

**John ("Jay") A. Arnone III**  
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 Desert Research Institute  
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<b>Education</b>	1988	<b>Yale University, Ph.D.</b> School of Forestry and Environmental Studies Field: Plant Physiological Ecology	New Haven, CT
	1985	<b>Yale University, M. Phil.</b> School of Forestry and Environmental Studies Field: Tree Physiology / Plant Physiological Ecology	New Haven, CT
	1981	<b>Yale University, M.F.S.</b> School of Forestry and Environmental Studies Field: Tree Physiology / Forest Science	New Haven, CT
	1979	<b>University of Vermont, B.S.</b> School of Natural Resources Field: Forestry / Forest Science	Burlington, VT

**Experience**

***Work and Research [Supervisor]***

2017/1- 2018/6	NSF EPSCoR <b>Associate Project Director</b> Nevada System of Higher Education	Reno, NV
2004- Present	Desert Research Institute (DRI) <b>Research Professor</b> Division of Earth and Ecosystem Sciences  University of Nevada Reno (UNR) <b>Professor</b> Graduate Program in Hydrologic Sciences  UNR <b>Adjunct Professor</b> Natural Resources and Environmental Sciences faculty and Graduate Program in Ecology, Evolution and Conservation Biology	Reno, NV
2000- 2004	DRI <b>Associate Research Professor</b> Plant and Terrestrial Ecosystem Ecology  UNR <b>Associate Professor</b> Hydrologic Sciences Ecology, Evolution and Conservation Biology	Reno, NV

2001- 2004	UNR <b>Adjunct Associate Professor</b> Ecology, Evolution and Conservation Biology Natural Resources and Environmental Sciences	Reno, NV
1999- 2001	DRI <b>Director</b> Frits Went Laboratory (EcoCELL facility)	Reno, NV
1998- 2000	UNR and DRI <b>Assistant Research Professor</b> Plant and Terrestrial Ecosystem Ecology Hydrologic Sciences	Reno, NV
1994- 1998	University of Basel, Botanical Institute <b>Assistant Professor</b> (Non-tenure track, "PD: Privat Dozent")	Basel, Switzerland
1990- 1993	University of Basel, Botanical Institute <b>Postdoctoral fellow</b> Project leader and Co-PI for several studies on the long-term effects of elevated atmospheric CO <sub>2</sub> on plant community ecology, ecophysiology, and ecosystem function. (See also teaching experience below.) [Prof. Ch. Körner]	Basel, Switzerland
1988- 1990	Yale University <b>Postdoctoral Associate</b> [Profs. J. Gordon and D. Baker]	New Haven, CT
1984- 1988	Yale University <b>Doctoral Research Assistant</b> [Prof. J. Gordon]	New Haven, CT
1981- 1982	Universität München <b>Research Assistant</b> [Prof. P. Schütt]	Munich, Germany
1980- 1981	Harvard Forest, Harvard University Master's thesis <b>Research Assistant</b> [Prof. C. Schwintzer]	Petersham, MA
1979- 1980	Yale University <b>Research Assistant</b> [Prof. G. Berlyn]	New Haven, CT
1979 Summer	USDA Forest Service Northeastern Station Insect and Disease Laboratory <b>Research Technician</b> [Dr. H. Valentine]	Hamden, CT

1976 and 1978 Summer	Connecticut Agricultural Experiment Station Department of Ecology and Climatology <b>Research Assistant</b> [Drs. D. Aylor and G. Stephens]	New Haven, CT
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***Teaching and Mentoring: DRI and UNR***

2010	UNR Atmospheric Sciences Program Physics Department <b>Professor</b> "Climate Change and its Environmental Impacts" (Lecture and lab, ATMS 121)	Reno, NV
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2000- 2005	<b>Mentor</b> for Nevada high school and middle school science teachers. NSF-funded IRCEB project (see Grants below)	
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1998- Present	<b>Major Professor/Mentor</b> of two Ph.D. students (B. Johnson, D. Obrist), six Master's students (B. Johnson, D. Simeral, H. Weatherly, C. Batts, A. Lucchesi, J. Larsen, A. Darouzett-Nardi, A. Lue, C. Hedge, L. Álvarez), and 30 undergraduate or high school honor student interns from within the Nevada System of Higher Education, and outside (e.g. M. Thomey, P. Zed, N. Chellman, C. Irschick, S. Ortega). Supervisor of two postdocs (L. Tarnay, R. Jasoni).	
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**Mentor to:**

Washoe County School District, O'Brien Middle School science teachers (M. Johnson, P. Fendelander, and L. Newton) in Reno, NV; L. Kimpton, science teacher, Dawson Elementary School, Las Vegas, NV);

Western Nevada College Prof. M. Sady and his NSF EPSCoR "Climate Change Ecology" students in 2009 to set up wildfire x climate change hands-on field experiments to evaluate post-fire restoration treatments by his students.

Truckee Meadow Community College student S. Ortega (in 2016) in the Undergraduate Research Opportunity Program (UROP) as a part of "The Solar Energy-Water-Environment Nexus in Nevada" NSF EPSCoR Track 1 project.

Mentor Foundation international guest researcher, Lola Álvarez, from Almeria, Spain for 1.5 years (2016-2107) to work in my group's lab

2012- Present K-12 Teacher Trainer for DRI's *Science Alive* program (<https://sciencealive.dri.edu>)

***Teaching and Mentoring: University of Basel\****

1995-1998 **Lecturer**, "Ecology of Plant Nutrition: extension and integration of the basic principles of plant nutrition to the ecology (structure and function) of plant communities and ecosystems" Basel, Switzerland

1991-1997 **Leader of Field Course** in Plant and Ecosystem Ecology with emphasis on quantitative methods

**Instructor of seminar courses** in plant ecology which emphasizes critical evaluation of scientific papers, as well as experimental design, through class discussions and oral and written assignments

**Major Professor/Advisor** to one Ph.D. student (J. Zaller); eight Master's students (A. Kocian, W. Hilti, M. Würth, M. Gruber, R. Stocker, C. Hufschmid, G. Hofer, D. Obrist, C. Kestenholz), and numerous undergraduate project students

*\*All courses and lectures in Switzerland were given in German*

***Teaching and Mentoring: Yale University***

1988-1990 **Project Advisor** for Master's and undergraduate students New Haven, CT

1989 **Lecturer** for team-taught course in Ecology of Agroforestry Systems

**Research Grants**

2017-2018 Davids Engineering & The Nature Conservancy (TNC) "Quantifying the effects of seasonal flooding practices on evapotranspiration in a northern California wildlife sanctuary" [Amount: **\$104,850**]**—Co-PI** (with PI- R. Jasoni and Co-PIs J. Huntington and J. Larsen, DRI)

2017 EP Minerals LLC "Effects of Axis-DE® on tomato mycorrhiza formation" [Amount: **\$26,975**]**—PI** (with Co-PI- R. Jasoni)

2016-2017 DRI R & D: "Development of the 'Real Science in Real Time' virtual learning platform using DRI controlled environment facilities and Webcams" [Amount: **\$51,000**]**—Co-PI** (with PI- M. Collins and Co-PI R. Jasoni, DRI)

- 2016-2017 Davids Engineering & Oakdale, CA Irrigation District  
 “Quantifying the effects of agricultural cultivation practices on evapotranspiration in California’s Central Valley”  
 [Amount: **\$186,000**]**—Co-PI**  
 (with PI- R. Jasoni and Co-PIs J. Huntington and J. Larsen, DRI)
- 2015-2016 Lander Endowment  
 “Developing empirical relationships between modern satellite-derived vegetation indices, agricultural productivity, and corresponding instrumental climate data to reconstruct past and project future productivity on Hopi and Gila River Tribal Lands to enhance agricultural resilience”  
 [Amount: **\$55,000**]**—PI**
- 2013-2014 American Vanadium  
 “Measuring growth and heavy metal uptake of native restoration plants on leach pond sludge”  
 “Quantifying the effects of solution head levels and presence of porous substrate on evaporation rates at simulated summertime temperatures to refine E-cell design”  
 [Amount: **\$86,000**]**—PI**  
 (with Co-PI- R. Jasoni DRI)
- Lander Endowment  
 “Measuring the effects of fluoride in irrigation water on alfalfa yield, and fluoride in plant biomass and drainage leachate in Walker River Indian Reservation soils”  
 [Amount: **\$75,000**]**—PI**  
 (with Co-PI- R. Jasoni DRI)
- Swiss National Science Foundation through the Mountain Research Initiative “Mountain Observatories: A Global Fair and Workshop on Social-Ecological Systems”; held in Reno, Nevada 16-19 July 2014  
 [Amount: **\$30,000**]**—Co-PI**  
 (with PI- F. Biondi, UNR)
- 2010-2012 Bureau of Reclamation  
 “Use of alternative agriculture and irrigation scheduling technology for water conservation in the Walker Basin”  
 [Amount: **\$325,716**]**—PI**  
 (with Co-PI- R. Jasoni, DRI)
- 2011-2015 Bi-National Science Foundation  
 “Heterotrophic respiration as affected by dew and water vapor”  
 [Amount: **\$97,980**]**—Co-PI**  
 (with José Grünzweig, **PI**— Hebrew University of Jerusalem, Israel)
- 2009-2013 Bureau of Reclamation  
 “Quantitative reassessment of the hydrologic budgets and water resources of critical zones in the State of Nevada”  
 [Amount: **\$393,900**]**—PI**  
 (with Co-PIs Jasoni, Thomas—DRI)

- 2009-2010 Environmental Protection Agency (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**]**—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**]**—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** 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)
- 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**]**—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**]**—PI**  
 (with Co-PIs Verburg and Jasoni—DRI)
- 2007 DOE Program in Ecosystem Research (PER)  
 “Quantification of the role of soil cryptobiotic crust surfaces to ecosystem CO<sub>2</sub> exchange in a Mojave Desert ecosystem”  
 [Amount: **\$99,000**]**—PI**  
 (with Co-PIs Jasoni and Fenstermaker—DRI)
- 2005-2007 International Arid Lands Consortium:  
 “Global Change and Ecosystem H<sub>2</sub>O and CO<sub>2</sub> Fluxes in the Mojave and Negev Deserts”  
 [Amount: **\$100,000**]**—PI**  
 (with Co-PIs Jasoni, Fenstermaker—DRI, and Grünzweig—Hebrew University)
- 2004-2005 SEMPRA Energy Consulting  
 “Contribution of phreatophytic vegetation to ecosystem evapotranspiration and groundwater use in the Smoke Creek Desert playa: quantification of groundwater use as a function of depth to groundwater and season”  
 [Amount: **\$480,000**]**—Co-I**  
 (with PI Albright and Co-PI 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**]**—Co-I**  
 (with PI Verburg, and Co-PIs Marion, and McDonald—DRI)
- 2003-2005 NSF Division of Environmental Biology:  
 “Collaborative research: Responses of productivity and nutrient dynamics to elevated CO<sub>2</sub> in an intact Mojave Desert ecosystem”  
 [Amount: **\$1,300,000** total; **\$400,000** for DRI]**—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**]**—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**]**—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**]**—Co-I**  
 (with PI Poulson and Co-PI Karlin—UNR)
- 2000-2002 International Arid Lands Consortium:  
 “Ecosystem consequences of cheatgrass invasion in the Great Basin”  
 [Amount: **\$75,000**]**—Co-I**  
 (with Co-PIs Delucia—Univ. Illinois, Yakir—Weizmann Institute, Israel)
- 1997-1998 Swiss National Science Foundation (NF)  
 Continuation of funding to study the interactive effects of grassland plant community species composition, earthworm population density and activity, and elevated CO<sub>2</sub> on N production in the field (see grant title immediately below)  
 [Amount: **\$51,000**]**—sole PI**
- 1995-1998 Swiss NSF (NF)  
 “Fine roots and earthworms in grassland communities: functional relationships and feedbacks on nutrient cycling and plant community structure”  
 [Amount: **\$290,000**]**—sole PI**

	1993-1996	Swiss NSF (NF) "Plant species diversity in complex grassland ecosystems under elevated CO <sub>2</sub> " [Amount: <b>\$1,275,000</b> ] <b>—Co-I</b> (with Körner, PI; Schmid—University of Basel, Switzerland)
	1992-1995	Swiss NSF (NF) "Consequences of global environmental change for alpine vegetation" [Amount: <b>\$1,700,000</b> ] <b>—Co-I</b> (with PI Ch. Körner, University of Basel, Switzerland)
<b>Awards / Honors</b>	2013-2014	One-year <u>sabbatical</u> at the BOKU, University of Natural Resources and Applied Life Sciences in the Institut für Angewandte Statistik und EDV (Institute of Applied Statistics), Vienna, Austria
	2009	<i>Faculty of 1000 Biology</i> for the paper: Arnone <i>et al.</i> (2008) Prolonged suppression of ecosystem carbon dioxide uptake following an anomalously warm year. <i>Nature</i> 455:383-386
	2005-2006	One-year <u>sabbatical</u> at the Institut für Ökologie (Institute of Ecology) of the University of Innsbruck, Austria
	1998	Harvard University, Charles Bullard Fellowship in Forest Research for Advanced Study and Research (awarded but declined in lieu of accepting DRI position)
	1997	"Habilitation" in Plant Ecology: Award to become a "Privat Dozent" ( <i>Venia docendi</i> ), or a licensed faculty member; an advanced degree in the Germanic academic system; equivalent to an Assistant Professor in the U.S.
	1997-1998	Grant from the Treubel Foundation of Basel, Switzerland to complete my studies on the effects of global change on the dynamics of fine root populations in native grasslands
	1986-1987	Duke University, Department of Botany, "Friends of the Phytotron" student grant in support of research. [Prof. B. R. Strain]
	1984-1988	Yale University, A. W. Mellon Graduate Research Fellow in Forest Microbiology
	1985	Sigma Xi, Yale University
	1979	University of Vermont, Department of Natural Resources, Honors Research Project
	1978	Xi Sigma Pi, University of Vermont, School of Natural Resources (forestry honor society)
	1975-1979	Dean's List, University of Vermont
	1972	Eagle Scout, Troop 7, Boy Scouts of America, North Haven, CT



## Memberships

### **Professional Organizations**

1. Association of Ecosystem Research Centers, President (2012-2014); Board of Directors (2008-2011, 2015-2017)
2. Ecological Society of America
3. American Geophysical Union

## Professional Service

### **Editorial Responsibilities**

2010 - *Frontiers in Plant Sciences (Functional Plant Ecology)*  
Ongoing

#### **Associate Editor**

2009 - *Ecology Letters*  
2014

#### **Editor**

1996- *Plant and Soil*

2000 **Board of Consulting Editors**

1994- **Referee** for:

Present *Science; Nature; Oecologia; Ecology; Global Change Biology; New Phytologist; Journal of Arid Environments; Plant and Soil; Biogeochemistry; Biogeosciences; Ecological Applications; Functional Ecology, Soil Biology and Biochemistry; Agriculture and Forest Meteorology; Agriculture Ecosystems and Environment, Alpine Botany*

### **Grant proposal reviews and panel service**

2016 NASA Carbon Monitoring Systems panel (22-24 June)  
NSF Division of Environmental Biology (DEB), Ecosystem Science Cluster panel (19-21 April)

2010- DOE Terrestrial Ecosystem Science Program  
2012

2009 DOE Program in Ecosystem Research Program panel

2009 NOAA Global Carbon Cycle Program, *ad hoc* reviewer

2004- NSF DEB Ecosystem Science Cluster, *ad hoc* reviewer

Present

2004 AAAS Canon National Parks Science Scholar Program for the Americas review panel

2003 NSF Review Panel member for Division of Environmental Biology's Frontiers in Biological Research (FIBR)

2002 NSF Review Panel member for Division of Environmental Biology's Integrated Research Challenges in Environmental Biology (IRCEB) Program (1-3 May 2002)

2002 NSF Ecosystems, *ad hoc* reviewer

1999- International Arid Lands Consortium  
2000

1998 USDA Plant Responses to the Environment Program

***Advisory / Research Review Committees***

- 2017 Science review of the Montpellier (France) Ecotron facility as a member of the International Ecotron Scientific Committee (invited by J. Roy, CNRS, March 2017)
- 2009- Present Member of the International Ecotron Scientific Committee to advise and coordinate international research efforts using large-scale controlled environment facilities (advisory group member; one of nine people selected by J. Roy, CNRS, June 2009)
- 2008 U.S. Congressional Briefing on Carbon Sequestration in Deserts (invited by Smithsonian Environmental Research Center's T. Jordan, 25 September 2008)
- 2008 DOE Workshop on Exploring Science Needs for the Next Generation of Climate Change and Elevated CO<sub>2</sub> Experiments in Terrestrial Ecosystems (invited by ORNL's P. Hanson, 14-18 April 2008)
- 2006 Texas Higher Education Coordinating Board, reviewer for the Research Assessment Program, Chihuahuan Desert Research program at Sul Ross State University (invited by B. Broaddus, October 2006)
- 2005 National Academy of Sciences review panel: "Meeting to Assess the Potential Use of Infrastructure at Biosphere 2 Center for Scientific Research and Education" (chaired by P. Raven, invited by B. Osmond, March 2005)
- 2001 National Phytotron Strategic Planning Workshop at Duke University, (24-27 October 2001)
- 1999 Panama Free-Air CO<sub>2</sub> Enrichment (FACE) facility and plant biodiversity experiment (invited by C. Potvin, 29 June-3 July 1999)
- 1999 Columbia University's Biosphere 2 (invited by J. Melillo, 10-13 May 1999)
- 2000-2009 Washoe County School District, Nevada; Science fair advisor and judge

**Publications  
and  
Presentations**

***Peer-Reviewed Publications***

69. Wagner A, Devitt DA, Bird B, Jasoni RL, **Arnone** JA III (2018) Response of four shrub species to different water source components in an arid environment. *Environment and Natural Resources Research* 3:166-181 doi:10.5539/enrr.v8n3p166

68. Devitt D, Bird B, Lyles B, Fenstermaker L, Jasoni R, **Arnone J**, Biondi F, Mensing S, Saito L (2018) Assessing near surface hydrologic processes and plant response over a 1600 m mountain valley gradient in the Great Basin, NV, U.S.A. *Water* 10(4): DOI:10.3390/w10040420
67. Biederman JA, Scott RL, **Arnone JA III**, Jasoni RL, Litvak ME, Moreo MT, Papuga SA, Ponce-Campos E, Schreinter-McGraw AP, Vivoni ER (2017) Shrubland carbon sink depends upon winter water availability in the warm deserts of North America. *Agriculture and Forest Meteorology* (<https://doi.org/10.1016/j.agrformet.2017.11.005>)
66. Gliksman D, Rey A, Seligmann R, Dumbur R, Sperling O, Navon Y, Haenel S, DeAngelis P, **Arnone JA III**, Grünzweig JM (2016) Biotic degradation at night, abiotic degradation at day: positive feedbacks on litter decomposition in drylands. *Global Change Biology* doi: 10.1111/gcb.13465
65. Johnson BG, Verburg PSJ, **Arnone JA III** (2016) Plant species effects on soil nutrients and chemistry in arid ecological zones. *Oecologia* DOI: 10.1007/s00442-016-3655-9
64. Tang G, **Arnone JA III**, Verburg PSJ, Wu Z, Jasoni RL (2015) Trends and climatic sensitivities of vegetation phenology in semiarid and arid ecosystems in the US Great Basin during 1982–2011. *Biogeosciences* 12:6985-6997 doi:10.5194/bg-12-6985-2015
63. Johnson BG, Verburg PSJ, **Arnone JA III** (2014) Effects of climate and vegetation on soil nutrients and chemistry in the Great Basin studied along a latitudinal-elevational climate gradient. *Plant and Soil* DOI 10.1007/s11104-014-2144-3
62. **Arnone JA III**, Zaller JG (2014) Earthworm effects on native grassland root system dynamics under natural and increased rainfall. *Frontiers in Plant Science* 5:152. DOI: 10.3389/fpls.2014.00152
61. de Graaff M-A, Throop H, Verburg PSJ, **Arnone JA III**, Campos X (2014) A synthesis of climate and vegetation cover effects on biogeochemical cycling in shrub-dominated drylands. *Ecosystems*. DOI: 10.1007/s10021-014-9764-6
60. Tang G, **Arnone JA III** (2013) Trends in surface air temperature and temperature extremes in the Great Basin during the 20<sup>th</sup> century from ground-based observations. *Journal of Geophysical Research: Atmospheres* 118:1-11. DOI: 10.1002/jrgd.50360, 2013
59. Mensing S, Strachan S, **Arnone JA III**, Fenstermaker L, Biondi F, Devitt D, Johnson B, Bird B (2013) NevCAN: A valley to mountain network for observing climate change and its environmental effects in the Great Basin, USA. *Eos* 94: 105-107
58. **Arnone JA III**, Zaller JG, Hofer G, Schmid B, Körner Ch (2013) Loss of plant biodiversity eliminates stimulatory effect of elevated CO<sub>2</sub> on earthworm activity in grasslands. *Oecologia* 171:613-622. DOI: 10.1007/s00442-012-2585-4

57. Hättenschwiler S, **Arnone JA III** (2013) A tribute to Christian Körner for his 25 years of service on the *Oecologia* editorial board. *Oecologia* 171:605-612. DOI: 10.1007/s00442-012-2586-3 [Served as Special Issue editor]
56. Verburg PSJ, AC Young, BA Stevenson, I Glanzmann, **JA Arnone III**, GM Marion, C Holmes, RS Nowak. (2012) Do increased summer precipitation and N deposition alter fine root dynamics in a Mojave Desert ecosystem? *Global Change Biology* 19:948-956. DOI: 10.1111/gcb.12082
55. Fenstermaker LF, Jasoni RL, **Arnone JA III**, Devitt DA (2012) Impact of pixel versus footprint approaches on empirically derived ET estimates from Landsat TM. *Remote Sensing and Hydrology IAHS Publication 352*
54. Sherry, RA, **Arnone JA III**, Johnson DW, Schimel DS, Verburg PS, and Luo Y (2011) Carry over from previous year environmental conditions alters dominance hierarchy in a prairie plant community. *Journal of Plant Ecology*. 1-13. DOI: 10.1093/jpe/rtr028
53. Sherry, RA., Zhou X, Gu S, **Arnone III JA**, Johnson DW, Schimel DS., Verburg PSJ, Wallace LL. and Luo Y (2011). Changes in duration of reproductive phases and lagged phenological response to experimental climate warming. *Plant Ecology & Diversity*, 4:23-35
52. **Arnone JA III**, Jasoni RL, Lucchesi AJ, Larsen JD, Leger EA, Sherry RA, Luo Y, Schimel DS, Verburg PSJ (2011) A climatically extreme year has large impacts on C4 species in tallgrass prairie ecosystems but only minor effects on species richness and other plant functional groups. *Journal of Ecology* 99:678-688
51. Zhou X, Luo Y, Gao C, Verburg PSJ, **Arnone JA III**, Darrouzet-Nardi A, Schimel DS (2010) Concurrent and lagged impacts of an anomalously warm year on autotrophic and heterotrophic components of soil respiration: a deconvolution analysis. *New Phytologist* 187:184–198 DOI: 10.1111/j.1469-8137.2010.03256.x
50. Cheng XL, Luo Y, Su B, Verburg PSJ, Hui D, Obrist D, **Arnone JA III**, Johnson DW, Evans RD (2009) Responses of net ecosystem CO<sub>2</sub> exchange to nitrogen fertilization in experimentally manipulated grassland ecosystems. *Agricultural and Forest Meteorology* 149:1956-1963
49. Wohlfahrt G, Haslwanter A, Hörtnagl L, Jasoni RL, Fenstermaker LF, **Arnone JA III**, Hammerle A (2009) On the consequences of the energy imbalance for calculating surface conductance to water vapour. *Agricultural and Forest Meteorology* 149:1556-1559
48. Verburg PSJ, Johnson DW, Schorran DE, Wallace LL, Luo Y, **Arnone JA III** (2009) Impacts of an anomalously warm year on soil nitrogen availability in experimentally manipulated intact tallgrass prairie ecosystems. *Global Change Biology* 15:888-900
47. **Arnone JA III**, Verburg PSJ, Johnson DW, Larsen JD, Jasoni RL, Lucchesi AJ, Batts CM, von Nagy C, Coulombe WG, Schorran DE, Buck PE, Braswell BH, Coleman JS, Sherry RA, Wallace LL, Luo Y, Schimel DS (2008) Prolonged suppression of ecosystem carbon dioxide uptake following an anomalously warm year. *Nature* 455:383-386 -- *Faculty of 1000 Biology*

46. Sherry RA, Weng E, **Arnone JA III**, Johnson DW, Schimel DS, Verburg PSJ, Wallace LL, Luo Y (2008) Lagged effects of experimental warming and doubled precipitation on annual and seasonal aboveground biomass production in tallgrass prairie. *Global Change Biology* 14:2923-2936
45. Marion GM, Verburg PSJ, Stevenson B, **Arnone III JA** (2008) Soluble element distributions in a Mojave Desert soil. *Soil Science Society of America Journal* 72:1815-1823
44. Wohlfahrt G, Fenstermaker LF, **Arnone JA III** (2008) Large annual net ecosystem CO<sub>2</sub> uptake of a Mojave Desert ecosystem. *Global Change Biology* 14:1475-1487
43. Marion GM, Verburg PSJ, McDonald EV, **Arnone III JA** (2008) Modeling salt movement through a Mojave Desert soil. *Journal of Arid Environments* 72:1009-1030
42. Stamenkovic J, Gustin MS, **Arnone JA III**, Johnson DW, Larsen JD, Verburg PSJ (2008) Atmospheric mercury exchange with a tallgrass prairie ecosystem housed in mesocosms. *Science of the Total Environment* 406:227-238
41. Sherry RA, Zhuo XH, Gu SL, **Arnone JA III**, Schimel DS, Verburg PSJ, Wallace LL, Luo Y (2007) Divergence of reproductive phenology under climate warming. *Proceedings of the National Academy of Sciences* 104:198-202
40. Prater MR, Obrist D, **Arnone JA III**, Delucia EH (2006) Net carbon exchange and evapotranspiration in post-fire and intact sagebrush communities in the Great Basin. *Oecologia* 146:595-607
39. Verburg PSJ, Larsen JD, Johnson DW, Schorran DE, **Arnone JA III** (2005) Impacts of an anomalously warm year on soil CO<sub>2</sub> efflux in experimentally manipulated intact tallgrass prairie ecosystems. *Global Change Biology* 11:1720-1732
38. Jasoni RL, Smith SD, **Arnone JA III** (2005) Net ecosystem CO<sub>2</sub> exchange in Mojave Desert shrublands after eight years of exposure to elevated CO<sub>2</sub>. *Global Change Biology* 5:749-756
37. Obrist D, Gustin MS, **Arnone JA III**, Johnson DW, Schorran DE, Verburg PSJ (2005) Measurement of gaseous elemental mercury fluxes over intact tallgrass prairie monoliths during one full year. *Atmospheric Environment* 39:957-965
36. Johnson DW, Verburg PSJ, **Arnone JA III** (2004) Soil extraction, ion exchange resin, and ion exchange membrane measures soil mineral N during incubation of a tallgrass prairie soil. *Soil Science Society of America Journal* 69:260-265
35. Obrist D, Yakir D, **Arnone JA III** (2004) Temporal and spatial patterns of soil water following wildfire-induced changes in plant communities in the Great Basin. *Plant and Soil* 262:1-12

34. Weatherly HE, Zitzer SF, Coleman JS, **Arnone JA III** (2003) In situ litter decomposition and litter quality in a Mojave Desert ecosystem: effects of elevated CO<sub>2</sub> and interannual climate variability. *Global Change Biology* 9:1223-1233
33. Verburg PSJ, **Arnone JA III**, Evans RD, Leroux-Swarthout D, Obrist D, Johnson DW, Schorran DE, Luo Y, Coleman JS (2003) Net ecosystem carbon exchange in two model grassland ecosystems. *Global Change Biology* 10:498-508
32. Obrist D, Verburg PSJ, Young MH, Coleman JS, Schorran DE, **Arnone JA III** (2003) Quantifying the effects of phenology on ecosystem evapotranspiration in planted grassland mesocosms using EcoCELL technology. *Agricultural and Forest Meteorology* 118:173-183
31. Obrist D, **Arnone JA III** (2003) Root development, soil water use, and root proliferation into water-enriched soil patches by *Larrea tridentata*: effects of atmospheric CO<sub>2</sub>. *New Phytologist* 159:175-184
30. **Arnone JA III**, Obrist D (2003) A large daylight geodesic dome for quantification of whole-ecosystem CO<sub>2</sub> and water vapor fluxes in arid shrublands. *Journal of Arid Environments* 55:629-643
29. Billings SA, Zitzer SF, Weatherly HE, Schaeffer SM, Charlet T, **Arnone JA III**, Evans RD (2003) Effects of elevated CO<sub>2</sub> on green leaf tissue and litter quality in an intact Mojave Desert ecosystem. *Global Change Biology* 9:729-735
28. Obrist D, DeLucia EA, **Arnone JA III** (2003) Consequences of wildfire on ecosystem CO<sub>2</sub> and water vapor fluxes in the Great Basin. *Global Change Biology* 9:563-574
27. Goverde M, **Arnone III JA**, Erhardt A (2002) Species-specific reactions to elevated CO<sub>2</sub> and nutrient availability in four grass species. *Basic and Applied Ecology* 3:221-227
26. Obrist D, **Arnone III JA**, Körner Ch (2001) In situ effects of elevated atmospheric CO<sub>2</sub> on leaf freezing resistance and carbohydrates in a native temperate grassland. *Annals of Botany* 87:839-844
25. Marsh AS., **Arnone JA III**, Bormann BT, Gordon JC (2000) The role of Equisetum in nutrient cycling in an Alaskan shrub wetland. *Journal of Ecology* 88:999-1011
24. **Arnone, JA III**, Zaller JG, Spehn EM, Niklaus PA, Wells CE, Körner Ch (2000) Dynamics of root systems in intact native grasslands: effects of elevated atmospheric CO<sub>2</sub>. *New Phytologist* 147:73-86
23. **Arnone JA III** (1999) Symbiotic N<sub>2</sub> fixation in high alpine grassland: effects of four growing seasons of elevated CO<sub>2</sub>. *Functional Ecology* 13:383-387
22. Zaller JG, **Arnone JA III** (1999) Earthworm responses to plant species' loss and elevated CO<sub>2</sub> in calcareous grassland. *Plant and Soil* 208:1-8

21. Zaller JG, **Arnone JA III** (1999) Interactions between earthworm casts and plant species in a calcareous grassland under elevated CO<sub>2</sub>. *Ecology* 80:873-881
20. Zaller JG, **Arnone JA III** (1999) Earthworm and soil moisture effects on the productivity and structure of grassland communities. *Soil Biology and Biochemistry* 31: 517-523
19. **Arnone JA III**, Bohlen PJ (1998) Stimulated N<sub>2</sub>O flux from intact grassland monoliths after two growing seasons under elevated atmospheric CO<sub>2</sub>. *Oecologia* 116:331-335
18. **Arnone JA III** (1997) Indices of plant nitrogen availability in an alpine grassland under elevated atmospheric CO<sub>2</sub>. *Plant and Soil* 190:61-66
17. Zaller JG, **Arnone JA III** (1997) Activity of surface casting earthworms in a calcareous grassland under elevated atmospheric CO<sub>2</sub>. *Oecologia* 111:249-254
16. **Arnone JA III** (1997) Temporal responses of community fine root populations to long-term elevated atmospheric CO<sub>2</sub> and soil nutrient patches. *Acta Oecologica* 18:367-376
15. **Arnone JA III**, Hirschel G (1997) Does fertilizer application alter the effects of elevated CO<sub>2</sub> on leaf litter quality and in situ decomposition in an alpine grassland? *Acta Oecologica* 18:201-206
14. Körner Ch, Diemer M, Schächli B, Niklaus P, **Arnone JA III** (1997) The responses of alpine grassland to four seasons of CO<sub>2</sub> enrichment: a synthesis. *Acta Oecologica* 18:165-177
13. **Arnone JA III**, Kestenholtz C (1997) Root competition and elevated CO<sub>2</sub>: effects on seedling growth in *Linum usitatissimum* populations and *Linum-Silene cretica* mixtures. *Functional Ecology* 11:209-214
12. Hirschel G, Körner Ch, **Arnone JA III** (1997) Will rising atmospheric CO<sub>2</sub> affect leaf litter quality and in situ decomposition rates in native plant communities? *Oecologia* 110:387-392
11. **Arnone JA III**, Körner Ch (1997) Temperature adaptation and acclimation potential of leaf dark respiration in two species of *Ranunculus* from warm and cold habitats. *Arctic and Alpine Research* 29:122-125
10. **Arnone JA III** (1996) Predicting responses of tropical plant communities to elevated CO<sub>2</sub>: lessons from experiments with model ecosystems. In: *Carbon dioxide, populations and communities* (eds Körner Ch, Bazzaz FA), Physiological Ecology Series, Academic Press, San Diego, pp. 101-121
9. **Arnone JA III**, Körner Ch (1995) Soil and biomass carbon pools in model communities of tropical plants under elevated CO<sub>2</sub>. *Oecologia* 104:61-71
8. **Arnone JA III**, Zaller JG, Ziegler C, Zandt H, Körner Ch (1995) Leaf quality and insect herbivory in model tropical plant communities after long-term exposure to elevated CO<sub>2</sub>. *Oecologia* 104:72-78

7. **Arnone JA III**, Blot M, Leadley PW, Matthies D, Sanders I (1994) Biodiversity in Switzerland. *Nature* 370:500
6. **Arnone JA III**, Kohls SJ, Baker DD (1994) Nitrate effects on nodulation and nitrogenase activity of actinorhizal *Casuarina* studied in split-root systems. *Soil Biology and Biochemistry* 26:599-606
5. Körner Ch, **Arnone JA III**, Hilti W (1994) The utility of artificial ecosystems in CO<sub>2</sub> research. In: *Design and execution of experiments on CO<sub>2</sub> enrichment* (eds. Schulze E-D, Mooney HA), Commission of the European Communities, Brussels, pp. 185-198
4. **Arnone JA III**, Körner Ch (1993) Influence of elevated CO<sub>2</sub> on canopy development and red:far-red ratio in two-storied stands of *Ricinus communis*. *Oecologia* 94:510-515
3. Körner Ch, **Arnone JA III** (1993) Global change: the important difference between lettuce and forests. *Plant Sciences Bulletin* 39:8
2. Körner Ch, **Arnone JA III** (1992) Responses to elevated carbon dioxide in artificial tropical ecosystems. *Science* 257:1672-1675
1. **Arnone JA III**, Gordon JC (1990) Effect of nodulation, nitrogen fixation and CO<sub>2</sub> enrichment on the physiology, growth and dry mass allocation of seedlings of *Alnus rubra* Bong. *New Phytologist* 116:55-66

***Project Reports (locally peer-reviewed)***

1. **Arnone JA III**, Jasoni RL, Larsen JD, Fenstermaker LF (2016) Using multi-site and multi-year data to develop statistical predictions of phreatophytic arid shrubland evapotranspiration in three basins of eastern Nevada in the Great Basin. *Final Report to the State Engineer of Nevada*.
2. **Arnone JA III**, Jasoni RL, Larsen JD, Irschick C, Miller, WW, Davison J, Thomas JM, Leger EA, Verburg PSJ (2009) Water use efficiency and productivity of alternative crops for agriculture in Nevada U.S.A. under conditions of low water availability. *Walker Basin Phase I Final Report*.
3. Hoekman SK, Broch A, Robbins C, Yan W, Jasoni R, Verburg P, **Arnone J**, Minor T (2012) Developing Thermal Conversion Options for Biorefinery Residues. *Final Report for contract DE-FG36-01G011082*
4. **Arnone JA III**, Jasoni RL, Larsen JD, Fenstermaker LF, Wohlfahrt G, Kratt CB, Lyles BF, Healey J, Young MH, Thomas JM (2008) Variable evapotranspirative water losses from lowland agricultural and native shrubland ecosystems in the Great Basin of Nevada, U.S.A. *DRI Publication* No. 655.7250.
5. Jasoni RL, Thomas JM, Cablk M, Decker D, Lyles BF, **Arnone JA III**, Albright W (2006) Evapotranspiration in Smoke Creek Desert, Nevada. *DRI Publication* No. 41224R.
6. Jasoni RL, Lyles BF, Thomas JM, Larsen JD, **Arnone JA III** (2009) Comparison of evapotranspiration rates measured in the Great Basin using



the eddy covariance, Bowen ratio energy balance and static chamber dome methods. *DRI Publication* No. 656.9020.

### ***Invited Seminars***

- 2015      **Arnone JA III**, Jasoni RL, Larsen JD, Fenstermaker LF, Grünzweig JM, Wohlfahrt G (2015) Drivers of net ecosystem CO<sub>2</sub> exchange and C balance in the Mojave Desert and the effects of elevated atmospheric CO<sub>2</sub>. Invited presentation at the European Ecological Federation Congress in Rome, Italy (24 September 2015)
- 2014      **Arnone JA III**, Jasoni RL, Larsen JD, Fenstermaker LF, Wohlfahrt G (2014) Responses of North American deserts to global change and feedbacks on climate. Invited presentation at the Hawkesbury Institute for the Environment, University of Western Sydney, Australia (10 December 2014)
- Arnone JA III**, Jasoni RL, Larsen JD, Fenstermaker LF, Wohlfahrt G (2014) Responses of North American deserts to global change and feedbacks on climate. Invited presentation at the DOE Terrestrial Ecosystem Science Program, Germantown, MD (6 August 2014)
- Arnone JA III**, Jasoni RL, Larsen JD, Fenstermaker LF, Wohlfahrt G (2014) Responses of North American deserts to global change and feedbacks on climate. Invited presentation at the University of Innsbruck, Austria (26 May 2014)
- Arnone JA III**, Jasoni RL, Coulombe W, Verburg PSJ (2014) Interannual responses of net ecosystem CO<sub>2</sub> exchange and NEP of intact tallgrass prairie ecosystems to an anomalously warm year under elevated atmospheric CO<sub>2</sub>. Annual Meeting of the EGU, Vienna, Austria (2 May 2014) (EGU2014-12676 BG2.8)
- 2013      **Arnone JA III**, Jasoni RL, Larsen JD, Fenstermaker LF, Wohlfahrt G (2013) Responses of North American deserts to global change and feedbacks on climate. University of Natural Resources and Applied Life Sciences (BOKU), Vienna, Austria (10 December 2013)
- Arnone JA III**, Jasoni RL, Larsen JD, Fenstermaker LF, Wohlfahrt G (2013) Responses of North American deserts to global change and feedbacks on climate. Hebrew University of Jerusalem (Rehovot on 24 November 2013; Jerusalem on 26 November 2013)
- 2010      **Arnone JA III**, Lucchesi AJ, Jasoni RL, Larsen JD, Leger EA, Sherry RA, Wallace LL, Johnson DW, Luo Y, Schimel DS, Verburg PSJ (2010) The role of grassland plant species composition in defining synchronous and lagged responses of NPP and net ecosystem CO<sub>2</sub> balance to interannual temperature variability. Invited symposium presentation at the Annual Meeting of the Ecological Society of America, 1-6 August 2010, Pittsburgh, PA
- 2009      **Arnone JA III**, (2009) Ecosystem CO<sub>2</sub> uptake: prolonged after effects of an extremely warm year. Kiwanis Club of Reno, NV (27 May 2009)

- Arnone JA III** (2009) Climate Change, Ecosystems and Research Agendas in the Lower Colorado River Basin, Symposium Panelist, American Association of Geographers, Annual Meeting, Las Vegas, NV (22-25 March, invited by W. Smith, UNLV, panel 5208)
- Arnone JA III**, Jasoni RL, Larsen JD, Fenstermaker LF, Wohlfahrt G (2009) Evapotranspiration from lowland native shrub ecosystems in Nevada's eastern Great Basin and its relationship to remotely sensed measures of vegetation. Annual Meeting of the European Geosciences Union (EGU), Vienna, Austria (19-24 April), abstract number EGU2009-10643
- 2008 **Arnone JA III** (2008) Carbon dioxide uptake by arid ecosystems: What we know about today's situation and how global change may affect this. Annual Association of Ecosystem Research Centers' (AERC) Symposium entitled: Responding to Climate Change: A Role for Ecosystems (25 September 2008, invited by T. Jordan)
- 2006 **Arnone JA III**, (2006) Reaktionen von Prairie-Ökosystemen auf jährliche Klimaschwankungen: Experimente in den EcoCELLs. Institut für Integrative Biologie und Biodiversitätsforschung, Universität für Bodenkultur (BOKU), Vienna, Austria (24 April 2006, invited by J. Zaller)
- 2005 **Arnone JA III**, (2005) Ecosystem and plant community responses to experimental interannual climate variability in tallgrass prairie in the EcoCELLs. Botanisches Kolloquium, Institut für Botanik, Universität Innsbruck, Austria (12 October 2005, invited by M. Bahn)
- 2004 **Arnone JA III** (2004) How earthworms modulate responses of native grassland ecosystems to rising atmospheric CO<sub>2</sub> and declining plant species diversity. University of Missouri, Department of Ecology and Evolution, (12-14 October 2004; invited by J. Coleman)
- Arnone JA III**, Wallace LL. (2004) Interannual climate variability: How temporal signatures can drive ecosystem processes. Annual Meeting of the Ecological Society of America, Portland, Oregon (3-8 August 2004), **Co-chair** of Organized Oral Session
- 2003 **Arnone JA III** (2003) Working with ecosystem processes in recovery: atmospheric CO<sub>2</sub> influences on recovery potential. California Invasive Plant Council Symposia: "Planning Weed Management for Ecosystem Recovery" (organizer: T. Dudley, USDA-ARS, Reno held at Kings Beach at Lake Tahoe, Nevada)
- 2002 **Arnone JA III** (2002) Interannual climate variability and ecosystem processes: a quantitative assessment combining modeling with field and mesocosm experiments. Workshop entitled: From transient to steady state response of ecosystems to CO<sub>2</sub> enrichment and global warming. Terrestrial Ecosystem Responses to Atmospheric and Climate Change (TERACC) Durham, New Hampshire (28 April to 1 May 2002; organizer L. Rustad)

- 1999 **Arnone JA III** (1999) Fine root dynamics under elevated CO<sub>2</sub> in a temperate calcareous grassland. Global Change and Terrestrial Ecosystems (GCTE) Program of the IGBP Workshop on: Effects of Global Change on Fine Root Physiology and Turnover. Townsend, Tennessee (20-22 October 1999; organizers: R. Norby and A. Fitter)
- 1998 **Arnone JA III** (1998) Global Change and Terrestrial Ecosystems (GCTE-Focus 1) Program of the IGBP Workshop on: "Litter quality and decomposition under elevated CO<sub>2</sub>". Capri, Italy (24-27 September 1998; organizers: F. Cotrufo, R. Norby & J. Canadell)
- 1996 **Arnone JA III** (1996) Belowground responses of high alpine grassland ecosystems to elevated CO<sub>2</sub> and fertilizer addition: effects on symbiotic N<sub>2</sub> fixation. Arctic Terrestrial Ecosystems Research Initiative Workshop on: "Europe's Cold Regions: Scenarios for Ecosystem Responses to Global Change". Copenhagen, Denmark (8-10 November 1996; organizers: TV Callaghan, Ch Körner, OW Heal)
- Arnone JA**, Zaller JG (1996) Hydrologic feedback effects on N and C cycling due to enhance earthworm casting activity in lowland grassland ecosystems under elevated atmospheric CO<sub>2</sub>. COST 619 and Global Change and Terrestrial Ecosystems (GTCE) Program of the IGBP Focus I. Conference on: "Interactions between elevated CO<sub>2</sub> and water in grassland". Davos, Switzerland (1-5 June 1996; organizer: J. Nösberger)
- 1994 **Arnone JA III** (1994) Plant community and species responses to elevated CO<sub>2</sub> in model moist tropical ecosystems. Global Change and Terrestrial Ecosystems (GTCE) Program of the IGBP Focus I. Conference on: "Community and Evolutionary Implications of Rising Atmospheric CO<sub>2</sub>". Leuenberg, Switzerland (14-19 August 1994; organizers: Ch. Körner, FA Bazzaz)
- 1993 **Arnone JA III**, Körner Ch (1993) Above and belowground responses of model tropical ecosystems to elevated atmospheric CO<sub>2</sub>. XV. International Botanical Congress. Yokohama, Japan (28 August – 3 September, invited by R. Luxmoore)
- Arnone JA III**, Körner Ch (1993) Fine root responses to elevated atmospheric CO<sub>2</sub> in model tropical ecosystems. International workshop on "Belowground Responses to Rising Atmospheric CO<sub>2</sub>: Implications for Plants, Soil Biota and Ecosystem Processes. Pellston, Michigan (29 May - 2 June 1993; organizer: J. Teeri)
- Arnone JA III**, Gordon JC (1993) Positive feedbacks between photosynthesis and symbiotic N<sub>2</sub> fixation in *Alnus rubra* demonstrated under elevated atmospheric CO<sub>2</sub>. Ninth International Conference on *Frankia* and Actinorhizal Plants. Waikato, New Zealand (4-7 April 1993; organizer W. Silvester)
- 1986 **Arnone JA III**, Gordon JG (1986) Effects of elevated atmospheric CO<sub>2</sub> on nodulation and nitrogenase activity in *Alnus rubra*. International Meeting on *Frankia* and Actinorhizal Plants. Umeå, Sweden (17-20 August 1986)

### ***Other Presentations at Scientific Meetings / Workshops***

- 2018 Rhodes OE, Johnson LB, Crowl TA, **Arnone JA III**, Ward AK, Crabtree R, Rypstra AL, Love C (2018) The role of ecosystem research centers in experiential learning: a diversity of opportunities. Symposium 3, Annual Meeting Ecological Society of America (5-10 Aug. 2018, New Orleans, LA)  
<https://eco.confex.com/eco/2018/webprogrampreliminary/Session14075.html>
- 2016 Collins M, **Arnone JA III**, (2016) Broadening access? K-12 teacher perceptions of virtual learning and a pilot virtual lab using real science data from DRI's EcoCELL facility. Annual Meeting Ecological Society of America (7-13 Aug. 2016, Fort Lauderdale, FL)  
<https://eco.confex.com/eco/2016/webprogram/Paper57797.html>
- 2016 Devitt DA, Bird B, Lyles BF, Fenstermaker LF, Jasoni RL, Strachan S, **Arnone JA III**, Biondi F, Mensing SA, Saito L (2016) Mountain valley eco-hydrologic connectivity in the Great Basin, NV. GC13E-1236, Annual Meeting America Geophysical Union (12-16 Dec. 2016, San Francisco, CA)  
<https://agu.confex.com/agu/fm16/meetingapp.cgi/Search/0?sort=Relevance&size=10&page=1&searchterm=arnone>
- 2014 **Arnone JA III**, et al. (2014) Quantifying the effectiveness of the Association of Ecosystem Research Centers (AERC) as an educational vehicle linking ecosystem research to public policy through hands-on training, congressional briefings, and Capitol Hill office visits. 99<sup>th</sup> Ecological Society of America Annual Meeting (10-15 Aug. 2014, Sacramento, CA)  
(<http://eco.confex.com/eco/2014/webprogram/Paper48756.htm>)
- Jasoni RJ, **Arnone JA III**, Fenstermaker LF, Wohlfahrt G (2014) Stimulation of Mojave Desert net ecosystem CO<sub>2</sub> uptake after winter precipitation with the opposite effect after summer rains based on 7 years of flux data. Annual Meeting of the EGU (30 April 2014, Vienna, Austria). Oral presentation EGU2014-12851 BG2.6/SSS4.10.
- 2013 Hedge C, Morton C, Jasoni RL, **Arnone JA III** (2013) Quantifying interannual variability in NDVI in the Lehman Creek watershed for use in estimating possible plant community phenological controls on streamflow under current and recent climatic conditions. EPSCoR Tri-State Science Meeting, (27-28 March 2013, Las Vegas Nevada). Poster presentation.
- Fenstermaker LF, Strachan S, McCurdy G, Bird B, Devitt D, Biondi F, **Arnone JA III**, Saito L, Jasoni RL, Johnson BG, Lyles B (2013) NevCAN: Monitoring climate variability and change along two elevation gradients. Great Basin Consortium Conference (14-16 January 2013, Boise). Poster presentation.
- 2012 Biondi F, **Arnone JA III** (co-chair) AGU oral (B13F) and poster (B21B) sessions: Climate Impacts on Ecosystems Quantified Using a Combination of Proxy Records and Instrumented Observatories (2-7 December 2012, San Francisco, CA)

- Johnson BG, Jasoni RL, **Arnone** JA III (2012) Simulated climate change effects of snowpack manipulations on soil temperature and moisture in the Sierra Nevada mountains. H51E-1408 (AGU, San Francisco, CA)
- Tang G, **Arnone** JA III (2012) Trends in surface air temperature and temperature extremes in the Great Basin during 1901–2010. GC21F-1036. (AGU, San Francisco, CA)
- 2011 Johnson BG, Jasoni RL, **Arnone** JA III (2011) Quantifying environmental controls on sap flow in Great Basin tree species and their possible significance for mountain groundwater recharge under anthropogenic climate change. H13C-1222 Poster (AGU, San Francisco, CA)
- Lue AC, Jasoni RL, **Arnone** JA III (2011) Effects of atmospheric VPD, plant canopies, and low-water years on leaf stomatal conductance and photosynthetic water use efficiency in fifteen potential crop species for use in arid environments. B21E-0289 Poster (AGU, San Francisco, CA)
- 2010 Fenstermaker, LF, **Jasoni RL**, Arnone JA III, Devitt DA & Kratt C (2010) Impact of pixel versus footprint approaches on empirically derived ET estimates from Landsat TM. *Remote Sensing and Hydrology Symposium*, Jackson Hole Wyoming
- Luo Y, Zhou X, Verburg PSJ, **Arnone III JA** (2010) Benchmark analysis of parameterization for terrestrial carbon cycle model (Invited), Abstract B44A-01 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec
- Saito L, Biondi F, Fenstermaker LF, **Arnone III JA**, Devitt D, Riddle B, Young MH (2010) The Nevada NSF EPSCoR infrastructure for climate change science, education, and outreach project: highlights and progress on investigations of ecological change and water resources along elevational gradients, Abstract H311-01 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec
- Devitt D, **Arnone III JA**, Biondi F, Fenstermaker LF, Saito L, Young MH, Riddle B, Strachan SD, Bird B, McCurdy G, Lyles BF (2010) Nevada monitoring system to assess climate variability and change, Abstract H33C-1147 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec
- Jasoni RL, Larsen JD, Fenstermaker LF, **Arnone III JA** (2010) How strong are biological soil crusts as sinks for atmospheric CO<sub>2</sub>?, Abstract B41A-0288 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec
- 2009 **Arnone JA III**, Jasoni RL, Larsen JD, Coulombe WG, Darrouzet-Nardi A, Luo Y, Verburg PSJ (2009) Ecosystem respiratory responses to interannual and seasonal temperature variability in intact tallgrass prairie ecosystems in the EcoCELLs. *EOS Trans. AGU Fall Meeting Suppl.*, San Francisco, CA

- 2008 **Arnone JA III**, Jasoni RL, Larsen JD, Fenstermaker LF, Wohlfahrt G (2008) Atmospheric-ecosystem CO<sub>2</sub> exchange in sparse arid shrublands across the Great Basin USA over multiple years: identifying patterns and mechanisms. *EOS Trans. AGU, Fall Meeting Suppl.*, Abstract B31A-0285, San Francisco, CA
- 2007 Verburg PSJV, Johnson DW, Schorran DE, Wallace LL, Luo Y, **Arnone JA III** (2007) Impacts of an anomalously warm year on soil nitrogen availability in experimentally manipulated intact tallgrass prairie ecosystems. *EOS Trans. AGU, Fall Meeting Suppl.*, Abstract B31B-0323, San Francisco, CA
- 2006 Cablk M, Zhu J, Kratt C, Jasoni R, Young M, Thomas J, **Arnone JA III** (2006) Multi-scale remote sensing observations as a basis for estimating evapotranspiration across the eastern Great Basin Desert, Nevada, USA. *EOS Trans. AGU, Fall Meeting Suppl.*, Abstract H23E-1551, San Francisco, CA
- 2003 Obrist D, Gustin MS, **Arnone JA III**, Schorran DE, Verburg PSJ, Johnson DW (2003) Vegetated terrestrial ecosystems are large sources of Hg to the atmosphere. *EOS Trans. AGU, Fall Meeting Suppl.*, Abstract B51D-1002, San Francisco, CA
- Arnone JA III**, Schorran DE, Johnson DW, Wallace LL, Luo Y, Coleman JS, Schimel DS. (2003) NSF-I.R.C.E.B. Interannual climate variability and ecosystem processes in tallgrass prairie: Effects on ecosystem CO<sub>2</sub> fluxes. Annual Meeting of the Ecological Society of America, Savannah, GA (3-8 August 2003)
- Johnson DW, **Arnone JA III**, Verburg PJS, Wallace LL, Luo Y, Royce G, Zerbach N. (2003) Interannual climate variability and ecosystem processes in tallgrass prairie: non-destructive measures of soil nutrients. Annual Meeting of the Ecological Society of America, Savannah, GA (3-8 August 2003)
- Prater MR, **Arnone JA III**, Delucia EH. (2003) Conversion of sagebrush to non-native communities following fire: impacts of ecosystem carbon and water exchange. Annual Meeting of the Ecological Society of America, Savannah, GA (3-8 August 2003)
- Royce G, Weatherly HE, **Arnone JA III**. (2003) NSF-I.R.C.E.B. Interannual climate variability and ecosystem processes in tallgrass prairie: controls on root length density. Annual Meeting of the Ecological Society of America, Savannah, GA (3-8 August 2003)
- Weatherly HE, Su B, Wallace LL, **Arnone JA III**. (2003) NSF-I.R.C.E.B. Interannual climate variability and ecosystem processes in tallgrass prairie: controls on litter decomposition. Annual Meeting of the Ecological Society of America, Savannah, GA (4-9 August 2003)
- Verburg PJS, **Arnone JA III**, Schorran DE. (2003) NSF-I.R.C.E.B. Interannual climate variability and ecosystem processes in tallgrass prairie: effects on soil respiration. Annual Meeting of the Ecological Society of America, Savannah, GA (3-8 August 2003)

- 2002 Obrist D, **Arnone JA III** (2002) Effects of wildfire-induced changes in plant community composition on ecosystem CO<sub>2</sub> and water vapor fluxes. Annual Meeting of the Ecological Society of America, Tucson, Arizona (4-9 August 2002)
- Zitzer S, **Arnone JA III**, Billings S, Fenstermaker LF, Nowak R, Smith SD, Weatherly H (2002) Effects of elevated CO<sub>2</sub> on desert shrub litter production at the Nevada Desert FACE facility. Annual Meeting of the Ecological Society of America, Tucson, Arizona (4-9 August 2002)
- Su B, Hui D, Verburg PSJ, Obrist D, **Arnone JA III**, Johnson DW, Evans RD, Luo Y (2002) Canopy radiation- and water-use efficiencies of cheatgrass as affected by pulse and gradual N fertilization. Annual Meeting of the Ecological Society of America, Tucson, Arizona (4-9 August 2002)
- Prater M, Obrist D, **Arnone JA III**, Delucia EA (2002) Post-fire effects on ecosystem gas exchange patterns in northern Great Basin communities. Annual Meeting of the Ecological Society of America, Tucson, Arizona (4-9 August 2002)
- Verburg PSJ, **Arnone JA III**, Evans RD, LeRoux-Swarthout D, Obrist D, Johnson DW, Luo Y, Coleman JS (2002) The potential of short-rotation cropping systems to sequester C. Annual Meeting of the Ecological Society of America, Tucson, Arizona (4-9 August 2002)
- Weatherly H, Zitzer S, **Arnone JA III** (2002) Effects of elevated CO<sub>2</sub> on litter quality, decomposition, and their relationship in a Mojave Desert ecosystem. Annual Meeting of the Ecological Society of America, Tucson, Arizona (4-9 August 2002)
- 2001 Obrist D, **Arnone JA III** (2001) A large daylight geodesic dome for quantification of whole-ecosystem carbon dioxide and water vapor fluxes. *EOS Trans.* AGU, Fall Meeting Suppl., Abstract B42A-0107, San Francisco, CA
- LeRoux-Swarthout D, Connin S, Verburg PJS, Johnson DW, **Arnone JA III**, Luo Y, Evans RD (2001) Effect of single versus continuous nitrogen applications on ecosystem nitrogen losses. Annual Meeting of the Ecological Society of America, Madison, Wisconsin (5-10 August 2001)
- 2000 **Arnone JA III**, Zaller JG, Spehn EM, Niklaus PA, Wells CE, Körner Ch (2000) In situ dynamics of fine root populations in a native temperate calcareous grassland: effects of elevated atmospheric CO<sub>2</sub>. Annual Meeting of the Ecological Society of America, Snowbird, Utah (6-11 August 2000)
- Obrist D, **Arnone JA III** (2000) The responses of fine roots on patches of water and nitrogen in two dominant Mojave Desert shrubs. Annual Meeting of the Ecological Society of America, Snowbird, Utah (6-11 August 2000)

- Zitzer SF, **Arnone JA III**, Coleman JS, Nowak R, Seemann J, Smith SD (2000) Litter accumulation beneath Mojave Desert shrubs exposed to predicted 21st century atmospheric CO<sub>2</sub> levels using Free Air CO<sub>2</sub> Enrichment. Annual Meeting of the Ecological Society of America, Snowbird, Utah (6-11 August 2000)
- 1999 Zaller JG, **Arnone JA III** (1999) Ecological interactions between earthworms and grassland communities in a changing environment. Annual Meeting of the Ecological Society of America, Snowbird, Utah (August 1999)
- 1997 Bohlen PJ, Zaller JG, **Arnone JA III** (1997) Earthworms amplify the stimulatory effect of elevated atmospheric CO<sub>2</sub> on N<sub>2</sub>O flux from intact grassland monoliths. *Bulletin of the Ecological Society of America* 78:55
- Zaller JG, **Arnone JA III** (1997) Earthworms affect plant species' responses to elevated atmospheric CO<sub>2</sub> in a native grassland. *Bulletin of The Soil Ecology Society* (1997 Conference, Manhattan, Kansas, 27-30 May 1997)
- 1995 Zaller JG, **Arnone JA III** (1995) Influence of elevated atmospheric CO<sub>2</sub> on earthworm cast production in a calcareous grassland in Switzerland. *Bulletin of the British Ecological Society* (Annual Winter Meeting, Sheffield, UK; 19-21 December 1995)
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