

# Daniel S. Gruner – Curriculum Vitae

## I. Personal Information

### I.A. Contact Information

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### I.B. Academic Appointments at UMD

Professor, Department of Entomology (2023 - present).  
Director, BEES (Behavior, Ecology, Evolution, & Systematics) Concentration Area, Biological Sciences  
Graduate Program (2023 - present).  
Associate Professor, Department of Entomology (2013 - 2023).  
Assistant Professor, Department of Entomology (2007 - 2013).

### I.D. Other Employment

Program Director (Rotational), Division of Environmental Biology, National Science Foundation (2017 - 2020).  
Adjunct Associate Professor, School of Forest Resources & Environmental Science, Michigan Technological University (2014 - 2017).  
Postdoctoral Scholar, University of California-Davis and Bodega Marine Lab (2004 - 2007).

### I.E. Educational Background

Ph.D. in Zoology (Ecology, Evolution, Conservation Biology), University of Hawai'i at Mānoa (2004).  
A.B. in Biology (Honors), Hamilton College, Clinton, NY (1993). *magna cum laude*, Phi Beta Kappa.

### I.F. Continuing Education

Entering Mentoring Workshop, College of Computer, Mathematical, and Natural Sciences, University of Maryland (Jun 7-8 2023).  
Howard Hughes Medical Institute (HHMI) Inclusive Excellence STEM Equity Learning Community, University of Maryland (Jan - May 2023).  
Anti-racism Faculty Learning Community, Office of Diversity and Inclusion, University of Maryland (Mar 26 - May 28, 2021).  
Course Design Sprint, Teaching and Learning Transformation Center, University of Maryland (Fall 2020).  
Generalized Joint Attribute Modeling (GJAM) for NEON, Microbiome, and Other High-Dimensional Data. Instructor: J. Clark. Ecological Society of America (Aug 5, 2018).  
ELEVATE fellowship for course redesign, Teaching and Learning Transformation Center, University of Maryland (Fall 2016).  
Bayesian Modeling for Ecological & Social Scientists. Instructors: N.T. Hobbs, M. Collins, and C. Che-Castaldo. National Socio-Environmental Synthesis Center (SESYNC) (Aug 1 - 10, 2016).  
Community data analysis using the vegan package in R. Instructors: N. Zimmerman and G. Simpson. Ecological Society of America (Aug 6, 2015).  
Ecological Network Analysis in R. Instructor: M. Lau. Ecological Society of America (Aug 6, 2015).

Tree Climbing Instruction and Certification. Instructors: Cameron Williams and Rikke Reese Naesborg. (Jan 13 -17, 2014).

Structural Equation Modeling with Bayesian Methods. Instructor: J. Grace. Ecological Society of America. (Aug 1, 2010).

Introduction to WinBUGS for Ecologists. Instructor: Marc Kery. USGS Patuxent Wildlife Research Center. (Nov 2 - 6, 2009).

Looking at Data: ggobi and ggplot. Instructors: H. Wickham and D. Cook (July 29 - 30, 2009).

New Faculty and Postdoctoral Training: Ecoinformatics Training for Ecologists. Science Environment for Ecological Knowledge (SEEK), University of New Mexico (Jan 9 - 13, 2006).

Ecology Fundamentals Course, Organization for Tropical Studies, Costa Rica (June - July 1996).

## II. Research, Scholarly, Creative and/or Professional Activities

### II.B. Chapters

#### II.B.1. Books

3. Gruner D.S., and B.M. Thompson\* (2021). Nutritional ecology of *Sirex noctilio*. Pages 38-48 in L.J. Haavik, F. Stephen, and A.E. Hajek, eds. *Biology and Ecology of Sirex noctilio in North America*. US Forest Service, Forest Health Assessment and Applied Sciences Team, Morgantown, WV. FHAAS-19-01.
2. Borer E.T., and D.S. Gruner (2009). Top-down and bottom-up regulation of communities. Pages 296-304 in S. A. Levin, S. R. Carpenter, H. C. J. Godfray, A. P. Kinzig, M. Loreau, J. B. Losos, B. Walker, and D. S. Wilcove, eds. *Princeton Guide to Ecology*. Princeton University Press, Princeton, NJ.
1. Gruner D.S., and D.A. Polhemus (2003). Arthropod communities across a long chronosequence in the Hawaiian Islands. Pages 135-145 in Y. Basset, V. Novotný, S. E. Miller, and R. L. Kitching, eds. *Arthropods of Tropical Forests: Spatio-Temporal Dynamics and Resource Use in the Canopy*. Cambridge University Press, Cambridge.

#### II.B.3. Encyclopedia

1. Gruner D.S. (2013). Trophic cascades. *eLS*. John Wiley & Sons, Ltd.  
<https://doi.org/10.1002/9780470015902.a0003183.pub2>

#### II.B.6. Other

2. Gruner D.S. (2008). *Vespula pensylvanica* (western yellowjacket). in *Invasive Species Compendium*. CAB International, Wallingford, UK. <https://www.cabi.org/isc/datasheet/56670>
1. Gruner D.S., and D. Foote (2000). Management strategies for western yellowjackets in Hawaii. Secretariat for Conservation Biology, Honolulu, HI.

### II.C. Refereed Journals

#### II.C.1. Refereed Journal Articles (\*\*undergraduate or post-baccalaureate, \*graduate student, †postdoctoral, ‡senior author; Web of Science 2023-09-05, no. citations = 9649, h-index = 33, <https://www.webofscience.com/wos/author/rid/A-5166-2010>)

79. Getman-Pickering, Z., G. Soltis\*\*, S. Shamash, D.S. Gruner, J.T. Lill, and M.R. Weiss (*in press*). Community-level shift in avian foraging triggered by periodical cicada emergence alters trophic cascades In North American forests. **Science**
78. Chen, Q., S. Wang, E. T. Borer, [and 27 others including D.S. Gruner] (*in press*). Multidimensional responses of grassland stability to eutrophication. **Nature Communications**
77. Nathan, M.\* and D.S. Gruner† (*in press*). Sustained mangrove reproduction despite major turnover in pollinator community composition at expanding range edge. **Annals of Botany**  
*doi:10.1093/aob/mcad085*

76. Bakker J.D., J.N. Price, J.A. Henning, [and 49 others including [D.S. Gruner](#)] (2023). Compositional variation in grassland plant communities. *Ecosphere* 14(6):e4542
75. Daleo, P., J. Alberti, E.J. Chaneton, [and 37 others including [D.S. Gruner](#)] (2023). Strong environmental heterogeneity cancels the effects of biodiversity on the spatial variability of grassland productivity. *Nature Communications* 14:1809
74. Graham N.R., H. Krehenwinkel, J.Y. Lim, P. Staniczenko, J. Callaghan, [D.S. Gruner](#)<sup>†</sup>, and R.G. Gillespie<sup>†</sup> (2023). Ecological network structure in response to community assembly processes over evolutionary time. *Molecular Ecology* doi:10.1111/mec.16873
73. Mitchell J.C., D.M. Kashian, X. Chen, S. Cousins, D. Flaspohler, [D.S. Gruner](#), J.S. Johnson, T.D. Surasinghe, J. Zambrano, and B. Buma (2023). Forest ecosystem properties emerge from interactions of structure and disturbance. *Frontiers in Ecology and the Environment* 21:14-23.
72. Sandin, S.A., P.A. Becker, C. Becker, K. Brown, N.G. Erazo, C. Figuerola, R.N. Fisher, A.M. Friedlander, T. Fukami, N.A.J. Graham, [D.S. Gruner](#), N.D. Holmes, W.A. Holthuijzen, H.P. Jones, M. Rios, A. Samaniego, W. Sechrest, B.X. Semmens, H.E. Thornton, R. Vega Thurber, C.N. Wails, C.A. Wolf, and B.J. Zgliczynski. (2022). Harnessing island–ocean connections to maximize marine benefits of island conservation. *Proceedings of the National Academy of Sciences* 119(51):e2122354119
71. Forde A.J.\*<sup>‡</sup>, I.C. Feller, J.D. Parker, and [D.S. Gruner](#)<sup>†</sup> (2022). Insectivorous birds reduce herbivory but do not increase mangrove growth across productivity zones. *Ecology* 103:e3768
70. Price J.N., J. Sitters, T. Ohlert, [and 37 others including [D.S. Gruner](#)] (2022). Evolutionary history of grazing and resources determine herbivore exclusion effects on plant diversity. *Nature Ecology & Evolution* 6:1290-1298
69. Gill A.L., P.B. Adler, E.T. Borer, C.R. Buyarski, E.E. Cleland, C.M. D'Antonio, K.F. Davies, [D.S. Gruner](#), W.S. Harpole, K. Hofmockel, A.S. MacDougall, R.L. McCulley, B.A. Melbourne, J.L. Moore, J.W. Morgan, A.C. Risch, M. Schütz, E.W. Seabloom, J. Wright, L.H. Yang, and S.E. Hobbie (2022). Nitrogen increases early-stage and slows late-stage decomposition in grasslands spanning continents. *Journal of Ecology* 110:1376-1389
68. Aker S.A.\*\*<sup>‡</sup>, R.B. de Andrade<sup>‡</sup>, J.J. Duan, and [D.S. Gruner](#)<sup>†</sup> (2022). Rapid spread of an introduced parasitoid for biological control of emerald ash borer (Coleoptera: Buprestidae). *Journal of Economic Entomology* 115:381-386
67. Barney S.K., D.R. Leopold, K.S. Francisco, D.J. Flaspohler, T. Fukami, C.P. Giardina, [D.S. Gruner](#), J.L. Knowlton, W.C. Pitt, and E.E. Wilson Rankin<sup>‡</sup> (2021). Successful management of invasive rats across a fragmented landscape. *Environmental Conservation* 48: 200-207
66. Jing X., M.P. Case, E.T. Borer, N.J. Gotelli, [D.S. Gruner](#), K. Kirkman, A. MacDougall, R. McCulley, S.M. Prober, E.W. Seabloom, C. Stevens, A.T. Classen, and N.J. Sanders (2021). Unraveling above-belowground  $\beta$ -diversity and turnover in multiple grassland functions relationships at continental scale. *Ecosphere* 12:e03644
65. Muletz-Wolz C.R., E.E. Wilson Rankin<sup>‡</sup>, S. McGrath-Blaser, M. Venkatraman\*, J.E. Maldonado, [D.S. Gruner](#)<sup>†</sup>, and R.C. Fleischer<sup>†</sup> (2021). Identification of novel bacterial biomarkers to detect bird scavenging by invasive rats. *Ecology and Evolution* 11:1814-1828
64. de Andrade R.B.<sup>‡</sup>, K. Abell, J.J. Duan, P.M. Shrewsbury, and [D.S. Gruner](#)<sup>†</sup> (2021). Protective neighboring effect from ash trees treated with systemic insecticide against emerald ash borer. *Pest Management Science* 77: 474-481
63. Borer E.T., W.S. Harpole, P.B. Adler, [and 33 others including [D.S. Gruner](#)] (2020). Nutrients cause grassland biomass to outpace herbivory. *Nature Communications* 11:6036
62. Tielens E.K.\* and [D.S. Gruner](#)<sup>†</sup> (2020). Intraspecific variation in host plant traits mediates taxonomic and functional composition of local insect herbivore communities. *Ecological Entomology* 45:1382-1395
61. Tielens E.K.\*<sup>‡</sup>, M. Neel, C.P. Giardina, D.R. Leopold, and [D.S. Gruner](#)<sup>†</sup> (2019). Multiscale analysis of canopy arthropod diversity in a patchy Hawai'i landscape. *Ecosphere* 10:e02653
60. Thompson B.M.\*<sup>‡</sup>, J. Bodart\*\*<sup>‡</sup>, and [D.S. Gruner](#)<sup>†</sup> (2019). Community resistance to an invasive forest insect–fungus mutualism. *Ecosphere* 10:e02609
59. Cleland E.E., E.M. Lind, N.M. DeCrappeo, [and 32 others including [D.S. Gruner](#)] (2019). Belowground biomass response to nutrient enrichment depends on light limitation across globally distributed grasslands. *Ecosystems* 22:1466-1477

58. Johnston C.A.\* and [D.S. Gruner†](#) (2018). Marine fauna sort at fine resolution in an ecotone of shifting wetland foundation species. *Ecology* 99:2546-2557
57. Wilson Rankin E.E.‡, J.L. Knowlton, [D.S. Gruner](#), D.J. Flaspohler, C.P. Giardina, D.R. Leopold, A. Buckardt, W.C. Pitt, and T. Fukami (2018). Vertical foraging shifts in Hawaiian forest birds in response to invasive rat removal. *PLoS ONE* 13:e0202869
56. Johnston C.A.\*, E.E. Wilson Rankin‡, and [D.S. Gruner†](#) (2018). Foraging connections: patterns of prey use linked to invasive predator diel movement. *PLoS ONE* 13:e0201883
55. Lafferty K.D., J.P. McLaughlin, [D.S. Gruner](#), T.A. Bogar, A. Bui, J.N. Childress, M. Espinoza, E.S. Forbes, C.A. Johnston\*, M. Klope, A. Miller-ter Kuile, M. Lee, K.A. Plummer, D.A. Weber, R.T. Young, and H.S. Young (2018). Local extinction of the Asian tiger mosquito (*Aedes albopictus*) following rat eradication on Palmyra Atoll. *Biology Letters* 14(2)
54. Graham N., [D.S. Gruner](#), J.Y. Lim, and R.G. Gillespie (2017). Island ecology and evolution: challenges in the Anthropocene. *Environmental Conservation* 44:323-335
53. Lind E.M., K.J. LaPierre, E.W. Seabloom, J. Alberti, O. Iribame, J. Firn, [D.S. Gruner](#), A.D. Kay, J. Pascal, J.P. Wright, L. Yang, and E.T. Borer (2017). Increased grassland arthropod production with grazing and eutrophication: an experimental test of mediation pathways. *Ecology* 98:3022-3033
52. [Gruner D.S.](#), M.E.S. Bracken, S.A. Berger, B.K. Eriksson, L. Gamfeldt, B. Matthiessen, S. Moorthi, U. Sommer, and H. Hillebrand (2017). Effects of experimental warming on biodiversity depend on ecosystem type and local species composition. *Oikos* 126:8-17  
• *Oikos Editor's Choice*
51. Knowlton J.L., D.J. Flaspohler, E.H. Paxton, T. Fukami, C.P. Giardina, [D.S. Gruner](#), and E.E. Wilson Rankin‡. (2017). Movements of four native Hawaiian birds across a naturally fragmented landscape. *Journal of Avian Biology* 48:921-931
50. Patiño J., R.J. Whittaker, P.A.V. Borges, J.M. Fernandez-Palacios, C. Ah-Peng, M. Araujo, S. Avila, E. de Boer, P. Cardoso, J. Cornuault, L. de Nascimento, A. Gil, A. Gonzalez, [D.S. Gruner](#), A.G. Santos, R. Heleno, J. Hortal, J.C. Illera, C. Kaiser-Bunbury, T. Matthews, A. Papadopoulou, N. Pettorelli, J.P. Price, M. Steinbauer, K. Triantis, L. Valente, P. Vargas, P. Weigelt, and B.C. Emerson (2017). A roadmap for island biology: 50 fundamental questions after 50 years of The Theory of Island Biogeography. *Journal of Biogeography* 44:963-983  
• *Featured on cover*
49. Harpole W.S., L.L. Sullivan, E.M. Lind, [and 30 others including [D.S. Gruner](#)] (2016). Addition of multiple limiting resources reduces grassland diversity. *Nature* 537:93-96  
• *Essential Science Indicators Highly Cited Paper*
48. Rominger A.J., K.R. Goodman, J.Y. Lim, E.E. Armstrong, L.E. Becking, G.M. Bennett, M.S. Brewer, D.D. Cotoras, C.P. Ewing, J. Harte, N.D. Martinez, P.M. O'Grady, D.M. Percy, D.K. Price, G.K. Roderick, K.L. Shaw, F.S. Valdivinos, [D.S. Gruner†](#), and R.G. Gillespie† (2016). Community assembly on isolated islands: macroecology meets evolution. *Global Ecology and Biogeography* 25:769-780
47. Lewandowska A.M., A. Biermann, E.T. Borer, [and 31 others including [D.S. Gruner](#)] (2016). The influence of balanced and imbalanced resource supply on biodiversity–functioning relationship across ecosystems. *Philosophical Transactions of the Royal Society of London B: Biological Sciences* 371:20150283
46. Tredennick A.T., P.B. Adler, J.B. Grace, [and 38 others including [D.S. Gruner](#)] (2016). Comment on “Worldwide evidence of a unimodal relationship between productivity and plant species richness”. *Science* 351(6272):457-a
45. Grace J.B., T.M. Anderson, E.W. Seabloom, E.T. Borer, P.B. Adler, W.S. Harpole, Y. Hautier, H. Hillebrand, E.M. Lind, M. Pärtel, J.D. Bakker, Y.M. Buckley, M.J. Crawley, E.I. Damschen, K.F. Davies, P.A. Fay, J. Firn, [D.S. Gruner](#), A. Hector, J.M.H. Knops, A.S. MacDougall, B.A. Melbourne, J.W. Morgan, J.L. Orrock, S.M. Prober, and M.D. Smith (2016). Integrative modeling reveals mechanisms linking productivity and plant species richness. *Nature* 529:390-393  
• *Essential Science Indicators Highly Cited Paper*
44. Seabloom E.W., E.T. Borer, Y. Buckley, [and 55 others including [D.S. Gruner](#)] (2015). Plant species' origin predicts dominance and response to nutrient enrichment and herbivores in global grasslands. *Nature Communications* 6:8710

43. Fay P.A., S.M. Prober, W.S. Harpole, [and 36 others including [D.S. Gruner](#)] (2015). Beyond nitrogen: multiple nutrients limit grassland productivity. ***Nature Plants*** 1:15080  
  - *Nature Plants (News & Views) 1:15098*; • *Essential Science Indicators Highly Cited Paper*
42. Orrock J.L., E.T. Borer, L.A. Brudvig, J. Firn, A.S. MacDougall, B.A. Melbourne, L.H. Yang, D.V. Baker, A. Bar-Massada, M.J. Crawley, E.I. Damschen, K.F. Davies, [D.S. Gruner](#), A.D. Kay, E. Lind, R.L. McCulley, and E.W. Seabloom (2015). A continent-wide study reveals clear relationships between regional abiotic conditions and post-dispersal seed predation. ***Journal of Biogeography*** 42:662–670
41. Bracken M.E.S., H. Hillebrand, E.T. Borer, E.W. Seabloom, J. Cebrian, E.E. Cleland, J.J. Elser, [D.S. Gruner](#), W.S. Harpole, J.T. Ngai, and J.E. Smith (2015). Signatures of nutrient limitation and co-limitation: responses of autotroph internal nutrient concentrations to nitrogen and phosphorus additions. ***Oikos*** 124:113-121  
  - *Oikos Editor's Choice*
40. Borer E.T., E.W. Seabloom, [D.S. Gruner](#), [and 49 others] (2014). Herbivores and nutrients control grassland plant diversity via light limitation. ***Nature*** 508:517-520  
  - *Essential Science Indicators Highly Cited Paper*
39. Hautier Y., E.W. Seabloom, E.T. Borer, [and 30 others including [D.S. Gruner](#)] (2014). Eutrophication weakens stabilizing effects of diversity in natural grasslands. ***Nature*** 508:521-525  
  - *Essential Science Indicators Highly Cited Paper*
38. Thompson B.M.\*, J. Bodart\*\*, C. McEwen, and [D.S. Gruner](#)† (2014). Adaptations for symbiont-mediated external digestion in *Sirex noctilio* Fab. (Hymenoptera: Siricidae). ***Annals of the Entomological Society of America*** 107:453-460
37. Cavanaugh K.C., J.R. Kellner, A.J. Forde\*, [D.S. Gruner](#), J.D. Parker, W. Rodriguez, and I.C. Feller (2014). Reply to Giri and Long: Freeze-mediated expansion of mangroves does not depend on whether expansion is emergence or reemergence. ***Proceedings of the National Academy of Sciences*** 111:E1449
36. Heffernan J.B., P.A. Soranno, M.J. Angilletta, L.B. Buckley, [D.S. Gruner](#), T.H. Keitt, J.R. Kellner, J.S. Kominoski, A.V. Rocha, J. Xiao, T.K. Harms, S.J. Goring, L.E. Koenig, W.H. McDowell, H. Powell, A.D. Richardson, C.A. Stow, R. Vargas, and K.C. Weathers (2014). Macrosystems ecology: understanding ecological patterns and processes at continental scales. ***Frontiers in Ecology and the Environment*** 12:5-14
35. Cavanaugh K.C., J.R. Kellner, A.J. Forde\*, [D.S. Gruner](#), J.D. Parker, W. Rodriguez, and I.C. Feller (2014). Poleward expansion of mangroves is a threshold response to decreased frequency of extreme cold events. ***Proceedings of the National Academy of Sciences*** 111:723-727  
  - *Essential Science Indicators Highly Cited Paper*
34. [Gruner D.S.](#) and K.A. Mooney (2013). Green grass and high tides: grazing lawns in terrestrial and aquatic ecosystems. ***Oikos*** 122:313–316
33. Thompson B.M.\*, R.J. Grebenok, S.T. Behmer, and [D.S. Gruner](#)† (2013). Microbial symbionts shape the sterol profile of the xylem-feeding woodwasp, *Sirex noctilio*. ***Journal of Chemical Ecology*** 38:129-139
32. Seabloom E.W., E.T. Borer, Y. Buckley, [and 70 others including [D.S. Gruner](#)] (2013). Predicting invasion in grassland ecosystems: is exotic dominance the real embarrassment of richness? ***Global Change Biology*** 19:3677-3687
31. 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  
  - *Oikos Editor's Choice*
30. Lind E, E.T. Borer, E.W. Seabloom, P.B. Adler, J.D. Bakker, D. Blumenthal, M.J. Crawley, K. Davies, J. Firn, [D.S. Gruner](#), W.S. Harpole, Y. Hautier, H. Hillebrand, J.M.H. Knops, B.A. Melbourne, B. Mortensen, A.C. Risch, M. Schuetz, C. Stevens, and P.D. Wragg (2013). Life history constraints in grassland plant species: a growth-defense tradeoff is the norm. ***Ecology Letters*** 16:513-521
29. Herlihy M.V., R.G. Van Driesche, M.R. Abney, J. Brodeur, A.B. Bryant, R.A. Casagrande, D.A. Delaney, T.E. Elkner, S.J. Fleischer, R.L. Groves, [D.S. Gruner](#), J.P. Harmon, G.E. Heimpel, K. Hamady, T.P. Kuhar, C.M. Maund, A.M. Shelton, A.J. Seaman, M. Skinner, R. Weinzierl, K.V. Yeargan, and Z. Zandrei (2012). Distribution of *Cotesia rubecula* (Hymenoptera: Braconidae) and its displacement of *Cotesia glomerata* in eastern North America. ***Florida Entomologist*** 95:458-464

28. Grace J.B., P.B. Adler, E.W. Seabloom, [and 34 others including [D.S. Gruner](#)] (2012). Response to comments on "Productivity Is a poor predictor of plant species richness". **Science** 335:1441
27. Adler P.B., E.W. Seabloom, E.T. Borer, [and 55 others including [D.S. Gruner](#)] (2011). Productivity is a poor predictor of plant species richness. **Science** 333:1750-1753
  - *Science, Perspectives* 333:1709-1710; *Nature News* doi:10.1038/news.2011.553; *Faculty of 1000 'Exceptional'; Essential Science Indicators Highly Cited Paper*
26. Harpole W.S., J.T. Ngai, E.E. Cleland, E.W. Seabloom, E.T. Borer, M.E.S. Bracken, J.J. Elser, [D.S. Gruner](#), H. Hillebrand, J.B. Shurin, and J.E. Smith (2011). Nutrient co-limitation of plant communities. **Ecology Letters** 14:852-862
  - *Faculty of 1000 'Must Read'; Essential Science Indicators Highly Cited Paper*
25. Pearson R.E.G.\*, S.T. Behmer, [D.S. Gruner](#), and R.F. Denno (2011). Effects of diet quality on performance and nutrient regulation in an omnivorous katydid. **Ecological Entomology** 36:471-479
24. Karban R., A. Hodson, [D.S. Gruner](#), E.E. Lewis, J. Karban, M. Joseph, T. Mata, and D.R. Strong (2011). Lack of susceptibility of soil-inhabiting *Platyrepia virginalis* caterpillars, a native arctiid, to entomopathogenic nematodes in nature. **Entomologia Experimentalis et Applicata** 140:28-34
23. Mooney K.A., [D.S. Gruner](#), N.A. Barber, S.M. Philpott, S.A. Van Bael, and R. Greenberg (2010). Interactions among predators and the cascading effects of vertebrate insectivores on arthropod communities and plants. **Proceedings of the National Academy of Sciences** 107:7335-7340
22. [Gruner D.S.](#), A. Kolekar\*\*, J.P. McLaughlin\*\*, and D.R. Strong (2009). Host resistance reverses the outcome of competition between microparasites. **Ecology** 90:1721-1728
21. Hillebrand H., E.T. Borer, M.E.S. Bracken, B.J. Cardinale, J. Cebrian, E.E. Cleland, J.J. Elser, [D.S. Gruner](#), W.S. Harpole, J.T. Ngai, S. Sandin, E.W. Seabloom, J.B. Shurin, J.E. Smith, and M.D. Smith (2009). Herbivore metabolism and stoichiometry each constrain herbivory at different organizational scales across ecosystems. **Ecology Letters** 12:516-527
  - *Featured on cover*
20. [Gruner D.S.](#), J.E. Smith, E.W. Seabloom, S.A. Sandin, J.T. Ngai, H. Hillebrand, W.S. Harpole, J.J. Elser, E.E. Cleland, M.E.S. Bracken, E.T. Borer, and B.M. Bolker (2008). A cross-system synthesis of consumer and nutrient resource control on producer biomass. **Ecology Letters** 11:740-755
  - *Featured on cover*
19. Ram K., E.L. Preisser, [D.S. Gruner](#), and D.R. Strong (2008). Metapopulation dynamics override local limits on long-term parasite persistence. **Ecology** 89:3290-3297
18. Denno R.F., [D.S. Gruner](#), and I. Kaplan (2008). Potential for entomopathogenic nematodes in biological control: a meta-analytical synthesis and insights from trophic cascade theory. **Journal of Nematology** 40:61-72
17. Ram K., [D.S. Gruner](#), J.P. McLaughlin\*\*, E.L. Preisser, and D.R. Strong (2008). Dynamics of a subterranean trophic cascade in space and time. **Journal of Nematology** 40:85-92
16. [Gruner D.S.](#), N.J. Gotelli, J.P. Price, and R.H. Cowie (2008). Does species diversity drive speciation? A reassessment with the Hawaiian biota. **Ecography** 31:279-285
15. Van Bael S.A., S.M. Philpott, R. Greenberg, P. Bichier, N.A. Barber, K.A. Mooney, and [D.S. Gruner](#)† (2008). Birds as predators in tropical agroforestry systems. **Ecology** 89:928-934
14. Elser J.J., M.E.S. Bracken, E.E. Cleland, [D.S. Gruner](#), W.S. Harpole, H. Hillebrand, J.T. Ngai, E.W. Seabloom, J.B. Shurin, and J.E. Smith (2007). Global analysis of nitrogen and phosphorus limitation of primary producers in freshwater, marine, and terrestrial ecosystems. **Ecology Letters** 10:1135-1142
  - *Nature (News & Views)* 449:1000-1001; *Faculty of 1000 'Exceptional'; Essential Science Indicators Highly Cited Paper*
13. Hillebrand H., [D.S. Gruner](#), E.T. Borer, M.E.S. Bracken, E.E. Cleland, J.J. Elser, W.S. Harpole, J.T. Ngai, E.W. Seabloom, J.B. Shurin, and J.E. Smith (2007). Consumer versus resource control of producer diversity depends on ecosystem type and producer community structure. **Proceedings of the National Academy of Sciences** 104:10904-10909
  - *Faculty of 1000 'Recommended'*
12. [Gruner D.S.](#) (2007). Geological age, ecosystem development, and resource constraints on arthropod community structure in the Hawaiian Islands. **Biological Journal of the Linnean Society** 90:551-570

11. Handler A.T., D.S. Gruner, W.P. Haines, M. Lange, and K.Y. Kaneshiro (2007). Arthropod surveys on Palmyra Atoll, Line Islands, with insights into the decline of the native tree *Pisonia grandis* (Nyctaginaceae). ***Pacific Science*** 61:485-502
10. Gruner D.S., K. Ram, and D.R. Strong (2007). Soil mediates the interaction of coexisting entomopathogenic nematodes with an insect host. ***Journal of Invertebrate Pathology*** 94:12-19
9. Gruner D.S. and A.D. Taylor (2006). Richness and species composition of arboreal arthropods affected by nutrients and predators: a press experiment. ***Oecologia*** 147:714-724
8. Shurin J.B., D.S. Gruner, and H. Hillebrand (2006). All wet or dried up? Real differences between aquatic and terrestrial food webs. ***Proceedings of the Royal Society B: Biological Sciences*** 273:1-9  
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7. Gruner D.S., A.D. Taylor, and R.E. Forkner (2005). The effects of foliar pubescence and nutrient enrichment on arthropod communities of *Metrosideros polymorpha* (Myrtaceae). ***Ecological Entomology*** 30:428-443
6. Gruner D.S. (2005). Biotic resistance to an invasive spider conferred by generalist insectivorous birds on Hawai'i Island. ***Biological Invasions*** 7:541-546
5. Gruner D.S. (2004). Attenuation of top-down and bottom-up forces in a complex terrestrial community. ***Ecology*** 85:3010-3022
4. Gruner D.S. (2004). Arthropods from 'ōhi'a lehua (Myrtaceae: *Metrosideros polymorpha*), with new records for the Hawaiian Islands. ***Bishop Museum Occasional Papers*** 78:33-52
3. Gruner D.S. (2003). Regressions of length and width to predict arthropod biomass in the Hawaiian Islands. ***Pacific Science*** 57:325-336
2. Gruner D.S., R.A. Heu, and M. Chun (2003). Two ant species (Hymenoptera: Formicidae) new to the Hawaiian Islands. ***Bishop Museum Occasional Papers*** 74:35-40
1. Wetterer J.K., D.S. Gruner, and J.E. Lopez (1998). Foraging and nesting ecology of the leaf-cutting ant, *Acromyrmex octospinosus*, in Costa Rican tropical dry forest. ***Florida Entomologist*** 81:61-67

## II.E. Conferences, Workshops, and Talks (\*\*undergraduate, \*graduate student, †senior author)

### II.E.1. Keynotes

1. Gruner D.S., "Invasion theory and biological control," XVI International Congress of Entomology, Helsinki, Finland. (July 19, 2022).

### II.E.2. Invited Talks

19. de Andrade R.B.‡, Gruner D.S.†, "Predictors of recovery and establishment of parasitoids for the emerald ash borer," 31st USDA Interagency Research Forum on Invasive Species, Annapolis, MD. (January 10, 2023).
18. Gruner D.S., "Islands within islands: arthropod diversity within a volcanically fragmented landscape on Hawaii island," Island Biology 2016: International Conference on Island Evolution, Ecology, and Conservation, University of Azores Terceira Island, Angra do Heroísmo, Portugal. (July 2016).
17. Gruner D.S., Thompson B.M.\*, "*Sirex noctilio* – microbial symbiont interactions and nutrition," XV International Congress of Entomology, Orlando, FL. (September 2016).
16. Gruner D.S., "Landscape-level experimental decoupling of competing vertebrate insectivores in Hawaiian forest islands," 52nd Annual Meeting of the Association for Tropical Biology and Conservation, Honolulu, HI. (July 2015).
15. Gruner D.S., Thompson B.M.\*, "Symbionts mediate the nutritional ecology of a global pest of pines, *Sirex noctilio* Fab. (Hymenoptera: Siricidae)," Annual Meeting of the Entomological Society of America – Eastern Branch, Williamsburg, VA. (March 2014).
14. Gillespie R.G., Gruner D.S. (presenter), Harte J., Martinez N.D., Nielsen R., O'Grady P.M., Percy D., Price D.K., Rabosky D., Shaw K.L., "Using an island chronosequence to understand the community context of adaptive radiation: incorporating evolutionary dynamics into macroecological patterns," 11th INTECOL International Congress of Ecology, London, England. (July 2013).

13. Gruner D.S., Fukami T., Flaspohler D.J., Giardina C.P., Knowlton J.L., Leopold D.P., Wilson E.E., "Landscape-level experimental decoupling of competing vertebrate insectivores in Hawaiian forest islands," 11th INTECOL International Congress of Ecology, London, England. (July 2013).
12. Gruner D.S., "Dirty little secret: belowground diversity of entomopathogenic nematodes and conservation biological control," Annual Meeting of the Entomological Society of America Eastern Branch, Lancaster, PA. (March 2013).
11. Gruner D.S., "Nutrients and herbivores interact to control plant diversity and productivity in the world's grasslands," Annual Meeting of the Ecological Society of America, Portland, OR. (August 2012).
10. Gruner D.S., "Arthropods of 'ōhi'a lehua: foundational elements of Hawaiian ecosystems," Hawai'i Conservation Conference, Honolulu, HI. (July 2012).
9. Gruner D.S., "Seeking generality in the strength of vertical food web interactions," Annual Meeting of the Entomological Society of America Eastern Branch, Hartford, CT. (March 2012).
8. Gruner D.S., "Conservation significance of arthropod biodiversity in Hawaiian forests: view from the treetops," Annual Meeting of the Entomological Society of America Pacific Branch, Waikaloa, HI. (April 2011).
7. Gruner D.S., Strong D.R., "Ecological dynamics of entomopathogenic nematodes in a natural system," Annual Meeting of the Society for Invertebrate Pathology, Park City, UT. (August 2009).
6. Gruner D.S., "Top-down and bottom-up control of primary production across ecosystems," International Symposium on Effects of Global Change on Carbon Sequestration and Food Web Structure across Ecosystems, University of Oldenburg, Germany. (June 2009).
5. Gruner D.S., "Trophic cascades and their attenuation in terrestrial arthropod food webs," Annual Meeting of the Entomological Society of America, Reno, NV. (November 2008).
4. Gruner D.S., Strong D. R., "Soil invertebrate - plant feedbacks and community change in a California coastal prairie," XXIII International Congress of Entomology, Durban, South Africa. (June 2008).
3. Gruner D.S., Preisser E.L., Ram K., McLaughlin J.P., Strong D.R., "Lepidopteran root-feeders as agents of change in a California coastal landscape," Annual Meeting of the Ecological Society of America, San Jose, CA. (August 2007).
2. Gruner D.S., "Overview of the evidence for terrestrial trophic cascades: do generalities exist?," Annual Meeting of the Society for Conservation Biology, Port Elizabeth, South Africa. (June 2007).
1. Gruner D.S., "Evolutionary ecology of Hawaiian canopy invertebrates," Annual Meeting of the Ecological Society of America, Portland, OR. (August 2004).

### II.E.3. Contributed Presentations

64. Saenz A.S.\*, Gruner D.S.†, "Emerald ash borer phenology and synchrony of their larval parasitoids," Annual Meeting, Entomological Society of America, National Harbor, MD. (November 2023).
63. Saenz A.S.\*, Gruner D.S.†, "Emerald ash borer phenology and synchrony of their larval parasitoids," National Diversity in STEM Conference, Society for Advancement of Chicanos/Hispanics & Native Americans in Science, Portland, OR. (October 2023).
62. Robinson, M. [and 34 others including Gruner D.S.], "Species traits and herbivory jointly shape temporal stability of plant populations," Annual Meeting of the Ecological Society of America, Portland, OR. (August 2023).
61. Saenz A.S.\*, Gruner D.S.†, "Synchrony of larval parasitoids of the emerald ash borer with susceptible stages," Annual Meeting, Entomological Society of America, Vancouver, Canada. (November 2022).
60. Gruner D.S., de Andrade R.B.‡, "Continental-scale evaluation of classical biological control – will it save our ash?" 13th International Congress of Entomology, Geneva, Switzerland (September 1, 2022).
59. Gruner D.S., de Andrade R.B.‡, "Ash decline and emerald ash borer biocontrol in the continental United States," Annual Meeting, Entomological Society of America, Denver, CO. (November 3, 2021).
58. Aker S. A.\*\*, de Andrade R.B.‡, Duan J.J., Gruner D.S.†, "Autonomous spatial spread of *Spathius galinae* (Hymenoptera: Braconidae), a biological control for emerald ash borer," Annual Meeting, Entomological Society of America, Denver, CO. (October 31, 2021).



57. Quinn N., Gould J.R., Rutledge C.E., Gruner D.S., Elkinton, J.S., Duan, J.J., "Dispersal and establishment of parasitoids of *Agrilus planipennis* in the eastern U.S.," Annual Meeting, Entomological Society of America, Denver, CO. (October 30, 2021).
56. de Andrade R.B.‡, Gruner D.S.†, "Ash decline and emerald ash borer biocontrol in the continental United States," Biological Invasions in Forests: Trade, Ecology, and Management, Joint Meeting of International Union of Forest Research Organizations, Prague, Czech Republic. (September 23, 2021).
55. Forde A.J.\*, Gruner D.S.†, "Intraspecific variation and associational effects determine impacts of resident herbivores on an invading plant," Joint Eastern & Southeastern Branch Meeting, Entomological Society of America, Athens, GA. (April 2020).
54. Johnston C.A.\*, Gruner D.S.†, "Settlement processes shape fauna community redistribution in response to patchy mangrove expansion," 25th Biennial Conference, Coastal and Estuarine Research Federation, Mobile, AL. (November 2019).
53. Tielens E.K.\*, Gruner D.S.†, "Insect communities across a space for time chronosequence converge over time: analyzing patterns and drivers of beta-diversity on Hawai'i," Annual Meeting of the Ecological Society of America, Louisville, KY. (August 2019).
52. de Andrade R.B.‡, Abell K., Duan J.J., Gruner D.S.†, Shrewsbury P.M., "Do treated ash trees confer a protective "silhouette" from emerald ash borer for neighboring trees?," Population Dynamics and Integrated Management of Forest Insects, Joint Meeting of International Union of Forest Research Organizations, Quebec City, Canada. (July 2019).
51. Gruner D.S., Wilson Rankin E.E.‡, Knowlton J.L., Flaspohler D.J., Giardina C.P., Fukami T., "Does forest fragment size mediate the impacts of introduced rodent predators? Foraging behavior of Hawaiian birds and their arthropod resources," 56th Annual Meeting, Association for Tropical Biology and Conservation, Antananarivo, Madagascar. (July 2019).
50. Tielens E.K.\*, Gruner D.S.†, "Local connectivity, and not fragment area, drive species richness in a multiscale analysis of a fragmented Hawaiian landscape," Annual Meeting of the Ecological Society of America, New Orleans, LA. (August 2018).
49. Tielens E.K.\*, Gruner D.S.†, "Generalizing Hemiptera response to host plant polymorphism using insect traits," Annual Meeting of the Entomological Society of America, Denver, CO. (November 2017).
48. Tielens E.K.\*, Gruner D.S.†, "Comparing taxonomic and functional diversity in canopy insect communities across a space for time substitution: the role of productivity versus substrate age," Annual Meeting of the Ecological Society of America, Portland, OR. (August 2017).
47. Tielens E.K.\*, Gruner D.S.†, "A trait-based approach to understanding community structure in Hawaiian canopy arthropods," Society for Integrative and Comparative Biology Annual Meeting, New Orleans, LA. (January 2017).
46. Thompson B.M.\*, Bodart J.\*\*\*, Gruner D.S.†, "Biotic resistance to an invasive forest insect-fungus mutualism," XV International Congress of Entomology, Orlando, FL. (September 2016).
45. Johnston C.A.\*, Gruner D.S.†, "Community structure emerges across scales in a dynamic, patchy landscape," Annual Meeting of the Ecological Society of America, Fort Lauderdale, FL. (August 2016).
44. Roderick G.K., Davies N., Charlat S., Ewing C.P., Oboyski P.T., Deck J., Rominger A.J., Cayetano L., Graham N.R., Krehenwinkel H., Gruner D.S., Gillespie R.G., "Arthropod diversity across gradients of elevation on Society and Hawaiian islands: environmental and anthropogenic effects," Island Biology 2016: International Conference on Island Evolution, Ecology, and Conservation, University of Azores Terceira Island, Angra do Heroísmo, Portugal. (July 2016).
43. Rominger A.J., Lim J.Y., Goodman K.R., Harte J., Gruner D.S., Gillespie R.G., "Isolated islands untangle universal patterns at the nexus of macroevolution and macroecology," Island Biology 2016: International Conference on Island Evolution, Ecology, and Conservation, University of Azores Terceira Island, Angra do Heroísmo, Portugal. (July 2016).
42. Tielens E.K.\*, Gruner D.S.†, "Using functional traits to examine species turnover and assembly across a space for time chronosequence," Island Biology 2016: International Conference on Island Evolution, Ecology, and Conservation, University of Azores Terceira Island, Angra do Heroísmo, Portugal. (July 2016).

41. Johnston C.A.\*, Gruner D.S.†, "Community structure emerges across scales in patchy mangrove-marsh landscape," 45th Benthic Ecology Meeting, Portland, ME. (March 2016).
40. Forde A.J.\*, Gruner D.S.†, "Differential responses of insect communities to habitat mixing in a dynamic marsh-mangrove ecotone," Annual Meeting of the Entomological Society of America, Minneapolis, MN. (November 2015).
39. Johnston C.A.\*, Riley M.E., Gruner D.S.†, "Overshooting the frontier: mismatch between expanding mangroves and their inhabitants," 23rd Biennial Conference of the Coastal and Estuarine Research Federation, Portland, OR. (November 2015).
38. Forde A.J.\*, Gruner D.S.†, "Differential responses of insect communities to habitat mixing in a dynamic marsh-mangrove ecotone," Annual Meeting of the Ecological Society of America, Baltimore, MD. (August 2015).
37. Johnston C.A.\*, Caretti O.\*\*\*, Gruner D.S.†, "Preference and survival shape habitat use along a fluctuating wetland landscape," Annual Meeting of the Ecological Society of America, Baltimore, MD. (August 2015).
36. Forde A.J.\*, Gruner D.S.†, "Intraspecific variation in herbivory, density-dependence, and growth at the edge of a mangrove's expanding range," Annual Meeting of the Ecological Society of America, Sacramento, CA. (August 2014).
35. Johnston C.A.\*, Gruner D.S.†, "A trajectory of environmental filtering: unexpected associations in shifting wetlands," Annual Meeting of the Ecological Society of America, Sacramento, CA. (August 2014).
34. Gruner D.S., Fukami T., Flaspohler D.J., Giardina C.P., Knowlton J.L., Leopold D.R., Wilson Rankin E.E., "Stronger impacts of invasive rats in Hawaiian canopy food webs in small forest fragments," Island Biology 2014, Honolulu, HI. (July 2014).
33. Johnston C.A., Gruner D.S.†, "Community assembly in a shifting wetland landscape," 43rd Annual Benthic Ecology Meeting, Jacksonville, FL. (March 2014).
32. Cavanaugh K.C., Kellner J.R., Feller I.C., Forde A.J., Gruner D.S., Parker J.D., "Poleward expansion of mangroves along the east coast of Florida corresponds to a decrease in the frequency of extreme cold events," 22nd Biennial Conference of the Coastal and Estuarine Research Federation, San Diego, CA. (November 2013).
31. Johnston C.A., Gruner D.S.†, "Using multiple spatial scales to understand community responses to spatially and structurally shifting ecological landscapes," 22nd Biennial Conference of the Coastal and Estuarine Research Federation, San Diego, CA. (November 2013).
30. Thompson B.M., Suen G., Bodart J., Liu B., Currie C., Pop M., Gruner D.S.†, "Symbiosis and wood-feeding in the European woodwasp, *Sirex noctilio*," Annual Meeting of the Entomological Society of America, Austin, TX. (November 2013).
29. Forde A.J., Feller I.C., Parker J.D., Gruner D.S.†, "Biodiversity in mangrove forests is shaped by the interactive impacts of predators and structural habitat features," Annual Meeting of the Ecological Society of America, Minneapolis, MN. (August 2013).
28. Johnston C.A., Gruner D.S.†, "Using multiple spatial scales to understand community responses to spatially and structurally shifting ecological landscapes," Annual Meeting of the Ecological Society of America, Minneapolis, MN. (August 2013).
27. Wright J.P., Wragg P.D., Borer E.T., Gruner D.S., Hillebrand H., Lind E. M., Seabloom E.W., Yang L.H., "Predicting patterns of species turnover in response to nutrient addition and herbivory," Annual Meeting of the Ecological Society of America, Minneapolis, MN. (August 2013).
26. Fukami T., Wilson E.E., Knowlton J.L., Gruner D.S., Leopold D.R., Flaspohler D.J., Giardina C.P., "Biodiversity in a fragmented landscape: linking forest productivity, introduced predators, and native arthropod and bird communities in lava-fragmented ecosystems in Hawaii," Botany 2013, New Orleans, LA. (July 2013).
25. Rominger A.J., Gruner D.S., Harte J., Gillespie R.G., "Making and breaking a new ecological theory: does maximum information entropy predict community structure in evolving ecosystems?" Annual Meeting of the Ecological Society of America, Portland, OR. (August 2012).
24. Thompson B.M., Gruner D.S.†, "The role of diversity in *Sirex noctilio* invasion of North American pine ecosystems," Annual Meeting of the Ecological Society of America, Portland, OR. (August 2012).

23. Wilson E.E., Gruner D.S.†, "Effects of omnivorous invaders on arboreal arthropod communities in naturally fragmented Hawaiian forests," Annual Meeting of the Ecological Society of America, Portland, OR. (August 2012).
22. Forde A.J.\*, Gruner D.S.†, Feller I.C., Parker J.D., "Predation and productivity gradients affect arthropods, herbivory and plant architecture in mangrove forests," 9th INTECOL International Wetlands Conference, Orlando, FL. (June 2012).
21. Thompson B.M.\*, Gruner D.S.†, "A diverse native insect community and its interaction with *Sirex noctilio*," 23rd USDA Interagency Research Forum on Invasive Species, Annapolis, MD. (January 2012).
20. Forde A.J.\*, Feller I.C., Parker J.D., Gruner D.S.†, "Effects of insectivorous birds on arthropod communities, primary productivity, and plant architecture in mangrove forests," Annual Meeting of the Entomological Society of America Eastern Branch. (2011). *Second place in student oral competition*
19. Forde A.J.\*, Feller I.C., Parker J.D., Gruner D.S.†, "Cascading effects of predatory birds on arthropods and plants of Caribbean mangrove islands," Annual Meeting of the Ecological Society of America, Austin, TX. (August 2011).
18. Rominger A.J., Gruner D.S., Gillespie R.G., "Making and breaking a new ecological theory: does maximum information entropy predict community structure in newly evolving ecosystems?" Evolution of Life on Pacific Islands and Reefs: Past, Present, and Future, International Biogeography Society, Honolulu, HI. (May 2011).
17. Thompson B.M.\*, Gruner D.S.†, "Feeding in a full house: can adaptive foraging and diversity tell us about how invasive *Sirex noctilio* populations will behave in North America?" Annual Meeting of the Entomological Society of America Eastern Branch, Lancaster, PA. (March 2011).
16. Gruner D.S., Lewis R.R., "Diversity of arthropods and entomopathogenic nematodes in conventional and conservation till in Maryland cropping systems," Annual Meeting of the Entomological Society of America, San Diego, CA. (November 2010).
15. Thompson B.M.\*, Liu B.\*, Grebenok R.J., Adams S.M., Suen G., Haapala E.\*\*\*, Currie C., Gruner D.S.†, "Utilization of a nutritionally refractive food source by the European woodwasp, *Sirex noctilio*, and its microbial symbiont community," Annual Meeting of the Entomological Society of America, San Diego, CA. (November 2010).
14. Gruner D.S., McLaughlin J.P.\*\*\*, Strong D.R., "Spatiotemporal variation in soil arthropod communities, responses to aboveground plant community composition, and the prevalence of entomopathogenic nematodes," Annual Meeting of the Ecological Society of America, Pittsburgh, PA. (August 2010).
13. Mooney K.A., Gruner D.S., Barber N.A., Philpott S.M., Van Bael S., Greenberg R., "Cascading effects of birds, bats and lizards: a meta-analysis of terrestrial insectivore exclusion studies," Annual Meeting of the Ecological Society of America, Albuquerque, NM. (August 2009).
12. Ram K., Preisser E.L., Gruner D.S., Strong D.R., "Metapopulation dynamics override local abiotic limits on long-term persistence of a subterranean microparasite," Annual Meeting of the Ecological Society of America, Milwaukee, WI. (August 2008).
11. Byrnes J.E., Bowles C.M., Bracken M.E.S., Ferner M.C., Gruner D.S., Hays C.G., Nickols K.J., Ram K., Sorte C.J.B., Williams S.L., "Combining long-term surveys with structural equation modeling to examine kelp forest food webs," Annual Meeting of the Ecological Society of America, San Jose, CA. (August 2007).
10. Philpott S.M., Van Bael S., Greenberg R., Bichier P., Barber N., Mooney K.A., Gruner D.S., "Birds as predators in tropical agroforestry systems," Annual Meeting of the Ecological Society of America, San Jose, CA. (August 2007).
9. Gruner D.S., Strong D.R., "Movement, colonization, and persistence of the entomopathogenic nematode *Heterorhabditis marelatus* in a California coastal grassland," Annual Meeting of the Society for Invertebrate Pathology, Anchorage, AK. (August 2005).
8. Gruner D.S., "Influences of resources and bird predation on species richness and diversity of Hawaiian arboreal arthropods," Annual Meeting of the Ecological Society of America, Savannah, GA. (August 2003).
7. Gruner D.S., "The arthropods of 'ohi'a lehua: foundational resources in Hawaiian ecosystems," Hawai'i Conservation Conference, Honolulu, HI. (July 2003).
6. Gruner D.S., "Top-down and bottom-up influences in a Hawaiian arboreal arthropod food web," Annual Meeting of the Ecological Society of America, Tucson, AZ. (August 2002).

5. Gruner D.S., "Mania for *Wasmannia*: involving K-12 educators and students in conservation research," Hawai'i Conservation Conference, Honolulu, HI. (July 2002).
4. Gruner D.S., "Canopy arthropods in Hawai'i: pattern and process," International Forest Canopy Conference, Cairns, Australia. (June 2002).
3. Gruner D.S., "Mania for *Wasmannia*: fire ants as a fire drill for K-12 alien species awareness," Annual International Conference, National Association for Research in Science Teaching, New Orleans, LA. (April 2002).
2. Gruner D.S., "Patterns of abundance and diversity of arthropods on the dominant tree *Metrosideros polymorpha* (Myrtaceae) in the Hawaiian Islands," Annual Meeting of the Ecological Society of America, Spokane, WA. (August 1999).
1. Gruner D.S., "Herbivory and arthropod abundance across a long age gradient in Hawai'i," International Forest Canopy Conference, Sarasota, FL. (November 1998).

#### II.E.6. Contributed Posters

23. Getman-Pickering Z., Soltis G.\*\*, Shamash S., Gruner D.S., Lill J.T., and Weiss M.R.. Periodical cicada emergence disrupts trophic cascade via community-level shifts in avian foraging. Gordon Conference on Plant-Herbivore Interactions, Ventura, CA. (February 2023).
22. Saenz A.S.\*, Gruner D.S.†, "Recovery of introduced biological control agents of emerald ash borer (*Agrilus plannipennis*) in Maryland," Annual Meeting of the Entomological Society of America Eastern Branch, Philadelphia, PA. (April 2022).
21. Soltis G.\*\*, Getman-Pickering Z., Weiss M., Lill J., Gruner D.S.†, "The 17-year Brood X bird feast," Annual Meeting, Entomological Society of America, Denver, CO. (November 1, 2021).
20. de Andrade R.B.‡, Abell K.J., Duan J.J., Shrewsbury P.M., Gruner D.S.†, "Do treated ash trees confer a protective 'silhouette' from emerald ash borer for neighboring trees?," 30th USDA Interagency Research Forum on Invasive Species, Annapolis, MD. (January 15, 2020).
20. Jayd K.\*\*, Apwong M., MacKenzie R., Gruner D.S.†, "Mangrove herbivory across a salinity gradient," Annual Meeting of the Entomological Society of America Eastern Branch, St. Louis, MO. (November 2019). [infographic] *First place in student infographic competition*
19. Jayd K.\*\*, Apwong M., MacKenzie R., Gruner D.S.†, "Mangrove herbivory across a salinity gradient," 5th Mangrove and Macrobenthos Meeting, Singapore, Singapore. (July 2019).
18. Durkee L.\*\*, Gruner D.S.†, "Does geese exclusion impact the diversity of the benthic macroinvertebrate community of a restored freshwater marsh?," Annual Meeting of the Entomological Society of America Eastern Branch, Annapolis, MD. (March 2018). *First place in student poster competition*
17. Tielens E.K.\*, Gruner D.S.†, "Patch area and connectivity do not predict arthropod species richness in a naturally fragmented kīpuka landscape," Annual Meeting of the Entomological Society of America Eastern Branch, Annapolis, MD. (March 2018).
16. Forde A.J.\*, Gruner D.S.†, "Mangrove seedlings invading salt marshes are negatively impacted by marsh herbivores and alter the structure of marsh arthropod communities," 4th Mangrove and Macrobenthos Meeting, St. Augustine, FL. (June 2016).
15. Gruner D.S., Leopold D.R., Fukami T., Flaspohler D.J., Giardina C.P., "Centennial impacts of forest fragmentation on arthropod biodiversity," 53rd Annual Meeting of the Association for Tropical Biology and Conservation, Montpellier, France. (June 2016).
14. Johnston C.A.\*, Gruner D.S.†, "Marine community structure emerges across scales in a patchy mangrove-marsh landscape," 4th Mangrove and Macrobenthos Meeting, St. Augustine, FL. (June 2016).
13. Nathan M.\*, Gruner D.S.†, "Range-edge fecundity of a range-expanding species, the black mangrove (*Avicennia germinans*)," 4th Mangrove and Macrobenthos Meeting, St. Augustine, FL. (June 2016).
12. Yu S.W.\*\*, Forde A.J.\*, Gruner D.S.†, "Nutrient inputs and herbivores interactively influence black mangrove tolerance to damage," Annual Meeting of the Ecological Society of America, Baltimore, MD. (August 2015).
11. Nathan M.\*, Gruner D.S.†, "Spatial mismatch with both herbivores and mutualists during range expansion of *Avicennia germinans*, the black mangrove," Annual Meeting of the Ecological Society of America, Sacramento, CA. (August 2014).

10. Forde A.J.\*, Gruner D.S.†, "Biodiversity and species interactions are shaped by top predators and shelter availability in mangrove canopies," Gordon Conference on Predator-Prey Interactions, Ventura, CA. (January 2014).
9. Gruner D.S., Fukami T., Flaspohler D.J., Giardina C.P., Knowlton J.L., Leopold D.R., Wilson E.E.‡, "Landscape-level effects of an introduced predator depend on forest size," Gordon Conference on Predator-Prey Interactions, Ventura, CA. (January 2014).
8. Gillespie R.G., Cotoras D., Ewing C.P., Gruner D.S., Goodman K.R., Harte J., Magnacca K.N., Martinez N.D., Nielsen R., O'Grady P., "Assembly of arthropod communities in Hawaii: can we predict future response given a modified dynamic?," Hawai'i Conservation Conference. (2013).
7. Nathan M.\*, Gruner D.S.†, "Pollinator activity as a biotic control of range expansion in the black mangrove, *Avicennia germinans*," 22nd Biennial Conference of the Coastal and Estuarine Research Federation, San Diego, CA. (November 2013).
6. Johnston C.A.\*, Gruner D.S.†, "Foraging patterns of an invasive predator, *Eleutherodactylus coqui*, indicate potential direct and indirect effects on invertebrate prey food webs," Annual Meeting of the Ecological Society of America. (2012).
5. Forde A.J.\*, Gruner D.S.†, Feller I.C., Parker J.D., "Top predators and productivity gradients affect herbivory and plant architecture in mangrove forests," 21st Biennial Conference of the Coastal and Estuarine Research Federation, Daytona Beach, FL. (November 2011).
4. Leopold D., Fukami T., Giardina C.P., Gruner D.S., Flaspohler D.J., "Forest kipuka on Mauna Loa: a model system for studying interactive effects of habitat size and introduced rodents on arthropod food webs," Hawai'i Conservation Conference, Honolulu, HI. (July 2010).
3. McLaughlin J.P.\*\*\*, Gruner D.S., Ram K., Strong D.R., "The role of soil moisture and lipid reserves in the movement and infectivity of an entomopathogenic nematode," Annual Meeting of the Ecological Society of America, San Jose, CA. (August 2007).
2. Gruner D.S., Dennis B., Dugaw C., Hastings A., Ram K.\*, Strong D.R., "Microparasite colonization, persistence, and extinction: spatial and temporal dynamics of an underground trophic cascade," Annual Meeting of the Ecological Society of America, Memphis, TN. (August 2006).
1. Gruner D.S., "Arboreal arthropod community structure across four million years of ecosystem development in Hawai'i," XXI International Congress of Entomology, Iguassu Falls, Brazil. (August 2000).

#### II.E.8. Non-Refereed Presentations

10. Raupp M.J., Gruner D.S., Lovett B., Shrewsbury P.M., "Brood X 2021: Discoveries, outreach, and new questions," Entomological Society of America (webinar, January 2022).
9. Tielens E.K.\*, Gruner D.S.†, "Ecological niches and insect traits: functional diversity in canopy insect communities across time," Graduate Research Appreciation Day, University of Maryland, College Park, MD. (April 2017). *Awarded first place in category 'Environment.'*
8. Tielens E.K.\*, Neel M., Gruner D.S.†, "Arthropod diversity in fragmented forest patches on Hawaii," Graduate Research Interaction Day, University of Maryland, College Park, MD. (April 2016).
7. Gruner D.S., "Drivers and consequences of mangrove expansion into temperate salt marsh," NASA Carbon Cycle & Ecosystems Joint Science Workshop, College Park, MD. (April 2015).
6. Forde A.J.\*, Gruner D.S.†, "Patterns of terrestrial arthropod diversity in the mangrove-marsh ecotone on the Atlantic coast of Florida. State of the Reserve Symposium, Guana-Tolomato Matanzas National Estuarine Research Reserve, St. Augustine, FL. (April 2015).
5. Nathan M.\*, Gruner D.S.†, "Escaping enemies – but also mutualists – during range expansion of *Avicennia germinans*, the black mangrove. Annual Conference of the Mid-Atlantic Chapter of the Ecological Society of America, College Park, MD. (2014).
4. Thompson B.M.\*, Gruner D.S.†, "*Sirex noctilio* and native pine borers: community dynamics and resource allocation with implications for pest management," *Sirex noctilio* Research Updates Meeting, USDA Animal Plant and Health Inspection Service and USDA Forest Service. Annapolis, MD (2011).
3. Forde A.J.\*, Gruner D.S.†, "Cascading effects of predatory birds on arthropods and plants of Caribbean mangrove islands," Graduate Research Interaction Day, University of Maryland, College Park, MD. (April 6, 2011).

2. Gruner D.S., "Mania for *Wasmannia*: fire ants as a fire drill for K-12 alien species awareness," Big Island Science Conference, HI. (2001).
1. Gruner D.S., "Top-down and bottom-up processes in *Metrosideros* arthropod communities," Big Island Science Conference, Hilo, HI. (2001).

#### II.E.9. Non-Refereed Workshop Papers

Becker P., Sandin S., Becker C., Erazo N., Fisher R., Friedlander A., Fukami T., Graham N., Gruner D.S., Holmes N.D., Holthuijzen W., Jones H.E., Rios M., Sechrest W., Semmens B., Thornton H., Thurber R.V., Wails C. (2021). Island ocean connections: exploring land-sea linkages in the context of Invasive mammal management. Island Conservation and Scripps Institute of Oceanography. 76 pp.  
<https://escholarship.org/uc/item/05x9f5z6>

#### II.E.10. Non-Refereed Abstracts

4. Tielens E.K.\* and Gruner D.S.† (2017). Geological age and host polymorphism affect functional diversity and community composition in plant-insect interactions across a space-for-time chronosequence on the Hawaiian Islands. *Integrative and Comparative Biology* 57:E430
3. Gruner D.S. (2003). Top-down and bottom-up influences in a Hawaiian arboreal arthropod food web. *Pacific Science* 57(2):232
2. Gruner D.S. (1998). Herbivory and arthropod diversity across a long age gradient in the Hawaiian Islands. *Selbyana* 19(2):280
1. Gruner D.S., Polhemus D.A.. (1998). Herbivory and arthropod abundance across a long age gradient in Hawaii. *What's Up? Newsletter of the International Canopy Network* 5(1):3

#### II.E.11. Non-Refereed Posters

2. Fradera-Gonzalez, R., Gruner D.S.†, "Fungal identification in emerald ash borer (EAB, *Agrilus planipennis* Fairmaire) frass in ash trees (*Fraxinus* spp.) in Maryland," Symposium: Summer Opportunities in Agricultural Research and the Environment (SOARE), University of Maryland, College Park, MD. (July 2022).
1. Forde A.J.\*, Parker J.D., Feller I.C., Gruner D.S.†, "Effects of insectivorous birds on arthropod communities and mangrove productivity," Bioscience Day, University of Maryland, College Park, MD. (2010). *Awarded first place in category 'Environment.'*

#### II.E.13. Organized Symposia

3. Gruner D.S., "Individual, population, and community responses of insects to climate change," Annual Meeting of the Entomological Society of America, Eastern Branch, RI. (March 19, 2017).
2. Feller I.C., Gruner D.S., Parker J.D., Osman R., Pennings S., Armitage A., "Mangrove expansion into salt marsh habitats: causes and consequences," 22nd Biennial Conference of the Coastal and Estuarine Research Federation, San Diego, CA. (November 2013).
1. Gruner D.S., Borer E.T., Shurin J.B., "Trophic structure across systems: case studies and synthesis," Annual Meeting of the Ecological Society of America, San Jose. (August 2007).

#### II.E.14. Workshops

8. Sandin S.A., Becker P., "GLIMR: Global Links for Islands and Marine Restoration," Working group hosted by Scripps Institution of Oceanography and Island Conservation (invited participant, 2021).
7. Schäfer R., Jackson M., Piggott, J., "StressNet – Scientific workshop for the advancement of multiple stressor models and databases," Workshop hosted at the University of Koblenz-Landau, Germany (invited speaker and participant, October 2018).
6. Ponisio L., Gillespie, R.G., "Ecological network assembly on islands," Workshop hosted at the University of California-Berkeley (invited participant, Oct 23-24, 2015).

5. Lau J., Bradford M., "NSF Workshop on Longterm Ecological Research," Workshop hosted at the Kellogg Biological Station, Michigan State University (invited participant, Feb 28 - Mar 2, 2015).
4. Hillebrand H., "Effects of global change on carbon sequestration and food web structure across ecosystems," International Symposium hosted by University of Oldenburg and Institute for Chemistry and Biology of the Marine Environment, Germany (invited speaker and participant, Nov 2009).
3. Gruner D.S., Shurin J., Hillebrand H. "Trophic comparisons across ecosystems: synthesis of scales and mechanisms," Working Group sponsored by the National Center for Ecological Analysis and Synthesis (NCEAS), Santa Barbara, CA (PI and leader, 3 1-week meetings, 2007 – 2008).
2. Shurin J., Hillebrand H., Gruner, D.S., "Trophic comparisons across ecosystems," Working Group sponsored by the National Center for Ecological Analysis and Synthesis (NCEAS), Santa Barbara, CA (co-PI and leader, 3 1-week meetings, 2005 – 2007).
1. Gruner D.S., Baumgartner E., Caldwell A., Kuntz W., Bodner G., Bierwagen B., "Workshop: involving K-12 educators and students with conservation research," 1-day workshop at the Annual Meeting of the Society for Conservation Biology, Hilo, HI (organizer and presenter, July 29, 2001).

#### II.E.15. Colloquia

43. Smithsonian Conservation Biology Institute, Smithsonian National Zoo, Washington, DC. (Oct 24, 2023).
42. Biology Department, University of Massachusetts, Boston, MA. (April 8, 2022).
41. School of Biology & Ecology, University of Maine, Orono, ME. (April 1, 2022).
40. Biological Sciences - BEES, University of Maryland, College Park, MD. (October 18, 2021).
39. Rocky Mountain Biological Laboratory, Gothic, CO. (July 22, 2019).
38. Department of Entomology, Michigan State University, East Lansing, MI. (December 4, 2017).
37. School of Forest Resources & Environmental Science, Michigan Technological University, Houghton, MI. (October 3, 2017).
36. Entomological Society of Washington, Smithsonian National Museum of Natural History, Washington, DC. (April 6, 2017).
35. Department of Entomology, University of California at Riverside, Riverside, CA. (November 8, 2016).
34. Division of Environmental Biology, National Science Foundation, Arlington, VA. (May 16, 2016).
33. Smithsonian Conservation Biology Institute, Smithsonian National Zoo, Washington, DC. (May 8, 2015).
32. Entomological Society of Washington, Smithsonian National Museum of Natural History, Washington, DC. (March 6, 2014).
31. Department of Biology, Virginia Commonwealth University, Richmond, VA. (April 29, 2013).
30. Department of Biology, University of Central Florida, Orlando, FL. (March 25, 2013).
29. Smithsonian Migratory Bird Center, Smithsonian National Zoo, Washington, DC. (November 2, 2012).
28. Department of Entomology, Rutgers University, Camden, NJ. (October 26, 2012).
27. Entomology Department, Purdue University, West Lafayette, IN. (April 26, 2012).
26. Department of Entomology, Washington State University, Pullman, WA. (April 9, 2012).
25. Marine Science Center, Northeastern University, Boston, MA. (November 21, 2011).
24. Department of Zoology, University of Wisconsin, Madison, WI. (October 13, 2011).
23. Department of Biology, Hamilton College, Clinton, NY. (October 25, 2010).
22. Mountain Lake Biological Station, University of Virginia, Pembroke, VA. (July 14, 2009).
21. Blandy Experimental Farm, University of Virginia, Boyce, VA. (June 17, 2009).
20. Smithsonian Conservation Biology Institute, Smithsonian National Zoo, Washington, DC. (March 27, 2009).
19. Department of Biology, Georgetown University, Washington, DC. (March 26, 2009).
18. Smithsonian Environmental Research Center, Edgewater, MD. (March 19, 2009).
17. Department of Biological Sciences, Dartmouth College, Hanover, NH. (October 10, 2008).
16. Department of Entomology, Pennsylvania State University, State College, PA. (October 3, 2008).
15. Department of Biological Sciences, The George Washington University, Washington, DC. (November 30, 2007).
14. Beltsville Agricultural Research Center, US Department of Agriculture, Beltsville, MD. (November 21, 2007).
13. Department of Biology, University of Louisville, Louisville, KY. (March 28, 2007).

12. Point Reyes National Seashore, Point Reyes Station, CA. (March 22, 2007).
11. Department of Entomology, University of Maryland, College Park, MD. (March 14 & 15, 2007).
10. Department of Ecology and Evolutionary Biology, Tulane University, New Orleans, LA. (February 12, 2007).
9. Department of Biology, Loyola Marymount University, Los Angeles, CA. (January 22, 2007).
8. Department of Biology, Tulane University, New Orleans, LA. (September 14, 2006).
7. Bodega Marine Lab, University of California Davis, Bodega Bay, CA. (May 1, 2006).
6. Department of Entomology and Nematology, University of California Davis, Davis, CA. (February 27, 2006).
5. Department of Earth, Environmental and Ecological Sciences, University of Toledo, Toledo, OH. (January 19, 2006).
4. Center for Population Biology, University of California Davis, Davis, CA. (February 22, 2005).
3. Section for Ecology and Evolution, University of California Davis, Davis, CA. (October 14, 2004).
2. Department of Entomology, Bishop Museum, Honolulu, HI. (July 2004).
1. Department of Zoology, University of Hawaii Manoa, Honolulu, HI. (May 7, 2004).

## II.F. Professional and Extension Publications

### II.F.9. Non-Refereed Journal Articles

Forde A.J.\*, I.C. Feller, J.D. Parker, and D.S. Gruner<sup>†</sup> (2022). Bottom-up control of red mangroves on Caribbean cays. *Bulletin of the Ecological Society of America* 103:e2007

## II.G. Book Reviews, Notes, and Other Contributions

### II.G.1. Book Reviews

Gruner D.S., Forde, A. J.\* (2018). Food chain dynamics: the central theory of ecology once again? (*Hanley C and K J La Pierre, eds. 2015 Trophic Ecology: Bottom-up and Top-Down Interactions Across Aquatic and Terrestrial Systems. Cambridge University Press, UK*) *Ecology* 99:1699-1700  
<https://doi.org/10.1002/ecy.2206>

## II.H. Completed Creative Works and Scholarship

### II.H.1. Datasets

12. Nathan M. and D.S. Gruner<sup>†</sup>. Code from: Sustained mangrove reproduction despite major turnover in pollinator community composition at expanding range edge. *Zenodo* doi:10.5281/zenodo.7269277 (embargoed)
11. Nathan M. and D.S. Gruner<sup>†</sup>. Data from: Sustained mangrove reproduction despite major turnover in pollinator community composition at expanding range edge. *Dryad Digital Repository* doi:10.5061/dryad.wpzgmsbqr (embargoed)
10. Forde A.J.\*, I.C. Feller, J.D. Parker, and D.S. Gruner<sup>†</sup>. 2022. Code from: Insectivorous birds reduce herbivory but do not increase mangrove growth across productivity zones. *Zenodo*  
<https://doi.org/10.5281/zenodo.5528080>
9. Forde A.J.\*, I.C. Feller, J.D. Parker, and D.S. Gruner<sup>†</sup>. 2022. Data from: Insectivorous birds reduce herbivory but do not increase mangrove growth across productivity zones. *Dryad Digital Repository*  
<https://doi.org/10.5061/dryad.m37pvmd34>
8. Tielens E.K.\*, and D.S. Gruner<sup>†</sup>. 2020. Data from: Intraspecific variation in host plant traits mediates taxonomic and functional composition of local insect herbivore communities. *Dryad Digital Repository*  
<https://doi.org/10.5061/dryad.tdz08kpxb>
7. Tielens E.K.\*, M.N. Neel, D.R. Leopold, C.P. Giardina, and D.S. Gruner<sup>†</sup>. 2020. Data from: Multiscale analysis of canopy arthropod diversity in a volcanically fragmented landscape. *Dryad Digital Repository*  
<https://doi.org/10.5061/dryad.0vt4b8gvh>



6. Wilson Rankin E.E., J.L. Knowlton, D.S. Gruner, D.J. Flaspohler, C.P. Giardina, D.R. Leopold, A. Buckardt, W.C. Pitt, and T. Fukami. 2018. Hawaiian forest bird foraging height. *Dryad Digital Repository* <https://doi.org/10.6086/D1X675>
5. Knowlton J.L., D.J. Flaspohler, E.H. Paxton, T. Fukami, C.P. Giardina, D.S. Gruner, and E.E. Wilson Rankin. 2017. Data from: Movements of four native Hawaiian birds across a naturally fragmented landscape. *Dryad Digital Repository* <https://doi.org/10.5061/dryad.p9s05>
4. Lewandowska A.M., A. Biermann, E.T. Borer, M.A. Cebrián-Piqueras, S.A.J. Declerck, L. De Meester, E. Van Donk, L. Gamfeldt, D.S. Gruner, N. Hagenah, W.S. Harpole, K.P. Kirkman, C.A. Klausmeier, M. Kleyer, J.M. H. Knops, P. Lemmens, E.M. Lind, E. Litchman, J. Mantilla-Contreras, K. Martens, S. Meier, V. Minden, J. L. Moore, H. Olde Venterink, E.W. Seabloom, U. Sommer, M. Striebel, A. Trenkamp, J. Trinogga, J. Urabe, W. Vyverman, D.B. Van de Waal, C.E. Widdicombe, and H. Hillebrand. 2017. Data from: The influence of balanced and imbalanced resource supply on biodiversity–functioning relationship across ecosystems. *Dryad Digital Repository* <https://doi.org/10.5061/dryad.h50d9>
3. Gruner D.S., M.E.S. Bracken, S.A. Berger, B.K. Eriksson, L. Gamfeldt, B. Matthiessen, S. Moorthi, U. Sommer, and H. Hillebrand. 2016. Data from: Effects of experimental warming on biodiversity depend on ecosystem type and local species composition. *Dryad Digital Repository* <https://datadryad.org/stash/dataset/doi:10.5061/dryad.f5r3k>
2. Gruner D.S. 2013. A cross-system synthesis of consumer and nutrient resource control on producer biomass. *Figshare* <https://doi.org/10.6084/m9.figshare.879663.v1>
1. Gruner D.S. 2006. Experimental manipulations of nutrients and trophic structure across ecosystems. *Knowledge Network for Biocomplexity* <https://knb.ecoinformatics.org/view/doi:10.5063/AA/nceas.301.7>

## II.H.2 Photography

Photographs (2) of *Magicicada septendecim* Brood X cicadas, In *Frontiers of Ecology and Environment* (September 2021 issue)

## II.H.6 Websites

2002 "Antwatch Hawai'i": an educational effort for K-12 and citizens to monitor the Hawaiian Islands for resident alien ant species and provide an early-warning network for newly introduced species <http://www.hawaii.edu/ant/> (*not maintained*)

## II.K. Sponsored Research and Programs

### II.K.1. Grants

*Extramural Awards, University of Maryland*

2024-2025 (*pending*), USDA-Animal and Plant Health Inspection Service, "Regional to national post-release evaluation of emerald ash borer biological control," Plant Pest and Disease Management and Disaster Prevention Program. Total to UMD: \$198,442. Investigator: Gruner D.S.

2023-2026, USDA Forest Service, "Improving the effectiveness of post-release monitoring for classical biological control of the emerald ash borer," Forest Health Protection Grants. **Total to UMD: \$136,338.** Investigator: Gruner D.S.

2021-2024, USDA-Animal and Plant Health Inspection Service, "Synergies of biological control and systemic insecticides to protect ash from emerald ash borer," Plant Pest and Disease Management and Disaster Prevention Program. **Total to UMD: \$726,291.** Investigator: Gruner D.S.

2019-2020, USDA-Animal and Plant Health Inspection Service, "Testing biological control-based IPM strategies to protect ash at early and peak stages of emerald ash borer infestation," Plant Pest and Disease Management and Disaster Prevention Program. **Total to UMD: \$156,633.** Investigators: Gruner D.S., Shrewsbury P.M.

2018-2019, USDA-Animal and Plant Health Inspection Service, "Development of a biological control-based integrated pest management strategy to protect ash trees against post-invasion emerald ash borer populations in urban forests," Plant Pest and Disease Management and Disaster Prevention Program. **Total to UMD: \$120,694.** Investigators: Shrewsbury P.M., Gruner D.S.

- 2013-2018, National Science Foundation, "Dimensions: Collaborative Research: A community-level approach to understanding speciation in Hawaiian lineages," Dimensions of Biodiversity. **Total: \$1,999,910; to UMD: \$258,662.** Investigators: Gillespie R.G., Gruner D.S., Shaw K.L., Price D.K.
- 2011-2017, National Science Foundation, "Collaborative Research: Multi-scale drivers and effects of biotic change in the global mangrove-saltmarsh ecotone," MacroSystems Biology. **Total: \$1,364,286; to UMD: \$330,119.** Investigators: Feller I.C., Gruner D.S., Parker J.D., Osman R.
- 2011-2016, National Aeronautics and Space Administration, "Sensitivity of coastal zone ecosystems to climate change," Research Opportunities in Space and Earth Science. **Total: \$1,232,213; to UMD: \$302,585.** Investigators: Feller I.C., Gruner D.S., Parker J.D., Osman R.
- 2012, National Science Foundation, "REU: Predation of Hawaiian forest birds by invasive rats in isolated forest fragments," Population and Community Ecology Cluster. **Total to UMD: \$8,000.** Investigator: Gruner D.S.
- 2010-2015, National Science Foundation, "Collaborative Research: Interactive effects of predation and ecosystem size on arthropod food webs in Hawaiian forests fragmented by lava flows," Population and Community Ecology Cluster. **Total: \$1,213,843; to UMD: \$329,949.** Investigators: Fukami T., Gruner D.S., Flaspohler D.J., Giardina C.P.
- 2009-2012, USDA-Forest Service, "*Sirex noctilio* and native pine borers: community dynamics and resource allocation with implications for pest management." **Total to UMD: \$50,000.** Investigators: Gruner D.S., Thompson B.M.\*
- 2010-2012, USDA-National Institute of Food and Agriculture, "Sustainable management of the small hive beetle (*Aethina tumida*), an emerging pest of honey bees," Northeastern Regional IPM Center. **Total to UMD: \$56,107.** Investigators: Gruner D.S., Dively G.P., Hooks C.R.R.
- 2010-2011, Maryland Grain Producers Utilization Board, "Evaluation of soil pest control services and nutrient retention in no-till corn production," **Total to UMD: \$26,101.** Investigator: Gruner D.S.
- 2010-2011, Maryland Soybean Board, "Persistence and viability of insect pathogenic nematodes for pest control in soy," **Total to UMD: \$15,000.** Investigator: Gruner D.S.
- 2009-2010, Maryland Soybean Board, "Assessment of belowground pests of tilled and untilled soybean and potential for biocontrol," **Total to UMD: \$14,586.** Investigator: Gruner D.S.

*Intramural Awards, University of Maryland*

- 2013-2014, University of Maryland & Smithsonian Institution, "Impacts of invasive predators on island endemic food web networks," Seed Grant Program. **Total: \$47,580; to UMD: \$22,480.** Investigators: Gruner D.S., Fleischer R., Maldonado J.
- 2010-2011, Maryland Agricultural Experiment Station, "Persistence and viability of insect pathogenic nematodes for conservation biological control in the Chesapeake watershed," Competitive Grant Program. **Total: \$26,250.** Investigator: Gruner D.S.
- 2008-2009, Maryland Agricultural Experiment Station, "Towards sustainable soils: entomopathogenic nematodes and conservation biological control in Maryland," Competitive Grant Program. **Total: \$22,220.** Investigator: Gruner D.S.

*Extramural Awards, Prior to Current Position*

- 2007-2008, National Center for Ecological Analysis & Synthesis, "Trophic comparisons across ecosystems: synthesis of scales and mechanisms," NCEAS Working Group, Santa Barbara, CA. **Total: \$45,250.** Investigators: Gruner D.S., Borer E.T., Sandin S.
- 2005-2007, National Center for Ecological Analysis & Synthesis, "Trophic structure comparisons across systems," NCEAS Working Group, Santa Barbara, CA. **Total: \$61,800.** Investigators: Shurin J., Hillebrand H., Gruner D.S.
- 2001-2002, Environmental Leadership Program, "Mania for *Wasmannia*: statewide curriculum and proactive conservation in Hawai'i," ELP Activity Fund. **Total: \$7,000.** Investigator: Gruner D.S.
- 2001-2002, National Science Foundation, "Regional/historical influences and top-down vs. bottom-up processes in arthropod community structure," Doctoral Dissertation Improvement Grant. **Total: \$9,440.** Investigators: Taylor A.D., Gruner D.S.

1998, David and Lucille Packard Foundation, "Ecological impacts and control of *Vespula pensylvanica* in an 'ōhi'a lehua arthropod community," Hawai'i Secretariat for Conservation Biology Grants Program. **Total: \$6,532.** Investigators: Gruner D.S., Taylor A.D.

#### II.K.2. Contracts

2022-2026, National Park Service, Watershed Cooperative Ecosystem Study Unit, "Identify arthropods and correlations with invasive species in forest monitoring plots." **Total to UMD: \$89,920.**

2020-2025, USDA-Agricultural Research Service, "Collection, recovery and rearing of emerald ash borer and associated parasitoids from infested ash logs in Maryland." **Total to UMD: \$84,290.**

#### II.K.3. Other

2017-2020, National Science Foundation, "IPA NSF Rotator for Population & Community Ecology Cluster," Division of Environmental Biology. **Total to UMD: \$492,890.**

#### II.Q. Research Fellowships, Prizes, and Awards

James B. Gahan and Margaret H. Gahan Professorship in Entomology Award, University of Maryland Department of Entomology (2022).

Highly Cited Researcher – Environment/Ecology, Clarivate Analytics (2018).

Excellence in Student Research, Research Corporation of the University of Hawai'i (2003).

Scholarship in Conservation Ecology, ARCS Foundation, University of Hawai'i (2002).

Environmental Leadership Program (ELP) Fellowship (2000 - 2002).

NSF GK-12 Predoctoral Fellowship, EECB Graduate Program, University of Hawai'i (2000 - 2002).

Scholarship in Zoology, ARCS Foundation, University of Hawai'i (2000).

EPA STAR Graduate Fellowship, Environmental Protection Agency (1997 - 1999).

Watson T. Yoshimoto Prize for Animal Wildlife Conservation, University of Hawai'i (1999).

Elihu Root Fellowship, Hamilton College (1994).

Holbrook Prize in Biology, Hamilton College (1993).

Sigma Xi Certificate of Recognition for Excellence in Undergraduate Research, Hamilton College (1993).

### **III. Teaching, Extension, Mentoring, and Advising**

#### III.A. Courses Taught

30. BSCI 361 Principles of Ecology, 4 credits. 50 enrolled, Spring 2023

29. ENTM 612 Insect Ecology, 3 credits. 6 enrolled, Spring 2023

28. BSCI 361 Principles of Ecology, 4 credits. 38 enrolled, Spring 2022

27. ENTM 798Y Frontiers in Biodiversity Measurement, 1 credit. 13 enrolled, Fall 2021 (co-taught with Dr. Michael Roswell)

26. BSCI 160 Principles of Ecology and Evolution, 3 credits. 232 enrolled, Fall 2021 (co-taught with Drs. Marcia Shofner, Magdalene Ngeve)

25. BSCI 361 Principles of Ecology, 4 credits. 46 enrolled, Spring 2021 (online, synchronous)

24. ENTM 612 Insect Ecology, 3 credits. 21 enrolled, Spring 2021 (online, blended)

23. ENTM 798V Introduction to R, 1 credit. 17 enrolled, Fall 2020 (online, synchronous; co-taught with Dr. Maile Neel)

22. BSCI 361 Principles of Ecology, 4 credits. 49 enrolled, Spring 2017

21. ENTM 612 Insect Ecology, 3 credits. 13 enrolled, Spring 2017

20. BSCI 361 Principles of Ecology, 4 credits. 49 enrolled, Spring 2016

19. ENTM 798Y Frontiers in Biodiversity Measurement, 1 credit. 14 enrolled, Fall 2015

18. ENTM 798V Introduction to R for Computation and Analysis. 21 enrolled, Fall 2014

17. BSCI 361 Principles of Ecology, 4 credits. 35 enrolled, Spring 2015

16. BSCI 361 Principles of Ecology, 4 credits. 70 enrolled, Fall 2013
15. ENTM 788C Entomology Colloquium, 1 credit. 16 enrolled, Fall 2013.
14. ENTM 612 Insect Ecology, 3 credits. 14 enrolled, Spring 2013
13. BSCI 361 Principles of Ecology, 4 credits. 67 enrolled, Fall 2012
12. ENTM 798V Introduction to R for Computation and Analysis. 14 enrolled, Fall 2012
11. ENTM 798E Classics and Neoclassics in Ecological Literature. 13 enrolled, Spring 2012
10. BSCI 361 Principles of Ecology, 4 credits. 73 enrolled, Fall 2011
9. ENTM 798V Introduction to R for Computation and Analysis. 16 enrolled, Fall 2011
8. ENTM 612 Insect Ecology, 3 credits. 23 enrolled, Spring 2011
7. ENTM 798E Classics and Neoclassics in Ecological Literature. 6 enrolled, Spring 2011
6. BSCI 361 Principles of Ecology, 4 credits. 70 enrolled, Fall 2010
5. ENTM 798V Introduction to R for Computation and Analysis. 19 enrolled, Fall 2010
4. ENTM 798E Classics and Neoclassics in Ecological Literature. 9 enrolled, Spring 2010
3. ENTM 612 Insect Ecology, 3 credits. 18 enrolled, Spring 2009
2. ENTM 798V Introduction to R for Computation and Analysis. 15 enrolled, Fall 2009
1. ENTM 798V Introduction to R for Computation and Analysis. 16 enrolled, Fall 2008

*Prior to Current Appointment*

2. ECL 290 Graduate Seminar: Path Analysis in Ecology, University of California – Davis, ~12 participants (Summer 2006; co-taught with Dr. Susan Williams).
1. ECL 290 Graduate Seminar: Ecological Stoichiometry, University of California – Davis, ~10 participants (Fall 2005; co-taught with Drs. Susan Williams and Matt Bracken).

III.B. Teaching Innovations

III.B.5. Instructional Workshops and Seminars Established

Organizer, AIC and Model Selection Mini-Course. Instructor: David Anderson. University of Maryland, College Park, MD (~35 participants, Jan 18 - 19 2011).

III.C. Advising: Research or Clinical (University of Maryland unless stated otherwise)

III.C.1. Undergraduate

*Undergraduate Research Advising*

14. Richard Fradera-Gonzalez, University of Puerto Rico - Arecibo (2022). Summer Opportunities in Agricultural Research and the Environment (SOARE).
13. Grace Soltis, Advisor, High Honors in Entomology (2020 - 2022).
12. Madison Tewey, Committee Member, High Honors in Entomology (2021).
11. Kristin Jayd, Advisor, High Honors in Entomology (2015 - 2019). NSF Graduate Research Fellow.
10. Lily Durkee, Advisor, High Honors in Entomology (2015 - 2018). NSF Graduate Research Fellow.
9. Christina Zendman, Committee Member, Honors in Biology (2016).
8. Sze Wing Yu, Advisor, High Honors in Environmental Science & Policy (2013 - 2015).
7. Chris Riley, Committee Member, High Honors in Entomology (2014).
6. Olivia Caretti, NSF REU Intern, St. Mary's College of Maryland (2013).
5. Micah Miles, NSF REU Intern (2013).
4. Emily Mishina, Kapi'olani Community College (2012). Pacific Internship Programs for Exploring Sciences (PIPES)
3. Cash Helman, NSF REU Intern, University of Hawai'i Mānoa (2012). Pacific Internship Programs for Exploring Sciences (PIPES)
2. Adam Goldring, NSF REU Intern, University of California - Davis (2006).
1. Arunima Kolekar, NSF REU Intern, Claremont McKenna College (2005 - 2006).

*Undergraduate Research Interns* (enrolled in BSCI 389 Entomology Research, or equivalent)

29. Ricky Kong (2022 - present).

28. Clark Bacwaden (2022 - 2023).
27. Josephine Danckaert (2021 - 2022).
26. Samantha Kowalik (2021 - 2023).
25. Betsy Wang (2019 - 2020).
24. Victor Settles (2017).
23. Noah Harris (2016).
22. Benjamin Swartz (2016).
21. Nan Himmelsbach (2015).
20. Hashem Hraky (2015 - 2016).
19. Kristine Persing (2015).
18. Kathryn Sullivan (2015).
17. Noah Walker (2014).
16. Giovanni Tundo (2014).
15. Claire Morse (2014 - 2015).
14. Sara Reedy (2013).
13. Sarah Davies (2012 - 2013).
12. John Deignan (2011 - 2012).
11. George Bradley Reahl (2011 - 2013).
10. Irene Xue (2011 - 2013).
9. Heather Eversole (2011).
8. Allison Salas (2011).
7. Jake Bodart (2010 - 2013).
6. Danielle Marshall (2010 - 2011).
5. Elmer Haapala (2010).
4. Patrick Wise (2009 - 2010).
3. Emily Ross (2009 - 2010).
2. Camilo Vanegas (2009 - 2011).
1. Yungchung Chen (2008).

### III.C.2. Master's

#### *Major Advisor*

1. Alexander Forde, M.S. Biological Sciences (December 2020). NSF Graduate Research Fellow.

#### *Committee Member*

11. Robert Salerno, Entomology (2023 -).
10. Eric Hartel, Entomology (2023 -).
9. Alireza Shokoohi, Entomology (2021 -).
8. Elizabeth Zhu Dabek, Entomology (2019 -).
7. Madeline Potter, Entomology (2023).
6. Morgan Nicole Thompson, M.S. Entomology (2019).
5. Paul Ramon Marban, M.S. Marine, Estuarine, & Environmental Sciences (2018).
4. Erik Bergmann, M.S. Entomology (2014).
3. Nick Caruso, M.S. Entomology (2011).
2. Laura Moore, M.S. Entomology (2010).
1. Scott Creary, M.S. Entomology (2008).

#### *Masters of Life Sciences (CLFS 608), Scholarly Paper Mentor*

2. Jean Marie Gephart, "Aedes mosquitoes and the globalization of chikungunya fever," (2010).
1. Gregory Pec, "Climatic effects on butterfly-host plant synchrony," (2008).

### III.C.3. Doctoral

#### *Major Advisor*

10. Samantha Rosa, Biological Sciences (August 2023 -). Co-advised, Dr. Anahí Espíndola, UMD.
9. Allison Huysman, Entomology (August 2023 -).
8. Ángela Soto Sáenz, Entomology (January 2021 -).
7. Dr. Madhvi Venkatraman, Ph.D. Biological Sciences (August 2021). Co-advised, Dr. Rob Fleischer, Smithsonian Institution. Thesis: "What makes a successful invader? Population genomics and adaptation to novel environments in the invasive Japanese White-eye (*Zosterops japonicus*)."  
NSF Graduate Research Fellow. Placement: University of South Florida, NSF Postdoctoral Fellow.
6. Dr. Mayda Nathan, Ph.D. Entomology (August 2020). Thesis: "Plant-insect interactions in a shifting coastal ecosystem: *Avicennia germinans* and its associated arthropods." Placement: Ecological Society of America, Communications Associate.
5. Dr. Elske Karolien Tielens, Ph.D. Biological Sciences (August 2019). Thesis: "Diversity and structure of *Metrosideros polymorpha* canopy arthropod communities across space and time." Placement: University of Oklahoma, postdoc.
4. Dr. Cora Ann Johnston, Ph.D. Biological Sciences (December 2016). Thesis: "Marine community assembly in a dynamic ecotone." Placement: Virginia Coast Reserve LTER, Site Director.
3. Dr. Brian Thompson, Ph.D. Entomology (May 2013). Thesis: "Community ecology and *Sirex noctilio*: interactions with microbial symbionts and native insects." Placement: USGS-Montana St. University, postdoc.
2. Dr. Rachel Goeriz Pearson, Ph.D. Entomology (August 2009). Thesis: "Consequences of the ingestive nutrient regulation of an omnivore on performance and distribution." Placement: U.S. Food & Drug Administration, ORISE Fellow.
1. Dr. Danny Lewis, Ph.D. Entomology (May 2009). Thesis: "Effects of abiotic stress and predator refuge on terrestrial predator-prey interactions." Placement: Georgetown University, postdoc.

#### *Committee Member*

33. Sydney Wallace, Plant Sciences & Landscape Architecture (Dean's Representative, 2022 -).
32. Stephanie Chia, Biological Sciences (2022 -).
31. Graham Stewart, Entomology (2021 -).
30. Damani Eubanks, Biological Sciences (Dean's Representative, 2021 -).
29. Justin O'Neill, Entomology (2021 -).
28. Dr. Zachary Lamas, Ph.D. Entomology (2022).
27. Dr. Aditi Dubey, Ph.D. Entomology (2020).
26. Dr. Sarah Augusta Maccracken, Ph.D. Entomology (2020).
25. Dr. Rebecca A Eckert, Ph.D. Entomology (2020).
24. Dr. Edward Risto Hurme, Ph.D. Biological Sciences (Dean's Representative, 2020).
23. Dr. Jason Berg, Ph.D. Biological Sciences (2018).
22. Dr. Demetra N. Skaltsas, Ph.D. Plant Sciences & Landscape Architecture (Dean's Representative, 2018).
21. Dr. Colin Phifer, Ph.D. Michigan Technological University (2017).
20. Dr. Ana Jesovnik, Ph.D. Entomology (2017).
19. Dr. Patrice Nielson, Ph.D. Environmental Science and Technology (Dean's Representative, 2017).
18. Dr. Maria Natalia Umaña, Ph.D. Biological Sciences (Dean's Representative, 2017).
17. Dr. Graziella Vittoria Drenzo, Ph.D. Biological Sciences (Dean's Representative, 2016).
16. Dr. Eleanor Spadafora, Ph.D. Biological Sciences (2016).
15. Dr. Qiongyu Huang, Ph.D. Geographical Sciences (Dean's Representative, 2016).
14. Dr. Mariana Abarca, Ph.D. Biological Sciences, The George Washington University (2015).
13. Dr. Karen Kesler, Ph.D. Marine, Estuarine, & Environmental Sciences (2014) [*withdrew from defense committee for sabbatical*].
12. Dr. Jeffrey Sosa-Calvo, Ph.D. Entomology (2014) [*withdrew from defense committee for sabbatical*].
11. Dr. Christian Joseph Che-Castaldo, Ph.D. Behavior, Ecology, Evolution, and Systematics (Dean's Representative, 2014).
10. Dr. Mercedes Burns, Ph.D. Behavior, Ecology, Evolution, and Systematics (2014).
9. Dr. Clark Sawyer Rushing, Ph.D. Behavior, Ecology, Evolution, and Systematics (2014).
8. Dr. Bridget Diane DeLay, Ph.D. Entomology (2013).
7. Dr. Abby Kula, Ph.D. Behavior, Ecology, Evolution, and Systematics (2012).

6. Dr. Romina Gazis, Ph.D. Plant Sciences & Landscape Architecture (2012).
5. Dr. Robert Smith, Ph.D. Entomology (2012).
4. Dr. MaLinda Henry, Ph.D. Behavior, Ecology, Evolution, and Systematics (2011).
3. Dr. J. Gwen Schlichta, Ph.D. Behavior, Ecology, Evolution, and Systematics (2011).
2. Dr. Katie Schneider, Ph.D. Behavior, Ecology, Evolution, and Systematics (2009).
1. Dr. Colin Studds, Ph.D. Behavior, Ecology, Evolution, and Systematics (2008).

#### III.C.4. Post-Doctoral

4. Dr. Kathryn Bloodworth (Jan 2024 - ).
3. Dr. Rafael Barreto de Andrade (Jan 2019 - Aug 2023). Placement: Assistant Professor, St. Mary's College of Maryland.
2. Dr. Ailene Ettinger (Jan 2017 - Dec 2018). Placement: Quantitative Ecologist, The Nature Conservancy.
1. Dr. Erin Wilson Rankin (Jan 2011 - Aug 2013). Placement: Assistant Professor of Entomology, UC Riverside.

#### III.C.5 Other Directed Research

##### *Mentored Research, High School*

- Jeanaya Bertrand, Eleanor Roosevelt High School, College Park, MD (2014 - 2015)  
 Tiffany Young, home-schooled, College Park, MD (2013 - 2016)  
 Lily Durkee, Montgomery-Blair High School, Silver Spring, MD (2013).  
 Jason Young, Eleanor Roosevelt High School, College Park, MD (2011-2012).  
 Vanessa Niba, Eleanor Roosevelt High School, College Park, MD (2010 - 2011).  
 Xiaoshan Zhang, Montgomery-Blair High School, Silver Spring, MD (2010 - 2011).

#### III.D. Mentorship

##### III.D.1. Junior Faculty

- Dr. Anahí Espíndola, Department of Entomology (2019 - present).  
 Dr. Nathan Kraft, Department of Biology (2013 - 2015).

##### III.D.2. Other

- Ángela Soto Sáenz, Graduate Teaching Assistant (2023).  
 Aileen Taylor, Graduate Teaching Assistant (2022).  
 Alec Armstrong, Graduate Teaching Assistant (2021).  
 Cora Ann Johnston, Graduate Teaching Assistant (2016).  
 Mayda Nathan, Graduate Teaching Assistant (2012, 2013, 2015, 2017). Allen Steinhauer Award for Excellence in Teaching (Entomology, 2013), Teaching Achievement Award (Entomology, 2015).  
 Dilip Venugopal, Graduate Teaching Assistant (2011).  
 Judy Che-Castaldo, Graduate Teaching Assistant (2010).

#### III.F. Professional and Extension Education

##### III.F.4. Guest Lectures

- BISI 608a Graduate Seminar in Behavior, Evolution, Ecology, and Systematics, ~15 enrolled (1 lecture, Fall 2016).  
 CBMG 688c Programming for Biology, ~15 enrolled (2 lectures, Fall 2016).  
 CBMG 688c Programming for Biology, ~12 enrolled (2 lectures, Fall 2015).  
 CBMG 688c Programming for Biology, ~10 enrolled (2 lectures, Fall 2013).  
 CBMG 688c Programming for Biology, ~12 enrolled (2 lectures, Fall 2012).  
 ENTM 31100 Insect Ecology, Purdue University, ~30 enrolled (1 lecture, Spring 2012).  
 CBMG 688c Programming for Biology, ~12 enrolled (2 lectures, Fall 2011).

BEES 608a Graduate Seminar in Behavior, Evolution, Ecology, and Systematics, ~15 enrolled (2 lectures, Fall 2010).

CBMG 688c Programming for Biology, ~8 enrolled (2 lectures, Fall 2010).

UNIV 100 The Student in the University, faculty panelist for student orientation (Fall 2009)

BSCI 337 Insect Biology, ~35 enrolled (3 lectures, Spring 2008).

### III.I. Teaching Awards

Distinguished Achievement Award in Teaching, Entomological Society of America - Eastern Branch (2022).

## **IV. Service and Outreach**

### IV.A. Editorships, Editorial Boards, and Reviewing Activities

Editorial and review records: <https://publons.com/researcher/1636987/daniel-s-gruner/>

#### IV.A.2. Editorial Boards

Subject Matter Editor, *Ecology* and *Ecological Monographs*, journals of the Ecological Society of America (January 2021 - present). *Handled 25 manuscripts.*

Subject Matter Editor, *Ecology* and *Ecological Monographs*, journals of the Ecological Society of America. (January 2014 - July 2017). *Handled 31 manuscripts* (resigned prior to NSF service).

Subject Editor, *Oikos: a Journal of the Nordic Society*. (January 2008 - December 2012). *Handled 63 manuscripts.*

*Ad hoc* Subject Matter Editor, *Ecology* and *Ecological Monographs*, journals of the Ecological Society of America. (2005 - 2013). *Handled 19 manuscripts.*

#### IV.A.3. Reviewing Activities for Journals and Presses

2023, *Diversity & Distributions, Global Ecology & Biogeography.*

2022, *Biological Invasions, Ecology Letters, Florida Entomologist, Proceedings of the National Academy of Science USA, The American Naturalist.*

2021, *Journal of Pest Science.*

2020, *Ecological Applications, Ecosystems.*

2019, *Global Change Biology, Remote Sensing.*

2018, *Biological Control, Ecology and Evolution, Ecology Letters, Ecology, Forests, PLoS ONE, Proceedings of the National Academy of Science USA.*

2017, *Biological Conservation, Journal of Biogeography, Remote Sensing, Scientific Reports, Wetlands.*

2016, *Florida Entomologist, Soil Biology & Biochemistry.*

2015, *Functional Ecology, Journal of Applied Ecology, Proceedings of the National Academy of Sciences USA.*

2014, *Biotropica, Climatic Change, Ecological Applications, Ecology, Journal of Ecology.*

2013, *The American Naturalist, Biological Conservation, BMC Ecology, Conservation Biology, Ecology, PeerJ.*

2012, *Ecology Letters (2), Ecology, Ecosystems, Evolution, Journal of Biogeography, Oecologia. Insect Outbreaks Revisited* (Wiley: book chapters).

2011, *Biological Invasions, Biotropica, Ecology, Ecosphere, Functional Ecology, Ecology* (Sinauer Associates: textbook), *Ecology and Evolution of Trait-Mediated Indirect Interactions* (Cambridge University Press: book chapters).

2010, *Annals of Entomological Society of America, Austral Ecology, Biological Conservation, Biological Control, Biotropica, Ecography, Ecology, Environmental Entomology, Oecologia, Proceedings of the National Academy of Science USA.*

2009, *Biological Conservation, Biological Invasions, Biological Journal of the Linnean Society, Ecological Applications, Ecology, Oecologia (2), PLoS ONE, Proceedings of the National Academy of Science USA, Proceedings of the Royal Society B, Restoration Ecology.*



2008, *The American Naturalist*, *Behavioral Ecology*, *Biological Control*, *Biological Invasions*, *Canadian Journal of Fisheries and Aquatic Sciences*, *Diversity and Distributions*, *Ecological Applications*, *Ecology Letters*, *Ecology*, *Journal of Applied Ecology*, *Oecologia*, *Oikos* (2), *Proceedings of the Royal Society B*, *Science*.  
2007, *Applied Soil Ecology*, *Biological Conservation*, *Biological Invasions*, *Ecography*, *Ecological Applications*, *Ecology Letters*, *Ecology* (2), *Oecologia* (3), *Oikos* (2).  
2006, *Biological Conservation*, *Biological Control*, *Diversity and Distributions*, *Ecological Entomology*, *Ecology Letters* (3), *Ecology* (3), *Journal of Animal Ecology*, *Journal of Biogeography*, *Journal of Nematology*, *Oecologia* (2), *Oikos* (2006), *Pacific Science*, *Pedobiologia*, *Plant and Soil*.  
2005, *Ecology Letters*, *Ecology* (3), *Frontiers in Ecology and Environment*, *Pacific Science*.  
2004, *Ecology Letters*, *Ecology* (2), *Pacific Science*.  
2003, *Acta Oecologia*, *Arthropods of Tropical Forests* (Cambridge University Press: book chapters).  
2002, *Biological Conservation*.

#### IV.A.4. Reviewing Activities for Agencies and Foundations

Ad hoc Reviewer, National Science Foundation (<sup>§</sup>multiple reviews): Science and Technology Centers, Division of Environmental Biology<sup>‡</sup>, Emerging Frontiers, Macrosystems Biology<sup>§</sup>, Long-Term Research in Environmental Biology<sup>§</sup>, Dimensions of Biodiversity, Population and Community Ecology<sup>§</sup>, Evolutionary Processes<sup>§</sup>, Plant Genome Research<sup>§</sup> (2010 - present).  
External Site Evaluator, NSF Established Program to Stimulate Competitive Research (NSF EPSCoR) RII Track-2 (University of Maine, 2022).  
Panelist, NSF Division of Biological Infrastructure (2021).  
Ad hoc Reviewer, Swiss National Science Foundation (2020, 2023).  
Ad hoc Reviewer, Czech Science Foundation (2018).  
Panelist, NSF Population and Community Ecology (2012, 2016).  
Panelist, NSF Population and Community Ecology, Doctoral Dissertation Improvement Grants (2010, 2012).  
Panelist, US Agency for International Development (2008, 2021).  
Panelist, NSF Graduate Research Fellowship Program (2007, 2008, 2010, 2011, 2022).  
Reviewer, Encyclopedia of Life, Rubenstein Fellowships (2011).  
Panelist, British Council, Britain-Israel Research and Academic Exchange Partnership (2009).  
Panelist, University of California - Davis, Mildred E. Mathias Graduate Student Research Grants (2004, 2005).  
Panelist, Hawai'i Conservation Alliance, Applied Conservation Research Grants Program (2003).

#### IV.B. Committees, Professional & Campus Service

##### IV.B.1. Campus Service - Department

Member, Sub-Committee for Advancement Promotion & Tenure, Department of Entomology (2023).  
Member, Faculty Evaluation Committee, Department of Entomology (2023).  
Member, Diversity, Equity & Inclusion Working Group, Department of Entomology (2022 - present).  
Chair, Faculty Evaluation Committee, Department of Entomology (2022).  
Chair, Diversity, Equity & Inclusion Working Group, Department of Entomology (2020 - 2022).  
Member, Graduate Affairs Committee, Department of Entomology (2015/16, 2016/17).  
Chair, Faculty Evaluation Committee, Department of Entomology (2015).  
Member, Faculty Evaluation Committee, Department of Entomology (2014).  
Chair, Faculty Search Committee for Sustainable Agroecosystems Entomologist, Department of Entomology (2013 - 2014).  
Member, Graduate Affairs Committee, Department of Entomology (2012/13, 2013/14).  
Colloquium Coordinator, Department of Entomology (Aug - Dec 2013).  
Member, Web Site Committee, Department of Entomology (2012 - 2013).  
Colloquium Coordinator, Department of Entomology (Aug - Dec 2010).  
Member, Graduate Affairs Committee, Department of Entomology (2007/08, 2008/09, 2009/10).  
Member, Web Site Committee, Department of Entomology (2008 - 2009).

#### IV.B.2. Campus Service - College

Member, Biological Sciences (BSCI) Curriculum Committee, College of Computer, Mathematical, and Natural Sciences (2023-).

Panelist, University of Maryland, Maryland Agricultural Experiment Station Competitive Grants (2023).

Facilitator, TerrapinSTRONG program for diversity and inclusion in STEM, College of Computer, Mathematical, and Natural Sciences (2021).

Member, Faculty Research Council, College of Agriculture and Natural Resources (2016 - 2017).

Chair, Graduate Admissions Committee, Biological Sciences-Behavior, Ecology, Evolution, and Systematics Graduate Program (2012/13).

Member, Hockmeyer Award Committee, Biological Sciences-Behavior, Ecology, Evolution, and Systematics Graduate Program (2012).

Member, Search Committee for Director of External and Administrative Affairs, National Socio-Environmental Synthesis Center (SESYNC) (2011).

Panelist, University of Maryland, Maryland Agricultural Experiment Station Competitive Grants (2011).

Member, Faculty Search Committee for Quantitative Ecologist, Department of Biology (2010/11).

Seminar Coordinator, Behavior, Ecology, Evolution, and Systematics Graduate Program (2008 - 2010).

#### IV.B.3. Campus Service - University

Panelist, Ann G. Wylie Dissertation Fellowship Committee, University of Maryland Graduate School (2017).

UMD Representative, NSF Graduate Research Fellowship Program, University of Maryland (2008 - 2016).

#### IV.B.6. Inter-institutional and Regional

Advisory Board Member, United States Geological Survey, John Wesley Powell Synthesis Center (2020).

Program Director, Macrosystems Biology & NEON-Enabled Science Program, Division of Environmental Biology, National Science Foundation (Aug 2017 - Aug 2020).

Program Director, Population & Community Ecology Cluster, Division of Environmental Biology, National Science Foundation (Aug 2017 - Aug 2020).

Program Officer, Accelerating Research through International Network-to-Network Collaborations (AccelNet), Office of International Science and Engineering, National Science Foundation (Sep 2019 - Aug 2020).

Member, NEON Utilization Working Group, Directorate for Biological Sciences, National Science Foundation (Sep 2018 - Aug 2020).

Member, Opportunities for Promoting Understanding through Synthesis (OPUS) Working Group, Division of Environmental Biology, National Science Foundation (Sep 2019 - Aug 2020).

Program Officer, Graduate Research Fellowship Program, National Science Foundation (Nov 2017 - May 2018).

#### IV.B.8. Leadership Roles in Meetings and Conferences

Chair, Program Committee, Entomological Society of America - Eastern Branch (2017 and 2018 Annual Meetings).

#### IV.B.9. Other Non-University Committees, Memberships, Panels, etc.

##### *Professional Memberships*

Society of Island Biology (July 2016 - present).

Association for Tropical Biology & Conservation (2014 - 2020).

Entomological Society of Washington (2007 - present).

Entomological Society of America (2007 - present).

Ecological Society of America (1999 - present).

Phi Beta Kappa (1993 - present).

Sigma Xi, the Scientific Research Society (1993 - present).

#### *Other Activities for Professional Organizations*

Moderator, Student Paper Competition, Annual Meeting of the Entomological Society of America, Vancouver, BC (Nov 2022).

Moderator, Student Paper Competition, Annual Meeting of the Entomological Society of America, Denver, CO (Nov 2021).

Moderator, Student Paper Competition, Annual Meeting of the Entomological Society of America, St. Louis, MO (Nov 2019).

Judge, Student Poster Competition, Annual Meeting of the Entomological Society of America - Eastern Branch, Annapolis, MD (March 2018).

Moderator, Student Paper Competition, Annual Meeting of the Entomological Society of America, Denver, CO (Nov 2017).

Judge, Student Poster Competition, Annual Meeting of the Entomological Society of America - Eastern Branch, Newport, RI (March 2017).

Presider, Contributed oral session, Annual Meeting of the Ecological Society (numerous, 2004 – 2019).

Member, Outstanding Student Paper Award Committee, Organization for Tropical Studies (2011 – 2012).

#### IV.B.10. Other

##### *External Evaluator for Advancement, Promotion & Tenure*

Michigan State University, Department of Integrative Biology (2023).

Kent State University, Biological Sciences (2022).

Washington State University-Vancouver, School of Biological Sciences (2020).

Smithsonian Institution, National Zoological Park (2018).

Virginia Commonwealth University, Department of Biology (2016).

University of Hawaii, College of Tropical Agriculture and Human Resources (2010).

Smithsonian Institution, National Zoological Park (2009).

#### IV.C. External Service and Consulting

##### IV.C.2. International Activities

Delegate from University of Maryland, Assembly of Delegates, Organization for Tropical Studies, Costa Rica (2008 - 2017).

Invited workshop participant and instructor, Pacific Biodiversity Transect (PABITRA) arthropod collection and analysis for biodiversity inventory and ecological studies. Western Samoa and American Samoa (2003), Fiji (2002).

##### IV.C.5 Consultancies

Content reviewer for American Journal Experts, a consultancy to improve pre-submission manuscripts for the scientific technical literature (2011 – 2012).

#### IV.D. Non-Research Presentations

##### IV.D.1. Outreach Presentations

Gruner D.S., "NSF Graduate Research Fellowship Program," UMD AGNR Summer Opportunities in Agricultural Research and the Environment (SOARE), Lunch & Learn (Jun 7, 2023).

Gruner D.S., "NSF Graduate Research Fellowship Program," UMD Chapter, Society for Advancing Chicanos/Hispanics & Native American in Science (SACNAS) (May 12, 2023).

Gruner D.S., "NSF Graduate Research Fellowship Program," UMD AGNR Summer Opportunities in Agricultural Research and the Environment (SOARE), Lunch & Learn (Jun 10, 2022).

Gruner D.S., "NSF Graduate Research Fellowship Program," Virtual UMD Grad Fair & Open House (Sep 23, 2021).

Gruner D.S., "NSF Graduate Research Fellowship Program," Virtual UMD Grad Fair & Open House (Sep 24, 2020).

Gruner D.S., "NSF Research and Training Opportunities," All Scientist Meeting, Michigan State University Kellogg Biological Station, Hickory Corners, MI (Feb 12, 2020).

Gruner D.S., Dittmar K., Abbot, D.K., "Lunch & Learn: Funding opportunities at the National Science Foundation," Annual Meeting of the Entomological Society of America, St. Louis, MO (Nov 18, 2019).

Gruner D.S. et al., "National Science Foundation Opportunities for Undergraduates, Graduate Students, and Postdocs in the Biological, Geological, Mathematical, and Physical Sciences," SACNAS National Diversity in STEM Conference, Honolulu, HI (Nov 1, 2019).

Gruner D.S., "NSF Research and Training Opportunities," National Socio-Environmental Synthesis Center (SESYNC), Annapolis, MD (Sep 19, 2019).

Binford, M. and D.S. Gruner, "Webinar: Macrosystems Biology and NEON-Enabled Science: Research on Biological Systems at Regional-to-Continental Scales," National Science Foundation, Arlington, VA (Feb 25, 2019).

Gruner D.S., Elekonich M., and Nufio C., "Lunch & Learn: Funding opportunities at the National Science Foundation," Annual Meeting of the Entomological Society of America, Vancouver, Canada (Nov 13, 2018).

Gruner D.S. and K. Dittmar, "Navigating NSF: Opportunities for Funding Research and Training," Annual Meeting of the Entomological Society of America, Systematics, Evolution, and Biodiversity Section, Vancouver, CA (Nov 12, 2018).

Gruner D.S. and R.R. Lewis, "Tillage and soil biodiversity management," Upper Marlboro Crops Twilight Tour, Upper Marlboro, MD (Aug 2011).

Gruner D.S. and R.R. Lewis, "Tillage and soil biodiversity management," 13<sup>th</sup> Annual Maryland Commodity Classic (Jul 29, 2011).

Gruner D.S. and R.R. Lewis, "Tillage and soil biodiversity management," Upper Marlboro Crops Twilight Tour, Upper Marlboro, MD (Aug 2010).

#### IV.D.2. Other

Panelist, "NSF Postdoctoral Research Fellowships in Biology, Writing Workshop," University of Maryland (Oct 13, 2022; Sep 14, 2023).

Panelist, "Graduate Research Fellowship Program – Mock Panel," Biological Sciences Graduate Program, University of Maryland (Oct 6, 2022).

Panelist, "Large Lecture Engagement Panel," Teaching & Learning Transformation Center, University of Maryland (Oct 26, 2021).

Panelist, "Graduate Research Fellowship Program – Mock Panel," Biological Sciences Graduate Program, University of Maryland (Oct 14, 2020).

Interactive presentation on insects and biodiversity, Montgomery County 4H Lucky Clovers Club, Gaithersburg, MD (2011).

Interactive presentation on insects and biodiversity, Herbert Hoover Middle School, Potomac, MD (2011).

Panelist, "How to get funded as a grad student: a panel discussion," Biological Sciences Graduate Program, University of Maryland (Fall 2010).

Panelist, "Experiences and approaches for dealing with small hive beetle," Maryland State Beekeepers' Association Spring Meeting, College Park, MD (2010).

Hands-on display of insects and arachnids, Children's Day at Brookside Gardens, Wheaton, MD (2009).

Maryland Day Insect Petting Zoo Event, Department of Entomology (2008 - 2013).

#### IV.E. Media Contributions

##### IV.E.2. Internet

Website content: <https://www.grunerlab.org/> August 2021 launch; Impact through August 2023: 7,160 page views, 3,606 unique visitors

Twitter outreach: @GrunerDaniel professional handle - 1,222 followers (May 2022)

#### IV.E.2. TV

2. *Deutsche Welle*. Swarms of cicadas emerge in US after 17-year wait. (Pohl, I., 05/22/2021). Retrieved from <https://www.dw.com/en/swarms-of-cicadas-emerge-in-us-after-17-year-wait/av-57628018>
1. *WUSA9*. Get ready: some cicadas are already emerging from the ground in the DMV area. (Henry, J., 04/28/2021). Retrieved from <https://www.wusa9.com/article/news/local/maryland/some-cicadas-already-emerging-from-ground-in-dmv-area/65-87891a3c-1ec5-4155-a231-e5eb008a6a10> (interview with BSCI 361 students)

#### IV.E.3. Radio

3. *Morning Edition, National Public Radio*. Asian lady beetles are swarming parts of the Northeast and Western U.S. (Green, J., 11/07/2021). Retrieved from <https://www.npr.org/2021/12/07/1062016970/asian-lady-beetles-are-swarming-parts-of-the-northeast-and-western-u-s>
2. *Radio Canada*. Des cigales par milliards dans l'est des États-Unis. (LeBlanc, É., 05/16/2021). Retrieved from <https://ici.radio-canada.ca/recit-numerique/2460/cigales-cicada-milliards-nichee-etats-unis>
1. *All Things Considered, National Public Radio*. Florida's mangroves move north as temperatures rise. (Joyce, C., 12/31/2013). Retrieved from <https://www.npr.org/2013/12/31/258699479/floridas-mangroves-move-north-as-temperatures-rise>

#### IV.E.4. Digital Media

26. *Maryland Today*. Restoring island-ocean connections creates broad benefits, study finds. (Jiang, G., 12/06/2022). Retrieved from <https://today.umd.edu/restoring-island-ocean-connections-creates-broad-benefits-study-finds>
25. *Scripps Institute of Oceanography*. New research shows people, wildlife, and marine environment benefit when island-ocean connections are restored. (Wood L.F., 12/05/2022). Retrieved from <https://bit.ly/3UJbGGY>
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