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Education

Ph.D. in Mathematics and Atmospheric and Ocean Sciences, 2010
Courant Institute of Mathematical Sciences, New York University, New York, NY

M.S. in Applied and Computational Mathematics, 2005
Instituto de Matematica Pura e Aplicada (IMPA), Rio de Janeiro, Brazil

B.S. in Civil Engineering, 2003
Universidade de Sao Paulo, Sao Paulo, Brazil

Appointments

Research Physical Scientist, Physical Sciences Laboratory, NOAA, 2019-present

Research Scientist, Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado, Boulder, 2013 - 2019.

Post-doctoral Fellow, NOAA Earth System Research Laboratory, Boulder CO (National Research Council Program & CIRES Postdoctoral Visiting Fellowships), 2010-2013

Professional Activities

AGU Journal of Advances in Modeling Earth Systems: Associate Editor (2018-2021)

Program chair for the American Meteorological Society (AMS) 8th & 9th Symposium on the Madden-Julian Oscillation and Sub-Seasonal Monsoon Variability (2020, 2021).

ATOMIC PSL NOAA Weather briefings organizer during the field campaign (Jan/Feb 2020)

AMS Conference on Atmospheric and Oceanic Fluid Dynamics (AOFD): committee member (2012 - 2019) and meeting organizer (2017 & 2019)

AMS AOFD Inclusion and Diversity Happy Hour organizer (2019)

AMS AOFD Women's luncheon organizer (2017)

National Research Council (NRC): member of the review panel for the NRC graduate postdoctoral and visiting scientists' fellowships (2015 - present)

Research Experience for Community College Students (NSF EAR #1757930): mentor for community college students (2017 - present)

Significant Opportunities in Atmospheric Research and Science (NSF #1120459): mentor for summer undergraduate students that are under-represented in sciences (2016-2017)

AMS Monthly Weather Review: Associate Editor (2013-2016).

Honors and Awards

QJRMS Editor's Award in recognition of a significant contribution to the journal or editorial process, 2014

National Research Council Research Associateship Award, 2011-2013.

Cooperative Institute for Research in Environmental Sciences Visiting Fellows Program, 2010-2011.

Dean's Dissertation Fellowship, NYU Graduate School of Arts and Sciences, 2009-2010.

Outstanding Oral Presentation, 17th Conf. on Atmospheric and Oceanic Fluid Dynamics, 2009.

Henry MacCracken Fellowship, NYU Graduate School of Arts and Sciences, 2005-2008.

IMPA Graduate Research Fellowship, Master Fellowship from CNPq (Brazilian Governmental Agency), 2003-2004.

Publications

Bengtsson. L, J. **Dias**, S. Tulich, M. Gehne, J. Bao, 2020: A stochastic parameterization of organized tropical convection using cellular automata for global forecasts in NOAA's Unified Forecast System (UFS), *JAMES* (submitted)

Wang, S., Z. K. Martin, A. H. Sobel, M. K. Tippett, J. **Dias**, and G. N. Kiladis, 2020: A multivariate index for tropical intraseasonal oscillations based on seasonally-varying modal structures. *J. Geophys. Res*., (submitted).

Sakaeda, N., **Dias**, J and G. N. Kiladis, 2020: The Unique Characteristics and Potential Mechanisms of the MJO-QBO Relationship *J. Geophys. Res*., (in press)

Wolding, B., J. **Dias**, G. N. Kiladis, F. Ahmed, S.W. Powell, E. Maloney, and M. Branson, 2020: Interactions Between Moisture and Tropical Convection. Part I: The Co-Evolution of Moisture and Convection. *J. Atmos. Sci*., doi: 10.1175/JAS-D-19-0225.1.

Wolding, B., J. **Dias**, G. N. Kiladis, E. Maloney, and M. Branson, 2020: Interactions Between Moisture and Tropical Convection. Part II: The Convective Coupling of Equatorial Waves. *J. Atmos. Sci*., doi:10.1175/JAS-D-19-0226.1.

Sakaeda, N., G. N. Kiladis and J. **Dias**, J., 2020: The Diurnal Cycle of Rainfall and the Convectively-Coupled Equatorial Waves over the Maritime Continent. J. Climate. doi.org/10.1175/JCLI-D-19-0043.1.

Bengtsson, L., J. **Dias**; M. Gehne, P. Bechtold, J. Whitaker, J.-W. Bao, L. Magnusson, S. Michelson, P. Pegion; S. Tulich; G. N. Kiladis, 2019: Convectively coupled equatorial wave simulations using the ECMWF IFS and the NOAA GFS cumulus convection schemes in the NOAA GFS model. *Mon. Weather Rev*., 147, 4005-4025.

Dias J. and G. N. Kiladis, 2019: The Influence of Tropical Forecast Errors on Higher Latitude Predictions. *Geophys. Res. Lett.,* 46, 4450-4459

Kim, Y. -H., G. N. Kiladis, J. R. Albers, J. **Dias**, M. Fujiwara, J. W. Anstey, I. -S. Song, C. J. Wright, Y. Kawatani, F. Lott, and C. Yoo, 2019: Comparison of equatorial wave activity in the tropical tropopause layer and stratosphere represented in reanalysis. *Atmos. Chem. Phys.,*19, 10027–10050.

Dias, J., M. Gehne, G. N. Kiladis, N. Sakaeda, P. Bechtold, and T. Haiden, 2018: Equatorial waves and the skill of NCEP and ECMWF numerical weather prediction systems. *Mon. Wea. Rev.*, 146(6):1763-1784.

Sakaeda N., S. W. Powell, **J. Dias**, G. N. Kiladis: The Diurnal Variability of Precipitating Cloud Populations during DYNAMO, 2018. *J. Atmos. Sci.*, 75(4):1307-1326.

Dole R. and Co-authors, 2018: Advancing Science and Services during the 2015-16 El Nino: The NOAA El Nino Rapid Response Field Campaign. *Bull. Amer. Meteor. Soc.,* 99, 975-1001.

Albers, J. R., J. Perlwitz, A. H. Butler, T. Birner, G. N. Kiladis, Z. D. Lawrence, G. L. Manney, A. O. Langford, and J. **Dias**, 2018. Mechanisms governing interannual variability of stratosphere-to- troposphere ozone transport. *J. Geophys. Res: Atmospheres*, 123(1):234-260.

Dias, J., N. Sakaeda, G. N. Kiladis, and K. Kikuchi, 2017: Influences of the MJO on the space-time organization of tropical convection. *J. Geophys. Res.: Atmospheres*., 122 8012–8032

Kikuchi, K., G. N. Kiladis, J. **Dias**, and T. Nasuno, 2017: Convectively coupled equatorial waves during CINDY/DYNAMO: Slow Kelvin waves as building blocks. *Clim. Dyn*.,1–20.

Sakaeda, N., G. N. Kiladis, and J. **Dias**, 2017: The diurnal cycle of tropical cloudiness and rainfall associated with the Madden-Julian Oscillation. *J.Climate*, 30, 3999–4020.

Kiladis, G. N., J. **Dias**, and M. Gehne, 2016: The Relationship between equatorial Mixed Rossby-gravity and Eastward Inertio- Gravity waves: Part 1. *J. Atmos. Sci*., 73, 2123–2145.

Dias, J and G. N. Kiladis, 2016: The Relationship between equatorial Mixed Rossby- gravity and Eastward Inertio- Gravity waves: Part 2. *J. Atmos. Sci*., 73, 2147–2163.

Albers J. R., T. Birner, G. N. Kiladis and J. **Dias**, 2016: Tropical Upper-Tropospheric Potential Vorticity Intrusions during Sudden Stratospheric Warmings. *J. Atmos. Sci*., 73, 2361–2384.

Dias, J., and G. N. Kiladis, 2014: Influence of the basic state zonal flow on convectively coupled equatorial waves. *Geophys. Res. Lett*., 41, doi:10.1002/2014GL061476.

Kiladis, G. N., J. **Dias**, K. H. Straub, M. C. Wheeler, S. N. Tulich, K. Kikuchi, K. M. Weickmann, and M. J. Ventrice, 2014: A comparison of OLR- and circulation-based indices for tracking the MJO. *Mon. Wea. Rev*., 142, 1697–1715.

Dias, J., P. L. Silva Dias, G. N. Kiladis and M. Gehne, 2013. Modulation of shallow water equatorial waves due to a varying equivalent height background*. J. Atmos. Sci*., 70, 2726–2750.

Dias, J., S. Leroux, S. N. Tulich, and G. N. Kiladis, 2013. How systematic is organized tropical convection within the MJO? *Geophys. Res. Lett*., 40, 1420– 1425

Silva Dias, M. A. F., J. **Dias**, L. M. V. Carvalho, E. D. Freitas and P. L. Silva Dias, 2012. Changes in extreme daily rainfall for Sao Paulo, Brazil. *Climatic Change*, 1–18.

Dias, J., S. N. Tulich, and G. N. Kiladis, 2012. An object-based approach to assessing tropical convection organization. *J. Atmos. Sci*., 69, 2488–2504.

Pauluis, O. and J. **Dias**, 2012. Satellite estimates of precipitation-induced dissipation in the atmosphere. *Science*, 335 (6071), 953–956.

Dias, J. and O. Pauluis, 2011. Modulations of the phase speed of Convectively Coupled Kelvin Waves by the ITCZ. *J. Atmos. Sci*., 68 (7), 1446–1459.

Dias, J. and O. Pauluis, 2010. Impacts of convective life-time on moist geostrophic adjustment. *J. Atmos. Sci*., 67 (9), 2960–2971.

Dias J, and O. Pauluis O., 2009. Convectively Coupled Waves Propagating along an Equatorial ITCZ. *J. Atmos. Sci.,* 66 (8), 2237–2255.