

## RUTH ARABELLE HUFBAUER

Department of Bioagricultural Sciences and Pest Management  
Graduate Degree Program in Ecology  
Colorado State University, Fort Collins, CO 80523-1177  
*December 2018 update*

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### EDUCATION

**Ph.D. Entomology, Cornell University, 1999.** The ecology and evolution of an aphid-parasitoid association: patterns in resistance and virulence. Chairs: Sara Via and Richard B. Root

**B.A. University of California, Berkeley, 1991.** Development studies.

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### PROFESSIONAL EXPERIENCE

2012-Present Full Professor, Colorado State University, Department of Bioagricultural Science and Pest Management (BSPM)

2016-2017 Agropolis Foundation, Senior visiting scientist, Montpellier, France

2006-2012 Associate Professor, Colorado State University, BSPM

2009-2010 Fulbright research fellow

2009-2010 National Institute of Agricultural Research (INRA) guest scientist.

2002-2008 Program for Interdisciplinary Mathematics, Ecology, and Statistics (PRIMES) NSF IGERT faculty participant

2001-present Graduate Degree Program in Ecology (GDPE) faculty member

2000-2006 Assistant Professor, Colorado State University, BSPM

1999-2000 Postdoctoral researcher with Dr. Richard Harrison, Cornell University. Population genetics of a parasitoid wasp.

1999 Postdoctoral research associate with Drs. John Losey and Linda Rayor, Cornell University. Effects of Bt corn on monarchs.

1992-1993 Laboratory Assistant II for Dr. Stephen Welter, Department of Entomology, UC Berkeley. Population dynamics and dispersal an herbivorous mite.

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### FELLOWSHIPS, AWARDS, PRESS

2017 **Diversity Impact Award** (\$1000)

2016 Charles N. Shepardson/NACTA **Meritorious Teaching Award**  
Agropolis Foundation **Senior Visiting Scientist** (20,000 euros)  
LabEX CeMEB Guest scientist (12,000 euros)

2015 **The People behind the Science** – interview and podcast, episode 238  
(<http://www.peoplebehindthescience.com/dr-ruth-hufbauer/>)  
**Interviewed for Science** magazine for article on **bias in peer review**  
(<http://news.sciencemag.org/funding/2015/02/little-bias-peer-review-scores-can-translate-big-money-simulation-finds>)  
**Inclusive Excellence Fellow** - CSU

2009 **Fulbright Fellowship** (Franco-American commission)

2001 USDA NRI New Investigator award

1998 Whittacker Outstanding Presenter Award

- 1996 NSF Doctoral Dissertation Improvement Award
- 1993 National Science Foundation Graduate Research Fellowship (GRFP)
- 1988 Phi Beta Kappa, University of California, Berkeley

Awards to students and postdocs under my direct supervision

- 2017 Sustainability Leadership Fellow, School of Global Environmental Sustainability, Colorado State University – Stacy Endriss
- 2016 Vice President for Research Fellow, Colorado State University – Stacy Endriss
- 2015 NSF Postdoctoral Research Fellowship to Kathryn Turner  
NSF Dissertation Improvement Grant to Stacy Endriss  
Ecology and Management of Alien Plant Invasion International Conference – 1st place student poster to Meagan Vahsen
- 2014 NSF Graduate Research Fellowship to Michael Koontz  
USDA Postdoctoral Fellowship to Ellyn Bitume  
CSU Programs for Research and Scholarly Excellence Fellowship to Meagan Vahsen
- 2011 Swiss NSF Postdoctoral Fellowship to Sabrina Kumschick
- 2006 EPA STAR Fellowship to Amy Blair

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**PROFESSIONAL DEVELOPMENT**

- 2018 Culturally Responsive Teaching isn't "just good teaching" – Diversity Symposium workshop
- 2017 Cultivating Inclusion Matters - Dr. Brenda J. Allen, Vice Chancellor for Diversity and Inclusion, University of Colorado  
Inclusive Classroom Workshop
- 2015 Faculty Institute for Inclusive Excellence  
NCORE - National Conference on Race and Ethnicity in Higher Education
- 2014 FastTrack Leadership Intensive, North Carolina

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**PUBLICATIONS**

- \*graduate students and postdocs currently or formerly directly under my supervision
- ¥ undergraduate students
- † graduate students in other labs

**2019**

- 89. Hopper, JV, KF McCue, PD Pratt, P Duchesne, ED Grosholz, RA **Hufbauer**. **2019**. Into the weeds: matching importation history to genetic consequences and pathways in two widely used biological control agents. **Evolutionary Applications**. *In press*.
- 88. Endriss\*, S, M Vahsen\*, E Bitume\*, J Monroe, K Turner\*, AP Norton, RA **Hufbauer**. **2019**. The importance of growing up: juvenile environment influences dispersal of individuals and their neighbors. **Ecology Letters**. 22:45-55. <https://doi.org/10.1111/ele.13166>

**2018**

- 87. Szűcs\*, M, P Salerno, B. Teller, U. Schaffner, J. Littlefield, RA **Hufbauer**. **2018**. The effects of agent hybridization on the efficacy of biological control of tansy ragwort at high elevations. **Evolutionary Applications**. <https://doi.org/10.1111/eva.12726>

86. **Hufbauer RA 2018.** Book review: Biological invasions and the homogenization of life on Earth. **Current Biology.** 28, R803–R825
85. Endriss\*, SB, C Alba\*, AP Norton, P Pyšek, RA **Hufbauer. 2018.** Breakdown of a geographic cline explains high performance of introduced populations of a weedy invader. **Journal of Ecology.** 106:699-713 DOI: 10.1111/1365-2745.12845
84. Koontz, M, M Oldfather, BA Melbourne, RA **Hufbauer. 2018.** Parsing propagule pressure: Number, not size, of introductions drives colonization success in a novel environment. **Ecology and Evolution.** 8:8043-8054
83. Vahsen, ML, K Shea, CL Hovis, BJ Teller, RA **Hufbauer. 2018.** Prior adaptation, diversity, and introduction frequency mediate the positive relationship between propagule pressure and establishment success. **Biological Invasions.** 20:2451–2459 DOI: 10.1007/s10530-018-1713-4

## 2017

82. Szűcs, M, M Vahsen, C Hoover, C Weiss-Lehman, BA Melbourne and RA **Hufbauer. 2017.** Rapid evolution facilitates the growth and spread of colonizing populations. **PNAS** 114:13501-13506.
81. Facon, B, A Estoup, RA **Hufbauer, J Foucaud, A Tayeh. 2017.** Mating status influences cold tolerance and subsequent reproduction in the invasive ladybird *Harmonia axyridis*. **Frontiers in Ecology and Evolution.** DOI 10.3389/fevo.2017.00108
80. Endriss\*, SB, C Alba, AP Norton, P Pyšek, RA **Hufbauer. 2017.** Breakdown of a geographic cline explains high performance of introduced populations of a weedy invader. **Journal of Ecology.** DOI 10.1111/1365-2745.12845
79. Bitume\*, EV, D Bean, AR Stahlke, RA **Hufbauer. 2017.** Hybridization affects life-history traits and host specificity in *Diorhabda* spp. **Biological Control** 111:45-52. DOI: 10.1016/j.biocontrol.2017.05.009
78. Stewart<sup>‡</sup>, GS, MR Morris<sup>‡</sup>, AB Genis<sup>‡</sup>, M Szűcs\*, BA Melbourne, SJ Tavener, RA **Hufbauer. 2017.** The power of evolutionary rescue is constrained by genetic load. **Evolutionary Applications.** 10:731-741 DOI: 10.1111/eva.12489
77. Szűcs\*, M, BA Melbourne, T Tuff<sup>†</sup>, C Weiss-Lehman<sup>†</sup>, RA **Hufbauer. 2017.** Genetic and demographic founder effects have long-term fitness consequences for colonizing populations. **Ecology Letters.** 8:14303 DOI: 10.1038/ncomms14303
76. Fraimout, A, V Debat, S Fellous, RA **Hufbauer, J Foucaud, P Pudlo, M-M Marin, DK Price, J Cattel, X Chen, M Deprá, PF Duyck, C Guedot, G Loeb, M Kenis, MT Kimura, I Martinez-Sañudo, M Pascual, MP Richmond, P Shearer, N Singh, K Tamura, A Xuéreb, J Zhang, A Loiseau, A Estoup. 2017.** Deciphering the routes of invasion of *Drosophila suzukii* by means of ABC random forest. **Molecular Biology and Evolution.** 34:980-996.
75. Weiss-Lehman<sup>†</sup>, C, RA **Hufbauer, BA Melbourne. 2017.** Rapid trait evolution drives increased speed and variance in experimental range expansions. **Nature Communications.** 8:14303 | DOI: 10.1038/ncomms14303
74. Fettig\*, CE, RA **Hufbauer. 2017.** Reproductive strategy, performance and population dynamics of the introduced weed black henbane (*Hyoscyamus niger*). **Weed Science.** 65:83-96.

73. Rogalski†, M, C Gowler†, C Shaw, RA **Hufbauer**, M Duffy. **2017**. Human drivers of ecological and evolutionary dynamics in emerging and disappearing infectious disease systems. **Philosophical Transactions of the Royal Society B**. 372: 20160043
72. **Hufbauer**, RA. **2017**. In focus: Admixture is a driver rather than a passenger in experimental invasions. **Journal of Animal Ecology**. doi: 10.1111/1365-2656.12600

## 2016

71. Estoup, A, V Ravigné, RA **Hufbauer**, R Vitalis, M Gautier, B Facon. **2016**. Is there a genetic paradox of biological invasions? **Annual Review of Ecology, Evolution and Systematics**. 47:51-72.
70. Lucy, FE, H Roy, A Simpson, JT Carlton, JM Hanson, K Magellan, ML Campbell, MJ Costello, S Pagad, CL Hewitt, J McDonald, P Cassey, SM Thomaz, S Katsanevakis, A Zenetos, E Tricarico, A Boggero, QJ Groom, T Adriaens, S Vanderhoeven, ME Torchin, RA **Hufbauer**, P Fuller, MR Carman, DB Conn, JRS. Vitule, J Canning-Clode, BS Galil, H Ojaveer, SA Bailey, TW Therriault, RClaudi, A Gazda, JTA Dick, J Caffrey, A Witt, M Kenis, M Lehtiniemi, H Helmisaari, VE Panov **2016**. INVASIVESNET towards an International Association for Open Knowledge on Invasive Alien Species. **Management of Biological Invasions** 7:131-139 doi: 10.3391/mbi.2016.7.2.01

## 2015

69. **Hufbauer**, RA, M Szűcs\*, E Kasyon‡, C Youngberg‡, M Koontz\*, C Richards, T Tuff†, BA Melbourne. **2015**. Reply to Wootton and Pfister: The search for general context should include synthesis with laboratory model systems. **PNAS** 112: E5904. DOI 10.1073/pnas.151721011
68. Drew, JA, KA Amatangelo, RA **Hufbauer**. **2015**. Quantifying the human impacts on Papua New Guinea reef fish communities across space and time. **PLoS One**. 10(10): e0140682
67. **Hufbauer**, RA, M Szűcs\*, E Kasyon‡, C Youngberg‡, M Koontz\*, C Richards, T Tuff†, BA Melbourne. **2015**. Three dimensions of rescue can avert extinction in a changing environment. **PNAS** 112: 10557–10562. DOI: 10.1073/pnas.1504732112
66. Tayeh, A, RA **Hufbauer**, A Estoup, V Ravigné, Léa Frachon, B Facon. **2015**. Biological invasion and biological control select for different life histories. **Nature Communications**. 6:7268
65. Barney, JN, DR Tekiel, MN Barrios-Garcia, RD Dimarco, RA **Hufbauer**, P Leipzig-Scott\*, MA Nuñez, A Pauchard, P Pyšek, M Vítková, BD Maxwell. **2015**. Global Invader Impact Network (GIIN): towards standardized evaluation of the ecological impacts of invasive plants. **Ecology and Evolution**. 5:2878-2889.
64. Migeon, A, P Auger, R **Hufbauer**, M Navajas. **2015**. Genetic traits leading to invasion: plasticity in cold hardiness explains current distribution of an invasive agricultural pest, *Tetranychus evansi* (Acari: Tetranychidae). **Biological invasions**. DOI 10.1007/s10530-015-0873-8

## 2014

63. Szűcs\* M, B Melbourne, T Tuff†, RA **Hufbauer**. **2014**. The roles of demography and genetics in the early stages of colonization. **Proceedings of the Royal Society B** 281: 20141073. DOI: 10.1098/rspb.2014.1073

62. Turner<sup>†</sup>, KG, RA **Hufbauer**, LH Rieseberg. 2014. Rapid evolution of an invasive weed. **New Phytologist** 202:309-321.
61. Alba\* C, MD Bowers, D Blumenthal, RA **Hufbauer**. 2014. Chemical and mechanical defenses vary among maternal lines and leaf ages in *Verbascum thapsus* L. (Scrophulariaceae) and reduce palatability to a generalist insect. **PloS One** 9 (8): e104889.
60. Colautti, RI, SJ Franks, RA **Hufbauer**, PM Kotanen, M Torchin, JE Byers, P Pysek, O Bossdorf. 2014. The Global Garlic Mustard Field Survey: challenges and opportunities of a unique, large-scale collaboration for invasion biology. **Neobiota** 21:29-47.
59. Fettig\* CE, RA **Hufbauer**. 2014. Introduced N. American black henbane (*Hyoscyamus niger*) populations are biennial. **Invasive Plant Science and Management** DOI: 10.1614/IPSM-D-14-00015.1

## 2013

58. **Hufbauer**, RA, A Rutschmann<sup>†</sup>, B Serrate, H Vermeil de Conchard, B Facon. 2013. Role of propagule pressure in colonization success: disentangling the relative importance of demographic, genetic and habitat effects. **Journal of Evolutionary Biology**. <sup>†</sup>Authors contributed equally to this work. 26:1691–1699. **F1000 recommended reading**
57. Parker, JD, ME Torchin, RA **Hufbauer**, NP Lemoine<sup>†</sup>, C Alba<sup>†</sup>, DM Blumenthal, O Bossdorf, JE Byers, AM Dunn, RW Heckman<sup>†</sup>, M Hejda<sup>†</sup>, V Jarošík, AR Kanarek, LB Martin, SE Perkins, P Pyšek, K Schierenbeck, C Schlöder, R van Klinken, KJ Vaughn<sup>†</sup>, W Williams<sup>†</sup>, LM Wolfe. 2013. Do invasive species perform better in their new ranges? **Ecology** 94:985-994. **F1000 prime recommended reading**
56. Kumschick\* S, RA **Hufbauer** C Alba\*, DM Blumenthal. Evolution of fast-growing and more resistant phenotypes in introduced common mullein (*Verbascum thapsus*). **Journal of Ecology** 101:378-387.
55. Wilbur\*, HD, C Alba\*, AP Norton, RA **Hufbauer**. 2013. The effect of insect herbivory on the growth and fitness of introduced *Verbascum thapsus*. **Neobiota**. 19:21-44.
54. Gaskin, JF, RA **Hufbauer**, SM Bogdanowicz. 2013. Microsatellite markers for Russian olive (*Elaeagnus angustifolia*; Elaeagnaceae). **Applications in Plant Sciences**. 1:1300013. doi: <http://dx.doi.org/10.3732/apps.1300013>
53. Zelikova TJ, RA **Hufbauer**, SC Reed, T Wertin, C Fettig\*, and J Belnap. Eco-evolutionary responses of *Bromus tectorum* to climate change: Implications for biological invasions. **Ecology and Evolution**. 3:1374-1387.
52. Tayeh<sup>†</sup>, A, A Estoup, RA **Hufbauer**, V. Ravigne, I Goryacheva, IA Zakharov, E Lombaert, B Facon. 2013. Investigating the genetic load of an emblematic invasive species: The case of the invasive harlequin ladybird *Harmonia axyridis*. **Ecology and Evolution** 3:864-871.

## 2012 and earlier

51. Dunn, AM, ME Torchin, MJ Hatcher, PM Kotanen, DM Blumenthal, JE Byers, CAC Coon, VM Frankel, RD Holt, RA **Hufbauer**, AR Kanarek, KA Schierenbeck, LM Wolfe, SE Perkins. 2012. Indirect effects of parasites on invasions. **Functional Ecology**. 26:1262-1274.

50. Alba\* C, MD Bowers, RA **Hufbauer**. **2012**. Combining optimal defense theory and the evolutionary dilemma model to refine predictions regarding plant invasion. **Ecology** 93:1912-1921.
49. Alba\* C, RA **Hufbauer**. **2012**. A biogeographic comparison of *Verbascum thapsus* ecology reveals differences in performance, herbivory, and surrounding plant community. **Biological Invasions**. 14:2505-2518.
48. Roderick GK, RA **Hufbauer** and M Navajas. **2012**. Evolution and biological control. **Evolutionary Applications**. 5:410-423
47. Fauvergue, X, E Vercken, T. Malausa, RA **Hufbauer**. **2012**. The biology of small introduced populations, with special reference to biological control. **Evolutionary Applications** 5:424-443.
46. Wilbur\*, HD, RA **Hufbauer**. **2012**. Timing control efforts to limit seedset of common mullein (*Verbascum thapsus*). **Invasive Plant Science and Management**. 5:390-394
45. Blair\* AC and RA **Hufbauer**. **2012**. Hybridization and invasion: An experimental test with diffuse knapweed (*Centaurea diffusa* Lam.). **Evolutionary Applications**. 5:17-28.
44. **Hufbauer**, RA, B Facon, V. Ravigné, J Turgeon, J Foucaud<sup>†</sup>, CE Lee, O Rey, A Estoup. **2011**. Anthropogenically-induced adaptation to invade (AIAI: Contemporary adaptation to human-altered habitats within the native range can promote invasions. **Evolutionary Applications**. 5:89-101.
43. Kumschick S, C Alba\*, RA **Hufbauer**, W Nentwig. **2011**. Weak or strong invaders? A comparison of impact between the native and invaded ranges of mammals and birds alien to Europe. **Diversity and Distributions**. 17:663-672.
42. Facon B, RA **Hufbauer**, A. Tayeh<sup>†</sup>, A. Loiseau, E. Lombaert, R. Vitalis, T. Guillemaud, JG Lundgren, A. Estoup. **2011**. Inbreeding depression is purged in the invasive insect *Harmonia axyridis*. **Current Biology**. 21:424-427.
41. Gaskin JG, M-C Bon, MJW Cock, M Cristofaro, A De Biase, R De Clerk-Floate, CA Ellison, HL Hinz, RA **Hufbauer**, MH Julien, R Sforza. **2011**. Applying molecular-based approaches to classical biological control of weeds. **Biological Control**. 58:1-21.
40. Kühn I, et al. (editorial board). **2011**. Open minded and open access: introducing NeoBiota, a new peer-reviewed journal of biological invasions. **NeoBiota**. 9:1-12.
39. Alba\* C, RA **Hufbauer**, MD Bowers and DM Blumenthal. **2011**. Evolution of growth but not structural or chemical defense in *Verbascum thapsus* (common mullein) following introduction to North America. **Biological Invasions**. 13:2379-2389.
38. Rauth\* S, HL Hinz, E Geber, RA **Hufbauer**. **2011**. The benefits of pre-release population genetics: A case study using *Ceutorhynchus scrobicolis*, a candidate agent of garlic mustard, *Alliaria petiolata*. **Biological Control**. 56:65-75.
37. Blair\*, AC, and RA **Hufbauer**. **2010**. Hybridization and invasion: one of North America's most devastating invasive plants shows evidence for a history of hybridization. **Evolutionary Applications**. 3:40-51.

36. Bodo Slotta<sup>†</sup>, TA, ME Foley, S Chao, RA **Hufbauer**, DP Horvath. **2010**. Assessing genetic diversity of Canada thistle (*Cirsium arvense*) in North America with microsatellites. **Weed Science** 58:387- 394.
35. Rauth\* S, and RA **Hufbauer**. **2009**. PCR-RFLP assays for discerning three weevil stem feeders (*Ceutorhynchus* spp.) (Col.: Curculionidae) on garlic mustard (*Alliaria petiolata*). **Biocontrol Science and Technology**. 9:999-1005.
34. Duke SO, FE Dayan, J Bajsa, KM Meepagala, RA **Hufbauer** and AC Blair\*. **2009**. The case against (-)-catechin involvement in allelopathy of *Centaurea stoebe* (spotted knapweed). **Plant Signaling and Behavior**. 4:422-424.
33. Blair\* AC, and RA **Hufbauer**. **2009**. Geographic patterns of interpecific hybridization between spotted knapweed (*Centaurea stoebe stoebe*) and diffuse knapweed (*C. diffusa*). **Invasive Plant Science and Management**. 2:55-69.
32. Blair\* AC, LA Weston, SJ Nissen, GR Brunk, RA **Hufbauer**. **2009**. The importance of analytical techniques in allelopathy, with the reported allelochemical catechin as an example. **Biological Invasions**. 11:325-332.
31. **Hufbauer** RA. **2008**. Biological Invasions: Paradox lost and paradise gained. **Current Biology**. 18:R246-R247.
30. **Hufbauer**, RA and R Sforza. **2008** Multiple introductions of two invasive *Centaurea* taxa into North America. **Diversity and Distributions**. 14:252-261.
29. Marrs\* RA, R Sforza, RA **Hufbauer**. **2008**. Evidence for multiple introductions of *Centaurea stoebe micranthos* (spotted knapweed, Asteraceae) to North America. **Molecular Ecology**. 17:4197-4208.
28. Kao\* RH, CS Brown, RA **Hufbauer**. **2008**. High phenotypic and molecular variation in downy brome (*Bromus tectorum*). **Invasive Plant Science and Management**. 1:216-225.
27. Blair\* AC, U Schaffner, P Häfliger<sup>†</sup>, SK Meyer<sup>‡</sup>, RA **Hufbauer**. **2008**. How do biological control and hybridization affect enemy escape? **Biological Control**. 46:358-370.
26. Marrs\* RA, R Sforza, RA **Hufbauer**. **2008**. When invasion increases population genetic structure: A study with *Centaurea diffusa*. **Biological Invasions**. 10:561-572.
25. Steltzer, H, RA **Hufbauer**, JM Welker, M Casalis<sup>‡</sup>, PF Sullivan and R. Chimner. **2008**. Frequent sexual reproduction and high intraspecific variation in *Salix arctica*: implications for a terrestrial feedback to climate change in the High Arctic. **Journal of Geophysical Research – Biogeosciences**. 113:G03S10.
24. Lau<sup>†</sup>, JA, K. Puliafico<sup>†</sup>, M Schwarzlaender, JA Kopshever, H Steltzer, EP Jarvis<sup>‡</sup>, SY Strauss, and RA **Hufbauer**. **2008**. Experimental artifacts of activated carbon on plant growth complicate the inference of allelopathic effects. **New Phytologist**. 178:412-423.
23. Blumenthal, D and RA **Hufbauer**. **2007**. Genetic differences in size among 14 invasive plant species. **Ecology**. 88:2758-2765.
22. MacKinnon\*, DK, RA **Hufbauer**, AP Norton. **2007** Evaluating host use of an accidentally introduced herbivore on two invasive toadflaxes. **Biological Control**. 41:184-189.

21. Morris, WF, RA **Hufbauer**, AA Agrawal, JD Bever, GS Gilbert, JL Maron, CE Mitchell, IM Parker, AG Power, EW Seabloom, ME Torchin, DP Vázquez. 2007. Direct and interactive effects of enemies and mutualists on plant performance: a meta-analysis. **Ecology**. 88:1021-1029.
20. Mitchell, CE, AA Agrawal, JD Bever, GS Gilbert, RA **Hufbauer**, JN Klironomos, JL Maron, WF Morris, IM Parker, AG Power, EW Seabloom, ME Torchin, DP Vázquez. 2006. Biotic interaction and plant invasions. **Ecology Letters**. 9:726-740.
19. Blair\* AC, SJ Nissen, GR Brunk, RA **Hufbauer**. 2006. Lack of evidence for an ecological role of the putative allelochemical (+/-)-catechin in spotted knapweed invasion success. **Journal of Chemical Ecology**. 32:2327-2331.
18. Marrs\*, RA, RA **Hufbauer**, SM Bogdanowicz, R Sforza. 2006. Nine polymorphic microsatellite markers in *Centaurea stoebe* L. [subspecies *C. s. stoebe* and *C. s. micranthos* (S. G. Gmelin ex Gugler) Hayek] and *C. diffusa* Lam (Asteraceae). **Molecular Ecology Notes**. 6:897-899.
17. Blair\*, AC, BG Hanson, GR Brunk, RA Marrs, P Westra, SJ Nissen, RA **Hufbauer**. 2005. New techniques and findings in the study of a candidate allelochemical implicated in invasion success. **Ecology Letters**. 8: 1039-1047.
16. **Hufbauer**, RA and GK Roderick. 2005. Microevolution in biological control: mechanisms, patterns and processes. **Biological Control**. 35:227-239.
15. MacKinnon\*, DK, RA **Hufbauer**, AP Norton. 2005. Host-plant preference of an inadvertently introduced biological control agent. For: **Entomologia Experimentalis et Applicata**. 116: 183-189.
14. Lloyd\*, CJ, RA **Hufbauer**, AK Jackson, SJ Nissen, and AP Norton. 2005. Pre- and post-introduction patterns in neutral genetic diversity in the leafy spurge gall midge. **Biological Control** 33:153-164.
13. **Hufbauer**, RA, SM Bogdanowicz, and RG Harrison. 2004. The population genetics of a biological control introduction: microsatellite and mtDNA variation in native and introduced populations of *Aphidius ervi*, a parasitoid wasp. **Molecular Ecology**. 13:337-348.
12. Lloyd\*, CJ, AP Norton, RA **Hufbauer**, SM Bogdanowicz 2004. Microsatellites isolated from the gall midge *Spurgia capitigena* (Diptera: Cecidomyiidae), a biological control agent of leafy spurge. **Molecular Ecology Notes** 4: 605-607.
11. **Hufbauer**, RA. 2004. Observations of sagebrush gall morphology and emergence of *Rhopalomyia pomum* (Diptera: Cecidomyiidae) and its parasitoids. **Western North American Naturalist**. 64(3): 324-330.
10. **Hufbauer**, RA 2004. Population and ecological genetics of invasions: can we link neutral loci to ecology and management? **Weed Technology** 18:1522-1527.
9. Losey, JE, RA **Hufbauer**, RG Hartzler. 2003. Enumerating lepidopteran species associated with maize as a first step in risk assessment. **Environmental Biosafety Research**. 2:247-263.
8. **Hufbauer**, RA and RB Root. 2002. Interactive effects of different types of herbivore damage: *Trirhabda* beetle larvae and *Philaenus* spittlebugs on goldenrod (*Solidago altissima*). **American Midlands Naturalist**. 147:204-213.



7. Bais, HP, TS Walker, FR Stermitz, RA **Hufbauer**, and JM Vivanco\*. **2002**. Enantiomeric dependent phytotoxic and antimicrobial activity of ( $\pm$ )-catechin; a rhizosecreted racemic mixture from *Centaurea maculosa* (spotted knapweed). **Plant Physiology**. 128:1173-1179.  
\*Corresponding author **RETRACTED**.
6. **Hufbauer**, RA. **2002**. Aphid resistance and parasitoid virulence among host races of the pea aphid: evidence for evolution following a biological control introduction. **Ecological Applications**. 12(1) 66-78.
5. **Hufbauer**, RA. **2001**. Aphid population dynamics: Does resistance to parasitism influence population size? **Ecological Entomology**. 27:25-32 .
4. **Hufbauer**, RA, SM Bogdanowicz, L Peres<sup>‡</sup> and RG Harrison. **2001**. Isolation and characterization of microsatellites in *Aphidius ervi* (Hymenoptera: Braconidae) and their applicability to related species. **Molecular Ecology Notes**. 1:197-199.
3. Tschenn, J, JE Losey, L Hansen, JJ Obrycki, **R Hufbauer**. **2001**. Effects of corn plants and corn pollen on monarch butterfly oviposition behavior. **Environmental Entomology**. 30: 495-500.
2. **Hufbauer**, RA. **2001**. Pea aphid-parasitoid interactions: Have parasitoids adapted to differential resistance? **Ecology**. 82(3):717-725.
1. **Hufbauer**, RA and S Via. **1999**. Evolution of an aphid-parasitoid association: variation in resistance to parasitism among aphid populations specialized on different plants. **Evolution**. 53:1435-1445.

#### **In review or revision**

- Williams, JL, RA Hufbauer, TEX Miller. How evolution modifies the variability of range expansion. *In preparation for* **TREE**
- Schulz, AN, AM Mech, CR Allen, MP Ayres, KJK Gandhi, J Gurevitch, MP Havill, DA Herms, RA **Hufbauer**, AM Liebhold, KF Raffa, MJ Raupp, KA Thomas, PC Tombin, TD Marsico. Assessing expert assessment: Impacts of non-native insects on North American conifers. *In revision for* **NeoBiota**
- Mech, AM, KA Tomas, TD Marsico, DA Herms, CR Allen, MP Ayres, KJK Gandhi, J Furevitch, NP Havill, RA **Hufbauer**, AM Liebhold, KF Raffa, AN Schulz, DR Uden, PC Tobin. Evolutionary history predicts the impact of non-native herbivorous insects in North American conifers. *In revision for* **Nature**
- SzűcsM, E Vercken, EV Bitume, RA Hufbauer. The implications of rapid eco-evolutionary dynamics for biological control. *In review at* **Entomologia Experiemntalis et Applicata**
- Weiss-Lehman, C, S Tittes, NC Kane, RA Hufbauer, BA Melbourne. Experimental evidence for the role of gene surfing in range expansions over short time scales. *Decision of Reject with invitation to revise* **Proceedings of the Royal Society of London**.
- Gaskin, JF, SM Bogdanowicz, KR Guilbault, RA Hufbauer, JA Andrés, U Schaffner, P Weyl, L Williams III Finding the extremes of genetic diversity in an invasion to assist biological control management. *Decision of Major Revision* **Invasive Plant Science and Management**

**PEER REVIEWED PROCEEDINGS**

**Hufbauer**, RA and DK MacKinnon\*. **2008**. Population structure of an inadvertently introduced biological control agent of toadflaxes: *Brachyterolus pulicarius* in North America. In Proceedings of the XII International Symposium on Biological Control of Weeds (eds Julien, M.H., Sforza, R., Bon, M.C., Evans, H.C., Hatcher, P.E., Hinz, H.L. & Rector, B.G.), pp. 418-421. CAB International Wallingford, UK.

**Hufbauer**, RA, RA Marrs\*, AK Jackson, R Sforza, HP Bais, JM Vivanco and SE Carney. **2004**. Population structure, ploidy levels and allelopathy of spotted and diffuse knapweed Pp. 121-126 in North America and Eurasia. Proceedings of the XI International Symposium on Biological Control of Weeds, JM Cullen, DT Briese, DJ Kriticos, WM Lonsdale, L Morin, JK Scott eds. CSIRO Entomology, Canberra, Australia.

McClay, AS, MD Crisp, HC Evans, T. Heard, **RA Hufbauer**, T-K Qin and R. Shaw. **2004**. Centres of origin: do they exist, can we identify them, does it matter? Pp. 619-620 in Proceedings of the XI International Symposium on Biological Control of Weeds, JM Cullen, DT Briese, DJ Kriticos, WM Lonsdale, L Morin, JK Scott eds. CSIRO Entomology, Canberra, Australia.

**REFEREED CHAPTERS IN BOOKS AND ENCYCLOPEDIAS**

**Hufbauer**, RA and ME Torchin. **2007**. Integrating Ecological and Evolutionary Theory of Biological Invasions. Pp. 79-96 in Biological Invasions: Ecological Studies, Vol 193. Springer-Verlag Berlin Heidelberg.

Losey, JE, JJ Obrycki, and RA **Hufbauer**. **2004**. Biosafety Considerations For Transgenic Insecticidal Plants: Non-Target Herbivores, Detritivores, and Pollinators. Pp. 153-155 in Encyclopedia of Plant & Crop Science. Marcel Dekker, Inc. New York.

Losey, JE, JJ Obrycki and RA **Hufbauer**. **2004**. Biosafety Considerations For Transgenic Insecticidal Plants: Non-Target Predators and Parasitoids. Pp. 156-159 in Encyclopedia of Plant & Crop Science. Marcel Dekker, Inc. New York.

Losey, JE, JJ Obrycki, and RA **Hufbauer**. **2001**. Impacts of genetically-engineered crops on non-target herbivores: Bt-corn and monarch butterflies as a case study. In D. K. Letourneau and B. E. Burrows eds. Genetically Engineered Organisms: Assessing Environmental and Human Health Effects. Pp. 143-166.

**PROFESSIONAL AFFILIATIONS**

Ecological Society of America  
Entomology Society of America  
Society for the Study of Evolution

**RESEARCH GRANTS AWARDED**

	<b>Amount</b>
Total in external funding	2.89 million
2018 USGS: Direct and indirect effects of an invader on shrubs and birds	49,617

2017	<b>USDA NIFA:</b> The role of eco-evolutionary dynamics in an expanding biological control agent co-PI Ellyn Bitume	474,766
2015	Dissertation Research: Exploiting seasonality and differences in herbivory to create a novel framework for testing optimal defense theory. <b>NSF DEB DDIG</b> co-PI: Andrew Norton, Stacy Endriss	19,239
2014	The role of genetic variation and hybridization in rapid evolution, local adaptation, and establishment of a biological control agent <b>USDA NIFA</b> Postdoctoral Fellowship to Ellyn Bitume	149,817
2014	The role of hybridization in biological control of weeds <b>USDA NIFA</b> Controlling Weedy and Invasive Plants, Co-PI: M Szucs	\$500,000
2012	REU Supplement: The roles of demography, genetics and stochasticity in colonization <b>NSF DEB REU</b>	\$7,598
2010	REU Supplement: The roles of demography, genetics and stochasticity in colonization <b>NSF DEB REU</b>	\$7,538
2009	Collaborative Research: The roles of demography, genetics and stochasticity in colonization. <b>NSF DEB</b> , Co-PI: B Melbourne	\$451,766
2006	The role of interspecific hybridization in biological invasions: an experimental study with <i>Centaurea maculosa</i> and <i>C. diffusa</i> <b>NSF DEB DDIG</b> Co-PI: A Blair	\$11,951
	Integrating the ecology and evolution of invasions: a predictive framework and collaborative approach NSF DEB RCN CoPI Dr. Mark Torchin (Smithsonian Institute for Tropical Research)	\$500,000
2005	Hybridization and invasion: the interaction between novel variation and novel continents - a seed grant. <b>NSF DEB</b> CoPIs Drs. DM Blumenthal (USDA ARS) and U Schaffner (CABI Switzerland).	\$75,000
	The role of hybridization in biological invasions: A study with <i>Centaurea maculosa</i> and <i>C. diffusa</i> <b>Center for Invasive Pest Management</b>	\$4,884
	Origins, hybridization and allelopathy of diffuse and spotted knapweeds. <b>USDA NRI</b> . PI: RA Hufbauer. Co-PIs: SE Carney, JM Vivanco.	\$255,000
2001	The genetic and environmental basis for host-plant specificity in a biocontrol agent of toadflaxes. <b>USDA NRI</b> New Investigator Award. PI: RA Hufbauer. Co-PI: AP Norton.	\$160,516
	Genetics and hybridization of invasive <i>Centaurea</i> species. <b>Invasive Plant Species on Public and Private Land</b> , Colorado Experiment Station. PI: RA Hufbauer. Co-PI: SE Carney.	\$145,000
	Genetic character of knapweeds in Eurasia. <b>USDA ARS Cooperative Agreement</b> . PI: RA Hufbauer. Co-PI: SE Carney.	\$66,000

- 1997 The evolution of a host-parasitoid association: the importance of habitat, geography and history. **NSF Doctoral Dissertation Improvement Grant** co-PIs: RA Hufbauer, S Via, RB Root \$8,400
- Miscellaneous graduate research and travel grants (**Sigma Xi, Andrew Mellon**, etc. between 1994 and 1997). \$4,300

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## SELECTED PRESENTATIONS

- 2018 The potential role of rapid eco-evolutionary dynamics in biological control. Contributed presentation. International Symposium on the Biological Control of Weeds. Engelberg, Switzerland.
- Is evolution a driver or passenger of range expansions? Insights from experimental evolution. Contributed presentation. Evolution 2018, Montpellier, France .
- Eco-evolutionary dynamics of small populations in novel habitats: founding, persistence and spread. **Invited seminar.** University of Kaifeng, China.
- The role of adaptive and maladaptive evolution in biological control. Contributed presentation. Evolution and Genetics in Biological Control Symposium at the Frist International Congress of Biological Control, Beijing, China.
- Eco-evolutionary dynamics of small populations in novel habitats: extinction, persistence and spread. **Invited seminar.** McGill University, Montreal, Canada.
- 2017 Diversity and inclusion in academia. **Invited seminar.** University of Minnesota.
- Eco-evolutionary dynamics of small populations in novel habitats: extinction or persistence? **Invited seminar.** University of Minnesota.
- Is evolution a driver or passenger of biological invasions and range expansions? **Invited seminar.** Université Libre de Bruxelles.
- Small populations in novel habitats: extinction risk, genetic load and adaptation. **Invited seminar.** CIRAD, Reunion Island, France.
- Rôle de l'évolution dans la prolifération des espèces. **Invited seminar.** French Academy of Agricultural Sciences. Paris, France.
- Is evolution a driver or passenger of biological invasions? **Invited seminar.** Centre pour le biologie et gestion des populations. INRA, France.
- 2016 Eco-evolutionary dynamics of small populations in novel habitats. Invited Seminar. SEEM CEFE CNRS, Montpellier, France
- The Almost Flipped Classroom. Master Teacher Workshop Series, Colorado State University
- Small populations in novel habitats: extinction risk, inbreeding depression and adaptation. **Invited Seminar** University of Colorado Vet School, Buffalo re-introduction unit.
- The paradox of invasions: how do they do it? **Invited Public Lecture** E. Paul Catts Memorial Lecture hosted by **Washington** State University

- Small populations in novel habitats: extinction risk, inbreeding depression, and adaptation  
**Invited Seminar**. Washington State University
- Diversity in academia where we are, why it matters, and some paths forward. **Invited Seminar**, Departmental of Soil and Crop Sciences. **Colorado State University**
- Diversifying academia: (white) women and underrepresented minorities. **Invited Seminar**, Departmental of Biology. **Colorado State University**
- 2015 Small populations in novel habitats: extinction risk, inbreeding depression and adaptation: insights from a model system **Invited Seminar**, INRA, **Sophia-Antibes**, France
- Diversifying academia: (white) women and underrepresented minorities. Departmental seminar. Colorado State University
- Rescuing populations from extinction using genetics and demographic inputs: insights from a model system. **Invited seminar**. University of **Wyoming**.
- 2014 Running a grass roots network. **Invited talk**. **Cary Institute of Ecosystem Science**, NY.
- Rescuing populations from extinction using genetics and demographic inputs: insights from a model system. **Invited seminar**. University of **Toronto**.
- Rescuing populations from extinction using genetics and demographic inputs: insights from a model system. **Invited seminar**. University of **Denver**.
- 2013 So you want to found a population? A how-to guide. Invited **IGNITE CSU**.
- Genetic, demographic and evolutionary rescue. **Invited seminar**. University of **Arkansas**, Fayetteville.
- 2011 The consequences of inbreeding and propagule size for the founding of populations. RA Hufbauer, M Szucs, B Facon. International Symposium on the Biological Control of Weeds, 2011. Contributed talk.
- Inbreeding, outbreeding and biological invasions. RA Hufbauer. **Invited seminar**. University of **California, Davis**.
- Inbreeding depression and the purging of deleterious alleles: Consequences for population founding and biological invasions. RA Hufbauer, B Facon, A Estoup, M Szucs. **Invited seminar**. University of **Colorado, Boulder**
- 2010 My sabbatical year in France: inbreeding, invasions, and incredible wine. **Invited seminar**. **Colorado State University**
- A tale of two knapweeds on two continents: hybridization, invasion and plant-insect interactions. **Invited Seminar**, Bern, **Switzerland**.
- Hybridization, invasion and biological control: a tale of two knapweeds. **Invited seminar**, **Sophia, France**
- A tale of two knapweeds: exploring the consequences and causes of biological invasions. **Invited Seminar**, **Montpellier, France**
- 2009 Invasions as drivers of evolutionary change: the case of *Centaurea stoebe* and *C. diffusa*. Co-Authors RA Hufbauer, AC Blair, RA Marrs, R Sforza, European Society of Evolutionary Biology

- 2008 Hybridization and invasion: the interaction between novel variation and novel environments. Co-Authors RA Hufbauer and AC Blair. **Invited seminar**, University of **Kentucky**, Lexington.
- A tale of two knapweeds: population genetics reveal opposite effect of introduction. Co-authors RA Hufbauer, RA Marrs, and R Sforza. **Invited talk**. Neobiota conference, **Prague**.
- Spotted knapweed and the mystery of the missing weapons of mass destruction. Invited talk, organized oral session. Ecological Society of America annual meeting
- Hybridization and the invasions of diffuse and spotted knapweed. Co-author A.C. Blair. **Invited talk**. Invasive species in natural areas: A conference on impacts and management. Missoula **Montana**
- 2007 Population genetics of diffuse and spotted knapweed (*Centaurea diffusa* and *C. stoebe*). Contributed talk. XII International Symposium on the Biological Control of Weeds, La Grande Motte, **France**.
- Invasive knapweeds: Where are the weapons of mass destruction? **Invited seminar**. University of **Idaho**
- Host use by an inadvertently introduced insect herbivore of yellow and Dalmatian toadflax. **Invited seminar**. Universities of **Idaho and Washington** joint seminar
- 2006 Do knapweeds provide evidence for the novel weapons hypothesis? **Invited seminar**. University of **Maryland**
- Do knapweeds provide evidence for the novel weapons hypothesis? **Invited talk**. Western Conference on Biological Control (USDA Committee W1185). **Colorado**
- Direct and interactive effects of enemies and mutualists on plant performance: a meta-analysis. **Departmental seminar**. Co-author W. Morris. **Colorado** State University
- 2005 Trials, tribulations, and techniques for studying a candidate allelochemical of spotted knapweed. Contributed talk. Co-authors AC Blair, SJ Nissen, GR Brunk, BC Hanson, P Westra. Ecology Society of America Annual Meeting, Montreal.
- Evolutionary ecology of biological invasions and biological control. **Invited Seminar**. University of **California, Riverside**.
- 2004 Uncertainties and protocols related to evolution in biological control systems. **Invited symposium talk**, Science and decision making in biological control of weeds. Denver, **Colorado**
- The evolutionary ecology of species interactions and invasions. **Invited Seminar**. Department of Environmental Science Policy and Management, University of **California, Berkeley**.
- Relationships between native and introduced diffuse and spotted knapweed inferred from cpDNA sequences. Contributed talk. Western Society of Weed Science, Colorado Springs, CO.
- Population and ecological genetics of invasions and biological control. **Invited seminar**. **Colorado** State University

- 2003 Population and ecological genetics of invasions: can we link neutral loci to ecology and management? **Invited symposium talk**, Invasive Plants in Natural and Managed Systems, **Florida**
- Population structure, ploidy levels and allelopathy of native and introduced spotted and diffuse knapweed. Contributed talk. XI Int. Symp. on Biological Control of Weeds, Canberra, Australia. Co-authors: RA Marrs, AK Jackson, R Sforza, HP Bais, JM Vivanco and SE Carney
- Population genetic and molecular approaches to centers of origin. **Invited speaker & panel member**. XI Int. Symp. on Biological Control of Weeds, Canberra, **Australia**.
- 2002 Evolution in biological control: the basics and a brief review. Symposium opening and talk W1185, Biological Control in Pest Management Systems of Plants, Boulder CO
- Population and ecological genetics of biological control: effects of introductions and invasions on insect-parasitoid and plant-insect interactions. **Invited seminar**. Dept. of Entomology, University of **Wisconsin**
- Population structure and host use of *Brachyterolus pulicarius*, an inadvertently introduced biological control agent of toadflaxes. International Organization for Biological Control Conference on The Role of Genetics and Evolution in Biological Control, Montpellier France.
- Population and ecological genetics of biological control: effects of introductions and invasions on insect-parasitoid and plant-insect interactions. **Invited seminar**. University of **Arizona**, Tucson.
- 2001 The ecology of an aphid-parasitoid association: evidence for evolution following a biological control introductions. **Invited seminar**. USDA ARS European Biological Control Laboratory, Montpellier **France**.
- The ecology of an aphid-parasitoid association: evidence for evolution following a biological control introductions. Invited seminar. USDA ARS European Biological Control Laboratory, Montpellier France.
- Molecular markers and biological control of invasive plants: the state of the art. **Invited talk**, Rocky Mountain Plant Biotechnology and Molecular Biology Symp. **Colorado**.
- The evolution and ecology of an introduced aphid-parasitoid association. **Invited seminar**. Department of Biology, **Colorado** State University.

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## ADVISING AND MENTORING

### Undergraduate:

My department, which combines the historic disciplines of entomology, plant pathology, and weed science, does not have an undergraduate program. I thus actively seek out teaching and mentoring opportunities. I have advised several honors thesis projects, over 15 students have done independent study projects in my lab in addition to over 40 other lab and field assistants have worked with me.

I focus on providing students with sound career advice and support, and pride myself in personalized and meaningful letters of recommendation. Students leave my lab to go to professional schools (e.g. medical, dental, pharmacy), graduate school in the sciences, and natural resource management. Publishing with students is a priority. I have published with six undergraduates. I have mentored diverse students including Latinx, African American, Native American and white women and men.

### **Graduate:**

Former Masters Students and their current positions:

Megan Vahsen, PhD program, University of Notre Dame  
Erin Borgman, Natural Park Service  
Michael Koontz, PhD program, University of California, Davis  
Peter Leipzig-Scott, PhD program, Colorado State University  
Cassandra Lloyd, completed PhD at University of California, Riverside, now is teaching high school science  
Daniel MacKinnon, worked with USDA for several years, and currently for the Office of Surface Mining Reclamation and Enforcement  
Hannah Wilbur, Colorado Natural Heritage Program

Former Ph.D. Students and their current positions:

Amy Blair, Associate Professor at Saint Ambrose University  
Robin Marrs, grade school teacher  
Steven Rauth, scientist with Monsanto  
Christina Alba, postdoctoral fellow, University of Florida (Flory lab)  
Susan Salafsky, Fish and Wildlife  
Christa Fettig, Instructor, University of Colorado, Boulder  
Stacy Endriss (Postdoc, Cornell University)

Current graduate students:

Eliza Clark (PhD)  
Marcel Jardeleza (MS)

Current graduate committees: 9, with students from my home department, Biology, and Forestry, and Fisheries and Wildlife Biology, and the Graduate Degree Program in Ecology

### **Postdoctoral Scholars**

Former:

Rebecca Kao – Scientist at Denver Botanical Gardens  
Sabrina Kumschick –Staff Scientist, Center for Invasion Biology, South Africa  
Marianna Szucs – Assistant Professor, Michigan State University, Entomology  
Ellyn Bitume – USDA staff postdoctoral scientist, Albany CA  
Kathryn Turner –NSF postdoctoral fellow

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## **TEACHING**

### **Current courses**

Ecology (~120-140 undergraduate students, annually) with Honors Ecology (~10 students, annually)



The Ecology course is required for pre-vet, pre-med, and all agriculture and natural resource students. As such, the class, ideally for juniors, attracts enthusiastic freshman as well as last-semester seniors who have postponed it and resent having to take it. Calculus is a prerequisite. I teach a mathematically rigorous course, and I win the students over so that they are open to learning, and work hard to do so. I lead students through the modeling step-by-step so that I do not lose them, focusing on active learning. I work hard to demonstrate the relevance of all I cover to the fields the students are in, including disease, agricultural, and natural resource examples. Despite this being required and math-intensive, course evaluations are excellent.

Below is an example of course evaluation scores from 2013. The averages are from a raking scale from 1 (poor) to 5 (excellent).

- How well did class sessions increase your understanding of the subject? Mean 4.63
- How well did course assignments increase your understanding of the subject? Mean 4.23
- How do you rate this course? Mean 4.54
- How do you rate instructor's knowledge of subject? Mean 4.91
- How well did the instructor organize the course? Mean 4.65
- How prepared was the instructor for class sessions? Mean 4.75
- How well did the instructor create an atmosphere that was respectful of student opinions, ideas, and differences? Mean 4.82
- How do you rate this instructor? Mean 4.83

#### BSPM Foundations (annually)

In this class, my co-instructor and I help new graduate students hit the ground running with tools to thrive in graduate school, including grappling with ethical issues, managing advisors, curating data, and writing grant and fellowship proposals.

#### Graduate seminar (annually)

My seminar topic changes frequently, and often is driven by graduate student interests.

2015 Spring Women in Science

2017 Fall Gender and Ethnicity in Science

#### **Former courses**

Biological Control (graduate level)

Invasion Ecology (undergraduate)

Graduate seminars (examples of previous topics):

- On the Origin of Species
- Writing Manuscripts and Proposals
- Plant-insect Interactions
- Programming in R

Guest lectures in other courses:

- Restoration Ecology, Principles of Plant Health, Invasion Ecology, Biology and Control of Weeds, Integrated Pest Management, Biocomplexity, Ecology, Global Change Ecology

#### **Ongoing training** – I strive continue to develop my teaching and mentoring

Workshop: Doing the Scholarship of Teaching and Assessment as if Learning Matters Most

Workshop: The Teacher as Actor

Graduate seminar: Effective mentoring

Fellow, Institute for Inclusive Excellence (faculty trained to create classrooms that welcome a diverse set of students)

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## UNIVERSITY SERVICE

### **Departmental:**

*Current:* Executive Committee, Promotion and Tenure Committee, Chair

*Previous:* Strategic Vision Committee Chair, Education Committee Chair, Executive Committee, Education Committee, Faculty meeting minutes recorder, Search Committee for Invasive Plant Ecologist and Evolutionary Geneticist positions, Undergraduate Curriculum Committee

### **College of Agriculture:**

*Current:* Diversity Catalyst Team, Chair, Non-Tenure Track Faculty Committee

*Previous:* Diversity Task Force, Search Committee for the director of the Agricultural Experiment Station

### **Graduate Degree Program in Ecology:**

*Current:* Academic Committee

*Previous:* Executive Committee, Faculty Advisor to the Front Range Student Ecology Symposium Committee, Academic Committee, Executive Committee

### **PRIMES (Math, Statistics, Biology training grant):**

*Previous:* Steering Committee, Protected Class Committee, Seminar Committee

### **Department of Biology:**

*Previous:* Search Committees: Quantitative Evolutionary Ecologist, Plant Evolutionary Biologist

### **University Wide:**

*Current:* Standing Committee on the Status of Women Faculty

Committee on Faculty Governance

Faculty Council

*Previous:* Faculty Honors Council, Faculty Advisor to the Women's Ultimate Club Sports Team

University Strategic Planning Process Discovery Working Group

Life Sciences Curriculum Committee

Committee on Scholarship, Research and Graduate Education, College of Agricultural Sciences

Student Affairs Committee

Search Committee for the Assistant Director of the Agricultural Experiment Station

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## PROFESSIONAL SERVICE AND ACTIVITIES

**2017 - present.** Scientific committee member. **First International Congress of Biological Control**, Beijing, China, May 2018. The goal of this conference is to facilitate a truly global dialogue and sharing of ideas around biological control of pests.

**2016 - present.** Member of the Managing Board of the **Peer Community in Evolutionary Biology**.  
<https://evolbiol.peercommunityin.org/about/about>

**2015 - present.** Member, **Powell Center Working Group** – High-Impact Insect Invasions. We have created a database focused on phytophagous insects of trees, and are using that to understand what characteristics are associated with strong negative impacts on the trees. Understanding that, we can move toward predicting what species might be high impact invaders in the future.

**2005-2011.** Leader, **Global Invasion Research Coordination Network**.

I was lead PI on this NSF-supported research coordination network. Our program helped a sometimes combative group of scientists trust each other, thus facilitating excellent research. A sampling of our activities includes:

- Initiation and support of the Global Garlic Mustard field survey, with over 300 scientists, field ecology classes, and citizens contributing data
- Symposium support for: Evolutionary ecology of adaptation during plant invasion. International Botanical Congress, lead by Rob Colautti and others
- Symposium support for: Parasites and Invasions, lead by Allison Dunn and Sarah Perkins
- over 50 research exchanges supported, largely supporting graduate students and early-career scientists
- multiple collaborative publications stemmed from the group, including papers in PNAS, Ecology, Ecology Letters

*Editorial and review service*

**2009-present** Associate editor for **NeoBiota**

**2009-2016** Associate editor for **Ecological Applications**

**2008-2013** Associate editor for **Invasive Plant Science and Management**

**2011-2012** Guest Associate Editor: **Special issue of Evolutionary Applications**

<http://onlinelibrary.wiley.com/doi/10.1111/j.1752-4571.2012.00281.x/full>

**2008 - present** Editorial Board: **Biological Control**

**Manuscript referee - Journals:** Acta Oecologia, American Naturalist, Annual Review of Entomology, Applied Ecology, Biological Control, Biological Invasions, Biological Reviews, Bulletin of Entomological Research, Current Biology, Diversity and Distributions, Ecology, Ecological Applications, Ecological Entomology, Ecology Letters, Environmental Entomology, Evolution, Evolutionary Applications, Heredity, Journal of Animal Ecology, Journal of Evolutionary Biology, Journal of Ecology, Molecular Ecology, Oecologia, Restoration Ecology, Nature, Nature Ecology and Evolution, Plant Ecology, PLOS One, PNAS, Proceedings of the Royal Society of London, Trends in Ecology and Evolution (TREE); **Other:** Genetics and Evolution in Biological Control (edited book), Invasion Ecology (textbook), Economy of Nature (textbook)

**Grant referee for:** National Science Foundation, USDA NRICGP, Oregon and Idaho Experiment Stations, National Environment Research Council of the UK, Israel Science Foundation.

**Panel Member:** NSF, NSF GRFP, USDA NIFA Biotechnology Risk panel, USDA NIFA Food Security Program, Fulbright, USDA NRICGP Biology of Weedy and Invasive Plants; NSF DEB Dissertation Improvement Grant, NSF GRFP panel, and have had to turn down other invitations from NSF due to schedule conflicts

**Panel Leader:** USDA ARS Biological Control of Weeds

**Evolution Society:** Committee member organizing Evolution 2004 in Fort Collins, CO

**NCEAS:** National Center for Ecological Analysis and Synthesis working group: The roles of natural enemies and mutualists in plant invasions

**IOBC-NRS:** former Member-at-large.

**Symposium organizer:** Evolution and biological control, Entomological Society of America annual meeting (2011), co-organized with G Roderick (lead, UC Berkeley), M Navajas (INRA, France), M. Szucs (CSU)

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## **OUTREACH AND EXTENSION**

The paradox of invasions: how do they do it? E. Paul Catts Memorial Public Lecture

Boulder County GMO Advisory Board: guest expert and speaker

Colorado Weed Management Association: short courses on the biology of invasive plants

Colorado Department of Agriculture Competitive Grants Panel member

Local schools and daycare centers:

Math tutoring (1-2 times/week over the last three school years)

Biology and entomology presentations, particularly bringing in the “insect zoo” for hands-on lesson about arthropod biology (many times), also demonstrating my research

Science fair judging (3 times)