

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>
YouTube <https://www.youtube.com/c/betweenwhiles>

EDUCATION

2019-2022 **PhD (candidate) in Astronomy**, *Galactic angular momentum*, Swinburne University of Technology, Melbourne, Australia
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
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
2010 **High School**, *Colegio Seminario Diocesano*, Duitama, Colombia.

ADDITIONAL EDUCATION

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.
2018-2009 11th grade in American High School as a foreign exchange student, *Rowan County Senior High School*, Morehead, Kentucky, United States.

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, Adobe Premiere Pro, EFTCamb.
Tools Experience with supercomputers (NOVAMARIS at Leiden, OzStar at Swinburne), N-body simulations, MonteCarlo, Numerical integrators, emcee.
Repositories A list of some of my projects can be found in my *github* page: <https://github.com/juancho9303>.

HONOURS, AWARDS, AND ACCOMPLISHMENTS

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

RESEARCH EXPERIENCE AND PUBLICATIONS

2020-2021 Awarded observing time for Keck (OSIRIS) twice, ALMA (cycle 8) and JWST (cycle 1).
2021 Juan M. Espejo Salcedo, Karl Glazebrook, Deanne B. Fisher, Sarah M. Sweet, Danail Obreschkow, A. M. Swinbank, Steven Gillman and Alfred L. Tiley. **Multi-resolution angular momentum measurements of $z \sim 1.5 - 2$ star-forming galaxies**, DOI: 10.1093/mnras/stab2755
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, *Group of computational physics and astrophysics (FaCom), Ideatech (Ruta N) & Universidad de Antioquia, Medellín, Colombia*.

WORK EXPERIENCE

2021 Tutor for the "Discovering the Universe" undergrad unit at Swinburne University of Technology.

- 2020-2021** Mentor of 3 colombian undergrad students looking for master and PhD positions as part of RECA mentoring program.
- 2020-2021** Student representative of the Swinburne time allocation committee for the Keck Telescope.
- 2020** Tutor for the "Introduction to physics" undergrad unit at Swinburne University of Technology.
- 2019-2020** Public AstroTours at Swinburne University of Technology.
- 2015** English Tutor online **NiceTalk Tutor app, Enter Trainer app.**
- 2014-2015** Science development magazine editor "**Mínima Acción**" Magazine, Medellín, Colombia.
- 2014,2015** English and Math Tutor.
- 2014** Business interpreter in an international textile fair **Sri. NRKR textiles, India, ColombiaTex**, Medellín, Colombia, 2014.

PARTICIPATION IN EVENTS

- 2021** (Science Organizing Committee member) **Harley Wood School for Astronomy, Wodonga, VIC, AU.**
- 2021** (Contributed talk) **Multi-resolution angular momentum measurements of $z \sim 1.5 - 2$ star-forming galaxies.**, *MAVIS workshop*, Online event, hosted in Italy, July, 2021.
- 2021** (Poster presentation) **Multi-resolution angular momentum measurements of $z \sim 1.5 - 2$ star-forming galaxies.**, *Keck Science Meeting*, Online event, hosted in San Diego California, USA, 2021.
- 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.
- 2020** (Organizer and presenter) **JWST workshop for Australian astronomers**, *Swinburne University of Technology*, Melbourne, Australia, 2020.
- 2018** Participant **Galactic angular momentum focus meeting**, *30th General assembly of the IAU*, Vienna, Austria.
- 2014** (Oral presentation) **Stratospheric Cosmic Ray detector**, *IV Colombian Congress of Astronomy and Astrophysics*, Pasto, Colombia, 2014.

PERSONAL ACTIVITIES

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

REFERENCES

- **Juan Carlos Muñoz Cuartas, Ph.D.** *Undergraduate thesis supervisor*
Assistant Professor, Physics Institute, Universidad de Antioquia, Medellín, Colombia.
jcmunoz@fisica.udea.edu.co
- **Jorge Zuluaga Callejas, Ph.D.**
Assistant Professor, Physics Institute, Universidad de Antioquia, Medellín, Colombia.
zuluagajorge@gmail.com
- **Henk Hoekstra, Ph.D.** *Master thesis (first project) supervisor.*
Leiden Observatory, Leiden University, Netherlands.
hoekstra@strw.leidenuniv.nl
- **Alessandra Silvestri, Ph.D.** *Master thesis (second project) supervisor.*

Lorentz Institute, Leiden University, Netherlands.
`silvestri@lorentz.leidenuniv.nl`

- **Karl Glazebrook, Ph.D.** *Ph.D supervisor.*

Laureate Fellow & Distinguished Professor at the Centre for Astrophysics and Supercomputing, SUT, Melbourne, AU.
`kglazebrook@swin.edu.au`