Roberta Martin

List of Publications by Year
in descending order

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121	11,204	28242	30894
papers	citations	55 h-index	102 g-index

125	125	125	12676
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	GRAZING SYSTEMS, ECOSYSTEM RESPONSES, AND GLOBAL CHANGE. Annual Review of Environment and Resources, 2004, 29, 261-299.	5.6	886
2	PROSPECT-4 and 5: Advances in the leaf optical properties model separating photosynthetic pigments. Remote Sensing of Environment, 2008, 112, 3030-3043.	4.6	773
3	Generalized model for NOxand N2O emissions from soils. Journal of Geophysical Research, 2001, 106, 17403-17419.	3.3	411
4	Spectral and chemical analysis of tropical forests: Scaling from leaf to canopy levels. Remote Sensing of Environment, 2008, 112, 3958-3970.	4.6	361
5	Global variability in leaf respiration in relation to climate, plant functional types and leaf traits. New Phytologist, 2015, 206, 614-636.	3.5	350
6	Airborne spectranomics: mapping canopy chemical and taxonomic diversity in tropical forests. Frontiers in Ecology and the Environment, 2009, 7, 269-276.	1.9	321
7	Progressive forest canopy water loss during the 2012â€“2015 California drought. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E249-55.	3.3	290
8	Carnegie Airborne Observatory-2: Increasing science data dimensionality via high-fidelity multi-sensor fusion. Remote Sensing of Environment, 2012, 124, 454-465.	4.6	283
9	Quantifying forest canopy traits: Imaging spectroscopy versus field survey. Remote Sensing of Environment, 2015, 158, 15-27.	4.6	274
10	Carnegie Airborne Observatory: in-flight fusion of hyperspectral imaging and waveform light detection and ranging for three-dimensional studies of ecosystems. Journal of Applied Remote Sensing, 2007, 1, 013536.	0.6	264
11	Invasive plants transform the three-dimensional structure of rain forests. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 4519-4523.	3.3	236
12	Large-scale impacts of herbivores on the structural diversity of African savannas. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 4947-4952.	3.3	234
13	Remote sensing of native and invasive species in Hawaiian forests. Remote Sensing of Environment, 2008, 112, 1912-1926.	4.6	209
14	MULTIâ€TROPHIC INVASION RESISTANCE IN HAWAII: BIOACOUSTICS, FIELD SURVEYS, AND AIRBORNE REMOTE SENSING. Ecological Applications, 2007, 17, 2137-2144.	1.8	198
15	Spectroscopy of canopy chemicals in humid tropical forests. Remote Sensing of Environment, 2011, 115, 3587-3598.	4.6	197
16	Herbivory makes major contributions to ecosystem carbon and nutrient cycling in tropical forests. Ecology Letters, 2014, 17, 324-332.	3.0	176
17	Canopy phylogenetic, chemical and spectral assembly in a lowland Amazonian forest. New Phytologist, 2011, 189, 999-1012.	3.5	170
18	Invasive species detection in Hawaiian rainforests using airborne imaging spectroscopy and LiDAR. Remote Sensing of Environment, 2008, 112, 1942-1955.	4.6	168

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19	Hyperspectral Remote Sensing of Canopy Biodiversity in Hawaiian Lowland Rainforests. Ecosystems, 2007, 10, 536-549.	1.6	158
20	NASA's surface biology and geology designated observable: A perspective on surface imaging algorithms. Remote Sensing of Environment, 2021, 257, 112349.	4.6	148
21	Multi-method ensemble selection of spectral bands related to leaf biochemistry. Remote Sensing of Environment, 2015, 164, 57-65.	4.6	147
22	Amazonian functional diversity from forest canopy chemical assembly. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 5604-5609.	3.3	140
23	Taxonomy and remote sensing of leaf mass per area (LMA) in humid tropical forests. , 2011, 21, 85-98.		139
24	NO and N2O emissions from savanna soils following the first simulated rains of the season. Nutrient Cycling in Agroecosystems, 1997, 48, 115-122.	1.1	134
25	Leaf chemical and spectral diversity in Australian tropical forests. Ecological Applications, 2009, 19, 236-253.	1.8	134
26	Leaf aging of Amazonian canopy trees as revealed by spectral and physiochemical measurements. New Phytologist, 2017, 214, 1049-1063.	3.5	132
27	Spectranomics: Emerging science and conservation opportunities at the interface of biodiversity and remote sensing. Global Ecology and Conservation, 2016, 8, 212-219.	1.0	127
28	Brightness-normalized Partial Least Squares Regression for hyperspectral data. Journal of Quantitative Spectroscopy and Radiative Transfer, 2010, 111, 1947-1957.	1.1	124
29	A Tale of Two â€œForestsâ€• Random Forest Machine Learning Aids Tropical Forest Carbon Mapping. PLoS ONE, 2014, 9, e85993.	1.1	122
30	Functional and biological diversity of foliar spectra in tree canopies throughout the Andes to Amazon region. New Phytologist, 2014, 204, 127-139.	3.5	121
31	Genetic variation in leaf pigment, optical and photosynthetic function among diverse phenotypes of Metrosideros polymorpha grown in a common garden. Oecologia, 2007, 151, 387-400.	0.9	110
32	Predicting tropical plant physiology from leaf and canopy spectroscopy. Oecologia, 2011, 165, 289-299.	0.9	106
33	High-fidelity national carbon mapping for resource management and REDD+. Carbon Balance and Management, 2013, 8, 7.	1.4	104
34	Amazonian landscapes and the bias in field studies of forest structure and biomass. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E5224-32.	3.3	101
35	Landscape-scale changes in forest structure and functional traits along an Andes-to-Amazon elevation gradient. Biogeosciences, 2014, 11, 843-856.	1.3	100
36	Solar radiation and functional traits explain the decline of forest primary productivity along a tropical elevation gradient. Ecology Letters, 2017, 20, 730-740.	3.0	100

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37	Forest Canopy Gap Distributions in the Southern Peruvian Amazon. PLoS ONE, 2013, 8, e60875.	1.1	97
38	Plant leaf wax biomarkers capture gradients in hydrogen isotopes of precipitation from the Andes and Amazon. Geochimica Et Cosmochimica Acta, 2016, 182, 155-172.	1.6	94
39	Large-scale climatic and geophysical controls on the leaf economics spectrum. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E4043-51.	3.3	93
40	Mapped aboveground carbon stocks to advance forest conservation and recovery in Malaysian Borneo. Biological Conservation, 2018, 217, 289-310.	1.9	91
41	Leafâ€level photosynthetic capacity in lowland Amazonian and highâ€elevation Andean tropical moist forests of Peru. New Phytologist, 2017, 214, 1002-1018.	3.5	89
42	Targeted carbon conservation at national scales with high-resolution monitoring. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E5016-22.	3.3	84
43	Contrasting leaf chemical traits in tropical lianas and trees: implications for future forest composition. Ecology Letters, 2012, 15, 1001-1007.	3.0	83
44	Landscape biogeochemistry reflected in shifting distributions of chemical traits in the Amazon forest canopy. Nature Geoscience, 2015, 8, 567-573.	5.4	79
45	Sources of Canopy Chemical and Spectral Diversity in Lowland Bornean Forest. Ecosystems, 2012, 15, 504-517.	1.6	78
46	Convergent elevation trends in canopy chemical traits of tropical forests. Global Change Biology, 2016, 22, 2216-2227.	4.2	73
47	Controls on annual emissions of nitric oxide from soils of the Colorado shortgrass steppe. Global Biogeochemical Cycles, 1998, 12, 81-91.	1.9	72
48	Leaf reflectance spectra capture the evolutionary history of seed plants. New Phytologist, 2020, 228, 485-493.	3.5	72
49	Taking the pulse of Earth's tropical forests using networks of highly distributed plots. Biological Conservation, 2021, 260, 108849.	1.9	71
50	Production of leaf wax n-alkanes across a tropical forest elevation transect. Organic Geochemistry, 2016, 100, 89-100.	0.9	68
51	Active restoration accelerates the carbon recovery of human-modified tropical forests. Science, 2020, 369, 838-841.	6.0	68
52	Evapotranspiration and energy balance of native wet montane cloud forest in Hawaiâ€˜i. Agricultural and Forest Meteorology, 2009, 149, 230-243.	1.9	67
53	Topo-edaphic controls over woody plant biomass in South African savannas. Biogeosciences, 2012, 9, 1809-1821.	1.3	61
54	Tree Species Abundance Predictions in a Tropical Agricultural Landscape with a Supervised Classification Model and Imbalanced Data. Remote Sensing, 2016, 8, 161.	1.8	61

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55	Storm-triggered landslides in the Peruvian Andes and implications for topography, carbon cycles, and biodiversity. Earth Surface Dynamics, 2016, 4, 47-70.	1.0	60
56	Vegetationâ€“Climate Interactions among Native and Invasive Species in Hawaiian Rainforest. Ecosystems, 2006, 9, 1106-1117.	1.6	57
57	Movement patterns of three arboreal primates in a Neotropical moist forest explained by LiDAR-estimated canopy structure. Landscape Ecology, 2016, 31, 1849-1862.	1.9	57
58	Assessing traitâ€based scaling theory in tropical forests spanning a broad temperature gradient. Global Ecology and Biogeography, 2017, 26, 1357-1373.	2.7	57
59	Scale dependence of canopy trait distributions along a tropical forest elevation gradient. New Phytologist, 2017, 214, 973-988.	3.5	57
60	On the use of binary partition trees for the tree crown segmentation of tropical rainforest hyperspectral images. Remote Sensing of Environment, 2015, 159, 318-331.	4.6	54
61	An Approach for Foliar Trait Retrieval from Airborne Imaging Spectroscopy of Tropical Forests. Remote Sensing, 2018, 10, 199.	1.8	54
62	Leaf Chemical and Optical Properties of Metrosideros polymorpha Across Environmental Gradients in Hawaii. Biotropica, 2009, 41, 292-301.	0.8	53
63	Landscapeâ€scale variation in plant community composition of an African savanna from airborne species mapping. Ecological Applications, 2014, 24, 84-93.	1.8	53
64	Coral reef atoll assessment in the South China Sea using Planet Dove satellites. Remote Sensing in Ecology and Conservation, 2017, 3, 57-65.	2.2	51
65	Variation in leaf wettability traits along a tropical montane elevation gradient. New Phytologist, 2017, 214, 989-1001.	3.5	51
66	Informing trait-based ecology by assessing remotely sensed functional diversity across a broad tropical temperature gradient. Science Advances, 2019, 5, eaaw8114.	4.7	51
67	Multiscale analysis of tree cover and aboveground carbon stocks in pinyonâ€“juniper woodlands. Ecological Applications, 2009, 19, 668-681.	1.8	47
68	Altitude effect on leaf wax carbon isotopic composition in humid tropical forests. Geochimica Et Cosmochimica Acta, 2017, 206, 1-17.	1.6	46
69	EFFECTS OF WOODY VEGETATION ENCROACHMENT ON SOIL NITROGEN OXIDE EMISSIONS IN A TEMPERATE SAVANNA. , 2003, 13, 897-910.		45
70	Landscape-Scale Controls on Aboveground Forest Carbon Stocks on the Osa Peninsula, Costa Rica. PLoS ONE, 2015, 10, e0126748.	1.1	45
71	Substrate age and precipitation effects on Hawaiian forest canopies from spaceborne imaging spectroscopy. Remote Sensing of Environment, 2005, 98, 457-467.	4.6	42
72	Phylogenetic Structure of Foliar Spectral Traits in Tropical Forest Canopies. Remote Sensing, 2016, 8, 196.	1.8	40

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73	Rapid forest carbon assessments of oceanic islands: a case study of the Hawaiian archipelago. Carbon Balance and Management, 2016, 11, 1.	1.4	38
74	Pantropical modelling of canopy functional traits using Sentinel-2 remote sensing data. Remote Sensing of Environment, 2021, 252, 112122.	4.6	38
75	A Spectral Mapping Signature for the Rapid Ohia Death (ROD) Pathogen in Hawaiian Forests. Remote Sensing, 2018, 10, 404.	1.8	37
76	Determining Subcanopy Psidium cattleianum Invasion in Hawaiian Forests Using Imaging Spectroscopy. Remote Sensing, 2016, 8, 33.	1.8	31
77	Predicting traitâ€environment relationships for venation networks along an Andesâ€Amazon elevation gradient. Ecology, 2017, 98, 1239-1255.	1.5	31
78	Remote measurement of canopy water content in giant sequoias (Sequoiadendron giganteum) during drought. Forest Ecology and Management, 2018, 419-420, 279-290.	1.4	31
79	An Approach for High-Resolution Mapping of Hawaiian Metrosideros Forest Mortality Using Laser-Guided Imaging Spectroscopy. Remote Sensing, 2018, 10, 502.	1.8	31
80	Biomass Increases Go under Cover: Woody Vegetation Dynamics in South African Rangelands. PLoS ONE, 2015, 10, e0127093.	1.1	30
81	Beyond Refugia: New Insights on Quaternary Climate Variation and the Evolution of Biotic Diversity in Tropical South America. Fascinating Life Sciences, 2020, , 51-70.	0.5	29
82	Large-scale mapping of live corals to guide reef conservation. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 33711-33718.	3.3	29
83	Spectroscopic Remote Sensing of Non-Structural Carbohydrates in Forest Canopies. Remote Sensing, 2015, 7, 3526-3547.	1.8	23
84	Tropical forest leaves may darken in response to climate change. Nature Ecology and Evolution, 2018, 2, 1918-1924.	3.4	23
85	Covariance of Sun and Shade Leaf Traits Along a Tropical Forest Elevation Gradient. Frontiers in Plant Science, 2019, 10, 1810.	1.7	23
86	Linking imaging spectroscopy and LiDAR with floristic composition and forest structure in Panama. Remote Sensing of Environment, 2014, 154, 358-367.	4.6	22
87	Mesoscale assessment of changes in tropical tree species richness across a bioclimatic gradient in Panama using airborne imaging spectroscopy. Remote Sensing of Environment, 2015, 167, 111-120.	4.6	22
88	Decoupled dimensions of leaf economic and anti-herbivore defense strategies in a tropical canopy tree community. Oecologia, 2018, 186, 765-782.	0.9	22
89	Effects of Morella faya tree invasion on aboveground carbon storage in Hawaii. Biological Invasions, 2010, 12, 477-494.	1.2	21
90	Environmental controls on canopy foliar nitrogen distributions in a Neotropical lowland forest. Ecological Applications, 2016, 26, 2451-2464.	1.8	20

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91	Regional-Scale Drivers of Forest Structure and Function in Northwestern Amazonia. PLoS ONE, 2015, 10, e0119887.	1.1	19
92	Landscape-scale variation in canopy water content of giant sequoias during drought. Forest Ecology and Management, 2018, 419-420, 291-304.	1.4	19
93	The Influence of Taxonomy and Environment on Leaf Trait Variation Along Tropical Abiotic Gradients. Frontiers in Forests and Global Change, 2020, 3, .	1.0	19
94	A hyperspectral image can predict tropical tree growth rates in singleâ€species stands. Ecological Applications, 2016, 26, 2369-2375.	1.8	18
95	Structural and defensive roles of angiosperm leaf venation network reticulation across an Andesâ€“Amazon elevation gradient. Journal of Ecology, 2018, 106, 1683-1699.	1.9	18
96	Regional Estimate of Nitric Oxide Emissions Following Woody Encroachment: Linking Imaging Spectroscopy and Field Studies. Ecosystems, 2005, 8, 33-47.	1.6	17
97	Can Leaf Spectroscopy Predict Leaf and Forest Traits Along a Peruvian Tropical Forest Elevation Gradient?. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 2952-2965.	1.3	17
98	Quantifying Tropical Plant Diversity Requires an Integrated Technological Approach. Trends in Ecology and Evolution, 2020, 35, 1100-1109.	4.2	16
99	Hemiparasiteâ€“host plant interactions in a fragmented landscape assessed via imaging spectroscopy and Li<scp>DAR</scp>. Ecological Applications, 2016, 26, 55-66.	1.8	15
100	Leaf- and crown-level adjustments help giant sequoias maintain favorable water status during severe drought. Forest Ecology and Management, 2018, 419-420, 257-267.	1.4	15
101	Mapped coral mortality and refugia in an archipelago-scale marine heat wave. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2123331119.	3.3	14
102	Coral Bleaching Detection in the Hawaiian Islands Using Spatio-Temporal Standardized Bottom Reflectance and Planet Dove Satellites. Remote Sensing, 2020, 12, 3219.	1.8	13
103	Exploring the links between secondary metabolites and leaf spectral reflectance in a diverse genus of Amazonian trees. Ecosphere, 2021, 12, e03362.	1.0	12
104	Conservation assessment of the Peruvian Andes and Amazon based on mapped forest functional diversity. Biological Conservation, 2017, 210, 80-88.	1.9	11
105	Ecosystemâ€scale mapping of coral species and thermal tolerance. Frontiers in Ecology and the Environment, 2022, 20, 285-291.	1.9	11
106	Tree Foliar Chemistry in an African Savanna and Its Relation to Life History Strategies and Environmental Filters. PLoS ONE, 2015, 10, e0124078.	1.1	10
107	Leaf to landscape responses of giant sequoia to hotter drought: An introduction and synthesis for the special section. Forest Ecology and Management, 2018, 419-420, 249-256.	1.4	9
108	Empirically validated drought vulnerability mapping in the mixed conifer forests of the <scp>Sierra Nevada</scp>. Ecological Applications, 2022, 32, e2514.	1.8	9

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109	Biogeochemistry of desertification and woody encroachment in grazing systems. Geophysical Monograph Series, 2004, , 99-116.	0.1	8
110	Functional susceptibility of tropical forests to climate change. Nature Ecology and Evolution, 2022, 6, 878-889.	3.4	8
111	Abiotic and Human Drivers of Reef Habitat Complexity Throughout the Main Hawaiian Islands. Frontiers in Marine Science, 2021, 8, .	1.2	7
112	Early detection of a tree pathogen using airborne remote sensing. Ecological Applications, 2022, 32, e2519.	1.8	7
113	Binary partition tree as a hyperspectral segmentation tool for tropical rainforests. , 2012, , .		6
114	High-Resolution Mapping of Redwood (Sequoia sempervirens) Distributions in Three Californian Forests. Remote Sensing, 2019, 11, 351.	1.8	5
115	Regional Reef Fish Survey Design and Scaling Using High-Resolution Mapping and Analysis. Frontiers in Marine Science, 2021, 8, .	1.2	5
116	Are Sunken Warships Biodiversity Havens for Corals?. Diversity, 2022, 14, 139.	0.7	5
117	A framework for establishing a rapid â€˜ÅŒhiâ€˜a death resistance program. New Forests, 2023, 54, 637-660.	0.7	4
118	Improving landscapeâ€scale productivity estimates by integrating traitâ€based models and remotelyâ€sensed foliarâ€trait and canopyâ€structural data. Ecography, 2022, 2022, .	2.1	4
119	Mapping the vulnerability of giant sequoias after extreme drought in California using remote sensing. Ecological Applications, 2021, 31, e02395.	1.8	2
120	Terrain-Relative Diver Following with Autonomous Underwater Vehicle for Coral Reef Mapping. , 2021, , .		1
121	Corrigendum to "Topo-edaphic controls over woody plant biomass in South African savannas" published in Biogeosciences, 9, 1809â€“1821, 2012. Biogeosciences, 2013, 10, 2655-2655.	1.3	0