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Research Grants

Funded and Currently Pending

- 2010-2011 NSF
“MRI-R2: Development of a novel integrated mega-scale automatic ecosystem flux measurement system to quantify the exchange of CO₂, water vapor, and other atmospheric constituents”
[Amount: **\$998,999** for 2 years]—**PI**
(with co-PI-Jasoni)
DRI proposal number 0960349
PENDING
- 2010-2012 NSF
“Collaborative Research: Accounting for unexpectedly high net ecosystem productivity in arid land ecosystems: Where is the carbon going and what is controlling it?”
[Amount: **\$1,064,168** for 3 years]—**PI**
(with co-PIs-Jasoni and Fenstermaker)
DRI proposal number 0960349
PENDING
- 2010-2012 NSF
“CCE: Improving high school science and math relevancy, attitudes, and performance through Web-based interdisciplinary climate change education”
[Amount: **\$3,777,960** for 3 years]—**Co-I**
(with Chakrabarty—PI, Garro, and Moosmüller)
DRI proposal number 0950155
PENDING
- 2009-2011 Bureau of Reclamation
“Quantitative reassessment of the hydrologic budgets and water resources of critical zones in the State of Nevada”
[Amount: **\$393,900** for 2 years]—**PI**
(with co-PIs-Jasoni, Thomas—DRI)
- 2009-2010 EPA
“The potential for plants to be used in conjunction with flood control systems to stabilize arsenic contaminated tailings around Lost Lake”
[Amount: **\$87,659** for 1 year]—**Co-I**
(with PI-Jasoni—DRI)

- 2009-2010 DOE National Renewable Energy Laboratory
 “Construction and evaluation of a mobile weighing lysimeter facility to quantify water use efficiencies and biomass yields of alternative crop species for agriculture in Nevada”
 [Amount: **\$101,000** for 1 year]—**PI**
 (with Co-PIs—Jasoni and Hoekman—DRI)
- 2008-2013 NSF-EPSCoR
 “Nevada Infrastructure for Climate Change Science, Education and Outreach”
 [Amount: **\$15,000,000** for 5 years, with each campus of the Nevada System of Higher Education receiving \$5 million] —**Steering Committee Member** and **conceptual designer** for Ecological Change component (with G. Dana, PI—DRI)
<http://www.nvclimatechange.org>
- 2007-2009 DOE
 Subcontract from Gas Technology Institute
 “Assessment of Biomass Resources of Nevada and NE California for Potential Use as Biofuels and Feedstocks”
 [Amount: **\$250,000** for 2 years]—**PI**
 (with Co-PIs—Verburg, Jasoni, Minor, Hoekman)
- 2006-2008 Bureau of Reclamation
 “Walker Basin Study: Effects of Alternative Agricultural Crops on Evapotranspiration and Plant Water Use Efficiency”
 [Amount: **\$389,000** for 3 years]—**PI**
 (with Co-PIs—Verburg and Jasoni—DRI)
- 2007 DOE Program in Ecosystem Research:
 “Quantification of the role of soil cryptobiotic crust surfaces to ecosystem CO₂ exchange in a Mojave Desert ecosystem”
 [Amount: **\$99,000** for 1 year]—**PI**
 (with Co-PIs—Jasoni and Fenstermaker—DRI)
- 2005-2007 International Arid Lands Consortium:
 “Global Change and Ecosystem H₂O and CO₂ fluxes in the Mojave and Negev Deserts”
 [Amount: **\$100,000** for 2 years]—**PI**
 (with Co-PIs—Jasoni, Fenstermaker—DRI, and Grünzweig—Hebrew University)
- 2004-2005 SEMPRA Energy Consulting
 “Contribution of phreatophytic vegetation to ecosystem evapotranspiration and ground water use in the Smoke Creek Desert playa: quantification of ground water use as a function of depth to ground water and season”
 [Amount: **\$480,000** for 1 year]—**Co-I**
 (with Co-PIs—Albright and Thomas—DRI)

- 2003-2005 NSF Division of Environmental Biology
 “Biotic and abiotic controls on inorganic carbon biogeochemistry in an intact Mojave Desert ecosystem under global environmental change”
 [Amount: **\$800,000** for 3 years]—**Co-I**
 (with Co-PIs—Verburg, Marion, and McDonald—DRI)
- 2003-2005 NSF Division of Environmental Biology:
 “Collaborative research: Responses of productivity and nutrient dynamics to elevated CO₂ in an intact Mojave Desert ecosystem”
 [Amount: **\$1,300,000** for 3 years]—**PI**
 (with Co-PIs: Smith—UNLV, Nowak—UNR, Evans—Washington State University; Reynolds—Duke University)
- 2002-2004 NSF Division of Atmospheric Sciences
 “Quantifying the role of natural ecosystems as sources and sinks of elemental mercury”
 [Amount: **\$464,000** for 3 years]—**Co-I**
 (with Gustin—PI, UNR; Johnson—UNR; Gertler & Schorran—DRI)
- 2000-2005 NSF Division of Environmental Biology -IRCEB program
 “Interannual climate variability and ecosystem processes: A quantitative assessment combining models with field and mesocosm experiments”
 [Amount: **\$3,000,000** for 5 years]—**PI** (with Co-PIs—Verburg & Buck—DRI; Johnson—UNR; Wallace & Luo—Univ. Oklahoma; Schimel—National Center for Atmospheric Research; Braswell—Univ. New Hampshire)
- 2000-2001 Nevada NSF EPSCoR
 “Historical records of anthropogenic impacts upon nutrient biogeochemistry at Lake Tahoe”
 [Amount: **\$45,000** for 1 year]—**Co-I**
 (with Poulson—PI; Karlin—UNR)
- 2000-2002 International Arid Lands Consortium:
 “Ecosystem consequences of cheatgrass invasion in the Great Basin”
 [Amount: **\$75,000** for 2 years]—**Co-I**
 (with Co-PIs: Delucia—Univ. Illinois, Yakir—Weizmann Institute, Israel)
- 1997-1998 Swiss National Science Foundation (NSF)
 Continuation of funding to study the interactive effects of grassland plant community species composition, earthworm population density and activity, and elevated CO₂ on N production in the field (see grant title immediately below)
 [Amount: **\$51,000** for 1 year]—sole **PI**
- 1995-1998 Swiss NSF
 “Fine roots and earthworms in grassland communities: functional relationships and feedbacks on nutrient cycling and plant community structure”
 [Amount: **\$290,000** for 3 years]— sole **PI**

- 1993-1996 Swiss NSF
“Plant species diversity in complex grassland ecosystems under elevated CO₂”
[Amount: **\$1,275,000** for 3 years]—**Co-I**
(with Körner, PI; Schmid—Univ. Basel)
- 1992-1995 Swiss NSF
“Consequences of global environmental change for alpine vegetation”
[Amount: **\$1,700,000** for 3 years]—**Co-I**
(with Körner, PI—Univ. Basel)