

James F. Gillooly

Department of Biology
University of Florida
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Employment

- Associate Professor (2011- current), Department of Biology, University of Florida
 - Adjunct Faculty Member, University of Florida Genetics Institute, School of Natural Resources and Environment, School of Art + Art History
- Assistant Professor (2006-2011), Department of Biology, University of Florida
- Postdoctoral Associate (2000-2006), University of New Mexico
 - Under the direction of Jim Brown, Eric Charnov and Geoffrey West

Education

- Ph.D. Zoology; University of Wisconsin-Madison (December, 1999)
 - Effects of Body Size and Temperature on the Life histories and Ecology of Aquatic Ectotherms.
- M.S. Zoology; University of Wisconsin-Madison (1997)
 - Reproductive Success and the Energetic Cost of Parental Care in Male Smallmouth Bass
- B. A. English Literature; University of Michigan-Ann Arbor (1988)

Honors and Awards

- Excellence in Teaching Certificate, Universidad San Francisco Xavier, Sucre Bolivia (2016)
- Sigma Xi Membership Nomination (UF Chapter, 2015)
- Visiting Scholar, University of California Berkeley (2013-2014)
- Frontiers of Science Fellow, National Academy of Science/Kavli Foundation (2013)
- Scholar-in-Residence Award, University of Florida (2011)
- Teaching and Mentoring Award Nominations, College of Liberal Arts and Sciences, University of Florida (2010)
- Sigma Xi Young Scientist Award (Florida Chapter, 2009)

- George A. Bartholomew Young Investigator Award in Integrative Biology, Society of Integrative and Comparative Biology (2006)
- Gordon Research Conferences Distinguished Service Award (2004)
- Excellence in Teaching Award, Graduate School, University of Wisconsin- Madison (1999)

Publications

- **Total Publications: 67 papers, 7 book chapters**
(4/14/17)
- **Citations: total: 11,559; since 2012: 6,224**
- **h-index: 39; i10-index: 52**
(Google Scholar, 4/14/17)

*UF Graduate Student

†UF Undergraduate Student

‡Gillooly Lab Postdoctoral Fellow

Gillooly, J. F., *Gomez, J. P., and E. V. Mavrodiev. 2017. A Broad-Scale Comparison of Aerobic Activity Levels in Vertebrates: Endotherms versus Ectotherms. *Proceedings of the Royal Society B* 284:2016-2328.

‡Hayward, A., *Pajuelo, M., *Haase, C. G., *Anderson, D. M., and J. F. Gillooly. 2016. Common Metabolic Constraints on Dive Duration in Endothermic and Ectothermic Vertebrates. *PeerJ*, 4, e2569.

Gillooly, J. F., *Gomez, J. P., Mavrodiev, E., *Rong, Y., and E. S. McLamore. 2016. Body Mass Scaling of Passive Oxygen Diffusion in Endotherms and Ectotherms. *PNAS* 113 (19): 5340-5345.

*Nifong, R. S. and J. F. Gillooly. 2016. Temperature Effects on Virion Volume and Genome Size in dsDNA Viruses. *Biology Letters*, 12: 20160023.

*Haase, C. M, *Long, A., and J. F. Gillooly. 2016. Energetics of Stress: Linking Plasma Cortisol Levels to Metabolic Rate in Mammals. *Biology Letters*, 12: 20150867.

Gillooly, J. F., *Hein, A. and †R. Damiani. 2015. Nuclear DNA Content Varies With Cell Size Across Human Cell Types. *Cold Spring Harbor Perspectives in Biology* 7(7): a019091.

Marquet, P. A., Allen, A. P., Brown, J. H., Dunne, J. A., Enquist, B. J., Gillooly, J. F., Gowaty, P. A., Green, J. L., Harte, J. Hubbell, S. P., O'Dwyer, J., Okie, J. G., Ostling, A., Ritchie, M., Storch, D., and G. B. West. 2015. On the Importance of First Principles in Ecological Theory Development. *Bioscience* 65 (4): 342-343.

Gillooly, J. F. and *R. Zenil-Ferguson. 2014. Vertebrate blood cell volume increases with temperature: implications for aerobic activity. *PeerJ* 2: e346.

Marquet, P. A., Allen, A. P., Brown, J. H., Dunne, J. A., Enquist, B. J., Gillooly, J. F., Gowaty, P. A., Green, J. L., Harte, J. Hubbell, S. P., O'Dwyer, J., Okie, J. G., Ostling, A., Ritchie, M., Storch, D., and G. B. West. 2014. On Theory in Ecology. *Bioscience* 64(8):701-710.

Gillooly, J. F. and M. McCoy. 2014. Brain Size Varies with Temperature in Vertebrates. *PeerJ*, e301.

Shik, J., ‡Hou, C., Kay, A., Kaspari, M., and J. F. Gillooly. 2012. Toward a General Life History Model of the Superorganism: Predicting the Survival, Growth, and Reproduction of Ant Societies. *Biology Letters*, 8(6):1059-62.

Gillooly, J. F., ‡Hayward, A., ‡Hou, C. and J. G. Burleigh. 2012. Explaining Differences in the Lifespan and Replicative Capacity of Cells: A General Model and Comparative Analysis of Vertebrates. *Proc. Royal Soc. B.* 279:3976-80.

*Hein, A. M., ‡Hou, C., and J. F. Gillooly. 2012. Energetic and Biomechanical Constraints on Animal Migration Distance. *Ecology Letters* 15:104-110.

*Zimmerman, A. F., Mankin, R. W., Gillooly, J. F., and E. Foreman. 2012. Stridulation by *Jadera haematoloma* (Hemiptera: Rhopalidae): Sound Production Mechanisms and Associated Behaviors. *Annals of the Entomological Society of America* 105(1):118-127.

*Hein, A. M., and J. F. Gillooly. 2011. Predators, Prey, and Transient States in the Assembly of Spatially Structured Communities. *Ecology* 92:549-555.

‡Hayward, A., and J. F. Gillooly. 2011. The Cost of Sex: Quantifying Energetic Investment in Reproduction in Males and Females. *PLoS One* 6:e16557.

Gillooly, J. F., ‡Hou, C. and M. Kaspari. 2010. Eusocial Insects as Superorganisms: Insights from Metabolic Theory. *Communicative and Integrative Biology* 3:360-362.

Price, C. A., Gillooly, J. F., Allen, A. P., Weitz, J. S., and K. J. Niklas. 2010. The Metabolic Theory of Ecology: Prospects and Challenges for Plant Biology. *The New Phytologist* 188:696-710.

- ‡Ophir, A. G., †Schrader, S. B., and J. F. Gillooly. 2010. Energetic Cost of Calling: General Constraints and Species-Specific Differences. *Journal of Evolutionary Biology* 23:1564-1569.
- Gillooly, J. F., ‡Hou, C. and M. Kaspari. 2010. Eusocial Insects as Superorganisms: Insights from Metabolic Theory. *Communicative and Integrative Biology* 3:1-3.
- ‡Hou, C., Kaspari, M., * Vander Zanden, H. B. and J. F. Gillooly. 2010. The Energetic Basis of Colonial Living in Social Insects. *Proceedings of the National Academy of Sciences* 107(8):3634-8.
- Gillooly, J. F. and ‡A. G. Ophir. 2010. The Energetic Basis of Acoustic Communication. *Proceedings of the Royal Society B*. 277:1325-1331.
- Anderson-Teixeira, K. J., Savage, V. M., A. P. Allen and J. F. Gillooly. 2009. Allometry and Metabolic Scaling in Ecology. *Encyclopedia of Life Sciences* (<http://www.els.net/>). p. 1-10.
- Allen, A. P. and J. F. Gillooly. 2009. Toward an Integration of Ecological Stoichiometry and the Metabolic Theory of Ecology to Better Understand Nutrient Cycling. *Ecology Letters* 12:369-384.
- ‡McCoy, M. W., A. P. Allen, and J. F. Gillooly. 2009. The Random Nature of Genome Architecture: Predicting Open Reading Frame Distributions. *PLoS One* 4(7):1-8.
- ‡McCoy, M. W. and J. F. Gillooly. 2008. Predicting Natural Mortality Rates in Plants and Animals. *Ecology Letters* 11:710-716.
- Gillooly, J. F., *Londono, G. A. and A. P. Allen. 2008. Energetic Constraints on an Early Developmental Stage: A Comparative View. *Biology Letters* 4:123-126.
- Gillooly, J. F., *McCoy, M. W. and A. P. Allen. 2007. Effects of Metabolic Rate on Protein Evolution. *Biology Letters* 3:655-659.
- Allen, A. P. and J. F. Gillooly. 2007. The Mechanistic Basis of the Metabolic Theory of Ecology. *Oikos* 116:1073-1077.
- Savage, V. M., Allen, A. P., Brown, J. H., Gillooly, J. F., Herman, A. B. Woodruff, W. H., and G. B. West. 2007. Scaling of Number, Size and Metabolic Rate of Cells with Body Size in Mammals. *Proceedings of the National Academy of Sciences* 104: 4718-4723.

- Gillooly, J. F. and A. P. Allen. 2007. Linking Global Patterns in Biodiversity to Evolutionary Dynamics Using Metabolic Theory. *Ecology* 88: 890-894.
- 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. 2007. Biological Scaling: Does the Exception Prove the Rule? *Nature*, 445: E9-E10.
- Gillooly, J. F. and A. P. Allen. 2007. Changes in Body Temperature Influence the Scaling of VO_{2max} and Aerobic Scope in Mammals. *Biology Letters* 3:99-102.
- Gillooly, J. F., Allen, A. P., and E. L. Charnov. 2006. Dinosaur Fossils Predict Body Temperatures. *PLoS Biology* 4(8):1467-1469.
- Allen A. P. and Gillooly J. F. 2006. Assessing Latitudinal Gradients in Speciation Rates and Biodiversity at the Global Scale. *Ecology Letters* 9:947-954.
- Allen A.P., Gillooly J.F., Savage V.M. and J. H. Brown. 2006. Kinetic Effects of Temperature on Rates of Genetic Divergence and Speciation. *Proceedings of the National Academy of Sciences* 103:9130-9135.
- Anderson K. J., Allen, A. P., Gillooly, J. F., and J. H. Brown. 2006. Temperature-Dependence of Biomass Accumulation Rates During Secondary Succession. *Ecology Letters* 9(6): 673-682.
- Gillooly, J. F., Allen, A. P., Brown, J. H., and G. B. West. 2005. The Rate of DNA evolution: Effects of Body Size and Temperature on the Molecular Clock. *Proceedings of the National Academy of Sciences* 102:140-145.
- Gillooly, J. F., Allen, A. P. Savage, V. M., West, G. B., and J. H. Brown. 2005. Response to Clarke and Fraser: Effects of Temperature on Metabolic Rate. *Functional Ecology* 20: 400-404.
- Gillooly, J. F., Allen, A. P., Brown, J. H., Elser, J. J., Martinez del Rio, C., Savage, V. M., West, G. B., Woodruff, W. H., and H. A. Woods. 2005. The Metabolic Basis of Whole Organism RNA and Phosphorus Content. *Proceedings of the National Academy of Sciences* 102:11923-11927.
- Allen, A. P., Gillooly, J. F., and J. H. Brown. 2005. Linking the Global Carbon Cycle to Individual Metabolism. *Functional Ecology* 19:202-213.
- Charnov, E. L. and J. F. Gillooly. 2004. Body Size and Temperature in the Evolution of Fish Life Histories. *Integrative and Comparative Biology* 44:494-497.
- Brown, J. H., Gillooly, J. F., Allen, A. P., Savage, V. M., and G. B. West. 2004. (MacArthur Award Paper, Invited) Toward a Metabolic Theory of Ecology. *Ecology* 85:1771-1789.

- Brown, J. H., Gillooly, J. F., Allen, A. P., Savage, V. M., and G. B. West. 2004. Response to Forum Commentary on "Toward a Metabolic Theory of Ecology". *Ecology* 85:1818-1821.
- Savage, V. M., Brown, J. H., Gillooly, J. F., Woodruff, W. H., West, G. B., Allen, A. P., Enquist, B. J., and J. H. Brown. 2004. The Predominance of Quarter Power Scaling in Biology. *Functional Ecology* 18:257-282.
- Savage, V. M., Gillooly, J. F., Brown, J. H., West, G. B. and E. L. Charnov. 2003. Effects of Body Size and Temperature on Population Growth. *American Naturalist* 163:429-441.
- Ernest, S. K. M, Enquist, B. J., Brown, J. H., Charnov, E. L., Gillooly, J. F., et al. 2003. Thermodynamic and Metabolic Effects on the Scaling of Production and Population Energy Use. *Ecology Letters* 6:990-995.
- Gillooly, J. F., Charnov, E. L., Brown, J. H. Savage, V. M. and G. B. West. 2003. How Reliable is the Biological Time Clock? Brief Communication. *Nature* 424:270.
- Enquist, B. J., Economo, E., Huxman, T. E., Allen, A. P., Ignace, D. D. and J. F. Gillooly. 2003. Scaling the Biochemical Kinetics of Ecosystem Respiration from Individuals to the Biosphere. *Nature* 423:639-642.
- Brown, J. H. and J. F. Gillooly. 2003. Invited commentary. Ecological Food Webs: High Quality Data Facilitate Theoretical Unification. *Proceedings of the National Academy of Sciences of the United States of America* 100(4):1467-1468.
- Allen, A. P., Brown, J. H. and J. F. Gillooly. 2003. Global Biodiversity, Biochemical Kinetics and the Energetic-Equivalence Rule. Reply. *Science* 299:346.
- Brown, J. H., Allen, A. P. and J. F. Gillooly. 2003. Heat and Biodiversity. Reply. *Science* 299:512-513.
- Charnov, E. L. and J. F. Gillooly. 2003. Thermal Time: Body Size, Food Quality and the 10 °C Rule. *Evolutionary Ecology Research* 5:43-51.
- Jun, J., Pepper, J. W., Savage, V. M., Gillooly, J. F. and J. H. Brown. 2003. Allometric Scaling of Ant Foraging Trail Networks. *Evolutionary Ecology Research* 5:297-303.
- West, G. B., Savage, V. M., Gillooly, J. F., Enquist, B. J., Woodruff, W. H. and J. H. Brown. 2003. Why Does Metabolic Rate Scale with Body Size? Brief Communication. *Nature* 421:713.
- Allen, A. P., Brown, J. H. and J. F. Gillooly. 2002. Global Biodiversity, Biochemical Kinetics and the Energetic-Equivalence Rule. *Science* 297:1545-1548.

- Belgrano, A., Allen, A. P., Enquist, B. J. 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.
- Gillooly, J. F., Charnov, E. L., West, G. B, Savage, V. M. and J. H. Brown. 2002. Effects of Size and Temperature on Developmental Time. *Nature* 417:70-73.
- Gillooly, J. F., Brown, J. H., West, G. B., Savage, V. M., and E. L. Charnov. 2001. Effects of Size and Temperature on Metabolic Rate. *Science* 293:2248-2251.
- Gillooly, J. F. and S. I. Dodson. 2000. Latitudinal Patterns in the Size Distribution and Seasonal Dynamics of Cladocera. *Limnology and Oceanography* 45:22-30.
- Gillooly, J. F. 2000. Effects of Body Size and Temperature on Generation Time in Zooplankton. *Journal of Plankton Research* 22:241-251.
- Gillooly, J. F. and S. I. Dodson. 2000. The Relationship of Egg Size and Incubation Temperature to Embryonic Development Time in Univoltine and Multivoltine Aquatic Insects. *Freshwater Biology* 44:595-604.
- Gillooly, J. F., O'Keefe, T. C., Newman, S. P., and J. R. Baylis. 2000. A Long-Term View of Density-Dependent Recruitment in Smallmouth Bass from Nebish Lake, Wisconsin. *Journal of Fish Biology* 56:542-551.
- Gillooly, J. F. and S. I. Dodson. 2000. The Relationship of Neonate Mass and Incubation Temperature to Embryonic Development Time in Range of Animal Taxa. *Journal of Zoology (Lond.)* 251:369-375.
- Gillooly, J. F. and J. R. Baylis. 1999. Reproductive Success and the Energetic Cost of Parental Care in Male Smallmouth Bass. *Journal of Fish Biology* 54:573-584.
- Gillooly, J. F. and G. W. Barlow. 1995. Effects of Winter Floods on Threespine Sticklebacks in a Restored Urban Creek. *California Fish and Game* 81(4):155-162.

Book Chapters

‡*Gillooly Lab Postdoctoral Fellow*

- Gillooly, J. F. 2015. A Brief Introduction to the Metabolic Theory of Ecology, in *Discoveries in Modern Science: Exploration, Invention, Technology*. Macmillan Publishing, NY.

‡Hayward, A., Gillooly, J. F. and A. Kodric-Brown. 2012: Behaviour, In, *Metabolic Ecology: A Scaling Approach*, Eds. R. M. Sibly, and J. H. Brown. University of Chicago Press.

Gillooly, J. F., ‡Hayward, A. and M. E. Moses. 2012. The Metabolic Theory of Ecology, In, *Sourcebook of Theoretical Ecology*, Eds. A. Hastings and L. Gross. University of California Press.

Allen, A. P., Brown, J. H., and J. F. Gillooly. 2006. Beyond the Species-Energy Hypothesis: The Role of Potential and Kinetic Energy in Regulating Biodiversity, In, *The Scaling of Biodiversity*. Oxford University Press.

Brown, J. H., Allen, A. P. and J. F. Gillooly. 2007. The Metabolic Theory of Ecology and the Role of Body Size in Marine and Freshwater Ecosystems, In, *Body Size and the Structure and Function of Aquatic Ecosystems*. British Ecological Society.

Gillooly, J. F., Allen, A. P., and J.H. Brown. 2005. Food Web Structure and Dynamics: Reconciling Alternative Ecological Currencies, In, *Ecological Networks Linking Structure to Dynamics in Food Webs* (eds. M. Pasqual and J. A. Dunne). Oxford University Press.

Brown, J. H., Gillooly, J. F., Savage, V. M. and G. B. West. 2003. The Next Step in Macroecology: From General Empirical Patterns to Universal Ecological Laws, In, *Macroecology: Concepts and Consequences* (eds. T. Blackburn and K. Gaston). British Ecological Society.

Grants

- Science Partners in Inquiry-based Education. University of Florida. 2011-2012. \$250 K.
- Creative Catalyst Fund. University of Florida. 2011. \$35K.
- Australian Research Council. 2009. Predicting Biodiversity from Population Dynamics. Co-Principal Investigator. \$275K
- Los Alamos National Laboratories 2005. Energetic Constraints on Cell Size and Genome Co-Principal Investigator. \$76K
- Gordon Research Conferences. 2004. The Metabolic Basis of Ecology and Evolution. \$65K.
- Santa Fe Institute. 2002. Towards an Ecology Based on First Principles: Body Size, Temperature and Stoichiometry. \$25K.

Teaching Experience

2015

- **Instructor, University of Saint Francis Xavier:** Functional Ecology of Vertebrates (in Spanish). Sucre, Bolivia: Mini-course.

2006-current

- **Instructor, University of Florida:**
Graduate level: Physiological Ecology, Macroecology, Design Thinking for Scientists Seminar (co-taught w/ graphic designer), Spatial Ecology Seminar (co-taught w/ Mathematics Professor)

Undergraduate level: Introductory Biology for Majors (ecology), Introductory Biology for Majors (evolution), Analogous Thinking in Art and Science (ART 3807C / ZOO 4926; lecture and lab/studio, co-taught w/ art professor), Introduction to Humanities (HUM 2305)

1994-1999

- **Teaching Assistant, University of Wisconsin-Madison:** Limnology and Conservation of Aquatic Resources (lab course), Introduction to Biology, Introduction to Zoology (lab).

Outreach

2014-2016

- Graduate student workshops in effective science communication (UF, SNRE: 2014-2016)

2011-2014

- Director, Science Partners in Inquiry-based Collaborative Education (S.P.I.C.E)
A university-wide program designed to train UF graduate students in teaching, and to foster inquiry-based learning of science in Gainesville's under-resourced middle schools.

2010-2011

- Scholar-in-Residence in UF's School of Art and Art History (cross-listed).
I spent one year in UF's art department to facilitate/promote/direct collaborations in teaching and research among artists and scientists. Activities included:
 - Co-developed and co-taught new interdisciplinary course in science and art with Sculpture Professor Celeste Roberge ("Analogous Thinking in Art and Science"; 4 credits).

- Designed/led workshop on creativity for graduates students at NSF research day with assistance from art students
- Co-designed/led a 6-hour workshop for the NSF IGERT Program titled “Design for science” with MFA student Dr. Jorge Gallego.
- Initiated and co-organized a genetics art show titled “Codified” in conjunction with UFGI’s annual genetics symposium
- Co-organized “NatureLab”, a monthly forum for art and science students to draw and discuss biology at the Florida Museum of Natural History.
- Co-organized a series of 6 university-wide interdisciplinary lectures titled “Analogous thinking in art and science”.
- Initiated website and blog for combining art and science on campus.
- Co- initiated science-art student club.
- Led student science-art competition in collaboration with UF’s brain institute.
- Co-organized University Gallery science-art exhibit titled “Emergence and Structure: Nature in Process” for fall, 2012.
- Presentation to faculty senate steering committee, and faculty senate, on scholar-in-residence program.
- Presentation to Sigma Xi annual banquet titled “Why scientists need artists” (2012).
- Guest science lectures in three SA+AH classes (advanced sculpture, info. design, sketchbook)

**additional outreach activities listed in other sections.*

Invited Talks at National or International Meetings/Universities_____

** indicates keynote or distinguished lecture*

2015-2016

- Humanizing Science: Lessons Learned from Artists, University of Alabama Birmingham
- **Structural Constraints on Vertebrate Athleticism. Congreso de Mastozoología en Bolivia. Sucre Bolivia.*
- General Principles of Animal Acoustic Communication, Dept. of Biology, University of Puerto Rico San Juan.
- Models and Mechanisms of Acoustic Communication. Dept. of Biology, Florida State University.

2013-2014

- *Humanizing Science: Lessons Learned from Artists. National Academy of Science/Kavli Foundation Frontiers of Science Annual Conference.
- Constraints on Vertebrate Athletes: The Temperature-Dependence of Cardiovascular Design. University of California-Berkeley, Dept. of Integrative Biology.
- Linking Genome Size to Physiology. Museum of Vertebrate Zoology, University of California-Berkeley.
- *Teaching for Creativity. G. M. Sutton Annual Lecture, University of Oklahoma.
- *Humanizing Science: Lessons Learned from Artists. Distinguished Lecture Series, Embry-Riddle University.
- *Constraints on Vertebrate Athletes: The Temperature-Dependence of Animal Design: Stockard Distinguished Lecture Series, Oklahoma State University, 2014.
- Constraints on Vertebrate Athletes: The Temperature-Dependence of Animal Design: Dept. of Zoology, University of Oklahoma, February, 2014.

2010-2012

- Metabolic Models and Biological Complexity. Arizona State University.
- From Chirps to Roars: Are Differences in Animal Calls Predictable? Utah State University.
- Energetics of Animal Communication, Department of Integrative Biology, University of South Florida.
- Energetics Models in Ecology; University of San Francisco, Quito, Ecuador.
- Simple Models and Biological Complexity. Charles University, Czech Republic.
- Models and Mechanisms of Acoustic Communication. University of South Florida.
- *New Directions in Metabolic Theory. Gordon Research Conference, ME.

2008-2009

- The Energetic Basis of Acoustic Communication. International Conference in Africa for Comparative Physiology & Biochemistry, Kenya.
- The Energetic Basis of Acoustic Communication. University of Oklahoma.
- *Gordon Research Conference: Metabolic Ecology and Evolution.
- Metabolic Constraints on Evolution and Development. University of Michigan.
- Organismal Physiology: The Nexus between Ecology and Evolution Department of Ecology and Evolution, University of California Santa Cruz.

2004-2007

- Linking Metabolism to Biodiversity. Biodiversity Science and Education Initiative II. Blairsville, GA. Chair: Steve Hubbell.
- *Linking Biological Currencies in Ecology and Evolution. George Bartholomew Award Lecture. SICB, Orlando.
- Linking Energy, Materials and Information in Ecology and Evolution. University of Texas-Austin.
- Toward a Metabolic Theory of Ecology. University of Wyoming.
- *Linking Community and Ecosystem Ecology: Recent Advances and Future Challenges. European Science Foundation, Spain.
- Linking Biological Currencies in Ecology and Evolution. Guelph University.
- The Role of Energetics in Food Web Dynamics. Santa Fe Institute.
- Linking Biological Currencies: From Genes to Ecosystems. Syracuse University.
- Linking Energy, Materials and Information: Keys to Unifying Biological Disciplines. McGill University, Canada.
- The Central Role of Metabolism in Aquatic Ecosystems. Biology Department, University of Nevada-Reno.
- Thermal Time and Evolutionary Rate Processes. The Evolution of the Thermal Sensitivity of Growth and Body Size. Special Symposium, SICB, New Orleans.

2000-2003

- *Toward a Metabolic Theory of Ecology. Consortium of the Americas for Interdisciplinary Science. Mexico City, Mexico.
- Scaling up from First Principles in Aquatic Ecosystems. ASLO. Salt Lake City.
- The Central Role of Metabolism in Aquatic Ecosystems. University of Montana.
- Linking Individuals to Ecosystems: The Central Role of Metabolism. University of Minnesota.
- Effects of body size, temperature and stoichiometry on biogeochemical cycles. International Association for Landscape Ecology. Banff, Canada.
- Toward a Metabolic Theory of Ecology? University of Groningen. The Netherlands.
- Effects of Body Size and Temperature on the Molecular Clock. Oxford University. England.
- Metabolic Ecology: Scaling up from First Principles. Michigan State University.
- Linking Biochemical Kinetics and Evolution. University of Arizona.
- The Metabolic Basis of Population Dynamics. University of Puerto Rico.
- Effects of Body Size and Temperature on Biological Rates. Gordon Research Conference, Microbial Population Dynamics. MA.
- Effects of Size and Temperature on the Ecology and Life History of Aquatic Ectotherms. NCEAS. Santa Barbara, CA.

Invited Presentations at the University of Florida and in Gainesville _____

- Humanizing Science: Lessons Learned from Artists, Retired Faculty Association of Florida, Harn Museum, University of Florida (2016)
- Can Middle School Physics Explain Differences in Animal Metabolic Rates? J. F. Gillooly and J.P. Gomez, Departmental Seminar, Dept. of Physics, University of Florida (2014)
- Why Scientists Need Artists. Gainesville Rotary Club (2014).

- From Chirps to Roars: Are Differences in Animal Calls Predictable? Department of Wildlife Ecology (2012).
- *Why Scientists Need Artists. Sigma Xi Annual Banquet (2012).
- The Energetics of Genetics. UF Genetics Institute (2007).
- Energetics of Ageing. UF Aging Institute (2007).
- Toward a Metabolic Theory of Ecology, Mathematics Departmental Seminar (2006).

Contributed Presentations at National/International Conferences *(Partial list)*

2008-2015

- Does Fick's Law Explain Metabolic Scaling in Vertebrates", J. F. Gillooly and J.P. Gomez, Annual Meeting for Society for Integrative and Comparative Biology, Palm Beach, FL (2015).
- Energetic Constraints on Genome Size: Society of Integrative and Comparative Biology, San Francisco, CA (2013).
- Gordon Research Conference on Metabolic Ecology, Portland, ME. Poster presentation (2010).
- Energetics of Animal Communication, Animal Behavior Society, Pirenópolis, Brazil (co-author only; 2009)
- Predicting Natural Mortality Rates. Society of Integrative and Comparative Biology. San Antonio, TX. (co-author only; 2008)
- The Metabolic Theory of Ecology. International Conference in Africa for Comparative Physiology & Biochemistry, Kenya (2008).

Invited Participation in National or International Working Groups/Conferences

2013-2016

- `Network for Ecological Theory Integration (international working group 2014-present)

- Ecological Complexity Workshop, Santiago, Chile (2015).
- Session Co-Chair, Society for Integrative and Comparative Biology Annual Meeting, Palm Beach, FL (2014)
- Gordon Research Conference, Metabolic Ecology, Opening Session Leader (2015)
- Intersections of Art and Science, University of Alabama-Birmingham (2016)
- Mollusk Energetics Working Group, UC-Berkeley (2015)
- Participant in Network for Ecological Theory Integration: Foundational Meeting Santiago, 2013

2006-2012

- National Center for Ecological Analysis and Synthesis Working Groups
 - Physiological Research, Integration, Synthesis and Modeling. 2007-2008.
 - Unifying Theories of Ecology. 2006-2007.
- Gordon Research Conference: On Visualizing Science. 2011.
- Gordon Research Conference: Metabolic Ecology. 2010. Moderator.
- Gordon Research Conference: The Metabolic Basis of Ecology and Evolution. 2008.
- Gordon Research Conference: The Metabolic Basis of Ecology and Evolution. 2006.

2000-2005

- Smithsonian Institution Biodiversity Science and Education Initiative Task Force. Supported by the MacArthur Foundation and organized by Steve Hubbell. Gamboa Reserve, Panama. 2005.
- Field Workshop in Ecological Complexity. 2005. Chile. Chair: Pablo Marquet.
- Gordon Research Conference: The Metabolic Basis of Ecology. 2004. **Co-Chair and Organizer.**
- National Center for Ecological Analysis and Synthesis Working Group, Body Size in Ecology and Paleoecology: Linking Pattern and Process across Spatial, Temporal and Taxonomic Scales. 2001-2003.
- Plankton Biodiversity: Scaling up in Aquatic Ecosystems. University of Michigan. Chair: Mercedes Pasqual. (2002)

- Are There General Laws in Ecology? The Netherlands. Chair: Han Olff. (2002)
- Santa Fe Institute Working Groups (2000-2004)
 - Food Web Ecology. 2004. Chair: Mercedes Pasqual
 - Toward an Ecology Based on First Principles. 2002. **Co-Chair and Organizer.**
 - Hierarchies and Scale. 2001.
 - Fractals in Biology. 2000
- Gordon Research Conference: Microbial Population Dynamics. 2001.

Professional Service and Affiliations

2006-current

Department of Biology Service, University of Florida:

- Faculty Search Committees (2)
- Graduate Committee
- Strategic Planning Committee
- Seminar Committee
- Space Committee
- Executive Committee
- Awards Committee

Cross-Departmental Committee Service, University of Florida:

- Water Institute Faculty Advisory Board
- Biology Majors Executive Committee
- Executive Committee of HHMI Science for Life Undergraduate Research Program
- CLAS Sabbatical Committee
- Creative Catalyst Committee
- Creativity in the Arts and Sciences Organizing Committee
- Member of Quantitative Ecology NSF-IGERT Graduate Training Program
- SeaChange Committee
- Coordinator for the IDS Biological Illustration Major
- CLAS IDS Admissions Committee
- UFGI Design Committee
- Marston Lectureship in the Visual Arts organizing committee (Dr. Ballangee)
- Internal (UF) reviewer for Conservation, Food and Health Foundation (CFHF) (2x)
- Internal (UF) reviewer for American Honda Foundation Grants
- Elegance in Science Awards Committee
- Center for Undergraduate Research Science-Art University Scholars Planning Committee

- Co-Curator of Focus Gallery Exhibit “Studiolab” (2)
- Creative B Campus Initiative Committee
- Provost’s Digital Fabrication Awards committee
- Panel discussion member on art-science at Harn Museum (2014), University Gallery (2016)

Cross-Departmental Undergraduate Mentorship Service, University of Florida:

- Faculty Advisor for science-art student club (S.T.E.A.M.)
- First Generation Student Ambassador
- Minority Student Mentor (2)
- Science for Life Faculty Mentor
- University Scholars Faculty Mentor (2)

Service to Profession: Organized conferences and working groups (see above). Reviewer for many journals and funding agencies including: *Nature, Science, PNAS, PLoS Biology, American Naturalist, Evolution, Ecology Letters, Functional Ecology, National Science Foundation, European Science Foundation.*

Professional Affiliations: *Society for the Study of Evolution, Ecological Society of America, Society of Integrative and Comparative Biology*

Media/ Commentaries on Research/Teaching _____

2014-2016

- Featured interview in National Geographic article on animal migration (2016)
- Commentary on 2016 research, *Journal of Experimental Biology*, K. Feilich
- Featured in article “The Interview Strategy that’s Turning Students into Unimaginative Robots” *Quartz Magazine*, D. Cunha (2016).
- Art-science exhibit from course featured in *Gainesville Sun* (4/15/2016)
- Featured in front page *Gainesville Sun* article on teaching humanities (2015)
- Faculty of 1000-“must-read” designation for *On Theory in Ecology* (2014), and “very good” designation for Hein and Gillooly (*Ecology*, 2011)
- Article discussing *On Theory in Ecology* (2014) on *Phys.org* (online science news site), and on *Dynamic Ecology* web site (2014).

- *The Alligator* publishes article on art-science collaboration led by Gillooly (2014), and Gainesville Rotary Club posts article on art-science presentation by Gillooly (2014)
- Article in *Leonardo* (A. Yang, 2014) discussed Gillooly Kavli Conference presentation.
- Positive reviews for new book on Metabolic Ecology (2012; contributed chapter), topic which was co-developed by J. Gillooly. *Ecology* (2012) describes book as “must-read”, *British Ecological Society Bulletin* (2013) states “the book should be widely-read by anyone who seeks a more powerful science of ecology”. *Choice* (American Library Association publication) states “the book is a necessary read for all ecologists-highly recommended”.

2010-2013

- Featured in UF’s Explore Magazine on article about combining art and science
- Feature article in UF’s Explore Magazine on my research (2010)
- Media coverage of paper on the energetics of acoustic communication (Gillooly and Ophir 2010) included: *Science Daily*, *US News & World Report*, *Scientific American’s 60-Second Science* (Jan 14, 2010), *Discovery Channel’s The Daily Planet* (Jan 6, 2010) and *National Public Radio*.
- Media coverage of paper on the metabolism of social insect colonies (Hou et al. 2010) included: *Science Daily*, *US News & World Report*, and *LiveScience*.
- Distinguished Harvard Professor E. O. Wilson described my work on social insects as “notable both for its originality and its importance” (see bullet above for reference).

2005-2010

- Media coverage and scientific commentary of paper on the determinants of cell size (Savage et al. 2007) included: *ScienceDaily*, UF’s *Explore* magazine, *Journal of Cell Biology* (W. Wells) (2007).
- Media coverage and scientific commentary of paper on dinosaur body temperatures (Gillooly et al. 2005) included: *PLoS Biology* (L. Gross 2006), *New Scientist* (D. MacKenzie 2006), *National Geographic News* (R. Lovett 2006), *Journal of Experimental Biology* (J. S. Terblanche 2007), *ScienceDaily*, *Washington Times*.
- Media coverage and scientific commentary of papers on the energetics of evolutionary rates (Gillooly et al. 2005; McCoy and Gillooly 2007) included: *Heredity* (C. O. Wilke 2005), *National Public Radio Morning Edition* (2006), *Seed Magazine* (2006), *ScienceDaily* (2006, 2007).
- Sampling of general media coverage, scientific commentaries and books on my research program: *ABCNews.com* (2005), *Science News* (2005), *Current Biology* (F. Maderspacher 2007), *In the Beat of a Heart; Life Energy and the Unity of Nature* (J. Whitfield, 2006,

Joseph Henry Press), *National Public Radio* (2007), *Trends in Ecology and Evolution* (C. Duarte 2007; C. Martinez del Rio 2008)

- *Faculty of 1000* designated 2 papers as “must read”, 1 as “exceptional”, and 1 as “recommended” (2005-2008).