

# Cynthia L. Wright

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## EXPERIENCE

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### **Oak Ridge National Lab Postdoctoral Research Associate** *Sep 2019 - current*

- Highly collaborative role as an ecologist in the DOE-funded [NGEE-Tropics](#) project. Conduct & organize field studies to understand tree & forest responses to climate-related disturbances such as drought.
- Extensive experience working in challenging & resource-limited locations. Manage logistics for international work including the import/export of equipment & samples, ensuring compliance with corresponding regulation.
- Coordinate information exchange between researchers, students & locals, often translating technical jargon between English & Spanish/Portuguese. Advise & co-advise graduate students.
- Manage lab & field instruments, equipment & supplies. Design & construction of a vacuum distillation line. Manage sample processing & analysis. Conduct field sensor deployment.
- Analyze hydrological & ecological data, often of different spatio-temporal scales.

### **Texas A&M University Graduate Research Fellow** *Aug 2014 - May 2020*

- Awarded ~\$100,000 to fund education & research.
- Conducted independent field research on the effects that extreme environmental conditions have on tree water use & acquisition. Led to dissertation of >150 pages, titled "Ecohydrology of the Caatinga Tropical Dry Forest" & a peer-reviewed publication. Other publications pending.
- Sourced local materials & resources in Brazil to construct & power sap flow sensors.

### **Erasmus Mundus Research Scholar** *Dec 2013 - May 2014*

- Developed & conducted interviews with small-scale farmers located in the Upper Mara River Basin, Kenya. Facilitated water users stakeholders workshop with various agencies.
- Designed & executed a field study to assess the influence of land use practices on runoff & erosion using a small-scale rainfall simulator.

### **Pacific Northwest National Lab Post-Bachelor Research Associate** *Jun 2011 - Aug 2012*

- Physical, hydrological, & biological characterization of wetlands along the Columbia River.

### **Texas A&M University Undergraduate Research Scholar** *Aug 2010 - May 2011*

- Completed undergraduate thesis >40 pages, titled "Historical changes and trends in livestock numbers across ecoregions in Texas" & co-authored a peer-reviewed publication.

### **University of Arizona B2 Research Experience for Undergraduates** *Jun - Aug 2010*

- Field measurements of soil gas efflux using Licor 6400.

### **Sul Ross State University Field Intern** *Jun - Aug 2008*

- Vegetation surveys of *Fouquieria splendens*, Brewster Co, TX.

## EDUCATION

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### **Texas A&M University, College Station, TX.** *May 8, 2020*

- **PhD in Ecosystem Science & Management.**
- 4.0/4.0 GPA.
- *Relevant coursework:* Vadose Zone Hydrology, Hydrology Across Scales, Landscape Analysis & Modelling, Quantitative Methods in Geography, Remote Sensing of the Environment.

### **University of the Algarve, Portugal & UNESCO-IHE, Netherlands.** *Sep 4, 2014*

- **MSc in Ecohydrology.**
- Mark of 8.0/10.0 on thesis examination.
- *Relevant coursework:* Hydrogeology & Aquifer Management, Scientific Writing, Modelling in Estuary Ecology, Water Quality, Tracer Hydrology & Flow Systems Analysis.

Texas A&M University, College Station, TX.

May 17, 2011

- **BSc in Environmental Geoscience.**
- 3.6/4.0 GPA, Cum Laude, Watershed Science Certificate.
- *Relevant coursework:* Fundamentals of Chemistry, Introductory Biology, Fundamentals of Ecology, Wildlife Ecotoxicology, Statistical Methods, Soil Physics, Soil Morphology & Interpretation, Watershed Analysis & Planning, Hydrogeology, GIS in Urban Planning.

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## SKILLS & QUALIFICATIONS

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- **Language:** English(Native), Spanish(Intermediate), Portuguese(Intermediate).
- **Lab:** Picarro CRDS water isotope analyzer, vacuum distillation line, physical analysis of soils, isotopic analysis of soils and organic tissue.
- **Field:** environmental sensors to measure soil moisture & sap flow, hydrometeorology, water quality and catchment characterization, hand-held GPS, basic forestry measurements.
- **Software:** R (Advanced), ArcGIS & QGIS(Basic), SigmaPlot (Basic).
- **Training:** Stable Isotope Ecology IsoCamp, University of Utah, Jun 2015; Catchment Science Summer School, University of Aberdeen, Aug 2015; Google Earth Engine Workshop, Aug 2018; DataCamp Data Scientist Track, *current*.

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## AWARDS

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- Franklin F. Wasko Graduate Merit Fellowship. Texas A&M University. 2019.
- National Security Education Program.David L. Boren Fellowship to Brazil. 2017-2018.
- National Science Foundation Graduate Research Fellowship Program. 2012-2017.
- European Commission Erasmus Mundus Fellowship. 2012-2014.
- Minorities Striving & Pursuing Higher Degrees of Success in Earth System Science. Professional development program funded by the National Science Foundation. 2011-2013.

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## PROFESSIONAL MEETINGS & PRESENTATIONS

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- Wright CL, ALA Lima, ES Souza, MJ Medeiros, JB West, BP Wiclox. Diverging water use for two species in the Caatinga dry forest leads to unequal contributions to stand-level evapotranspiration. Poster. *Ecological Society of America*. Virtual. Aug 2021.
- Wright CL. ¿Los tipos funcionales de arboles en la Caatinga corresponden con las estrategias hidráulicas? Lightning Talk. *Simposio Informal de Bosque Seco*. Virtual. May 2021.
- Wright CL, JB West, ALA Lima, ES Souza, BP Wilcox. Water use strategies diverge by plant functional type in the Caatinga tropical dry forest. Oral. *Ecological Society of America*. Virtual. Aug 2020.
- Wright CL, AD Collins, GC Spanner, BO Gimenez, BD Newman, JM Warren. The contribution of hydraulic redistribution to transpiration in the humid tropics. Poster. *American Geophysical Union*. Virtual. Dec 2020.
- Wright CL, ES Souza, ACD Antonino, JB West, BP Wilcox. When to hold 'em and when to fold 'em: Divergent plant water use by woody species in the Caatinga dry forest of Brazil. Poster. *American Geophysical Union*. San Francisco, CA. Dec 2018.
- Wright CL, ES Souza, JR Lima, JB West, BP Wilcox. Does land use change the spatio-temporal nature of soil moisture? A multi-spectral analysis in the caatinga. Poster. *21st World Congress of Soil Science*. Rio de Janeiro, Brazil. Aug 2018.
- Wright CL. Ecohidrologia da Caatinga : divergências em uso da água pela vegetação. Oral. *V Mostra Eco Cultural da Caatinga*. Serra Talhada, Brazil. May 2018.
- Wright CL, ES Souza, JR Lima, JB West, BP Wilcox. Does a forested caatinga hold more water? Poster. *AGU Chapman Conference on Emerging Issues in Tropical Ecohydrology*. Cuenca, Ecuador. Jun 2016.

## PUBLICATIONS & REPORTS

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- Spanner GC, Gimenez BO, **Wright CL**, Menezes VS, Newman BD, Collins AD, Jardin KJ, Negron-Juarez RI, Lima AJN, Rodrigues JR, Chambers JQ, Warren JM. [Dry season transpiration and soil water dynamics in Central Amazon](#). *Front. in Plant Sci.* 2022.
- **Wright CL**, AL de Lima, ES de Souza, JB West, BP Wilcox. [Plant functional types broadly describe water use strategies in the Caatinga, a seasonally dry tropical forest in northeast Brazil](#). *Ecology & Evolution*. 2021.
- Chitra-Tarak R, et al... [Hydraulically-vulnerable trees survive on deep-water access during droughts in a tropical forest](#) *New Phytologist*. 2021.
- Cusack DF, et al... [Tradeoffs and Synergies in Tropical Forest Root Traits and Dynamics for Nutrient and Water Acquisition: Field and Modeling Advances](#). *Front. For. Glob. Change*. 2021.
- Moore GW, C Adkison, LMT Aparecido, S Basant, CE Cooper, AJ Cross, A Deshpande, M Catalan, **CL Wright**. [Thermal dissipation sensors enter a new age: navigating frontiers in transpiration and hydrologic function](#). *Acta Horticulturae*. 2020.
- Adams R, A Hyodo, T SantaMaria, **CL Wright**, TW Boutton, JB West. [Bound and mobile soil water isotope ratios are affected by soil texture and mineralogy, whereas extraction method influences their measurement](#). *Hydrological Processes*. 2020.
- Zhou Y, TW Boutton, XB Wu, **CL Wright**, & AL Dion. [Rooting strategies in a subtropical savanna: a landscape-scale three-dimensional assessment](#). *Oecologia*. 2018.
- **Wright CL**, A Kagawa-Viviani, C Gerlein-Safdi, et al... [Advancing ecohydrology in the changing tropics: Perspectives from early career scientists](#). *Ecohydrology*. 2017.
- Wilcox BP, MG Sorice, J Angerer, **CL Wright**. [Historical Changes in Stocking Densities on Texas Rangelands](#). *Rangeland Ecology & Management*. 2012.
- Borde AB, RM Kaufmann, VI Cullinan, SA Zimmerman, RM Thom, **CL Wright**. [Lower Columbia River and Estuary Habitat Monitoring Study](#). 2012.
- Vavrinc J, III, AB Borde, DL Woodruff, JM Brandenberger, RM Thom, **CL Wright**, VI Cullinan. [Annual Adaptive Management Report for Compensatory Mitigation at Keyport Lagoon](#). 2012.

## REFERENCES

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