

J. Keaton Wilson

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EDUCATION

PhD in Organismal Biology, Ecology and Evolution **2010-2015**
University of Montana, Missoula, MT.

B.S. in Biology **2004-2008**
University of Puget Sound, Tacoma, WA.

PROFESSIONAL APPOINTMENTS

NIH Postdoctoral Excellence in Research and Teaching (PERT) Fellow **2016-Present**
Dr. Goggy Davidowitz, Center for Insect Science, University of Arizona, Tucson

Research and Teaching Assistant **2009-2015**
Dr. H. Arthur Woods, University of Montana, Missoula

Research Technician and Technical Writer **2009-2010**
GeoMarine Technologies Inc., Missoula, MT

Field Zoologist **Summer 2009**
Montana Natural Heritage Program, Helena, MT

Field Researcher **Summer 2008**
Northwest Trek Wildlife Park, Eatonville, WA

Benthic Macroinvertebrate Key Designer and Geo-referencing Technician **2008-2009**
Slater Museum of Natural History, Tacoma, WA

Researcher **2007**
Clear Springs Food Inc., Buhl, ID

PUBLICATIONS

Wilson, J.K., H.A. Woods and A. Kessler. High levels of abiotic noise in volatile organic compounds released by *Datura wrightii*: implications for the evolution and ecology of airborne chemical communication (In Review).

Wilson, J.K., Ruiz, L. and G. Davidowitz. Immune function and performance of *Manduca sexta* fed diets of varying protein and carbohydrate content. (In Prep).

Woods, H.A., Potter, K., Förster, T. and **Wilson J.K.** Life in leaf boundary layers: mesic microhabitats for desert insect eggs. (In Prep).

Wilson, J.K., Tseng, A., Davidowitz, G., Hildebrand, J., and A. Stone. (2017) The effects of the alkaloid scopolamine on the performance and behavior of two caterpillar species. *Arthropod-Plant Interactions*. doi: 10.1007/s11829-017-9548-y

Wilson, J.K. and H.A. Woods. (2016). Innate and learned olfactory responses in a wild population of the egg parasitoid *Trichogramma* (Diptera: Trichogrammatidae). *Journal of Insect Science*. 16(1); 110, 1-8. doi: 10.1093/jisesa/iew108

Powers, D.R., Tobalske, B.W., **Wilson, J.K.**, Woods, H.A. and K.R. Corder. (2015). Challenges to heat dissipation during hovering and forward flight in hummingbirds. *Royal Society Open Science*, 2(12), 150598.

Wilson, J.K. and H.A. Woods (2015). Protection via parasitism: *Datura* odors attract parasitoid flies, which inhibit *Manduca* larvae from feeding and growing but may not help plants. *Oecologia* 179.4 (2015): 1159-1171. doi:10.1007/s00442-015-3419-y.

Wilson, J.K., Kessler, A. and H.A. Woods (2015). Noisy communication via airborne infochemicals. *BioScience* 65(7): 667-677.

Woods H.A. and **J.K. Wilson**. (2014) An elephant in the fog: unifying concepts of physiological stasis and change. In *Integrative Organismal Biology* (eds. L.B. Martin, H.A. Woods, and C.K. Ghalambor), Wiley.

Woods, H.A. and **J.K. Wilson** (2013). An information hypothesis for the evolution of homeostasis. *Trends in Ecology and Evolution* 28, 283 – 289.

PRESENTATIONS

Wilson, J.K. (2016). Patterns in Static: noisy infochemical cues and their use by insect receivers. University of Puget Sound Biology Seminar Series.

Wilson, J.K. (2016). Could a better lunch have saved the crew of the *Nostramo*? *Alien* parasitoids, insect herbivores and host-plant diets. The University of Arizona Entomology and Insect Science Seminar Series.

Wilson, J.K. and H.A. Woods (2015). Tracking hosts: insect parasitoids use olfactory cues, are capable of learning and affect herbivore fitness and feeding. Society for Integrative and Comparative Biology Annual Meeting.

Powers, D.R., Tobalske, B.W., Langland, K.M., Wethington, S.M., **Wilson, J.K.**, Woods, H.A. (2015) Heat dissipation during hovering and forward flight in hummingbirds and the potential impact of climate change. Society for Integrative and Comparative Biology Annual meeting.

Wilson, J.K. and H.A. Woods (2014). Host-searching tactics in two groups of parasitoids that attack the hawkmoth *Manduca sexta*. Society for Integrative and Comparative Biology Annual Meeting

H.A. Woods and **J.K. Wilson** (2014). Real, live chest-bursters and vomiting caterpillars: *Alien* flies meet *Exorcist* caterpillars in the American Southwest. Society for Integrative and Comparative Biology Annual Meeting

Wilson, J.K. and H.A. Woods (2013). Abiotic noise in volatile signaling by plants. Society for Integrative and Comparative Biology Annual Meeting.

Wilson, J.K., Woods, H.A., Förster, T. and K. Potter (2011). Oases in the desert: leaf microclimates in two host plants of *Manduca sexta*. Society for Integrative and Comparative Biology Annual Meeting.

Wilson, J.K. (2008). Dispersal of Juvenile Western Toads (*Bufo boreas boreas*) at Northwest Trek, WA. University of Puget Sound Phi Sigma Symposium.

Wilson, J.K. (2007). The Effects of Soy Protein Isolate in the Diets of Rainbow Trout (*Oncorhynchus mykiss*) on Growth Rate, Feed Conversion Factors and Effluent Water Quality. University of Puget Sound Phi Sigma Symposium.

REVIEWER

Evolution

Journal of the Royal Society Interface

Journal of Pest Science

Journal of Insect Behavior

Journal of the Lepidopterists' Society

OUTREACH, MENTORING AND SERVICE

Science Outreach

Fire Speaks the Land and Changing Balance

2011-2016

- Composed, produced, performed and consulted on two educational performance-art pieces that incorporated spoken narration, dance, audience participation and music for K-12 audiences addressing forest fire biology and climate change.
- *Fire Speaks the Land* has been performed for thousands of K-12 students at schools, art centers and venues across the western United States since its creation and *Changing Balance* debuted at Glacier National Park, and has since been performed for over 1500 K-12 students in Montana.

The Whizpops

2012-2016

- Composed, performed and consulted for a band that plays children's music focusing on science, the natural world and conservation.
- Performed at numerous venues across the western United States, including the Montana Governor's Inaugural Children's Ball, and the FolkLife Festival, Woodland Park Zoo and Children's Hospital in Seattle, WA.
- Collaborated with Trout Unlimited and the Save the Manatee Foundation to create songs and videos that highlight important conservation efforts.
- The band's second and third albums won the Parents' Choice Award (2013) and the Creative Child Magazine's Educational Award (2013).

Pedagogy and Teaching

Reinforcing teaching skills

- Pedagogy training, shadowing and instruction
Dr. Nan Schmidt, Pima Community College **2016-2017**
- Evidence-based struggles on active and intellectually engaging students
Dr. Ed Prather, University of Arizona **2016**
- Pathways to Scientific Teaching Skills Workshop
Dr. Diane Ebert-May, University of Michigan **2012**

Teaching Experience

- Instructor
Environmental Science - Pima Community College, Tucson AZ **2017**
- Guest Lecturer
Ecological Physiology - University of Arizona, Tucson AZ **2017**
Diversity of Life - University of Puget Sound, Tacoma WA **2016**
- Teaching Assistant
Entomology, Plant Physiology, Botany, Discover Biology (101 for non-majors) **2010-2015**

Mentoring and Service

Mentoring

- Led, managed and mentored teams of international undergraduate **2010-2014**

volunteers to conduct field work at the Southwestern Research Station in Arizona.

- Mentored, organized and led small groups of undergraduate researchers through the University of Arizona summer UBRP (Undergraduate Biology Research Program). Focus was placed on developing professional skills such as CV design, poster development, elevator speeches, presentations and conference-networking. **2016-2017**

- Trained, led and mentored multiple diverse undergraduate students from the University of Arizona and Pima Community College to assist with research projects in the lab and in the field. **2016-2017**

University of Arizona Postdoctoral Association (UAPA)

2016-2017

- Executive board member and co-founder of the UAPA, working in conjunction with the office for Postdoctoral Affairs to engage postdoctoral research at the University of Arizona, promote professional development and provide assistance to incoming postdoctoral researchers.
- Organized and participated in multiple professional development discussion panels:
 - *Successful Lab Management Strategies*
 - *Success as a Postdoctoral Scholar*

AWARDS AND HONORS

Drollinger-Dial Research Award (2015)

University Offices of the President and Provost Travel Funding Support Grant (2014)

Society of Integrative and Comparative Grants in Aid of Research Fellowship (2013)

David Nicholas Award (2013)

Jack E. Schmautz Graduate Fellowship (2012)