CURRICULUM VITAE 26 July 2011

James Hemphill Brown Distinguished Professor of Biology The University of New Mexico, Albuquerque, New Mexico 87131 Tel: (505) 277-9337; Fax: (505) 277-1425 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.

Lomolino, M.V., B.R. Riddle, R.J. Whittaker, and J.H. Brown 2010. *Biogeography*, fourth edition. Sinauer Associates, Inc.

Scientific papers in refereed journals:

Brown, J.H. 1968. Adaptation to environmental temperature in two species of woodrats, Neotoma cinerea and N. albigula. *Miscellaneous Publications, Museum of Zoology University of Michigan* 135:1-48.

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

Brown, J.H. and C.F. Welser. 1968. Serum albumin polymorphisms in natural and laboratory populations of Peromyscus. *Journal of Mammalogy* 49:420-426.

Hooper, E.T. and J.H. Brown. 1968. Foraging and breeding in two sympatric species of neotropical bats, genus Noctillo. *Journal of Mammalogy* 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. *Journal of Mammalogy* 51:669-674.

Brown, J.H. 1971. Mechanisms of competitive exclusion between two species of chipmunks (Eutamis). *Ecology* 52:306-311.

Brown, J.H. 1971. Mammals on mountaintops: non-equilibrium insular biogeography. *American Naturalist* 105:467-478.

Brown, J.H. 1971. The desert pupfish. *Scientific American* 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. *Journal of Mammalogy* 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. *American Naturalist* 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. *Journal of Comprehensive Physiology* 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. *American Zoology* 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 coevolution of plants and pollinators. *American Zoology* 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. *American Zoology* 19:1129-1143.

Brown, J.H., O.J. Reichman and D.W. Davidson. 1979. Granivory in desert ecosystems. *Annual Review of Ecological Systems* 10:201-227.

Reichman, O.J. and J.H. Brown. 1979. The use of torpor by *Perognathus amplus* in relation to resource distribution. *Journal of Mammalogy* 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. *Southwestern Naturalist* 26:133-145.

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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* 9 9:123-129.

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 Naturalist Mem.* 7:117-134.

Brown, J.H. 1984. On the relationship between abundance and distribution of species. *American Naturalist* 124:255-279.

Brown, J.H. 1984. Desert rodents: a model system. Acta Zoologica 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. *Bulletin Ecological Society of America* 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. *American Naturalist* 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 Mammalogy* 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.

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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. *Journal of Mammalogy* 68:656-665.

Brown, J.H., and M. Kurzius. 1987. Composition of desert rodent faunas: combinations of coexisting species. *Annales Zoologici 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. *American Naturalist* 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. *Evolutionary Ecology* 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. *Bulletin of the Ecological Society of America* 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. *Annales Zoologici 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. *Bulletin of the Ecological Society of America* 71:173-188.

Brown, J.H., and P.F. Nicoletto. 1991. Spatial scaling of species assemblages: body masses of North American land mammals. *American Naturalist* 138:1478-1512.

Patterson, B.D., and J.H. Brown. 1991. Regionally nested patterns of species composition in granivorous rodent assemblages. *Journal of Biogeography* 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. *Conservation Biology* 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. *American Naturalist* 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? *Conservation Biology* 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. *Evolutionary Ecology* 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. *Ecological Applications* 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., J.H. Brown, D.A. Kelt, and J.R.W. Reid. 1994. Comparisons of community structure among small mammals of North American and Australian deserts. *Australian Journal of Ecology* 42:501-525.

Valone, T.J., J.H. Brown, 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., D.H. Mehlman, 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. *Conservation Biology* 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.

Ceballos, G., and J.H. Brown. 1995. Global patterns of mammalian diversity, endemism, and endangerment. *Conservation Biology* 9:559-568.

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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. *Annales Zoologici 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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- Parmenter, R.R., S.I. Brantley, J.H. Brown, C.S. Crawford, D.C. Lightfoot, and T.L. Yates. 1996. Diversity of animal communities on southwestern rangelands: species patterns, habitat affinities, and land management. *In N.E. West, ed. Biodiversity of Rangelands*. Utah State University Press, Logan, UT.
- Valone, T.J., and J.H. Brown. 1996. Desert rodents: long-term responses to natural changes and experimental manipulations. pp. 555-583 *In* M.L. Cody and J.A. Smallwood, eds. *Long-term Studies of Vertebrate Communities*. Academic Press, Orlando, FL.

- Brown, J.H. 1998. The granivory experiments at Portal. *In* W.L. Resetarits, Jr. and J. Bernardo, eds. *Experimental Ecology: Issues and Perspectives*. Oxford University Press, Oxford.
- Kelt, D.A., and J.H. Brown. 1998. Diversification of body sizes: patterns and processes in the assembly of terrestrial mammal faunas. *In* M. McKinney and J. Drake, eds. *Biodiversity Dynamics*. Columbia University Press, New York.
- Kelt, D.A., and J.H. Brown. 1999. Community structure and assembly rules: confronting conceptual and statistical issues with data on desert rodents. *In* E. Weiher and P.A. Keddy, eds. *The Search for Assembly Rules in Ecological Communities*. Cambridge University Press.
- Brown, J.H., G.B. West, and B.J. Enquist. 2000. Scaling in Biology: Patterns and processes, causes and consequences. *In* J.H. Brown and G.B. West, eds. *Scaling in Biology*. Oxford University Press, Oxford.
- Curtin, C.G., and J.H. Brown. 2001. Climate and Herbivory in Structuring the Vegetation of the Malpai Borderlands. *In* G.L. Webster and C.J. Bahre, eds. *Changing Plant Life of La Frontera*. University of New Mexico Press, Albuquerque, NM.
- Kelt, D.A., and J.H. Brown. 2001. Diversification of Body Sizes: Patterns and Processes in the Assembly of Terrestrial Mammal Faunas. *In M.L. McKinney and J.A. Drake*, eds. *Biodiversity Dynamics*. Columbia University Press, NY.
- Brown, J.H. 2001. Concluding Remarks. *In M.C. Press*, N.J. Huntly and S. Levin, eds. *Ecology: Achievement and Challenge*. Blackwell Science.
- Brown, J.H., J.F. Gillooly, G.B. West, and V.M. Savage. 2003. The next step in macro-ecology: From general empirical patterns to universal ecological laws. *In* T.M. Blackburn and K.J. Gaston, eds. *Macorecology: Concepts and Consequences*. Blackwell Science.
- Brown, J.H., Bedrick, E.J., Ernest, S.K.M., Cartron, J.L.E., and J.F. Kelly. 2004. Constraints on negative relationships: mathematical causes and ecological consequences. *In* M.L. Taper, S. Lele, and N. Lewin-Koh, eds. *The Nature of Scientific Evidence*. Johns Hopkins University Press.
- Brown, J.H., and D. Sax. 2004. Gradients in species diversity: Why are there so many species in the tropics?. *In* Lomolino, M.V., D.F Sax, and J.H. Brown, eds. *Foundations of Biogeography*. University of Chicago Press.
- Gillooly, J.F., A.P. Allen, and J.H. Brown 2005. Food web structure and dynamics; reconciling alternative ecological currencies. *In* M. Pascual and J.A. Dunne, eds. *Food Webs as Complex Adaptive Systems: Linking Structure to Dynamics*. Oxford University Press, Oxford.
- Sax, D.F., J.H. Brown, E. White, and S.D. Gaines. 2005. The dynamics of species invasions: Insights into the mechanisms that limit species diversity. *In*, Sax, D.F., Stachowicz, J.J., and

Gaines, S.D., eds. *Species Invasions: Insights into Ecology, Evolution and Biogeography*. Sinauer Associates, Sunderland, MA.

White, E.P. and J.H. Brown. 2005. The Template: Patterns and Processes of Spatial Variation. *In* Lovett, Turner, and Weathers, eds. *Ecosystem Function in Heterogeneos Landscapes*. Springer.

Gillooly, J.F., A.P. Allen and J.H. Brown. 2006. Food web structure and dynamics; Reconciling alternative ecological currencies. *In* M. Pascual, and J.A. Dunne, eds. *Food Webs as Complex Adaptive Systems:Linking Structure to Dynamics*. Oxford University Press, Oxford, U.K.

Allen, A.P., J.F. Gillooly and J.H. Brown. 2007. *Scaling species richness and distribution: Uniting the speacies-area and species-richness relationships. In* D. Storch, P. Marquet and J.H. Brown, eds. *Scaling Biodiversity*. Cambridge University Press, Cambridge, U.K.

Brown, J.H., A.P. Allen and J.F. Gillooly. 2007. *The metabolic theory of ecology and the role of body size in marine and freshwater ecology. In* A. Hildrew, D. Raffaelli and R. Edmonds-Brown, eds. *Body Size: The Structure and Function of Aquatic Ecosystems*. Cambridge University Press, Cambridge, U.K.

Hall S.R., K.D. Lafferty, J.H. Brown, C.E. Cáceres, J.M. Chase, A.P. Dobson, R.D. Holt, C.G. Jones, S.E. Randolph, & P. Rohani. 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, M. E., S. Forrest, A.L. Davis, M.A. Lodde, J.H. Brown. 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," Pymatuming 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

Zoology Seminar Sutton Lecture, "Metabolism is to Ecology as Genetics is to Evolution", Oklahoma University, 2010

Joint Meeting with ASLO & NABS, "The Metabolic Theory of Ecology and Temperature-Dependent Ecological Processes in Freshwater Invertebrates", 2010

Physics and Astronomy Colloquim "Energetic Limits to Economic Growth", University of New Mexico, 2010

Working Group on Biodiversity, UC Berkeley, 2010

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 (Coorganizer).

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.

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

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

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 1976 Univ. Utah Community organization of desert ants Retired

Thomas G. Whitham 1978 Univ. Utah Professor, Northern Arizona University

Habitat selection in Pemphigus aphids

Deborah E. Goldberg 1980 Univ. Ariz. Abrupt boundaries in plant communities Professor, University of Michigan

Gregory S. Byers 1981 Univ. Ariz. Evolution of heterostyly Maker of fine guitars

Richard S. Inouye 1981 Univ. Ariz. Interactions in desert annual plants Professor, Idaho State University

James C. Munger 1982 Univ. Ariz. Foraging of horned lizards Professor, Boise State University

Steven D. Sutherland 1982 Univ. Ariz. Pollination of agaves Research Ecologist, Missoula Fire Lab, USFS

Thomas C. Gibson 1983 Univ. Utah Community ecology of insectivorous plants Environmental consultant

David F. Gori 1984 Univ. Ariz. Paternal behavior of blackbirds Scientist, The Nature Conservancy

David H. Wright 1984 Univ. Ariz. Available energy and species diversity Environmental Scientist, USFW, Sacramento Office, Endangered Species Division

Michael A. Bowers 1984 Univ. Ariz. Community organization of bumblebees Program Director, US Department of Agriculture

Michael L. Dungan 1984 Univ. Ariz. Interactions in intertidal communities Environmental consultant

L. Susan Anderson 1984 Univ. Ariz. Organization of an alpine bee community Scientist, The Nature Conservancy

Daniel B. Thompson 1986 Univ. Ariz. Evolutionary genetics of Peromyscus Associate Professor, University of Nevada, Las Vegas

Robert D. Holmes 1988 Univ. Ariz. Neighborhood effects in plant ecology Freelance science writer

Colleen K. Kelly 1988 Univ. Ariz. "Foraging" of a parasitic plant Senior Research Associate, 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, Mohave 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 Assistant Professor, Pennsylvania State University, Mont Alto

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

Katrin Bohning-Gaese 1993 Univ. Tubingen Temporal and spatial variation in birds Director, Biodiversity and climate research centre, University of Mainz

Kristina A. Ernest 1993 Univ. N. Mex. Mammalian and insect herbivores 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 Associate Professor, University of New Mexico

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

Jean Luc Cartron 1995 Univ. N. Mex. Avian life history: ecology and phylogeny Adjunct Research Assistant Professor, University of New Mexico

David H. Mehlman 1995 Univ. N. Mex. Geographic variation in avian abundance Director, 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 Associate Professor, Westminster College

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

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

Laura Gonzalez-Guzman 1998 Univ. N. Mex. Ecology of avian migration Lecturer/Research Fellow, University of Texas-Austin

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

Dov F. Sax 1999 Univ. N. Mex. Native and exotic species distributions Assistant Professor, Brown University

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

S.K.M. Ernest 2000 Univ. N. Mex. Emergent properties of a Chihuahuan Desert Ecosystem

Assistant Professor and Co-Director of Graduate Studies, Utah State Univ

Jennifer Parody 2001 Univ. N. Mex Bird-habitat relationships and the utility of multiscale 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. Mexico

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 Fellow, 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

Kristina Anderson-Teixeira 2008 Unv. N.Mex Postdoctoral Research Associate, Energy Biosciences Institute, University of Illinois at Urbana-Champaign.

Hira A. Walker 2007 Univ. N. Mex Research Scientist, US Forest Service

Alison Boyer 2008 Univ. N. Mex

Postdoctoral Fellow, University of North Carolina

Former Postdoctoral Associates (and present employment):

John F. Addicott 1972-73 Univ. Utah Professor Emeritus, 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; Adjunct Professor, University of Illinois

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

Mark L. Taper 1990-92 Univ. N. Mex. Associate 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. Assistant 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 Resident Research Associate, Smithsonian Institution

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

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

Craig R. McClain 2002-2005, Univ. N. Mex Assistant 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 Associate Professor, University of New Mexico

Ana Davidson 2008-2009. Univ. N. Mex Postdoctoral Fellow, Univ Autonoma de Mexico

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