Santiago José BENAVIDES
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Dated: September 2, 2020

EDUCATION

Massachusetts Institute of Technology (MIT) **2016-(2021, expected)**
PhD candidate, Department of Earth, Atmospheric and Planetary Sciences Current GPA: 4.9/5
Focus: Nonlinear Dynamics in Geosciences
Advisors: Glenn R. Flierl & J. Taylor Perron

École Normale Supérieure (ENS) rue d'Ulm, Paris, France **2015-2016**
Masters in Macroscopic Physics and Complexity mention *Très Bien*
Advisor: Alexandros Alexakis

The University of Texas at Austin **2010-2015**
Bachelor of Science in Physics (Option: Honors Physics) GPA: 3.9628/4
Bachelor of Science in Mathematics (Option: Honors Mathematics)
Dean's Scholars Honors Program
Graduation Distinction: Dean's Honored Graduate (Top 1%) and Highest Honors (Top 4%)

PUBLICATIONS

Benavides, S. J., Burns, K. J., Gallet, B., & Flierl, G. R., "Rotating magnetohydrodynamic turbulence in the presence of a background magnetic field," *(In Preparation*).

Benavides, S. J., Flierl, G. R., & Burns, K. J., "Complex behavior in two-dimensional, three-component turbulence with rotation," (*In Preparation*).

Benavides, S. J., Deal, E., Rushlow, M., Venditti, J. G., Zhang, Q., Kamrin, K., & Perron, J. T., "Sediment entrainment dynamics from intermittent bedload time series," (*Submitted to Nature Geoscience*).
Poster: https://www.essoar.org/doi/10.1002/essoar.10500386.1

Alexakis, A., Pétrélis, F., **Benavides, S. J.**, & Seshasayanan, K., "Phase transitions in turbulence and the multiplicative-noise universality class," (*Submitted*).

Benavides, S. J., & Flierl, G. R., "Two-dimensional partially ionized magnetohydrodynamic turbulence," *Journal of Fluid Mechanics*. Volume 900, A28, (2020). https://doi.org/10.1017/jfm.2020.500

Benavides, S. J., & Alexakis, A., "Critical transitions in thin layer turbulence," *Journal of Fluid Mechanics*, Volume 822, pg. 364-385 (2017). https://doi.org/10.1017/jfm.2017.293
Mentioned in feature article: Ecke, R. E. "From 2D to 3D in Fluid Turbulence: Unexpected Critical Transitions." *Journal of Fluid Mechanics*, Volume 828, pg. 1-4 (2017).
https://doi.org/10.1017/jfm.2017.507

Seshasayanan, K., **Benavides, S. J**., & Alexakis, A., "On the edge of an inverse cascade," *Phys. Rev. E.* Volume 90, 051003(R) (2014). http://dx.doi.org/10.1103/PhysRevE.90.051003

SCIENTIFIC EXPERIENCE

Participant in summer school at the Center for Computational Astrophysics
The Flatiron Institute (Simons Foundation), New York, New York
Theme: "Multiscale Modeling of Astrophysical and Space Plasmas" **Summer 2019**

Participant and speaker at workshop of Les Houches School of Physics
Theme: "New Challenges in Turbulence Research V" **April 2019**

Guest Student at Geophysical Fluid Dynamics Summer School
WHOI, Woods Hole, Massachusetts
Theme: Atmosphere, Ocean, and Climate Fluid Dynamics **Summer 2014**

HONORS AND AWARDS

Future Investigators in NASA Earth **2020-2021**
and Space Science and Technology (FINESST) fellowship ($45,000)

MIT
Jule Charney Prize ($12,000) **2016-2019**

Robert R Shrock Graduate Fellowship ($78,350) **2016**

ENS
ENS-ICFP Scholarship ($10,000) **2015-2016**

TEACHING EXPERIENCE

Mentor for MIT's Undergraduate Research Opportunities Program
Directly mentoring two undergraduates on research projects collaboration **Summer 2020**

Teaching Assistant at Massachusetts Institute of Technology
12.820: "Turbulence in the Atmosphere and Ocean" (Graduate Course) **Spring 2020**

Teaching Assistant at Massachusetts Institute of Technology
12.800: "Fluid Dynamics of the Atmosphere and Ocean" (Graduate) **Fall 2019**
Overall rating in subject evaluation: 6.7/7.

Undergraduate Teaching Assistant at the University of Texas at Austin
P S 303: "Introductory Physical Science I: Mechanics and Heat." **Fall 2013**

SERVICES AND OUTREACH

Member of Graduate Student Advisory Committee (GSAG)
to the faculty search committee **Spring 2020**

Member of the Diversity Council (EAPS, MIT)
Department-wide committee, including faculty and staff **Fall 2019 – Present**

Host/Organization of Student Seminar (EAPS, MIT)

Department wide, weekly seminar for students **Fall 2018-Spring 2020**

ADDITIONAL SKILLS

Programming: Python, Fortran, git. Languages: Spanish (fluent), French (fluent, but limited), Russian (limited)