

Curriculum Vitae

Susanne Schwinning, PhD
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EDUCATION

Ph.D.	University of Arizona, Tucson (Ecology & Evolutionary Biology) Dissertation: <i>Effects of resource uptake and utilization on size structure dynamics in competing annual plants.</i>	1994
M.S.	University of California, Davis. (Plant Physiology) (Degree requirement met by comprehensive oral examination)	1986
Diplom	University of Göttingen, Germany (Botany) Thesis: <i>Isolation of phaseic acid and test of its effect on stomata.</i>	1984

PROFESSIONAL EXPERIENCE

Adjunct Assistant Professor	University of Arizona, Tucson, School of Natural Renewable Resources	2000 -
Postdoctoral Fellow	University of Utah, Salt Lake City, Department of Biology	1997 -
Research Scientist	Institute of Grassland and Environmental Research, Okehampton, UK	1994-1997
Research Assistant	University of Nebraska, Lincoln, Agronomy Department	1987
Research Assistant	University of California, Davis, Department of Land, Air and Water Resources	1985-86

TEACHING EXPERIENCE

Guest Lecturer	University of Utah (Plant Ecology)	1997-
Course Leader	University of Arizona (Introductory Botany)	1991-93
Teaching Assistant	University of Arizona (Ecology, General Biology, Plant Physiology, Advanced Population Dynamics)	1988-94

HONORS AND AWARDS

John L. Harper Prize	British Ecological Society (for a paper published in <i>Journal of Ecology</i>)	1996
Robert W. Hoshaw Memorial Award	Department of Ecology and Evolutionary Biology, University of Arizona	1994

GRANTS AND SCHOLARSHIPS

Research Grant	“Improving the reliability of non-fertilized grass/clover pasture - a proposed mechanism and its test”. Biotechnology and Biological Sciences Research Council (BBSRC), UK, £ 172,000	1996
Collaboration Grant	UK/France research collaboration. Biotechnology and Biological Sciences Research Council, UK, £ 6,000	1996-97
Research Grant	Summer doctoral research. Graduate College, University of Arizona, \$ 600	1990
Travel Grants	Ecological Society of America Annual Meetings, Department of Ecology and Evolutionary Biology, University of Arizona, \$ 600	1992/93
Scholarship	Education Abroad Program, University of Göttingen, Germany, DM 20,000	1984

MEMBERSHIPS

Ecological Society of America (since 1990)
British Ecological Society (since 1994)

PROFESSIONAL SERVICES

Reviewer for the American Naturalist, Annals of Forest Science, Australian Journal of Agricultural Research, Ecology and Ecological Monographs, Journal of Ecology, Journal of Experimental Botany, Oecologia, Oikos, Plant Ecology.

Proposal reviewer for NSF Programs in Population Biology, and Ecological and Evolutionary Physiology.

PUBLICATIONS

Schwinning, S. and Ehleringer, J.R. 2001. Water use tradeoffs and optimal adaptations to pulse-driven arid ecosystems. *Journal of Ecology* **89**: 464-480.

Parsons, A.J., Schwinning, S. and Carrere, 2001. Plant growth functions and possible spatial and temporal scaling errors in models of herbivory, *Grass and Forage Science* **56**: 21-34.

Ehleringer, J.R., Schwinning, S. and Gebauer, R.L.E. 1999. Water use in arid land ecosystems. In: *Advances in Plant Physiological Ecology*, Press M. C., Scholes, J.D. and Barker, M.G. (eds), Blackwell Science, Oxford, 347-365

Schwinning, S. and Parsons, A.J. 1999. The stability of grazing systems revisited: spatial models and the role of heterogeneity, *Functional Ecology* **13**: 737-747

Parsons, A.J., Carrere, P. and Schwinning S. 1999. Dynamics of heterogeneity in a grazed sward. In: *Grassland Ecophysiology and Grazing Ecology*. de Moraes, A.; Lemaire, G. and Hodgson, J., (eds), CAB International 2000, Wallingford, 289-315

Schwinning, S. and Weiner, J. 1998. Mechanisms determining the degree of size-asymmetry in competition among plants, *Oecologia* **113**, 447-455

Schwinning, S. 1996. Decomposition analysis of competitive symmetry and size structure dynamics. *Annals of Botany* **77**: 47-57

Schwinning, S. and Parsons, A.J. 1996a. Analysis of the coexistence mechanisms for grasses and legumes in grazing systems. *Journal of Ecology* **84**, 799-813

Schwinning, S. and Parsons, A.J. 1996b. A spatially explicit population model of stoloniferous N-fixing legumes in mixed pasture with grass. *Journal of Ecology* **84**, 815-826

Schwinning, S. and Parsons, A.J. 1996c. Interactions between grasses and legumes: understanding variability in species composition. In: *Legumes in Sustainable Farming Systems*. Proceedings of the Sustainable Farming Systems/British Grassland Society Joint Conference, p.153-163

Chapman, D.F., Parsons, A.J. and Schwinning, S. 1996. Management of clover in grazed pastures: expectations, limitations and opportunities. In: *White Clover: New Zealand's Competitive Edge*. Symposium of the New Zealand Grassland Association, Lincoln, N.Z, pp. 55-64

Schwinning, S. 1994. Effects of competitive symmetry on populations of annual plants. PhD Thesis, University of Arizona

Schwinning, S. and Fox, G. A. 1994. Population dynamic consequences of competitive symmetry in annual plants. *Oikos* **72**: 422-432

Schwinning, S. and M.L. Rosenzweig 1990. Periodic oscillations in an ideal-free predator-prey distribution. *Oikos* **59**: 85-91

Schwinning, S. 1984. Isolation of phaseic acid and test of its effect on stomata. Diplom Thesis, University of Göttingen, Germany, (in German)

MANUSCRIPTS SUBMITTED OR IN PREPARATION:

Gebauer, R. L.E., Schwinning, S. And Ehleringer, J.R. Interspecific competition and resource pulse utilization in a cold desert community (in review).

Schwinning, S., Davis, K., Richards, L. and Ehleringer, J.R. Spring and summer pulse use by three Colorado Plateau species (in review)

Schwinning, S., Starr, B.I. and Ehleringer, J.R. The effects of soil moisture pulse size and timing on water use in a Colorado Plateau community (in preparation).

CONFERENCE CONTRIBUTIONS (1995- present)

Schwinning, S. 2001. Predicting vegetation response to climate. USGS workshop on Predicting Hydrologic, Geologic, and Biologic Responses to a Drier and Warmer Climate in the Desert Southwest April 23-25 (Invited Speaker)

Schwinning, S. 2000. Plant functional types identification for desert vegetation and implications for increased climatic variability. GCTE Workshop on Building a Global Key to Plant Functional Types', Isle sur la Sorgue, France, October 15-17 (Invited Speaker)

Schwinning, S. 2000. Functional diversity in resource pulse utilization in arid shrublands. GCTE/LTER Workshop on Removal Experiments on the Role of Biodiversity in Ecosystem Functioning, Snowbird, 4-5 August 2000. (Invited Speaker)

- Schwinning, S and Ehleringer, J.R. 2000. Adaptations of desert plants to dynamic soil moisture conditions, an optimization result. 2000 Annual Meeting of the Ecological Society of America, Snowbird, Utah
- Schwinning, S and Ehleringer, J.R. 1999. Making the most of a desert summer: hydraulic tradeoffs predict the diversification of plants into functional types. 1999 Annual Meeting of the Ecological Society of America, Spokane, Washington
- Davis, K.S., Gebauer, R.L.E., Schwinning, S., Richardson, L.M. and Ehleringer, J.R. 1999. The effects of competition on water status, gas exchange and growth in two perennial desert shrubs. 1999 Annual Meeting of the Ecological Society of America, Spokane, Washington
- Schwinning, S., Gebauer, R.L.E., Ehleringer, J.R. 1998. The role of intra- and inter-annual rainfall variation in structuring desert plant communities. 1998 Annual Meeting of the Ecological Society of America, Baltimore, Maryland
- Gebauer, R.L.E., Schwinning, S. and Ehleringer, J.R. 1998. The responses of desert plant functional types to rainfall events at different times of the year - a mechanism for community change? 1998 Annual Meeting of the Ecological Society of America, Baltimore, Maryland
- Schwinning, S. and Parsons, A.J. 1997. Mutual constraints between branching rules and morphological unit size in clonal plants. 1997 Annual Meeting of the Ecological Society of America, Albuquerque, New Mexico
- Fox, G.A., Schwinning, S. and Kendall, B. 1997. Exploitation, competition, and cycling in plant communities. 1997 Annual Meeting of the Ecological Society of America, Albuquerque, New Mexico
- Kelly, C., Bol, R., Mytton, L. and Schwinning, S. 1997. Variation of leaf N isotope composition in relation to clover density. 5th Research Conference of the British Grassland Society, Seal Hayne, University of Plymouth
- Carrere, P. Schwinning, S. and Parsons, A.J. 1997. A spatially explicit simulation of animal behaviour-sward interactions. 5th Research Conference of the British Grassland Society, Seal Hayne, University of Plymouth
- Schwinning, S. and Fox, G.A. 1995. Exploitation and population oscillations between plant populations. Winter and Annual Meeting of the British Ecological Society, Sheffield, U.K.
- Schwinning, S., Thornley, J.H.M. and Parsons, A.J. 1995. A mechanism for complex population dynamics in a grass-legume system. 80th Annual Meeting of the Ecological Society of America, Snowbird, Utah