

Dr. Carlos A. Portillo

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Google Scholar: <https://scholar.google.com/citations?user=g0UxKJ8AAAAJ&hl=es>

Website: www.parktrends.org

Education and Post Graduate Training

Ph D, University of Alberta, 2010.

Major: Earth & Atmospheric Sciences

Supporting Areas of Emphasis: Tropical Dry Forest Conservation

Dissertation Title: Assessing the conservation status of Tropical Dry Forests using GIS and Remote Sensing

BS, Universidad del Zulia, 2004.

Major: Biology

Supporting Areas of Emphasis: Tropical Forest Ecology & Conservation

Academic and Professional Experience

Associate Professor, Texas Tech University. (September 1, 2020 - Present).

Assistant Professor, Texas Tech University. (September 1, 2014 - August 31, 2020).

Postdoctoral Fellow, University of Alberta. (February 15, 2013 - August 31, 2014).

I designed and implemented field work activities to establish Wireless Sensor Networks for Environmental Monitoring in different land cover types in the Province of Alberta, Canada.

Associate Researcher, Venezuelan Institute of Scientific Research. (June 10, 2010 - May 31, 2013).

I designed and implemented research projects on GIS and Remote Sensing applications to tropical forest conservation. I also served as a mentor for summer internships and two undergraduate thesis.

TEACHING

Courses Taught

Texas Tech University

LPMD 8000, Doctor's Dissertation, 20 courses.

NRM 3300, Geographic Information Systems for Natural Resources Management, 12 courses.

NRM 4000, Internship, 12 courses.

NRM 4001, Undergraduate Research, 7 courses.

NRM 4301, Problems: Remote sensing with Google Earth Engine, 3 courses.

NRM 4315, Spatial Analysis in Natural Resource Management, 24 courses.

NRM 4403, Aerial Photo Interpretation in Natural Resource Management, 8 courses.

NRM 5404, Aerial Terrain Analysis, 10 courses.

NRM 6000, Master's Thesis, 9 courses.
NRM 6001, Selected Topics in Range Science: Special Topics in Range Science Advanced Remote Sensing, 10 courses.
NRM 6303, Imagery Interpretation for Natural Resource Management, 21 courses.
NRM 6305, Geospatial Technologies in Natural Resource Management, 24 courses.
NRM 7000, Research, 29 courses.
NRM 7210, Teaching Practicum, 1 course.
NRM 8000, Doctor's Dissertation, 4 courses.

Non-Credit Instruction

Workshop, Association of Natural Resource Scientists, 15 participants. (November 18, 2022 - Present).

Certification, Interamerican Institute of Global Change Research (IAI). (November 7, 2016 - Present).

Certification, National Aeronautical and Space Administration (NASA), 4 participants. (2024).

Workshop, Texas Chapter of the Society of Range Management, 60 participants. (October 2018).

Directed Student Learning

Vaughn Smith, Dissertation Committee Chair, Natural Resources Management. (August 2025 - Present).

Sahel Azizkhani-Shadisheh, Dissertation Committee Chair, Natural Resources Management. (August 2024 - Present).

Adam Cupito, Dissertation Committee Member, Natural Resources Management. (January 2024 - Present).

Carsten Groos, Dissertation Committee Member, Natural Resources Management. (2024 - Present).

Jessica Bicaldo, Dissertation Committee Member, Plant & Soil Science. (January 2024 - Present).

Amanda Newman, Dissertation Committee Member, Natural Resources Management. (2023 - Present).

Andrew Castilleja, Dissertation Committee Member, Landscape Architecture. (2023 - Present).

Andrew Castilleja, Dissertation Committee Member, Landscape Architecture. (January 2023 - Present).

Diego Aviles, Dissertation Committee Member, Natural Resources Management. (January 2023 - Present).

Elham Kiani, Dissertation Committee Member, Biological Sciences. (January 2023 - Present).

Luis Hernandez-Martinez, Dissertation Committee Member. (September 2022 - Present).

Touseef Ahmed, Dissertation Committee Member, Biological Sciences. (January 2022 - Present).

George Gyan, Dissertation Committee Member, Natural Resources Management. (August 2021 - Present).

Kaitlin Plate, Dissertation Committee Member, Natural Resources Management. (August 2021 - Present).

Tucker Davidson, Dissertation Committee Member, Natural Resources Management. (August 2021 - Present).

Abby Ruthrough, Dissertation Committee Member, Biological Sciences. (2021 - Present).

Badri Ghimire, Dissertation Committee Member, Natural Resources Management. (2021 - Present).

Susana Revollo, Dissertation Committee Member, Biological Sciences. (January 2021 - Present).

Andres Rodriguez, Dissertation Committee Member, Biological Sciences. (August 2020 - Present).

Afsana Sharmin, Doctoral Advisory Committee Chair, "Extractive Landscapes: Towards a Planning Response to the Hydraulic Fracturing in West Texas," Natural Resources Management. (August 2020 - Present).

Obumneke Ohieari, Doctoral Advisory Committee Chair, Natural Resources Management. (August 2020 - Present).

Scott Hill, Master's Thesis Committee Chair, Natural Resources Management. (August 2020 - Present).

Cole Van Ohlen, Master's Non-Thesis Committee Member, Plant & Soil Science. (June 2020 - Present).

Eric Gamboa, Doctoral Advisory Committee Co-Chair, Other (Outside Texas Tech University). (September 2019 - Present).

Angela Alviz, Doctoral Advisory Committee Member, Biological Sciences. (September 2019 - Present).

Yingbo Zhang, Master's Thesis Committee Member, Natural Resources Management. (August 2019 - Present).

Gabriela Reyes, Doctoral Advisory Committee Member, Other (Outside Texas Tech University). (January 2019 - Present).

Amanda Emert, Master's Thesis Committee Member, Natural Resources Management. (2019 - Present).

Juan Garcia, Doctoral Advisory Committee Member, Natural Resources Management. (2018 - Present).

Carlos Garcia, Doctoral Advisory Committee Member, Natural Resources Management. (2017 - Present).

Katheryn Watson, Doctoral Advisory Committee Member, Natural Resources Management. (2017 - Present).

Hyun Ji Lee, Doctoral Advisory Committee Member, Agricultural Education & Communications. (August 2016 - Present).

John Stuhler, Doctoral Advisory Committee Member, Natural Resources Management. (January 1, 2016 - Present).

Kathryn Brautigam, Doctoral Advisory Committee Member, Natural Resources Management. (January 1, 2016 - Present).

Maria Rios-Blanco, Doctoral Advisory Committee Member, Natural Resources Management. (January 1, 2015 - Present).

Colton Laws, Dissertation Committee Member, Natural Resources Management. (August 2012 - Present).

Eduardo Escamilla, Dissertation Committee Member, Plant & Soil Science. (December 2024).

Emma Sanchez, Dissertation Committee Member, Natural Resources Management. (2024).

Juan Cantu, Dissertation Committee Member, Plant & Soil Science. (January 2020 - December 2024).

Mukti Subedi, Doctoral Advisory Committee Chair, Natural Resources Management. (January 2019 - August 2022).

Shisbeth Tabora, Master's Thesis Committee Member, Natural Resources Management. (June 2019 - 2021).

Michaela Halsey, Doctoral Advisory Committee Member, Biological Sciences. (August 2017 - 2021).

Brett Andersen, Dissertation Committee Member, Biological Sciences. (January 2018 - December 2020).

Nwasinachi Menkiti, Dissertation Committee Chair, "Deforestation in West Africa: the role of protected areas.," Architecture. (January 2017 - August 2020).

Andres Rodriguez-Cordero, Dissertation Committee Member, Biological Sciences. (2019).

Congliang Zhang, Dissertation Committee Member, Geosciences. (2019).

Manpreet Singh, Dissertation Committee Member, Plant & Soil Science. (2019).

Atinderpal Singh, Master's Thesis Committee Member, Plant & Soil Science. (October 1, 2017 - August 2019).

Matthew Jackson, Master's Thesis Committee Chair, "EVALUATING THE EFFECTIVENESS OF UAV (UNMANNED AERIAL VEHICLE)BASED REMOTE SENSING SYSTEM TO DETECT RANGELAND PLANT SPECIES IN THE TEXAS PANHANDLE," Natural Resources Management. (January 1, 2017 - June 2019).

Nwasinachi Menkiti, Dissertation Committee Chair, Interdisciplinary. (2016 - May 2019).

Morgan Martin, Dissertation Committee Member, Plant & Soil Science. (2018).

Ryan Jost, Dissertation Committee Member, Geosciences. (2018).

Geeta Kharel, Master's Thesis Committee Member, Plant & Soil Science. (January 1, 2017 - August 2018).

Vaughn Smith, Master's Thesis Committee Chair, "Near Real-Time Monitoring of Deforestation in the Tropical Dry Forests of Latin and Central America," Natural Resources Management. (June 1, 2015 - December 31, 2017).

Sylvia De La Piedra, Master's Thesis Committee Chair, "Assessment of vegetative seasonality patterns as related to productivity and home range sizes of lesser prairie chickens in west Texas and eastern New Mexico," Natural Resources Management. (September 1, 2015 - August 31, 2017).

Abdullah Alsulaiman, Master's Thesis Committee Chair, "Land use/Land cover Trends in 28 Reservoirs of The Brazos River: a preliminary analysis using NLCD data (2001-2011)," Natural Resources Management. (January 1, 2015 - August 1, 2017).

Seydou Toe, Master's Thesis Committee Member, Natural Resources Management. (September 1, 2014 - June 30, 2017).

Daniel Raleigh, Master's Thesis Committee Chair, "Geodatabase design and implementation for Sandhill Crane wintering habitat conservation," Natural Resources Management. (January 1, 2015 - December 31, 2016).

Kamal Humagain, Doctoral Advisory Committee Member, "LAND COVER CHANGE AND IMPACT OF FOREST RESTORATION TECHNIQUES IN THE SOUTH-WEST JEMEZ MOUNTAINS, NEW MEXICO," Natural Resources Management. (September 1, 2014 - July 31, 2016).

Marines Portillo, Undergraduate Honors Thesis, "Modeling successional stage in tropical dry forests using remote sensing," Other (Outside Texas Tech University). (January 2012 - December 2014).

Andreina Fernandez, Undergraduate Honors Thesis, "Influence of canopy gap fraction on understory richness in tropical dry forests," Other (Outside Texas Tech University). (January 2011 - July 2013).

Teaching Awards and Honors

HSI Fellowship, Texas Tech University. (September 2023).

STEM Teaching, Engagement & Pedagogy (STEP) Fellowship, Texas Tech University. (September 1, 2016).

RESEARCH

Published Intellectual Contributions

Book, Chapter in Scholarly Book-New

- Portillo Quintero, C. (2025). Aboveground Biomass and Biomass Change Estimates of Tropical Dry Forest Using Aerial and Terrestrial LiDAR. *Tropical Dry Forest in the Americas (2nd Edition)*. CRC.
- Portillo Quintero, C. (2025). Resilience of Tropical Dry Forests Management Systems in the Yucatan Peninsula. *Tropical Dry Forest in the Americas (2nd Edition)*. CRC.
- Portillo-Quintero, C. (2021). Analysis of current habitat loss trends on non-human primate species of Lake Maracaibo Basin. In Bernardo Urbani, Natalia Ceballos-Mago (Ed.), *Primateology in Venezuela* (First Edition ed., vol. Volume I, pp. 417). Venezuelan Academy of Sciences.
- Urbani, B., Portillo Quintero, C. (2018). Considerations about the distribution and conservation status of primates in the Venezuelan Guianas. In Ediciones IVIC (Ed.), *La primatología en Latinoamérica 2 – A primatología na America Latina 2*. (1st ed., vol. 14, pp. 677-689). Caracas: Instituto Venezolano de Investigaciones Científicas (IVIC)..
- Portillo Quintero, C., Sanchez, A., Espirito-Santo, M. (2014). Edge Influence on canopy openness and understory microclimate in two neotropical dry forest fragments. *Tropical Dry Forests in the Americas: Ecology, Conservation and Management* (First Edition ed.). CRC Press.

Journal Article, Academic Journal

- Ohieari, O., Portillo Quintero, C., Laza, H. (2025). Assessing Changes in Grassland Species Distribution at the Landscape Scale Using Hyperspectral Remote Sensing. *Sensors*, 25(22), 6821.
- Hernandez-Martinez, L., Hernandez-Stefanoni, J., Medel, A., Portillo Quintero, C., Cabada, C., Lim-Vega, C., Dupuy, J. (2025). Challenges and solutions for reducing bias in Forest inventory-based estimates of aboveground biomass in arid zones. *European Journal of Forest Research*.(Preprint)
- Hernandez, L., Portillo Quintero, C., Hernandez-Stefanoni, J., Dupuy, J., Medel, A. (2025). Desafíos en la estimación de la biomasa vegetal en zonas áridas: mitos, errores y posibles soluciones. *Desde el Herbario*(17), 226-231.
- Hernandez-Martinez, L., Dupuy, J., Medel, A., Portillo Quintero, C., Hernandez-Stefanoni, J. (2025). Improving aboveground biomass density mapping of arid and semi-arid vegetation by combining GEDI LiDAR, Sentinel-1/2 imagery and field data. *Science of Remote Sensing*, 11, 100204.
- Subedi, M., Portillo Quintero, C. (2025). Quantifying change in urban tree cover in the city of Lubbock, Texas, using LiDAR and NAIP imagery fusion. *Science of Remote Sensing*, 11, 100240.
- Hernandez-Stefanoni, J., Hernandez-Martinez, L., Andres-Mauricio, J., Portillo Quintero, C., Pena-Lara, V., Gonzalez-Munoz, K., Tun-Dzul, F., Gamboa-Blanco, Chacon, G. (2025). Spatial distribution and drivers of aboveground forest biomass in Mexico using GEDI and national forest inventory data. *Remote Sens Ecol Conserv*.(<https://doi.org/10.1002/rse2.70019>).

- Portillo Quintero, C. (2024). Effects of successional age, plot size, and tree size on the relationship between diversity and aboveground biomass in tropical dry forests. *Plant Ecology*, 225, 803-817.
- Portillo Quintero, C. (2024). Efficacy of remote sensing technologies for burrow count estimates of a rare kangaroo rat. *Wildlife Society Bulletin*, 48(1).
- Emert, A. D., Griffis Kyle, K., Portillo Quintero, C., Smith, P. (2024). USEPA CALPUFF validation and dispersion modeling of beef cattle feedlot PM10 and PM2. 5 emissions factors. *Atmospheric Environment*, 316, 120189.
- Subedi, M. R., Portillo Quintero, C., McIntyre, N., Kahl, S., Cox, R., Perry, G., Song, X. (2024). Ensemble machine learning on Fusion of sentinel time series imagery with high-resolution orthoimagery for improved land use land cover mapping. *Remote Sensing*, 16, 2778.
- Stuhler, J. R., Portillo Quintero, C., Goetze, J. R., Stevens, R. (2024). Efficacy of remote sensing technologies for estimating abundance of a rare kangaroo rat across its distribution. *Bulletin of the Wildlife Society*, 48, E1510.
- Subedi, M. R., Portillo Quintero, C., Kahl, S., McIntyre, N. E., Cox, R., Perry, G. (2023). Leveraging NAIP imagery for accurate large-area land use/land cover mapping: A case study in central Texas. *Photogrammetric Engineering & Remote Sensing*, 89, 547-560.
- Subedi, M., Portillo Quintero, C., Kahl, S., McIntyre, N., Cox, R., Perry, G. (2023). Leveraging NAIP imagery for accurate large-area land use/land cover mapping: A case study in central Texas. *Photogrammetric Engineering & Remote Sensing*, 89, 547-560.
- Portillo Quintero, C., Hernandez-Stefanoni, J. L., Reyes-Palomeque, G., Dupuy, J. M., Tun-Dzul, F. Scale dependency of the effects of landscape structure and stand age on species richness and aboveground biomass of tropical dry forests. *iForest - Biogeosciences and Forestry*, 16(4), 234-242.
- Portillo Quintero, C., Hernandez-Stefanoni, J. L., Dupuy, J. M. Forest Clearing Dynamics and Its Relation to Remotely-Sensed Carbon Density and Plant Species Diversity in the Puuc Biocultural State Reserve, Mexico. *Remote Sensing*, 15(13), 3445.
- Hernandez-Stefanoni, J. L., Pena-Lara, V., Dupuy, J. M., Reyes-Garcia, Sanaphre-Villanueva, Portillo Quintero, C. (2022). Modelling Species Richness and Functional Diversity in Tropical Dry Forests Using Multispectral Remotely Sensed and Topographic Data. *Remote Sensing*, 14(23), 5919.
- Portillo Quintero, C., Hernandez-Stefanoni, J. L., Reyes-Palomeque, G., Subedi, M. (2022). Novel Approaches in Tropical Forests Mapping and Monitoring—Time for Operationalization. *Remote Sensing*, 14(20:5068).
- Tabora, S., Patino, R., Portillo Quintero, C., Coldren, C. (2022). Air, land, and water variables associated with the first appearance and current spatial distribution of toxic *Prymnesium parvum* blooms in reservoirs of the Southern Great Plains, USA. *Science of the Total Environment*, 836(155567).
- Portillo Quintero, C., Grisham, B., Haukos, D., Boal, C., Hagen, C., Wan, Z., Subedi, M., Menkiti, N. (2022). Trends in Lesser Prairie-Chicken Habitat Extent and Distribution on the Southern High Plains. *Remote Sensing*, 14(15:3780).

- Portillo Quintero, C. Leveraging the NEON Airborne Observation Platform for socio-environmental systems research.. *Ecosphere*, 12(6).
- Hernandez-Stefanoni, J., Portillo Quintero, C. (2021). Carbon Stocks, Species Diversity and Their Spatial Relationships in the Yucatán Peninsula, Mexico.. *Remote Sensing*, 13(16).
- Ordway, E., Portillo-Quintero, C. (2021). Leveraging the NEON Airborne Observation Platform for socio-environmental systems research. *Ecosphere*, 12(6).
- Portillo Quintero, C. (2021). The Road to Operationalization of Effective Tropical Forest Monitoring Systems. *Remote Sensing*(13), 1370.
- Portillo Quintero, C. (2021). Tropical Dry Forest Resilience and Water Use Efficiency: An analysis of productivity under climate change. *Environmental Research Letters* 16: 054027
- Kabat, K. L., Jacobi, C., Ryan, A., Barnes, M., Cox, R., Portillo Quintero, C., Subedi, M., Perry, G. (2021). Texas lizards at risk. *Texas Wildlife*, 36, 32-34.
- Jackson, M., Portillo Quintero, C., Cox, R., Ritchie, G., Humagain, K., Subedi, M. (2020). Season, Classifier, and Spatial Resolution Impact Honey Mesquite and Yellow Bluestem Detection using an Unmanned Aerial System. *Journal of Rangeland Ecology and Management*.(75), 658-672.
- Portillo Quintero, C. (2020). Mapping forest age as an indicator of vegetation structure and species composition in tropical dry forests.. *Ecological Indicators*, 120.
- Smith, V.; Portillo-Quintero, C.; Sanchez-Azofeifa, A.; Hernandez-Stefanoni, J.L. (2019) Assessing the accuracy of detected breaks in Landsat time series as predictors of small scale deforestation in tropical dry forests of Mexico and Costa Rica. *Remote Sens. Environ.*, 221, 707–721
- Humagain, K., Portillo Quintero, C., Cox, R., Cain, J. (2018). Estimating Forest Canopy Cover Dynamics in Valles Caldera National Preserve, New Mexico, Using LiDAR and Landsat Data. *Applied Geography*, 99, 120-132.
- Humagain, K., Portillo Quintero, C., Cox, R., Cain, J. (2017). Mapping Tree Density in Forests of the Southwestern USA Using Landsat 8 Data. *Forests*, 8(8), 15pgs.
- Sanchez, A., Vega, M., Guzman, A., Campos, C., Duran, S., D'Souza, N., Gianoli, T., Portillo, C., Sharp, I. (2017). Can Terrestrial Laser Scanner (TLS) and hemispherical photographs predict Tropical Dry Forest Succession with liana abundance?. *Biogeosciences*, 14, 977-988.
- Stan, K., Sanchez-Azofeifa, A., Espírito-Santo, M., Portillo-Quintero, C. (2015). Simulating Deforestation in Minas Gerais, Brazil, under Changing Government Policies and Socioeconomic Conditions. *PLOS ONE*, 10(9), 1-19.
- Ball A, Sanchez-Azofeifa A, Portillo-Quintero C, Rivard B, Castro-Contreras S, Fernandes G. Patterns of leaf biochemical and structural properties of cerrado life forms: implications for remote sensing. *PLoS One*. 2015 Feb 18;10(2):e0117659. doi: 10.1371/journal.pone.0117659. PMID: 25692675; PMCID: PMC4333119.
- Portillo-Quintero, C., Sanchez, A., Calvo-Alvarado, J., Quesada, M., Espirito-Santo, M. (2014). The Role of Tropical Dry Forests for biodiversity, water and carbon conservation in the neotropics: lessons learned.. *Regional Environmental Change*, 1-11.

- Portillo-Quintero, C., Sanchez, A., Culvenor, D. (2014). Using VEGNET In-Situ Monitoring Lidar (IML) to capture dynamics of Plant Area Index, structure and phenology in Aspen Parkland Forests in Alberta, Canada. *Forests*, 5(5), 1053-1068.
- Arias, J. C., Portillo-Quintero, C. (2013). Catalogo de colecciones de Palmas (Arecaceae) del estado Zulia. *Pittieria*, 37, 09-27.
- Portillo-Quintero, C., Sanchez, A., Espirito-Santo, M. (2013). Monitoring deforestation with MODIS Active Fires in Neotropical dry forests: an analysis of local scale assessments in Mexico, Brazil and Bolivia. *Journal of Arid Environments*, 97, 150-159.
- Portillo, C., Junior, L., Ines, G., Sanchez, A., Carlos, V. (2012). Forest cover and deforestation patterns in the Northern Andes (Lake Maracaibo Basin): a synoptic assessment using MODIS and Landsat imagery. *Applied Geography*, 35, 152-163.
- Larreal, J., Rivas, G., Portillo, C. (2012). Squamata reptiles of a fragment of tropical dryforest in northwestern Venezuela (Lake Maracaibo Region). *Checklist*, 8(6), 1220-1224.
- Avila-Cabadilla, L. D., Sanchez, A., Stoner, K., Alvarez, M., Quesada, M., Portillo, C. (2012). Local and Landscape Factors Determining Occurrence of Phyllostomid Bats in Tropical Secondary Forests. 7(4).
- Portillo-Quintero C. & Sanchez A. (2010) Extent and Conservation of tropical dry forests in the Americas. *Biological Conservation* 143:144-155.
- J. P. Rodríguez, J. M. Nassar, K. M. Rodríguez-Clark, I. Zager, C. Portillo-Quintero, F. Carrasquel, and S. Zambrano.(2008) The human dimensions of Venezuelan tropical dry forests. *Environmental Conservation* 35:311-318
- Wright, S.J., Sanchez-Azofeifa, G.A., Portillo-Quintero, C., Davies, D. (2007) Poverty and corruption compromise tropical forest reserves. *Ecological Applications*, 17(5), 2007,pp.1259-1266.
- Fajardo, L., V. González, J. M. Nassar, P. Lacabana, C. A. Portillo-Quintero, F. Carrasquel & J. P. Rodríguez (2005) Tropical Dry Forests of Venezuela: characterization and current conservation status. *Biotropica* 37:531-546.

Presentations Given

- Portillo Quintero, C., 2024 Annual Meeting of the American Geophysical Union, "Using Hyperspectral Imaging to Evaluate Vegetation Composition of Grasslands at the Landscape Level." (2024).
- Portillo Quintero, C., 2024 NRM Research Day, "Detecting forest cover change associated to the Mayan Train megaproject in Mexico: analysis of the impact of remote sensing data selection," Texas Tech University, Lubbock. (2024).
- Portillo Quintero, C., 2024 NRM Research Day, "Petropolis: a study of extractive urban sprawl in West Texas," Texas Tech University, Lubbock. (2024).
- Portillo Quintero, C., CICY/TTU Meeting, "Support platform for forest monitoring in Yucatan," Texas Tech University, Merida, Mexico. (2024).

Portillo Quintero, C., Hernandez, J. L. (Author Only), Dupuy, J. M. (Author Only), Climate Change International Congress - Yucatan 2023, "Geospatial applications for the monitoring of tropical forests in the context of climate change.," Yucatan Center for Scientific Research, Merida, Yucatan State, Mexico. (October 2023).

Huynh, H. D. (Presenter & Author), Portillo Quintero, C., 2023 NRM Research Day, "Enhancing Urban Tree Canopy Estimation from Remote Sensing Using LiDAR and Texture Metrics," Texas Tech University, Lubbock, Texas. (April 2023).

Ohaeri, O. (Presenter & Author), Portillo Quintero, C., Echevarria Laza, H., 2023 NRM Research Day, "Temporal Dynamics of Net Ecosystem Exchange Over the Marvin Klemme Range Grassland Ecosystems Vegetation Measured by The Eddy-Covariance Technique," Texas Tech University, Lubbock, Texas. (April 2023).

Thomas, R. (Presenter & Author), Sabin, C. (Author Only), Cooper, C., Norris, A., Portillo Quintero, C., NRM Research Day, "Invasive Species mapping at the NRM Rangeland using UAV imagery and machine learning.," Texas Tech University, Lubbock, Texas. (April 2023).

Sabin, C. (Presenter & Author), Thomas, R. (Author Only), Cooper, C. (Author Only), Norris, A. (Author Only), Portillo Quintero, C., NRM Research Day, "Playa Vegetation Mapping at the NRM Rangeland using UAV Imagery and Machine Learning," Texas Tech University, Lubbock, Texas. (April 2023).

Huynh, H. D. (Presenter & Author), Portillo Quintero, C., Texas Academy of Science Annual Meeting, "Enhancing Urban Tree Canopy Estimation from Remote Sensing Using LiDAR and Texture Metrics," Texas Academy of Science, San Angelo, Texas. (March 2023).

Portillo Quintero, C., 2022 Inaugural NRM research Day, "AIR, LAND, AND WATERVARIABLES ASSOCIATED WITH THE FIRST APPEARANCE AND CURRENT SPATIAL DISTRIBUTION OF TOXIC PRYMNESIUUM PARVUM BLOOMS IN RESERVOIRS OF THE SOUTHERN GREAT PLAINS, USA," TTU, Lubbock. (April 2022).

Hill, S., Grisham, B., Portillo Quintero, C., Inaugural Natural Resources Management Research Day, "Effects of Spatial Resolution on Functional Connectivity Mapping in Grasslands of Central Texas," Department of Natural Resources Management, Lubbock, TX. (April 2022).

Portillo Quintero, C., 2022 Kavli Frontiers of Science Symposium, "The Road to the Operationalization of effective tropical forest monitoring systems," National Academy of Sciences, Irvine, CA. (April 8, 2022).

Subedi, M. (Presenter & Author), Portillo Quintero, C. (Author Only), Kahl, S. (Author Only), McIntyre, N. (Author Only), Cox, R. (Author Only), Perry, G. (Author Only), 2022 AAG Annual Meeting, "Do LiDAR data provide practical significance to improve classification accuracy over NAIP Data?: Evidence from target-oriented validation strategies," American Association of Geographers (AAG), Online. (February 2022).

Subedi, M. (Presenter & Author), Portillo Quintero, C. (Author Only), Kahl, S. (Author Only), McIntyre, N. (Author Only), Cox, R. (Author Only), Perry, G. (Author Only), North Central Texas Council of Governments, "Do LiDAR data provide practical significance to improve classification accuracy over NAIP Data?: Evidence from target-oriented validation strategies," North Central Texas Council of Governments, Dallas. (2021).

Subedi, M. (Presenter & Author), Portillo Quintero, C. (Author Only), Kahl, S. (Author Only), McIntyre, N. (Author Only), Cox, R. (Author Only), Perry, G. (Author Only), South Central Arc

- User Group, "Large-area land use/land cover classification of very high-resolution imagery: accounting for spatial bias in sample data," ESRI, Grapevine, Texas. (2021).
- Portillo Quintero, C., Global Roundup: Frontiers in International Research Seminar Series, "Parktrends: building an international collaborative effort for effective deforestation monitoring," TTU, Lubbock, TX. (December 9, 2020).
- Portillo Quintero, C., 4th Hispanic/Latinx Research and Creativity Symposium, "Land Abandonment and Forest Restoration in Latin America: stories from Central America and the Colombia-Venezuela frontier," Texas Tech University, Lubbock. (March 2019).
- Portillo Quintero, C. (Presenter & Author), Perotto, H. (Presenter & Author), Jackson, M. (Presenter & Author), Cox, R. (Author Only), Annual Meeting of the Texas Chapter of the Society of Range Management, "From the box to image analysis: on-site demonstration of an unmanned aerial system," Society of Range Management, Lubbock. (October 2018).
- Portillo Quintero, C., Grisham, B., Boal, C., Haukos, D., Hagen, C., Texas GIS Forum, "Assessing the Extent and Landscape Structure of Sand Shinnery Oak Prairie in the Southern High Plains Using GIS and Remote Sensing: Challenges and Future Directions," Texas Natural Resources Information System, Austin, Texas. (October 2018).
- Schilder, L. J., Heintzman, L., McIntyre, N., Harryman, S., Hagen, C. A., Martin, R., Portillo Quintero, C., Boal, C., Grisham, B., The 14th International Grouse Symposium, "Landscape connectivity for Lesser Prairie-Chickens on the Southern High Plains of Texas and New Mexico," Logan, UT. (September 2018).
- Jackson, M. (Presenter & Author), Portillo Quintero, C. (Author Only), Cox, R. (Author Only), Ritchie, G., International Aridlands Conference, "Evaluating the use of uav-based remote sensing system to detect rangeland plant species in the Texas Panhandle," Texas Tech University, Lubbock. (August 2018).
- Portillo Quintero, C. (Presenter & Author), Sanchez-Azofeifa, A. (Author Only), International Aridlands Conference, "Remote sensing of neotropical dry forests: insights from a decade of research," Texas Tech University, Lubbock. (August 2018).
- Portillo Quintero, C. (Presenter & Author), Grisham, B. (Author Only), Boal, C. (Author Only), Haukos, D. (Author Only), Hagen, C. (Author Only), Wan, Z. (Author Only), Annual Meeting of the Society of Range Management, "Historical Trends of the Distribution of Sand Shinnery Oak Prairie in the Southern High Plains," Reno, Nevada, USA. (January 30, 2018).
- Portillo Quintero, C., Wan, Z. (Author Only), Annual Meeting of the Association of Tropical Biology and Conservation, "Forest Conservation in No Man's Land: forest loss and protected areas in the Catatumbo Basin," Merida, Yucatan. (July 9, 2017).
- De la Piedra, S., Portillo Quintero, C., Grisham, B., Boal, C., Haukos, D., Heck, W., Student Conference on Conservation Science, "Remotely-sensed vegetation seasonality parameters for monitoring wildlife populations," American Museum of Natural History, New York, USA. (October 20, 2016).
- Raleigh, D. (Presenter & Author), Portillo Quintero, C., Grisham, B., Johnson, B., Athearn, N., Collins, D., Oldenburger, S., Conway, W., McIntyre, N., Ecological Society of America, "Assessing Sandhill Crane overwintering resource use in west Texas using GIS and remote sensing," Ft. Lauderdale, FL. (August 2016).
- Soto, S. D. (Presenter & Author), Mach, C. (Author Only), Portillo Quintero, C. (Author Only), Rockwell, C. (Author Only), Erickson, K. (Author Only), Barnes, M. (Author Only), Ecological

Society of America 101st Annual Meeting, "Incorporation of biotype alters species distribution model predictions of suitable habitat for the invasive aquatic macrophyte *Hydrilla verticillata*," Fort Lauderdale, FL. (August 2016).

Barnes, M. (Presenter & Author), Soto, S. D. (Author Only), Mach, C. (Author Only), Portillo Quintero, C. (Author Only), Rockwell, C. (Author Only), Erickson, K. (Author Only), Aquatic Plant Management Society 56th Annual Meeting, "Combining multiple species distribution modeling approaches to predict suitable habitat for the invasive aquatic macrophyte *Hydrilla verticillata*," Grand Rapids, MI. (July 2016).

Soto, S. D. (Presenter & Author), Mach, C. (Author Only), Portillo Quintero, C. (Author Only), Rockwell, C. (Author Only), Erickson, K. (Author Only), Barnes, M. (Author Only), Aquatic Plant Management Society 56th Annual Meeting, "Incorporation of biotype alters species distribution model predictions of suitable habitat for the invasive aquatic macrophyte *Hydrilla verticillata*," Grand Rapids, MI. (July 2016).

Humagain, K. (Presenter & Author), Portillo Quintero, C. (Author Only), Cox, R. (Author Only), Cain, J. (Author Only), Society for Range Management Annual Meeting, "MAPPING STRUCTURAL DIVERSITY OF TREES IN THE SOUTHWEST JEMEZ MOUNTAINS OF NEW MEXICO USING LANDSAT 8 DATA," Society for Range Management, Corpus Christi, Texas. (February 2016).

Portillo Quintero, C. (Presenter & Author), Smith, V. (Author Only), Cao, G. (Author Only), American Geophysical Union Meeting 2016, "Emerging deforestation trends in tropical dry forest ecoregions of Mexico and Central America," San Francisco, California, USA. (December 15, 2015).

Solis, P. (Coordinator/Organizer), Mulligan, K. (Discussant), Barbato, L. (Discussant), Cao, G. (Discussant), Portillo Quintero, C. (Discussant), Mappers without Borders Organizational Meeting to discuss funding opportunities, USAID, Texas Tech University. (January 2015).

Portillo, C. (Presenter & Author), Geography Seminar, "Observing life as it happens: remote sensing platforms for very high resolution monitoring of ecosystem dynamics," Lubbock. (December 5, 2014).

Portillo, C. (Presenter & Author), Sanchez, A. (Author Only), Earsel/NASA Land Use Land Cover Workshop "Frontiers in Earth Observation for Land System Science", "Remote Sensing of the first frontier of LUCC in the Americas: the Tropical Dry Forests," NASA, Berlin. (March 17, 2014).

Portillo-Quintero, C., GIS Day, "Investigating tropical forest ecological dynamics using GIS and Remote Sensing," University of Alberta, Edmonton, Canada. (September 2013).

Contracts, Grants and Sponsored Research

Awarded

Portillo-Quintero, C. Summer Student Internship. NASA-DEVELOP In-Kind Graduate Student Support for 10 weeks (\$5,000).

Grisham, B. (Lead Principal Investigator), Gregory, A. (Principal Investigator), Longing, S. (Principal Investigator), Conway, W. (Principal Investigator), Norris, A. (Principal Investigator), Cooper, C. (Principal Investigator), Portillo Quintero, C. (Principal Investigator), Edwards, D. (Principal Investigator), Matthewson, H. (Principal Investigator), Schwertner, T. W. (Principal Investigator), "Rio Grande Wild Turkey Habitat and Genetic Connectivity, Disease

Prevalence, and Survival in the Texas Edwards Plateau Ecoregion," Sponsored by National Wild Turkey Federation, Other Nonprofit Org, \$105,341.00. (August 2022 - December 2025).

Young, J. (Lead Principal Investigator), Deb, S. (Principal Investigator), Ritchie, G. (Principal Investigator), Kelly, B. (Principal Investigator), Portillo Quintero, C. (Principal Investigator), Guo, W. (Principal Investigator), Pabuyan, I. L. (Principal Investigator), "Evaluating Tools to monitor water use and water conservation in drought-prone urban landscapes," Sponsored by Davis College of Agricultural Sciences and Natural Resources, College or University, \$50,000.00. (July 1, 2024 - June 30, 2025).

Portillo Quintero, C., "2024 Competitive Summer Salary Support," Sponsored by Davis College, College or University, \$1,443.76. (August 2024 - September 2024).

Portillo Quintero, C., "Travel support," Sponsored by Davis College / NRM Department, \$1,000.00.

Portillo Quintero, C., "CATIE-TTU Research Exchange: Remote sensing of ecological dynamics and ecosystem services in productive landscapes," Sponsored by Texas Tech University - Office of International Affairs, College or University, \$4,105.00.

Portillo Quintero, C., "2023 Competitive Summer Salary Support," Sponsored by Davis College, College or University, \$9,166.67. (August 2023 - September 2023).

Portillo Quintero, C., "2023 Faculty Travel Grant," Sponsored by Texas Tech University, College or University, \$1,000.00.

Kahl, S. (Lead Principal Investigator), Cox, R., Portillo Quintero, C., Perry, G., McIntyre, N., "Landscape assessment of west and south Texas grasslands to inform conservation of two native reptile species of concern in Texas," Sponsored by Texas Comptroller's Office of Public Accounts, State of Texas Agency, \$869,745.00. (September 2018 - 2022).

Solis, P. (Lead Principal Investigator), Jones, L. (Supporting), Cao, G. (Principal Investigator), Portillo Quintero, C. (Principal Investigator), Griffith, C. (Supporting), Miller, L. (Supporting), Gottlieb, J. (Supporting), "Story Maps of Humanitarian Projects around the World," Sponsored by TTU Center for Global Communication (QEP), College or University, \$90,000.00. (August 2017 - July 2020).

Cao, G. (Principal Investigator), Solis, P. (Lead Principal Investigator), Mulligan, K. (Principal Investigator), Portillo Quintero, C. (Principal Investigator), "Mappers Without Borders," Sponsored by USAID, Federal, \$999,000.00. (September 29, 2015 - December 31, 2019).

Cox, R. (Principal Investigator), Griffiths Kyle, K. (Principal Investigator), Sharma, J. (Lead Principal Investigator), Portillo Quintero, C. (Principal Investigator), "MGT, Wetland/Floodplain, Coyote Springs Salt Cedar Removal and Restoration for Natural Resources, Kirtland Air Force Base, Albuquerque, New Mexico," Sponsored by U.S. Army, \$29,944.00. (September 28, 2016 - September 28, 2019).

Grisham, B. (Principal Investigator), Boal, C. (Principal Investigator), Portillo Quintero, C. (Lead Principal Investigator), "Historical trends of the landscape structure of plant communities of Sand Shinnery Oak Prairie in the Southern High Plains: establishing a foundation for the restoration of lesser prairie-chicken populations," Sponsored by USDA - NRC/Pheasants Forever, \$98,379.00. (August 1, 2015 - July 1, 2019).

Portillo Quintero, C. (Lead Principal Investigator), "Prototyping a monitoring system for detecting emerging deforestation trends in and around tropical forest reserves," College or University, \$2,000.00.

Portillo Quintero, C. (Lead Principal Investigator), Longing, S. (Lead Principal Investigator), Ritchie, G. (Principal Investigator), "Project Revolution," Sponsored by Bayer CropScience, Industry/For Profit, \$142,112.00. (March 1, 2016 - March 1, 2018).

Portillo Quintero, C. (Lead Principal Investigator), "Tropi-Dry CRN3 subcontract," Sponsored by Inter-American Ins for Global Chg/Univ of Alberta, \$79,275.00. (September 1, 2014 - October 31, 2017).

Portillo, C. (Lead Principal Investigator), "Tropi-Dry CRN Subcontract," Sponsored by University of Alberta, Other Nonprofit Org, \$79,275.00. (September 1, 2017).

Cox, R. (Principal Investigator), Griffis Kyle, K. (Principal Investigator), Sharma, J. (Lead Principal Investigator), Portillo Quintero, C. (Principal Investigator), "MGT, Wetland/Floodplain, Coyote Springs Salt Cedar Removal and Restoration for Natural Resources, Kirtland Air Force Base, Abbuquerque, New Mexico," Sponsored by U.S. Army, \$29,500.00. (September 30, 2015 - September 28, 2016).

Pending

Portillo Quintero, C. (Investigator), Collins, S. (Lead Principal Investigator), Barnes, M. (Investigator), "Conservation planning for streamflow augmentation and salinity dilution along the lower Pecos River," Sponsored by National Fish and Wildlife Foundation, \$423,254.00.

Portillo Quintero, C. (Investigator), Longing, S. (Lead Principal Investigator), "BeeFeed: Towards Predicting Nutritional Landscapes for Pollinators," Sponsored by USDA-NIFA Cooperative State Research Ed & Extension Service, Federal, \$665,880.00.

Portillo Quintero, C. (Investigator), Rogosch, J. (Lead Principal Investigator), Collins, S. (Investigator), Dang, T. (Investigator), "Mapping stream drying in Texas for native fish conservation and management decisions," Sponsored by NASA, Federal, \$891,332.00.

Portillo Quintero, C. (Lead Principal Investigator), "Efficacy of Protected Areas in Times of Crisis," Sponsored by The Science Foundation, Foundation, \$10,000.00.

Echevarria Laza, H. (Lead Principal Investigator), Portillo Quintero, C., "MRA: Linking traits to grassland ecosystems fluxes and climate resiliency at continental scale," Sponsored by NSF, Federal, \$1,898,916.00.

Portillo Quintero, C., "Is Spot-tailed Earless Lizard (STEL) habitat connectivity threatened or stable under current land cover/land use dynamics? : An analysis using remote sensing," Sponsored by Texas Comptroller of Public Accounts, State of Texas Agency, \$46,879.00.

Portillo Quintero, C. (Lead Principal Investigator), Grisham, B. (Principal Investigator), Boal, C. (Principal Investigator), "Mapping Historical Changes in Shinnery Oak Habitat," Sponsored by Pheasants Forever, Industry/For Profit, \$98,379.00.

Research and Scholarly Works Awards and Honors

Kavli Fellow, National Academy of Sciences. (April 2022).

Research Stimulus Award, Ministry of Science and Technology, Venezuela. (2012).

SERVICE

University Service

Committee Member, Hispanic World Working Group. (2021 - Present).

Dean's Representative, PhD dissertation defense by Erdi Kara, Department of Mathematics. (2021 - Present).

Committee Member, Texas Tech's Institute of Hispanic Studies. (2021 - Present).

Dean's Representative, PhD dissertation defense by Anthony Macharia, Department of Agricultural and Applied Economics. (2019 - Present).

Dean's Representative, PhD dissertation defense by Corey Thompson, Department of Plant and Soil Sciences. (2019 - Present).

Dean's Representative, PhD dissertation defense by Ilan Arvelo, Department of Animal Sciences. (2019 - Present).

Committee Member, Response Ware solutions for potential campus adoption. (January 2019 - Present).

Competition Adjudicator/Juror, 16th Annual Graduate Student Research Poster Competition. (March 1, 2017 - Present).

Dean's Representative, Dean's Representative for Arjun Kaffle Thesis. (2024).

Dean's Representative, PhD dissertation defense "Divergence time and rates of evolution among New World Mammarenaviruses" by Narayan Kandel, Department of Biological Sciences. (2017).

Dean's Representative, PhD dissertation defense "Analysis of Dune Morphology within the Rub'al Khali using geospatial technologies" by Fahad Almutlaq, Department of Geosciences. (August 2017).

College Service

Committee Member, CASNR Mediation and Exit Committee. (July 2020 - Present).

Committee Member, Third Year Review Committee Member for Dr. Daniel Phillips (LA). (2024).

Committee Member, Search Committee for a new Professor of Practice for Dept. of Natural Resources Management. (January 4, 2024 - August 2024).

Committee Member, Search Committee for the new Chair of the Dept. of Natural Resources Management. (January 4, 2024 - August 2024).

Committee Member, Search Committee for the new Chair of the Dept. of Landscape Architecture. (June 4, 2015 - April 30, 2016).

Department Service

Committee Member, International Activities. (January 2019 - Present).

Committee Member, NRM Rangeland. (2019 - Present).

Committee Member, Research and Graduate Studies. (January 2019 - Present).

Committee Member, Undergraduate Curriculum Committee. (2016 - Present).

Faculty Advisor. (September 1, 2014 - Present).

Committee Member, Faculty Search Committee. (August 2023 - August 2024).

Committee Chair, 2024 NRM Research Day. (January 2024 - April 2024).

Committee Chair, 2023 NRM Research Day. (January 2023 - April 2023).

Committee Chair, 2022 NRM Research Day. (January 2022 - April 2022).

Professional Service

Reviewer, Journal Article, Biodiversity and Conservation. (2024 - Present).

Reviewer, Ad Hoc Reviewer, United Nations Environmental Programme. (2024 - Present).

Editor, Guest, Remote Sensing (MDPI). (December 2020 - Present).

Editorial Review Board Member, PlosOne. (November 2018 - Present).

Journal of Environmental Management (ELSEVIER). (May 2018 - Present).

Reviewer, Journal Article, Ecosystems Services (ELSEVIER). (January 2018 - Present).

Reviewer, Journal Article, International Forestry Review. (January 2018 - Present).

Committee Member, International Union for the Conservation of Nature. (July 1, 2017 - Present).

Reviewer, Journal Article, Remote Sensing (MDPI). (January 2017 - Present).

Reviewer, Journal Article, Forests (MDPI). (September 2014 - Present).

Reviewer, Grant Proposal, USDA-NIFA-Sustainable Agroecosystems proposal peer review panel. (August 2021).

Reviewer, Grant Proposal, USDA-NIFA-Sustainable Agroecosystems proposal peer review panel. (August 2020).

Reviewer, Grant Proposal, National Aeronautics and Space Administration (NASA). (March 2018).

Reviewer, Grant Proposal, National Aeronautics and Space Administration (NASA). (July 2017).

Service/Performance Partnerships

Deforestation Monitoring Program - Puuc Biocultural Reserve, Mexico, Engaged Research and Creative Activity, Relationship Development, Research and Creative Activity, Technical or Expert Assistance, The goal of the project is to build a platform (parktrends.org) for engaged

tropical forest monitoring with the Puuc Biocultural Reserve in Mexico., Texas. (January 1, 2020 - Present).

Land Use / Land cover change monitoring Program - Costa Rica, Engaged Research and Creative Activity, Relationship Development, Research and Creative Activity, Technical or Expert Assistance, The goal of the project is to engage in scholarly engaged research with CATIE and SINAC, both governmental institutions in Costa Rica, for engaged tropical forest monitoring. We have received support from OIA and the NASA DEVELOP program., Texas. (January 1, 2024 - Present).

Professional Development Seminar on Management Ecosystem Services from Tropical Forests, Engaged Research and Creative Activity, Program Development/Delivery/Evaluation, Public Programs, Events and Resources, Technical or Expert Assistance, A seminar for IAI-sponsored students from several Latin America countries to introduce them to Tropical Dry forest management techniques and concepts., Texas. (July 25, 2016 - May 2017).

YouthMappers, Credit Courses and Programs, Experiential or Service Learning, Universities increasingly seek novel ways to offer meaningful global learning experiences, build a socially engaged citizenry, enhance scientific capacity, and foster student leadership. YouthMappers leverages academic community involvement to synergize with and fill a unique niche among an expanding set of volunteer digital humanitarians. Student-led chapters are organized and connected to collaboratively address specific needs to fill in and use data on an open mapping platform that everyone can create, and everyone can use. The crowd-sourced geographic information created by YouthMappers is directly linked to development efforts in targeted countries, creating new, quality, geospatial data in unmapped places of the world where sponsoring agency USAID works to end extreme poverty. Data is created on OpenStreetMap through remote mapathons digitizing features from satellite imagery and through local field mapping of detailed attributes. Tasks are purposed for authentic end uses articulated by USAID Missions, NGOs, and/or local governments. The data is also promoted for use in academic analyses and research to directly address locally-identified development issues such as disaster prevention, health, food security, and peace. Supported by USAID's GeoCenter, YouthMappers was founded by Texas Tech University, West Virginia University and George Washington University. The network has grown rapidly in its first year, uniting more than 35 universities in 12 countries and contributing over 3 million map changes to OSM. TTU offers a service-learning hybrid course to teach students about open mapping for development. The GeoCenter is served by Virtual Interns who help validate the data, train peers, and support exchanges. Challenges persist to maintain quality data contributions at the quantities demanded, to onboard new mappers from a variety of disciplines, to structure programming in gender inclusive ways that do not underscore colonial histories, and to offer critical and meaningful learning experiences through a widely distributed network. Opportunities remain for students to broaden their geographic knowledge, gain new skills, practice leadership, adopt new perspectives on global citizenship, and achieve a deep understanding of development in their own communities and around the world., California. (November 18, 2015 - December 2019).

GENERAL

Professional Memberships

Member, Global Land Programme. (January 2018 - Present).

Member of the Commission of Ecosystem Management, International Union for the Conservation of Nature. (July 1, 2017 - Present).

Development Activities Attended

Workshop, "HSI Summit," Texas, United States. (2024 - Present).

Faculty Fellowship, "Hispanic Serving Institution Fellowship," Texas Tech University, Lubbock, Texas, United States. (September 2023 - May 2024).

Faculty Fellowship, "2022 Kavli Frontiers of Science Symposium," National Academy of Sciences, United States. (2022).

Faculty Fellowship, "There is Nothing Passive About Active Learning (STEM)," Texas Tech University. (November 2016).

Seminar, "Tenure Academy," Texas Tech University. (November 16, 2016).

Faculty Fellowship, "Writing engaging questions by Dr. Audra Morse," Texas Tech University. (October 2016).

Tutorial, "Equal Employment Opportunity Training." (October 7, 2016).

Tutorial, "FERPA training." (March 17, 2016).

"Lubbock Lights Creative Luncheon," TTU, Lubbock, TX. (February 18, 2016).

Tutorial, "PCard Cardholder training." (July 9, 2015).

Tutorial, "Effort Certifier Training," Texas Tech University. (May 26, 2015).

Workshop, "Techbuy Shopper Training," Texas Tech University, Lubbock, Texas, United States. (November 3, 2014).

Workshop, "Citibank Procurement Card Training for the Cardholder/Reconciler," Texas Tech University, Lubbock, Texas, United States. (October 21, 2014).

Workshop, "Financial Management 101: Introduction to FOAP Codes," Texas Tech University, Lubbock, Texas, United States. (October 21, 2014).

Workshop, "New Employee Orientation," Texas Tech University, Lubbock, Texas, United States. (October 14, 2014).

Tutorial, "Equal Employment Opportunity Training 2.0," Texas Tech University, Lubbock, Texas, United States. (September 9, 2014).

Conference Attendance, "Global Land Project Open Science Meeting 2014," Humboldt-Universität zu Berlin, Berlin, Germany. (March 19, 2014 - March 21, 2014).

Conference Attendance, "EarSel/NASA Land Use Land Cover Workshop," Humboldt-Universität zu Berlin, Berlin, Germany. (March 17, 2014 - March 18, 2014).

Workshop, "IBM Infosphere Stream Analytics Training," IBM/University of Alberta, Mount Kisco, New York, United States. (September 3, 2013 - September 6, 2013).