

# AUSTIN N. FIFE

RESEARCH AND DEVELOPMENT TECHNICIAN

## PERSONAL STATEMENT

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I am passionate about protecting plants, and I do so by taking a multidisciplinary approach towards management: By studying plant-pathogen-arthropod interactions, spatial analysis, statistics, chemical ecology and biological control, we can come up with environmentally sound solutions to your research problems.

## WORK EXPERIENCE

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### Research Assistant - University of Florida

2018 - Dec 2021

- Surveyed and mapped mite populations (phenology) in the field in northern Florida and southern Georgia.
- Collected data at alternative sites after use of viral resources became restricted due to pest quarantine by the state agencies.
- 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, including principal component analyses (PCA), uniform manifold approximation and projection (UMAP), analysis of variance (ANOVA), Chi-squared tests and Generalized Linear Mixed Modeling (GLMM).
- Authored and published 2 journal articles (one in revisions), a technical report, as well as multiple lab protocols and standard operating procedures with RMarkdown.
- Presented chapters on support vector machines (SVM) and PCA for university book club about Data Science, AI, Machine Learning, and Deep Learning in R.

### Research Assistant - University of Idaho

2015 - 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 - Brigham Young University - Idaho 2013 - 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, *Glacivicola bathysciodes*
- Prepared daily labs and mentored students
- Tutored Spanish language conversation labs

## SKILLS

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

## EDUCATION

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PHD: ENTOMOLOGY - UNIVERSITY OF FLORIDA - 3.47 *Anticipated: Dec 2021*  
*Courses: Spatial Ecology of Insects, Introduction to Applied Statistics, Epidemiology & Data Science, Data Storytelling, Vector Biology Models, Impact of Networks (auditing), Agricultural Acarology*

MSC: ENTOMOLOGY - UNIVERSITY OF IDAHO - 3.50 *14 Dec 2018*  
*Courses: Advanced Forest Entomology, Insect-Plant Interactions, Host Plant Resistance, Plant Pathology, Potato Science*

BS: ZOOLOGY - BRIGHAM YOUNG UNIVERSITY - IDAHO *10 Apr 2015*  
*Courses: An Evolutionary Survey of Plants, General Botany, Biostatistics, Readings in Hispanic Literature - Advanced Speaker, Potato Science*

## PUBLICATIONS

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*Journal of Integrated Pest Management* *Accepted with revisions*  
'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* (ulc) (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