

# Carlos Andrés González Restrepo

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## PERSONAL DETAILS

Date of Birth June 30, 1989  
Nationality Colombian  
Country of residence United States of America  
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## EDUCATION

**B.Sc. in Physical engineer** from **Universidad Tecnológica de Pereira**, Pereira, Colombia.

- Graduated in July 2014
- Thesis Topic: *Analysis of expansion of plasma produced by laser using Particle-in-cell method*

**Ph.D. Fellow** in **University of Buenos Aires**, City of Buenos Aires, Argentina

- Done with a fellowship from CONICET
- Thesis advisor: Dr. Pablo Dmitruk
- April 2014 - July 2018
- Ph.D. Topic: *Charged particle acceleration in turbulent plasmas*

## EXPERIENCE

**Postdoctoral researcher** in **Texas A&M University**, College Station, Texas. United States of America.

- Supervisor: Prof. Kentaro Hara.
- Research project: *Development of fluid codes to study plasma and aerospace problems*
- Nov 2018 - September 2019

**Postdoctoral researcher** in **University of Texas at Austin**, Austin, Texas. United States of America.

- Supervisor: Prof. Anna Tenerani.
- Research project: Alfvénic Turbulence in solar and space plasmas
- Oct 2019 - present

## SCIENTIFIC PUBLICATIONS

**C.A. González**, J.A. Arteaga, Y.H. Gomez, J. Osorio, J.A. Jaramillo and H. Riascos. "Simulation of plume-plasma expansion with one-dimensional Particle-in-Cell" J. Phys.: Conf. Ser. 370 012033.

Nahuel Andrés, **Carlos González**, Luis Martin, Pablo Dmitruk and Daniel Gómez. "Two-fluid turbulence including electron inertia." Phys. Plasmas 21, 122305 (2014).

C A. Álvarez, H Riascos and **C González**. "2D electrostatic PIC algorithm for laser induced studying plasma in vacuum." J. Phys.: Conf. Ser. 687 012072.

**C.A. González**, P Dmitruk, P.D Mininni, W.H Matthaeus. "On the compressibility effect in test particle acceleration by magnetohydrodynamic turbulence." Phys. Plasmas 23, 492361 (2016).

**C.A. González**, P. Dmitruk, P.D. Mininni, W.H. Matthaeus. "Test Particle Energization and the Anisotropic Effects of Dynamical MHD Turbulence." *ApJ*. 850, 1, 19 (2017).

**C.A. González**, T. N. Parashar, D. Gomez, W.H. Matthaeus and P. Dmitruk. "Turbulent electromagnetic fields at sub-proton scales: two-fluid and full-kinetic plasma simulations". *Physics of Plasmas* 26, 012306 (2019).

**C. A. González**, A. Tenerani, M. Velli, P. Hellinger. "The Role of Parametric Instabilities in Turbulence Generation and Proton Heating: Hybrid Simulations of Parallel-propagating Alfvén Waves." *ApJ*. 904, 81 (2020).

JE Stawarz, L. Matteini, TN Parashar, L. Franci, JP Eastwood, **CA Gonzalez**, et al. Comparative Analysis of the Various Generalized Ohm's Law Terms in Magnetosheath Turbulence as Observed by Magnetospheric Multiscale. *J Geophys Res Space Phys* (2020).

PARTICIPATION  
IN GRANTS AND  
SCIENTIFIC  
PROJECTS

2012 "Estudio de la expansión de un plasma producido por laser usando Particle-in Cell". Vicerrectoría de Investigaciones, Innovación y Extensión. Universidad Tecnológica de Pereira.

2013 "Análisis Teórico, Computacional y Experimental De La Dinámica De Un Plasma Producido Por Laser". Vicerrectoría de Investigaciones, Innovación y Extensión. Universidad Tecnológica de Pereira.

2012-15 "Interacción de ondas y estructuras de vorticalidad" (Interaction between waves and vortical structures) ANPCyT PICT-2011-1626 (PICT Tipo A). Director: P.D. Mininni.

2012-16 "Laboratorio de Turbulencia Geofísica" (Geophysical Turbulence Lab) ANPCyT PICT-2011-1529 (PICT áreas científicas consolidadas internacionalmente). Director: P.D. Mininni.

PARTICIPATION  
IN SCIENTIFIC  
MEETINGS

"Workshop on physics and technology at CERN." Bogotá, Colombia. October 20 to 22, 2010. Assistend.

"XIV Latin American Workshop on Plasma Physics (LAWPP)." Mar del Plata, Argentina. November 20 to 25, 2011. poster Presented.

"III Congreso Nacional de Ingeniería Física." Medellín, Colombia, September 10 to 14, 2012. Poster presented.

"ICTP-IAEA College on Plasma Physics." Trieste, Italy, October 1 to 12, 2012. Poster presented.

"12th International School/Symposium for Space Simulations (ISSS-12)." Prague, Czech Republic, July 03-10, 2015. Poster presented.

"LARIM 2016: XV Latin American Regional IAU Meeting." Cartagena, Colombia. October 3 to 7, 2016. Assistend.

"IAU Symposium 327 on Fine Scale Structure and Dynamics of the Solar Atmosphere." Cartagena, Colombia. October 9 to 14, 2016. Poster Presented.

"Heliophysics Summer School: Long-term solar activity and the climates of space and Earth". Boulder, Colorado, United States of America. August 1 to 8, 2017.

"Eleventh Latin American Conference on Space Geophysics". Buenos Aires, Argentina. April 16 to 20, 2018. Oral contribution

"13th International School/Symposium for space simulations". September 6-14th, 2018. Los Angeles, California. USA). Poster presented.