

Javier Alejandro Acevedo Barroso

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Personal information

Born in Bucaramanga, Colombia, on January 4th 1997 (22 years).

Interest areas

- Reconstruction and modelling of gravitational lens.
- Search for stellar variability.
- Local extragalactic distance measurement
- Machine Learning in astronomy.
- Numerical simulations.
- Dark matter.

Education

UNDERGRADUATE PHYSICS STUDIES

Institution: Departamento de Física, Universidad de los Andes. *Dissertation:* Simulating a collisional dark matter fluid using a Lattice-Boltzmann method. *Advisor:* Dr. Jaime Forero.

MASTER IN SCIENCES-PHYSICS¹

Institution: Departamento de Física, Universidad de los Andes. *Dissertation:* Search for extragalactic variable stars using Machine Learning algorithms. *Advisor:* Dr. Alejandro García.

Participation in events

MOCa2019: Dark Matter in Colombia (Materia Oscura en Colombia).

Institution: Departamento de Física, Universidad de los Andes. *Talk:* Simulating collisional dark matter.

COCOA2019 Medellín: VI Colombian Congress of Astronomy and Astrophysics (VI Congreso Colombiano de Astronomía y Astrofísica).

Organizers: Universidad de Antioquia, Parque Explora – Planetario de Medellín, Instituto Tecnológico Metropolitano ITM y Sociedad Antioqueña de Astronomía SAA. *Talk:* Simulating Collisional Dark Matter (Simulando materia oscura colisional).

Uniandes School of Astronomy 2018 (Escuela de Astronomía Uniandes 2018).

Institution: Departamento de Física, Universidad de los Andes.

MOCa2018: Dark Matter in Colombia (Materia Oscura en Colombia).

Institution: Departamento de Física, Universidad de los Andes. *Talk:* Simulating Collisional Dark Matter.

¹Tentative graduation date

Research activities

Search for extragalactic variable stars using Machine Learning algorithms (Búsqueda de estrellas variables extragalácticas usando algoritmos de Machine Learning).

Institution: Departamento de Física, Universidad de los Andes. *Advisor:* Dr. Alejandro García.

Measurement of the rotation velocity of type B and A stars (Medición de la velocidad de rotación de estrellas tipo B y A).

Institution: Departamento de Física, Universidad de los Andes. *Advisor:* Dr. Alejandro García.

Simulating collisional dark matter using a lattice Boltzmann method.

Institución: Departamento de Física, Universidad de los Andes. *Advisor:* Dr. Jaime Forero.

Teaching experience

Teaching assistant, Experimental physics I.

Institution: Departamento de Física, Universidad de los Andes.

Teaching assistant, Experimental physics II.

Institution: Departamento de Física, Universidad de los Andes.

Other works

Design of the book "Las Bolsas de Basura" by Enrique Winter.

Editorial house: Escarabajo editorial.

Awards and scholarships

Teaching assistant with full scholarship for master studies in physics, given by Universidad de los Andes.

Full scholarship for undergraduate studies "Bachilleres por Colombia, Programa Mario Galán Gómez", given by Ecopetrol.

Best student from Santander department. "Prueba Saber 11 2013". given by the Colombian Ministry of Education.

Professional Abilities

- Teamwork, specially in computational tasks.
- High capacity of working under pressure.
- Languages: Spanish (native), English (C1), German (A1).
- Advanced use of Linux.
- Design of articles and books in L^AT_EX.
- Programming languages: Python (advanced), Bash (intermediate), C (intermediate), R (basic), Java (basic), C++ (basic).
- Reduction and analysis of CCD images.
- Additional software: Anaconda, IRAF, Git, Make, Pandas, Numpy, Pytorch, Sympy and Spyder.