

Juan Manuel

Espejo Salcedo

Curriculum Vitae

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I am an astronomer with a strong interest in theoretical and observational cosmology.

GENERAL INFORMATION

Name Juan Manuel Espejo Salcedo.
Date of Birth 13th March, 1993.
Nationality Colombian.
Marital Status Engaged.
Website <https://juancho9303.github.io>
Personal Blog <http://juanespejo0313.blogspot.com.co/>
YouTube <https://www.youtube.com/c/betweenwhiles>

EDUCATION

2010 **High School**, *Colegio Seminario Diocesano*, Duitama, Colombia.
2011-2016 **B.Sc. in Astronomy**, *Physics Institute, Universidad de Antioquia*, Medellín, Colombia.
Thesis “Mass Modelling of Globular Clusters in the Milky Way”. Prof. Juan Carlos Muñoz Cuartas
2016-2018 **M.Sc. in Astronomy and Cosmology**, *Sterrenwacht*, Leiden University, Netherlands
Thesis 2017 “Study of BCG subtracted images of nearby clusters”. Prof. Henk Hoekstra
Thesis 2018 “Phenomenology of Large Scale Structure in scalar-tensor theories: joint prior covariance of w_{DE} , Σ and μ in Horndeski”. Prof. Alessandra Silvestri
2019-2022 **PhD (candidate) in Astronomy**, *Galactic angular momentum*, Swinburne University of Technology, Melbourne, Australia

ADDITIONAL EDUCATION

2018-2009 11th grade in American High School, *Rowan County Senior high school*, Morehead, Kentucky, United States.
2011-2015 **Extension Courses: Black Holes**, Prof. Jorge Zuluaga, **Radiative Processes in Astrophysics**, Prof. Elena Rossi, **Observational Techniques in Astronomy**, Prof. Bernard Brandl, **Interferometry**, Prof. Rudolf Lepole, **Gravitational Lensing**, Prof. Konrad Kuijken, **Galaxy Formation**, Jarle Brinchmann, **Introduction to Radio Astronomy**, Prof. Stanley Kurtz.

FIELDS OF INTEREST

Galaxies and Cosmology. Large-scale structure formation. Galactic astrophysics. Computational astrophysics. General astrophysics and physics.

LANGUAGES

Spanish	Native speaker.
English	Fluent.
Portuguese	Basic.

COMPUTER SKILLS

Systems	Linux, MacOS, Windows.
Development	Python, C, Bash, SQL, ssh.
Software	github, Galfit, Starlight, Iraf, Mathematica, LaTeX, gnuplot, SExtractor, CosmoMC, EFTCamb.
Tools	N-body simulations, MonteCarlo, Numerical integrators.
Repositories	A list of my projects can be found in my <i>github</i> page: https://github.com/juancho9303 .

HONOURS, AWARDS, AND ACCOMPLISHMENTS

2005 - 2009	First in the class, tuition fee exonerated , <i>Colegio Seminario Diocesano</i> , Duitama, Colombia.
2012,2013	Basketball scholarships, tuition fee exonerated , <i>Universidad de Antioquia</i> , Medellín, Colombia.
2014	First class fourth year student of Astronomy, tuition fee exonerated , <i>Universidad de Antioquia</i> , Medellín, Colombia.
2016	Enlazamundos funding for development grant , <i>Sapienza</i> , Medellín, Colombia.
2016-2018	Colfuturo postgraduate funding , Bogotá, Colombia.
2016-2018	Leiden Excellence Scholarship (LExS) , <i>Leiden University</i> , Leiden, Netherlands.
2018-2022	Swinburne University Postgraduate Research Award (SUPRA) , <i>Swinburne University of Technology</i> , Melbourne, Australia.

RESEARCH EXPERIENCE AND PUBLICATIONS

2019	Espejo, J., Peirone, S., Raveri, M., Pogosian, L., Silvestri, A. Phenomenology of Large Scale Structure in scalar-tensor theories: joint prior covariance of w_{DE}, Σ and μ in Horndeski , PhysRevD.99.023512
2020	Sarah M Sweet, Karl Glazebrook, Danail Obreschkow, Deanne B Fisher, Andreas Burkert, Claudia DP Lagos, Juan M Espejo Salcedo. Stellar angular momentum distribution linked to galaxy morphology , 10.1093/mnras/staa1050
2014	Stratospheric Cosmic Ray Detector development , <i>Group of computational physics and astrophysics (FaCom), Ideatech, Ruta N, Universidad de Antioquia</i> , Medellín, Colombia.

WORK EXPERIENCE

2014	Business interpreter in an international textile fair Sri. NRKR textiles, India , <i>ColombiaTex</i> , Medellín, Colombia, 2014.
2014-2015	Science development magazine editor " Mínima Acción " Magazine, Medellín, Colombia.
2015	English Tutor online NiceTalk Tutor app, Enter Trainer app .
2014,2015	English and Math Tutor.
2019-2020	Public AstroTours at Swinburne University of Technology.
2020	Undergraduate physics tutoring at Swinburne University of Technology.
2020-2021	Student representative of the Swinburne time allocation committee at Keck.

PARTICIPATION IN EVENTS

- 2014** (Oral presentation) **Stratospheric Cosmic Ray detector**, *IV Colombian Congress of Astronomy and Astrophysics*, Pasto, Colombia, 2014.
- 2018** Participant **Galactic angular momentum focus meeting**, *30th General assembly of the IAU*, Vienna, Austria.
- 2020** (Organizer and presenter) **JWST workshop for Australian astronomers**, *Swinburne University of Technology*, Melbourne, Australia, 2020.
- 2020** (Contributed talk) **Improved Angular Momentum measurements of star-forming galaxies with the aid of adaptive optics**, *European Astronomical Society annual meeting EAS2020*, Leiden, The Netherlands, 2020.

PERSONAL ACTIVITIES

Writing. Basketball. Track and Field. Gymnasium. Teaching. Origami. Hiking. Reading. Science public outreach.

REFERENCES

- **Juan Carlos Muñoz-Cuartas, Ph.D.**
Assistant Professor, Physics Institute, Universidad de Antioquia, Medellín, Colombia.
`jcmunoz@fisica.udea.edu.co`
- **Jorge Zuluaga Callejas, Ph.D.**
Assistant Professor, Pyhisics Institute, Universidad de Antioquia, Medellín, Colombia.
`zuluagajorge@gmail.com`
- **Henk Hoekstra, Ph.D.**
Leiden Observatory, Leiden University, Netherlands.
`hoekstra@strw.leidenuniv.nl`
- **Alessandra Silvestri, Ph.D.**
Lorentz Institute, Leiden University, Netherlands.
`silvestri@lorentz.leidenuniv.nl`
- **Karl Glazebrook, Ph.D.**
Laureate Fellow & Distinguished Professor at the Centre for Astrophysics and Supercomputing, SUT, Melbourne, AU.
`kglazebrook@swin.edu.au`