**William Fredric Fagan**

**Positions:**

* Chair, Dept. of Biology, University of Maryland (2015- Present)
* Professor, Dept. of Biology, University of Maryland (2008 – Present)
* Affiliate Professor, Institute for Systems Research, University of Maryland (2016 – Present)
* Research Innovation Scholar, National Socio-Environmental Synthesis Center (SESynC), University of Maryland, Annapolis, Maryland (2013 – Present)
* Acting Chair, Dept. of Biology, University of Maryland, College Park, Maryland (2013 – 2015)
* Director for Research Innovation, National Socio-Environmental Synthesis Center (SESynC), University of Maryland, Annapolis, Maryland (2011 – 2013)
* Associate Chair for Faculty Affairs, Dept. of Biology, University of Maryland, College Park, Maryland (2009 – 2010)
* Associate Professor, Dept. of Biology, University of Maryland, College Park, Maryland (2002 – 2008)
* Guggenheim Fellow (2001 – 2002)
* Assistant Professor, Department of Biology, Arizona State University,Tempe, Arizona (1997 – 2002).
* Postdoctoral Associate, National Center for Ecological Analysis and Synthesis, Santa Barbara, California (1996).

**Education:**

* Ph.D. in Zoology, University of Washington, Seattle, Washington, 1996.

##### Advisor: Dr. Peter M. Kareiva. Dissertation: “Population dynamics, movement patterns, and community impacts of omnivorous arthropods.”

* Honors B.A. in Biology, s*umma cum laude,* University of Delaware, Newark, Delaware, 1992.Advisor: Dr. Lawrence E. Hurd.

**Leadership Achievements:**

* Chair of the Department of Biology, University of Maryland

*As Chair, I have executive authority for all aspects of the department’s operation, and report directly to the Dean of Computer, Mathematical, and Natural Sciences. Thus far, I have focused on: 1) increasing opportunities for the department through recruitment and retention of faculty and staff; 2) improving and strengthening historically difficult faculty-staff interactions; 3) upgrading facilities through creation of videoconferencing facilities, classrooms, and improved undergraduate teaching labs; 4) resolving long-standing problems involving departmental operations and facilities; and 5) creating opportunities for Biology faculty to interact with faculty from other departments.*

* Leadership roles at SESYNC, the National Socio-Environmental Synthesis Center ([www.sesync.org](http://www.sesync.org)).

*I helped develop the ideas behind, helped obtain NSF funding for, helped design operational procedures for, and contributed to initial leadership of this center. As Director for Research Innovation at SESYNC for two years, I identified opportunities for cutting-edge synthetic research and recruited internationally respected scholars to conduct group research at the center. I also played a large role in coordinating interactions between the center and our international partners, including the UFZ and iDIV in Germany. I switched to Innovation Scholar status when I became department chair.*

* Associate Chair for Faculty Affairs, Department of Biology, University of Maryland

*As Associate Chair, I led efforts to organize and achieve efficiencies in departmental operations, focusing on equipment inventories and coordination with other departments.*

### Faculty leader for the MathBench Initiative ([www.mathbench.umd.edu](http://www.mathbench.umd.edu)).

### *I initiated this effort to totally overhaul the way mathematics and quantitative thinking are introduced and used the undergraduate biology curriculum at the University of Maryland (1000+ students annually). This program resulted in the development of an integrated system of 40 online, interactive teaching modules covering mathematical and statistical issues that arise in the introductory series of five semesters of undergraduate biology. The modules focus on a diversity of quantitative skills (reading graphs through differential equations and matrix algebra) that are integral components of modern biology. The MathBench Initiative was initially funded by an internal competition for Howard Hughes Medical Institute funds and subsequently by an NSF-CCLI grant on which I was PI (2004-2009). Funding from a second NSF-CCLI grant was used to disseminate the MathBench system through the web and workshops, and to undertake similar educational reforms at partner institutions. MathBench is now used broadly at dozens of 4-year institutions and community colleges nationwide, and internationally. Subsequent to this effort, faculty teams undertook complementary, NSF-funded reforms to enhance teaching of calculus to life science students and to develop an integrative approach to teaching our 4-course introductory biology sequence, and I contributed leadership role in those efforts as well (NSF-IUSE 2016-2019). The University of Maryland honored these collective efforts with its Departmental Teaching Excellence Award in 2009.*

**Selected Fellowships, Awards, and Honors:**

* Distinguished Scholar-Lecturer, National Socio-Environmental Synthesis Center (SESynC), 2015.
* Fellow (Elected), Ecological Society of America, 2013.
* Fellow (Elected), American Association for the Advancement of Science, 2012.
* University of Maryland Distinguished Scholar-Teacher, 2010.
* University of Maryland College of Chemical and Life Sciences Research Award, 2009.
* University of Maryland Departmental Teaching Excellence Award (for helping to overhaul the mathematics curriculum for biology undergraduates), 2009.
* University of Maryland Graduate Research Board Semester Fellowship, 2009.
* National Center for Ecological Analysis and Synthesis Sabbatical Fellowship, 2008-9.
* University of Maryland Faces of Research Banner Program (one of 12 faculty campus wide), 2008-9.
* University of Maryland Department of Biology G-3 Funding Award, 2007.
* Appointed to Faculty of 1000, Population Ecology Section, 2006 – 2008.
* Presidential Award, The American Society of Naturalists, for best paper in *American Naturalist* in 2005 for: Fagan, W.F., M.A. Lewis, M. Neubert, C. Aumann, J. Apple, and J.G. Bishop. 2005. When can herbivores reverse the spread of an invading plant ? A test case from Mount St. Helens. *American Naturalist*. 166: 669-686.
* Guggenheim Fellow, John Simon Guggenheim Memorial Foundation, 2001-2002:

Project Entitled: “The Weak Data Problem in Conservation Biology.”

* National Science Foundation (NSF) Mathematical Biology Training Grant Fellow, 1995-1996.
* NSF Pre-doctoral Fellowship, 1992-1995.
* Achievement Rewards for College Scientists (ARCS) Althea Stroum Graduate Fellowship, 1992-1995.
* Phi Kappa Phi Honor Society Graduate Fellowship, 1992-1993.
* Eugene duPont Memorial Distinguished Scholarship, University of Delaware, 1988-1992.
* Phi Beta Kappa, 1992.
* Herbert Ellis Newman Award, Phi Beta Kappa Honor Society, Alpha of Delaware Chapter, 1991.

**Academic Metrics (Google Scholar):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  Cited Publications | Citations | H-index | I10-index | Years Post PhD |
| 184 | 16375 | 58 | 149 | 21 |

**Overview of Funding History:**

|  |  |  |
| --- | --- | --- |
| Type | Total Amount | Sources |
| Research Funding to My Laboratory | $10,219,128  | 21 Major Awards: NSF, DOD, NASA, USGS, Private Foundations |
| Educational Initiatives in My Department & College | $4,476,788 | 5 Major Awards: NSF, DOEd  |
| Research Centers | $27,500,000 | NSF SESYNC |

**Peer-Reviewed Journal Publications0,[[1]](#footnote-2),[[2]](#footnote-3),[[3]](#footnote-4),[[4]](#footnote-5),5,6:**

|  |  |
| --- | --- |
| MS | Li, B., S. Bewick3, **W. F. Fagan**, and K. Meyer. In preparation. Spreading speed in a discrete-time population growth model with a shifting habitat boundary. Theoretical Ecology. In preparation. |
| MS | Fleming, C.H., T. Mueller, K.A. Olson, P. Leimgruber, **W. F. Fagan**, and J.M. Calabrese. In preparation. Linking statistics of movement to resource dynamics. Ecology and Evolution. In preparation. |
| MS | Howard3, A., **W.F. Fagan**, E. Visalberghi, P. Izar, C. Jones, D. Fragaszy. In preparation. Foraging and within-group spatial position of bearded capuchin monkeys. Animal Behaviour. In revision. |
| MS | Noonan, M.J., M.A. Tucker, C.H. Fleming, …35 other coauthors …, **W.F. Fagan**, T. Mueller, and J.M. Calabrese. Which home range estimator should I use ? An exploration of autocorrelation and bias in home range estimation. In preparation. Ecological Monographs.  |
| MS | Attias4, N., L.G.R. Oliveira-Santos, **W. F. Fagan**, G. de Miranda Mourão. In review. Effects of air temperature on habitat selection and activity patterns of two tropical imperfect homeotherms. Animal Behaviour. In review. |
| MS | Weissman, J.L., **W.F. Fagan**, P.L.F. Johnson. In review. Is having more than one CRISPR array adaptive? Proceedings of the Royal Society, Series B, in review. |
| MS | Agusto, F., S. Bewick3, and **W. F. Fagan**. In revision. Mathematical model of Zika Virus with vertical transmission. Infectious Disease Modeling. In revision. |
| MS | Agusto, F., S. Bewick3, and **W. F. Fagan**. In review. Zika Virus: Endemic versus epidemic dynamics and implications for disease spread in the Americas. Bulletin of Mathematical Biology. In review. |
| MS | Bewick3, S., **W. F. Fagan**, J. M. Calabrese, and F. Agusto. In review. Zika Virus: Endemic versus epidemic dynamics and implications for disease spread in the Americas. PLOS Neglected Tropical Diseases. In review. |
| MS | Bewick3, S., E. Gurarie3, J. Beattie1, C. Daviti1, R. Flint1, T. Mehoke, P. Thielen, F. Breitwieser, D. Karig, and **W. F. Fagan.** In review. Trait-based analysis of the human skin microbiome. The ISME Journal (International Society for Microbial Ecology). In preparation.  |
| MS | Jinbao, L., D. Bearup, Z. Xu, I. Nijs, and **W.F. Fagan**. In review. The hierarchical size structure inherent to riverine networks significantly impacts metapopulation dynamics. In preparation. |
| MS | Bewick3, S., T. Mehoke, J. Oh, P. Theilen, F. Breitwieser, K. Mainali3, J. Wolfe, S. Salzberg, D. Karig, and **W.F. Fagan.** In review.The macroecology of the human skin microbiome**.** Genome Science.In preparation. |
| MS | Alvarez2, S.J., S. Alavi, E. Gurarie3, C. van Schaik, M. van Noordwijk, E.R. Vogel, and **W.F. Fagan**. In preparation. Predicting fission-fusion dynamics from movement in orangutan.  |
| MS | Cheraghi4, F., M. Delavar, F. Amiraslani, K. Alavipanah, E. Gurarie3, and **W. F. Fagan**. In preparation. Modeling interdependent animal movement with environmental covariates: Predator-predator pursuit and avoidance. Hystrix. In review. |
| MS | Cheraghi4, F., E. Gurarie3, and **W. F. Fagan**. Smart animal movement discretizer. Ecological Informatics. In review. |
| MS | Zambrano, J., **W. F. Fagan**, J. Thompson, M. Uriate, J.K. Zimmerman, M. N. Umaña, and N. G. Swenson. Canopy overlap as a better predictor of the effects of functional neighborhood on tree survival and growth. Ecology, in review. |
| MS | Barry1, T., E. Gurarie3, F. Cheraghi4, I. Kojola, and W.F. Fagan. In review. Is human infrastructure an acquired taste? Grey wolf response to roads and houses during dispersal. Oecologia. |
| MS | Fleming, C.H., D. Sheldon, **W.F. Fagan,** P. Leimgruber, T. Mueller, D. Nandintsetseg, M. Noonan, K. Olson, E. Setyawan, A. Sianipar, and J. M. Calabrese. In review. Correcting for missing and irregular data in home-range estimation: optimally weighted, autocorrelated kernel density estimation. In revision. Ecological Applications. |
| MS | Demers, J., S. Bewick, J. Calabrese, and **W.F. Fagan**. In review. Modeling personal protection distribution programs in vector-borne disease epidemiology. In review. |
| MS | Potts, J.R. **W.F. Fagan**, G. Mourão. In review. Deciding when to intrude on a neighbour: Quantifying behavioral mechanisms for temporary territory expansion. Proceedings of the Royal Society, Series B. In review. |
| MS | Casas, F., F. Mougeot, B. Arroyo, M. B. Morales, I. Hervás, E. L. García De la Morena, **W.F. Fagan**, and J. Viñuela. In review. Opposite population trajectories in bustards from Central Spain: Can we consider the Great Bustard a good flagship species for steppe bird conservation? Bird Conservation International. In review. |
| MS | Che-Castaldo2, C., C. Crisafulli, J.G. Bishop, E.F. Zipkin2, and **W.F. Fagan**. In revision. How phenology links stress, vigor, allometry, and borer herbivory. Ecological Monographs, in revision. |
| 194 | Lkhagvasuren, D., N. Batsaikhan, **W. F. Fagan**, E. C. Ghandakly, P. Kaczensky, T. Müller, R. Samiya, R. Schafberg, A. Stubbe, M. Stubbe & H. Ansorge. 2018. First assessment of the population structure of the Asiatic wild ass in Mongolia. **European Journal of Wildlife Research**, in press. |
| 193 | Tucker, M.A., K. Böhning-Gaese, **W. F. Fagan**, J. M. Fryxell, B. van Moorter, … 110 other coauthors …, and T. Mueller. 2018. Global reductions in terrestrial mammalian movements. **Science**. In press. |
| 192 | Cheraghi4, F., M. Delavar, F. Amiraslani, K. Alavipanah, E. Gurarie3, and **W. F. Fagan**. 2018. State-space analysis of Asiatic cheetah movement relative to environmental drivers. **Journal of Arid Environments**. In press. |
| 191 | Foss-Grant2, A., S. Bewick3, and **W.F. Fagan**. In press. Social transmission of migratory knowledge: quantifying the risk of losing migratory behavior. **Theoretical Ecology**. In press. |
| 190 | Mainali3, K., S. Bewick3, P. Thielen, T. Mehoke, F.P. Breitwieser, S. Paudel, A. Adhikari, J. Wolfe, D. Karig, and **W. F. Fagan.** In press. Statistical analysis of microbial co-occurrence patterns in presence-absence datasets. **PLOS One**. In press. |
| 189 | Calabrese, J.M., C. H. Fleming, **W. F. Fagan**, M. Rimmler, P. Kaczensky, P. Leimgruber, and T. Mueller. In press. A model based approach to quantifying animal movement coordination. **Philosophical Transactions of the Royal Society, Series B.** In press. (Invited Article) |
| 188 | Weissman2, J.L., R. Holmes, R. Barrangou, S. Moineau, **W.F. Fagan**, B. Levin, and P.L.F. Johnson. In press. Immune loss as a driver of coexistence during host-phage coevolution. **The ISME Journal (International Society for Microbial Ecology).** In press. |
| 187 | Otto, G.L., B. Li., S. Bewick3, and **W. F. Fagan**. 2017. How phenological variation affects species spreading speeds. **Bulletin of Mathematical Biology**. In press. |
| 186 | Delgado, M., M. Miranda, S. Alvarez2, E.Gurarie3, **W.F. Fagan**, V. Penteriani, A. di Virgilio, J.M. Morales.2018. Individual variation in animal collective behaviour. **Philosophical Transactions of the Royal Society, Series B**. In press. (Invited Article) |
| 185 | Bewick3, S., G. Wang, H. Younes1, B. Li, and **W. F. Fagan**. 2017. Invasion dynamics of competing species with stage-structure. **Journal of Theoretical Biology**. In press.  |
| 184 | Vecchio-Pagan, B., S. Bewick3, K. Mainali3, D. Karig, and **W. F. Fagan**. 2017. Ecological stoichiometry of the human microbiome. **Frontiers in Microbiology**. (Invited Article). 8: Article 1119. |
| 183 | Fleming, C.H., D. Sheldon, E. Gurarie3, **W.F. Fagan**, and J.M. Calabrese. 2017. Kálmán filters for continuous time movement models. **Ecological Informatics**. 40: 8-21. |
| 182 | Gurarie3, E., C. Fleming, **W. F. Fagan**, K. Laidre, J. Hernandez-Pliego, and O. Ovaskainen. 2017. Correlated velocity models as a fundamental unit of animal movement: synthesis and applications. **Movement Ecology**.5: 13. |
| 181 | Bewick3, S., P. Thielen, T. Mehoke, D. Karig, and **W. F. Fagan.** 2017. Sampling, sequencing, and the SAD. **Ecological Complexity**. In press.  |
| 180 | Agusto, F., S. Bewick3, and **W.F. Fagan**. 2017. A mathematical model for Zika virus dynamics with a sexual transmission route. **Ecological Complexity**. 29: 61-81. |
| 179 | Gurarie3, E., F. Cagnacci, W. Peters, C.H. Fleming, J.M. Calabrese, T. Mueller, and **W.F. Fagan**. 2017. A framework for modelling range shifts and migrations: asking when, whither, whether and will it return. **Journal of Animal Ecology**. 86: 943-959. |
| 178 | Bewick3, S., P. Staniczenko3, B. Li, D. Karig, and **W.F. Fagan**. 2017. Invasion speeds in microbial systems with toxin production and quorum sensing. **Journal of Theoretical Biology**. 420: 290-303. |
| 177 | **Fagan, W. F.,** E. Gurarie3, S. Bewick3, A. Howard3, S. Cantrell, and C. Cosner. 2017. Perceptual ranges, information gathering, and foraging success in dynamic landscapes. **American Naturalist**. 189: 474-489. |
| 176 | Zhou3, J., and **W.F. Fagan**. 2017. A discrete time model for populations in habitats with time-varying sizes. **Journal of Mathematical Biology**. 1-56. |
| 175 | Keinath, D., D. Doak, K. Hodges, L. Prugh, **W.F. Fagan**, C. Sekercioglu, S. Buchart, and M. Kauffman. 2017. A global analysis of traits predicting species sensitivity to habitat fragmentation. **Global Ecology and Biogeography**. 26:115-127. |
| 174 | Nelson, E., M. Helmus, J. Cavender-Bares, S. Polasky, J. Lasky, A. Zanne, W. Pearse, N. Kraft, and **W. F. Fagan**. 2016. Commercial plant production and consumption still follow the latitudinal gradient in species diversity despite economic globalization. **PLOS One**. 11: e0163002. |
| 173 | Bewick3, S., F. Agusto, J. M. Calabrese, E. J. Muturi, and **W.F. Fagan**. 2016. Epidemiology of La Crosse virus encephalitis emergence, Appalachia Region, United States. **Emerging Infectious Diseases**. 22: 1921.  |
| 172 | Teitelbaum, C., S. Converse, **W.F. Fagan**, K. Boehning-Gaese, R. O’Hara, A. Lacey, and T. Mueller. 2016. Experience drives innovation of new migration patterns of whooping cranes in response to global change. **Nature Communications**. 7:12793 DOI: 10.1038/ncomms12793 |
| 171 | Li, B., S. Bewick3, M. Barnard, and **W.F. Fagan**. 2016. Persistence and spreading speeds of integro-difference equations with an expanding or contracting habitat. **Bulletin of Mathematical Biology**. 78: 1337-1379. |
| 170 | Foss-Grant2, A. P., E. F. Zipkin, J.T. Thorson, O. P. Jensen, and **W.F. Fagan**. 2016. Hierarchical analysis of phylogenetic variation in intraspecific competition across fish species. **Ecology**, 97:1724-1734. |
| 169 | Lynch, H.J., R. White, R. Naveen, A. Black, M. Meixler3, and **W.F. Fagan**. 2016. In stark contrast to widespread declines along the Scotia Arc, a survey of the South Sandwich Islands finds a robust seabird community. **Polar Biology**. 39: 1615-1625. |
| 168 | Fleming, C.H., **W.F. Fagan,** T. Mueller, K.A. Olson, P. Leimgruber, and J.M. Calabrese. 2016. Estimating where and how animals travel: An optimal framework for path reconstruction from autocorrelated tracking data. **Ecology.** 10.1890/15-1607. |
| 167 | Bewick3, S., R.S. Cantrell, C. Cosner, and **W.F. Fagan**. 2016. How resource phenology affects consumer population dynamics. **American Naturalist**, 187: 151-166. |
| 166 | Stoffels, R.J., R.A. Rehwinkel, A.E. Price, and **W.F. Fagan**. 2016. Dynamics of fish dispersal during river-floodplain connectivity and its implications for community assembly. **Aquatic Sciences**. 78: 355-365. |
| 165 | Che-Castaldo2, C., C. Crisafulli, J.M. Bishop, and **W.F. Fagan**. 2015. What causes female bias in the secondary sex-ratios of the dioecious woody shrub *Salix sitchensis* colonizing a primary successional landscape? **American Journal of Botany.**102: 1309-1322. |
| 164 | Teitelbaum1, C., **W.F. Fagan,** C.H. Fleming, G. Dressler4, J.M. Calabrese, P. Leimgruber, and T. Mueller. 2015. How far to go? Determinants of migration distance of land mammals. **Ecology Letters**. 18: 545-552. **(Cover Article)** |
| 163 | Fleming3, C.H., **W.F. Fagan**, T. Mueller, K.A. Olson, P. Leimgruber, and J.M. Calabrese. 2015. Rigorous home range estimation with movement data: a new autocorrelated kernel density estimator. **Ecology**. 96: 1182-1188. |
| 162 | Bewick3, S., B. Li, T. Duquette, and **W.F. Fagan**. 2015. How oviposition behavior determines persistence in patchy environments and changing climates. **American Naturalist**, 186: 237-251. |
| 161 | Noble3, A. E., & **Fagan, W. F**. 2015. A niche remedy for the dynamical problems of neutral theory. **Theoretical Ecology**, 1-13. |
| 160 | Walter, J.A., M.S. Meixler3, T. Mueller3, **W. F. Fagan**, P.C. Tobin, and K. J. Haynes. 2015. How topography induces reproductive asynchrony and alters gypsy moth invasion dynamics. **Journal of Animal Ecology**. 84: 188-198. |
| 159 | Li, B., **W.F. Fagan**, and K. Meyer. 2015. Success, failure, and spreading speeds for invasions on spatial gradients. **Journal of Mathematical Biology**. 70: 265-287. |
| 158 | Li, B., S. Bewick3, J. Shang, and **W.F. Fagan.** 2014.Persistence and spread of a species with a shifting habitat edge. **SIAM Journal of Applied Mathematics.** 74: 1397–1417 + 75: 2379-2380. |
| 157 | Mueller,3, T., G. Dressler4, C. Tucker, J. Pinzon, P. Leimgruber, R. Dubayah, G. Hurtt, K. Böhning-Gaese, and **W. F. Fagan.** 2014. Human land-use practices lead to global long-term increases in photosynthetic capacity. **Remote Sensing**. 6: 5717-5731. |
| 156 | Martinson2, H.M. and **W.F. Fagan.** 2014. Trophic disruption: a meta‐analysis of how habitat fragmentation affects resource consumption in terrestrial arthropod systems. **Ecology Letters**. 17: 1178-1189. |
| 155 | **Fagan, W.F.** and J. M. Calabrese. 2014. The correlated random walk and the rise of mechanistic movement models. **Bulletin of the Ecological Society of America.** 95: 204-206. (Invited article) |
| 154 | Fleming3, C.H., J.M. Calabrese, T. Mueller3, K.A. Olson, P. Leimgruber, and **W.F. Fagan**. 2014. Non-Markovian maximum likelihood estimation of autocorrelated movement processes. **Methods in Ecology and Evolution**. 5: 462-472. |
| 153 | Nyamsuren, B. and 26 coauthors. 2014. Crossing a new line: conserving the world’s finest grassland amidst ambitious national development. **Conservation Biology**. 28: 1736-1739. |
| 152 | **Fagan, W.F.**, Bewick3, S., C. Cantrell, C. Cosner, I. G. Varassin4, and D. Inouye. 2014. Phenologically explicit models for studying plant-pollinator interactions under climate change. **Theoretical Ecology**. 7: 289-297. |
| 151 | Li, B., **W.F. Fagan**, G. Otto, and C. Wang. 2014. Spreading speeds and traveling wave solutions in a competitive reaction-diffusion model for species persistence in a stream. **Discrete and Continuous Dynamical Systems, Series B**. 19: 10. |
| 150 | Zeigler, S. and **W.F. Fagan**. 2014. Transient windows for connectivity in a changing world. **Movement Ecology**. 2: 1. |
| 149 | Casanovas2, P., H.J. Lynch, and **W.F. Fagan**. 2014. Using citizen science to understand lichen diversity. **Biological Conservation**. 171: 1-8. |
| 148 | Olson, K., E. A. Larsen2, T. Mueller3, P. Leimgruber, T. K. Fuller, G.B. Schaller, and **W. F. Fagan.** 2014.Survival probabilities of adult Mongolian gazelles. **Journal of Wildlife Management**. 78: 35-41. |
| 147 | Fleming3, C.H., J.M. Calabrese, T. Mueller3,K.A. Olson, P. Leimgruber, and **W.F. Fagan**. 2014. From fine-scale foraging to home ranges: A semi-variance approach to identifying movement modes across spatiotemporal scales. **American Naturalist**. E154-E167. |
| 146 | Kingston2, S.E., A. G. Navarro, E. A. García Trejo, H. Vázquez, **W. F Fagan**, and M. J. Braun. 2014. Genetic differentiation and habitat connectivity across towhee hybrid zones in Mexico. **Evolutionary Ecology**.28: 277-297. |
| 145 | Lynch3, H.J., M. Rhainds3, J. M. Calabrese, S. Cantrell, C. Cosner, and **W.F. Fagan**. 2014. How climate extremes—not means—define a species’ geographic range boundary via a demographic tipping point. **Ecological Monographs**. 84:134-149.  |
| 144 | Mueller3, T., R. O’Hara, R. Urbanek, S. Converse, and **W. F. Fagan.** 2013. Social learning of migratory performance. **Science**. 341: 999-1002. **(Cover Article)** (Extensive press coverage with > 100 published reports) |
| 143 | **Fagan, W.F.**,M. A. Lewis,M. Auger-Méthé,T. Avgar, S. Benhamou, G. Breed, L. LaDage, U. Schlägel, W. Tang, Y. Papastamatiou, J. Forester, and T. Mueller3.2013.Spatial memory and animal movement.**Ecology Letters**. 16: 1316-1329. |
| 142 | Thompson, K.V., T.J. Cooke, **W.F. Fagan**, D. Gulick, D. Levy, K.A. Nelson, E. F. Redish, R.F. Smith, and J. Presson. 2013. Infusing quantitative approaches throughout the biological sciences curriculum. **International Journal of Mathematics Education in Science and Technology**. 44: 817-833. (Invited Paper) |
| 141 | Casanovas, P., H.J. Lynch, R. Naveen, and **W.F. Fagan**. 2013. Understanding lichen diversity on the Antarctic Peninsula using parataxonomic units as a surrogate for species richness. Ecological Archives E094-194. **Ecology** 94: 2110-2110. |
| 140 | **Fagan, W.F.**, Y. Pearson3, E. Larsen2, H.J. Lynch3, H.Staver1, J. Turner2, A. E. Noble, S. Bewick, and E. Goldberg3. 2013. Phylogenetic prediction of the maximum per capita rate of population growth. **Proceedings of the Royal Society, Series B.** 280: 20130523 (9 pages) \* *Recommended Article* on PubMed PubAdvanced |
| 139 | Gilbert3, J., H. Martinson2,C. Acquisti,J. J. Elser, S. Kumar, and **W. F. Fagan**. 2013. GRASP [Genomic Resource Access for Stoichioproteomics]:Comparative explorations of the atomic content of 12 Drosophilaproteomes. **BMC Genomics**. 14: 599 (14 pages).  |
| 138 | Borer, E.T., M. E. S. Bracken, E. W. Seabloom, J. E. Smith, J. Cebrian, E. E. Cleland, J. J. Elser, **W. F. Fagan**, D. S. Gruner, W. S. Harpole, H. Hillebrand, A. J. Kerkhoff, and J. T. Ngai. 2013. Global biogeography of autotroph chemistry: is insolation a driving force ? **Oikos**.122: 1121-1130. |
| 137 | Kavathekar1, D., T. Mueller3, and **W. F. Fagan**. 2013. Introducing AMV (Animal Movement Visualizer), a visualization tool for animal movement data from satellite collars and radiotelemetry. **Ecological Informatics.** 15: 91-95. |
| 136 | Casanovas2, C., H.J. Lynch3, R. Naveen, and W.F. Fagan. 2013. Multiscale patterns of moss and lichen richness on the Antarctic Peninsula. Ecography. 36: 209-219.  |
| 135 | Rhainds3, M., J. Regniere, H. J. Lynch3, and **W.F. Fagan**. 2013. Overwintering survival of bagworms, *Thyridopteryx ephemeraeformis* Haworth (Lepidoptera: Psychidae): influence of temperature and egg cluster weight. **Canadian Entomologist**. 145: 77–81. |
| 134 | Larsen2, E.A., J.M. Calabrese, M. Rhainds3 and W.F. Fagan. 2013. How protandry and protogyny affect female mating failure: a spatial population model. Entomologia Experimentalis et Applicata. 146: 130-140. (Invited Paper)  |
| 133 | Kingston2, S.E., R. W. Jernigan, **W. F. Fagan**, D. D. Braun, and M. J Braun. 2012. Genomic variation in cline shape across a hybrid zone. **Ecology and Evolution**.2: 2737–2748. |
| 132 | Berbert4, J.M., and **W.F. Fagan**. 2012. How the interplay between individual spatial memory and landscape persistence can generate population distribution patterns. **Ecological Complexity.** 12: 1-12. |
| 131 | Martinson2, H.M., **W.F. Fagan**, and R.F. Denno. 2012. Critical patch sizes for food-web modules. **Ecology**. 93: 1779-1786. |
| 130 | Grant4, E.H.C.,Lynch3, H.J., R. Muneepeerakul, I. Rodriguez –Iturbe, and **W. F. Fagan**. 2012. Interbasin water transfer, riverine connectivity, and spatial controls on fish biodiversity. **PLOS One**. 7: e34170. |
| 129 | Zipkin2, E., E.H.C. Grant4, and **W.F. Fagan**. 2012. Evaluating the predictive abilities of community occupancy models using AUC while accounting for imperfect detection. **Ecological Applications**. 22: 1962-1972. |
| 128 | Lynch3, H.J., R. Naveen, P.N. Trathan, and **W. F. Fagan**. 2012. Spatially integrated assessment reveals widespread changes in penguin populations on the Antarctic Peninsula. **Ecology**. 93: 1367-1377. |
| 127 | Swenson, N.G., B. J. Enquist, J. Pither, A. J. Kerkhoff, B. Boyle, M. D. Weiser, J. J. Elser, **W. F. Fagan**, N.J.B. Kraft, A. T. Moles, O. L. Phillips, C. A. Price,, P. B. Reich, J.C. Stegen, R. Valencia, I. J. Wright, S. Andelman, C. M. Hulshof, P. M. Jørgensen, T. E. Lacher Jr., A. Monteagudo, M. P. Núñez Vargas, and R. Vasquez. 2012.. The biogeography and filtering of woody plant functional trait diversity in North and South America. **Global Ecology and Biogeography**. 21: 798-808. |
| 126 | Zeigler2, S., L. Oliveira, B. Raboy, M. Neel, and **W.F. Fagan.** 2012.Conspecific and heterospecific attraction in the assessment of functional connectivity patterns between forest patches for a social primate in Brazil. **Biodiversity and Conservation.** 20: 2779-2796. |
| 125 | Cantrell, R.S., C. Cosner, and **W.F. Fagan.** 2012.The implications of model formulation when transitioning from spatial to landscape ecology. **Mathematical Biosciences and Engineering.** 9: 27-60. |
| 124  | **Fagan, W.F.**, R.S. Cantrell, C. Cosner, A. Noble3, and T. Mueller3. 2012. Leadership, social learning, and the maintenance (or collapse) of migratory populations. **Theoretical Ecology**. 5: 253-264.  |
| 123 | Lynch3, H.J., **W. F. Fagan**, R. Naveen, S.G. Trivelpiece, and W. Z. Trivelpiece. 2012. Differential advancement of breeding phenology in response to climate may alter staggered breeding among sympatric pygoscelid penguins. **Marine** **Ecology Progress Series**. 454: 135-145 (Invited special feature on marine birds).  |
| 122 | Noble3, A., A. Hastings, and **W.F. Fagan.** 2011. A multivariate Moran process with Lotka-Volterra phenomenology. **Physical Review Letters.** 23: 239904. |
| 121 | Lynch3, H.J., E.H.C. Grant4, R. Muneepeerakul, I. Rodriguez –Iturbe, and **W. F. Fagan**. 2011. How restructuring river connectivity changes freshwater biodiversity and biogeography. **Water Resources Research**. 47: W05531. |
| 120 | Kattge, J. and 73 coauthors. 2011. TRY–a global database of plant traits. **Global Change Biology**. 17: 2905-2935 |
| 119 | Kennedy2, C. M., E.H.C. Grant4, **W.F. Fagan**, P. P. Marra, and M. C. Neel. 2011. Landscape matrix mediates occupancy dynamics of neotropical avian insectivores. **Ecological Applications**. 21: 1837–1850. |
| 118 | Marleau, J., Y. Jin, J.G. Bishop, **W.F. Fagan**, and M.A. Lewis. 2011. A stoichiometric model of early plant primary succession. **American Naturalist**. 177: 233-245. |
| 117 | Gilbert3, J. and **W.F. Fagan.** 2011.Contrasting mechanisms of proteomic nitrogen thrift in two ecotypes of *Prochlorococcus.* **Molecular Ecology**. 20: 92-104. |
| 116 | Mueller3, T., K. A. Olson, G. Dressler, P. Leimgruber, T. K. Fuller, C. Nicolson, A. J. Novaro, M. J. Bolgeri, D. Wattles,S. DeStefano, J. M. Calabrese, and **W.F. Fagan.** 2011. How landscape dynamics link individual movements to population-level patterns: a multispecies comparison of ungulate relocation data. **Global Ecology and Biogeography**. 20: 683-694. |
| 115 | Noble3, A. E., N.M. Temme, **W.F. Fagan**, and T.H. Keitt. 2011. A sampling theory for asymmetric communities. **Journal of Theoretical Biology**. 273: 1-14. |
| 114 | Mueller3, T., **W.F. Fagan**, and V. Grimm. 2011. Integrating individual search and navigation behaviors in mechanistic movement models. **Theoretical Ecology**. 4: 341-355. |
| 113 | Schneider2, K., M.C. Christman, and **W.F. Fagan**. 2011. The influence of resource subsidies on cave invertebrates: results from an ecosystem‐level manipulation experiment. **Ecology.** 92: 765-776. |
| 112 | Thompson, K.V., K. C. Nelson3, G. Marbach-Ad, M. Keller, and **W. F. Fagan.**. 2010. Online, interactive teaching modules enhance quantitative proficiency in introductory biology students. **CBE-Life Sciences Education.** 9: 277-283. |
| 111 | Rhainds3, M. and **W.F. Fagan**. 2010. Broad-scale latitudinal variation in female reproductive success contributes to the maintenance of a geographic range boundary in bagworms (Lepidoptera: Psychidae). **PLOS One**. 5: e14166. |
| 110 | Schoenfelder1, A.C., J. Bishop, H. M. Martinson2, and **W. F. Fagan**. 2010. Resource use efficiency and community effects of invasive *Hypochaeris radicata* (Asteraceae) during primary succession. **American Journal of Botany**. 97: 1772-1779. |
| 109 | Zeigler2, S.L., **W.F. Fagan**, R. DeFries, and B.E. Raboy. 2010. Identifying important forest patches for the long-term persistence of an endangered Brazilian primate. **Tropical Conservation Science**. 3: 63-77. |
| 108 | Elser, J.J.,**W. F. Fagan**, A. J. Kerkhoff, N.G. Swenson, and B. J. Enquist.. 2010. Biological stoichiometry of plant production: metabolism, scaling, and ecological response to global change. **New Phytologist**. 186: 593-608 (Invited Tansley Review) |
| 107 | Grant4, E.H.C., J.D. Nichols, W.H. Lowe, and **W.F. Fagan**. 2010. Use of multiple dispersal pathways facilitates amphibian persistence in stream networks. **Proceedings of the National Academy of Sciences – USA**. 107: 6936-6940. |
| 106 | Lynch3, H.J., S. Zeigler2, L. Wells1, J. D. Ballou, and **W. F. Fagan.**. 2010. Survivorship patterns in captive mammalian populations: implications for estimating population growth rates. **Ecological Applications**. 20: 2334-2345. |
| 105 | Schneider2, K., A. D. Kay, and **W. F. Fagan**. 2010. Adaptation to a limiting environment: The phosphorus content of terrestrial cave arthropods. **Ecological Research**. 25: 565-577. |
| 104 | Kennedy2, C. M., P. P. Marra, **W.F. Fagan**, and M. C. Neel. 2010. Landscape matrix and species traits mediate responses of neotropical resident birds to forest fragmentation. **Ecological Monographs**. 80: 651-669. |
| 103 | Lynch3,H.J., K. Crosbie, **W.F. Fagan,** and R. Naveen. 2010. Spatial patterns of tour ship traffic in the Antarctic Peninsula Region. **Antarctic Science.** 22: 123-130. |
| 102 | Lynch3,H.J.,**W.F. Fagan,** and R. Naveen. 2010. Population trends and reproductive success at a frequently visited penguin colony on the Western Antarctic Peninsula. **Polar Biology.** 33: 493-503. |
| 101 | **Fagan, W.F.,** C. Cosner, E.A. Larsen2, and J.M. Calabrese. 2010. Reproductive asynchrony in spatial population models: How mating behavior can modulate Allee effects arising from isolation in both space and time. **American Naturalist.** 175: 362-373. |
| 100 | Goldberg, E.E.3, H.J. Lynch3, M.G. Neubert, and **W.F. Fagan.** 2010. Effects of branching spatial structure and life history on the asymptotic growth rate of a population. **Theoretical Ecology** 3: 137-152. |
| 99 | **Fagan, W.F.** H.J. Lynch3**,** and B. Noon. 2010. Pitfalls and challenges of estimating population growth rate from empirical data: consequences for allometric scaling relations. **Oikos**, 119: 455-464. |
| 98 | Olson K., T. Mueller3, P. Leimgruber, C. Nicolson, T. K. Fuller, S. Bolortsetseg, A. E. Fine, B. Lhagvasuren, and **W. F. Fagan**. 2009. Fences impede long-distance gazelle movements in drought-stricken landscapes. **Mongolian Journal of Biological Science***.* 7:45-50. |
| 97 | Lynch3,H.J.,**W.F. Fagan,** R. Naveen, S.G. Trivelpiece, and W.Z. Trivelpiece. 2009. Timing of clutch initiation in *Pygoscelis* penguins on the Antarctic peninsula: towards an improved understanding of off-peak census correction factors. **CCAMLR Science.** 16:149-165. |
| 96 | **Fagan, W.F.,** S. Cantrell, C. Cosner, and S. Ramakrishnan. 2009. Interspecific variation in critical patch size and gap crossing ability as determinants of geographic range size distributions. **American Naturalist**. 173: 363-375. |
| 95 | Bertuzzo, E., R. Muneepeerakul, H. J. Lynch3, **W. F. Fagan,** I. Rodriguez-Iturbe, and A. Rinaldo. 2009. On the geographic range of freshwater fish in river basins. **Water Resources Research**. Published Online: W11420. 11pp. |
| 94 | Cebrian, J., J.B. Shurin, E.T. Borer, B.J. Cardinale, J. Ngai, M.D. Smith, and **W.F. Fagan.** 2009. Producer nutritional quality controls ecosystem trophic structure. **PLOS One**. 4(3):e4929. |
| 93 | Hamback, P., J. Gilbert3, H. Martinson2, K. Schneider2, G. Kolb , and **W.F. Fagan.** 2008. Effects of body size, trophic mode and larval habitat on dipteran stoichiometry: A regional comparison. **Oikos**. 118: 615-623. |
| 92 | Lynch3, H.J. and **W.F. Fagan.** 2008. Survivorship curves and their impact on the estimation of maximum population growth rates. **Ecology**. 90: 1116-1124 (plus 5 pages of online material). |
| 91 | Olson, K., T. Mueller2, W.F. Fagan, P. Leimgruber, and T. Fuller. 2009. Megaherd: An observation of more than 200,000 Mongolian gazelles (*Procapra gutturosa*) as a consequence of habitat quality. **Oryx**, 43: 149-153. |
| 90 | Nelson3, K., K. Thompson, P. Shields, and **W.F. Fagan.** 2009. MathBench biology modules: Web-based math for all biology undergraduates. **Journal of College Science Teaching**, 38, 24-29. |
| 89 | Muneepeerakul, R., E. Bertuzzo, H. Lynch3, W. F. Fagan, A. Rinaldo, and I. Rodriguez-Iturbe. 2008. Neutral metacommunity models predict fish diversity patterns in the Mississippi-Missouri basin. Nature, 453: 220-3 (plus 9 pages of on-line material). |
| 88 | Mueller, T.2 and **W. F. Fagan**. 2008. Search and navigation in dynamic environments - from individual behaviors to population distributions. **Oikos**, 117: 654-664. |
| 87 | Lynch, H.3, R. Naveen, and **W. F. Fagan**. 2008. Censuses of penguins, blue-eyed shags, southern giant petrel, and kelp gull populations along the Antarctic Peninsula, 2001-2007. **Marine Ornithology**, 36: 83-97. |
| 86 | Calabrese2, J.M., L. Ries3, S.F. Matter, J. Auckland, J. Roland, D.M.. Debinski, and W.F. Fagan. 2008. Reproductive asynchrony in natural butterfly populations and its consequences for female matelessness. Journal of Animal Ecology, 77: 746-756. |
| 85 | Martinson2, H., K. Schneider2, J. Gilbert3, J. Hines, P. Hamback, and W.F. Fagan. 2008. Detritivory: stoichiometry of a neglected trophic level. Ecological Research, 23: 487-491. |
| 84 | Holmes, E. E., J. Sabo, S. Viscido, and **W. F. Fagan.** 2007. A statistical approach to quasi-extinction forecasting. **Ecology Letters.** 10: 1182–1198 |
| 83 | **Fagan, W.F.,** F. Lutscher, and K. Schneider2. 2007. Population and community consequences of spatial subsidies derived from central place foraging. **American Naturalist.** 170: 902-915. \* *Recommended Article* on PubMed PubAdvanced |
| 82 | Grant4, E.H.C., W. Lowe, and **W.F. Fagan.** 2007.Living in the branches: population dynamics and ecological processes in dendritic networks. **Ecology Letters.** 10: 165-175 **(Cover Article)** |
| 81 | **Fagan, W.F.** and A.J. Stephens1. 2006. How local extinction changes rarity: An example with Sonoran Desert fishes. **Ecography.** 29: 1-8. |
| 80 | Elser, J.J., **W.F. Fagan,** S. Subramanian, and S. Kumar. 2006. Signatures of ecological resource availability in the animal and plant proteomes. **Molecular Biology and Evolution**. 23: 1946-1951. |
| 79 | Sheller1, F.J., **W.F. Fagan**, and P.J. Unmack. 2006. Using survival analysis to study translocation success in the Gila topminnow (*Poeciliopsis occidentalis*). **Ecological Applications.** 16: 1771-1784. |
| 78 | Aumann, C.3, L. Eby3, and **W.F. Fagan.** 2006. How transient patches affect population dynamics: the case of hypoxia and blue crabs.  **Ecological Monographs.** 76: 415-438 (plus 109 pages of online enhancements [that’s not a typo, it really was 109 pages]). |
| 77 | Kerkhoff, A.J., **W.F. Fagan**, J.J. Elser, and B. J. Enquist. 2006. Phylogenetic and growth form variation in the scaling of nitrogen and phosphorus in the seed plants. **American Naturalist.** 168: E103-E122. |
| 76 | **Fagan, W.F.**, and E. E. Holmes. 2006. Quantifying the extinction vortex. **Ecology Letters**. 9: 51-60. |
| 75 | **Fagan, W.F.** and F. Lutscher. 2006. Average dispersal success: Linking home range size, natal dispersal, and metapopulation dynamics to reserve design. **Ecological Applications.** 16: 820-828. |
| 74 | Hare, M., C. Guenther2, and **W.F. Fagan.** 2005. Nonrandom larval dispersal can steepen marine clines. **Evolution.** 59:2509-2517. |
| 73 | Cantrell, S., C. Cosner, and **W.F. Fagan.**. 2005. Edge-linked dynamics and the scale-dependence of competitive dominance. **Mathematical Biosciences and Engineering.** 2: 833 –868. |
| 72 | **Fagan, W.F.**, M.A. Lewis, M. Neubert, C. Aumann3, J. Apple, and J.G. Bishop. 2005. When can herbivores reverse the spread of an invading plant ? A test case from Mount St. Helens. **American Naturalist**. 166: 669-686 (plus 8 pages of online enhancements). |
| 71 | Kerkhoff, A.J., B.J. Enquist, J.J. Elser, and **W.F. Fagan**. 2005. Plant allometry, stoichiometry, and the temperature-dependence of primary productivity. **Global Ecology and Biogeography**. 14: 585-598. |
| 70 | **Fagan, W.F**., C.M. Kennedy2, and P.J. Unmack. 2005. Quantifying rarity, losses, and risks for lower Colorado River Basin fishes: Implications for conservation listing. **Conservation Biology**. 19: 1872-1882. |
| 69 | Kuby, M.J., **W.F. Fagan**, C. ReVelle, and W. Graf. 2005. A multiobjective optimization model for dam removal: An example trading off salmon passage with hydropower and water storage in the Willamette basin. **Advances in Water Resources.** 28: 845-855. |
| 68 | **Fagan, W.F.,** C. Aumann3, C.M. Kennedy2, and P.J. Unmack. 2005. Rarity, fragmentation and the scale-dependence of extinction-risk in desert fishes. **Ecology** 86: 34-41. **(Cover Article)** |
| 67 | Calabrese, J.M.2, and **W.F. Fagan**. 2004. A comparison shoppers’ guide to connectivity metrics: trading off between data requirements and information content. **Frontiers in Ecology and the Environment.** 2:529-536. |
| 66 | Brown, D. E., **W. F. Fagan**, J. Louie, and H. Provencio. 2004. Elk as a factor affecting pronghorn productivity and population levels on Anderson Mesa, Arizona. **Proceedings of the Pronghorn Antelope Workshop** 21: 38 - 53. |
| 65 | **Fagan, W.F.** and R.F. Denno. 2004. Stoichiometry of actual versus potential predator-prey interactions: insights into nitrogen limitation for strict and intraguild predators. **Ecology Letters.** 7: 876-883. |
| 64 | Calabrese, J.M.2, and **W.F. Fagan**. 2004. Lost in time, lonely and single: Reproductive asynchrony and the Allee effect. **American Naturalist**. 164: 25-37 (plus 4 pages of online enhancements).  |
| 63 | Matsumura, M., G. M. Trafelet-Smith, C. Gratton, D. L. Finke, **W. F. Fagan**, and R. F. Denno. 2004. Does intraguild predation enhance predator performance? A stoichiometric perspective. **Ecology**. 85: 2601-2615 |
| 62 | Miller, C., Y. Kuang, **W.F. Fagan**, and J. J. Elser. 2004. Modeling and analysis of stoichiometric two-patch consumer-resource systems. **Mathematical Biosciences.** 189: 153-184. |
| 61 | Unmack, P.J. and **W. F. Fagan**. 2004. Convergence of differentially invaded systems toward invader-dominance: time-lagged invasions as a predictor in desert fish communities. **Biological Invasions**. 6: 233-243. |
| 60 | Woods, H.A., **W.F. Fagan,** J.J. Elser, and J. Harrison. 2004. Allometric and phylogenetic variation in insect phosphorus content. **Functional Ecology.** 18: 103-109. |
| 59 | Elser, J.J., K. Acharya, M. Kyle, J. Cotner, W. Makino, T. Markow, T. Watts, S. Hobbie, **W. F. Fagan,** J. Schade, J. Hood, and R.W. Sterner. 2003. Growth rate - stoichiometry couplings in diverse biota. **Ecology Letters.** 6: 936-943. |
| 58 | Hope, D., C. Gries, W. Zhu, **W.F. Fagan**, C. L. Redman, N.B. Grimm, A.L. Nelson, C. Martin, A. Kinzig. 2003. Socio-economics drive urban plant diversity. **Proceedings of the National Academy of Sciences USA**. 100: 8788-8792. |
| 57 | Ries, L. and **W.F. Fagan.** 2003. Habitat edges as a potential ecological trap for an insect predator. **Ecological Entomology**. 28: 567-572 |
| 56 | **Fagan,W.F.**, M.-J. Fortin, and C. Soykan. 2003. Integrating edge detection and dynamic modeling in quantitative analyses of ecological boundaries. **Bioscience**. 53: 730-738. |
| 55 | Strayer, D.L., M.E. Power, **W.F. Fagan**, S.T.A. Pickett, and J. Belnap. 2003. A classification of ecological boundaries. **Bioscience**. 53: 723-729. |
| 54 | **Fagan,W.F.**, J.G. Bishop,and J.D. Schade3.. 2004. Spatially structured herbivory and primary succession at Mount St. Helens: [field surveys and experimental growth studies suggest a role for nutrients](http://wos02.isiknowledge.com/?SID=8JDMl5FM1BFjmk58idn&Func=Abstract&doc=4/1)  **Ecological Entomology**, 29: 398-409 |
| 53 | Loladze, I., Kuang, Y. Elser, J.J., and **Fagan, W.F.** 2004. Competition and stoichiometry: coexistence of two predators on one prey. **Theoretical Population Biology.** 65: 1-15. |
| 52 | Eby, L.A.3, **W.F. Fagan**, and W.L. Minckley. 2003. Variability and dynamics of a desert stream fish community. **Ecological Applications.** 13: 1566-1579. |
| 51 | Kuang, Y., **W.F. Fagan**, and I. Loladze. 2003. Biodiversity, habitat area, resource growth rate and interference competition. **Bulletin for Mathematical Biology**. 65: 497-518. |
| 50 | Schade, J. 3, M. Kyle, S. Hobbie, **W. F. Fagan**, and J. Elser. 2003. Stoichiometric tracking of soil nutrients by a desert insect herbivore. **Ecology Letters**. 6: 96-101. |
| 49 | Denno, R.F. and **W.F. Fagan.** 2003. Might nitrogen limitation promote omnivory among carnivorous arthropods? **Ecology**. 84:2522-2531. **(Invited Special Feature)** |
| 48 | Brown, D. E., **W. F. Fagan**, R. Lee, H. G. Shaw, and B. Turner. 2003. Winter precipitation and pronghorn fawn survival in the Southwest. **Proceedings of the Pronghorn Antelope Workshop** 20: 17-21. |
| 47 | Brown, D. E., **W. F. Fagan**, and B. Turner. 2003. Pronghorn horn sheath growth, age, and precipitation on a ranch in southern New Mexico. **Proceedings of the Pronghorn Antelope Workshop** 20: 115-134. |
| 46 | **Fagan, W.F**. 2002. Connectivity, fragmentation, and extinction risk in dendritic metapopulations. **Ecology**. 83: 3243-3249. **(Cover Article)** |
| 45 | **FaganW.F.,** P. Unmack, C. Burgess, and W.L. Minckley.2002. Rarity, fragmentation, and extinction risk in desert fishes. **Ecology**. 83:3250-3256. **(Cover Article)** |
| 44 | **Fagan, W.F.**, E. Siemann, C. Mitter, R. F. Denno, A. F. Huberty, H. A.Woods, and J. J. Elser. 2002. Nitrogen in insects: Implications for trophic complexity and species diversification. **American Naturalist**. 160: 784-802 |
| 43 | **Fagan, W.F.** 2002. Can vertebrate predation alter aggregation of risk in an insect host-parasitoid system? **Journal of Animal Ecology**. 71: 487-496 |
| 42 | Holmes, E. E. and **W.F. Fagan.** 2002. Validating population viability analysis for corrupted data sets. **Ecology**. 83: 2379-2385. |
| 41 | **Fagan, W.F.,** M.D. Moran, J.J. Rango2, and L.E. Hurd. 2002. Community effects of praying mantids: a meta-analysis of the influences of species identity and experimental design. **Ecological Entomology**. 27: 385-395. |
| 40 | Cantrell, S., C. Cosner, and **W.F. Fagan.** 2002**.** Habitat edges and predator-prey interactions: Effects on critical patch size. **Mathematical Biosciences**. 175: 31-55 |
| 39 | **Fagan, W.F.**, M.A. Lewis, M.G. Neubert, and P. van den Driessche. 2002. Invasion theory and biological control. **Ecology Letters** 5: 1-10. |
| 38 | Faeth, S.H. and **W.F. Fagan**. 2002. Fungal endophytes: common host plant symbionts but uncommon mutualists. **Integrative and Comparative Biology.** 42: 360-368.  |
| 37 | Harvey, E., J. Hoekstra, R. O’Connor, and **W.F. Fagan**. 2002. Recovery plan revisions: progress or due process? **Ecological Applications** —Special Section on Endangered Species Recovery Plans. 12: 682-689. |
| 36 | Hoekstra, J., **W.F. Fagan**, and J. Bradley. 2002. A critical role for critical habitat in the recovery planning process? Not yet. **Ecological Applications** —Special Section on Endangered Species Recovery Plans. 12: 701-707. |
| 35 | Hoekstra, J. M., J. A. Clark, **W. F. Fagan** and P. D. Boersma. 2002. A comprehensive review of Endangered Species Act recovery plans. **Ecological Applications**—Special Section on Endangered Species Recovery Plans. 12: 630-640. |
| 34 | Bommarco, R. and **W.F. Fagan**. 2002. Influence of crop edges on movement of generalist predators: a diffusion approach. **Agricultural and Forest Entomology.** 3: 1-11. |
| 33 | Cantrell, S., C. Cosner, and **W.F. Fagan**6**.** 2001**.** How predator incursions affect critical patch size: The role of the functional response. **American Naturalist** 158: 368-375. |
| 32 | Boersma, P.D., P. M. Kareiva, **W.F. Fagan**, and J.A. Clark. 2001. How good are endangered species recovery plans? **Bioscience** 51: 643-649. |
| 31 | **Fagan, W.F.**, E. Meir, J. Prendergast, A. Folarin2, and P. M. Kareiva. 2001. Characterizing vulnerability to extinction for 758 species. **Ecology Letters** 4: 132-138. |
| 30 | **Fagan, W.F**. and A. Folarin1. 2001. Contrasting scales of oviposition and parasitism in praying mantids. **Population Ecology** 43: 87-96. |
| 29 | Billheimer, D., P. Guttorp, and **W.F. Fagan**. 2001. Statistical interpretation of species composition. **Journal of the American Statistical Association** 96: 1205-1214 |
| 28 | Cantrell, S., C. Cosner, and **W.F. Fagan**. 2001. Brucellosis, botflies, and brainworms: the influences of habitat edges on host-pathogen interactions. **Journal of Mathematical Biology**. 42: 95-119. |
| 27 | **Fagan, W.F.**, E. Meir, S. Carroll, and J. Wu. 2001. The ecology of urban landscapes: modeling housing starts as a density-dependent colonization process. **Landscape Ecology** 16: 33-39. |
| 26 | McIntyre, N.E.3, J. Rango2, **W.F. Fagan**, and S.H. Faeth. 2001. Ground arthropod community structure in a heterogeneous urban environment. **Landscape and Urban Planning** 52: 257-274. |
| 25 | Elser, J.J., **W.F. Fagan**, R.F. Denno, D.R. Dobberfuhl, A. Folarin, A. Huberty, S. Interlandi, S.S. Kilham, E. McCauley, K.L. Schulz, E.H. Siemann, R.W. Sterner. 2000. Nutritional constraints in terrestrial and freshwater food webs. **Nature** 408: 578-580.  |
| 24 | Collins, J.P., A. Kinzig, N.B. Grimm, **W.F. Fagan**, D. Hope, J. Wu, and E.T. Borer. 2000. A new urban ecology. **American Scientist**. 88: 416-425. |
| 23 | Elser, J.J., R. W. Sterner, E. Gorokhova, **W.F. Fagan**, T. A. Markow, J.B. Cotner, J.F. Harrison, S.E. Hobbie, G.M. Odell, and L.J. Weider. 2000. Biological stoichiometry from genes to ecosystems. **Ecology Letters** 3: 540-550. |
| 21 | Andelman, S. and **W.F. Fagan**6. 2000.Umbrellas and flagships: efficient conservation surrogates, or expensive mistakes? **Proceedings of the National Academy of Sciences USA**.97: 5954-5959. |
| 20 | Kendall, B.E., O.N. Bjornstad, J. Bascompte, T.H. Keitt, and **W.F. Fagan**. 2000. Dispersal, environmental correlation, and spatial synchrony in population dynamics. **American Naturalist.** 155: 628-636. |
| 19 | **Fagan, W.F.** and J.G. Bishop. 2000. Trophic interactions during primary succession: Herbivores slow the reinvasion of lupines on Mount St. Helens. **American Naturalist**. 155:328-251. |
| 18 | Meir, E. and **W.F. Fagan**. 2000. Will observation error and biases ruin the use of simple extinction models? **Conservation Biology**. 14: 148-154 |
| 17 | Wenninger, E.J.1, and **W.F. Fagan**. 2000. Effect of river flow manipulation on wolf spider assemblages at three desert riparian sites. **Journal of Arachnology**. 28: 115-122. |
| 16 | **Fagan, W.F.**, E. Meir, and J. Moore. 1999. Variation thresholds for extinction and their implications for conservation strategies. **American Naturalist**.154: 510-520. |
| 15 | **Fagan, W.F.** 1999. Weak influences of initial conditions on metapopulation extinction times: implications for conservation and biological control. **Ecological Applications.** 9: 1430-1438. |
| 14 | **Fagan, W.F.**, R.S. Cantrell, and C. Cosner. 1999. How habitat edges change species interactions. **American Naturalist.** 153: 165-182. |
| 13 | Cantrell, S., C. Cosner, and **W.F. Fagan**. 1999. Competitive reversals inside ecological reserves: the role of external habitat degradation. **Journal of Mathematical Biology.** 37: 491-533. |
| 12 | **Fagan, W.F.**, A.L. Hakim, H. Ariawan, and S. Yuliyantiningsih. 1998. Interactions between biological control efforts and insecticide applications in tropical rice agroecosystems: the potential role of intraguild predation. **Journal of Biological Control.** 13:121-126. |
| 11 | Hoekstra, H.E. and **W.F. Fagan**. 1998. Body size, dispersal ability and compositional disharmony: the carnivore‐dominated fauna of the Kuril Islands. **Diversity and Distribution.** 4: 135-149. |
| 10 | **Fagan, W.F.** 1997a. Omnivory as a stabilizing feature of natural communities. **American** **Naturalist**. 150: 554-568. |
| 9 | **Fagan, W.F.** 1997b. Introducing a “boundary-flux” approach to quantifying insect diffusion rates. **Ecology**. 78: 579-587. |
| 8 | **Fagan, W.F.** and P.M. Kareiva. 1997. Using compiled species lists to make biodiversity comparisons among regions: a test case using Oregon butterflies. **Biological Conservation**.80: 249-259. |
| 7 | **Fagan, W.F.** and G.M. Odell. 1996. Size-dependent cannibalism in praying mantids: using biomass flux to model size-structured populations. **American Naturalist**.147: 230-268. |
| 6 | **Fagan, W.F.** and L.E. Hurd. 1994. Hatch density variation in a generalist arthropod predator: population consequences and community impact. **Ecology**. 75: 2022-2032. |
| 5 | Hurd, L.E., R.M. Eisenberg, **W.F. Fagan**, K.J. Tilmon, W.E. Snyder, K.S. Vandersall, S.G. Datz, and J.D. Welch. 1994. Cannibalism reverses a male-biased sex ratio in adult mantids: a female strategy against food limitation? **Oikos**. 69: 193-199. |
| 4 | Hurd, L.E. and **W.F. Fagan**. 1992. Cursorial spiders and succession: age or habitat structure? **Oecologia**. 92: 215-221. |
| 3 | Eisenberg, R.M., L.E. Hurd, **W.F. Fagan**, K.J. Tilmon, W.E. Snyder, K.S. Vandersall, S.G. Datz, and J.D. Welch. 1992. Adult dispersal of *Tenodera aridifolia sinensis* (Mantodea: Mantidae). **Environmental Entomology**. 21: 350-353. |
| 2 | **Fagan, W.F.** and L.E. Hurd. 1991a. Direct and indirect effects of generalist predators on a terrestrial arthropod community. **American Midland Naturalist**. 196: 380-384. |
| 1 | **Fagan, W.F.** and L.E. Hurd. 1991b. Late season food level, cannibalism, and oviposition in adult mantids (Orthoptera: Mantidae): sources of variability in a field experiment. **Proceedings of the Entomological Society of Washington**. 93: 956-961. |
|  |  |
|  |  |
|  |  |

**Book Chapters:**

|  |  |
| --- | --- |
| 6 | Mueller, T., C.S. Teitelbaum, **W.F. Fagan**, and S.J. Converse. 2016. Movement ecology of reintroduced migratory whooping cranes. The Biology and Conservation of the Whooping Crane (*Grus americana*). In press. |
| 5 | **Fagan, W. F.** and L. Ries. 2012. Edge effects. Berkshire Encyclopedia of Sustainability, Vol. 5: Ecosystem Management and Sustainability. Pp. 118-124. |
| 4 | **Fagan, W.F.**, E.H.C. Grant4, H. J. Lynch, and P.J. Unmack. 2009. Riverine landscapes: Ecology for an alternative geometry. Pp 85-100 in S. Cantrell, C. Cosner, and S. Ruan, eds. *Spatial Ecology.* Chapman and Hall/CRC. London, UK. |
| 3 | Fagan, W.F. and J.M. Calabrese2. 2006. Quantifying Connectivity: Balancing metric performance with data requirements. In K. Crooks and M.A. Sanjayan, eds. *Connectivity Conservation*. Cambridge University Press. Pp 296-317. |
| 2 | Bishop, J.G., W.F. Fagan, C. Crisafulli, and J. S. Schade3. 2005. Causes and consequences of herbivory on prairie lupine (*Lupinus lepidus*) in early primary succession. Pp 151-162 *in* V.H. Dale, F.J. Swanson, and C.M. Crisafulli, eds. *Ecological Responses to the 1980 Eruption of Mount St. Helens.* Springer-Verlag. |
| 1 | Fagan, W.F. 2000. Biodiversity: ecoregional planning and nature reserve design. *McGraw-Hill Yearbook of Science and Technology.* Pp.48-49. |

**Technical Reports:**

|  |  |
| --- | --- |
| 13 | Stanfield, L., Del Guidice, L., Lutscher, F., Trudeau, M., Alexander, L., **Fagan, W.F.**, Fertik, R., Mackereth, R., Richardson, J., Shrestha, N., Tetreault, G., and Wipfli, M. 2014. A discussion paper on: Cumulative effects from alteration of headwater drainage features and the loss of ecosystem integrity or river networks. Technical report, Ontario Ministry of Natural Resources. |
| 12 | Naveen, R., H.J. Lynch, and **W.F. Fagan**. 2012. Antarctic Site Inventory 1994-2012, Information Paper submitted by the United States to the XXXIV Antarctic Treaty Consultative Meeting in Hobart, Tasmania. |
| 11 | Lynch, H.J., K. Crosbie, **W.F. Fagan**, R. Naveen. 2010. Spatial patterns of tour ship traffic in the Antarctic Peninsula region, Information Paper submitted by the United States to the XXXIII Antarctic Treaty Consultative Meeting in Punta del Este, Uruguay. |
| 10 | Naveen, R., H. Lynch, and **W.F. Fagan**. 2010. Antarctic Site Inventory: 1994-2010, Information Paper submitted by the United States to the XXXIII Antarctic Treaty Consultative Meeting in Punta del Este, Uruguay. |
| 9 | Naveen, R., H. Lynch, and **W.F. Fagan**. 2009. Antarctic Site Inventory: 1994-2009, Information Paper submitted by the United States to the XXXII Antarctic Treaty Consultative Meeting in Baltimore, Maryland. |
| 8 | Naveen, R., H. Lynch, and **W.F. Fagan**. 2009. Monitoring and assessment using hierarchical Bayesian modeling: An approach taken by the Antarctic Site Inventory, Information Paper submitted by the United States to the XXXII Antarctic Treaty Consultative Meeting in Baltimore, Maryland. |
| 7 | Naveen, R., H. Lynch, and **W.F. Fagan**. 2008. Antarctic Site Inventory: 1994-2008, Information Paper submitted by the United States to the XXXI Antarctic Treaty Consultative Meeting in Kiev, Ukraine. |
| 6 | **Fagan, W.F.****,** K. Gido, R. Glass, P. Marsh, W. Osterkamp, and R. Ryel. 2009. Report of the 2009 Gila Science Forum. Report to New Mexico Department of Game and Fish. 34 pages. |
| 5 | **Fagan, W.F.** 2006. Peer Review and Critique of the Pecos Bluntnose Shiner Database. U.S. Fish and Wildlife Service, New Mexico Office. 14 pp. |
| 4 | Holmes, E. E., **W. F. Fagan**, J. J. Rango2, A. Folarin1, J. A. Sorensen2, J. E. Lippe1, and N. E. McIntyre3. 2004. Cross-validation of quasi-extinction risks from real time series: an examination of diffusion approximation methods. U.S. Dept. Commerce, NOAA Technical Memo. NMFS-NWFSC-67. 53pp. |
| 3 | **Fagan, W.F.,** and P. Unmack. 2003. Change in spatial distribution of the humpback chub (*Gila cypha*) in the Lower Basin of the Colorado River: An analysis of data from the SONFISHES database**.** US Geological Survey: Grand Canyon Monitoring and Research Center. 12 pp. |
| 2 | **Fagan, W.F.,** and C. Burgess. 2001. Final Report for Award # 00-CS-11031600-015. Characterizing Extirpation Probabilities for Native Fishes. United States Forest Service. 21pp. |
| 1 | **Fagan, W.F.** and W.L. Minckley. 1998. Interpreting extinction probabilities for razorback sucker in Fossil Creek, Arizona. Technical Submission to American Rivers. 4pp. |

**Selected Research Receiving Press or Peer Coverage**

* More than 20 media outlets published reports based on findings that older cranes innovate new migratory wintering grounds. (regarding Teitelbaum et al. 2016. Nature Communications).
* More than 100 media outlets published reports based on findings that whooping cranes learn migratory routes from older birds. (regarding Mueller et al. 2013. Science)
* Pappas, S. 2012. “Home-field advantage helps penguins in warming Antarctic”. Live Science, picked up by MSNBC and other sources. (regarding Lynch et al. Ecology, Marine Ecology Progress Series, & Polar Biology)

# Anonymous. 2011. “Changes in Vegetation Determine How Animals Migrate” ScienceDaily. 11 May 2011. (regarding Mueller et al. 2011. Global Ecology and Biogeography)

###### Faculty of 1000 Recommendation (regarding Fagan et al. 2009. American Naturalist)

###### Faculty of 1000 Recommendation (regarding Cebrian et al. 2009. PLOS One)

###### Walker, M. 2009. “Largest herd of gazelles sighted” ***BBC Earth News*.** 11 May 2009. (regarding Olson et al. 2008. Oryx)

###### Faculty of 1000 Recommendation (regarding Muneepeerakul et al. 2008. Nature)

###### Robinson, E. 2007. “Studying the natural race to rebuild St. Helens: Will the volcano’s conical top return before the forest ? ***Seattle Post-Intelligencer*** 7 August 2007.

###### Faculty of 1000 Recommendation (regarding Grant et al. 2007. Ecology Letters)

###### Faculty of 1000 Recommendation (regarding Fagan and Holmes. 2006. Ecology Letters)

######  “Editor’s Choice: You are what you eat.” **Science.** 313: 1020. (regarding Elser et al. 2006. Molecular Biology and Evolution)

###### Coghlan, A. 2005. “Caterpillars keep volcano bare.” **New Scientist.** 12 November 2005. (regarding Fagan et al. 2005. American Naturalist).

###### O’Brien, D. 2005. “Hungry caterpillar vs. Mount St. Helens.” ***Baltimore Sun.***4 November 2005. (regarding Fagan et al. 2005. American Naturalist).

###### Anonymous. 2005. “Mount St. Helens recovery slowed by insect.” United Press International. Picked up by ScienceDaily.com, Monstersandcritics.com, Newkerala.com, Glasgow Herald, and other newspapers worldwide. (regarding Fagan et al. 2005. American Naturalist).

###### Hurtley, S. 2005. “Editor’s Choice: The Dynamics of Invasions”. **Science.** 310: 747. (regarding Fagan et al. 2005. American Naturalist).

###### Knight, T.M. and J. Chase. 2005. “Out of the Ash: Lupine recolonization on Mount St. Helens” **Current Biology.** (regarding Fagan et al. 2005. American Naturalist).

###### Whipple, D. 2004. “Blue Planet: Doing the Math.” United Press International. [<http://www.upi.com/view.cfm?StoryID=20041102-040004-2238r>](http://about.upi.com/products/perspectives/UPI-20041102-040004-2238R) . Picked up by ***The Washington Times*** and other major newspapers. (regarding Fagan et al. 2005. Ecology. and Kuby et al. 2005. Advances in Water Research.)

* ISI Top 1% Citation Rate for new articles in ecology. 2003. For Fagan et al. 2002. American Naturalist.
* Sugden, A.M. 2001. “Editor’s Choice: Conservation Biology: Risk Analysis.” **Science.** 292: 17. (regarding Fagan et al. 2001. Ecology Letters.)
* Jensen, M.N. 1999. “Pick a species, any species.” **ScienceNOW.** 624: 2. (regarding Andelman and Fagan 1999. PNAS)

**Current External Funding:**

* NASA ABoVE (2016-2017). Animals on the move:  Methodological development and analysis support. Subcontract from Columbia University. (PI: E. Gurarie, coPI: W.F. Fagan). $27,333.
* NSF NRT. (2016 – 2021). Network biology. (PI: M. Girvan, coPIs: W. Fagan, A. Varshney, H. Corrada-Bravo, D. Butts). $ 2.1M to UMD.
* NSF IUSE. (2016-2019). Guided by Evidence: Changing the disciplinary culture of teaching and learning. (PI: W. Fagan, co PIs K. Thompson, T. Cooke, and G. Marbach-Ad). $649,256 to UMD.
* Department of Defense SERDP. (2016-2019). The role of phenology and phenology change in the transmission of arthropod-borne diseases: Implications for management on military lands (PI: S. Bewick3, co-PIs: W. Fagan, J. Calabrese5, F. Agosto). Total grant is $545,126 with $426,000 to my lab at UMD.
* NSF Advances in Biological Informatics (Innovation). (2015-2018). “Advanced mathematical, statistical, and software tools to unlock the potential of animal tracking data.” (PI: J. Calabrese5, co-PIs: W. Fagan, B. Hamidzadeh). $1,165,594 to UMD, with $935,000 to my lab.
* Department of Education GAANN (Grants in Areas of National Need). (2015-2018) “Mathematics in Biology.” Total grant is $939,394 ($751,344 external funds plus $187,950 cost share), all providing graduate student fellowships to my department. (PI: W. Fagan; coPIs: E. Quinlan, K. Carleton, C. Machado).
* Department of Defense MURI. (2014-2019) “Understanding the skin microbiome through the integration of metagenomics, bioinformatics, spatial ecology and synthetic biology.” Total grant is $4.5 million with $1,009,998 ($888,324 external funds plus $121,674 cost share) to my lab. (PI: D. Karig; coPIs: W. Fagan, S. Salzberg, L. You).
* NSF LTREB Renewal (Long-term Research in Environmental Biology). (2013-2018) “Collaborative Research: Impacts of insect herbivory on the pace and pattern of successional change at Mount St. Helens.” Total grant is $450,000 with $100,010 to my lab. (PI: W. Fagan; Collaborative PI: J. Bishop)

**Current External Postdoctoral Support:**

* James S. McDonnell Postdoctoral Fellowship for Dr. Eleanor Brush. (2015-2018). Provides 2.5 years of full support.

**Selected Prior External Funding:**

* NSF Mathematical Biology. (2012-2016) Collaborative Research: Spatial spread of stage-structured populations. (PI: W. Fagan; Collaborative PI: B. Li). Total grant is $500,000 with $250,000 to my lab.
* NSF Biological Sciences Centers. (2011-2017) SESYNC: The National Socio-Environmental Synthesis Center. (PI: M. Palmer) $27,500,000 to UMD. *I helped develop and write the proposal, prepared the budget, and helped launch the Center, providing effort equivalent to that of a coPI. However NSF regulations permitted only one name on the proposal, precluding my inclusion on the title page.*
* NSF Advances in Biological Informatics (Development). (2012-2016) Access, visualization, and statistical tools for the analysis of butterfly monitoring data. (PI: L. Ries3, co-PIs: W. Fagan, J. JaJa, and J. Sauer). $1,134,640 to my lab at UMD.
* NSF Advances in Biological Informatics (Innovation). (2011-2015) Informatics tools for population-level animal movements. (PI: T. Mueller3, co-PIs: W. Fagan, P. Leimgruber, A. Royle, and J. Calabrese5). $829,426 to my lab at UMD.
* NSF Courses, Curriculum, and Laboratory Improvement – Level II. (2010 – 2014) MathBench Biology Modules: Expansion of Implementation and Assessment. $596,138 to UMD. (PI: K. Thompson; Co-PIs: W. Fagan, G. Marbach-Ad, D. Levy, and K. Nelson3.)
* Oceanites Foundation: “Analysis of Penguin Population Dynamics on the Antarctic Peninsula,” $20,000. 2006-13. (PI: W. Fagan)
* NSF Polar Programs: “Multispecies, Multiscale Investigations of Long-term Changes in Penguin and Seabird Populations on the Antarctic Peninsula,” $476,608 to my lab at UMD. 2008-2013. (PI: W. Fagan, CoPI: H. Lynch3)
* Dept. of Defense SERDP (Strategic Environmental Research and Development Program) “An Ecoinformatic Approach to Quantifying Recovery Goals for Endangered Species,” $1,829,000 to UMD. 2006-2013. (PI: W. Fagan, CoPI: M. Neel)
* US Geological Survey. (2009-2012) Spatial controls on demographic contributions to stream salamander occupancy” $92,466.
* NSF Population Biology. (2008-2012)*.* Collaborative Research: QEIB: Resource predictability and dispersal strategies in ungulates: does temporal uncertainty lead to nomadism? Total Grant was $680,291 with $147,242 to me. (PI: W. Fagan, Collaborative PI: T. Fuller).
* NSF LTREB (Long-term Research in Environmental Biology). “Collaborative Research: Impacts of Insect Herbivory on the Pace and Pattern of Successional Change at Mount St. Helens.” $445,000. 2006-2012. (PI: W. Fagan; Collaborative PI: J. Bishop)
* James S. McDonnell Foundation. “A Complex System Perspective of Transport in River Networks: Implications for Biodiversity and Water-borne Diseases.” $450,000 with $225,000 to me. 2007 – 2011. (PI: I. Rodriguez-Iturbe; CoPI: W.F. Fagan)
* NSF Courses, Curriculum, and Laboratory Improvement – Level I. (2008 – 2010) MathBench Biology Modules: Mathematics for all Biology Undergraduates. $192,000 to UMD. (PI: W. Fagan; Co-PIs: K. Thompson, K. Nelson3, D. Gulick, J. Sniezek)
* NSF Biological Databases and Informatics: “Developing a Bioinformatics Database for Stoichio-Proteomics,” $1,027,898. 2006-2010. (PI: W. Fagan, CoPIs: S. Kumar, J. Elser)
* NJ Dept of Environment. External Peer Reviewer for NJ Ocean/Wind Power Baseline Ecological Studies. $3,200. (Contract)
* US EPA. External Peer Reviewer for HexSim, a computational package for investigating impacts of habitat fragmentation on population dynamics. $2,500. (Contract)
* National Center for Ecological Analysis and Synthesis (NCEAS) Working Group. “Ecological Stoichiometry of Plant-Herbivore Interactions.” $85,000. 2006-2008. (PI: W. Fagan, CoPI: D. Davidson)
* USFWS: “Quantifying Rarity and Risks for the Endangered Pecos Bluntnosed Shiner,” $14,552. 2005-2006 (PI: W. Fagan)
* NSF Ecology: “Linking rarity, extinction dynamics, and life-history traits: Across-scale investigations with desert fishes,” $205,000 + $6,000 REU supplement. 2000-2004. (PI: W. Fagan, CoPI: W.L. Minckley).
* NASA Astrobiology: “Evolution in microbe-based ecosystems: Desert springs as ana­logues for the early development and stabilization of ecological systems" $709,000. 2000-2002. (PD: J. Farmer; CoPIs: T. Dowling, J. Elser, W. Fagan, W. Minckley, C. Tang, F. Garcia-Pichel, V. Souza, L. Eguiarte, G. Odell).
* NSF Mathematical Biology: “Theoretical frameworks for ecological dynamics subject to stoichiometric constraints.” $215,000. 2000-2003. (PI.: Y. Kuang, CoPIs: J. Elser, W. Fagan).
* NSF Integrative Research Challenges in Environmental Biology, “Biological Stoichiometry from Genes to Ecosystems,” $2,800,000. 1999-2004. (PD: J. Elser, CoPIs: J. Cotner, W. Fagan, J. Harrison, S. Hobbie, T. Markow, G. Odell, R. Sterner, and L. Weider).
* NSF Mathematical Biology: “Discrete-time models of biological invasions: variability and species interactions.” $380,000. 1999-2003. (PI: M. Neubert, CoPIs: M. Kot, M. Lewis, W. Fagan, $32,255 to ASU).
* National Center for Ecological Analysis and Synthesis (NCEAS) Working Group.

 “Ecological Stoichiometry of Plant-Herbivore Interactions.” $55,000. 1999-2000.

 PIs: J. Elser and W. Fagan.

* US Forest Service Southwest Region. “Characterizing Extirpation Probabilities for Native Fishes.” $25,000. 2000. (PI: W. Fagan).
* National Fish and Wildlife Foundation: “Exotic fish removal to benefit endangered Yaqui chub,” $21,000. 2000. (PI: W. L. Minckley, CoPI: W. Fagan).
* USFS “Distribution and Species Viability of Native Fishes,” $ 33,000, 1998. (PI: W. L. Minckley, CoPIs: J. Fry, W. Fagan.)
* NSF Dissertation Improvement Grant, $10,000, 1994.

Prior External Student Support

Postdoctoral

* Andalusian Talent Hub Postdoctoral Fellowship (Spain) for Dr. Fabian Casas Arenas. (2015-2017). Provides 2 years of full support.
* 2004 – 2008. NSF Postdoctoral Fellowship in Bioinformatics, $120,000 (Leslie Ries) “Long-term Changes in the Distribution and Abundance of North American Butterflies: An Ecoinformatic Analysis of the 4th of July Butterfly Counts.”

Dissertation Awards

* 2007 - 2010. NSF Dissertation Improvement Grant, $11,615 (Holly Martinson)
* 2006 - 2008. NSF Dissertation Improvement Grant, $11,800 (Thomas Mueller)
* 2001 - 2003. NSF Dissertation Improvement Grant, $6,000 (Justin Calabrese)
* 2000 - 2002. NSF Dissertation Improvement Grant, $6,000 (Jessamy Rango)

Predoctoral

* 2012 - 2016. Colciencas Graduate Fellowship (COLFUTURO / National Government of Colombia) for Silvia Alvarez. Provided 4 years of full support.
* 2010 - 2014. NASA Predoctoral Fellowship, $90,000 (Paula Casanovas)
* 2007 - 2008. Smithsonian Predoctoral Fellowship. $25,000. (Thomas Mueller)
* 2006 - 2007. Fulbright Predoctoral Fellowship, $30,000 (Christina Kennedy)
* 2006 - 2007. Cave Research Foundation’s Tom Kane Memorial Award for Interdisciplinary Research in Karst Science, $6,000 (Katie Schneider)
* 2003 - 2007. NASA Predoctoral Fellowship, $72,000 (Christina Kennedy)
* 2003. Cave Conservancy Foundation Graduate Fellowship, $15,000(Katie Schneider)
* 1999 - 2002. NSF Predoctoral Fellowship, $50,000 (Justin Calabrese)
* 1999 - 2002. Achievement Rewards for College Scientists Graduate Fellowship, $20,000 (Justin Calabrese)

Undergraduate

* 2017. Howard Hughes Undergraduate Research Award (Tim Barry)
* 2016. Maryland Summer Scholar Award (Tim Barry).
* 2014 - 2015. REU Supplement for NSF ABI award. $3,500.
* 2011 - 2012. REU Supplement for NSF LTREB award. $7,500.
* 2010 - 2011. REU Supplement for NSF Population Biology. $7,000.
* 2010 - 2011. REU Supplement for NSF LTREB award. $7,000.
* 2009 - 2010. REU Supplement for NSF LTREB award. $7000.
* 2009 - 2010. REU Supplement for NSF LTREB award. $7000.
* 2008 - 2009. REU Supplement for NSF Population Biology award. $7000.
* 2007 - 2009. REU Supplement for NSF Biological Databases and Informatics. $10,700.
* 2007 - 2008.  REU Supplement for NSF LTREB award. $6500.
* 2004, 2005. Howard Hughes Undergraduate Research Award (Frances Sheller) (Awarded twice)
* 2003 - 2004. REU Supplement for NSF Ecology Grant. (Alisa Stephens)

Outreach

* + 2007 - 2008. RET Supplement for NSF LTREB award $10,000. Supported the participation of J. Balachowski (Middle school teacher for Howard County, MD) in field research at Mount St. Helens to increase her exposure to science and facilitate curriculum development.

**Current Internal Funding**

* University of Maryland Tier II Proposal Development Grant for Center for the Mathematics of Biological Information and Learning. $75,000. 2017. (PI: D. Levy; coPI: W.F. Fagan)
* University of Maryland / Smithsonian Institution Seed Grant. “Zika, Sex, and Seasonality.” $45,000. 2016 – 2017. (PI: J. Calabrese) CoPIs: S. Bewick, W.F. Fagan.

**Previous Internal Funding**

* University of Maryland / Smithsonian Institution Seed Grant. “How vegetation dynamics drive ungulate movements: Transforming single species studies to global comparisons.” $50,000. 2010 – 2011. (PI: W. Fagan) CoPIs: R. Dubayah, C.J. Tucker, P. Leimgruber, and K. Thompson.
* University of Maryland Tier II Proposal Development Grant for the National Socio-Environmental Synthesis Center. $75,000. 2009-2010. (PI: M. Palmer; coPI: W.F. Fagan)
* University of Maryland College of Life Sciences Curriculum Improvement Grant. “Infusing mathematics into the undergraduate biology program.” $165,000. 2004 – 2007. (PI: W. Fagan)

**Invited Workshop/Working Group Participant:**

* Integrodifference Equations in Ecology: 28 Years and Counting. (2016). Banff International Research Station. F. Lutscher, Chair.
* Uncertainty, Sensitivity and Predictability in Ecology: Mathematical Challenges and Ecological Applications. (2015). National Mathematical Biosciences Institute, Ohio State University, A. Hastings, Chair.
* SESYNC Immersion Program with Distinguished Scholar Lecturers of Ecology (2015). M. Palmer, Chair.
* Workshop on Mathematical Biology and Nonlinear Analysis (2014). C. Cosner, Chair.
* National Academies’ Keck Futures Initiative Symposium on Collective Behavior (2014). Beckman Center, Irvine, CA. G. Robinson, Chair
* Movement Ecology and Dispersal: The Common Ground ? (2013). University of Aberdeen (Scotland). J. Travis, Chair.
* Macroevolution of Ecosystem Services: A SESYNC Pursuit Team. (2013-6).

S. Polasky and J. Cavender-Bares, Chairs.

* Sustainable Management of Living Natural Resources (2013). National Mathematical Biosciences Institute, Ohio State University, M. Lewis, Chair.
* German National Institute for Biodiversity (2013). C. Wirth, Chair.
* Invasion Dynamics under Global Change, Banff International Research Station for Mathematical Innovation and Discovery, (2013). H. Berestycki, Chair.
* Cumulative Effects in Stream Networks. University of Ottawa and the Southern Ontario Cumulative Impact Research Network. L. Stanfield and F. Lutscher, Chairs. (2013).
* Macroevolution of Ecosystem Services: A SESYNC Scoping Workshop. (2012). N. Kraft and W. Fagan, Chairs.
* Animal Movement and Memory, Banff International Research Station for Mathematical Innovation and Discovery, (2012). M. Lewis and W. Fagan, Chairs.
* Mathematical Ecology Retreat, Woods Hole Oceanographic Institute (2012)
* Trends in Ecological Analysis and Synthesis, National Center for Ecological Analysis and Synthesis, Santa Barbara, CA (2012). F. Davis, Chair.
* Challenges to Ecological Modeling and Theory in a Changing World, German Institute for the Environment (UFZ) (2011). Berlin, Germany. G. Teutsch, Chair.
* Army Research Office Mathematical Sciences Division Triennial Strategy Planning Workshop (2011). Army Research Office, Research Triangle Park, NC. J. Myers, Chair.
* Emerging Challenges at the Interface of Mathematics, Environmental Science and Spatial Ecology (2011). Banff International Research Station for Mathematical Innovation and Discovery, S. Cantrell, M. Lewis, and R. Holt, Chairs.
* Cyberinfrastructure for Collaborative Science (2011). National Evolutionary Synthesis Center, Duke University, H. Lapp, Chair.
* Ecology and Control of Invasive Species, Including Insects (2011). National Mathematical Biosciences Institute, Ohio State University, M. Lewis, Chair.
* Modeling, Understanding, and Managing River Ecosystems (2010). Ottawa, Canada. F. Lutscher, M. Lewis, and G. Seo, Chairs.
* NSF Graduate Education in Mathematics and Biology Workshop (2009). A. Hastings, Chair.
* Katherine Fuller Symposium on Ecosystem Services (2006) (World Wildlife Fund / Nature Conservancy / Stanford University), T. Ricketts (chair).
* Mathematical Biosciences Institute Workshop (2006) “Spatial Ecology” L. Gross (U. Tennessee) and C. Neuhauser (U. Minnesota), Chairs.
* Joint NSF - USDA – EPA Workshop for Principal Investigators (2005). “Research Frontiers in Invasive Species” C. Horvitz (Univ. Miami), Chair.
* NCEAS Working Group (2005-6) “Mapping Overlaps in Biodiversity and Ecosystem Services in China.” G. Daily (Stanford Univ.) and S. Polasky (Univ. Minnesota), Chairs.
* Institute for Theoretical and Mathematical Ecology Workshop (2005) “Key Issues in Spatial Ecology” R.S. Cantrell (Univ. Miami) and C. Cosner (Univ. Miami), chairs.
* Banff International Research Station for Mathematical Innovation and Discovery Workshop (2004) “Mathematical Models for Biological Invasions “M.A. Lewis (Univ. Alberta), M. Kot (Univ. Washington), and P. van den Driessche (Univ. Victoria), chairs.
* International Centre for Theoretical Physics Workshop (2004) “Spatial-Dynamic Models of Economics and Ecosystems” K.-G. Mäler (Beijer Institute, Sweden) and J. Wilen (UC Davis), chairs.
* International Centre for Theoretical Physics Workshop (2004) “Spatial Aspects of Reserve Design Optimization under Economic Constraints” S. Levin (Princeton) and C. Revelle (Johns Hopkins), chairs.
* Workshop on Spatial Ecology, Swedish University of Agricultural Sciences, Uppsala, Sweden (2003). R. Bommarco, Coordinator.
* German-American Frontiers of Science Symposium (2002). “Spatial ecology and conservation biology.” V. Grimm (German Center for the Environment UFZ), Coordinator.
* Anthropological Center for Training and Research on Global Environmental Change (2001). “Integration of Spatial Ecological and Environmental Social Science Methods for Study of Biodiversity and Biocomplexity.” J. Odland (Univ. Indiana), Co-coordinator.
* Center for Ecosystem Studies Workshop (2000). “Habitat Boundaries in Ecological Mosaics.” S. Pickett (Center for Ecosystem Studies), Chair.
* NSF Workshop (2000). “Quantitative Environmental and Integrative Biology.” A. Hastings (UC Davis), Chair.
* European Science Foundation LINKECOL Workshop (2000). “Stoichiometric constraints on carbon sequestration in ecosystems.” D. Hessen (Univ. Oslo) Chair.
* NCEAS Working Group (1998-2000) “Scientific Review of Endangered Species Recovery Plans.” P.D. Boersma (Univ. Washington), Chair.
* NCEAS Working Group (1997-1999) “Designing and Assessing the Viability of Nature Reserve Systems at Regional Scales: Integration of Optimization, Heuristic and Dynamic Models.” S. Andelman (UC Santa Barbara), Chair.
* NCEAS Working Group (1998). “Developing a modeling paradigm for spatially explicit urban ecology.” P. Kareiva (Univ. Washington), Chair.

**Courses Taught:** (does not include Graduate Research, Special Problems, or Thesis Credits)

University of Maryland

### BSCI 399 Undergraduate Research XX Students Spring 2017

### BSCI 399 Undergraduate Research 11 Students Fall 2016

### BSCI 399 Undergraduate Research 21 Students Spring 2016

### BSCI 399 Undergraduate Research 17 Students Fall 2015

### BSCI 399 Undergraduate Research 14 Students Spring 2015

### GEMS 497 Gemstone Honors Team Project 6 8 students Spring 2015

### GEMS 496 Gemstone Honors Team Project 5 8 students Fall 2014

### GEMS 397 Gemstone Honors Team Project 4 8 students Spring 2014

### GEMS 396 Gemstone Honors Team Project 3 8 students Fall 2013

### GEMS 297 Gemstone Honors Team Project 2 8 students Spring 2013

### GEMS 296 Gemstone Honors Team Project 1 8 students Fall 2012

### BSCI 708T Theoretical Ecology (with lab) 16 Students Fall 2012

### BSCI 399 Undergraduate Research 4 Students Fall 2012

### BSCI 399H Honors Undergraduate Research 1 Student Fall 2012

### BSCI 608Y Quantitative Ecology Seminar 7 students Spring 2011

### HONR 248N Honors Interdisciplinary Freshman Seminar 20 Students Fall 2010

### BSCI 708T Theoretical Ecology (with lab) 15 Students Fall 2009

### BSCI 399 Undergraduate Research 4 Students Fall 2009

### BSCI 399 Undergraduate Research 5 Students Spring 2009

### BSCI 399 Undergraduate Research 4 Students Fall 2008

### HONR 248N Honors Interdisciplinary Freshman Seminar 22 Students Spring 2008

### BSCI 399 Undergraduate Research 2 Students Spring 2008

### HONR 248N Honors Interdisciplinary Freshman Seminar 20 Students Fall 2007

### BSCI 399 Undergraduate Research 4 Students Fall 2007

### BSCI 708U Practicum in Data Analysis 9 Students Spring 2007

### BSCI 708T Theoretical Ecology (with lab) 12 Students Fall 2006

### BIOL 608F Seminar: Advanced Spatial Ecology 7 Students Spring 2005

### BIOL 608C Seminar: Invasives and Invasions 11 Students Spring 2005

### AMSC 689 Research Interactions 1 Student Fall 2005

### HONR 248N Honors Interdisciplinary Freshman Seminar 21 Students Fall 2005

### BIOL 608F Seminar: Advanced Theoretical Ecology 7 Students Fall 2005

### BSCI 399H Honors Undergraduate Research 1 Student Spring 2005

### BSCI 399 Undergraduate Research 1 Student Spring 2005

### BIOL 608I Seminar: Ecological Informatics 11 Students Spring 2005

### BIOL 608F Seminar: Advanced Spatial Ecology 7 Students Spring 2005

### BSCI 399H Honors Undergraduate Research 1 Student Fall 2004

### BSCI 708T Theoretical Ecology (with lab) 20 Students Fall 2004

### AMSC 674 Small Population Dynamics (mini course) 20 Students Spring 2004

Arizona State University

### BIO 423 Population and Community Ecology 22 Students Fall 2001

### BIO 411 Advanced Conservation Biology I 35 Students Fall 2000

### BIO 320 Fundamentals of Ecology 134 Students Spring 2000

### BIO 591 Seminar: Topics in Data Analysis 13 Students Fall 1999

### BIO 411 Advanced Conservation Biology I 35 Students Fall 1999

### BIO 590 Readings and Conference 2 Students Fall 1999

### BIO 591 Seminar: Endangered Species Recovery Plans 13 Students Spring 1999

### BIO 423 Population and Community Ecology 32 Students Spring 1999

### BIO 411 Advanced Conservation Biology I 40 Students Fall 1998

### BIO 494 Mathematical Models in Ecology (with lab) 13 Students Fall 1998

# BIO 591 Seminar: Ecology of Biological Invasions 22 Students Fall 1998

# ZOO 494 Mathematical Models in Ecology (with lab) 15 Students Fall 1997

# ZOO 411 Biology and Mgmt. of Terrestrial Wildlife 33 Students Spring 1997

**Other Instructional Activities at My Home Institutions**

### Faculty leader for the MathBench Initiative ([www.mathbench.umd.edu](http://www.mathbench.umd.edu)). See narrative under Leadership Accomplishments.

* Guest Lectures: Conservation Biology (for J. Dietz), Fundamentals of Ecology (for S. Faeth, twice), College Park Scholars Colloquium (R. Compton), Freshman Catalyst Seminar (K. Thompson; twice)

**Teaching outside My Home Institutions**

* Guest Lecturer, Graduate Course on Ecological Stoichiometry. Arizona State University (April 2007)
* Mini-course on Theoretical Ecology and Quantitative Conservation Biology. Institute for Theoretical and Mathematical Ecology, University of Miami. (June 2005)
* Mini-course on Theoretical Ecology and Quantitative Conservation Biology. Institute for Theoretical and Mathematical Ecology, University of Miami. (June 2004)
* Mini-course on Spatial Ecology. Swedish University of Agricultural Sciences, Uppsala, Sweden (September 2003).

**High School Students Mentored:**

* Jeffrey Tseng (2006 – 2007) (Asian-American)
* Robyn Harper (2008-2009-2010) (African-American)
* Sina Shahamatdar (2009) (Asian-American)
* Elizabeth Scianella (2012-13)
* Zoe Aarons (2013)

**Selected Undergraduate Students Mentored and Involved in Research:**

Katherine Hess (2017-2018)

Peter Thompson (2017-2018)

Tim Barry\* (2015-6)

 \* Maryland Summer Scholar

Rachel Husted (2014)

Tim Krotkov (2014)

Ryan Swift (2014)

Shyam Krishnan (2014) (Asian-American)

Neomi Rao (2013-4) (Asian-American)

Akira Horiguchi\* (2013-4) (Asian-American)

 \* Undergraduate Researcher of the Year

Vivian Yang (2013) (Asian-American)

Timothy Duquette (2012-3)

Francisca Lorenzen (2012-3)

Lainie Brice (2012-4)

Viviana Zalles (2013-4) (Hispanic)

Hannah Younes (2013-4)

Laurel Eckstrand (2012-3)

Natalie Antosh (2012)

Claire Teitelbaum (2012-3)

Caroline Wick (2012-3)

Megan Matthews (2012)

Meghan Downie (2012)

Vivian Cheng (2012) (Asian-American)

Julien Marc Buchbinder (2011-12)

Raymond Chow (2011) (Asian-American)

Jennifer Chrusniak (2011)

Steve Goldstein (2011-12)

Nephtali Chavez (2011-12) (Hispanic-American)

Piyali Kundu (2011-12) (Asian-American)

Greta Park (2011-12) (Asian-American)

Jessica Nelson (2011)

Emily Peterson (2011; NSF REU student)

Elizabeth Stevenson (2011-12)

Laura Weber (2011; NSF REU student)

Dev Kevathekar (2011-12; NSF REU student) (Asian-American)

Sarah Knebel (2010)

Brian Raupp (2010-11; NSF REU student)

Katlyn Williard (2010; NSF REU student)

Anthony Accetta (2010)

Jennifer Billiet (2010; NSF REU student)

Anna Wallis (2010; NSF REU student)

Chris Burgess (2010)

Katie McGaughey (2010; ; NSF REU student))

Chris Monteil (2010)

Justin Burch (2010)

Lauren Miller (2010)

Elsa Abraham (2009)

Hilary Staver (2009-10)

Max Bettis (2009)

Erin Shaw (2009)

Carianne Quigley (2009)

Brian Scherer (2009)

Jennifer Kwoun (2009) (Asian-American)

Toby Matthews (2009)

Amanda Murti (2009) (Asian-American)

Leslie Wells (2007-9)

Shelly Gupta (2007-9; NSF REU student) (Asian-American)

Katie McGaughey (2008-9; NSF REU student)

Ryan Blaustein (2009; NSF REU student)

Parashar Trivedi (2009-) (Asian-American)

Katlyn Williard (2009-; NSF REU student)

Jana Lovell (2008-9)

Ajay Singh (2008-9) (Asian-American)

Peter Do (2008-9) (Asian-American)

Karen Liu (2008-9) (Asian-American)

Jordan Haber (2008) (Asian-American)

Chibale Chanza (2007-8) (African-American Female)

Nelson Sofoluke (2007-8 ) (African-American)

Anne McGuirk (2007-8 )

Chris Bae (2007) (Asian-American)

Amar Dave (2006–7) (Asian-American)

Deon Jackson (2006–7) (African-American)

Paul Roberie (2006-7)

Kevin Lin (2006-7) (Asian-American)

Rohan Verma (2005-7) (Asian-American)

Anna Schoenfelder (2005-7; NSF REU student)

Debra Friedman (2004-5)

Frances Sheller (2003-5; Hughes REU Student; Honors Thesis in Biology)

Alisa Stephens (2003-2004; NSF REU student) (African-American)

Tal Davidson (2003-2004)

Amy Novotny (2001-2002; Biology REU student)

Joy Lippe (1999-2000; Hughes REU Student)

Laura Taft (1999)

Robyn Riley (1999)

Erik Wenninger (1998; NSF REU student)

Jamie Jewell (1998; Hughes REU student)

Ayoola Folarin (1997 –1999) (African-American)

**Visiting Student Researchers Mentored:**

* Marina Alfonso (2017) (Spain)
* Anton Pletenev (2016) (Russia)
* Angelina Brilliantova (2016) (Russia)
* Farid Cheraghi (2016-7) (Iran)
* Nina Attias (2015-16) (Brazil)
* Ankit Singla (2012 Summer) (India)
* Juliana Berbert (2011) (Brazil)
* Gunnar Dressler (2009, 2010, 2011) (Germany)
* Paula Casanovas (2007 - 8) (Argentina)
* Riccardo Bommarco (1998 - 1999) (Sweden)

**Visiting Scholars Welcomed:**

* Dr. Isabela Varassin (Sabbatical 2012-2013) (Brazil)

**Graduate Student Education and Mentoring:**

My students:

* Jeffrey Johnston (M.S. 1999) (1st Job: Automated Wildlife Data Systems Program
Coordinator, Association of Fish and Wildlife Agencies, Washington, D.C)
* Jeffrey Sorensen (M.S. 2001) (Now: Program Manager, Arizona Game and Fish Department)
* Ayoola Folarin (M.S. 2001) (Now: US Fish and Wildlife Service, San Diego, CA)
* Chris Guenther (M.S. 2005) (Now: Unknown)
* Beth Johnson (M.S. 2014) (Now: Unknown)
* Jessamy Rango (Ph.D. 2002) (Now: Associate Professor, Anne Arundel College)
* Justin Calabrese (Ph.D. 2005) (Now: Research Scientist, Smithsonian Institution Conservation Research Center)
* Thomas Mueller (Ph.D. 2008) (Now: Bosch Junior Professor, German National Center for Biodiversity and Climate)
* Katie Schneider (Ph.D. 2009) (Now: Asst. Professor, New York University)
* Christina Kennedy (Ph.D., 2009) (Now: Senior Scientist, The Nature Conservancy)
* Holly Martinson (Ph.D., 2009) (Now: Visiting Faculty, McDaniel College)
* Sara Zeigler (Ph.D., 2010) (Now: Research Scientist, Virginia Tech)
* Elise Zipkin (Ph.D., 2012) (Now: Asst. Professor, Michigan State Univ.)
* Sarah Kingston (Ph.D., 2012) (Now: Asst. Professor, Bowdoin College)
* Paula Casanovas (Ph.D., 2013) (Biology) (Hispanic)( Now: Postdoctoral fellow, University of Canterbury, New Zealand)
* Elise Larsen (Ph.D., 2013) (Biology) (Now: Postdoctoral fellow, Georgetown Univ.)
* Chris Che-Castaldo (Ph.D., 2014) (Behavior, Ecology, Evolution, and Systematics) (Now: Postdoctoral fellow, Stony Brook University)
* Silvia Alvarez (Ph.D., 2016) (Behavior, Ecology, Evolution, and Systematics) (Hispanic) (Now: Research Scientist, Science for Nature and People Partnership, Colombia)
* Andrew Foss-Grant (Ph.D. 2017) (Behavior, Ecology, Evolution, and Systematics) (Hispanic)
* Jake Weissman (2015—, Ph.D. candidate) (Behavior, Ecology, Evolution, and Systematics)

Co-advisor with Philip L.F. Johnson

* Julie Mallon (2015—, Ph.D. candidate) (Behavior, Ecology, Evolution, and Systematics)
* Anshuman Swain (2017—, Ph.D. track) (Behavior, Ecology, Evolution, and Systematics
* Nicole Barbour (2017—, Ph.D. track) (Marine, Estuarine, and Environmental Science) Co-advisor with Helen Bailey.

Students outside my lab, but within my home institutions:

* Between ASU and UMD, I have served on over 30 graduate student committees for students outside my lab in disciplines such as geography, geology, computer science, and entomology.
* Project Supervisor for Steve Clark (Ph.D. Student in Applied Math and Scientific Computing) in a course on Scientific Computing (Fall 2005)
* Project Supervisor for Russell Holden (MS Life Sciences, 2009)

Students outside my home institutions:

* Dissertation Committee Member for Leslie Ries (Department of Ecological Studies, Northern Arizona University)
* Invited Dissertation “Opponent” for Lars Westerberg (Division of Theoretical Ecology, Linköping University, Sweden)
* Invited External Dissertation Reviewer for Chris Miller (Department of Mathematics, Arizona State University)
* Invited External Dissertation Reviewer for Eliot McIntire (Department of Forest Sciences, University of British Columbia, Canada)
* External Committee Member for Sam Urmy (Department of Ecology and Evolution, Stony Brook University)

**Postdoctoral Researchers Advised:**

* Nancy McIntyre (Now: Associate Professor, Texas Tech University)
* Lisa Eby (Now: Associate Professor, University of Montana)
* John Schade (Now: Associate Professor, St. Olaf College)
* Craig Aumann (Now: Director, Land Use Planning Unit, Alberta Research Council)
* Marc Rhainds (Now: Research Scientist, Forestry Canada)
* Emma Goldberg (Now: Assistant Professor, Univ. Minnesota)
* James Gilbert (Now: Lecturer, University of Hull, UK)
* Andrew Noble (Now: Postdoctoral Researcher, UC Davis)
* Heather Lynch (Now: Associate Professor, SUNY Stony Brook)
* Kären Nelson (Now: Research Associate, University of Maryland)
* Marci Meixler (Now: Associate Prof, Rutgers)
* Yanthe Pearson (Now: Assistant Professor, Khalifa University of Science and Technology, Abu Dhabi, UAE)
* Ruscena Wiederholt (Now: Research Associate, USFWS)
* Thomas Mueller (Now: The Bosch Junior Professor, University of Senckenberg, Frankfurt, Germany)
* Leslie Ries (Now: Asst. Professor, Georgetown University)
* Chris Fleming (Now: Postdoctoral Fellow, Smithsonian Institution)
* Christian Che-Castaldo (Now: Postdoctoral Fellow, Stony Brook University)
* Fabián Casas Arenas (Spain) (Now: Estación Experimental de Zonas Áridas  -CSIC)
* Ying (Joy) Zhou (China)(Now: Asst. Professor, Lafayette College)

(based at Mathematical Biosciences Institute at Ohio State University)

* Allison Howard (Now: Lecturer, Dept. of Psychology, University of Georgia)
* Noelle Beckman (Now: Assistant Professor, Utah State Unviersity)

(based at National Socio-Environmental Synthesis Center)

* Philip Staniczenko (UK) (Now: Postdoctoral Fellow, SESYNC)
* Kumar Mainali (Nepal) (Now: Postdoctoral Fellow, SESYNC)
* Sharon Bewick (2013 – current)
* Eliezer Gurarie (2014 – current)
* Eleanor Brush (2015 – current)
* Jenny Zambrano (2017-2018) (Peru)
* Jeffery Demers (2017 – current)

**International Service:**

* Evaluating Professor, Swedish Agricultural University (included on-site review, 2018)
* External Reviewer, Program in Biological Sciences. University of Qatar (included on-site review, 2016)
* Expert Reviewer, Knut and Alice Wallenberg Foundation (Sweden) (2016)
* Expert Reviewer, Canadian NSERC program (2015)
* Expert Reviewer, Polish National Research Agency (2013)
* College of Reviewers, Canada Research Chairs Program (2013)
* External Advisory Board, iDIV, German National Center for Integrative Biodiversity Research (2012 – Present) (Includes on-site reviews 2015, 2017)
* Expert Reviewer, Romanian National Research Agency (CIRES)  (2012)
* Expert Reviewer, International Foundation for Science (Sweden) (2012)
* Expert Reviewer, French National Agency of Research (ANR)  (2011)
* Strategic Planning Roundtable, German Institute for the Environment (UFZ) (2011)
* External Evaluator, German Institute for the Environment (UFZ) (2009)
* Expert Reviewer, French National Agency of Research (ANR)  (2009)
* Expert Reviewer, Grant Agency, Czech Academy of Sciences. (2005)
* Consultant, Japanese Science and Technology Agency (~ Japan’s NSF) (2006)
* Expert Reviewer, Grant Agency, Czech Academy of Sciences. (2005)
* Expert Evaluator, Belgian Science Foundation. (2005)
* International Reader, Australian Research Council College of Experts. (2005)
* Expert Reviewer, “Biodiversity Effects of Global Change Scenarios”, United Nations *Millennium Assessment* (2003-4)
* Expert Reviewer, Grant Proposals to Royal Society of New Zealand (Marsden Fund) (2003)
* Expert Reviewer, Grant Proposals to Israeli Science Foundation (1999)

**National Service:**

* Postdoctoral Awards Committee, American Society of Naturalists (2018)
* NSF Panel (Population and Community Ecology, 2013)
* Council of Scholars (National Advisory Board). American Council Trustees and Alumni. (2012 - present).
* Conceptualized, secured funding for, and provided initial leadership for the MathBench Initiative ([www.mathbench.umd.edu](http://www.mathbench.umd.edu)). See narrative under Leadership Accomplishments.
* National science standards panel for university general education requirements. American Council of Trustees and Alumni. (2012).
* NSF Panel (Population and Community Ecology, 2012)
* Gila Science Forum. US Forest Service / New Mexico Department of Game and Fish. (2009).
* NSF Panel (Advancing Theory in Biology, 2009)
* NSF Panel (IGERT, 2007)
* NSF Panel (Biological Databases and Informatics, 2007)
* USDA Panel (Biology of Weedy and Invasive Species, 2006)
* NSF Panel (Ecology, 2003)
* Reviewer, US Fish and Wildlife Service Proposal for Prioritization of Endangered Species Listing Actions (2002)
* Senior participant in a national review of the science underlying federal endangered species recovery plans undertaken by the Society for Conservation Biology and the US Fish and Wildlife Service (1999-2001). Characterized contents of USFWS database on endangered species. Developed and implemented stratified randomization procedure for selecting plans for review. Coordinated ASU’s involvement in the nationwide effort. Led data analysis activities along several lines of inquiry using the database of 600,000+ entries that resulted from the national review.
* NSF long-term planning workshop (2000). “The Future of Quantitative Environmental Biology.” A. Hastings, UC Davis, Chair. Helped draft a Report to NSF, available at http://www.sdsc.edu/QEIB
* US Fish and Wildlife Service National Panel on Critical Habitat (2000)

**Professional Service:**

Editorial Board Service:

* Associate Editor, *Movement Ecology* (2012-Present).
* Editorial Board Member, *Ecological Complexity* (2013-2016).
* Associate Editor, *Ecological Complexity* (2012-2013).
* Associate Editor, *American Naturalist* (2003-8).

Editorial Board Service (Selected invitations declined due to poor timing / family constraints):

* Associate Editor, *Ecology*
* Associate Editor, *Ecology* *Letters*
* Associate Editor, *Oecologia*
* Associate Editor, *Oikos*
* Associate Editor, *Population Ecology*

External Tenure or Promotion Review:

* Completed for faculty at University of Tennessee, Utah State University, Washington State University, University of Montana, University of Toronto, Woods Hole Oceanographic Institute, Case Western Reserve University, City University of New York, University of Washington, Virginia Tech University.

Workshops / Working Groups Organized:

* Spatial Ecology Mini Retreat. Smithsonian Conservation Biology Institute. 2014.
* Banff International Research Station for Mathematical Innovation and Discovery Focused Research Group “Animal Movement and Memory.” 2012.
* National Center for Ecological Analysis and Synthesis (NCEAS) Working Group. “Ecological Stoichiometry of Plant-Herbivore Interactions.” 2006-2008.
* National Center for Ecological Analysis and Synthesis (NCEAS) Working Group.

 “Ecological Stoichiometry of Plant-Herbivore Interactions.” 1999-2000.

Conference Symposia Organized:

* Symposium on Stoichioproteomics. Conference on Genomes, Evolution, and Bioinformatics of the Society for Molecular Biology and Evolution. 2006.
* University of Maryland Bioscience Day symposium entitled “Biological Challenges of Global Change” (2005)

Grant Proposal Review:

NSF Advancing Theory in Biology (9 proposals)

NSF Arctic Biology (1 proposal)

NSF Biological Databases and Informatics (14)

NSF Ecology (75)

NSF Ecosystems (3)

NSF IGERT (14)

NSF QEIB (2)

NSF International Programs (2)

NSF LTER (1)

NSF LTREB (3)

NSF Mathematical Biology (3)

NSF Population Biology (5)

NSF Ocean Sciences (1)

USDA Invasive Species (26)

University of Illinois (4)

Manuscript Reviewer for:

American Naturalist

Annals of the Entomological Society of America

Applied Ecology

Biodiversity and Conservation

Bioscience

Bulletin of Mathematical Biology

Canadian Journal of Zoology

Conservation Biology

*Connectivity Conservation* (edited volume)

Ecography

Ecological Entomology

Ecological Applications

Ecological Modeling

Ecological Monographs

Ecological Research

Ecology Letters

Ecology

Entomologia Experimentalis et Applicata

Forest Ecology and Management

Frontiers in Ecology and the Environment

Global Ecology and Biogeography

Great Basin Naturalist

Journal of Insect Science

Journal of the Royal Society - Interface

Landscape Ecology

Oecologia

Oikos

Population Ecology

Princeton Monograph Series (book manuscript)

Proceedings of the Royal Society of London, Series B

Proceedings of the National Academy of Sciences, USA

Journal of Theoretical Biology

Journal of Mathematical Biology

Mathematical Medicine and Biology

*Quantitative Conservation Biology* (book manuscript)

Science

Theoretical Ecology

Other:

* Chaired oral session on “Fish Ecology” at annual meeting of the Society for Conservation Biology, 2001.
* Chaired oral session on “Population Viability Analyses” at annual meeting of the Society for Conservation Biology, 2000.

**College and University Service**

* Search Committee for the Dean of the College of Computer, Math, and Natural Sciences (2017)
* Search Committee for the Interim Dean of the College of Computer, Math, and Natural Sciences (2017)
* Balo-Simon Distinguished Professor Search Committee (2016-7)
* Dean’s Fellowship Committee, UMD Graduate School (2014)
* Dean’s Committee on the Life Sciences (2013-4)
* Steering Committee Member, Interdisciplinary Program in Behavior Ecology Evolution and Systematics (2011-12)
* Advancement, Promotion, Tenure Committee, College of Computer, Mathematical, and Natural Sciences (2011-2012, 2012-2013)
* Graduate Admission Committee, Interdisciplinary Program in Applied Mathematics and Scientific Computing (2010-2012) (*Ad hoc* member)
* Provost’s Scoping Committee for a College of the Environment (2009, 2011)
* Dean’s Faculty Advisory Committee, College of Chemical and Life Sciences (2009-10)
* Dean’s Committee on Reorganizing Graduate Programs in the life sciences in College of Chemical and Life Sciences (2008-9)
* Inter-college committee to restructure the teaching of mathematics for biology majors. College of Chemical and Life Sciences and College of Physical and Mathematical Sciences (2007-9)
* University Senate Student Conduct Committee (2007-8)
* Associate Director, for the Interdisciplinary Program in Behavior Ecology Evolution and Systematics (2007-9)
* Steering Committee Member, Interdisciplinary Program in Behavior Ecology Evolution and Systematics (2006-7) (Elected)
* Advisor for Incoming Students for the Interdisciplinary Program in Applied Mathematics and Scientific Computing (2006)
* Coordinator, Bioscience Day symposium entitled “Biological Challenges of Global Change” (2005)
* Graduate Admission Committee for the Interdisciplinary Program in Applied Mathematics and Scientific Computing (*ad hoc* member, 2004-2005)
* College of Chemical and Life Sciences Committee on Policy, Courses, and Curriculum (PCC) (2004-2005)
* College of Chemical and Life Sciences Committee on Undergraduate Programs and Courses (CUPC) (2004-2005)
* Co-author, white paper on Ecological Sustainability research focus area for College of Chemical and Life Sciences.
* Graduate Admission Committee for the Interdisciplinary Program in Behavior, Ecology, Evolution, and Systematics (2003-2004)
* Graduate Admission Committee for the Interdisciplinary Program in Behavior, Ecology, Evolution, and Systematics (2002-2003)
* Co-Chair, Population and Community Section, CAP-LTER Advisory Committee (1999-2001)

**Departmental Service:**

* Curated and coordinated the donation of a collection (~600 lots) of molluscs and corals from a university donor
* Junior Faculty Mentor for Dr. Nathan Kraft (2012-2013)
* Advancement, Promotion, Tenure Committee for full professor candidate (2012)
* Curated and coordinated the donation of a large collection (~8000 lots) of molluscs and corals from a university donor (the estate of Casimir Potyraj of Baltimore).
* Faculty Hiring Committee, Dept. of Biology (2010-11)
* Chair, Departmental Search Committee for Grants Coordinator (2010)
* Chair, Faculty Hiring Committee, Dept. of Biology (2009-10)
* Associate Chair for Faculty Affairs, Department of Biology (2009 – 2010)
* Chair, Departmental Search Committee for Conservation Biology / Director of the CONS Interdisciplinary Graduate program. (2007-8)
* Chair, Departmental Search Committee for Information Technology Manager (2005).
* Faculty Advisory Committee Member, Department of Biology (2006-8) (Elected)
* Chair, Faculty Search Committee for “Ecological Sustainability” (2004-2005).
* Departmental Committee on Advancement, Promotion, and Tenure (APT) (2004-2005)
* Departmental Committee on Undergraduate Policy, Courses, and Curriculum (PCC) (2004-2005)
* Curated and coordinated the donation of a collection of molluscs (~1000 lots) to the Dept. of Biology for teaching invertebrate zoology by Dr. John Davidson, Sr. (Prof. Emeritus, Entomology) (2004).
* Biology Department Seminar Committee (2003-2004)
* Departmental Planning Committee for Faculty Searches (2003)
* Curated and reported on the contents of the Melville Shell Collection, Arizona State University (2001-2002)
* Departmental Graduate Programs Committee (2001-2002)
* Faculty Search Committee in “Conservation Biology” (2000-2001)
* Departmental Graduate Programs Committee (2000-2001)
* Website Committee for the conservation biology major (2000)
* Departmental Faculty Advisory Committee (1998-1999)
* AA/EO Certified Via Affirmative Action Workshop (Spring 1998)
* Chair, Biology Department Seminar Committee (1997-1998)
* Host for Speakers in Departmental or Interdepartmental Seminar Series

(P. Unmack, H. Lynch, J. Elser, C. Parr, K. Shea, D. Skelly, L. Ries, D. Culver, E. Meir, D. Srivastava, H. Cornell, L. Hurd, A. Leibhold, P. Kareiva, J. Bishop (twice), S. Hubbell, J. Calabrese, S. Bewick, S. Kumar)

**Professional Memberships:**

 Ecological Society of America

**PRESENTATIONS:**

Note: Only those events where I spoke are listed. Dozens of other talks and seminars where I was listed as a coauthor but did not present the material are not included.

|  |  |  |
| --- | --- | --- |
| 2018 | American Institute for Mathematical Sciences Conference on Dynamical Systems, Differential Equations, and Applications | Contributed Talk |
| 2018 | Rutgers University | Invited Seminar |
| 2018 | Joint Mathematics Meeting MAA / AMS | Contributed Talk |
| 2018 | American Society of Naturalists | Contributed Talk |
| 2017 | Czech University of the Life Sciences | Invited Seminar |
| 2017 | University of Maryland Department of Mathematics (Probability Seminar) | Invited Seminar  |
| 2017 | Stony Brook University (Institute for Advanced Computational Studies) | Invited Seminar |
| 2017 | Smithsonian Conservation Biology Institute | Invited Seminar  |
| 2017 | University of Maryland (Institute for Systems Research) | Invited Seminar  |
| 2016 | Banff International Research Station for Mathematical Innovation and Discovery  | Invited Seminar  |
| 2016 | University of Maryland (Applied Dynamics Group)  | Invited Seminar |
| 2016 | Ecological Society of America | Contributed Talk |
| 2016 | Society for Mathematical Biology | Invited Symposium Talk |
| 2016 | Federal University of Mato Grosso do Sul (Brazil) | Invited Seminar |
| 2016 | University of Sao Paulo (Brazil) *Cancelled due to civil unrest* | Invited Seminar |
| 2016 | Federal University of ABC - Sao Paulo (Brazil) | Invited Seminar |
| 2016 | Spatial Biodiversity Science and Conservation Program, Yale University | Invited Seminar |
| 2016 | Dayton Oaks Elementary School Gifted & Talented Class | Invited Seminar |
| 2015 | Pennsylvania State University | Invited Seminar |
| 2015 | Mathematical Biosciences Institute, Ohio State University | Invited Seminar |
| 2015 | National Socio-Environmental Synthesis Center | Invited Distinguished Lectureship |
| 2015 | Institute for Systems Research University of Maryland | Invited Distinguished Lectureship |
| 2015 | Ecological Society of America | Invited Symposium Talk |
| 2015 | Chinese National Academy of Sciences, Beijing, China | Invited Seminar |
| 2015 | Liaopining National Nature Reserve, Sichuan, China | Invited Seminar |
| 2015 | Sun Yat-Sen University, Guangzhou, China | Invited Seminar |
| 2014 | Mathematical Biology and Nonlinear Analysis University of Miami | Invited Plenary Speaker |
| 2014 | Movement Ecology Conference North Carolina State Univ. | Contributed Symposium Talk |
| 2014 | Brain & Behavior Initiative Workshop University of Maryland | Contributed Presentation |
| 2013 | Oxford University (UK) | Invited Seminar |
| 2013 | Movement and Dispersal Conference 2013  University of Aberdeen (UK) | Invited Keynote Seminar |
| 2013 | Mathematical Biology Institute (Ohio State Univ.) | Invited Seminar |
| 2013 | Michigan State University (EEBB Program) | Invited Distinguished Lectureship |
| 2013 | Kellogg Biological Station, Michigan State University | Invited Seminar |
| 2013 | Banff International Research Station for Mathematical Innovation and Discovery  | Invited Seminar  |
| 2013 | University of Maryland (Dept. of Oceanic and Atmospheric Sciences) | Invited Seminar |
| 2013 | University of Maryland (Dept. of Biology) | Invited Seminar |
| 2013 | US EPA | Invited Webinar |
| 2013 | Rice University | Invited Seminar |
| 2013 | University of Ottawa | Invited Presentation |
| 2012 | University of Maryland (Dept. of Entomology) | Invited Seminar |
| 2012 | University of Miami (Everything Disperses to Miami Conference) | Invited Plenary Speaker |
| 2012 | Yale University | Invited Presentation on SESYNC |
| 2012 | Yale University  | Invited Seminar |
| 2012 | Woods Hole Oceanographic Institute | Invited Presentation on SESYNC |
| 2012 | National Socio-Environmental Synthesis Center | Invited Seminar |
| 2012 | American Institute for Mathematical Sciences Conference on Dynamical Systems, Differential Equations, and Applications | Invited Seminar |
| 2012 | University of Wyoming | Invited Seminar |
| 2012 | National Center for Ecological Analysis and Synthesis (NCEAS) | Invited Seminar |
| 2012 | University of Nebraska Conference on Mathematical Ecology | Invited Seminar |
| 2012 | National Zoo | Invited Seminar |
| 2011 | Univ. of Maryland Center for Scientific Computation and Mathematical Modeling (CSCAMM) | Invited Seminar |
| 2011 | German Biodiversity and Climate Research Center (BIK-F) | Invited Seminar  |
| 2011 | German Center for Environmental Research (UFZ) | Invited Symposium Talk |
| 2011 | American Fisheries Society | Invited Keynote Speaker |
| 2011 | Banff International Research Station for Mathematical Innovation and Discovery  | Invited Seminar  |
| 2011 | Mathematical Biology Institute (Ohio State Univ.) | Invited Seminar |
| 2010 | American Geophysical Union | Invited Symposium Talk |
| 2010 | University of Virginia – Blandy Farm Research Station | Invited Seminar |
| 2010 | Modeling, Understanding, and Managing River Ecosystems (Ottawa, Canada) | Invited Seminar |
| 2010 | Intl. Assoc. of Landscape Ecologists | Invited Symposium Talk |
| 2010 | University of Maryland (Applied Dynamics Group)  | Invited Seminar |
| 2010 | Royal Norwegian Society of Sciences and Letters conference on Sustainable Conservation | Invited Seminar |
| 2009 | University of Maryland, Baltimore County | Invited Seminar |
| 2009 | Society for Mathematical Biology  | Invited Plenary Speaker |
| 2009 | University of California at Santa Barbara (Ecology, Evolution and Marine Biology) | Invited Seminar |
| 2008 | University of California at Davis (Population Biology) | Invited Seminar |
| 2008 | Ecological Society of America | Contributed Seminar |
| 2008 | University of Alberta (Mathematics) | Invited Seminar |
| 2008 | University of Ottawa (Mathematics) | Invited Seminar |
| 2008 | American Society for Limnology and Oceanography | Invited Symposium Talk |
| 2007 | Ecological Society of America | Contributed Seminar |
| 2007 | Gordon Research Conference on Plant-Herbivore Interactions | Invited Poster |
| 2007 | University of Washington (Center for Cell Dynamics) | Invited Seminar |
| 2007 | Kyoto University, Kyoto, Japan | Invited Seminar |
| 2007 | Ecological Society of Japan, Matsuyama, Japan | Invited Symposium Paper |
| 2007 | Yale University (Dept. of Ecology and Evolutionary Biology) | Invited Seminar |
| 2006 | Arizona State University (Dept. of Mathematics) | Invited Seminar |
| 2006 | Mathematical Biosciences InstituteWorkshop on Spatial Ecology(Ohio State University) | Invited Poster |
| 2005 | NSF-USDA-EPA Joint Workshop for Principal Investigators | Invited Poster |
| 2005 | Princeton University (Dept. of Ecology and Evolutionary Biology) | Invited Seminar |
| 2005 | Georgetown University (Dept. of Mathematics) | Invited Seminar |
| 2005 | Washington State University (Dept. of Biology) | Invited Seminar |
| 2005 | Ecological Society of America Annual Meeting (Montreal, Canada) | Invited Symposium Paper |
| 2005 | University of Virginia – Blandy Farm Research Station | Invited Seminar |
| 2005 | National Zoo | Invited Seminar |
| 2005 | Institute for Theoretical and Mathematical Ecology (University of Miami) | Invited Plenary Speaker |
| 2004 | Smithsonian Environmental Research Center | Invited Seminar |
| 2004 | Banff International Research Station for Mathematical Innovation and Discovery  “Mathematical Models for Biological Invasions”(Banff, Alberta, Canada) | Invited Seminar andInvited Summarizer of the Workshop |
| 2004 | George Washington University (Dept. of Biology) | Invited Seminar |
| 2004 | University of Maryland College Park (Bioscience Day) | Invited Seminar |
| 2004 | Linköping University (Linköping, Sweden) | Invited Seminar |
| 2004 | University of Maryland College Park (Evo-Devo Seminar) | Contributed Seminar |
| 2004 | Ecological Society of America Annual Meeting | Contributed Paper |
| 2004 | Conservation Biology Society Annual Meeting | Invited Symposium Paper |
| 2004 | International Centre for Theoretical Physics “Spatial Aspects of Reserve Design Optimization under Economic Constraints”(Trieste, Italy) | Invited Discussant |
| 2004 | Gordon Research Conference on Plant-Herbivore Interactions | Invited Symposium Paper |
| 2003 | Organization for Tropical Studies, La Selva Field Station (La Selva, Costa Rica) | Invited Seminar |
| 2003 | Desert Fishes Council Annual Meeting (Death Valley National Park, California) | Invited Symposium Paper |
| 2003 | University of Maryland – Appalachian Lab | Invited Seminar |
| 2003 | University of Maryland College Park (Dept. of Geography) | Invited Seminar |
| 2003 | Ecological Society of America Annual Meeting | Contributed paper |
| 2003 | American Society of Naturalists Annual Meeting | Contributed paper |
| 2003 | University of Alberta (Dept. of Mathematics) | Invited Seminar |
| 2003 | University of Texas (Dept. of Biological Sciences) | Invited Seminar |
| 2003 | University of Minnesota (Symposium on Biological Control) | Invited Keynote Speaker |
| 2003 | Society for Integrative and Comparative Biology Annual Meeting | Invited Symposium Paper |
| 2003 | Conservation Biology Society Annual Meeting | Invited Symposium Paper |
| 2002 | University of Maryland – Introductory Graduate Seminar Series for BEES Graduate Program | Invited seminar |
| 2002 | University of Delaware (Dept. of Biological Sciences) | Invited seminar |
| 2002 | Swedish Agricultural University Uppsala, Sweden (Dept. of Ecology) | Invited seminar |
| 2002 | Swedish Agricultural University Uppsala, Sweden (Dept. of Ecology) | Invited shortcourse |
| 2002 | American Society of Naturalists Annual Meeting | Contributed paper |
| 2002 | German-American Frontiers of Science Symposium (GAFOS) | Invited seminar |
| 2002 | University of Montana (Dept. of Biology) | Invited seminar |
| 2001 | Entomological Society of America | Contributed paper |
| 2001 | Arizona State University (Inter-college Stochastics Working Group) | Invited seminar |
| 2001 | Indiana University (Anthropological Center for Training and Research on Global Environmental Change) | Invited seminar |
| 2001 | American Fisheries Society | Invited paper |
| 2001 | Association for Tropical Biology (Bangalore, India) | Invited paper |
| 2001 | Conservation Biology Society Annual Meeting | Contributed paper |
| 2001 | National Astrobiology Institute Annual Meeting | Contributed paper |
| 2001 | North Carolina State University (Dept. of Biology) | Invited seminar |
| 2001 | University of Maryland (Dept. of Biology) | Invited seminar |
| 2001 | University of Tennessee (Dept. of Ecology, Evolution, and Behavior) | Invited seminar |
| 2000 | Institute for Ecosystem Studies Workshop “Habitat Boundaries in Ecological Mosaics” | Invited poster |
| 2000 | LINKECOL International Workshop(National Academy of Sciences, Oslo, Norway) “Stoichiometric constraints on carbon  sequestration in ecosystems” | Invited seminar |
| 2000 | Society for Conservation Biology Annual Meeting | Contributed paper |
| 2000 | Northern Arizona University (Dept. of Biology) | Invited seminar |
| 2000 | University of Miami (Dept. of Mathematics) | Invited seminar |
| 2000 | Princeton University (Dept. of Ecology and Evolutionary Biology) | Invited seminar |
| 1999 | University of Arizona (Hexapodium Conference) | Invited seminar |
| 1999 | Conservation Biology Society Annual Meeting | Contributed paper |
| 1999 | Ecological Society of America Annual Meeting | Contributed paper |
| 1998 | Ecological Society of America Annual Meeting | Contributed paper |
| 1997 | University of Maryland (Dept. of Entomology) | Invited seminar |
| 1997 | University of Miami (Dept. of Mathematics) | Invited seminar |
| 1997 | University of Utah (Dept. of Mathematics) | Invited seminar |
| 1997 | Colorado River Delta Conservation  Conference (Mexicali, Mexico)  | Invited seminar |
| 1997 | Arizona State University (Dept. of Mathematics) | Invited seminar |
| 1997 | Ecological Society of America Annual Meeting | Contributed paper |

1. 0 One of my high school interns

 One of my undergraduate students [↑](#footnote-ref-2)
2. One of my graduate students [↑](#footnote-ref-3)
3. One of my postdoctoral students [↑](#footnote-ref-4)
4. A guest in my laboratory

5 An adjunct faculty member sponsored by my lab

6 Order of authorship is alphabetical [↑](#footnote-ref-5)