

# Jorge Andrés Villa-Vélez

## PERSONAL DATA

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GITHUB: <https://github.com/Jurgenvilla>  
WEBSITE: <https://jurgenvilla.github.io/>

## EDUCATION

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- 2018-2021 Ph.D. in ASTROPHYSICS and COSMOLOGY, **Aix-Marseille Université**, Marseille, France.  
**Thesis:** "Spectro-photometric Analysis Around Cosmic Noon: Emission-Lines, Dust Attenuation, and Star Formation."  
**Supervisor:** Dr. Véronique BUAT
- 2016-2018 Master of Science in ASTRONOMY, **Leiden University**, Leiden, The Netherlands.  
**Major Project - Thesis:** "Searching for exoplanetary rings with *SWASP* and *Gaia*."  
**Supervisor:** Dr. A.G.A. BROWN, Dr. M.A. (Matthew) KENWORTHY
- Minor Project:** "An ALMA survey of sub-millimetre galaxies in the extended chandra deep field south: A blind search for emission lines at 145 GHz."  
**Supervisor:** Dr. Jacqueline A. HODGE
- 2009-2015 Bachelor of Science in ASTRONOMY, **University of Antioquia**, Medellín, Colombia.  
**Thesis:** "Dark Matter Halo Characterization Through Properties Of Galaxies Classified In The Hubble Sequence."  
**Supervisor:** Dr.rer.nat. Juan Carlos MUÑOZ-CUARTAS

## PROFESSIONAL EXPERIENCE

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- INTERNSHIP - 2013 | UBVRI Photometry of Open Clusters (ESO 587-04, FSR 124 and SAI 135).  
Photometric study performed in the *National Observatory of México, San Pedro Mártir*.  
**Supervisor:** Raúl Michel Murillo  
**Place:** UNAM, Ensenada, Baja California

## OBSERVING EXPERIENCE

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- ALMA proposal - 2017 **Co-I:** ALMA Cycle 5 (ACA). **PI:** Gabriela Calistro Rivera (Leiden) 2016.2.00209.S
- Observing period - 2013 National Observatory of México, Ensenada, Baja California (UNAM)  
Open clusters and cataclysmic variable stars observation.
- Trainee - 2013 National Observatory of México, Tonantzintla (UNAM & INAOE)  
Observing techniques and instrumentation.

## TEACHING EXPERIENCE

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- Teaching Assistant - 2016 **Waves and Oscillations**; University of Antioquia.  
Teacher - (2015-2016) **Observational Astronomy**; University of Antioquia.  
Teacher - (2012-2014) **Astronomy for Youngsters**; University of Antioquia.

## RESEARCH LINES & INTERESTS

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- Galactic & Extragalactic Astrophysics** Star-forming galaxies, dust attenuation, spectroscopy, surveys (FMOS, MOONS, PFS), SED-fitting (CIGALE), HII-region modelling.

## LANGUAGES

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Spanish	Mother tongue
English	Fluent
French	Fluent

## PUBLICATIONS

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| 2021 | Fitting spectral energy distributions of FMOS-COSMOS emission-line galaxies at $z \sim 1.6$ : Star formation rates, dust attenuation, and [OIII] $\lambda 5007$ emission-line luminosities, <b>J. A. Villa-Vélez</b> , Véronique Buat, Patrice Theulé, Médéric Boquien & Denis Burgarella, <a href="#">A&amp;A</a> , 2021, Vol. 654, A153   |
| 2020 | A Virgo Environmental Survey Tracing Ionised Gas Emission. VESTIGE VIII. Bridging the cluster-ICM-galaxy evolution at small scales, A. Longobardi, A. Boselli, M. Fossati, <b>J. A. Villa-Vélez</b> , S. Bianchi, V. Casasola, E. Sarpa, F. Combes, G. Hensler, D. Burgarella, C. Schmid, A. Nanni, P. Côté, V. Buat, P. Amram, L. Ferrarese, J. Braine, G. Trinchieri, S. Boissier, M. Boquien, P. Andreani, S. Gwyn, J. C. Cuillandre, <a href="#">A&amp;A</a> , 2020, Vol. 644, A161 |
| 2019 | COSMOS/GOODS-S fields spectro-photometric analysis and the MOONS future perspectives in SED fitting studies, <b>J. A. Villa-Vélez</b> , V. Buat, D. Burgarella, M. Rodrigues, M. Puech, H. Flores, <a href="#">Proceedings of the Annual meeting of the French Society of Astronomy and Astrophysics</a> , 2019, pp.115-119   |
| 2018 | The Pre-main Sequence Population of Sco-Cen Unveiled with Gaia DR2, <b>J.A. Villa Vélez</b> , Brown A. G. A., and M. A. Kenworthy, <a href="#">RN ASS</a> , 2018, Volume 2, Number 2  |

## MEMBER OF COMMITTEES AND WORKING GROUPS

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| (2021-)     | <b>Colombian Astronomy Student Network (RECA) - Student mentoring program.</b>   |
| (2020)      | LOC member at "The Rise of Metals and Dust through Cosmic Time" conference.  |
| (2020-)     | <b>Member of the NECO (International Research Network Extragalactic astrophysics and Cosmology) collaboration France-Japan.</b>  |
| (2019-)     | <b>Member of the MOONS (Multi-Object Optical and Near-infrared Spectrograph) collaboration. TE-WG7 and TWG1. Physical parameters, redshifts and end-to-end simulation.</b> |
| (2019-2021) | Member of the Seminar Organizing Committee. Aix-Marseille Université, LAM.   |
| (2017-2018) | Member of the Education Committee Master Astronomy. Leiden University.   |
| (2012-2015) | Computational Physics & Astrophysics (FACom). University of Antioquia.   |

## COMPUTATIONAL SKILLS

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<b>Programming</b>	Python, C (GSL), Mathematica, SQL, Bash.
<b>Operating Systems</b>	Astropy, Pandas, seaborn, scikit-learn (Machine Learning).
<b>Data processing</b>	Linux(Fedora, Ubuntu), Windows.
<b>Data processing</b>	CIGALE, TOPCAT, DS9, CASA, IRAF, Aladin, Vizier.
<b>Text editing</b>	LATEX, (kate, geany, emacs), Microsoft Applications.

## ACADEMIC RECOGNITION AND AWARDS

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Scholarships- (2015-2018)	M.Sc./Ph.D. Scholarship. University of Antioquia	<b>(7.000€</b> , not accepted).
	M.Sc. Oort Scholarship, Leiden University	<b>(58.000€</b> , accepted).
Honors - (2009-2015)	Best Astronomy term GPA. Best Astronomy advanced student.	
	Best physics department graduated GPA.	
	University of Antioquia	<b>(1.000€)</b> .

## SUMMER SCHOOLS, CONFERENCES & WORKSHOPS

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- 2021 Dusty Galaxy Workshop; Marseille, France. (Oral presentation)  
2021 International summer school on the interstellar medium of galaxies, from the epoch of reionisation to the Milky Way; Summer school; France.  
2021 Multi-Object Spectroscopy for Statistical Measures of Galaxy Evolution; Workshop; STScI, United States. (Poster)  
2020 The Rise of Dust and Metals in Galaxies through Cosmic Time; Marseille, France. (Participant/LOC)  
2020 EAS Annual Meeting; Leiden, The Netherlands. (Poster/speed-talk)  
2019 The Art of Measuring Galaxy Physical Properties; Milan, Italy. (Poster)  
2019 Société Française d'Astronomie & d'Astrophysique (SF2A); Nice, France. (Oral presentation)  
2014 IV Colombian Meeting of Astronomy & Astrophysics (COCOA); Pasto, Colombia. (Oral presentation)  
2013 XII Meeting for Science & Mathematics Teaching; Medellín, Colombia.  
2013 XXII Summer in the Observatory; Ensenada, México.  
2013 Observational Astronomy School for Latin American Students (ESAOBELA); Puebla, México.  
2012 II International Astrobiology Meeting; Medellín, Colombia.  
2011 Magnetic-Related Phenomena in the Outer Atmosphere of Cool Stars; Medellín, Colombia.  
2011 Modern Topics in Fourier Optics; Medellín, Colombia.  
2011 IV Colombian Meeting of Astronomy & Astrophysics (COCOA); Bogotá, Colombia.

## SELECTED TALKS

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- 2022 Sociedad Julio Garavito; (online, Medellín, Colombia) - Outreach.  
2021 Conexión sin fronteras; (online via Alcaldía de Medellín, Medellín, Colombia) - Outreach.  
2021 Dusty Galaxies Workshop; Marseille, France.  
2021 LGBTQ+ STEM Seminar; Capítulo de Óptica UNAL (online via Universidad Nacional de Colombia, Medellín, Colombia).  
2021 Research Seminar; Astronomía-UdeA Orígenes (online via Universidad de Antioquia, Colombia) - Outreach.  
2020 Meeting Conference; e-ESAOBELA (online via OAN - Tonantzintla, Mexico) - Outreach.  
2019 Meeting Conference; Milan, Italy.  
2015 Research Seminar; Leiden University, Leiden, the Netherlands.  
2015 Research Seminar; University of Antioquia, Medellín, Colombia.  
2014 Meeting Conference; University of Nariño, Pasto, Colombia.  
2013 International Research Presentation; Medellín, Colombia.  
2013 Summer School Seminar; Ensenada, México.

## COMPLEMENTARY EDUCATION

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- 2016 Radioastronomy with ALMA  
Introduction to Astrochemistry  
2015 Computational Astrophysics  
Galaxies Formation  
2013 Astronomical Observing Techniques  
Radiative Processes in Astrophysics

## HOBBIES( PERSONAL INTERESTS )

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- Sports** Swimming, hiking, biking, dancing  
**Hobbies** Night-sky telescope observation, photography, sightseeing, collecting rocks, stones and coins, museums & art.