

Brian Joseph Enquist

Associate Professor

Department of Ecology and Evolutionary Biology
University of Arizona, BioSciences West, Tucson, AZ 85721
Office Phone: (520) 626-3329 Fax: (520) 621-9190, Lab Phone: (520) 626-3336
e-mail: benquist@u.arizona.edu

Education

Ph.D. Biology, (Ecology Program) July 1998, University of New Mexico. Albuquerque, NM.
Title: *On the origin and consequences of allometric scaling*. Advisor: Dr. James H. Brown

Dissertation Committee – J.H. Brown, G.C. Stevens, T.K., Lowrey, and
H.S. Horn (Princeton U.)

M.S. Biology, (Ecology Program) February 1994. University of New Mexico, Albuquerque, NM.
Thesis Advisor: Dr. James H. Brown.

B.A. Biology, (*With Distinction*), May 1991. The Colorado College Colorado Springs, CO.

Academic Awards, Fellowships, and Honors

- ISI Essential Science Indicators (ESI) - Author with the highest percent increase in total citations in the field of Environment and Ecology (<http://www.in-cites.com/scientists/BrianEnquist.html>) 2005
- Popular Science Magazine – “Top 10 Brilliant Young Scientists.” 2004
- NSF CAREER ‘Young Investigators’ Award 2002-2007
- Conservation International - Center for Applied Biodiversity Science Fellow 2002-2004
- George C. Mercer Award, Ecological Society of America 2001
(*Awarded to the best ecological paper by a researcher under the age of 40*)
- NSF Postdoctoral Research Fellowship 1998-2000
- Santa Fe Institute Postdoctoral Research Fellowship, (*Declined*) 1998
- Best Research Poster, UNM Biology Research Day 1994 & 1998
- NSF Graduate Research Training Fellowship 1996-1998
- Santa Fe Institute Complex Systems Summer School 1997
- Fulbright Fellowship, Costa Rica 1995-1996
- Biedleman Award, Colorado College 1991
(*Awarded to best graduating undergraduate in Ecology*)
- Graduation with Distinction in Biology, Colorado College 1991

Professional Employment and Academic Appointments

- Associate Professor, Department of Ecology and Evolutionary Biology, *University of Arizona*, Tucson (2005-).
- Assistant Professor, Department of Ecology and Evolutionary Biology, *University of Arizona*, Tucson (2001-2005).
- NSF Postdoctoral Fellow, NCEAS (National Center for Ecological Analysis and Synthesis), *Univ. California, Santa Barbara, CA*. Sept. 1999 – Dec. 2000 and *The Santa Fe Institute, Santa Fe, NM*. Aug. 1998 - Sept 1999.
- Research Assistant Professor, Fall 1998 -2001 . Department of Biology, *University of New Mexico*.

Peer Reviewed Publications

- 1-Price, C.P. and **B.J. Enquist** (2007) Scaling mass and morphology in dicotyledonous leaves: An extension of the WBE model *Ecology* (*In Press*).
- 2-Kerkhoff, A.J. and **B.J. Enquist** (2007) Implications of scaling approaches for understanding resilience and reorganization in ecosystems. *BioScience* (*In Press*).
- 3-Boyle, B., Meyer, H.W., **Enquist, B.J.**, and Salas, S. (2007) Higher taxa as paleoecological and paleoclimatic indicators: A search for the modern analog of the Florissant fossil flora. GSA Publication - *Paleontology and Stratigraphy of the Late Eocene Florissant Formation, Colorado* Meyer, H. Smith, D Eds. (*In Press*).
- 4-Conlisk, E, Bloxham, M, Conlisk, J., **Enquist, B.J.** and J. Harte (2007) A class of null models of spatial distribution. *Ecological Monographs* (*In Press*).
- 5-Kerkhoff, A.J. Fagan, W.F., Elser, J.J. and **B.J. Enquist** (2006) Phylogenetic and growth form variation in the scaling of nitrogen and phosphorus in the seed plants. *American Naturalist* (*In Press*).
- 6-McGill, B., **Enquist, B.J.**, Weiher, E. and M. Westoby (2006) Response to Kearney and Porter: Both functional and community ecologists need to do more for each other. *Trends in Ecology and Evolution* (*In press*)
- 7-Swenson, N.G., **Enquist, B.J.**, Pither, J., Thompson, J. and J. Zimmerman (2006) The problem and promise of scale dependency in community phylogenetics. *Ecology* (*In Press*).
- 8-**Enquist, B.J.**, Kerkhoff, A.J., Huxman, T.E., and E.P. Economo (2006) Adaptive differences in plant physiology and ecosystem paradoxes: Insights from Metabolic Scaling Theory. *Global Change Biology* (*In Press*).
- 9-Savage, V.M., White, E.P., Moses, M.E., Ernest, S.K.M., **Enquist, B.J.**, Charnov, E.L. (2006) Comment on "The Illusion of Invariant Quantities in Life Histories". *Science*, 312: 198b.
- 10- Kerkhoff, A.J. and **B.J. Enquist** (2006) Ecosystem allometry: the scaling of nutrient

- stocks and primary productivity across plant communities. Ecology Letters, 9:419-427.
- 11- McGill, B. **Enquist, B.J.**, Weiher, E. and M. Westoby (2006) Rebuilding community ecology from functional traits. Trends in Ecology and Evolution, 21:178-185.
- 12- Price, C.A. and **B.J. Enquist** (2006) Scaling of mass and morphology in plants with minimal branching: An extension of the WBE model. Functional Ecology 20: 11-20.
- 13- Potts, D.L., Huxman, T.E., **Enquist, B.J.**, Weltzin, J.F., and D.G. Williams (2006) Resilience and resistance of ecosystem functional response to a precipitation pulse in a semi-arid grassland. Journal of Ecology 94:23-30.
- 14- Kerkhoff, A.J., **Enquist, B.J.**, W.F. Fagan, and J.J. Elser. (2005) Plant allometry, ecological stoichiometry and the temperature-dependence of terrestrial primary production. Global Ecology and Biogeography, 14:585-598.
- 15- Brown, J.H., West, G.B. and **B.J. Enquist** (2005) Yes, West, Brown and Enquist's model of allometric scaling is both mathematically correct and biologically relevant. Functional Ecology 19:735-738.
- 16- Economo, E. P., Kerkhoff, A.J. and **Enquist, B.J.** (2005) Allometric growth, life-history invariants and population energetics. Ecology Letters, 8:353-360.
- 17- McCarthy, M.C. and **B.J. Enquist**. (2005) Organismal size, metabolism and the evolution of complexity in Metazoans. Evolutionary Ecology Research, 7:681-696.
- 18- Maurer, B.A., Alroy, J., Brown, J.H., Dayan, T., **Enquist, B.J.**, Ernest, S.K.M., Hadly, E.A., Haskell, J.P., Jablonski, D., Jones, K.E., Kaufman, D.M., Lyons, S.K., Niklas, K.J., Porter, W.P., Roy, K., Smith, F.A., Tiffney, B. and M.R. Willig. (2004) Similarities in body size distributions of small-bodied flying vertebrates. Evolutionary Ecology Research, 6:783-797.
- 19- Smith, F.A., Brown, J.H., Haskell, J.P., Lyons, S.K., Alroy, J., Charnov, E.L., Dayan, T., **Enquist, B.J.**, Ernest, S.K.M., Hadly, E.A., Jablonski, D., Jones, K.E., Kaufman, D.M., Marquet, P.A., Maurer, B.A., Niklas, K.J., Porter, W.P., Roy, K., Tiffney, B., and M.R. Willig. (2004) Similarity of mammalian body size across the taxonomic hierarchy and across space and time. American Naturalist, 163:672-691.
- 20- Savage, V.M., J. F. Gillooly, W.H. Woodruff, G.B. West, A. P. Allen, **B.J. Enquist**, J. H. Brown. (2004). The predominance of quarter-power scaling in biology. Functional Ecology, 18:257-282.
- 21- West, G.B., Brown, J.H. and **B.J. Enquist** (2004) Growth models based on first principles or phenomonology? Functional Ecology, 18:188-196.
- 22- **Enquist, B.J.**, Economo, E.P., Huxman, T.E., Allen, A. P. Ignace, D. D. and J. F. Gillooly (2003) Scaling metabolism from organisms to ecosystems. Nature, 423:639-

- 23- Ernest, S.K.M., **Enquist, B.J.**, Brown, J.H., Charnov, E.L., Gillooly, J.F., Savage, V.M., White, E.P., Smith, F.A., Alroy, J., Dayan, T., Hadly, E.A., Haskell, J.P., Lyons, S.K., Maurer, B.A., Niklas, K.J., Porter, W., and B. Tiffney (2003) Thermodynamic and metabolic effects on the scaling of production and abundance. Ecology Letters, 6:990-996.
- 24- **Enquist, B.J.** (2003) Scaling the macroecological and evolutionary implications of size and metabolism within and across plant taxa. In: *Macroecology: Pattern and Process*, pp 321-341 (T. Blackburn and K. Gaston Eds.), Oxford University Press, Oxford.
- 25- West, G.B., V. M. Savage, J. Gillooly, **B. J. Enquist**, William H. Woodruff and James H. Brown. (2003). But Why *Does* Metabolic Rate Scale with Body Size? (Brief Communication) Nature 421: 713.
- 26- Niklas, K.J., J.J. Midgley, and **B.J. Enquist** (2003) A general model for mass-growth-density relations across plant communities. Evolutionary Ecology Research 5:459-468.
- 27- **Enquist, B.J.** (2003) Cope's Rule and the evolution of long distance transport in vascular plants: Allometric scaling, biomass partitioning, and optimization. Plant Cell and Environment 26:151-161.
- 28- Niklas, K.J. and **B.J. Enquist** (2003) The allometric scaling of seed plant reproduction. Evolutionary Ecology Research 5:79-88.
- 29- G. B. West, **B.J. Enquist**, J.H. Brown (2002) Ontogenetic growth: Modeling universality and scaling (Brief Communication) Nature 420: 626-627.
- 30- **Enquist, B.J.**, Haskell, J. P., and Tiffney, B. H. (2002). General patterns of taxonomic diversity and biomass partitioning across tree dominated communities. Nature 419:610-613.
- 31- **Enquist, B.J.** (2002) Universal scaling in vascular plants: Toward a general quantitative theory for linking plant processes from leaves to ecosystems. Tree Physiology 22: 1045-1064.
- 32- Belgrano, A. , Allen, A.A., **B.J. Enquist** and J.F. Gillooly. (2002) Allometric scaling of maximum population density: a common rule for marine phytoplankton and terrestrial plants. Ecology Letters 5:611-613.
- 33- **Enquist, B.J.** and K.J. Niklas (2002) Global allocation rules for patterns of biomass partitioning - Technical Comment Science 296:1923a
- 34- K.J. Niklas and **B.J. Enquist** (2002) Canonical rules for plant organ biomass partitioning and growth allocation. American Journal of Botany 89:812-819.
- 35- K.J. Niklas and **B.J. Enquist** (2002) On the vegetative biomass partitioning of seed plant leaves, stems, and roots. American Naturalist 159:482-497.

- 36- **Enquist, B.J.**, J. Sanderson, and M.D. Weiser (2002) Neutral Macroecology: A reply to G. Bell - Letter to the Editor Science 295:1517-1520.
- 37- **Enquist, B.J.** and K.J. Niklas (2002) Global allocation rules for biomass partitioning in seed plants. Science 295:1517-1520.
- 38- Leffler, A. J. & **B.J. Enquist**. (2002) Carbon isotope composition of tree leaves from dry tropical forests of Guanacaste, Costa Rica: Comparison across tropical ecosystems and tree life history. Journal of Tropical Ecology 18:151-159.
- 39- West, G.B., J.H. Brown, and **B.J. Enquist** (2001) A general allometric model of ontogenetic growth. Nature: 413: 628-631.
- 40- **Enquist, B.J.** and K.J. Niklas (2001). Invariant scaling relations across tree-dominated communities. Nature 410:655-660.
- 41- Niklas, K. J. and **B. J. Enquist** (2001). Invariant scaling relationships for interspecific plant biomass production rates and body size. Proceedings of the National Academy of Sciences (USA): 98:2922-2927.
- 42- **Enquist, B.J.** & A. J. Leffler (2001). Long-term tree ring chronologies from sympatric tropical dry-forest trees: individualistic responses to climate variation. Journal of Tropical Ecology 17:41-60.
- 43- **Enquist, B.J.**, Haskell, J., Niklas, K.J., & B. H. Tiffney (2001). The evolution of plant communities: biodiversity and community structure through time. In: Encyclopedia of Biodiversity. Pp 631-643. S. Levin (ed.). Academic Press.
- 44- Kiflawi, M., **Enquist, B.J.** & M.A. Jordan (2000). Developmental instability and relative position within the geographic range: an analysis of sympatric populations within Pleistocene and Contemporary Local Communities. Ecography 23, 539-546.
- 45- Brown, J.H., West, G.B., & **B.J. Enquist**. (2000) Scaling in Biology: Patterns and processes, causes and consequences. In: Scaling in Biology J.H. Brown and G.B. West (eds.). Oxford University Press.
- 46- **Enquist, B.J.**, West, G.B. & J.H. Brown. (2000) The origin and ecological consequences of quarter-power allometric scaling in vascular plants. In: Scaling in Biology J.H. Brown and G.B. West (eds.). Oxford University Press.
- 47- West, G.B., Brown, J.H. & **B.J. Enquist**. (2000) The origin of universal scaling laws in biology. In: Scaling in Biology J.H. Brown and G.B. West (eds.). Oxford University Press.
- 48- West, G.B., Brown, J.H. & **B.J. Enquist**. (1999) The fourth dimension of life: Fractal geometry and allometric scaling of organisms. Science 284:1677-1679.

- 49- **Enquist, B.J.**, West, G.B., Charnov, E.L., & J.H. Brown (1999) Allometric scaling of production and life history variation in vascular plants. Nature 401: 907-911. (*This paper was awarded the 2001 Ecological Society of America Mercer Award*)
- 50- West, G.B., Brown, J.H. & **B.J. Enquist**. (1999) A general model for the structure, and allometry of plant vascular systems. Nature 400: 664-667.
- 51- **Enquist, B.J.**, Brown, J.H. & West, G.B. (1999) Plant energetics and population density Response. Nature 398:572-573.
- 52- Guo, Q, Brown, J.H. & **B.J. Enquist**. (1998) Using constraint lines to characterize plant performance. Oikos 83:237-245.
- 53- **Enquist, B.J.**, Brown, J.H. & G.B. West. (1998) Allometric scaling of plant energetics and population density. Nature 395:163-166.
- 54- Brown, J.H., **Enquist, B.J.**, & G.B. West (1998) Allometric scaling in biology –Technical Comment. Science. 281: 751a www.sciencemag.org/cgi/content/full/281/5378/751a
- 55- Stevens, G.C., & **B.J. Enquist** (1998) Macroecological limits to the abundance and distribution of *Pinus*. In: Ecology and Biogeography of the genus Pinus. D.M. Richardson (ed.), pp. 183-190. Cambridge University Press, Cambridge, U.K.
- 56- Brown, J.H., **Enquist, B.J.** & G.B. West (1997) Allometric scaling laws in biology –Response. Science 278: 372-373.
- 57- West, G.B., Brown, J.H. & **B.J. Enquist** (1997) A general model for the origin of allometric scaling laws in biology. Science 276:122-126.
- 58- **Enquist, B.J.**, Jordan, M.A. & J.H. Brown (1995). Connections between ecology, biogeography and paleobiology: relationship between local abundance and geographic distribution in fossil and recent organisms. Evolutionary Ecology 9:586-604.
- 59- **Enquist, B.J.** & J. J. Ebersole (1994) Effects of added water on photosynthesis of *Bistorta vivipara*: The importance of water relations and leaf nitrogen in two alpine communities, Pikes Peak, Colorado, USA. Arctic and Alpine Research 26:29-34.
- 60- **Enquist, B.J.** , I.S. Cornel, and R. Thorstrom (1993). A preliminary multivariate analysis of nesting habitat of Barred and Collared Forest-Falcons (*Micrastrer ruficollis* and *M. semitorquatus*): The use of tree species composition and forest architecture to characterize favorable habitat. The Maya project: Use of Raptors as Environmental Indices for design and Management of Protected Areas and for Building Local Capacity for Conservation in Latin America. W.A. Burnham and D.F. Whitacre eds., The Peregrine Fund, Boise, Id.
- 61- Mitchell, R, D. Bleakly, R. Cabin, R. Chan, **B. Enquist** , A. Evans, T. Lowrey, D. Marshall, S. Reed, G. Stevens, & N. Wasser (1993). Species concepts: Speciation and hybridization in plants - Scientific Correspondence. Nature 364:20.

Electronic Publications (Peer Reviewed)

- 62- Niklas, K. J., and **B.J. Enquist**. 2004. Biomass Allocation and Growth Data of Seeded Plants. Data set. Available on-line, <<http://www.daac.ornl.gov>> from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, U.S.A.
- 63- West, G.B., Savage, V.M., Gillooly, J., **Enquist, B.J.** Woodruff, W.H. and J.H. Brown (2002). Red herrings and rotten fish. arXiv. <<http://arxiv.org/abs/physics/0211058>>.
- 64- **Enquist, B.J.** and J.J. Sullivan (2001) Vegetative key and descriptions of tree species of tropical dry forests of upland Sector Santa Rosa, Area de Conservacion Guanacaste, Costa Rica. Published on-line Area de Conservacion Guanacaste (www.acguanacaste.ac.cr/paginas_especie/plantae/magnoliophyta/text_principal_plantae2.html).

Electronic Publications (Not Peer Reviewed)

- 65- Fuller, M.M., **Enquist, B.J.** and A. Wagner. Neutrality is Size-Dependent in Tropical Understory Trees. A preprint of this manuscript is available as a *Santa Fe Institute Working Paper* www.santafe.edu/research/publications/wplist/2004
- 66- Fuller, M.M., **Enquist, B.J.** and A. Wagner. Species Association Networks of Tropical Trees Have a Non-neutral Structure. A preprint of this manuscript is available as a *Santa Fe Institute Working Paper* www.santafe.edu/research/publications/wplist/2004

Book Reviews

- 67- **Enquist, B.J.** (1999) Deducing underlying principles of vascular plant structure and function. A review of: Schieving, Feike 1998. *Plato's Plant: On the Mathematical Structure of Simple Plants and Canopies*. Backhuys Publishers, Leiden, The Netherlands, 360p. ISBN 90-5782-003-X. *Ecology* 80:2455-2456.

Submitted or in Revision

- 1- **Enquist, B.J.**, Allen, A.P., Brown, J.H., Gillooly, J.F., Kerkhoff, A.J., Niklas, K.J., Price, C.A., and G.B. West. Reply to Reich et al. 2006, Metabolic scaling in seedlings: The exception that proves the rule. *Nature* (*In Review*).
- 2- Swenson, N.G., **Enquist, B.J.**, Thompson, J. and J.K. Zimmerman. The scale dependency of competitive and neutral processes in tropical forest communities revealed by phylogenetic analyses. *American Naturalist* (*In Review*).
- 3- Swenson, N.G. and **B.J. Enquist**. Ecological and evolutionary determinants of a key plant functional trait: Wood density and its community-wide variation across latitude and elevation. *Ecology Letters* (*In Review*).
- 4- **Enquist, B.J.** Tiffney, B. and K.J. Niklas Metabolic scaling and the evolutionary dynamics of plant size, form, and diversity: Towards a synthesis of ecology, evolution, and paleontology. *International Journal of Plant Sciences* (*In Review*).

- 5- McCarthy, M.C, **Enquist, B.J.** and A.J. Kerkhoff. Organ partitioning and allocation across the seed plants: Assessing the relative importance of phylogeny and function. International Journal of Plant Sciences (*In Review*).
- 6- Price, C., Kerkhoff, A.J. and **B.J. Enquist**. Growth form, tissue density and the allometry of plant water and dry matter content. American Journal of Botany (*In Review*).
- 7- Price, C., and **B. J. Enquist**. Scaling mass and morphology in dicotyledonous leaves: an extension of the WBE model Ecology (*In Review*).
- 8- McCarthy, M.C. and **B.J. Enquist** Combining an allometric approach with optimal partitioning to understand global patterns of plant biomass allocation. Functional Ecology (*In Revision*).
- 9- Weiser, M.D., **Enquist, B.J.**, Boyle, B., Killeen, T., Fonseca, G., Jennings, M., Jorgensen, P., Kerkhoff, D., Lacher, T. Nunez-Vargas, P., Phillips, O., Pither, J. and R. Vasquez. Latitudinal distributions and range limits of New World Woody Plants. Journal of Biogeography (*In Review*).

Manuscripts in Preparation

- Enquist, B.J.**, Kerkhoff, A.J., McCarthy, M., Price, C. and N. Swenson. A general allometric plant production model: Integrating leaf traits, whole-plant allocation, and metabolic efficiency. (*To be submitted to Nature*).
- Enquist, B.J.**, Kerkhoff, A.J., Price, C. Lamanna, C.A. and S.C. Stark. On the maturation of metabolic scaling theory in ecology. (*To be submitted to Ecology Letters*)
- Pither, J., Kerkhoff, A.J., **Enquist, B.J.** and B. Boyle. Fundamental environmental niche-differentiation and the origins of beta-diversity within metacommunities.
- Cable, J.M and **B.J. Enquist** Scaling Host Metabolism and Pathogenesis: Virulence may be an Invariant.
- Enquist, C.A.F. and **B.J. Enquist**. Twenty years of turnover and community change in a dry tropical forest: Biotic responses to climatic change and physical heterogeneity.
- Enquist, C.A.F. and **B.J. Enquist**. Species-specific and functional group patterns of distribution of tropical trees.
- Enquist, B.J.** West, G.B., and J. H. Brown. A general allometric model for plant community structure and dynamics.
- Fuller, M.M., **Enquist, B.J.** and A. Wagner. Species association networks of tropical trees have a non-neutral structure. (In Revision American Naturalist).
www.santafe.edu/research/publications/wplist/2004
- Fuller, M.M., **Enquist, B.J.** and A. Wagner. Species association networks of tropical trees reveal size dependent, non-random community organization (*In Review*, Ecology).

Grants and Fellowships

- National Science Foundation Young Investigator CAREER Award (*20% Effort*)
 2002-2007 (**Enquist, B.J.** Sole PI). *Scaling plant life-history, ontogeny, diversity, and ecology: Elaboration of a general model.* NSF DEB-0133974 - **\$500,000**
- United States Geological Survey (USGS) Post-doctoral Research Grant (*5% Effort*)
 2003-2004 (PI - **Enquist, B.J.**, Co-PI J. Pither). *Developing a general framework for scaling*

- plant community diversity, biomass, and dynamics across time and space – SALVIAS (Synthesis and Analysis of Local Vegetation Inventories Across Scales). \$85,000.*
- National Parks Service Research Grant (8% Effort) 2003-2004 (PI **Enquist, B.J.** Co-PI B. Boyle and D. Kerkhoff). *Assessing Floristic Communities along an Elevational Gradient In Tropical Mexico – Comparison to Florissant National Monument, CO. \$12,000*
 - Center for Applied Biodiversity Science, Conservation International, CABS Fellowship (20% Effort) 2002-2004 (**Enquist, B.J.**, Sole PI). *Developing a general macroecological framework for scaling plant community, diversity, biomass, and dynamics across time and space. Proposed budget \$250,000.*
 - Department of Energy (DOE), Los Alamos National Labs (15% Effort) 2003-2004 (PI D. D. Breshears,; Co-PIs Unkefer, P.J., West, G.B., Woodruff, W.H., Donohoe, R.J., Ebinger, M.H., Cremers, D.A.; Collaborators **Enquist, B.J.**, Brown, J.H. and Allen, C.D.). *Scaling Relationships in Biology: Developing and Applying a Unifying Theory from Molecular through Biosphere Scales - \$3,750,000 (\$250,000 to **Enquist, B.J.**).*
 - National Science Foundation New Faculty Starter Grant – 2001-2002 (**Enquist, B.J.** Sole PI). *Elaboration of a novel theory for the scaling of plant form, function and diversity. NSF DBI-0129144 - \$35,000.*
 - National Science Foundation Postdoctoral Fellowship - 1998-2000 (**Enquist, B.J.** Sole PI). *Allometry as a fundamental mechanism linking evolutionary and ecological pattern. NSF DBI-04135 - \$80,000.*

Organized Workshops/Symposia

- Workshop *Toward a Unified Theory of Ecological Systems.* J. Green, B.J. Enquist, S. Hubbell, and P. Marquet organizers). Sept. 2006 The Santa Fe Institute and the National Center for Ecological Analysis and Synthesis.
- Symposium: *A “new” paradigm for community ecology: building from functional ecology -* (McGill, B. and **B.J. Enquist** organizers). Aug. 2004; Ecological Society of America Meetings in Portland, OR. Program: <http://abstracts.co.allenpress.com/pweb/esa2004/category/?ID=32244>
- Symposium: *Biophysical Ecology* (Sabo, J. and **B.J. Enquist** organizers). Aug. 2003; Ecological Society of America Meetings in Savannah GA. Program: <http://abstracts.co.allenpress.com/pweb/esa2003/category/?ID=23502>.
- Annual Southwestern Association of Biologists Meeting: Portal, AZ Oct. 2002 (**Enquist, B.J.** and M. Weiser organizers). Meeting website and official program: <http://eeb37.biosci.arizona.edu/~swab/main.html>.
- Symposium: *Scaling the implications of organismal size across evolutionary time and ecological space: A synthesis of recent advances and insights.* (**Enquist, B.J.**, Smith, F.A., and P.A. Marquet organizers). Aug 2002; Ecological Society of America Meetings in Tucson, AZ. Program: <http://abstracts.co.allenpress.com/pweb/esa2002/category/?ID=510>.
- Workshop: *Fractals in Biology: Developing the underlying mechanistic principles for self-similarity.* Workshop with 15 participants, Nov. 29-Dec. 2 2000, The Santa Fe Institute (**B.J.**

Enquist and D. Morse organizers). Program:
<http://discuss.santafe.edu/biofractals/>.

Invited Symposia and Working Groups

- *Participant - Tools and fresh approaches for species abundance distributions* – National Center for Ecological Analysis and Synthesis (NCEAS) working group. Brian McGill, Rampal Etienne, John Gray, and Jessica Green organizers. Oct 2006-2007.
- *Participant - Unifying Current Theories of Ecology*. Organizers, J. Green, A. Allen, S. Hubbel, and P. Marquet. Jointly held at the Santa Fe Institute and The National Center for Ecological Analysis and Synthesis. Sept. 2006.
- *Invited Speaker - Gordon Research Conference “Metabolic Basis of Ecology”*, Bates College Lewiston, Maine. July 4th-9th 2006. www.grc.uri.edu/programs/2006/metbasis.htm
- *Planary Speaker - Macroecological tools for Global Change Research* Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany August 2006.
www.ufz.de/index.php?en=6304
- *Participant - Workshop on Metabolic Theory in Ecology* – Santiago Chile, Pablo Marquet host. October, 2005. A joint meeting sponsored by The Santa Fe Institute and the Chilean Complex Systems Institute.
- *Invited Speaker* – “Ecology- The Future. A Symposium showcasing talented young ecologists” - Australia's ecology society. November, 2005. Dr. Hugh Possingham sponsor - *Declined due to paternity leave.*
- *Invited Participant* – DFG/NSF Research Conference, *Understanding Species Diversity on Earth: Unifying Field, Museum and Laboratory Sciences in Global Biodiversity Study.* November 2005, Washington, D.C. A joint German and U.S. organizing committee to stimulate joint research in biodiversity science. – *Declined*
- *Invited Speaker* – *Workshop on Quantitative Ecology*. May 9th-20th 2005, Trieste, Italy
http://cdsagenda5.ictp.trieste.it/full_display.php?id=a04189# - *Declined due to impending early birth of my son.*
- *Workshop on models of plant form, function, and growth* – Sept. 2005. Drs. Mark Westoby and Ian Wright organizers, Mcguire University, Australia - *Declined due to scheduling conflict.*
- *Invited Speaker, Symposia on ‘Early Plant Evolution: Developmental Biology, paleobiology and ecology’* - XVII International Botanical Congress, Dr. W. Friedman, P. Kenrick, Y.L. Qiu and M. Turmel organizers, July, 2005 Vienna, Austria, <www.abc2005.ac.at>.
- *Invited Speaker, FLUXNET International Meeting* - Symposium on linkages between large scale CO₂ and H₂O flux with local ecological processes. Dr. Dennis Baldochi, Organizer Florence Italy. Mid- December 2004. (*Declined*)<nature.berkeley.edu/biometlab/Fluxnet/AgendaFluxnet2004Workshop.html>
- *Invited Speaker, Gordon Research Conference - ‘Metabolic Basis of Ecology’*, Bates College Lewiston, Maine. July 4th-9th, <www.grc.uri.edu/programs/2004/metbasis.htm>.
- *Working Group: Power Analysis’ for spatial plot data: National Center for Ecological Synthesis, Santa Barbara, CA. Dec. 2002.*
- *Working Group: A collaborative research effort in Climate Change and Biodiversity in the Tropical Andes. National Center for Ecological Synthesis, Santa Barbara, CA. Jan. 2002.*
- *Working Group: Phylogenetic approaches to understanding plant community structure. Funded by the National Center for Ecological Synthesis, Santa Barbara, CA. March 2002.*

- 3rd International Canopy Conference to be held in Cairns, Australia (Smithsonian Institution, Queensland Government), June 2002. (*Declined*)
- *Invited Speaker - British Ecological Society, Symposium on Macroecology.* University of Birmingham, England, April 2002.
- *Planary Speaker - International Conference on Plant Canopy Processes,* Portland, OR. July 2001.
- National Academy of Sciences Colloquium " Self-Organizing Complex Systems" March 23-24, 2001 Irvine, CA (*Declined*)
- *Participant - Workshop on "Hierarchies and clumping: Causes and significance of scale breaks and lumpy attributes in physical, ecological, and social systems."* The Santa Fe Institute, May 17-19, 2001.
- *Participant - Workshop on Structure and Dynamics of Complex Interactive Networks.* The Santa Fe Institute, 10-12 August 2000.
- *Participant – NCEAS Working Group: Body size in ecology and evolution: linking pattern and process across spatial, temporal and taxonomic scales in plants and animals.* Funded by the National Center for Ecological Synthesis, Santa Barbara, CA. January 1999-December 2000.
- *Invited Speaker – Session on Dynamics in Ecological Networks.* New England Complex Systems Institute. International Conference on Complex Systems, Nashua, N.H. October 25-30, 1998.
- *Participant and Speaker. Scaling in Biology, from Organisms to Ecosystem Function.* The Santa Fe Institute, October, 27-29 1997.
- *Participant - Universal Phenomena in Ecology?* The Santa Fe Institute. March 1996.

Invited Talks and Seminars

- **University of Washington, St. Louis** Department of Biology (Sponsor, Dr. Robert Ricklefs).
- **UNAM Mexico**- Centro de Investigaciones en Ecosistemas (CIEco) UNAM campus Morelia. Tentative date October, 2006. (Sponsor, Dr. Jorge Schenube).
- **University of California, Irvine** Department of Earth Science (Sponsor, Earth Systems Graduate Students), Jan. 2006.
- **University of Calgary, Canada** Department of Biology (Sponsor, Ecology Graduate Students). April 2006.
- **University of Arizona**, Department of Plant Biology.
- **University of Wyoming**, Department of Botany and Zoology (joint departmental seminar). (Carlos Martinez del Rio and William Reiners Sponsor) Spring 2005
- **Colorado State University**, Inter-biology seminar campus seminar series. Ecology Graduate students host Spring 2005.
- **University of Florida**, Department of Zoology. Spring seminar series. Fall, October, 2004 (Sponsor Robert Holt).
- **Northern Arizona University**, Department of Biology. October, 2004 (Sponsor - Stan Lindstedt and George Koch).
- **University of Montana**, Ecology Seminar Series, Division of Biological Sciences (Sponsor Carole Brewer). April 2004.
- **Princeton University**, Dept. Ecology and Evolutionary Biology, spring departmental seminar series (Sponsor EEB Graduate Students), April 2003.
- **University of Kentucky**, Dept. of Biology, spring departmental seminar series (Sponsor: Scott Gleeson) March 2003.
- **University of Michigan** Dept. of Ecology and Evolutionary Biology (Sponsor Dr. Deborah Goldberg), Fall 2003.

- **University of Toronto** Dept. of Botany, Fall 2003.
- **University of Massachusetts, Amherst** Dept. of Organismic and Evolutionary Biology (Sponsor Frances Juanes) Sept. 2002.
- **Boston University** Department of Geography (Sponsor Dr. Nathan Phillips), Sept. 2002.
- **Aberdeen University, Scotland UK**, Dept. of Botany (Sponsor Dr. David Robinson) April 2002.
- **Arizona State University** Dept. of Biology (Sponsor Dr. James Elser) March 2002.
- **Texas A&M University** Dept. of Wildlife and Fisheries/Range Management (Sponsor Dr. Tomas Lacher), Feb 2002.
- **University of Arizona**, Physics Dept. Colloquium (Sponsor Dr. Dan Stein), October 2001.
- **Center for Applied Biodiversity Science (CABS), Conservation International** Washington D.C.(Sponsor: Jim Sanderson), October 2001.
- **Oxford University, Oxford UK** Dept of Geography and Ecology program (Sponsor Robert Whittaker), May 2001.
- **Tree-Ring Laboratory, University of Arizona** (Sponsor: Dr. Tom Swetnam), March 2001.
- **University of California, Santa Barbara**, Physics Department, Dr. Jean Carlson's biophysics lab group (Sponsor: Dr. Jean Carlson), Aug. 2000.
- **University of New Mexico**, Department of Biology, BioComplexity group seminar (sponsor Dr. Carla Restrepo), Sept. 2000.
- **Yale University**, Department of Ecology and Evolutionary Biology (Sponsor: Dr. Junhyong Kim), Jan. 2000.
- **University of California, San Diego**, Department of Biology (Sponsor: Lori Eggert), Jan. 2000.
- **University of Arizona**, Department of Ecology and Evolutionary Biology (Sponsor: Dr. Dan Papaj), Dec. 1999.
- **University of Texas, Austin**. Department of Biology (Sponsor: Dr. Beryl Simpson), Nov. 1999.
- **Massachusetts Institute of Technology** . Department of Earth, Atmospheric, and Planetary Sciences (Sponsor: Dr. Dan Rothman), Oct. 1999.
- **University of Pennsylvania, Philadelphia**, Department of Biology (Sponsor: Jon Sullivan), May, 1999.
- **University of Kansas, Lawrence**, Department of Ecology and Evolutionary Biology (Sponsor: Dr. Helen Alexander), March, 1999.
- **University of Tennessee, Knoxville**, Department of Ecology and Evolutionary Biology (Sponsor: Dr. Louis Gross), February, 1999.
- **Imperial College, Ascot UK, Centre for Population Biology Silwood Park** (Sponsor: Dr. John H. Lawton), May 1998.
- **The Santa Fe Institute**, Santa Fe, NM. (Sponsor Dr. Erica Jen), April 1998.
- **The Colorado College**, Department of Biology Seminar, (Sponsor Dr. J. J. Ebersole) April 1997.

Affiliations

American Association for the Advancement of Science, American Society of Naturalists, Ecological Society of America (*Theoretical Section*), Botanical Society of America (*Ecological and Tropical Biology section*).