

December, 2007

Curriculum Vitae

ANTHONY JOERN

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Education

B.S. The University of Wisconsin-Madison. 1970 (Zoology)
Ph.D. The University of Texas at Austin. 1977 (Zoology/ Population Biology-Insect Ecology)
Dissertation: Guild and Community Structure in Primary Consumers: Resource Utilization in Arid Grassland Grasshopper Communities. (E.R. Pianka and L.R. Lawlor, Advisors)

Professional Experience

1971-1977 Graduate Student with various Assistantships, The University of Texas at Austin.
1977-1978 Postdoctoral Research. School of Life Sciences, University of Nebraska-Lincoln.
1978-1982 Assistant Professor, School of Life Sciences, University of Nebraska-Lincoln.
1982-1990 Associate Professor, School of Biological Sciences, U. Nebraska-Lincoln.
1983-2004 Courtesy Appointment, Department of Entomology, U. Nebraska-Lincoln
1986-1991 Director, Cedar Point Biological Station, U. Nebraska-Lincoln
1990-2004 Professor, School of Biological Sciences, University of Nebraska-Lincoln
2000-2004 Courtesy Appointment, School of Natural Resources, U. Nebraska-Lincoln
2004- Professor, Division of Biology, Kansas State University
2004- Courtesy Appointment, Department of Entomology, Kansas State University
2007-2012 Adjunct Professor, Department of Natural Resource Ecology & Management, Oklahoma State University

Research Expertise & Interests

Insect ecology/ population & community ecology, plant/ animal interactions & chemical ecology, population dynamics and behavior, grassland ecology. Primary interests: *insect population & community ecology* (ecological and evolutionary mechanisms responsible for directing observed patterns of species coexistence and resource use), *insect/plant interactions* (mechanisms promoting/ deterring feeding by insects and the ecological and evolutionary responses by plants), and *grassland ecology* (mechanisms responsible for maintaining species diversity in grasslands).

Honors and Significant Professional Service

Board of Examiners, Graduate Record Exam, ETS/ Biology Advanced Test (1992-1998)
Quinney Visiting Scholar, Utah State University (1993)
College Award for Outstanding Teaching (2000)
NU Foundation Parents Teaching Award (1993, 2000), Students Teaching Recognition (1996)
Associate Editor of Invertebrate Zoology, American Midland Naturalist (1991-1995)
NSF DEB-Ecology Grants Panel (1997, 2000-present)

Editorial Board, Ecological Society of America (1997-2001)
T.O. Haas Award for Distinguished Research and Teaching, SBS, UNL (2004)

Publications

- Loaiza, V., J.L. Jonas and A. Joern. 2008. Does dietary-P affect feeding and performance in the mixed-feeding grasshopper (Acrididae) *Melanoplus bivittatus*? *Environmental Entomology* (in press)
- Jonas, J.L. and A. Joern. 2007. Grasshopper (Orthoptera: Acrididae) communities respond to fire, bison grazing and weather in North American tallgrass prairie: a long-term study. *Oecologia* 153: 699-711.
- Jonas, J.L., G.W.T. Wilson, P.M. White, and A. Joern. 2007. Consumption of mycorrhizal and saprophytic fungi by Collembola in grassland soils. *Soil Biology and Biochemistry* 39: 2594-2602.
- Sword, G.A. Sword, L. B. Senior, J. F. Gaskin, and A. Joern. 2007. Double trouble for grasshopper molecular systematics: Intra-individual heterogeneity of both mitochondrial 12S-valine-16S and nuclear internal transcribed spacer ribosomal DNA sequences in *Hesperotettix viridis* (Orthoptera: Acrididae). *Systematic Entomology* 32: 420-428.
- Logan, J.D., Wolesensky, W. and A. Joern. 2007. Insect Development Under Predation Risk, Variable Temperature, and Variable Food Quality. *Mathematical Biosciences and Engineering* 4: 47-65.
- Branson, D.H., A. Joern, and G.A. Sword. 2006. Sustainable Management of Insect Herbivores in Grassland Ecosystems: New Perspectives in Grasshopper Control *BioScience* 56: 743-755.
- Joern, A., B.J. Danner, J.D. Logan, and W. Wolesensky. 2006. Natural History of Mass-action in Predator-prey Models: A Case Study from Wolf Spiders and Grasshoppers. *American Midland Naturalist* 156: 52-62.
- Logan, J.D., W. Wolesensky and A. Joern. 2006. Temperature-Dependent Phenology and Predation in Arthropod Systems. *Ecological Modelling* 196: 471-482.
- Joern, A. 2005. Disturbance by Fire and Bison Grazing Modulate Grasshopper Assemblages In Tallgrass Prairie. *Ecology* 86:861-873.
- Joern, A. and S. Mole. 2005. The Plant Stress Hypothesis and Variable Responses by Blue Grama Grass (*Bouteloua gracilis*) To Water, Mineral Nitrogen, and Insect Herbivory. *Journal of Chemical Ecology* 31: 2069-2090.
- Sword, G.A., A. Joern and L.B. Senior. 2005. Host plant associated genetic differentiation in the snakeweed grasshopper, *Hesperotettix viridis* (Orthoptera: Acrididae). *Molecular Ecology* 14: 2197-2205.
- Joern, A., J.D. Logan, and W. Wolesensky. 2005. Effect of global climate change on agricultural pests: possible impacts and dynamics at population, species-interaction and community levels. Pages 321-362 *IN* R. Lal, N. Uphoff, B.A. Stewart and D.O. Hansen (eds.). *Climate Change and Global Food Security*. CRC Press, Boca Raton, FL.
- Wolesensky, W., A. Joern, & J. D. Logan, 2005. A model of digestion modulation in grasshoppers, *Ecological Modelling*, 188, 358-373.
- Joern, A. 2004. Variation in Grasshopper Densities in Response to Fire Frequency and Bison Grazing in Tallgrass Prairie. *Environmental Entomology* 33: 1617-1625.
- Joern, A. Grasshoppers. 2004. *Encyclopedia of the Great Plains*. D.J. Wishart (ed). University of Nebraska Press, Lincoln, NE.

- Stoner, K.L. and A. Joern. 2004. Landscape vs. Local Habitat Scale Influences to Insect Communities from Tallgrass Prairie Remnants. *Ecological Applications* 14: 1306-1320.
- Ledder, G., J.D. Logan and A. Joern. 2004. Dynamic energy budget models with size-dependent hazard rates. *Bulletin of Mathematical Biology* 48: 605-622.
- Belovsky, G.E., Botkin, D. and others 2004. Ten suggestions to strengthen the science of ecology. *BioScience* 54: 345-351.
- Danner, B.J. and A. Joern. 2004. Development, growth and egg production of *Ageneotettix deorum* (Orthoptera: Acrididae) in response to spider predation risk and elevated resource quality. *Ecological Entomology* 29:1-11
- Logan, J.D., A. Joern, and W. Wolessensky. 2004. Control of CNP homeostasis in herbivore consumers through differential assimilation. *Bulletin of Mathematical Biology* 66: 707-725.
- Logan, J.D., A. Joern and W. Wolessensky. 2003. Mathematical model of consumer homeostasis control in plant-herbivore dynamics. *Mathematical and Computer Modelling* 40: 447-456.
- Danner, B.J. and A. Joern. 2003. Resource mediated impact of spider predation risk on performance in the grasshopper *Ageneotettix deorum* (Orthoptera: Acrididae). *Oecologia* 137: 352-359.
- Danner, B.J. and A. Joern. 2003. Stage-Specific Behavioral Responses of *Ageneotettix deorum* (Orthoptera: Acrididae) in the Presence of Lycosid Spider Predators. *Journal of Insect Behavior* 16: 453-464.
- Logan, J.D., A. Joern, & W. Wolessensky. 2003. Chemical reactor models of optimal digestion efficiency with constant foraging costs. *Ecological Modelling* 168: 25-38.
- Joern, A. 2002. Context-dependent foraging and enemy-free space: Grasshopper sparrows (*Ammodramus savannarum*) searching for grasshoppers (Acrididae). *Ecoscience* 9: 231-240.
- Logan, J.D., A. Joern and W. Wolessensky. 2002. Location, Time and Temperature Dependence of Digestion in Simple Animal Tracts. *Journal of Theoretical Biology* 216: 5-18.
- Winemiller, K.O., E.R. Pianka, L.J. Vitt, and A. Joern. 2001. Food Web Laws or Niche Theory? Six Independent Empirical Tests. *American Naturalist* 158: 193-199.
- Joern, A. 2000. What are the consequences of non-linear ecological interactions for grasshopper control strategies? pp. 131-144, *IN* J.A. Lockwood, A.V. Latchininsky and M. Sergeev (eds.). *Grasshoppers and Grassland Health*. Kluwer Academic Publishers. Dordrecht, The Netherlands.
- Holz, J.C., K.D. Hoagland, and A. Joern. 2000. Aquatic food web interactions: microcosms as lake models. Pp. 305-324 *In* Tested Studies for Laboratory Teaching, Volume 21 (S.J. Karcher, editor). Proceedings of the 21st Workshop/Conference of the Association for Biological Laboratory Instructors (ABLE).
- Oedekoven, M.A. and A. Joern. 2000. Plant Quality and Spider Predation Affects Grasshoppers (Acrididae): Food-Quality-Dependent Compensatory Mortality. *Ecology* 81: 66-77.
- Traxler, M. and A. Joern. 1999. Performance tradeoffs for two hosts within and between populations of the oligophagous grasshopper *Hesperotettix viridis* (Acrididae). *Oikos* 87: 239-250.

- Oedekoven, M.A. and A. Joern. 1998. Stage-based mortality of grassland grasshoppers (Acrididae) from wandering spider (Lycosidae) predation. *Acta Oecologia* 19: 507-515.
- Joern, A. and S.T. Behmer. 1998. Impact of diet quality on demographic attributes in adult grasshoppers and the nitrogen limitation hypothesis. *Ecological Entomology* 23: 174-184.
- Appel, H.M. and A. Joern. 1998. Gut physicochemistry of grassland grasshoppers. *Journal of Insect Physiology* 44: 693-700.
- Joern, A. and S.T. Behmer. 1997. Importance of dietary nitrogen and carbohydrates to survival, growth and reproduction in adult *Ageneotettix deorum* (Orthoptera: Acrididae). *Oecologia* 112: 201-208.
- Fuller, R.C. and A. Joern. 1996. Grasshopper susceptibility to predation in response to vegetation cover, prey diversity and patch size. *Journal of Orthoptera Research* 5: 175-183.
- Joern, A. and K.D. Hoagland. 1996. In defense of whole-community bioassays for risk assessment. *Environmental Toxicology & Chemistry* 15: 407-409.
- Arenz, C.L. and A. Joern. 1996. Prairie legacies - invertebrates. Pp. 91- 109 In *Prairie Conservation: Preserving North America's Most Endangered Ecosystem* (F.B. Samson and FL Knopf, eds.). Island Press, Covello, CA.
- Belovsky, G.E. and A. Joern. 1995. The dominance of different regulating mechanisms for rangeland grasshoppers. Pp. 359-386 in N. Cappuccino and P.W. Price (eds). *Population Dynamics: New Approaches and Synthesis*. Academic Press, San Diego.
- Joern, A. and K.H. Keeler (eds). 1995. *The Changing Prairie: North American Grasslands*. Oxford University Press. NY
- Joern, A. 1995. The entangled bank: species interactions and grassland dynamics. Chapter 6 in A. Joern and K.H. Keeler (eds). *The Changing Prairie: North American Grasslands*. Oxford University Press. Oxford. NY
- Joern, A. and K.H. Keeler. 1995. Getting the lay of the land: introduction to North American grasslands. Chapter 1 in A. Joern and K.H. Keeler (eds). *The Changing Prairie: North American Grasslands*. Oxford University Press. NY
- Mole, S. and A. Joern. 1994. Feeding Behavior of Graminivorous Grasshoppers in Response to Host-plant Extracts, Alkaloids and Tannins. *Journal Chemical Ecology* 20: 3097-3109.
- Behmer, S.T. and A. Joern. 1994. The influence of proline on diet selection: sex-specific feeding preferences by the grasshoppers *Ageneotettix deorum* and *Phoetaliotes nebrascensis* (Orthoptera: Acrididae). *Oecologia* 98: 76-82.
- Mole, S., A. Joern, M.H. O'Leary and S. Madhavan. 1994. Spatial and temporal variation in carbon isotope discrimination in prairie graminoids. *Oecologia* 97: 316-321.
- Yang, Y. and A. Joern. 1994. Gut size changes in response to variable food quality and body size in grasshoppers. *Functional Ecology* 8: 36-45.
- Yang, Y. and A. Joern. 1994. Compensatory feeding in response to variable food quality by *Melanoplus differentialis*. *Physiological Entomology* 19: 75-82.
- Yang, Y. and A. Joern. 1994. Influence of Diet Quality, Developmental Stage, and Temperature on Food Residence Time in the Grasshopper *Melanoplus differentialis*. *Physiological Zoology* 67: 598-616.
- Alward, R.D. and A. Joern. 1993. Plasticity and overcompensation in grass responses to herbivory. *Oecologia* 95: 358-364.

- Joern, A. and G. Klucas. 1993. Intra- and Interspecific Competition in Adults of Two Abundant Grasshopper (Orthoptera: Acrididae) from a Sandhills Grassland. *Environmental Entomology* 22: 352-361
- Kaspari, M.E. and A. Joern. 1993. Prey choice by three insectivorous grassland birds: reevaluating opportunism. *Oikos* 68: 414-430.
- Mole, S. and A. Joern. 1993. Foliar Phenolics of Nebraska Sandhills Prairie Graminoids: Between-years, Seasonal and Interspecific Variation. *Journal Chemical Ecology* 19: 1861-1874.
- Behmer, S.T. and A. Joern. 1993. Diet choice by a grass-feeding grasshopper based on the need for a limiting nutrient. *Functional Ecology* 7: 522-527.
- Berry, J.S., G. Belovsky, A. Joern, W.P. Kemp, and J. Onsager. 1993. Object-oriented Simulation Model of Rangeland Grasshopper Population Dynamics. Proceedings Fourth Conference on AI Simulation and Planning in High-Autonomy Systems. IEEE Computer Society Press.
- Joern, A. 1992. Variable Impact of Avian Predation on Grasshopper Assemblies in Sandhills Grassland. *Oikos* 64: 458-463.
- Joern, A. and S.B. Gaines. 1990. Population dynamics and regulation in grasshoppers. pp. 415-482 In R.F. Chapman and A. Joern (eds.). *Biology of Grasshoppers*. John Wiley and Sons. NY
- Chapman, R.F. and A. Joern (eds.). 1990. *Biology of Grasshoppers*. John Wiley & Sons. NY.
- Joern, A. 1989. Insect herbivory in the transition to California annual grasslands: did grasshoppers deliver the coup de grass? pp. 117-134 In L. Huenneke and H. Mooney (eds). *Grassland Structure and Function: California Annual Grasslands*. Kluwer Academic Publishers. Dordrecht, The Netherlands.
- Joern, A. 1988. Foraging behavior and switching by the grasshopper sparrow, *Ammodramus savannarum*, searching for multiple prey in a heterogeneous environment. *American Midland Naturalist* 119: 225-234.
- Joern, A. and R. Alward. 1988. Effects of nitrogen fertilization on choice among grasses by the grasshopper *Phoetaliotes nebrascensis* (Orthoptera: Acrididae). *Annals Entomological Society America* 81: 240-244.
- Heidorn, T.J. and A. Joern. 1987. Feeding preference and spatial distribution of grasshoppers (Acrididae) in response to nitrogen fertilization of *Calamovilfa longifolia*. *Functional Ecology* 1: 369-375.
- Joern, A. 1987. Behavioral responses underlying ecological patterns: resource use in grasshoppers. pp. 137-161 In J.C. Capinera (Ed). *Rangeland Pest Management, A Shortgrass Prairie Perspective*. Westview Press. Boulder, CO.
- Joern, A., R. Mitschler and H. O'Leary. 1986. Activity and time budgets in common sandhills prairie grasshoppers. *Journal Kansas Entomological Society* 59: 1-6.
- Joern, A. 1986. Experimental study of avian predation on coexisting grasshopper populations (Orthoptera: Acrididae) in a sandhills grassland. *Oikos* 46: 243-249.
- Joern, A. 1986. Resource partitioning by grasshopper species from grassland communities. pp. 75-100. In D.A. Nickle (ed.). *Proceedings IV Triennial Meeting Pan American Acridological Society*. PAAS.
- Joern, A. and K.P. Pruess. 1986. Temporal constancy in grasshopper assemblies (Orthoptera: Acrididae). *Ecological Entomology* 11: 379-385.

- Joern, A. 1985. Expanding our horizons in grasshopper ecology. pp. 93-96. *In* D.A. Nickle (ed.). 3rd Triennial Proceedings Pan Amer. Acridological Society. Edward Bros. Ann Arbor, Michigan
- Joern, A. 1985. Grasshopper dietary (Orthoptera: Acrididae) from a Nebraska sandhills prairie. *Transaction Nebraska Academy Science* 8:21-32.
- Heidorn, T. and A. Joern. 1984. Differential herbivory on C₃ versus C₄ grasses by the grasshopper *Ageneotettix deorum* (Orthoptera: Acrididae). *Oecologia* 65:19-25.
- Joern, A. 1983. Small-scale Displacements of Grasshoppers (Orthoptera: Acrididae) Within Arid Grasslands. *Journal Kansas Entomological Society* 56:131-139.
- Joern, A. 1983. Host Plant Utilization by Grasshoppers (Orthoptera: Acrididae) from a Sandhills Prairie. *Journal Range Management* 36:793-797.
- Joern, A. 1982. Vegetation structure and microhabitat selection in grasshoppers (Orthoptera: Acrididae). *Southwestern Naturalist* 27:197-209.
- Joern, A. 1982. Distributions, Densities and Relative Abundances of Grasshoppers (Orthoptera: Acrididae) in a Nebraska Sandhills Prairie. *Prairie Naturalist* 14:37-45.
- Joern, A. and N. Rudd. 1982. Impact of Predation by the Robber Fly *Proctacanthus milbertii* (Diptera: asilidae) on Grasshopper (Orthoptera: acrididae) Populations. *Oecologia* 55:42-46.
- Joern, A. 1981. Importance of behavior and coloration in the control of body temperature by *Brachystola magna* Girard (Orthoptera: Acrididae). *Acrida* 10: 117-130.
- Joern, A. and L.R. Lawlor. 1981. Guild structure in grasshopper assemblages based on food and microhabitat resources. *Oikos* 37:93-104.
- Joern, A. 1981. Expanding Our horizons in grasshopper ecology. pp. 93-95 *in* D.A. Nickle (Ed). Proceedings 3rd Triennial Meeting, Pan American Acridological Society.
- Joern, A. and L.R. Lawlor. 1980. Food and Microhabitat Utilization by Grasshoppers from Arid Grasslands: Comparisons with Neutral Models. *Ecology* 61:591-599.
- Joern, A. 1979. Feeding Patterns in Grasshoppers (Orthoptera: Acrididae): Factors Influencing Diet Specialization. *Oecologia* 38:325-347.
- Joern, A. 1979. Resource utilization and community structure in assemblages of arid grassland grasshoppers (Orthoptera: Acrididae). *Transaction American Entomological Society* 150:253-300.
- Joern, A. 1979. Resource utilization by grasshopper assemblages: Some Implications Concerning Interactions Among Species. pp. 112 *in* M. Tyrkus, I.J. Cantrall & C.S. Carbonell (eds). Proc. 2nd Triennial Meetings. Pan American Acridological Society.
- Fry, B., A. Joern, and P.L. Parker. 1978. Grasshopper food web analysis: use of carbon isotope rates to examine feeding relationships among terrestrial herbivores. *Ecology* 59:498-506.
- Joern, A. 1977. Guild and Community Structure in Primary Consumers: Resource Utilization in Arid Grassland Communities. Ph.D. Thesis. University of Texas at Austin. 325 p.
- Otte, D. and A. Joern. 1977. On feeding patterns in desert grasshoppers and the evolution of specialized diets. *Transactions Philadelphia Academy Sciences* 128:89-126
- Joern, A. 1976. Grasshopper affinities and habitat relationships in the Solitario. pp. 121-124. *In* D. Kinard (ed.), *The Solitario: A Natural History Survey*. No. 9 LBJ School of Public Affairs. Austin, Texas.
- Otte, D. and A. Joern. 1975. Insect territoriality and its evolution: population studies of desert grasshoppers on creosote bushes. *Journal Animal Ecology* 44:29-54.

Additional Published Student Articles of Research from my Lab

- Kaspari, M.E. and H. O'Leary. 1988. Nonparental attendants in a north-temperate migrant. *Auk* 105: 792-793.
- Kaspari, M.E. 1990. Prey preparation and the determinants of handling time. *Animal Behavior* 40: 118-126.
- Kaspari, M. 1991. Central place foraging in grasshopper sparrows: opportunism or optimal foraging in a variable environment? *Oikos* 60: 307-312.
- Kaspari, M. 1991. Prey preparation as a way that grasshopper sparrows (*Ammodramus savannarum*) increase the nutrient concentration of their prey. *Behavioral Ecology* 2: 234-241.

Research Submitted and in Advanced Manuscript (>90% complete)

- Jonas, J.L. and A. Joern. Submitted.
- Joern, A. and B. Danner. Submitted. Age-specific effects of temperature on an arthropod predator-prey interaction: wandering spiders (Lycosidae) and grasshoppers (Acrididae). *Ecological Entomology* (in review)
- Loaiza, V., J.L. Jonas, and A. Joern. Submitted. Local Distributions of Grasshoppers (Orthoptera: Acrididae) Respond to Foliar Nitrogen but Not Phosphorus in Native Grassland. *Ecography* (in review).
- Behmer, S. and A. Joern. In revision. Unique nutritional niches facilitate coexistence among generalist herbivores. Proceeding of the National Academy of Sciences (USA).
- Jonas, J.L., A. Joern. In manuscript. Weather Affects Grasshopper Population Growth Rates in North American Continental Grassland – to a Degree. For *Journal of Applied Ecology*
- Stoner, K.L. and A. Joern. In manuscript. Effect of tallgrass prairie fragmentation on insect feeding guilds: testing the trophic level susceptibility to fragmentation hypothesis. For *Biological Conservation*.
- Joern, A.. In manuscript. Dynamics of variable competition and facilitation among grassland grasshopper species.
- Joern, A. In manuscript. Endogenous feedback structure of coexisting grasshopper populations (Acrididae) in a North American continental grassland. For *Oecologia*
- Belovsky, G.E., J.B. Slade and A. Joern. In manuscript. Alternative states and nonlinear dynamics for an insect population in the field.

Technical Reports and Non-Refereed Articles

- Joern, A. 1989. Host plant quality: demographic responses of range grasshoppers to stressed host plants. USDA/APHIS/PPQ Grasshopper Integrated pest Management Project Annual Report, FY 1989. pp. 51-59.
- Joern, A. 1990. Host plant quality: demographic Responses of range grasshoppers to stressed host plants. USDA/APHIS/PPQ Grasshopper Integrated pest Management Project Annual Report, FY 1990. pp. 45-54.

- Joern, A. 1991. Host plant quality: demographic responses of range grasshoppers to stressed host plants. USDA/APHIS/PPQ Grasshopper Integrated pest Management Project Annual Report, FY 1991. pp. 67-78.
- Joern, A. 1992. Host Plant Quality: Demographic Responses of Range Grasshoppers to Stressed Host Plants. USDA/APHIS/PPQ Grasshopper Integrated pest Management Project Annual Report, FY 1992. pp 65-72.
- Onsager, J.A. , J.S. Berry, W.P. Kemp, G.E. Belovsky & A. Joern. 1992. Object-Oriented Simulation Model of Rangeland Grasshopper Population Dynamics. USDA/APHIS/PPQ Grasshopper Integrated pest Management Project Annual Report, FY 1992. pp 45-47.
- Joern, A. 1993. Host plant quality: demographic responses of range grasshoppers to stressed host plants. USDA/APHIS/PPQ Grasshopper Integrated pest Management Project Annual Report, FY 1993.
- Joern, A. 1994. Host plant quality: demographic responses of range grasshoppers to stressed host plants. USDA/APHIS/PPQ Grasshopper Integrated pest Management Project Annual Report, FY 1994.
- Joern, A. 1997. The nutritional economy and control of feeding. *in* G. Cunningham and J.A. Onsager (eds.). *Grasshopper IPM User Handbook*. USDA/ APHIS/PPQ. US Government Printing Office.
- Joern, A. 1997. Environmental Factors affecting plant quality. *in* G. Cunningham and J.A. Onsager (eds.). *Grasshopper IPM User Handbook*. USDA/ APHIS/PPQ. US Government Printing Office.
- Joern, A. 1997. Host plant quality and grasshopper populations. *in* G. Cunningham and J.A. Onsager (eds.). *Grasshopper IPM User Handbook*. USDA/ APHIS/PPQ. US Government Printing Office.
- Joern, A., W.P. Kemp, K. O'Neil and G.E. Belovsky. 1997. Grasshoppers and Vegetation communities. *in* G. Cunningham and J.A. Onsager (eds.). *Grasshopper IPM User Handbook*. USDA/ APHIS/PPQ. US Government Printing Office.
- Joern, A. 1999. Global climate change and grassland insect pest populations. Great Plains Regional Center, NIGEC. GPRC Publication GPRC 99-02.
- Joern, A. 2000. Grasshopper communities and methodology. *in* G. Cunningham and J.A. Onsager (eds.). *Grasshopper IPM User Handbook* . USDA/ APHIS/PPQ. US Government Printing Office.
- Hiebert, R.D. Dodds, W.K., D.C. Hartnett, A. Joern, K. Kindscher, J. Stubbendieck, and J.S. Zimmerman. 1999. Opportunities to enhance and maintain the tallgrass prairie ecosystem within the boundaries of Tallgrass Prairie National Preserve. Technical Report of Workshop. National Park Service, Midwest Region. Omaha, NE.
- Joern, A. 2001. Interactions of climate variability with agricultural pests: importance of species interactions for understanding ectotherms. *IN* Aspen Global Change Institute Reports Series.

RESEARCH FUNDING

External Grant Support

2006 NSF/EPSCoR: Understanding and Forecasting Ecological Change: Causes, Trajectories and Consequences of Environmental Change in the Central Plains. Senior Scientist Co-

- PI, with L. Kristalka (PI for Kansas EPSCoR), W.K. Dodds (PI for KSU component) and others Co-PIs. KSU subcontract \$3,498,913, 3 years; ~ \$40,000/ y to Joern)
- 2005 NSF/ DEB: "Effects of Habitat Fragmentation on Consumer-Resource Dynamics in Environments Varying in Space and Time." (\$250,000; 3/2005-2/2007) Co-PI with T. Hobbs (PI) and 4 other co-PIs.
- 2004 NSF/DEB: Niche diversification and coexistence of insect herbivores along the food quality axis: do grasshoppers ride the rails? (\$373,675; 3/2004-2/2007)
- 2003 National Institute for Global Environmental Change (NIGEC), Great Plains Center (Department of Energy). Effect of Global Climate Change on Grassland Pests: Impact on Interactions between Rangeland, Grasshoppers and Spider Predators. (\$270,000; 8/2003-9/2006)
- 2002 NSF/ DEB: LTER V. Long Term Research on Grassland Dynamics and Global Change. Senior Scientist Participant; J.M. Blair (PI), J.M. Briggs, D.C. Hartnett, L.C. Johnson, A.K. Knapp and others (11/2002-10/2008, core funding \$4,680,000; Joern ~\$15,000/ year and Graduate RA).
- 2001 Department of Education. Multidisciplinary Graduate Training in Environmental Biology (GAANN): Integrating Ecology, Evolution, Geosciences, and Sustainable Natural Resource Management/ Agriculture. (\$432,855; 08/2001-08/2004)
- 2001 NSF: Multi-User and Multi-Disciplinary Ion and Element Analyzers (\$63,618, 07/2001-06/2002) (Co-PI with J. Knops (PI) and 3 others).
- 2001 NSF: International Travel Grant to South Africa for Comparative Grassland Studies (Through Kansas State University with 5 others) (~\$20,000, 11/2001).
- 2000 NSF/ DEB: Ecological Stoichiometry of North American Grassland Grasshoppers Along A Latitudinal Gradient. (\$84,832, 10/00 to 3/03) (No-cost extension 3/04)
- 1997 National Institute for Global Environmental Change (NIGEC), Great Plains Center (DOE)
- 1996 National Institute for Global Environmental Change (NIGEC), Great Plains Center (DOE). (\$50,000)
- 1995 National Institute for Global Environmental Change (NIGEC), Great Plains Center (DOE). (\$40,000)
- 1994 NSF: Ecology Program. Collaborative Research on the Regulation of Rangeland Grasshopper Populations and Communities: Differing Dominant Mechanisms Over Space and Time. (\$140,000/ 3 years beginning May 1994)
- 1994 NSF: Ecology Program. Research Experience for Undergraduates. (1year, \$3,500)
- 1993 USDA/APHIS GHIPM Program. Demographic Responses of Range Grasshoppers to Stressed Host Plants. (\$17,000)
- 1992 USDA/ARS National Research Initiative Competitive Grants Program. "Grasshopper Phenology and Demography in Response to Variable Host Plant Quality". (\$120,000/ 2 years with Simon Mole)
- 1992 USDA/APHIS GHIPM Program. Demographic Responses of Range Grasshoppers to Stressed Host Plants. (\$20,000)
- 1991 NSF. "Field Research Laboratory at Cedar Point Biological Station." (\$192,490, with K.H. Keeler).
- 1991 USDA/APHIS GHIPM Program. Demographic Responses of Range Grasshoppers to Stressed Host Plants. (\$20,000)

- 1990 USDA/APHIS GHIPM Program. Demographic Responses of Range Grasshoppers to Stressed Host Plants . (\$20,000)
- 1989 USDA/ARS National Research Initiative Competitive Grants Program. "Interactions between Abiotic Stress and Grasshopper Herbivory". (\$160,00/ 3 years with S. Mole).
- 1989 USDA/APHIS GHIPM Program. Demographic Responses of Range Grasshoppers to Stressed Host Plants. (\$20,000)
- 1988 NSF: Field Station Facilities. "Grassland Research Facilities at Cedar Point Biological Station". (\$28,500/ 2 years with L. Vescio).
- 1986 USDA/ARS National Research Initiative Competitive Grants Program: Biotic Stress on Plants. Reciprocal Relations Between Range Grasses and Grasshoppers. (\$83,000/ 2 years).
- 1986 NSF: Biological Instrumentation Program. Purchase of Two HPLC Systems. (\$38,000; with Nickerson, Louda, Smith).
- 1985 American Philosophical Society. Study of Evolution and Swarming Tendencies in Migratory Locusts. (\$1,844)
- 1984 NSF. Ecology Program. Impact of Avian Predation on Insect Prey Assemblages. (\$65,000/ 2 Years).
- 1983 Hatch Fund Project. Factors Affecting the Population Dynamics of a Rangeland Grasshopper, *Phoetaliotes nebrascensis*. (ca. \$30,000/ 2 Years).

Internal Grant Support

- 1978 Movable Equipment Grant; University of Nebraska, Research Council and Office of Vice Chancellor for Research. Microhabitat Selection by Grasshoppers: Possible Mechanisms and their Role in Community Structure. (\$7,450)
- 1979 Maude Hammond Fling Summer Research Fellowship. (UNL Research Council). (\$3,923)
- 1980 UNL Research Council. Dynamics of Grasshopper Population from the Sandhills of Nebraska. (\$1,175)
- 1980 Center for Great Plains Study. Microhabitat Selection by Grasshoppers in Sandhills Grassland of Nebraska. (\$500)
- 1981 UNL Research Council. Effect of Drought Stress on Food Plants to the Fecundity and Survivorship in Grasshoppers. (\$1,485)
- 1981 UNL Research Council. Impact of Avian Predators on the Dynamics of Grasshoppers Populations in the Nebraska Sandhills. (\$1,015)
- 1982 UNL Research Council. Factors Affecting Microhabitat Selection in Grasshoppers from the Nebraska Sandhills. (\$1,621)
- 1982 UNL Research Council. Expression and Significance of a Flight Dimorphism in the Rangeland Grasshopper, *Phoetaliotes nebrascensis*. (\$879)
- 1983 Anna H. Elliott Fund. Determination of Forage Loss to Grasshoppers in Nebraska Sandhills Rangeland. (\$8,845/ 2 Years).
- 1984 UNL Research Council. Role of Bird Foraging on the Natural Composition of Grasshopper Assemblages from Nebraska Sandhills Grassland. (\$2,500)
- 1985 UNL Research Council. Plant-Animal Interactions in Nebraska Sandhills: Influences of Multiple Components. (\$10,092; with Lemen, Keeler and Louda).
- 1987 UNL Research Council. Genetic Variation in the Migratory Grasshopper, *Melanoplus sanguinipes*, Using Mitochondrial DNA. (\$2,500).

- 1988 UNL Research Council. "Are Prairie Plants Chemically Defended Against Grazing Insects?". (\$2,500).
- 1989 UNL Water Center. "Mesocosm Studies and Water quality: Experimental studies of Aquatic Ecological Dynamics". (\$13,150, with Vescio, Nickol & Hoagland).
- 1990 UN Foundation Proposals. "Multiple Investigator Analytical Lab for Cedar Point Biological Station". (\$33,720; funded by Vice Chancellor for Research)
- 1990 College of Arts and Sciences. "Laboratory for Quantitative Biology". (5 Macintosh Computers).
- 1991 UN Foundation. "Multiple Investigator Analytical Equipment for Cedar Point Biological Station". (\$32,360, with Vescio & Keeler).
- 1996 UNL Research Council. "Impact of Pocket Gopher Disturbance on Plant Community Establishment in Nebraska Sand Hills Grassland: A Path Analysis". (\$3,000)
- 2003/04 University of Nebraska VCR Strategic Research Cluster Grant (New Paradigms: Biological Mechanisms underlying biodiversity and community organization in sand prairie ecosystems). Co-PI with 5 others (S. Louda, PI). \$50,000

Presentations and Seminars

- 2007 Jonas, J.L., A. Joern. 2007. Host plant quality affects nutrient regulation and performance of a mixed-feeding insect herbivore. Ecological Society of America, 92nd Meeting, San Jose, CA.
- Jonas, J.L., A. Joern. 2007. Host plant quality affects nutrient regulation and performance of a mixed-feeding insect herbivore. Kansas State University, Division of Biology, 33rd Annual Graduate Research Forum, Manhattan, KS.
- Apple, J., A. Joern, P. St. Amand, G.A. Sword, T. Grace,, and S.M. Wisely. 2007. Adaptive divergence in host plant use and historical demography in the grasshopper *Hesperotettix viridis*. Ecological Genetics Symposium. Kansas City, MO. Poster
- Jonas, J.L., A. Joern. 2007. Food selection is the primary means of nutrient regulation in a mixed-feeding insect herbivore. 18th Annual Konza Prairie LTER Workshop, Manhattan, KS. Poster presentation
- Jonas, J.L., A. Joern. 2007. Grasshopper community responses to grassland ecosystem drivers :Long-term trends in the Konza Prairie LTER grasshopper dataset, 1982-2005. Kansas Ecological Forecasting Meeting, Kansas State University, Manhattan, KS. Poster Presentation
- 2006 Jonas, J.L., G.W.T. Wilson, T.C. Todd, P.M. White, and A. Joern. 2006. Consumption of mycorrhizal versus saprophytic fungi by Collembola in grassland soils. Ecological Society of America, 91st Annual Meeting. Memphis, TN.
- Jonas, J.L. and A. Joern. 2006. What does it mean to be a good host? Effects of bottom-up factors on grasshopper feeding guilds. Kansas State University, Division of Biology Graduate Research Forum, Manhattan, KS.
- Behmer, S.T. and A. Joern. 2006. Do insect herbivores occupy nutritional niches? Annual Meeting of the Entomological Society of America. Indianapolis, IN
- Joern, A. and S.T. Behmer. 2006. Homeostatic limits in stoichiometry and community assembly rules of generalist feeding grassland grasshoppers. Ecological Stoichiometry Invited Oral Session, 91st Annual Meeting of the Ecological Society of America. Memphis, TN

- Jonas, J.L., A. Joern. 2006. Assessing the effects of grassland ecosystem drivers on grasshopper communities: Long-term trends in the Konza Prairie LTER grasshopper dataset, 1982-2005. Long-Term Ecological Research Program All Scientist Meeting, Estes Park, CO
- Apple, J., A. Joern and S. Wisely. 2006. Quaternary history, host plant use and incipient speciation in the grasshopper, *Hesperotettix viridis*. American Genetics Association Annual Symposium: The Genetics of Speciation. July, 2006. Vancouver, BC, Canada
- Apple, J., A. Joern, G.A. Sword and S. Wisely. 2006. Adaptive divergence, genetic drift and incipient speciation and host plant use by the grasshopper, *Hesperotettix viridis*, Kansas Ecological Genetics Symposium. Overland Park, KS.
- Jonas, J.L. R.C. Frey, G.W.T. Wilson, P.M. White, T.C. Todd, and A. Joern. 2006. Feeding on mycorrhizal and saprophytic fungi by Collembola in grassland soils. 17th Annual Konza Prairie LTER Workshop, Manhattan, KS.
- Blair, J., J. Briggs, W. Dodds, K. Gido, D. Hartnett, A. Joern, L. Johnson, D. Kaufman, A. Knapp, and B. Sandercock. 2006. Long-Term Ecological Research Program All Scientist Meeting, Estes Park, CO
- 2005 Ecological Society of America meeting (Jayne Jonas and A. Joern)
NIGEC (DOE) Great Plains Regional Center Workshop on Global Environmental Change. Effect of global climate Change on grassland pests: impact on interactions between rangeland, grasshoppers and spider predators. A. Joern, D. Logan, W. Wolessensky
- 2004 XXII International Congress of Entomology Invited Symposium Speaker (A. Joern)
XXII International Congress of Entomology Invited Symposium Speaker (G. Sword (presenter), A. Joern and L.B. Senior)
North Central Branch, Entomological Society of America, Invited Talk (P. Fay (presenter), A. Joern and J. Jonas)
- 2003 The Other Grazers; Invited Symposium Speaker, Society for Range Management
Department of Entomology, UC-Riverside
Department of Biological Sciences, University of New Mexico
Initiative in Ecological & Evolutionary Analysis Annual Workshop, UNL.
Invited Speaker – Symposium: “Climate Change: Carbon Dynamics and World Food Security” (Ohio State University)
Ecological Society of America, Contributed Paper, Savanna GA
Entomological Society of America, Invited Symposium Speaker
Cedar Point Biological Station (UNL) Dedication Symposium, Invited speaker
Division of Biology, Kansas State University
Department of Biology, Notre Dame University
- 2002 Konza Prairie Research Workshop. Kansas State University.
Ecological Society of America Annual Meeting, Tucson, AZ. (with B. Danner)
Ecological Society of America Annual Meeting, Tucson, AZ. (with K. Stoner)
Entomological Society of America, (with G. Sword)
- 2001 Invited Speaker. University of Illinois, Chicago. Department of Biological Sciences
Contributed Talk. Ecological Society of America Annual Meeting, Madison, WI.
- 2000 Invited Speaker. University of Montana, Wildlife Department Graduate Students
Invited Speaker. USDA/ARS Grasshopper Research Workshop (Sidney MT).

- 1999 Invited Symposium Speaker. Prairie Insects: Ecology, Biodiversity & Conservation; Central States Entomological Society, Manhattan, KS; April 1999
 Invited Symposium Speaker: American Ornithological Union Annual Meeting; Ithaca, NY; August 1999
 Invited Speaker: NATO Conference (International); Estes Park, CO, September 1999
 Invited International Conference Speaker: Aspen Conference for Global Climate Change, Aspen Global Change Institute; Aspen, CO; August 1999.
 UNL Center for Great Plains Studies Seminar Series
- 1998 NIGEC Great Plains Region Global Environmental Change Workshop
- 1997 Department of Animal Ecology, Iowa State University
 Department of Forestry, Fisheries & Wildlife, UNL
 NIGEC Great Plains Region Global Environmental Change Workshop
 Cedar Point Biological Station, UNL
- 1996 Department of Biology, University of Vermont
 Midwest Wildlife Conference (Invited Symposium Presentation)
 NIGEC Great Plains Region Global Environmental Change Workshop
 Center for Grasslands Studies, UNL
- 1995 Department of Entomology, University of Nebraska-Lincoln
 School of Biological Sciences, Ecology & Evolution Seminar, UNL
- 1994 Great Plains Grasslands Symposium, Center for Great Plains Study (UNL);
 USDA Grasshopper IPM Meeting (6 presentations)
 Ecological Society of America , Invited Symposium
 Society of Environmental Toxicology and Chemistry, Invited Symposium
- 1993 Department of Entomology, Pennsylvania State University
 Department of Entomology, University of Maryland
 Department of Entomology, University of Arizona
 Department of Fisheries and Wildlife, Utah State University
 Plant Sciences Seminar, University of Arizona
 Ecological Society of America
 Nebraska Academy of Sciences
 Entomological Society of America (2 presentations)
 USDA Grasshopper IPM Meeting
- 1992 Gordon Conference (Chemistry of Plant/ Animal Interactions)
 Ecological Society of America
 Entomological Society of America (4 presentations)
 USDA Grasshopper IPM Meeting
 Prairie States Ecology Conclave (2 presentations)
 Division of Biology, Kansas State University
 Department of Agronomy (Range Science), University of Nebraska
- 1991 Department of Biology, Utah State University
 USDA GHIPM Meeting
 School of Natural Resources, University of Michigan
 Nebraska Academy of Sciences (3 presentations)
 Prairie States Ecology Conclave (2 presentations)
 Ecological Society of America (2 presentations)
 Department of Biology, Colorado State University

- Department of Entomology, Colorado State University
 Division of Biological Sciences, University of Missouri
 Entomological Society of America
 Department of Agricultural Meteorology, University Nebraska
 School of Biological Sciences, University of Nebraska
- 1990 Bodega Bay Marine Lab
 Nebraska Forage and Range Council
 Prairie States Ecology Conclave (3 presentations)
 Ecological Society of America (3 presentations)
 Nebraska Academy of Sciences (2 presentations)
 Entomological Society of America (Organized Grasshopper Conference)
 UNL Ecology and Evolutionary Biology Seminar
 USDA GHIPM Meeting
- 1989 Ecological Society of America (2 presentations)
 Entomological Society of America (2 presentations)
 Orthopterists Society (Madrid, Spain)
 Entomology, University of Kansas
- 1988 Entomological Society of America
 12th North American Prairie Conference (2 presentations, Chaired session)
 Entomology Department , Kansas State University
 Biological Sciences, Emporia State University
 Forestry, Fisheries & Wildlife, UNL
 Forage, Range & Weed Science, UNL
- 1987 Department of Biology, University of California-Riverside (2 presentations)
 Prairie States Ecology Conclave (Co-Organizer)
 Ecological Society of America; Chaired Session
 Entomological Society of America
- 1986 Department of Biology, University of Nebraska-Omaha
 Ecological Society of America (with IV International
 Congress) Organization of Field Station Directors (3 presentations).
 Departments of Entomology and Zoology, Colorado State
- 1985 Pan American Acridological Society, Saskatoon,
 Saskatchewan, Department of Biology, Creighton University
 California Grasslands Conference; Asilomar, CA.
 Cedar Point Biological Station
 School of Biological Sciences, University of Nebraska
- 1984 Department of Zoology, University of Iowa (2 seminars)
 North Central Branch, Entomological Society of America
 Prairie States Ecology Conclave
 Ecological Society of America (AIBS Annual Meeting)
 Department of Biological Sciences, University of Missouri
- 1983 Division of Biological Sciences, University of Kansas
 School of Biological Sciences, University of Nebraska (2 seminars)
 Prairie States Ecology Conclave (Co-organizer)
- 1982 Prairie States Ecology Conclave
 Central States Entomological Society

- Division of Biological Sciences, Kansas State University
 Department of Plant Pathology, University of Nebraska
 Nebraska State Museum
- 1981 Department of Zoology and Entomology, Colorado State
 Pan American Acridological Society (Maracay, Venezuela)
- 1980 Entomology Department, University of Illinois
- 1979 Nebraska Forage and Grassland Council
 Pan American Acridological Society
 Society for Range Management (Nebraska Chapter)
- 1978 Entomology Department, North California State University
 Biology Department, Clemson University
 School of Life Sciences, University of Nebraska (2 seminars)
 Entomology Department, University of Nebraska
- 1977 School of Life Sciences, University of Nebraska

Current Professional Memberships

Ecological Society of America
 Entomological Society of America
 Society for the Study of Evolution
 British Ecological Society
 American Society of Naturalists
 Orthopterists Society
 Nordic Ecological Society

Courses Taught

Introduction to Biology (UNL, Bio. Sci. 101)
 Introduction to Life Sciences (UNL, Bio. Sci. 104/105)
 Introduction to Ecology (UNL, Bio. Sci. 220/222; 320/322) [Campus & Cedar Point]
 Environmental Issues in the Great Plains (UNL, Bio. Sci. 232)
 Ecology & Evolution (UNL, Bio. Sci. 302)
 Quantitative Field Ecology (UNL, Bio. Sci. 463/863)
 Population and Community Ecology (UNL, Bio. Sci. 454/854)
 Ecology of Invertebrates (Bio. Sci. 498/898) [UNL, Cedar Point Biological Station]
 Graduate Core: Community Ecology (UNL, Bio.Sci. 898)
 Theoretical Ecology (UNL, Bio. Sci. 959)
 Advanced Community Ecology (UNL, Bio. Sci. 959)
 Graduate Seminars (UN, Bio. Sci. 915); Many topics
 Prairie Ecology (UNL, Bio. Sci. 470/ 870) [Cedar Point Biological Station]
 Fundamentals of Ecology (KSU, Biol. 529)

Graduate Students

Walter L. Baumann. 1982. Microhabitat Use in Three Species of Rodents in a Nebraska Sandhills Prairie. M.S. Thesis. UNL

- Kathleen A. H. Morris.** 1982. Visual Discrimination among Prey Items in Bobwhite Quail. M.S. Thesis. UNL.
- Timothy J. Heidorn.** 1985. Impact of Grasshopper Herbivory on Native Grasses from Sandhills Grassland. M.S. UNL.
- Michael E. Kaspari.** 1985. The Ecology and Evolution of Prey Preparation. M.S. Thesis. UNL.
- Emily C. Oseus.** 1985. Mate Guarding in the Dragonfly, *Perithemis tenera*. M.S. Thesis. UNL.
- Sarah B. Gaines.** 1989. Experimental Analysis of Costs and Benefits of Wing Length Polymorphism in Grasshoppers. Ph.D. UNL
- Richard D. Alward.** 1992. The Roles of Competition and Herbivory in Maintaining the Local Distributions of Two Native Grasses M.S. UNL.
- Yuelong Yang.** 1993. The Insect Herbivore Gut as a Series of Chemical Reactors: Mathematical Modeling and Empirical Evaluation. Ph.D. UNL
- Spencer Behmer.** 1993. Chemical Determinants of Grasshopper Feeding on North American Native Grasses. M.S. UNL.
- Mark Oedokoven.** 1996. Impact of Spider Predation on Grasshopper Populations. M.S. UNL
- Melanie Traxler.** 1997. Adaptive Local Host Plant Use by the Grasshopper, *Hesperotettix viridis*. M.S. UNL
- John Holz.** 1998. Experimental Mesocosm Study of Alternate lake States and Plankton Community Breakpoints Along A Phosphorus Gradient. Ph.D. UNL
- Toshinori Okuyama.** 1999. Generalization of Spider Attack Response Due to Learning. M.S. UNL
- Jason Emry.** 1999. Impact of Pocket Gopher Disturbance on Plant Community Establishment in Nebraska Sand Hills Grassland: A Path Analysis. M.S. UNL
- Kristal J. L. Stoner.** 2002. The Effect of Tallgrass Prairie Fragmentation on Insect Biodiversity. MS.
- Bradford J. Danner.** 2002. Performance of *Ageneotettix deorum* (Orthoptera: Acrididae) in response to lycosid spider predation risk and food quality. MS
- Jayne Jonas.** 2007. Importance of fire and grazing to insect biodiversity in North American Tallgrass Prairie. PhD.

International Visitors

Dr. Nick Jago, Centre for Overseas Pest Research, London

Dr. Michael Sergeev, Associate Director, Ecology Program, Russian Academy of Sciences and University of Novosibersk

Dr. Li Kang, Deputy Director, Department of Insect Ecology, Institute of Zoology. The Chinese Academy of Sciences, Beijing, China

Professional Reviewing

Research Grants

NSF /Ecology Program

NSF/ Population Biology
NSF Ecology Program/ Post-Doctoral Research Fellowship
Field Station Facilities Program
Women in Science Program
Special Foreign Currency Program
Nature Conservancy Ecosystem Studies
USDA/ ARS Competitive Grants
 NRI/ Biotic Stress in Plants Program
 IPM Competitive Grants
 Western Regional IPM Committee
NIH Parasitology Program
American Philosophical Society
National Geographic Society
Center for Field Research
Montana State University, College of Agriculture

Reviewing for Journals

<i>Acta Oecologia</i>	<i>Journal Agricultural Entomology</i>
<i>American Journal of Botany</i>	<i>Journal of Animal Ecology</i>
<i>American Midland Naturalist</i>	<i>Journal of Arid Environments</i>
<i>American Naturalist</i>	<i>Journal of Avian Biology</i>
<i>Annals of the Entomological Society of America</i>	<i>Journal of Chemical Ecology</i>
<i>Applied and Environmental Microbiology</i>	<i>Journal of Insect Behavior</i>
<i>Behavioural Ecology</i>	<i>Journal Kansas Entomological Society</i>
<i>Biological Journal of Linnaean Society</i>	<i>Journal of Orthoptera Research</i>
<i>Biotropica</i>	<i>Landscape Ecology</i>
<i>Canadian Entomologist</i>	<i>Naturwissenschaften</i>
<i>Ecography</i>	<i>Oecologia</i>
<i>Ecology</i>	<i>Oikos</i>
<i>Ecology Letters</i>	<i>Pan-Pacific Entomologist</i>
<i>Ecological Applications</i>	<i>Proceedings of the National Academy of Sciences (USA)</i>
<i>Ecological Monographs</i>	<i>Proceedings Eleventh North American Prairie Conference</i>
<i>Ecological Entomology</i>	<i>Proceedings of the Orthopterists Society</i>
<i>Entomological News</i>	<i>Psyche</i>
<i>Environmental Entomology</i>	<i>Science</i>
<i>Evolution</i>	<i>Southwestern Naturalist</i>
<i>Florida Entomologist</i>	<i>Transactions Nebraska Academy Sciences</i>
<i>Functional Ecology</i>	<i>USDA Review Process (before pub.)</i>
<i>Great Basin Naturalist</i>	
<i>Great Plains Research</i>	
<i>Holarctic Ecology</i>	

Publisher Reviewing: Oxford University Press, Sinauer Publishers, Harper & Row, Yale University Press

University Service

University of Nebraska-Lincoln (UNL)

Executive Graduate Council (1987-1990); Committee I
Governors Commission on Research and Development Workshop (1978)
Water Resources Council Workshop on State Priorities (1979)
Statistics Graduate Program Task Force, Graduate College (1996- 1997)
University Faculty Representative, Geology External Review Committee (1996)
Task Force on the Reorganization of the Life Sciences at UNL, Co-chair (1998-2000)
Initiative for Ecological and Evolutionary Analysis, Co-chair (1998-2003), Steering Committee (1998-2004)
Ad hoc Workshop on Integrated Ecosystem Challenges (Marsha Torr Workshop) (1999)
Planning Committee, Regional Humanities Center at the University of Nebraska (1999)
Life Sciences Action Team (2000-2001)

School of Biological Sciences (UNL)

Executive Committee (1985-1989; 1992-93, 1994, 1998-1999)
Promotion and Tenure Committee (1995-present, acting chair 2003-2004)
GAANN Graduate Training Program, Coordinator (2000-present)
Cedar Point Biological Station
 Advisory Committee (1978-1998)
 Director (1986-1991)
Arapaho Prairie Research Coordinator (1984-1991, 1993-1995)
Ad Hoc Long Term Planning Committee (1980/1981, 1985/1986, 1988/1990, 1993/90, 1993/94)
Special Funds Committee (1998-1999)
Ecology Seminar, Organizer (1979/1980, 1980/1981, 1988/89, 1991/92)
Graduate Committee, Member & Chair (1980-84, chair 83-84; 1989-90, 1993-94, 1995-98)
Graduate Recruiting Committee (1994-1995)
Undergraduate Honors Committee (1986/1987)
School Seminar Program, Organizer (1992-1996)
Equipment Committee (1996-present)
Faculty Search Committees:
 Community/ Ecosystem Ecologist, Chair (1997-1998)
 Director, School of Biological Sciences, Chair (1990-1992)
 Behavioral Ecologist, Chair (1988-1989)
 Population Geneticist, Member (1987-1988)
 Plant Ecologist, Chair (1982/1983)
 Physiological Ecologist, Chair (1995-1996; 1996-1997)
 Vertebrate Ecologist, Member (1980/1981)
 Aquatic Biologist, Member (1980/1981)
Computer Committee (1983-1986)
Education Committee (1980/1981)
Section Ph.D. Qualifying Exam Committee (1980, 1989)
Ad Hoc Merit Matrix Review Committee (1982/1983)
Numerous Other *Ad Hoc* Committees

Faculty Coordinator: D. Education GAANN Graduate Training Grant (2001- 2004)

College of Arts and Sciences (UNL)

College of Arts and Sciences Executive Committee (2001-2003)

Search Committee: Director, School of Biological Sciences, Chair (1988/89, 1989/90)

External Reader, Undergraduate Honors Thesis

Senior Associate (Mentoring) Program Participant (2)

Ad hoc committee on teaching evolution: Math/Science Coalition Area of Emphasis

ORCA Award Committee, Chair (2002)

Faculty Search Committee in Math/Biology (Department of Mathematics) (2002-2003)

Institute of Agriculture and Natural Resources (UNL)

Search Committee: Head, Dept. of Entomology (1988/89)

Entomology Dept. Review Committee - Research (1986/1987)

Reviewer for many Research Station Projects

Policy Advisory Committee, Center for Grasslands Studies (1994-2002)

Natural Resources Reorganization Task Force (1995-1998)

Search Committee, Director of School of Natural Resource Sciences (1998-1999; 2003)

Search Committee, Population Ecologist, School of Natural Resource Sciences (2002-2003)

Center for Great Plains Studies (UNL)

Member (1982-2003)

Nominating Committee (1983)

Policy Studies Advisory Committee (1983)

Library Committee (1983)

Great Plains Grassland Symposium Committee (1992-1994)

Session Convener, Center for Great Plains Grassland Symposium (1994)

Publications Committee (2002-2003)

Lewis & Clark Naturalists Symposium Organizing Committee (2002-2004)

Center for Great Plains Studies referee: Leslie Hewes/ Charles E. Bessey Award for best papers
in *Great Plains Journal* (2004)

Faculty Senate

Legislative Lobbyist, 1988/89

Nebraska State Museum (UNL)

Biology Hall Exhibit Committee (1986/1987)

Miscellaneous (UNL)

Chowder Society Talk (Teaching at the 400/800 level)

Faculty Representative, National Merit Scholars Dinner

National Professional Service

Prairie States Ecology Conclave, Co-organizer (1984, 1988)

12th North American Prairie Conference
Planning Committee (1986/1988)
Session Chair (1988)

Pan American Acridological Society (now Orthopterists Society)
Meeting Site-Selection Committee (1985)
Society Funding Committee, Chair (1985)

Reviewed Abstracts for Ecological Society America (1987 Annual Meeting)

Organization of Biological Field Stations
Nominating Committee, Member (1988) & Chair (1989)

Ad Hoc Editor, *Ecology* (1989)

Organizer, Grasshopper Workers Conference, Entomological Society of America (1990)

Consultant to ETS: Revision of Guidelines for Advanced Test of Biology GRE (1990)

External Reviewer, Promotion and Tenure (U. Michigan, 1990; U. Wyoming, 1990)

External Reviewer, Promotion and Tenure (U. Virginia 1993)

External Reviewer, Promotion and Tenure (Texas Tech University & UC-Riverside) 1996

External Reviewer, Promotion and Tenure (UC-Riverside) 2001

External Reviewer, Promotion and Tenure (Tulane University) 2002

Associate Editor of Invertebrate Zoology, *American Midland Naturalist* (1991-1995)

External Examiner, Ph.D. Dissertation Committee, U. Michigan (1992)

Science and Stewardship Committee, Nebraska Nature Conservancy (1992-1998)

Board of Examiners, Educational Testing Service (Biology, Graduate Record Exam)
(1992-1998)

Nebraska Coordinator, National Institute for the Environment (1993-1994)

NSF Panel Member, Postdoctoral Research Fellowship (1994)

USDA NRI Competitive Grants Panel Member (Entomology), 1996

Advisory Board, National Institute for Global Environmental Change, Great Plains (1994-)

External Reviewer, University of Memphis, Meeman Biological Field Station (1997)

Editorial Board, *Ecological Society of America* (1997-2001)

NSF Panel Member, Doctoral Dissertation Improvement Grants (1999, 2000)

Colorado State Research Site Development Workshop (2000)

NSF LTER Site Review Team (Pawnee Short Grass Steppe, Colorado State University) (2000)

NSF LTER Site Review Team, Chair (CAP; Arizona State University) (2001)

NSF Panel Member, *Ecology* (1997, 2001-2004)

Nebraska chapter of Sigma Xi (President, 2001-2002; Executive Committee 2000-2003)

External PHD Examiner, Monash University, Australia (2003)

External Member, PhD Committee (University of Notre Dame) (2003-)