2014.
- 15 *The abundance of Bullet Groups in Λ CDM*, J. G. Fernández-Trincado, **J. E. Forero-Romero**, G. Foex, V. Motta, T. Verdugo, V. Motta, ApJ Letter, 787, L32, 2014.

2013

- 14 *The MultiDark Database: Release of the Bolshoi and MultiDark Cosmological Simulations*, K. Riebe, A. M. Partl, H. Enke, **J.E. Forero-Romero**, S. Gottloeber, A. Klypin, G. Lemson, F. Prada, J. R. Primack, M. Steinmetz, V. Turchaninov, Astronomische Nachrichten, 334, 691, 2013.
- 13 *The kinematics of the Local Group in a cosmological context*, **J.E. Forero-Romero**, Y. Hoffman, S. Bustamante, S. Gottloeber, G. Yepes, ApJ Letters, 767, 1, 2013
- 12 *The velocity shear tensor: tracer of halo alignment*, Libeskind N., Hoffman Y., **J.E. Forero-Romero**, S. Gottloeber, A. Knebe, M. Steinmetz, A. Klypin, MNRAS 428, 2489, 2013
- 11 *Effects of Star Formation Stochasticity on the Ly alpha & Lyman Continuum Emission from Dwarf Galaxies*, **J. E. Forero-Romero** & M. Dijkstra, MNRAS 428, 2163, 2013

2012

- 10 *A kinematic classification of the cosmic web*, Y. Hoffman, O. Metuki, G. Yepes, S. Gottloeber, **J. E. Forero-Romero**, N. I. Libeskind, A. Knebe, MNRAS, 425, 2049, 2012
- 9 *Modelling the fraction of Lyman Break Galaxies with strong Lyman-alpha emission at $5 < z < 7$* **Forero-Romero J.E.**, Yepes G., Gottloeber S., Prada F., MNRAS, 419, 952, 2012

2011

- 8 *The dark matter assembly of the Local Group in constrained cosmological simulations of a Λ CDM universe* **Forero-Romero J.E.**, Hoffman Y., Yepes G., Gottlöber S., Piontek R., Klypin A., Steinmetz M., MNRAS, 417, 1434, 2011
- 7 *Halo based reconstruction of the cosmic mass density field* Munõz-Cuertas J. C., Müller V, **Forero-Romero J. E.**, MNRAS, 417, 1303, 2011
- 6 *CLARA's view on the escape fraction of Lyman- α photons in high redshift galaxies* **Forero-Romero J.E.**, Yepes G., Gottlöber S., Knollmann S., Cuesta A., Prada F., MNRAS, 415, 3666, 2011

2010

- 5 *Bullet Clusters in the MareNostrum Universe.* **Forero-Romero J.E.**, Yepes G., Gottlöber S., ApJ, 725, 1, 2010.
- 4 *Simulated vs. observed UV emission at high redshift: a hint for a clumpy ISM?* **Forero-Romero J.E.**, Yepes G., Gottlöber S., Knollmann S., Khalatyan A., Cuesta A., Prada F., MNRAS Letters, 403, L31-L35, 2010

2009

- 3 *The coarse geometry of merger trees in Λ CDM*. **Forero-Romero** J.E., MNRAS, 399, 762-768, 2009
- 2 *A Dynamical Classification of the Cosmic Web*. **Forero-Romero** J.E., Hoffman Y., Gottloeber S., Klypin A., Yepes G., MNRAS, 396, 1815-1824, 2009

2007

- 1 LEMOMAF: *Lensed Mock Map Facility*. **Forero-Romero** J.E., Blaizot J., Devriendt J., Van Waerbeke L., Guiderdoni B., MNRAS, 379, 1507-1518, 2007

ARXIV-ONLY PUBLICATIONS

- 2 *The DESI Experiment Part II: Instrument Design*, **DESI Collaboration**, <https://arxiv.org/abs/1611.00037>
- 1 *The DESI Experiment Part I: Science, Targeting, and Survey Design*, **DESI Collaboration**, <https://arxiv.org/abs/1611.00036>

SUPERVISED POSTDOCS

- 2015-2016. Verónica Arias. Dynamics of satellites in the Local Group.

SUPERVISED STUDENTS

2016

- 7 Nicolás Romero Díaz. Undergraduate thesis in Physics at Universidad de los Andes. *Observational evidence of star formation stochasticity in the CALIFA dataset*.
- 6 David Esteban Bernal Neira. Undergraduate thesis in Physics at Universidad de los Andes. *Acotando las velocidades tangenciales de las galaxias satélite de Andrómeda utilizando optimización no lineal*.
- 5 Sergio Hernández Charpak. Undergraduate thesis in Physics at Universidad de los Andes. *Laniakea in a cosmological context*.

2015

- 4 María Camila Remolina Gutiérrez. Undergraduate thesis in Physics at Universidad de los Andes. *The joint effect of outflows and rotation on the Lyman-alpha line*.
- 3 Juan Nicolás Garavito Camargo. Master thesis in Physics at Universidad de los Andes. *The effect of gas bulk rotation on the Lyman-alpha line*.
- 2 Christian Nicanor Poveda Ruiz. Undergraduate thesis in Physics at Universidad de los Andes. *A semi-analytic approach to formation processes in galaxies*.

2014

- 1 Camilo Andrés Rivera Lozano. Undergraduate thesis in Physics at Universidad de los Andes. *Impacto de los parámetros cosmológicos en la estructura a gran escala del Universo*.

GRANTS

- 2016-2020 (PI) COLCIENCIAS grant to work on the Dark Energy Spectroscopic Instrument. (60 KUSD)
- 2012-2016 (PI) UNIANDES grant given as a startup package to assistant professors (25 KUSD).
- 2011-2012 (PI) IAU Peter and Patricia Gruber Foundation Fellowship. (50K USD).