

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

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
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

7050-381 – Cartago, Costa Rica

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

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

- 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., Vásquez, 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., Vásquez, 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
- 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

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- 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-PPCA_t).
- Currently **Subdirector**, UNIVERSITY OF COSTA RICA, Subdirector at the Center for Geophysical Research (UCR-CIGEFI).
- 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).
- 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).
- 2007–2008 **Lecturer**, UNIVERSITY COLLEGE OF CARTAGO, Lecturer at the Electronic Department (CUC-EL).

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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, \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

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