***Curriculum Vitae*: David G. Williams (updated July 6, 2009)**

Department of Renewable Resources
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Education

BA 1985	Botany, The University of Texas at Austin
MS 1988	Range Science, Texas A&M University, College Station Thesis title: Extent and ecological significance of physiological integration among ramets within the bunchgrass *Schizachyrium scoparium* var. *frequens*. (Advisor David D. Briske)
PhD 1992	Botany, Washington State University, Pullman Dissertation title: Physiological ecology of the invasive grass *Pennisetum setaceum* on Hawaii. (Advisors Richard N. Mack and R. Alan Black)

Areas of Specialization

Plant physiological ecology, carbon and water cycles in arid and semi-arid environments, ecology of plant invasions, global change ecology, application of stable isotope techniques to ecology

Academic Positions Held

2004-present	Associate Professor, Program in Ecology, University of Wyoming
2002-present	Associate Professor, Department of Botany, University of Wyoming
2002-present	Associate Professor, Department of Renewable Resources, University of Wyoming
2002-present	Director, University of Wyoming Stable Isotope Facility, University of Wyoming
2002-present	Adjunct Associate Professor, School of Natural Resources, University of Arizona
2002-2003	Senior Fulbright Research Fellow, Centre d'Etudes Spatiales de la Biosphere, Toulouse, France
2001-2002	Associate Professor, School of Renewable Natural Resources, University of Arizona
1995-2001	Assistant Professor, School of Renewable Natural Resources, University of Arizona
1993-1995	Postdoctoral Research Scientist, Department of Biology, University of Utah
1988-1992	Teaching/Research Assistant, Departments of Botany and Biology, Washington State University
1985-1988	Teaching/Research Assistant, Departments of Range Science and Biology, Texas A&M University

Professional Society Memberships

Ecological Society of America
American Geophysical Union
Society for Range Management

Honors and Awards

Phi Kappa Phi, 1988
Sigma Xi Graduate Research Award, 1990
Biddulph Graduate Student Fellowship in Botany, Washington State University, 1991
United States Department of Agriculture, National Research Initiative Competitive Grants Program, New Investigator Award, 1996
United States Department of Agriculture, Group Honor Award for Excellence, 2001
Senior Fulbright Research Scholar Award for France, 2002-2003

Research Grants and Contracts ($4,566,875 total awarded, $2,038,353 at the University of Wyoming)

USDA NRI. *Water use along a semi-arid riparian continuum*. PI. 1996-1999. $97,242
University of Arizona Faculty Small Grant Program. *Effect of grass invasion on soil carbon and nitrogen dynamics*. PI. 1996-1997. $5,000
University of Arizona Agricultural Experiment Station/Hatch. *Alien grass invasion and ecosystem feedbacks in southern Arizona*. PI. 1996-1999. $38,640
NASA. *Water resources management to sustain growth and riparian biodiversity: In-situ and remote measurements of riparian corridor evapotranspiration*. Co-PI with D. Goodrich (PI), D. Cooper, J. Dwyer, L. Hipps, T. Maddock, III, S. Moran., D. Myers, E. Njoku, J. Schieldge and D. Stannard. 1996-1998. $154,372
University of Arizona Teaching Center. *An interactive computer instructional environment for interrelated courses*. Co-PI with G. McPherson (PI), and M. McClaran. $5,400. 1997-1998
USDA NRI. *Elevated CO_2 and limited water supply effects on carbon processes and sequestration in C_4 grass*. Co-PI with S. Leavitt (PI), M. Ottman, A. Matthias, T. Thompson and R. Roth. 1997-2000. $505,700
University of Arizona Research Development Funds Competitive Grant. *Isotopic indicators of CO_2 and H_2O fluxes in semi-arid ecosystems*. PI. 1998-2000. $20,000
Visiting scholar fund for the Institute for the Study of Planet Earth University of Arizona. Co-PI with S. Leavitt (PI). 1998. $1,312
Cochise County Arizona. *Ephemeral channel deep recharge and evapotranspiration from near-channel vegetation*. Co-PI with D. Goodrich (PI). 1998-2000. $70,163
USGS Water Resources Research Center Competitive Grant. *Isotope biohydrology of an ephemeral drainage*. PI with K. Hultine and D. Goodrich. 1999-2000. $13,724
USGS Groundwater Project. *Surface water/groundwater dependence of riparian trees: A synthetic dendrohydrology and ecophysiology study*. Co-PI with R. Webb (PI) and D. Meko. 1999-2002. $150,000
NSF DBI. *An isotope ratio mass spectrometer for the biological sciences at the University of Arizona*. PI with D. Dettman, S. Leavitt, T. Markow and C. Martinez del Rio. 2000-2001. $189,000

USDA NRI. *Climate change, grass invasions, and woody plant dynamics in semi-arid savannas*. Co-PI with J. Weltzin (PI). 2000-2003. $300,000

University of Arizona Agricultural Experiment Station/Hatch. *Interactions between mesquite and Lehmann lovegrass: geomorphic controls on plant and soil water balance*. PI. 2000-2003. $18,000

University of Arizona Faculty Small Grant Program. *Integrated measurement and modeling of hydro-ecological resources in Morocco*. PI. 2001-2002. $4,885

BLM Upper San Pedro Partnership. *San Pedro Riparian National Conservation Area water needs study*. Co-PI with D. Goodrich (PI), R. Scott, N. Grimm, M. Conklin and J. Stromberg. 2001-2005. $823,894

NSF Science and Technology Center SAHRA subcontract. *Relationship between hydrologic condition and plant transpiration and carbon exchange*. PI with D. Goodrich, R. Scott and G. Lin. 2001-2003. $109,190

Franco-American Fulbright Scholar Program. *Integrated measurement and modeling of hydro-ecological resources in semi-arid regions*. PI. 2002-2003. $22,000

University of Wyoming College of Agriculture Global Perspectives Grant. *Collaborative isotopic studies in steppe ecosystems of Inner Mongolia and Wyoming*. PI with S. Williams. 2004. $1,500

Wyoming NASA Space Grant Consortium. *Net carbon exchange and evapotranspiration in sagebrush steppe: response to extreme summer rainfall events*. PI. 2004. $8,000

University of Wyoming International Program Travel Grant. *Collaborative isotopic studies in steppe ecosystems of Inner Mongolia and Wyoming*. PI. 2004. $1,035

NSF DBI (0400752). *Isotope ratio mass spectrometers for biological and environmental research and training at the University of Wyoming*. PI with M. Ben-David, R. Hall, C. Martinez del Rio and E. Pendall. 2004-2005. $409,042 total, $270,042 external

NSF DEB (0414680). *Sensitivity of ecosystem processes to precipitation across a grassland to shrubland vegetation transition in the southwestern US*. PI. 2004-2007. $224,000

NSF DEB (0417228). *Vulnerability of semi-arid grasslands to encroachment by woody plants: the role of grass invasions, seasonal precipitation, and soil type*. PI. 2004-2007. $109,496

Biosphere-Atmosphere Stable Isotope Network (BASIN). *Travel Grant to attend conference in Interlaken, Switzerland*. 2005. $500

USDA ARS subcontract cooperative agreement. *How will grassland ecosystems respond to rising CO_2 and climate change?* PI with E. Pendall. 2004-2009. $450,000

University of Wyoming Faculty Grant-in-Aid. *Volcanic degassing in Yellowstone National Park: An un-tapped research opportunity for studying effects of elevated CO_2 on coniferous forest*. Co-PI with S. Sharma (PI). 2006-2007. $7,500

University of Wyoming Agricultural Experiment Special RFP for Equipment. *Modernization of the Environmental Simulation Laboratory*. Co-PI with G.B. Paige (PI), P. Stahl, A.L. Hild, and T. Collier. 2006-2007. $117,410

Wyoming Water Research Program Competitive Grant Program. *Tracing glacial ice and snowmelt water with isotopes*. PI. 2007-2009. $121,933

DOE NICCR. *Direct and indirect effects of warming, elevated CO_2 and non-native plant invasion on carbon and water cycling in semiarid grassland*. PI with E. Pendall. 2007-2010. $276,937

NSF IOS (0717395). *Collaborative project: An isotopic record of response to climate change in spines of saguaro cactus*. PI. 2007-2010. $236,000

UN IAEA Coordinated Research Project. *Partitioning evaporation and transpiration in flood-irrigated fields from the isotopic composition of water vapor: the importance of isotopic non-steady state transpiration*. PI. 2007-2012. $75,000

Scholarly Publications (cited 1,266 times in Web of Science, *h*-index = 24 [July 6, 2009]; underlining indicates students and postdocs mentored by Williams)

Refereed book chapters (8 published and in press)

Ehleringer, J.R., R.D. Evans, and **D.G. Williams**. 1998. Assessing sensitivity to change in desert ecosystems - a stable isotope approach. Pages 223-237. In H. Griffiths (ed.), *Stable Isotopes Integration of Biological, Ecological, and Geochemical Processes*. BIOS Scientific Publ., Oxford

Williams, D.G., G.R. McPherson, and J.F. Weltzin. 1999. Stress in Wildland plants: Implications for ecosystem structure and function. Pages 907-929. In M. Pessarakli (ed.). *Handbook of plant and crop stress: second edition*. Marcel Dekkar, Inc., New York

Williams, D.G. and K.A. Snyder. 2003. Responses of woody plants to heterogeneity of soil water in arid and semiarid environments. Pages 28-46. In J. Weltzin and G. McPherson (eds), *Changing precipitation regimes and terrestrial ecosystems*. University of Arizona Press, Tucson

Goodrich, D.C., **D.G. Williams**, C.L. Unkrich, J.F. Hogan, R.L. Scott, K.R. Hultine, D. Pool, A.L. Coes, and S. Miller. 2004. Comparison of methods to estimate ephemeral channel recharge, Walnut Gulch, San Pedro River Basin, Arizona, In *Groundwater Recharge in a Desert Environment: The Southwestern United States*, edited by J.F. Hogan, F.M. Phillips, and B.R. Scanlon, Water Science and Applications Series, vol. 9, American Geophysical Union, Washington, D.C., pp. 77-99

Williams, D.G., R.D. Evans, J. West, and J.R. Ehleringer. 2007. Applications of stable isotope measurements for early-warning detection of ecological change. pp 383-398. In T.E. Dawson and R. Siegwolf (eds), *Isotopes as tracers of ecological change*. Elsevier Academic Press

Hemming, D., N. Loader, A. Marca, I. Robertson, **D.G. Williams**, L. Wingate, D. Yakir. 2007. The future of large-scale isotope networks. pp 361-381. In T.E. Dawson and R. Siegwolf (eds), *Isotopes as tracers of ecological change*. Elsevier Academic Press

Yepez, E.A. and **D.G. Williams**. 2008. Precipitation pulses and ecosystem carbon and water exchange in arid and semiarid environments. pp 337-361. In De la Barrera E. and Smith W. (eds.) *Perspectives in biophysical plant ecophysiology. A tribute to Park S. Nobel.* Book Compilation Universidad Nacional Autónoma de México

Williams, D.G. and R. Scott. 2009. Vegetation-hydrology interactions: Dynamics of riparian plant water use. pp 37-56. In Stromberg, J. and B. Tellman (eds) *Ecology and conservation of the San Pedro River*. The University of Arizona Press

Refereed journal articles (62 published and in press)

Williams, D.G. and D.D. Briske. 1991. Size and ecological significance of the physiological individual in the bunchgrass *Schizachyrium scoparium*. *Oikos* 62:41-47

Williams, D.G. and R.A. Black. 1993. Phenotypic variation in contrasting temperature environments: Growth and photosynthesis in *Pennisetum setaceum* from different altitudes on Hawaii. *Functional Ecology* 7:623-633

Williams, D.G. and R.A. Black. 1994. Response to drought for a native and introduced

Hawaiian grass. *Oecologia* 97:512-519
Williams, D.G., Mack, R.N. and R.A. Black. 1995. Ecophysiology and growth of introduced *Pennisetum setaceum* on Hawaii: The role of phenotypic plasticity. *Ecology* 76:1569-1580
Williams, D.G. and R.A. Black. 1996. Resource limitations to growth and gas exchange for introduced *Pennisetum setaceum* on Hawaii. *Canadian Journal of Botany* 74:268-265
Williams, D.G. and J.R. Ehleringer. 1996. Carbon isotope discrimination in three semi-arid woodland species along a monsoon gradient. *Oecologia* 106:455-460
Linton, M.J., J.S. Sperry, and **D.G. Williams**. 1998. Xylem cavitation in roots and branches of *Juniperus osteosperma* and *Pinus edulis. Functional Ecology* 12:906-911
Williams, D.G. and J. R. Ehleringer. 2000. Carbon isotope discrimination and water relations of oak hybrid populations in southwestern Utah. *Western North American Naturalist* 60:121-129
Cooper, D.I., W.E. Eichinger, L. Hipps, J. Kao, J. Reisner, S. Smith, S.M. Schaeffer, and **D.G. Williams**. 2000. Spatial and temporal properties of water vapor and flux over a riparian canopy. *Agricultural and Forest Meteorology* 105:161-183
Goodrich, D.C., A. Chehbouni, B. Goff, B. MacNish, T. Maddock, S. Moran, W.J. Shuttleworth, **D.G. Williams** et al. 2000. Preface paper to the Semi-Arid Land-Surface-Atmosphere (SALSA) program special issue. *Agricultural and Forest Meteorology* 105:3-19
Goodrich, D.C., R. Scott, J. Qi, B. Goff, C.L. Unkrich, M.S. Moran, **D.G. Williams**, S. Schaeffer, K. Snyder, R. MacNish, T. Maddock, D. Pool, A. Chehbouni, D.I. Cooper, W.E. Eichinger, W.J. Shuttleworth, Y. Kerr, R. Marsett, and W. Ni. 2000. Seasonal estimates of riparian evapotranspiration using remote and *in-situ* measurements. *Agricultural and Forest Meteorology* 105:281-309
Schaeffer, S.M., **D.G. Williams**, and D.C. Goodrich. 2000. Transpiration in cottonwood/willow forest patches estimated from sap flux. *Agricultural and Forest Meteorology* 105:257-270
Snyder, K. and **D.G. Williams**. 2000. Water sources used by riparian trees varies among stream types on the San Pedro River, Arizona. *Agricultural and Forest Meteorology* 105:227-240
Williams, D.G. and J. R. Ehleringer. 2000. Intra- and interspecific variation for summer precipitation use in pinyon-juniper woodlands. *Ecological Monographs* 70:517-537
Williams, D.G. and Z. Baruch. 2000. African grass invasion in the Americas: ecosystem consequences and the role of ecophysiology. *Biological Invasions*. 2:123-140
Wall, G.W., T.J. Brooks, N.R. Adam, A. Cousins, B.A. Kimball, P.J. Pinter, Jr, R.L. LaMorte, J. Triggs, M.J. Ottman, S.W. Leavitt, A.D. Matthias, **D.G. Williams**, and A.N. Webber. 2001. Elevated atmospheric CO_2 improved sorghum plant water status by ameliorating the adverse effects of drought. *New Phytologist* 152:231-248
Weltzin, J.F., K.A. Snyder, and **D.G. Williams**. 2001. Changes in precipitation seasonality and oak (*Quercus*) recruitment: linking physiology and demography. *Western North American Naturalist* 61:463-472
Williams, D.G., V. Gempko, A. Fravolini, S.W. Leavitt, G.W. Wall, B.A. Kimball, P.J. Pinter Jr., R. LaMorte, and M. Ottman. 2001. Carbon isotope discrimination by *Sorghum bicolor* under CO_2 enrichment and drought. *New Phytologist* 150:285-293
Fravolini, A., **D.G. Williams**, and T.L. Thompson. 2002. Carbon isotope discrimination and bundle sheath leakiness in three C_4 subtypes grown under variable nitrogen, water and atmospheric CO_2 supply. *Journal of Experimental Botany* 53:2261-2269
Brooks, J.R., N. Buchmann, S. Phillips, B. Ehleringer, R. Evans, L.A. Martinelli, W.T. Pockman, D. Sandquist, J.P. Sparks, L. Sperry, **D.G. Williams**, and J.R. Ehleringer.

2002. Heavy and light beer: a carbon isotope approach to detecting C_4 carbon in beers of different origins, styles and prices. *Journal of Agricultural & Food Chemistry* 50:6413-6418

Scott, R.L., C. Watts, J. Garatuza, E. Edwards, D.C. Goodrich, **D.G. Williams**, and W.J. Shuttleworth. 2003. The understory and overstory partitioning of energy and water fluxes in a semi-arid woodland ecosystem. *Agricultural and Forest Meteorology* 114:127-139

Hultine, K.L., W.L. Cable, S.S.O. Burgess, and **D.G. Williams**. 2003. Hydraulic redistribution by deep roots of a Chihuahuan desert phreatophyte. *Tree Physiology* 23:353-360

Hultine, K., **D.G. Williams**, S.S.O. Burgess, and T.O. Keefer. 2003. Hydraulic redistribution and diurnal storage capacitance in desert phreatophytes. *Oecologia* 135:167-175

Snyder, K.A., and **D.G. Williams**. 2003. Experimental defoliation differentially alters water uptake by deep and shallow roots of *Prosopis velutina* (velvet mesquite). *Functional Ecology* 17:363-374

Yepez, E.A., **D.G. Williams**, R. Scott, and G. Lin. 2003. Partitioning overstory and understory evapotranspiration in a semi-arid savanna ecosystem from the isotopic composition of water vapor. *Agricultural and Forest Meteorology* 119:53-68

Weltzin, J.F., M.E. Loik, S. Schwinning, **D.G. Williams**, P. Fay, B. Haddad, J. Harte, T.E. Huxman, A.K. Knapp, G. Lin, W.T. Pockman, M.R. Shaw, E. Small, M.D. Smith, S.D. Smith, D.T. Tissue, and J.C. Zak. 2003. Assessing the response of terrestrial ecosystems to potential changes in precipitation. *BioScience* 53:941-952

Potts, D.L. and **D.G. Williams**. 2004. Response of tree ring holocellulose $\delta^{13}C$ to moisture availability in *Populus fremontii* at perennial and intermittent stream reaches. *Western North American Naturalist* 64:27-37.

Huxman T.E., M.D. Smith, P.A. Fay, A.K. Knapp, M.R. Shaw, M.E. Loik, S.D. Smith, D.T. Tissue, J.C. Zak, J.F. Weltzin, W.T. Pockman, O.E. Sala, B. Haddad, J. Harte, G.W. Koch, S. Schwinning, E.E. Small, and **D.G. Williams**. 2004. Precipitation and production: convergence across biomes to a common rain-use efficiency. *Nature* 429:651-654

Guerenstein, P.G., E.A. Yepez, J. van Haren, **D.G. Williams**, J.G. Hildebrand. 2004. Floral CO_2 emission may indicate food abundance to nectar-feeding moths. *Naturwissenschaften* 91:329-333

Hultine, K.R., R.L. Scott, W.L. Cable, and **D.G. Williams**. 2004. Hydraulic redistribution by a dominant, warm-desert phreatophyte: seasonal patterns and response to precipitation pulses. *Functional Ecology* 18:530-538

Williams, D.G., W. Cable, K. Hultine, J.C.B. Hoedjes, E. Yepez, V. Simonneaux, S. Er-Raki, G. Boulet, H.A.R. de Bruin, A. Chehbouni, O.K. Hartogensis and F. Timouk. 2004. Components of evapotranspiration determined by stable isotope, sap flow and eddy covariance techniques. *Agricultural and Forest Meteorology* 125:241-258

Huxman, T.E., J.M. Cable, D.D. Ignace, J.A. Eilts, N.B. English, J. Weltzin, and **D.G. Williams**. 2004. Response of net ecosystem gas exchange to a simulated precipitation pulse in a semi-arid grassland: the role of native and non-native grasses and soil texture. *Oecologia* 141:295-305

Salo, L.F., G.R. McPherson, and **D.G. Williams**. 2005. Sonoran Desert winter annuals affected by density of red brome and soil nitrogen. *The American Midland Naturalist* 153:95-109

English, N.B., J.F. Weltzin, A. Fravolini, L. Thomas, **D.G. Williams**. 2005. The influence of soil texture and vegetation on soil moisture under rainout shelters in a semi-desert grassland. *Journal of Arid Environments* 63:324-343

Williams, D.G., J. Coltrain, M. Lott, N. English and J.R. Ehleringer. 2005. Oxygen isotopes in

cellulose identify source water for archeological maize in the American Southwest. *Journal of Archaeological Science* 32:931-939

Fravolini, A., K. Hultine, E. Brugnoli, R. Gazal, N. English and **D.G. Williams**. 2005. Precipitation pulse use by an invasive woody legume: the role of soil texture and pulse size. *Oecologia* 144:618-627

Pendall, E., **D.G. Williams** and S.W. Leavitt. 2005. Seasonal and diurnal variations in pinon pine leaf water isotopic enrichment across a summer moisture gradient. *Oecologia* 145:605-618

Ferrio, J.P., V. Resco, **D.G. Williams**, L. Serrano, J. Voltas. 2005. Stable isotopes in arid and semi-arid forest systems. *Investigación Agraria. Sistemas y Recursos Forestales Monográfico*, 1-12

Yepez, E.A., T.E. Huxman, D.D. Ignace, N.B. English, J.F. Weltzin, A.E. Castellanos and **D.G. Williams**. 2005. Dynamics of transpiration and evaporation following a moisture pulse in semiarid grassland: a chamber-based isotope method for partitioning flux components. *Agricultural and Forest Meteorology* 132:359-376

Potts, D.L., T.E. Huxman, B.J. Enquist, J. Weltzin and **D.G. Williams**. 2006. Resilience and resistance of ecosystem functional response to a precipitation pulse in a semi-arid grassland. *Journal of Ecology* 94:23-30

Hultine K.R., D.F. Koepke, W.T. Pockman , A. Fravolini, J.S. Sperry and **D.G. Williams**. 2006. Influence of soil texture on hydraulic properties and water relations of a dominant warm-desert Phreatophyte. *Tree Physiology* 26:313-323

Scott, R.L., T.E. Huxman, **D.G. Williams**, D.C. Goodrich. 2006. Ecohydrological impacts of woody plant encroachment: seasonal patterns of water and carbon dioxide exchange within a semiarid riparian environment. *Global Change Biology* 12:311–324

Gazal, R., R.L. Scott, D.C. Goodrich and **D.G. Williams**. 2006. Controls on transpiration in a desert riparian cottonwood forest. *Agricultural and Forest Meteorology* 137:56–67

Potts, D.L., T.E. Huxman, J.M. Cable, N.B. English, D.D. Ignace, J.A. Eilts, M.J. Mason, J.F. Weltzin and **D.G. Williams**. 2006. Antecedent moisture and seasonal precipitation influence response of canopy-scale carbon and water exchange to rainfall pulses in semi-arid grassland. *New Phytologist* doi:10.1111/j.1469-8137.2006.01732.x

Williams, D.G., T.E. Huxman, R.L. Scott, D. Goodrich and G. Lin. 2006. Sensitivity of riparian ecosystems in arid and semiarid environments to moisture pulses. *Hydrological Processes* 20:3191–3205

Potts, D.L., R.L. Scott, **D.G. Williams**, D.C. Goodrich and T.E. Huxman. 2006. The sensitivity of ecosystem carbon exchange to seasonal precipitation and woody plant encroachment. *Oecologia* 150:453-463

Ellsworth, P.Z. and **D.G. Williams**. 2007. Hydrogen isotope fractionation during water uptake by woody xerophytes. *Plant and Soil* 291:93–107

Ignace, D.D., T.E. Huxman, J.F. Weltzin and **D.G. Williams**. 2007. Functional response of native and non-native grasses to simulated precipitation in the Sonoran Desert. *Oecologia* 152:401–413

Snyder, K.S. and **D.G. Williams**. 2007. Root allocation and water uptake patterns in riparian tree saplings: responses to irrigation and defoliation in a glasshouse environment. *Forest Ecology and Management* 246:222–231

Cheng, L., S.W. Leavitt, B.A. Kimball, P.J. Pinter Jr., M.J. Ottman, A. Matthias, G.W. Wall, T. Brooks, **D.G. Williams** and T.L. Thompson. 2007. Dynamics of labile and recalcitrant soil carbon pools in a sorghum free-air CO_2 enrichment (FACE) agroecosystem. *Soil Biology and Biochemistry* 39:2250–2263

Yepez, E., R.L. Scott, W.L. Cable and **D.G. Williams**. 2007. Intraseasonal variation in water

and carbon dioxide flux components in a semiarid riparian woodland. *Ecosystems* 10:1100-1115

English, N.B., D.L. Dettman, D.R. Sandquist and **D.G. Williams**. 2007. Past climate changes and ecophysiological responses recorded in the isotope ratios of saguaro cactus spines. *Oecologia* 154:247-258

Resco, V., D.D. Ignace, W. Sun, T.E. Huxman, J.F. Weltzin and **D.G. Williams**. 2008. Chlorophyll fluorescence, predawn water potential and photosynthesis in precipitation pulse-driven ecosystems – implications for ecological studies. *Functional Ecology* 22:479-483

Chehboni, A., R. Escadafel, B. Duchemin, G. Boulet, V. Simonneaux, G. Dedieu, B. Mougenot, S. Khabba, H. Kharrou, PH. Maisongrande, O. Merlin, A. Chaponniere, J. Ezzahar, S. Er-Raki, J. Hoedjes, R. Hadria, A. Abourida, A., Cheggour, F. Raibi, A. Boudhar, I. Behadj, L. Hanich, Benkaddour, N. Guemouria, A.H. Chehbouni, A. Lahrouni, A. Olioso, F. Jacob, **D.G. Williams** and J.A. Sobrino. 2008. An integrated modeling and remote sensing approach for hydrological study in arid and semi-arid regions: the SUDMED Program. *International Journal of Remote Sensing* 29:5161-5181

McDowell, N., W.T. Pockman, C. Allen, D.D. Breshears, N. Cobb, T. Kolb, J. Sperry, A. West, **D.G. Williams** and E.A. Yepez. 2008. Tansley Review: Mechanisms of plant survival and mortality during drought: why do some plants survive while others succumb to drought? *New Phytologist* 178:719-739

Cable, J.M., K. Ogle, **D.G. Williams**, J. Weltzin and T.E. Huxman. 2008. Soil texture, plant cover, and current and antecedent soil water modify soil respiration responses to pulsed precipitation in a desert grassland. *Ecosystems* 11:961-979

Potts, D.L., R.L. Scott, J.M. Cable, T.E. Huxman and **D.G. Williams**. 2008. Sensitivity of mesquite shrubland carbon exchange in contrasting physiographic settings. *Ecology* 89:2900-2910

Resco, V., B.E. Ewers, W. Sun, T.E. Huxman, J.F. Weltzin and **D.G. Williams**. 2009. Drought-induced hydraulic limitations constrain leaf gas exchange responses to precipitation pulses in the C3 woody legume, *Prosopis velutina*. *New Phytologist* 81:672-682

Sharma, S. and **D.G. Williams**. 2009. Carbon and oxygen isotope analysis of leaf biomass reveals contrasting photosynthetic responses to elevated CO_2 near geologic vents in Yellowstone National Park. *Biogeosciences* 6:25-31

Cernusak, L.A., G. Tcherkez, C. Keitel, W.K. Cornwell, L.S. Santiago, A. Knohl, M.M. Barbour, **D.G. Williams**, P.B. Reich, D.S. Ellsworth, T.E. Dawson, H.G. Griffiths, G.D. Farquhar, I.J. Wright and M. Westoby. 2009. Why are non-photosynthetic tissues generally ^{13}C enriched compared to leaves in C3 plants? Review and synthesis of current hypotheses. *Functional Plant Biology* 36:199–213

Sun, W., V. Resco, and **D.G. Williams**. 2009. Diurnal and seasonal variation in the carbon isotope composition of leaf dark-respired CO_2 in velvet mesquite (*Prosopis velutina*). *Plant, Cell and Environment* doi: 10.1111/j.1365-3040.2009.02006.x

Edwards, C., M. Haselhorst, A. Mcknite, B.E. Ewers, **D.G. Williams**, C. Weinig. Genotypes of *Brassica rapa* respond differently to plant-induced variation in air CO_2 concentration in growth chambers with standard and enhanced venting. *Theoretical and Applied Genetics* (in press).

Refereed journal articles submitted and in review (2)

Bachman, S., J. Heisler White, E. Pendall, **D.G. Williams**, and J.A. Morgan. Elevated [CO_2]

alters ecosystem photosynthesis and respiration responses to precipitation pulses in a northern mixed-grass prairie. *Oecologia* (in review)

Resco, V., J. Weltzin, W. Sun , T.E. Huxman, and **D.G. Williams**. Environmental and physiological constraints on *Prosopis velutina* seedling establishment and encroachment in a semidesert grassland. *Global Change Biology* (submitted)

Symposium proceedings publications (12)

Goodrich, D.C., A. Chehbouni, B. Goff, B. MacNish, T. Maddock, S. Moran, W.J. Shuttleworth, **D.G. Williams**, et al. 1998. An overview of the 1997 activities of the Semi-Arid Land-Surface-Atmosphere (SALSA) program. Pages 1-7, In Wood, E.F., Chehbouni, A.G., Goodrich, D.C., Seo, D.J., Zimmerman, J.R., eds., Proceedings from the special symposium on hydrology: Boston, Mass., American Meteorological Society, Boston, Massachusetts

Hipps, L.E., D. Cooper, W. Eichinger, **D. Williams**, et al. 1998. A summary of processes which are connected to evaporation of riparian and heterogeneous upland vegetation in arid regions. Pages 13-17, In Wood, E.F., Chehbouni, A.G., Goodrich, D.C., Seo, D.J., Zimmerman, J.R., eds., Proceedings from the special symposium on hydrology: Boston, Mass., American Meteorological Society, Boston, Massachusetts

Maddock III, T., R.D. MacNish, D.C. Goodrich, **D.G. Williams**, W.J. Shuttleworth, et al. 1998. The overview of atmospheric and surface water coupling to regional groundwater models in semi-arid basins. Pages 38-42, In Wood, E.F., A.G. Chehbouni, D.C. Goodrich, D.J. Seo, and J.R. Zimmerman, technical coordinators. Proceedings from the Special Symposium on Hydrology. American Meteorological Society, Boston, Massachusetts

Moran, S., **D. Williams**, D. Goodrich, A. Chehbouni et al. 1998. Overview of remote sensing of semi-arid ecosystem function in the upper San Pedro river basin. Pages 49-54, In Wood, E.F., A.G. Chehbouni, D.C. Goodrich, D.J. Seo, and J.R. Zimmerman, technical coordinators. Proceedings from the Special Symposium on Hydrology. American Meteorological Society, Boston, Massachusetts

Qi, J., M.S. Moran, D.C. Goodrich, R. Marsett, R. Scott, A. Chehbouni, S. Schaeffer, J. Schieldge, **D. Williams**, T. Keefer, D. Cooper, L. Hipps, W. Eichinger, and W. Ni. 1998. Estimation of evapotranspiration over the San Pedro riparian area with remote and in situ measurements. Pages 55-60, In Wood, E.F., A.G. Chehbouni, D.C. Goodrich, D.J. Seo, and J.R. Zimmerman, technical coordinators. Proceedings from the Special Symposium on Hydrology. American Meteorological Society, Boston, Massachusetts

Schaeffer, S., and **D.G. Williams**. 1998. Transpiration of desert riparian forest canopies estimated from sap flux. Pages 180-184, In Wood, E.F., A.G. Chehbouni, D.C. Goodrich, D.J. Seo, and J.R. Zimmerman, technical coordinators. Proceedings from the Special Symposium on Hydrology. American Meteorological Society, Boston, Massachusetts

Snyder, K.A., **D.G. Williams**, and V.L. Gempko. 1998. Water source determination for cottonwood, willow and mesquite in riparian forest stands. Pages 185-188, In Wood, E.F., A.G. Chehbouni, D.C. Goodrich, D.J. Seo, and J.R. Zimmerman, technical coordinators. Proceedings from the Special Symposium on Hydrology. American Meteorological Society, Boston, Massachusetts

Williams, D.G., J.-P. Brunel, S.M. Schaeffer, and K.A. Snyder. 1998. Biotic controls over the functioning of desert riparian ecosystems. Pages 43-48, In Wood, E.F., A.G. Chehbouni, D.C. Goodrich, D.J. Seo, and J.R. Zimmerman, technical coordinators. Proceedings from the Special Symposium on Hydrology. American Meteorological Society, Boston,

Massachusetts

Matthias, A.D., S.W. Leavitt, T.L. Thompson, B.A. Kimball, P.J. Pinter Jr, G.W. Wall, R.S. Rauschkolb, M.J. Ottman, R.L. Roth, T.J. Brooks, N.R. Adam, R.L. LaMorte, G. Weschsung, F. Weschung, F.J. Adamsen, **D.G. Williams**, F.S. Nakayama, D.J. Hunsacker, J. Watson, S.A. White, J.T. Welzmiller. 2001. Free-air CO_2 enrichment effects on wheat and sorghum at Maricopa, Arizona, USA. In Carbon dioxide and vegetation: advanced international approaches for absorption of CO_2 and responses to CO_2 -The 13th Global Environment Tsukuba-, CGER-I046-2001, CGER/NIES

Fravolini, A., K.R. Hultine, D.F. Koepke, and **D.G. Williams**. 2003. The role of soil texture on mesquite water relations and response to summer precipitation. In: Santa Rita Experimental Range: One Hundred Years (1903 to 2003) of accomplishments and contributions; conference proceedings; 2003 October 30 - November 1, Tucson, AZ. Proc. RMRS-P-00. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station

English, N.B., **D.G. Williams**, and J.F. Weltzin. 2003. Dynamics of soil temperature and moisture following experimental irrigation on the Santa Rita Experimental Range. In: Santa Rita Experimental Range: One Hundred Years (1903 to 2003) of accomplishments and contributions; conference proceedings; 2003 October 30 - November 1, Tucson, AZ. Proc. RMRS-P-00. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station

Goodrich, D.C., **D.G. Williams**, C.L. Unkrich, R.L. Scott, K.R. Hultine, D. Pool, A. Coes and J. Hogan. 2003. Ephemeral channel recharge and evapotranspiration from near-channel vegetation. Proceedings of Research in the Watersheds Conference. 50th anniversary of Walnut Gulch, USDA-ARS

Other publications (6)

Williams, D.G. 1999. The roots of grass success. Book review of *Population biology of grasses* by G.P. Cheplick (ed.). *BioScience* 49:667-670

Weltzin, J.F. and **D.G. Williams**. 2003. Isotopes for Ecosystems. Editorial on *Tracing changes in ecosystem function under elevated CO_2* by Pataki et al. *BioScience* 53:795.

Williams, D.G. 2005. Isotopes reveal sources and sinks of trace gases. Book review of *Stable isotopes and biosphere-atmosphere interactions* by Larry Flanagan, Jim Ehleringer and Diane Pataki (eds). *Ecology* 86:3131-3132

Williams, D.G. 2005. Book review of *Ecohydrology of water-controlled ecosystems: soil moisture and plant dynamics* by Ignacio Rodríguez-Iturbe and Amilcare Porporato. *Eos, Transactions of the American Geophysical Union* 86:344

Schomp, J. and **D.G. Williams**. 2007. The future face of Wyoming's northern mixed-grass prairie. *Reflections* – an annual publication of the University of Wyoming College of Agriculture.

Scott, R.L., D.C. Goodrich, **D.G. Williams**, T.E. Huxman, and K.R. Hultine. 2008. Quantifying Riparian Evapotranspiration. *Southwest Hydrology* 7:26-27

Significant reports (5)

Scott, R.L., D.C. Goodrich, L. Levick, R. McGuire, W. Cable, **D.G. Williams**, R. Gazal, E. Yepez, P. Ellsworth and T. Huxman. 2004. *San Pedro Riparian National Conservation Area (SPRNCA) water needs study*. A research effort funded by the Upper San Pedro Partnership. 79 pp

Williams, D.G., D. Evans and J. Ehleringer. 2005. *On developing a plan for an isotope network within NEON: Report from two BASIN workshops*. 30 pp

Scott, R.L., **D.G. Williams**, D. Goodrich, W. Cable, L. Levick, R. McGuire, R. Gazal, E. Yepez, P. Ellsworth and T. Huxman. 2006. Determining the riparian groundwater use within the San Pedro Riparian National Conservation Area and the Sierra Vista Sub-Basin, Arizona. In Leenhouts, J.M., J.C. Stromberg, and R.L. Scott (eds.) *Hydrologic Requirements of and consumptive ground-water use by riparian vegetation along the San Pedro River, Arizona*.. U.S. Geological Survey Scientific Investigations Report 2005-5163, 154 pp

Williams, D.G., R.D. Evans, J. West and J.R. Ehleringer. 2007. *Isotope Network of Ecological Warning Signals (INEWS).* Response to the NEON Request for Information. 30 pp

Evans, R.D. and **D.G. Williams**. 2008. *NEON Isotope Facilities*. Report commissioned by NEON Inc. 36 pp

Scholarly Presentations

Invited seminar and symposium presentations (32)

Williams, D.G. 1992. Plasticity of growth and photosynthesis in populations of Fountaingrass (*Pennisetum setaceum*) from different elevations on Hawaii. Department of Botany, University of Hawaii at Manoa

Williams, D.G. 1994. Use of summer precipitation in pinyon-juniper woodlands along a summer precipitation gradient. School of Forestry, Northern Arizona University, Flagstaff

Williams, D.G. 1996. Water use by desert plants: monsoons, drought, and response to change. Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ

Williams, D.G. and J.R. Ehleringer. 1996. Use of monsoon precipitation by semi-arid woodland species along a monsoon gradient. American Association for the Advancement of Science, Southwestern Region Annual Meeting, Flagstaff, Arizona

Ehleringer, J.R., R.D. Evans and **D.G. Williams**. 1996. Sensitivity to change in aridland ecosystems. Symposium: Stable isotopes and the integration of biological, ecological and geochemical processes. Newcastle, UK

Williams, D.G. 1996. Water use by desert plants: monsoons, drought, and response to change. Department of Biology, University of Arkansas, Fayetteville, AR

Williams, D.G. 1997. Plant functional attributes in southwestern savannas: Can we generalize? Symposium: Natural and anthropogenic influences on savanna ecosystems of the arid southwest. Ecological Society of America Annual Meeting, Albuquerque, New Mexico

Williams, D.G. 1997. Water use by desert plants: monsoons, drought, and response to change. Universidad de Sonora, Hermasillo, Mexico

Williams, D.G. 1997. Water use by desert plants: monsoons, drought, and response to change. Department of Biology, Boise State University, Boise, ID

Williams, D.G., D.R. Sandquist, and Z. Baruch. 1998. Ecophysiological processes related to invasion and ecosystem dominance by African C_4 grasses. Symposium: Biotic invasions: a global perspective. VII International Congress of Ecology, Florence, Italy

Williams, D.G. 1998. Sources of water used by desert riparian trees: The root causes. Department of Plant Sciences, University of Arizona, Tucson, AZ

Williams, D.G. 1999. Regulation of the hydrologic cycle by plants: The root causes.

Department of Plant Biology, Arizona State University, Tempe, AZ

Williams, D.G. 2000. Root system dynamics and resource patchiness in semi-arid ecosystems. Department of Ecology and Evolutionary Biology, University of Tennessee, Knoxville, TN

Williams, D.G. 2002. Precipitation pulse use by plants in arid and semiarid environments: an isotopic perspective. Department of Renewable Resources, University of Wyoming, Laramie, WY

Hultine, K.R., W.L. Cable, **D.G. Williams**, P.Z. Ellsworth, and R.L. Scott. 2002. Transpiration by mesquite on a desert river floodplain. The American Geophysical Union Chapman Conference on Eco-Hydrology of Semiarid Landscapes: Interactions and Processes, Taos, NM

Williams, D.G. 2002. Precipitation pulse use by plants in arid and semiarid environments. Centre d'Etudes Spatiales de la Biosphere, Centre National de la Recherche Scientifique, Toulouse, France

Williams, D.G. 2003. Resource pulses in arid and semiarid environments: responses from leaf to catchment scales. Natural Resources Ecology Laboratory, Colorado State University, Ft. Collins, CO

Williams, D.G. 2004. Plant ecology meets hydrology - examples from the arid Southwest. Department of Integrative Biology, The University of Texas, Austin, TX

Williams, D.G. and E.A. Yepez. 2004. Tracing sources of evapotranspiration using stable isotopes: challenges and new opportunities. Invited symposium presentation; Eco-hydrology. Ecological Society of America annual meeting, August 3, 2004, Portland, OR

Williams, D.G. 2004. Eco-hydrology and hydro-ecology: a synthetic view of vegetation-water interactions in arid regions. School of Biological Sciences, Washington State University, Pullman, WA

Williams, D.G., R.L. Scott, T.E. Huxman and D.C. Goodrich. 2005. Multi-scale eco-hydrology of riparian ecosystems in the desert Southwest. Invited symposium presentation; Ecohydrology: emerging issues. Society for Range Management annual meeting, February 7, 2005, Fort Worth, TX

Williams, D.G. 2005. The use of stable isotopes to investigate dynamics of dryland communities and ecosystems. Invited symposium presentation; The biology of dryland plants. Botanical Society of America annual meeting, August 17, 2005, Austin, TX

Williams, D.G. 2005. Photosynthetic responses of riparian tree taxa to monsoonal moisture in the American Southwest: large-scale patterns across three warm-desert biomes. Invited presentation, organized oral session, Ecological Society of America annual meeting, August 11, 2005, Montreal, Canada

Williams, D.G. 2005. Integration of ecohydrological processes in space and time: insights from stable isotope measurements in the soil-plant-atmosphere continuum. AGU

Williams, D.G., R.D. Evans and J.R. Ehleringer. 2006. Isotope measurement networks for monitoring ecological change at regional to continental scales. Invited conference presentation. *Isotopes as tracers of ecological change*. SIBAE-BASIN. Tomar, Portugal. March 13-15, 2006

Williams, D.G. 2006. Global change and terrestrial ecosystem function: plant invasion and the hydrological cycle. Chinese Graduate School, Beijing

Williams, D.G. 2006. Stable isotope measurements within NEON and a potential partner network – BASIN. NEON Consortium for Connectivity Workshop. Las Cruces, NM

Williams, D.G. 2007. Applications of stable isotope measurements for early-warning detection of ecological change. Natural Resources Ecology Laboratory, Colorado State University, Ft. Collins, CO

Williams, D.G. 2008. Isotopic records of plant water use – insights from archaeological maize and columnar cactus spines. Eco-hydrology workshop keynote speaker. Perth, Australia. September 14-18, 2008

Sun, W. and D.G. Williams. 2008. Velvet mesquite encroachment and ecosystem CO_2 exchange in riparian grassland: insights from stable isotope measurements. 2008 Proceeding and major scientific questions in wetland science. Changchun, China (7/17-7/22)

Williams, D.G. 2008. Symposium overview. Climate Change in Western Rangelands symposium. Cheyenne, WY. September 5, 2008

Williams, D.G., B.E. Ewers, J.L. Angstmann, N. Guemouria, and A. Chehbouni. 2008. The isotopic signature of transpiration in mixed conifer forest. American Geophysical Union Fall meeting. San Francisco, CA, December 15-19, 2008

Williams, D.G. 2009. Isotopic records of plant water use – insights from archaeological maize and columnar cactus spines. Ecohydrology symposium. 62nd Annual Meeting of the Society for Range Management in Albuquerque, NM, February 8-12, 2009

Other lectures and seminars

Williams, D.G. 2004. On developing a plan for a stable isotope network within NEON. Department of Botany, University of Wyoming, December 10, 2004

Williams, D.G. 2004. Hidden messages in the environment revealed by stable isotope mass spectrometry. Research Across Disciplines seminar series, Department of Renewable Resources, University of Wyoming, November 5, 2004

Williams, D.G. 2005. Ecohydrology studies in Morocco. Research Across Disciplines seminar series, Department of Renewable Resources, University of Wyoming, March 4, 2005

Williams, D.G. 2006. PHACE – the Prairie Heating and CO_2 Enrichment study. Duolung Grassland Research Station, China

Williams, D.G., R.D. Evans, J. West, and J.R. Ehleringer. 2006. National Ecological Observatory Network: (NEON). Pre-AGU BASIN meeting. San Francisco, CA

Williams, D.G. 2006. Biogeosphere-Atmosphere Stable Isotope Network Phase 2 - BASIN-II. NEON NoRMEO workshop. Priest River Experimental Forest, ID

Williams, D.G. 2008. Reading isotope stories in cactus spines – mysteries of the giant saguaro revealed. Department of Botany, University of Wyoming, November 7, 2008

Conference presentations (94; to view go to <www.uwyo.edu/dgw/presentations.html>)

Professional Service and Synergistic Activities

National and International

Technical Session Moderator: Plant Water Relations. Ecological Society of America annual meeting, Snowbird, UT, 1995

Buell/Braun student paper award judge. Ecological Society of America annual meetings, 1998, 1999, 2000, 2004, 2005

Member USDA-WRCC-21 Western Regional Coordinating Project on Revegetation and Stabilization of Deteriorated and Altered Lands, 1996-2004

Symposium co-organizer: Natural and anthropogenic influences on savanna ecosystems of the arid southwest. Ecological Society of America annual meeting in Albuquerque, NM, 1997

National Range Science Education Counsel, 1996-2002
USDA-NRI Biology of Weedy and Invasive Plants Program Panel Member, 2001, 2004
Fulbright Research Scholar, France – collaborated on ecohydrology studies in Morocco with French, Moroccan and Dutch research teams, 2002
National Center for Ecological Analysis and Synthesis PRECIPNET working group member focused on how precipitation influences ecological processes, 2002-2003
NSF-DBI Equipment and Instrumentation Resources for Biological Sciences Program Panel Member, 2005
Symposium session moderator "Arid regions monitored by satellites: from observing to modeling for sustainable management." Marrakech, Morocco, 2001
Organized and led three national workshops sponsored by the Biosphere-Atmosphere Stable Isotope Network (BASIN) on the development of a stable isotope network within the National Ecological Observatory Network (NEON), 2004-2005
Executive committee member for Northern Rocky Mountains (NoRMEO) and (IRON) Intermountain Region NEON Climate Domains, 2006-2007
Executive committee member for NSF RCN BASIN (Biogeosphere-Atmosphere Stable Isotope Network), 2006-present
Technical Consultant with UN IAEA on assessing the impact of irrigation management technologies on water-use efficiency and crop water productivity using isotopic and nuclear techniques, 2006
NEON Preliminary Project Execution Plan writing session. Technical consultant. March 20-21, 2006, Charlottesville, VA
ARC-NZ Research Network for Vegetation Function working group. Water use efficiency: relating $\delta^{13}C$ to instantaneous measures, 2007
Technical Consultant for the National Ecological Observatory Network for development a stable isotope facility, 2008
Symposium co-organizer: Climate Change in Western Rangelands, Cheyenne, WY. More than 200 participants from private industry, state and federal agencies and universities, 2008
Editorial Board for *Ecology* and *Ecological Monographs*, 2008-2011
NEON Northern Rockies Science Advisory Committee, 2008-present
Reviewer of grant proposals: NSF; NASA; USDA-NRI; International Arid Lands Consortium; USDA-Hatch; Fulbright Scholar Program; DOE-WESTGEC; National Agency for Promotion of Science, Technology and Innovation, Administration of Education, Science and Technology, Argentina; University of Western Sydney Research Infrastructure Fund; DoD-SERDP
Reviewer of journal articles and books: *Australian Journal of Botany*, *Australian Journal of Ecology*, *Biogeosciences*, *Biological Invasions*, *BioScience*, *Canadian Journal of Forest Research*, *Ecology*, *Ecological Applications*, *Ecological Monographs*, *Functional Ecology*, *Global Change Biology*, *Hydrology and Earth Systems Sciences, International Journal of Plant Ecology*, *Journal of Arid Environments*, *Journal of Geophysical Research*, *Functional Plant Biology*, *Journal of Rangeland Ecology and Management*, *Journal of Vegetation Science*, *Oecologia*, *Phyton*, *Plant Ecology*, *Plant and Soil*, *Rangeland Ecology and Management*, *Rapid Communications in Mass Spectrometry*, *Restoration Ecology, The Southwestern Naturalist*, *Water Resources Research*, *Wetlands*, pre-publication *ad hoc* book review for Springer, book chapter for Academic Press edited volume, internal peer review for EPA

University of Wyoming

Director, University of Wyoming Stable Isotope Facility, 2002-present (see statement on service for details)
NSF-EPSCoR Ecology Project, Internal Advisory Committee, The University of Wyoming, 2005-present
Search committee for Endowed Chair in Biosphere-Atmosphere Interactions, The University of Wyoming, 2007-2008
Reviewer of proposals for Wyoming NSF EPSCoR Research Fellowships for Undergraduates, 2004
Haub School for Environment and Natural Resources, student grant selection committee, 2008-present, member

Department of Renewable Resources
Advisor to 4 undergraduate students, Wyoming Range Cup poster contest, 2005
Space committee, 2006-present, member
Academic planning and vision committee, 2007-present, chair
Faculty search committee for UW Endowed Chair in biosphere-atmosphere exchange 2008, member

Department of Botany
Population Biology faculty search committee, 2003
Forest and Fire Ecology faculty search committee, 2004

Graduate Program in Ecology and EPSCoR-Ecology Project
Graduate Affairs Committee, 2005, 2006, 2008, member
Distinguished Ecologist Lecture Series committee, 2005-2006
Proposal reviews for EPSCoR Ecology graduate student research grants, 2006, 2008
NSF-EPSCoR Ecology Project, internal advisory committee, 2005-current, member
Program in Ecology vision and mission committee, 2007-current, member

University of Arizona (1995-2002)

Coordinating committee on Global Change Interdisciplinary Program, 1996-2002, member
Seminar committee, Institute for the Study of Planet Earth, 2000, member
Society for Range Management plant ID team coach for University of Arizona, 1995-2002

School of Renewable Natural Resources
Curriculum & instruction committee, 1995-2002, member
Core curriculum subcommittee, 1995-2002, member
Recruitment and retention committee, 1996-2002, member
Laboratory committee, 1997-2002, chair
Faculty search committee, 1998, member
Space committee, 2001, member
Policy committee, 2001, elected member

Teaching and mentoring

Courses Taught at the University of Wyoming

Year	Course number and title	Term	Credits	Responsibility (%)	Enrollment
2003	REWM 3500 Rangeland Plant Ecophysiology	F	3	100	26
	REWM 5640 Ecological Applications of Stable Isotopes	F	1	100	10
2004	RNEW 5085 Research Across Disciplines	S	1	50	4
	REWM 3500 Rangeland Plant Ecophysiology	F	3	100	40
	RNEW 5085 Research Across Disciplines	F	1	50	-
2005	RNEW 5085 Research Across Disciplines	S	1	50	-
	REWM 3500 Rangeland Plant Ecophysiology	F	3	100	43
	REWM 5500 Stable Isotope Ecology	F	3	100	17
2006	BOT 5720 Research	S	2	100	1
	REWM 3500 Rangeland Plant Ecophysiology	F	3	100	39
	REWM 5500 Stable Isotope Ecology	F	3	50	10
2007	REWM 3500 Rangeland Plant Ecophysiology	F	3	100	42
	REWM 5500 Stable Isotope Ecology	F	3	50	7
2008	REWM 3500 Rangeland Plant Ecophysiology	F	3	100	34
	REWM 5500 Stable Isotope Ecology	F	3	50	10
	REWM 5980 Research	F	1	100	1
	REWM 5980 Research	F	9	100	1
2009					

Guest lectures for courses at the University of Wyoming

Year	Course number and title	Term	Number of lectures
2003	SOIL 5535 Soil Biogeochemistry	F	1
2005	BOT 4700/5700 Vegetation Ecology	F	1
2006	AGRI 1010 Computers and Technology in Agriculture	F	2
2007	AGRI 1010 Computers and Technology in Agriculture	F	2
	GEOL 5050 Isotope Geology	F	2
2008	AGRI 1010 Computers and Technology in Agriculture	F	2
	BOT 5780 Biogeochemistry	F	2

External courses and training workshops while at the University of Wyoming

The University of Utah - Biology 5475 - Stable Isotope Ecology. This is an intensive 2-week summer course for advanced graduate students. I have directed groups of 6-8 students in the laboratory portion of this course and presented one formal lecture in each year of my participation. 2001, 2003-2007, 2009.

Invited instructor for UN FAO/IAEA Interregional Training Course “Use of nuclear and related techniques to measure storage, flows and balance of water in cropping systems" IAEA Laboratories, Seibersdorf, Austria, 1-25 October, 2007

Advising and mentoring at the University of Wyoming

Name	Degree	Program
Postdoctoral research scientists		
Dr. Dustin Bronson (current)		
Dr. Jana Heisler White (current)		
Dr. Holly Barnard (starting Feb. '09)		
Dr. Jessie Cable, co-advise (completed)		
Dr. Rico Gazal (completed)		
Graduate advisees		
Wei Sun (current)	PhD	Rangeland Ecology and Watershed Management
Janet Chen (current)	PhD	Ecology
Emma Sage (current)	PhD	Ecology
Jason Edwards (current)	PhD	Ecology
Victor Resco de Dios (completed)	PhD	Rangeland Ecology and Watershed Management
Patrick Ellsworth (completed)	MS	Rangeland Ecology and Watershed Management
Jennifer Schomp (completed)	MS	Rangeland Ecology and Watershed Management
Graduate committees		
Kusum Naithani (current)	PhD	Ecology
Julia Angstman (current)	PhD	Ecology
Chris North (current)	PhD	Ecology
Erin Hotchkiss (current)	PhD	Ecology
Collin Tucker	PhD	Botany
Jonathan Adelman (completed)	MS	Botany
Jack Fenner (completed)	PhD	Anthropology
Elizabeth Traver (completed)	MS	Botany
Laura Hudson (completed)	PhD	Botany
Cat Campbell (completed)	MS	Botany
Sarah Bachman (completed)	MS	Botany
Meghan Taylor (completed)	MS	Botany
Phillip Bottrell (completed)	MS	Geology and Geophysics
Travis Gilchrist (completed)	MS	Entomology
Patrick O. Mullen (completed)	MS	Anthropology
Undergraduate advisees		
Mae Peterson (completed)	BS	Botany minor
Chris Pompy (completed)	BS	Rangeland Ecology and Watershed Management
Brandon Reynolds (completed)	BS	Rangeland Ecology and Watershed Management
Undergraduate research advisees		**Position or program**
Amy Jacobs (current)		Research technician
Ayme Ahrens (completed)		EPSCoR Undergraduate Research Fellow
Rachel Griess (completed)		UWSIF technician
Paul Malsom (completed)		UWSIF technician
Caitlin Borbely (completed)		UWSIF technician
Joseph Van Court (completed)		UWSIF technician
Meghan Calvey (completed)		Research technician
Gina Hadan (completed)		Research technician
Abigail Martin (completed)		Research technician
Ashley White (completed)		Research technician
Patrick Juancorena (completed)		Research technician
High school students		
Bethany Smith (completed)		SRAP Program
Josh McConnell, co-advise (completed)		SRAP Program

Advising and mentoring at the University of Arizona (1995-2002)

Name	Degree	Program
Graduate advisees		
Kevin Hultine (Completed)	MS, PhD	Renewable Natural Resources
Daniel Potts (Completed)	MS	Rangeland Science and Management
Angela Rickaway, co-advised (Completed)	MS	Wildlife Management
Sean Schaeffer (Completed)	MS	Rangeland Science and Management
Keirith Snyder (Completed)	PhD	Renewable Natural Resources
Cindy Salo, co-advised (Completed)	PhD	Renewable Natural Resources
Enrico Yepez (Completed)	MS, PhD	Rangeland Science and Management
Alessandra Fravolini (Completed)	PhD	Renewable Resources
Nathan English (Completed)	PhD	Geosciences
Graduate committees		
Sharon Beidenbender (Completed)	PhD	Rangeland Science and Management
Angel Bustamante-Gonzales (Completed)	PhD	Watershed Management
Erika Geiger (Completed)	MS	Rangeland Science and Management
Heather Germaine (Completed)	MS	Rangeland Science and Management
Jim Leenhouts (Completed)	PhD	Hydrology
Elise Pendall (Completed)	PhD	Geosciences
Lisa Pedicino (Completed)	MS	Renewable Natural Resources
Pete Van de Water (Completed)	PhD	Geosciences
Jake Weltzin (Completed)	PhD	Renewable Natural Resources
Carolyn Watson (Completed)	PhD	Rangeland Science and Management
Tom Wilson (Completed)	PhD	Soil, Water and Environmental Science
Ed Wright (Completed)	PhD	Geosciences
External PhD dissertation examination		
Sandra Zencich	PhD	School of Natural Sciences, Edith Cowan University, Australia
Undergraduate research advisees		
Cheryl Carnes	BS	Honors thesis
Matt Iles	BS	Undergraduate Biology Research Prgm.
Ingrid Balsa	BS	Conservation Ecology Intern
Rachel Spigler	BS	Honors thesis
Patrick Ellsworth	BS	Beckman Foundation Scholar

Professional References

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