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### A. PROFESSIONAL PREPARATION

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Universidade Fed. de Santa Maria	Santa Maria, Brazil	Electrical Eng.	BSc 2001
Nat. Inst. for Space Res. (INPE)	S. J. Campos, Brazil	Space Sciences	MSc 2003
Cornell University	Ithaca, NY, USA	Elet. & Comp. Eng.	PhD 2008

### B. APPOINTMENTS

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Sep. 2018 – Present: Associate Professor of Physics, UT Dallas, Richardson, TX  
Jun. 2012 – Aug. 2018: Assistant Professor of Physics, UT Dallas, Richardson, TX  
Aug. 2008 – Jun. 2012: Research Engineer, ASTRA, San Antonio, TX

### C. PRODUCTS

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#### Products Most Closely Related to the Proposed Project:

- Rodrigues, F. S., Zhan, W., Milla, M. A., Fejer, B. G., de Paula, E. R., Neto, A. C., et al. MELISSA: System description and spectral features of pre- and post-midnight F-region echoes. *Journal of Geophysical Research Space Physics* Space Physics, 124. <https://doi.org/10.1029/2019JA027445>, 2019.
- Rodrigues, F. S., D. Hickey, W. Zhan, C. Martinis, B. G. Fejer, M. Milla, and J. Arratia, Multi-instrumented observations of the equatorial F -region during June solstice: large scale wave structures and spread-F, *Progress in Earth and Planetary Science*, 5(1), doi:10.1186/s40645-018-0170-0, 2018.
- Rodrigues, F. S., de Paula, E. R., and G. K. Zewdie, High-resolution coherent backscatter interferometric radar images of equatorial spread F using Capon's method, *Ann. Geophys.*, 35, 393-402, doi:10.5194/angeo-35-393-2017, 2017.
- Rodrigues, F. S., M. J. Nicolls, M. A. Milla, J. M. Smith, R. H. Varney, A. Strømme, C. Martinis, and J. F. Arratia, AMISR-14: Observations of equatorial spread F, *Geophys. Res. Lett.*, 42, 5100–5108, doi:10.1002/2015GL064574, 2015.
- Rodrigues, F. S., A. O. Moraes, and E. R. de Paula, Imaging equatorial spread F irregularities with the Sao Luis coherent backscatter radar interferometer, *Radio Sci.*, 47, RS0L03, doi:10.1029/2011RS004929, 2012.

#### Other Significant Products:

- Rodrigues, F. S., and Moraes, A. O., ScintPi: A low-cost, easy-to-build GPS ionospheric scintillation monitor for DASI studies of space weather, education, and citizen science initiatives, *Earth and Space Science*, 6, <https://doi.org/10.1029/2019EA000588>, 2019.
- Shidler, S. A., Rodrigues, F. S., Fejer, B. G., and Milla, M., Radar studies of height-dependent equatorial F region vertical and zonal plasma drifts, *Journal of*

Geophysical Research: Space Physics, 124, 2058– 2071.  
<https://doi.org/10.1029/2019JA026476>, 2019.

- Zhan, W, F. S. Rodrigues, and M. A. Milla, On the Genesis of Postmidnight Equatorial Spread F: Results for the American/Peruvian Sector. Geophysical Research Letters, 45. <https://doi.org/10.1029/2018GL078822>, 2018.
- Smith, J. M., F. S. Rodrigues, B. G. Fejer, and M. A. Milla, Coherent and incoherent scatter radar study of the climatology and day-to-day variability of mean F region vertical drifts and equatorial spread F, J. Geophys. Res. Space Physics, 121, 1466–1482, doi:10.1002/2015JA021934, 2016.
- Smith, J. M., Rodrigues, F. S., and de Paula, E. R.: Radar and satellite investigations of equatorial evening vertical drifts and spread F, Ann. Geophys., 33, 1403-1412, doi:10.5194/angeo-33-1403-2015, 2015.

#### D. SYNERGISTIC ACTIVITIES

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- **Public Outreach:** In collaboration with UTD's Science and Engineering Education Center (SEEC), we have developed an interactive exhibit related to the Earth's ionosphere: What is it? Where is it? How do scientists study it? Who is studying the ionosphere? In the exhibit, learners use a laser transmitter, a receiver and mirrors to learn how radio waves and the ionosphere are used for long distance communication. The exhibit circulates at public libraries in the Dallas-Fort Worth (DFW) area.
- **Education and Training:** In 2013, we started a small, but active program within the Center for Space Sciences at UT Dallas that provides research opportunities for undergraduate students interested in space sciences. The program has attracted students from different majors including computer science, electrical engineering, mathematics and physics. It has prepared students to graduate studies in various fields (Computer Science, Planetary Sciences, Meteorology, and Physics) and for summer internships at NASA, Arecibo Observatory, AFRL, and MIT Haystack.
- **Professional society service:** Chair of the selection committee for the International Basu Early Career Award of the American Geophysical Union – AGU (2013 - 2016) and current (2019 – Ongoing) member of the selection committee for the AGU's Basu United States Early Career Award.
- **Professional editorial service:** Served as associated editor for special issues in the journal Annales Geophysicae (“C/NOFS Results and Equatorial Electrodynamics” and “7th Brazilian meeting on space geophysics and aeronomy) and Progress in Earth and Planetary Science (“Ionospheric plasma bubble seeding and development”).
- **Professional recognition:** 2013 AFOSR Young Investigator Program (IYP), 2016 NSF CAREER Award, and 2019 Eugene McDermott Endowed Professorship.