

Jaime E. FORERO-ROMERO

PERSONAL INFORMATION

EMAIL: je.forero@uniandes.edu.co
WEBSITE: <http://wwwprof.uniandes.edu.co/~je.forero>
GITHUB: github.com/forero
CITIZENSHIP: Colombian
BIRTH DATE: October 14, 1981

RESEARCH INTERESTS

- Cosmology
- Galaxy Formation
- Large Scale Structure of the Universe

EDUCATION

NOVEMBER 2007	PhD. Physics
AUGUST 2005	at the Ecole Normale Supérieure de Lyon (France)
JULY 2005	M.Sc.Physics (Magistère Interuniversitaire)
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
SEPTEMBER 2003	Ecole Normale Supérieure (Paris, France)
AUGUST 2003	Undergraduate Fellow
AUGUST 2001	Instituto Balseiro (Bariloche, Argentina)

RESEARCH

BIBLIOMETRICS

- Refereed journal articles: 26 published + 2 submitted (since first paper in 2007).
- Google Scholar statistics. Total Number of Citations: 669. H-index: 13.
- SAO/NASA Astrophysics Data System statistics. Total Number of Citations: 583. H-index: 13.

REFEREED PUBLICATIONS

2017

- 28 *Tracing the cosmic web*, N. I. Libeskind, R. van de Weygaert, M. Cautun, B. Falck, E. Tempel, T. Abel, M. Alpaslan, M. A. Aragón-Calvo, **J. E. Forero-Romero**, R. Gonzalez, S. Gottlöber, O. Hahn, W. A. Hellwing, Y. Hoffman, B. J. T. Jones, F. Kitaura, A. Knebe, S. Manti, M. Neyrinck, S. E. Nuza, N. Padilla, E. Platen, N. Ramachandra, A. Robotham, E. Saar, S. Shandarin, M. Steinmetz, R. S. Stoica, Th. Sousbie, G. Yepes, MNRAS submitted.
- 27 *Modelling the gas kinematics of an atypical Lyman alpha emitting compact dwarf galaxy*, **J. E. Forero-Romero**, M. Gronke, M. C. Remolina-Gutiérrez, Nicolás Garavito-Camargo, Mark Dijkstra, MNRAS submitted.

2016

- 26 *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**, ApJ, 833, 1, 2016.
- 25 *Quantifying and controlling biases in dark matter halo concentration estimates*, C.N. Poveda-Ruiz, **J.E. Forero-Romero**, J.C. Muñoz-Cuertas, ApJ, 832, 2, 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. Foëx, 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* Muñoz-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

SUPERVISED POSTDOCS

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

SUPERVISED STUDENTS

2016

- 7 Nicolás Romero Díaz. Undegraduate thesis in Physics at Universidad de los Andes. *Observational evidence of star formation stochasticity in the CALIFA dataset.*
- 6 David Esteban Bernal Neira. Undegraduate 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. Undegraduate thesis in Physics at Universidad de los Andes. *Laniakea in a cosmological context.*

2015

- 4 María Camila Remolina Gutiérrez. Undegraduate 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).

TALKS

TEACHING

LECTURES AT LOS ANDES UNIVERSITY

SUMMER/WINTER SCHOOLS

SERVICE

INTERNATIONAL ORGANIZING COMMITTEES

- | | |
|-----------------------------|---|
| PRESENT DAY
OCTOBER 2015 | Coordinator for the Andean Regional Office of Astronomy for Development.
http://andean.astro4dev.org/ |
| OCTOBER 2015 | Main organizer of the Second <i>Workshop Astronomía en los Andes</i> to convene astronomers in the Andean region. Held in Bogotá, Colombia. |
| JULY 2013 | Main organizer of the First <i>Workshop Astronomía en los Andes</i> to convene astronomers in the Andean region. Held in Bogotá, Colombia. |
| SEPTEMBER 2011 | Co-organizer of the international conference <i>Young and Bright: understanding high redshift structures</i> . Held in Potsdam, Germany. |

NATIONAL ORGANIZING COMMITTEES

INTERNATIONAL REFEREEING

NATIONAL REFEREEING

JURY OF MASTER/PHD THESIS

PUBLIC TALKS

MISCELLANEA

ART & SCIENCE

2015

- Collaboration with visual artist Mónica Naranjo to produce a *Cosmological Calendar*.

2014

- Collaboration with architect and plastic artist Carlos Moncada on the project *Paisajes Estereoplanetarios* as part of the *Astronomía Periférica*.

2013

- Founding member of the project *Astronomía Periférica* that aims at taking astronomy to Bogota's periphery through artistic interventions. Secured funding for ~ 5 KEuro from the Office of Astronomy for Development to kickstart the project.

2012

- Founding member and organizer of the Art and Science Meetings (Encuentros de Arte y Ciencia) in Bogotá.

2011

- *Fluid Skies* secured funding for 50 KEuro to produce the Carved Air exhibition (Berlin, 2012), print the exhibition catalog and prepare academic meetings on the scientific and historical concepts of the project. The sponsors were: Ernst Schering Foundation (Germany), University of California Institute for Research in the Arts (USA) and the Arts Council Korea (ARKO).
- Founding member of the *Fluid Skies* collaboration together with Yunchul Kim (artist) and Lucia Ayala (Art Historian). *Fluid Skies* is a creative and research platform to explore the fluid materiality of the cosmos from the perspectives of astrophysics, art, history and philosophy.

2010

- Talk on *Simulations of Large Scale Structure Evolution*, Institut für Raumexperimente - Olafur Eliasson Studio, Berlin.

LANGUAGES

SPANISH: Native
ENGLISH: Fluent
FRENCH: Fluent
GERMAN: Proficient
RUSSIAN: Beginner