

Rodrigo Castillo R.

Curriculum Vitae

"Blessed is he who has found his work; let him ask no other blessedness" - Thomas Carlyle (1795-1881)

Personal Information

Name Rodrigo Alberto Castillo Rodríguez
Nationality Costa Rican
Date of birth May 27th, 1983

Education

09-02-2015 **Doctor of Philosophy**, *Climate Sciences: Meteorology, Physical Oceanography and Climate Change*, University of Vigo, Spain.
08-09-2011 **Master of Science**, *Climate Sciences: Meteorology, Physical Oceanography and Climate Change*, University of Vigo, Spain.
02-09-2022 **Licentiate Degree**, *Electronic Engineering*, Costa Rica Institute of Technology.
11-02-2011 **Bachelor of Science**, *Meteorology*, University of Costa Rica.
15-02-2007 **Bachelor of Science**, *Physics*, University of Costa Rica.

Fellowships

2016 University of Costa Rica, Internship Fellowship (3 months).
2014 University of Costa Rica, Postgraduate Fellowship (10 months).

Teaching/Learning Materials

2019 Castillo Rodríguez, R. **"Electricidad y Magnetismo: Compendio de Exámenes Resueltos"**. Universidad de Costa Rica, Ciudad Universitaria Rodrigo Facio 11501 San José, Costa Rica. Biblioteca Luis Demetrio Tinoco. SIGN: 530.076 C352e

Publications

2025 Campos, P., & Castillo, R. **"Antarctic oscillation: Its influence on the interannual variability of precipitation in the Indian monsoon region"**. PLOS Climate, 4(7): e0000671, doi:10.1371/journal.pclm.0000671
2021 Castillo, R. **"La oscilación antártica: su influencia en la variabilidad interanual de la precipitación en Costa Rica"**. Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales, 45(176), 875-900, doi:10.18257/raccefyn.1434

7050-381 – Cartago, Costa Rica

☎ (+506) 87943444 • ☎ (+506) 25115096 • ☎ (+506) 22342703

✉ rodrigo.castillorodriguez@ucr.ac.cr • ✉ cigefi.ucr.ac.cr

- 2021 Bermúdez-Vargas, J.J., & Castillo-Rodríguez, R. **"Sobre la maleabilidad de las creencias de la comunidad científica"**. Revista Humanidades, 11(2). ISSN:2215-3934, doi:10.15517/h.v11i2.47316
- 2021 Castillo-Rodríguez, R. **"Tecnología de modulación en el espacio de tiempo-frecuencia ortogonal"**. Tecnología en Marcha, 34(1), 16-24, doi:10.18845/tm.v34i1.4818
- 2020 Castillo, R., & Amador, J.A. **"Precipitation and Temperature in Costa Rica at the End of the Century Based on NEX-GDDP Projected Scenarios"**. Atmosphere, 11(12), 1323, doi:10.3390/atmos11121323
- 2019 Castillo, R., Nieto, R., Gimeno, L., & Drumond, A. **"Influencia de los principales modos anulares hemisféricos y El Niño-Oscilación del Sur (ENOS) en las fuentes de humedad globales de Mesoamérica"**. Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales, 43(169), 746-763, doi:10.18257/raccefyn.859
- 2018 Castillo, R., Montero, R., Amador, A., & Durán, A.M. **"Cambios futuros de precipitación y temperatura sobre América Central y el Caribe utilizando proyecciones climáticas de reducción de escala estadística"**. Revista de Climatología, Vol 18, pp 1-12. ISSN:1578-8768
- 2017 Durán-Quesada, A., Castillo, R., Hundsdoerfer, M., & Gimeno, L. **"CLLJ and WHWP heat content as a constrain to North American Monsoon activation moisture supply"**. In Proceedings of the First International Electronic Conference on the Hydrological Cycle, 12–16 November 2017, MDPI: Basel, Switzerland, doi:10.3390/CHyCle-2017-04856
- 2017 Castillo, R., & Montero, R. **"Proyecciones de cambio climático del Sistema Ártico basado en el análisis de multi-modelos de los escenarios de emisiones de CO₂"**. Revista de Climatología, Vol 17, pp 29-39. ISSN:1578-8768
- 2015 Fernández González, M., Añel Cabanelas, J.A., López-Montero, J.I., Otto, F.E.L., Vicente Serrano, S., Schaller, N., Massey, N.R., Buisán, S.T., Allen, M.R., Machado Trigo, R., Barriopedro, D., Gimeno, L., Nieto, R., & Castillo, R. **"Análisis de dos episodios meteorológicos extremos en la península ibérica"**. Revista Investigación: cultura, ciencia y tecnología, Vol 7, No 14, pp 24-29. ISBN: 1889-4399
- 2014 Nieto, R., Gimeno, L., Castillo, R., Vázquez, M., & Drumond, A. **"Deficit in the moisture transport from the Mediterranean Sea and associated droughts in the surrounding continental areas"**. COMECAP e-book of proceedings, Vol 2, pp 306-311. ISBN: 978-960-524-430-9
- 2014 Gimeno, L., Nieto, R., Castillo, R., Vázquez, M., & Drumond, A. **"Quantifying the importance of the Mediterranean Sea as a moisture source for extreme precipitation and flooding episodes"**. COMECAP e-book of proceedings, Vol 1, pp 344-348. ISBN: 978-960-524-430-9
- 2014 Nieto, R., Castillo, R., Drumond, A., & Gimeno, L. **"A catalog of moisture sources for continental climatic regions"**. Water Resources Research, 50(6), 5322-5328, doi:10.1002/2013WR013901

7050-381 – Cartago, Costa Rica

☎ (+506) 87943444 • ☎ (+506) 25115096 • ☎ (+506) 22342703

✉ rodrigo.castillorodriguez@ucr.ac.cr • ✉ cigefi.ucr.ac.cr

- 2014 Nieto, R., Castillo, R., & Drumond, A. "**The modulation of oceanic moisture transport by the hemispheric annular modes**". *Frontiers in Earth Science*, 2(11), doi:10.3389/feart.2014.00011
- 2014 Castillo, R., Nieto, R., Drumond, A., & Gimeno, L. "**Estimating the temporal domain when the discount of the net evaporation term affects the resulting net precipitation pattern in the moisture budget using a 3-D Lagrangian approach**". *PLoS ONE*, 9(6), e99046, doi:10.1371/journal.pone.0099046
- 2014 Castillo, R., Nieto, R., Drumond, A., & Gimeno, L. "**The role of the ENSO cycle in the modulation of moisture transport from major oceanic moisture sources**". *Water Resources Research*, 50(2), 1046-1058, doi:10.1002/2013WR013900
- 2013 Machado, R., Añel, J. A., Barriopedro, D., García-Herrera, R., Gimeno, L., Nieto, R., Castillo, R., Myles R, A., & Massey, N. "**The record winter drought of 2011-2012 in the Iberian Peninsula [in Explaining Extreme Events of 2012 from a Climate Perspective]**". *Bulletin of the American Meteorological Society*, 94(9), S41-S45, doi:10.1175/BAMS-D-13-00085.1
- 2013 Gimeno, L., Nieto, R., Drumond, A., Castillo, R., & Trigo, R. "**Influence of the intensification of the major oceanic moisture sources on continental precipitation**". *Geophysical Research Letters*, 40(7), 1443-1450, doi:10.1002/grl.50338
- 2011 Castillo, R., Nieto, R., & Drumond, A. "**Análisis Lagrangiano del comportamiento de los sumideros de humedad debidos a la fuente del Atlántico Norte para las estaciones de invierno y verano durante el periodo de 1980-2000**". *Avances en Ciencias de la Tierra (ACT)*, Vol 2, pp 39-51. ISSN:21729328

Work Experience

- Currently **Director**, UNIVERSITY OF COSTA RICA, Director at the Postgraduate Programme in Atmospheric Sciences (UCR-PPCAt).
- Currently **Full Professor**, UNIVERSITY OF COSTA RICA, Full Professor at the Planetary, Oceanic and Atmospheric Physics Department (UCR-DFAOP).
- Currently **Researcher**, UNIVERSITY OF COSTA RICA, Researcher Staff at the Center for Geophysical Research (UCR-CIGEFI).
- 2021–2025 **Subdirector**, UNIVERSITY OF COSTA RICA, Subdirector at the Center for Geophysical Research (UCR-CIGEFI).
- 2016 **Instructor**, NATIONAL CENTERS FOR ENVIRONMENTAL PREDICTION, Visiting Instructor at the Weather Prediction Center - International Desks (WPC-ID).
- 2011–2014 **Researcher**, UNIVERSITY OF VIGO, Researcher Staff at the Environmental Physics Laboratory (UVigo-EPhysLab).
- 2009–2010 **Professional A**, UNIVERSITY OF COSTA RICA, Professional Staff at the Center for Geophysical Research (UCR-CIGEFI).
- 2008–2009 **Lecturer**, UNIVERSITY OF COSTA RICA, Lecturer at the School of Physics (UCR-EF).
- 2007 **IT Assistant**, ASTERISCO TELEPHONY OF LATIN AMERICA S.A., IT Assistant at Asterisco Telephony of Latin America S.A. (Asterisco).

7050-381 – Cartago, Costa Rica

☎ (+506) 87943444 • ☎ (+506) 25115096 • ☎ (+506) 22342703

✉ rodrigo.castillorodriguez@ucr.ac.cr • ✉ cigefi.ucr.ac.cr

2007–2008 **Lecturer**, UNIVERSITY COLLEGE OF CARTAGO, Lecturer at the Electronic Department (CUC-EL).

2003–2006 **Undergraduate Assistant**, UNIVERSITY OF COSTA RICA, Undergraduate Assistant at the School of Mathematics (UCR-EM) and the School of Physics (UCR-EF).

Computer skills

Advanced GNU/Linux, HPC, $\text{\LaTeX}$, OpenOffice
Intermediate C/C++, Python, Fortran, Matlab, IDL, MM5, FLEXPART, WRF
Basic Networking, Mac OS, Autocad

Languages

Spanish **Native**
English **Advanced**

Interests

- Moisture Sources
- Water Vapour Transport
- Variability and Climate Change
- Lagrangian Analysis
- Synoptic Meteorology
- GNU/Linux Operation Systems

7050-381 – Cartago, Costa Rica

☎ (+506) 87943444 • ☎ (+506) 25115096 • ☎ (+506) 22342703

✉ rodrigo.castillorodriguez@ucr.ac.cr • 📧 cigefi.ucr.ac.cr