AUSTIN N. FIFE

Plant Protection Entomologist

PERSONAL STATEMENT

I am passionate about protecting plants, and I do so leveraging my background in biological control, plant-pathogen-arthropod interactions, and chemical ecology.

WORK EXPERIENCE

Research Assistant - University of Florida *18 Jul 2018 - 31 Dec 2021*

- Surveyed and mapped mite populations (phenology) in the field in northern Florida and southern Georgia.
- Collaborated with over 10 Principal Investigators from plant pathology and entomology departments from the University of Florida, the University of Georgia, the USDA-ARS and the FDACS. Followed state and USDA permits, complied with state restrictions for movement of mites and viruses
- Trained lab technicians in data entry, methodologies, and standard operating procedures.
- Presented research to various audiences, including scientists, stakeholders and the public at over 11 conferences, and club meetings.
- Taught class at local 4-H club, organized activities and encouraged handling of live insects during the 6th and 7th Tallahassee Science Festivals, led activities at NFREC-Quincy Arts & Garden Festival as well as NFREC Agriculture Adventures and Ecology Field days.
- Analyzed data with statistical methods in R, including principal component analyses (PCA), uniform manifold approximation and projection (UMAP), analysis of variance (ANOVA), Chi-squared tests and Generalized Linear Mixed Modeling (GLMM).

Research Assistant - University of Idaho *15 Apr 2015 - 18 Dec 2018*

- Studied host plant selection of the potato psyllid *Bactericera cockerelli*, vector of Zebra Chip Disease in potato.
- Maintained four insect colonies, grew 100+ plants in the greenhouse, including 10 varieties of potato, tomatoes, eggplant, weeds and various species of native plants from seed
- Used statistical methods in R to interpret data, including t-tests, ANOVA, and GLMMs.
- Developed protocols and standard operating procedures (SOPs), to record insect behaviors and fecundity on living plants with a limited budget.
- Assisted in pest monitoring by processing hundreds of sticky traps weekly.
- Wrote and published thesis with Latex.
- Manually sorted and weighed 70+ lb sacks of potatoes with a small team.

Research & Teaching Assistant - BYU - Idaho *13 Apr 2013 - 15 Apr 2015*

- Drove an Off-road vehicle to navigate sand dunes and record coordinates of *Cicindela arenicola*, the St. Anthony Dunes Tiger Beetle to study habitat characteristics, range, and dispersal.
- Independently obtained permit from National Park Service and the Bureau of Land Management Craters of the Moon National Monument to collect data on a threatened species of beetle, *Glacicavicola bathysciodes*
- Prepared daily labs and mentored students
- Tutored Spanish language conversation labs

SKILLS

Problem Solving • Collaboration • Research • Writing • Project Management
Languages — **Spanish, English** Programming — **R, Latex, RMarkdown**
Software — **RStudio, Anaconda, Git, Microsoft Office, Adobe Photoshop**
Hardware — **Raspberry Pi, GC-MS, Phase-Contrast Microscopy, Digital Cameras**
Operating Systems — **Windows 10, Linux**

EDUCATION

PhD: Entomology - University of Florida *2 Jun 2018 - Dec 2021*
Dissertation: Mite-virus-plant complexes of importance for Florida agriculture: early detection, chemical ecology and biocontrol of *Phyllocoptes fructiphilus* and *Brevipalpus californicus*
Courses: Plant-Pathogen-Insect Interactions, Agricultural Acarology, Insect Classification, Introduction to Acarology, Insect Chemical Ecology, Epidemiology & Data Science, Spatial Ecology of Insects, Introduction to Applied Statistics, Data Storytelling, Ecology of Vector-Borne Disease, Vector Biology Models, Insect Microbiology

MS: Entomology - University of Idaho *18 May 2015 - 14 Dec 2018*
Thesis: Investigating behavior of the potato psyllid *Bactericera cockerelli* (Šulc) (Hemiptera: Triozidae) on three potato genotypes with putative resistance to "*Candidatus* Liberibacter solanacearum"
Courses: Insect-Plant Interactions, Host Plant Resistance, Plant Pathology, Advanced Insect Ecology, Advanced Forest Entomology, Insect Physiology, Potato Science

BS: Biology, emph: Zoology - BYU - Idaho *19 Apr 2011 - 10 Apr 2015*
Courses: Insect Systematics, General Entomology, Biochemistry & Molecular Biology, An Evolutionary Survey of Plants, General Botany, Biostatistics, Understanding DNA, Evolutionary Science, Genetics and Molecular Biology, Invertebrate/Vertebrate Zoology, General Chemistry I, General Chemistry II, Ecology I, Potato Science
Readings in Hispanic Literature - Advanced Speaker

PUBLICATIONS

Journal of Integrated Pest Management *Accepted on Oct 2021*
'First report of the *Brevipalpus*-transmitted (Trombidiformes: Tenuipalpidae) *Orchid fleck dichorhavirus* infecting three ornamental in Florida'
Austin N. Fife, Daniel Carrillo, Gary Knox, Fanny Iriarte, Kishore Dey, Avijit Roy, Ronald Ochoa, Gary Bauchan, Mathews Paret, and Xavier Martini

Florida Entomologist *Sep 2020*
'First Report of *Phyllocoptes fructiphilus* Kefier (Eriophyidae), the vector of the rose rosette virus, in Florida, USA'
Austin N. Fife, Samuel Bolton, Jessica L. Griesheimer, Mathews Paret, and Xavier Martini

Journal of Insect Science *Mar 2020*
'Potato psyllid *Bactericera cockerelli* (Šulc) (Hemiptera: Triozidae) behavior on three potato genotypes with putative resistance to "*Candidatus* Liberibacter solanacearum"'
Austin N. Fife, Arash Rashed, Regina Cruzado Gutierrez, Richard Novy, and Erik J. Wenninger