

## CURRICULUM VITAE

1 October 2009

James Hemphill Brown  
Distinguished Professor of Biology  
The University of New Mexico, Albuquerque, New Mexico 87131  
Tel: (505) 277-9337; Fax: (505) 277-0304; E-mail: jhbrown@unm.edu

### **Educational and Employment History:**

A.B. Cornell University, 1963 - Zoology  
(with honors)

Ph.D. University of Michigan, 1967 –  
Zoology

University of California, Los Angeles  
Rackham Postdoctoral Fellow, 1967-68  
Assistant Professor of Zoology, 1968-71

University of Utah  
Assistant Professor of Biology, 1971-73  
Associate Professor, 1973-75

University of New Mexico  
Professor of Biology, 1987-present

University of Arizona  
Associate Professor of Ecology and  
Evolutionary Biology, 1975-78  
Professor, 1978-87

Santa Fe Institute: External Faculty, 1995-  
present

### **Honors:**

Southwestern and Rocky Mountain  
Division, American Association for the  
Advancement of Science: Certificate of  
Merit for Distinguished Contributions in the  
Field of Arid Zone Research, 1982

American Association for the Advancement  
of Science: Elected Fellow, 1988

American Society of Mammalogists: C. Hart  
Merriam Award for Outstanding Service to  
Mammalogy, 1989

University of New Mexico: Regents'  
Professor, 1990-2001: Distinguished  
Professor, 2001- present; Annual Research  
Lecturer, 1999

John Simon Guggenheim Memorial  
Foundation, Fellow, 1991-1992

Joseph Grinnell Medal: University of  
California at Berkeley, 1994

American Academy of Arts and Sciences:  
Elected Fellow, 1995

Ecological Society of America: Eugene P.  
Odum Award for Education 2001; Robert H.  
MacArthur Award for Research 2002

British Ecological Society: Marsh Award for  
Career Achievement 2002

Member NAS, 2005

## **Research Interests:**

My science has always been driven by curiosity about the diversity of life. Over most of my career I have simultaneously conducted two major research programs:

1) Theoretical research in biological scaling and macroecology.-- In earlier macroecological research, we compiled large data sets on body size, abundance, area of geographic range, and other attributes of many species of birds, mammals, and other organisms. Analyses that treated species as "particles" and examined their statistical distributions revealed patterns that appeared to be universal or nearly so. They suggested mechanistic hypotheses invoking energetics and resource use. More recent research has developed a unified theory of biological metabolism and scaling phenomena. We produce and test mathematical models that characterize the effects of body size and temperature on metabolic rate, and the effects of metabolic processes on biological rates and times at levels of organization from molecules to ecosystems.

2) Experimental research in desert ecology.-- Since 1977 we have been manipulating and monitoring a small patch of Chihuahuan Desert near Portal, Arizona. We have removed some or all species of seed-eating rodents, harvester ants, both taxa, or neither taxon (controls) from replicated 0.25-hectare plots. We have used standardized methods to monitor weather, rodents, ants, and plants on these plots. The results have demonstrated competition within and between groups of seed-eating animals, predation by these animals on plants, several kinds of indirect interactions, and long-term changes in climate, vegetation, and animals on the site

## **Teaching Interests:**

I love the challenge of trying to convey my passionate interest in biological diversity and to helping young people who want to discover secrets of nature by doing original scientific research. I enjoy teaching undergraduates in large classes on ecology, evolution, and biogeography. I also enjoy working with students individually or in small groups to develop their critical thinking and research potential. I have mentored many undergraduate honors students, most of whom have gone on to graduate school.

Much of my effort has been devoted to graduate education. I have trained a large number of M.S. and Ph. D. students, including many women and many from overseas. My students are notable for their diversity: in terms of subdisciplines (behavioral, population, and community ecology and biogeography), taxa (plants, insects, marine invertebrates, birds, and mammals), habitats (marine intertidal, tropical forests, and a variety of temperate habitats). Former students are employed in research universities, liberal arts colleges, government agencies, NGOs (e.g., The Nature Conservancy), and environmental and genomic firms. Throughout my career I have worked to build and strengthen departmental graduate programs, most recently focusing on making the Department of Biology at the University of New Mexico a center for graduate training in "biological complexity."

I have advised a substantial number of postdoctoral associates, most of whom have gone on to influential careers.

### **Professional Service Interests:**

Over my career I have served on committees and as officers of scientific societies, on editorial boards, and as organizer or participant in workshops and symposia. In recent years, my service activities have focused on promoting conservation and sustainable grazing on southwestern rangelands (principally through the Malpai Borderlands Group) and on founding the International Biogeography Society.

### **Books:**

Brown, J.H. and A.C. Gibson. 1983. *Biogeography*. Mosby, St. Louis, MO.

Real, L., and J. H. Brown, eds. 1991. *Foundations of Ecology*. University of Chicago Press, Chicago.

Genoways, H.H., and J.H. Brown, eds. 1993. *Biology of the Heteromyidae*. Special Publication No. 10, American Society of Mammalogists.

Brown, J.H. 1995. *Macroecology*. University of Chicago Press, Chicago.

Brown, J.H. and M.V. Lomolino. 1998. *Biogeography* (2nd edition). Sinauer, Sunderland, MA.

Brown, J.H., and G.B. West, eds. 2000. *Scaling in Biology*. Oxford University Press, Oxford.

Lomolino, M.V., D.F. Sax, and J.H. Brown, eds. 2004. *Foundations of Biogeography*. University of Chicago Press, Chicago.

Lomolino, M. V., B. R. Riddle, and J. H. Brown. 2005. *Biogeography*, third edition. Sinauer Associates, Inc.

Storch, D., Marquet, P.A., Brown, J.H. 2007. *Scaling Biodiversity*, Cambridge University Press, New York.

### **Scientific papers in refereed journals:**

Brown, J.H. 1968. Adaptation to environmental temperature in two species of woodrats, *Neotoma cinerea* and *N. albigula*. *Mis. Publ. Mus. Zool. Univ. of Michigan* 135:1-48.

Brown, J.H. 1968. Activity patterns of some neo-tropical bats. *J. Mammal.* 49:754-757.

- Brown, J.H. and C.F. Welser. 1968. Serum albumin polymorphisms in natural and laboratory populations of *Peromyscus*. J. Mammal. 49:420-426.
- Hooper, E.T. and J.H. Brown. 1968. Foraging and breeding in two sympatric species of neotropical bats, genus *Noctillo*. J. Mammal. 49:310-312.
- Brown, J.H. and G.A. Bartholomew. 1969. Periodicity and energetics of torpor in the kangaroo mouse, *Microdipodops pallidus*. Ecology 50:705-709.
- Brown, J.H. and A.K. Lee. 1969. Bergmann's rule and climatic adaptation in woodrats (*Neotoma*). Evolution 23:329-338.
- Cody, M.L. and J.H. Brown. 1969. Song asynchrony in neighboring bird species. Nature 222:779-780.
- Cody, M.L. and J.H. Brown. 1970. Character convergence in Mexican finches. Evolution 24:304-310.
- Lee, A.K. and J.H. Brown. 1970. Variations in the hemoglobin concentrations of Great Basin rodents. J. Mammal. 51:669-674.
- Brown, J.H. 1971. Mechanisms of competitive exclusion between two species of chipmunks (*Eutamias*). Ecology 52:306-311.
- Brown, J.H. 1971. Mammals on mountaintops: non-equilibrium insular biogeography. Am. Nat. 105:467-478.
- Brown, J.H. 1971. The desert pupfish. Sci. Amer. 225:104-110.
- Brown, J.H. and C.R. Feldmeth. 1971. Evolution in constant and fluctuating environments: thermal tolerances of desert pupfish (*Cyprinodon*). Evolution 25:390-398.
- Brown, J.H., G.A. Lieberman and W.F. Dengler. 1972. Woodrats and cholla: dependence of a small mammal population on the density of cacti. Ecology 53:310-313.
- Brown, J.H. and R.C. Lasiewski. 1972. Metabolism of weasels: the cost of being long and thin. Ecology 53:939-943.
- Bonaccorso, F.J. and J.H. Brown. 1972. House construction of the desert woodrat, *Neotoma lepida lepida*. J. Mammal. 53:283-288.
- Brown, J.H. 1973. Species diversity of seed-eating desert rodents in sand dune habitats. Ecology 54:775-787.
- Brown, J.H. and G.A. Lieberman. 1973. Resource utilization and coexistence of seed-eating desert rodents in sand dune habitats. Ecology 54:788-797.

- Barbour, C.D. and J.H. Brown. 1974. Fish species diversity in lakes. *Am. Nat.* 108:473-489.
- Feldmeth, C.R., E.A. Stone and J.H. Brown. 1974. Increased scope for thermal tolerance upon acclimating pupfish (*Cyprinodon*) to cycling temperatures. *J. Comp. Physiol.* 89:39-44.
- Brown, J.H., J.J. Grover, D.W. Davidson and G.A. Lieberman. 1975. A preliminary study of seed predation in desert and mountain habitats. *Ecology* 56:987-992.
- Brown, J.H. and D.W. Davidson. 1977. Competition between seed-eating rodents and ants in desert ecosystems. *Science* 196:880-882.
- Brown, J.H. and A. Kodric-Brown. 1977. Turnover rates in insular biogeography: effect of immigration on extinction. *Ecology* 58:445-449.
- Brown, J.H., W.A. Calder and A. Kodric-Brown. 1978. Correlates and consequences of body size in nectar-feeding birds. *Amer. Zool.* 18:687-700.
- Kodric-Brown, A. and J.H. Brown. 1978. Influence of economics, interspecific competition and sexual dimorphism on territoriality of migrant Rufous Hummingbirds. *Ecology* 59:285-296.
- Brown, J.H. and A. Kodric-Brown. 1979. Convergence, competition and mimicry in a temperate community of hummingbird-pollinated flowers. *Ecology* 60:1022-1035.
- Kodric-Brown, A. and J.H. Brown. 1979. Competition between distantly related taxa and the co-evolution of plants and pollinators. *Amer. Zool.* 19:1115-1127.
- Brown, J.H., D.W. Davidson and O.J. Reichman. 1979. An experimental study of competition between seed-eating desert rodents and ants. *Amer. Zool.* 19:1129-1143.
- Brown, J.H., O.J. Reichman and D.W. Davidson. 1979. Granivory in desert ecosystems. *Ann. Rev. Ecol. Syst.* 10:201-227.
- Reichman, O.J. and J.H. Brown. 1979. The use of torpor by *Perognathus amplus* in relation to resource distribution. *J. Mammal.* 60:550-555.
- Davidson, D.W., J.H. Brown and R.S. Inouye. 1980. Competition and the structure of granivore communities. *BioScience* 30:233-238.
- Inouye, R.S., G.S. Byers and J.H. Brown. 1980. Effects of predation and competition on survivorship, fecundity and community structure of desert annuals. *Ecology* 61:1344-1351.
- Brown, J.H., A. Kodric-Brown, T.G. Whitman and H.W. Bond. 1981. Competition between hummingbirds and insects in the pollination of two species of shrubs. *Southwest. Nat.* 26:133-145.

- Brown, J.H. 1981. Two decades of homage to Santa Rosalia: toward a general theory of diversity. *Amer. Zool.* 21:877-888.
- Brown, J.H. and A. Kodric-Brown. 1981. Reply to Williamson and Black's comment. *Ecology* 62:497-498.
- Munger, J.C. and J.H. Brown. 1981. Competition in desert rodents: an experiment using semipermeable exclosures. *Science* 211:510-512.
- Bowers, M.A. and J.H. Brown. 1982. Body size and coexistence in desert rodents: chance or community structure. *Ecology* 63:391-400.
- Dunning, J.B. and J.H. Brown. 1982. Summer rainfall and winter sparrow densities: a test of the food limitation hypothesis. *The Auk* 99:123-129.
- Peterson, C., J.H. Brown and A. Kodric-Brown. 1982. An experimental study of floral display and fruit set in *Chilopsis linearis* (Bignoniaceae). *Oecologia* 55:7-11.
- Price, M.V. and J.H. Brown. 1983. Patterns of morphology and resource use in North American desert rodent communities. *Great Basin Nat. Mem.* 7:117-134.
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- Brown, J.H. 1984. Desert rodents: a model system. *Acta Zool. Fennica* 172:45-49.
- Brown, J.H., R.E. Lenski, B.R. Levin, M. Lloyd, P.J. Regal and D. Simberloff. 1984. Report in the workshop on possible ecological and evolutionary impacts of bioengineered organisms released into the environment. *Bull. Ecol. Soc. Amer.* 64:436-438.
- Davidson, D.W., R.S. Inouye and J.H. Brown. 1984. Granivory in a desert ecosystem: experimental evidence for indirect facilitation of ants by rodents. *Ecology* 65:1780-1786.
- Kodric-Brown, A., and J.H. Brown. 1984. Truth in advertising: the kinds of traits favored by sexual selection. *Am. Nat.* 124:309-323.
- Kodric-Brown, A. and J.H. Brown, G.S. Byers and D.F. Gori. 1984. Organization of a tropical island community of hummingbirds and flowers. *Ecology* 65:1358-1368.
- Brown, J.H. 1985. Organization of North American desert rodent associations: insights from geographic comparisons and perturbation experiments. *Australian Mammal.* 8:131-136.
- Brown, J.H. and M.A. Bowers. 1985. On the relationship between morphology and ecology: community organization in hummingbirds. *The Auk* 102:251-269.

- Brown, J.H. and J.C. Munger. 1985. Experimental manipulation of a desert rodent community: food addition and species removal. *Ecology* 66:1545-1563.
- Kodric-Brown, A. and J.H. Brown. 1985. Animal advertising: why the fittest are prettiest. *The Sciences*, Sept./Oct. pp. 26-33.
- Brown, J.H. and D.W. Davidson. 1986. Reply to Galindo. *Ecology* 67:1423-1425.
- Brown, J.H. 1986. Two decades of interaction between the MacArthur-Wilson model and the complexities of mammalian distributions. *Biol. J. Linnean Soc.* 28:231-251.
- Brown, J.H. and B.A. Maurer. 1986. Body size, ecological dominance, and Cope's rule. *Nature* 324:248-250.
- Hopf, F.A., and J.H. Brown. 1986. The bullseye method for testing for randomness in ecological communities. *Ecology* 67:1139- 1155.
- Zeng, Z., and J.H. Brown. 1987. A method for distinguishing dispersal from death in mark-recapture studies. *J. Mammal.* 68:656-665.
- Brown, J.H., and M. Kurzius. 1987. Composition of desert rodent faunas: combinations of coexisting species. *Ann. Zool. Fennici* 24:227-237.
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- Brown, J.H., and B.A. Maurer. 1987. Evolution of species assemblages: effects of energetic constraints and species dynamics on the diversification of the North American avifauna. *Am. Nat.* 130:1-17.
- Brown, J.H., and B.A. Maurer. 1987. Brown and Maurer reply. *Nature* 328:118.
- Bowers, M.A., D.B. Thompson and J.H. Brown. 1987. Spatial organization of a desert rodent community: food addition and species removal. *Oecologia* 72:77-82.
- Kodric-Brown, A., and J.H. Brown. 1987. Anisogamy, sexual selection, and the origin and maintenance of sex. *Evol. Ecol.* 1:95-105.
- Zeng, Z. and J.H. Brown. 1987. Population ecology of a desert rodent: seven-year study of *Dipodomys merriami* in the Chihuahuan Desert. *Ecology* 68:1328-1340.
- Maurer, B.A., and J.H. Brown. 1988. Distribution of energy use and biomass among species of North American terrestrial birds. *Ecology* 69:1923-1932.
- Rosenzweig, M.L., J.I. Davis, and J.H. Brown. 1988. How to write an influential review. *Bull. Ecol. Soc. Amer.* 69:152-155.

- Brown, J.H., and M.V. Lomolino. 1989. Independent discovery of the equilibrium theory of island biogeography. *Ecology* 70:1954-1957.
- Brown, J.H., and B.A. Maurer. 1989. Macroecology: the division of food and space among species on continents. *Science* 243:1145-1150.
- Brown, J.H., and J. Roughgarden. 1989. U.S. ecologists address global change. *TREE* 4:255.
- Brown, J.H., and Z. Zeng. 1989. Comparative population ecology of eleven species of Chihuahuan Desert rodents. *Ecology* 70:1507-1525.
- Lomolino, M.V., J.H. Brown, and R. Davis. 1989. Island biogeography of montane forest mammals in the American southwest. *Ecology* 70:180-194.
- Maurer, B.A., and J.H. Brown. 1989. Distributional consequences of spatial variation in demographic processes. *Annal. Zool. Fennici* 26:121-131.
- Brown, J.H., and E.J. Heske. 1990. Control of a desert-grassland transition by a keystone rodent guild. *Science* 250:1705-1707.
- Brown, J.H., and E.J. Heske. 1990. Temporal changes in a Chihuahuan desert rodent community. *Oikos* 59:290-302.
- Brown, J.H., and J. Roughgarden. 1990. Ecology for a changing earth. *Bull. Ecol. Soc. Amer.* 71:173-188.
- Brown, J.H., and P.F. Nicoletto. 1991. Spatial scaling of species assemblages: body masses of North American land mammals. *Am. Nat.* 138:1478-1512.
- Patterson, B.D., and J.H. Brown. 1991. Regionally nested patterns of species composition in granivorous rodent assemblages. *J. Biogeog.* 18:395-402.
- Thompson, D.B., J.H. Brown, and W.D. Spencer. 1991. Indirect facilitation of granivorous birds by desert rodents and ants: experimental evidence from foraging patterns. *Ecology* 72: 852-863.
- Bowers, M.A., and J.H. Brown. 1992. Structure in a desert rodent community: use of space around *Dipodomys spectabilis* mounds. *Oecologia* 92:242-249.
- Maurer, B.A., J.H. Brown, and R.D. Rusler. 1992. The micro and macro in body size evolution. *Evolution* 46:939-953.
- McDonald, K.A., and J.H. Brown. 1992. Using montane mammals to model extinctions due to global change. *Cons. Biol.* 6:409-415.
- Brown, J.H., P.A. Marquet, and M.L. Taper. 1993. Evolution of body size: consequences of an energetic definition of fitness. *Am. Nat.* 142:574-584.

- Bohning-Gaese, K., M.L. Taper, and J.H. Brown. 1993. Are declines in North American insectivorous songbirds due to causes on the breeding range? *Cons. Biol.* 7:76-86.
- Fox, B.J., and J.H. Brown. 1993. Assembly rules for functional groups in North American desert rodent communities. *Oikos* 67:358-370.
- Heske, E.J., J.H. Brown, and Q. Guo. 1993. Effects of kangaroo rat exclusion on vegetation structure and plant species diversity in the Chihuahuan desert. *Oecologia* 95:520-524.
- Hopf, F.A., T.J. Valone, and J.H. Brown. 1993. Competition theory and the structure of ecological communities. *Evol. Ecol.* 7:142-154.
- Kodric-Brown, A., and J.H. Brown. 1993. Highly structured fish communities in Australian desert springs. *Ecology* 74: 1847-1855.
- Kodric-Brown, A., and J.H. Brown. 1993. Incomplete data sets in community ecology and biogeography: a cautionary tale. *Ecol. Appl.* 3:736-742.
- Bohning-Gaese, K., M.L. Taper, and J.H. Brown. 1994. Avian community dynamics are discordant in space and time. *Oikos* 70:76-86.
- Heske, E.J., J.H. Brown, and S. Mistry. 1994. Long-term experimental study of a desert rodent community: 13 years of competition. *Ecology* 75:438-445.
- Morton, S.R., Brown, J.H., Kelt, D.A., and J.R.W. Reid. 1994. Comparisons of community structure among small mammals of North American and Australian deserts. *Australian J. Ecol.* 42:501-525.
- Valone, T.J., Brown J.H. and E.J. Heske. 1994. Interactions between rodents and ants in the Chihuahuan Desert: an update. *Ecology* 75:252-255.
- Brown, J.H. 1995. Organisms as engineers: a useful framework for studying effects on ecosystems? *TREE* 10:51-52.
- Brown, J.H., Mehlman, D.H. and G.C. Stevens. 1995. Spatial variation in abundance. *Ecology* 76:2028-2043.
- Brown, J.H., and W. McDonald. 1995. Livestock grazing and conservation on southwestern rangelands. *Cons. Biol.* 9:1644-1647.
- Bohning-Gaese, K., M.L. Taper and J.H. Brown. 1995. Individualistic species responses to spatial and temporal environmental variation. *Oecologia* 101:478-486.
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Enquist, B.J., M.A. Jordan and J.H. Brown. 1995. Connections between ecology, biogeography, and paleobiology: relationship between local abundance and geographic distribution in fossil and recent mollusks. *Evol. Ecol.* 9:586-604.

Fox, B.J. and J. H. Brown. 1995. Reaffirming the validity of the assembly rule for functional groups: a reply to Wilson. *Oikos* 73:125-132.

Guo, Q.F., D.B. Thompson, T.J. Valone and J.H. Brown. 1995. The effects of vertebrate granivores and folivores on plant community structure in the Chihuahuan Desert. *Oikos* 73:251-259.

Lomolino, M.V., J.H. Brown and R. Davis. 1995. Analyzing insular distribution patterns: statistical approaches and biological inferences. *Ann. Zool. Fennici* 32:435-437.

Smith, F.A., J.L. Betancourt and J.H. Brown. 1995. Evolution of body size in the woodrat over the past 25,000 years of climate change. *Science* 270:2012-2014.

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Smith, F.A. and J.H. Brown. 1996. The changing role of women in North American mammalogy. *J. Mammal.* 77:609-612.

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Hall S.R., Lafferty K.D., Brown J.H., Cáceres C.E., Chase J.M., Dobson A.P., Holt R.D., Jones C.G., Randolph S.E. & Rohani P. 2008. Is infectious Disease Just Another Type of Predator-Prey Interaction? *In*: Ostfeld R.S., Keesing F. & Eviner V.T., eds. *Infectious Disease Ecology: Effects of Ecosystems on Disease and of Disease on Ecosystems*. Princeton University Press, Princeton, N.J.

Moses, Melanie E., Forrest, Stephanie, Davis, Alan L., Lodder, Mike A., Brown, James H. 2008. *Scaling theory for information networks*. 2008. *In* J. R. Soc. Interface doi:10.1098/rsif.2008.0091 Published online

### **Book reviews:**

Brown, J.H. 1981. Insular ecology and biogeography. (Review of Gorman's *Island Ecology*). *Ecology* 62:501-502.

Brown, J.H. 1982. Systems analysis and population ecology. (Review of Berryman's *Population systems: A General Introduction*). *Ecology* 63:591.

Brown, J.H. 1983. Interactions among species. (Review of Thompson's *Interaction and Coevolution*). *Science* 220:1043.

Brown, J.H. 1983. Cave organisms. (Review of Culver's *Cave life: Ecology and Evolution*)  
*Evolution* 37:867-866.

Brown, J.H. 1984. Review of West's *Temperate Deserts and Semi-deserts*. *Quart. Rev. Biol.*  
59:356.

Brown, J.H. 1988. Review of Van Blaricom and Estes' *The Community Ecology of Sea Otters*.  
*Marine Mammal Sci.* 4:360-361.

Brown, J.H., and R. Pierotti. 1990. Review of Root's *Atlas of Wintering North American Birds*.  
*The Auk* 107:218.

Brown, J.H. 1994. Review of Ricklefs and Schluter's *Species Diversity in Ecological  
Communities*. *Science* 263:995-996.

Brown, J.H. 1994. Review of Damuth and MacFadden's *Body Size in Mammalian Paleobiology*  
*Quart. Rev. Biol.* 68:257.

Brown, J.H. 1999. Review of Avise's *Phylogeography*. *Quart. Rev. Biol.* 75:455-456.

Brown, J.H. 2001. Review of Hubbell's *The Unified Theory of Biodiversity and Biogeography*.  
*Evolution* 55:2137-2138.

Brown, J.H. 2004. Review of Blumberg's *Body Heat*. *J. Mammal.*

### **Other writings:**

Roughgarden, J., J. H. Brown, E. Lehman, B. Mendelsohn, and J. Unruh. 1989. *In our hands:  
survival on earth*. Stanford University.

Brown, J.H. 1997. "Electronic Essay," National Center for Ecological Analysis and Synthesis.

### **Invited papers:**

American Society of Mammalogists Symposium on "Adaptations of Mammals to Desert  
Environments," 1969. Ohio State University Symposium on "Succession: Are there Ordered  
Patterns in Time?" 1973.

American Society of Mammalogists Symposium on "Population Regulation of Small Mammals,"  
1973.

Symposium in Memory of R.H. MacArthur, 1973.

Symposium on "Populations of Small Mammals Under Natural Conditions," Pymatuning Laboratory of Ecology, 1976.

Symposium on "Biogeography of the Intermountain West," AAAS, Western Section, 1976. Fifth Annual Conference, Desert Biome, US/IBP, 1976.

American Society of Zoologists Symposium on "Nectar-feeding Birds: Models for the Ecology and Behavior of Consumers," 1977.

Guild of Rocky Mountain Populations Biologists, 1978.

American Society of Zoologists Symposium on "Theoretical Ecology: To What Extent Has It Added to Our Understanding of the Natural World?" 1980.

Florida State University Conference on "Ecological communities: Conceptual Issues and the Evidence," 1981.

Southwestern and Rocky Mountain Division, AAAS Symposium on Desert Ecosystems, 1982.

American Society of Mammalogists Symposium on "Biology of Desert Rodents," 1982.

International Theriological Congress III Symposium on "Competition in Small Mammals," 1982.

Conference on Community Ecology, Los Angeles, 1984. Ecological Society of America Symposium on "Detecting and Understanding Macroscopic Patterns in Complex Ecological Systems," 1984.

National Research Council workshop on "Cumulative Environmental Impact," 1984.

Australian Mammal Society and American Society of Mammalogists Symposium on "Niche Structure in Small Mammals," 1985.

UCLA Workshop on "Granivory in Desert Ecosystems," 1985.

Fourth International Theriological congress Symposium on "Patterns in the Structure of Mammalian Communities," 1985.

Fourth International Theriological congress symposium on "Island Biogeography," 1985.

British Ecological Society Symposium on "Organization of Communities: Past and Present," 1986.

Workshop on "Interactions between Trophic Levels: Toward a Synthesis of North- and South-American Research Results," 1986.

SCOPE International Symposium on "Ecology of Biological Invasions," 1986.

Chile - U.S. Cooperative Workshop on "Interactions between Trophic Levels: Intercontinental Comparisons," 1986.

LTER - University of Minnesota workshop on "Herbivory," 1986.

Ecological Society of America Symposium on "Biodiversity and Strategies for Land Preservation," 1988.

Fifth International Theriological Congress Symposium on "Temporal Changes in Communities: Seasonal, Annual, Successional and Geological," 1989.

Southwestern Association of Naturalists Symposium on "Biodiversity of the Southwestern United States," 1990.

American Society of Mammalogists C. Hart Merriam Award Address, 1990.

Ecological Society of America Symposium on "Changing Perspectives on Some Long-standing Problems in Ecology," 1990.

Ecological Society of America Symposium on "Historical and Biogeographic Determinants of Community Diversity," 1990.

Presidential Address to American Society of Naturalists, 1991.

Santa Fe Institute Workshop on "Common Themes in Complex Adaptive Systems," 1992.

Sixth International Theriological Congress Symposium on "Comparative Ecology of Desert-dwelling Small Mammals," 1993.

Sixth International Theriological Congress Symposium on "The Origin and Maintenance of Mammalian Diversity Along Elevational Gradients," 1993.

Fifth Carey Conference on "Linking Species and Ecosystems," 1993 (also on Steering Committee).

University of Umea, Sweden, 1996. British Ecological Society Annual Meeting, 1996.

SFI Science Symposium on "Scaling in Biology and Ecology," 1997.

Seventh International Theriological Congress Symposium on "Geographical Ecology of Mammals," 1997.

Mountain Research Center, Montana State University, Distinguished Lecture Series, 1997.

University of Manitoba, Lubinski Lecture, 1998.

UC Davis Center for Population Biology Winter Workshop, 1998.

Ecological Society of America Past-President's Address, "Lessons from the Borderlands: Ecology Conservation Management," 1998.

Ecological Society of America Symposium on "Statistical inference from suboptimal designs: Influences of climate on population and community dynamics," 1998.

Ecological Society of America Symposium on "Consequences of body size: Toward a general theory of allometry," 1998.

Joint meeting of the British Ecological Society and Ecological Society of America, 2000.

Irving-Scholanda Lecture, University of Alaska 2007

E.P. Odum Lecture, University of Georgia 2008

Working Groups of National Center for Ecological Analysis and Synthesis, 1996-2008: Collectors' Curves, Inference, Body size, Future of Biogeography, Microbial Biodiversity, and Unified Theory of Ecology Saturation in Ecology Systems.

Linnaeus Lecture, University of Uppsala, 2009

British Ecological Society featured session on "Metabolic Ecology", University of Hertfordshire, UK, 2009

Alumni Distinguished Lecture, University of Kansas, 2009

### **Conferences Organized:**

NSF/DOE Workshop on "Ecology for a Changing Earth" (Co-organizer), 1988.

NSF Workshop on "A National Center for Ecological Synthesis and Analysis," 1992 (Co-organizer).

SFI/NCEAS Workshop on "Universal Phenomena in Ecology?" (Co-organizer), 1997.

SFI Symposium on "Scaling in Biology: From Organisms to Ecosystems" (Co-organizer), 1997.

SFI Workshop on "Energetic and Thermodynamic Foundations of Ecosystems" (Co-organizer), 1998.

Penrose Conference on "Linking Spatial and Temporal Scales in Paleoecology and Ecology" (Co-convener), 1998.

SFI Symposium on "Fractals in Biology: From Organisms to Ecosystems" (Co-organizer), 2000.

Gordon Research Conference on “The Metabolic Basis of Ecology” (Co-organizer), Charles University, 2004.

SFI Symposium on "Scaling Biodiversity" (Co-organizer), 2004.

ESA Symposium on “Human Macroecology” (Co-organizer), 2009

**Research grants:**

NSF Grant GB 8765. \$13,000. 1969-71. Interactions between woodrats and cactus.

NSF Grant GB 39260. \$21,000. 1973-76. Energetics of desert rodents.

Desert Biome US/IBP Grant 556. \$17,259. 1974. Competition between rodents and ants.

Desert Biome US/IBP Grant 556. \$11,101. 1975. Competition between rodents and ants.

NSF Grant DEB 76-09499. \$50,000. 1976-78 (co-principal investigator, A. Kodric-Brown). Renewed \$25,000. 1979-80. Interactions between hummingbirds and plants.

NSF Grant DEB 76-83838. \$200,000. 1977-79 (co-principal investigators, O.J. Reichman and D.W. Davidson). Experimental manipulation of a desert ecosystem.

NSF Grant DEB 79-05488. \$180,000. 1979-80 (co-principal investigator, D.W. Davidson). Experimental manipulation of a desert ecosystem.

NSF Grant DEB 80-21535. \$350,000. 1981-85. Experimental manipulation of a desert ecosystem.

NSF Grant BSR-8506729. \$140,000. 1985-87. Experimental manipulation of a desert ecosystem.

DOE Grant FG02-86ER60424. \$33,672. 1987-87. Experimental manipulation of a desert ecosystem.

NSF Grant BSR-8718139. \$267,653. 1988-93. Long-term manipulation and monitoring of a desert ecosystem.

NSF Grant BSR-8807792. \$230,000. 1988-91. Macroecology: interrelationships among abundance, distribution, and body size.

NSF Grant BSR-8811906 (LTER project: J. R. Gosz and B.T. Milne, principal investigators, Brown is one of 16 co-principal investigators) \$2,400,000. 1988-94; renewed \$3,780,000. 1994-2000. Sevilleta LTER (Long-term Ecological Research).

NSF Grant BSR-8821458. \$53,216. 1988-89 (co-principal investigator, J. Roughgarden).  
Workshop on scale and comparative ecology.

NSF Grant DEB-9220315. \$66,380. 1992-93 (co-principal investigator, S.R. Carpenter).  
Committee to plan A National Center for Ecological Synthesis and Analysis.

NSF Grant DEB-9221238. \$374,992. 1993-97. Long-term manipulation and monitoring of a  
desert ecosystem.

NSF Grant DEB-9318096. \$170,000. 1994-96. (co-principal investigator, G.C. Stevens).  
Macroecology: abundance, distribution, and diversity.

NSF Grant DGE-9553623. \$2,099,031. 1995-2000. (co-principal investigators, B.T. Milne, J.  
Rasure, L.M. Simmons, Jr., and G.C. Stevens). Graduate Research Traineeship in ecological  
complexity.

NSF Grant DEB-9707406. \$333,000. 1997-2002. Long-term manipulation and monitoring of a  
desert ecosystem.

Thaw Charitable Trust. \$55,150. 1997-1999. (with the Malpai Borderlands Group). Long-term  
change in the U.S.-Mexico borderlands.

David and Lucille Packard Foundation #99-8330. \$960,000. 1999-2003. (co-principal  
investigator G.B. West). Scaling in biology.

NSF Grant DEB-0083422. \$2,500,000. 2000-05 (co-principal investigators, B.T. Milne and G.B.  
West). Biocomplexity: the scale of biodiversity.

NSF Grant DEB- 0348896. \$161,000. (Co-PI, T.J. Valone). Long-term manipulation and  
monitoring of a desert ecosystem.

Howard Hughes Medical Institute – 56005678. 2006-2008. \$3,000,000. (Co-PI, F. A. Smith).  
Program in Interdisciplinary Biological and Biomedical Sciences.

National Institutes of Health (NIH) 1T32EB009414-01. 2009-2014. \$969,835 (Co-PI, F. A.  
Smith Program in Interdisciplinary Biological and Biomedical Sciences. (PiBBs).

### **Former Ph.D. Students (and present employment):**

Michael A. Cyr      1972 UCLA    Predatory behavior of grasshopper mice  
Founder-owner of private manufacturing business

Andrew T. Smith    1973 UCLA    Population structure of pikas  
Professor, Arizona State University

David L. Soltz      1973 UCLA    Life histories of desert pupfish

President, Bloomberg University

- |  |                  |   |
|--|------------------|---|
| Diane W. Davidson<br>Retired   | 1976 Univ. Utah  | Community organization of desert ants     |
| Thomas G. Whitham<br>Professor, Northern Arizona University                                      | 1978 Univ. Utah  | Habitat selection in Pemphigus aphids     |
| Deborah E. Goldberg<br>Professor, University of Michigan   | 1980 Univ. Ariz. | Abrupt boundaries in plant communities    |
| Gregory S. Byers<br>Maker of fine guitars  | 1981 Univ. Ariz. | Evolution of heterostyly                  |
| Richard S. Inouye<br>Professor, Idaho State University   | 1981 Univ. Ariz. | Interactions in desert annual plants      |
| James C. Munger<br>Professor, Boise State University   | 1982 Univ. Ariz. | Foraging of horned lizards                |
| Steven D. Sutherland<br>Research Ecologist, Missoula Fire Lab, USFS                              | 1982 Univ. Ariz. | Pollination of agaves                     |
| Thomas C. Gibson<br>Environmental consultant   | 1983 Univ. Utah  | Community ecology of insectivorous plants |
| David F. Gori<br>Scientist, The Nature Conservancy   | 1984 Univ. Ariz. | Paternal behavior of blackbirds           |
| David H. Wright<br>Environmental Scientist, USFW, Sacramento Office, Endangered Species Division | 1984 Univ. Ariz. | Available energy and species diversity    |
| Michael A. Bowers<br>Program Director, US Department of Agriculture                              | 1984 Univ. Ariz. | Community organization of bumblebees      |
| Michael L. Dungan<br>Environmental consultant  | 1984 Univ. Ariz. | Interactions in intertidal communities    |
| L. Susan Anderson<br>Scientist, The Nature Conservancy   | 1984 Univ. Ariz. | Organization of an alpine bee community   |
| Daniel B. Thompson<br>Professor, University of Nevada, Las Vegas                                 | 1986 Univ. Ariz. | Evolutionary genetics of Peromyscus       |
| Robert D. Holmes<br>Freelance science writer   | 1988 Univ. Ariz. | Neighborhood effects in plant ecology     |

Colleen K. Kelly 1988 Univ. Ariz. "Foraging" of a parasitic plant  
Reader, Oxford University, United Kingdom

Alan W. Harvey 1988 Univ. Ariz. Sexual dimorphism in hermit crabs  
Associate Professor, Georgia Southern University

Michael D. Rourke 1988 Univ. Ariz. Ecology of foxtail pine  
Faculty, Bakersfield Community College

Gerardo Ceballos 1989 Univ. Ariz. Tropical mammal ecology  
Professor, Universidad Nacional Autonoma de Mexico

Katrina L. Mangin 1991 Univ. Ariz. Ecology of an intertidal hydroid  
Director of Science Education, University of Arizona

Lauraine K. Hawkins 1992 Univ. N. Mex. Kangaroo rats and molds  
Professor, Pennsylvania State University, Montalto

Pablo A. Marquet 1993 Univ. N. Mex. Macroscopic ecological processes  
Professor, Pontifica Universidad Catolica de Chile

Katrin Bohning-Gaese 1993 Univ. Tubingen Temporal and spatial variation in birds  
Professor, University of Mainz

Kristina A. Ernest 1993 Univ. N. Mex. Mammalian and insect herbivores  
Associate Professor, Central Washington University

Marian P. Skupski 1993 Univ. N. Mex. Rodent population structure  
Scientist, Celera Genomics

Ursula L. Shepherd 1994 Univ. N. Mex. Ecomorphology of mammals  
Professor, University of New Mexico

Qinfeng Guo 1994 Univ. N. Mex. Community ecology of desert annuals  
Research Scientist, US Forest Service

Jean Luc Cartron 1995 Univ. N. Mex. Avian life history: ecology and phylogeny  
Freelance Ecologist

David H. Mehlman 1995 Univ. N. Mex. Geographic variation in avian abundance  
Scientist, The Nature Conservancy

Douglas A. Kelt 1995 Univ. N. Mex. Assembly of mammalian communities  
Professor, University of California, Davis

Shahroukh Mistry 1995 Univ. N. Mex. Seed dispersal in Old World tropical forests  
Assistant Professor, Chico State University

William Gannon 1997 Univ. N. Mex. Ecological interactions between bat species  
Office of Vice Provost for Research, University of New Mexico

Dawn M. Kaufman 1998 Univ. N. Mex. The structure of mammalian faunas  
Assistant Professor, Claremont McKenna College

Laura Gonzales-Guzman 1998 Univ. N. Mex. Ecology of avian migration  
Research Faculty, University of Texas-Austin

Brian J. Enquist 1998 Univ. N. Mex. Plant allometry  
Associate Professor, University of Arizona

Dov F. Sax 1999 Univ. N. Mex. Native and exotic species distributions  
Assistant Researcher-Biologist, University of California, Santa Barbara

Robert V. Taylor 1999 Univ. N. Mex. Bird population dynamics  
Scientist, The Nature Conservancy

S.K. Morgan Ernest 2000 Univ. N. Mex. Emergent properties of a Chihuahuan Desert  
Ecosystem  
Assistant Professor, Utah State Univ

Jennifer Parody 2001 Univ. N. Mex. Bird-habitat relationships and the utility of multi-  
scale methods  
USFW

Ford Ballantyne 2003 Univ. N. Mex  
Assistant Professor, University of Kansas

Andrew Allen 2003 Univ. N.Mex. Mathematical models of biological scaling  
Assistant Professor, Macquarie University, Australia

Allen H. Hurlbert 2005 Univ. N. Mex. Resource-based determinants of species richness:  
testing species-energy theory  
Assistant Professor, University of North Carolina

Melanie Moses 2005 Univ. N. Mex. Metabolic Scaling in Individuals and Societies.  
Assistant Professor, Univ. N. Mex

Ethan White 2005 Univ. N. Mex. Temporal scaling of diversity: a detailed analysis of  
the species-time relationship  
Assistant Professor, Utah State University

Ana D. Davidson 2005 Univ. N. Mex. The comparative and interactive effects of prairie dogs and banner-tailed kangaroo rats plants and animals in the northern Chihuahuan Desert. Postdoctoral researcher, Univ Autonoma de Mexico

Jason Bragg 2006 Univ. N. Mex  
Research Scientist, CSIRO, Canberra, Australia

Jacob Goheen 2006 Univ, N. Mex  
Assitant Professor, Univ British Columbia

Katherine Thibault 2006 Univ. N. Mex  
Postdoctoral researcher, Utah State University

Hira A. Walker 2007 Univ. N. Mex  
Research Scientist, US Forest Service  
Alison Boyer 2008 Univ. N. Mex  
Postdoctoral researcher, University of North Carolina

**Former Postdoctoral Associates (and present employment):**

John F. Addicott 1972-73 Univ. Utah  
Professor, University of Calgary, Canada

O. J. Reichman 1973-74 Univ. Utah  
Director, National Center for Ecological Analysis and Synthesis (retired)

Zvika Abramsky 1976-77 Univ. Ariz.  
Professor, Ben Gurion University of the Negev, Israel

Brian A. Maurer 1984-86 Univ. Ariz.  
Professor, Michigan State University

Edward J. Heske 1987-91 Univ. Ariz. - Univ. N. Mex.  
Scientist, Illinois Natural History Survey; Associate Professor, University of Illinois

Raymond Pierotti 1988-89 Univ. N. Mex.  
Professor, University of Kansas

Mark L. Taper 1990-92 Univ. N. Mex.  
Professor, Montana State University

Felisa A. Smith 1991-95 Univ. N. Mex.  
Associate Professor, University of New Mexico

Thomas J. Valone 1991-94 Univ. N. Mex.  
Professor, St. Louis University

George C. Stevens 1993-97 Univ. N. Mex.  
Vice-President, Philadelphia Academy of Science

Charles G. Curtin 1995-98 Univ. N. Mex.  
Freelance Ecologist

Evan Siemann 1997-98 Univ. N. Mex.  
Professor, Rice University

Valerie Gremillion 1998-2004 Univ. N. Mex.  
Freelance Ecologist

Kate Lyons 2001-2003 Univ. N. Mex  
Researcher, Smithsonian Institution

Walter Jetz 2002-2003 Univ. N. Mex.  
Associate Professor, Yale University

S.K.M. Ernest 2002-2005 , Univ. N. Mex  
Associate Professor, Utah State University

Craig R. McClain 2002-2005, Univ. N. Mex  
Associate Director for Research, National Evolution Synthesis Center

Andrew Allen 2003, Univ. N. Mex  
Assistant Professor, Macquarie University, Australia

Melanie Moses 2005-2007, Univ. N. Mex  
Assistant Professor, University of New Mexico

Jeff Nekola 2004-2009, Univ. N. Mex

Ana Davidson 2008-2009. Univ. N. Mex

**Visiting Post-Doctoral Researcher:**

Norman Mercado-Silva 2007-2009 Univ. N. Mex

**Memberships:**

American Society of Naturalists  
Ecological Society of America  
Society for the Study of Evolution  
American Society of Mammalogists

American Association for the Advancement of Science  
International Biography Society

**Past Professional Service:**

National Academy of Sciences:  
Member

Editorial Board of PNAS

American Society of Mammalogists:  
Board of Directors, Honorarium Committee, Committee on Systematic Collections, Merriam Award Committee, Resolutions Committee, Jackson Award Committee, 2nd Vice-President, 1st Vice-President, President

Ecological Society of America:  
Editorial Board, Nominating Committee, Mercer Award Committee, Eminent Ecologist and Distinguished Service Committee, Honorary Membership Subcommittee, Awards Committee Chair, National Institutes of the Environment Liaison Committee, National Ecology Center Committee Co-Chair, Ecosystem Management Committee, BES/ESA 2000 Meeting Committee, Vice-President, President

American Society of Naturalists:  
Nominating Committee, President

Society for the Study of Evolution:  
Councilor

American Society of Zoologists:  
Nominating Committee

National Science Foundation:  
Ecology Panel, Population Biology and Physiological Ecology Panel

Evolutionary Ecology:  
Editorial Board

Journal of Biogeography, and Biogeography and Global Change Letters:  
Associate Editor for North America

Global Ecology and Biogeography:  
Editorial Board

National Research Council Committee on Global Climatic Change:  
Biotic Systems and Dynamics Component

Southwestern Research Station, American Museum of Natural History:  
Scientific Advisory Board

Malpai Borderlands Group:  
Scientific Advisory Board

External review panels:  
Wildlife Program, Illinois Natural Survey; Sections of Neurobiology and Behavior and Ecology and Systematics, Cornell University; Department of EPO Biology, University of Colorado; Department of Biology, University of North Carolina

National Center for Ecological Analysis and Synthesis:  
Scientific Advisory Board

The Nature Conservancy, New Mexico Chapter, Board of Trustees

University of New Mexico:  
Graduate Policy Committee Chair, Evolutionary Geneticist Search Committee, Promotion and Tenure Committee Chair, Chair's Advisory Committee, Graduate Student Selection Committee Chair, Regents' Professor Selection Committee, Search Committee for Vice Provost