

**Alexander Walton**  
Curriculum Vitae

PhD Candidate – Ecology and Evolutionary Biology  
Iowa State University

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**Education**

University of Arizona 2011: B.A. in Ecology and Evolutionary Biology  
*Cum Laude*  
Minor: Linguistics

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**Awards / Scholarship**

**Spring 2017** NSF – Doctoral Dissertation Improvement Grant  
**Spring 2017** Professional Advancement Grant – Graduate Professional  
Senate, Iowa State University  
**Fall 2016** Professional Advancement Grant – Graduate Professional  
Senate, Iowa State University  
**Fall 2015** Professional Development Grant – EEB, Iowa State University  
**Summer 2014** Professional Advancement Grant – Graduate Professional  
Senate, Iowa State University  
**Summer 2014** Pollinator Research Travel Grant (USDA) - Congress of the  
International Union for the Study of Social Insects. Cairns, Australia.  
**Spring 2013** NSF – Graduate Research Fellowship: *Honorable Mention*  
**Fall 2012** Office of Biotechnology First Year Fellowship, Iowa State University.

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**Publications**

**Walton A.** and Toth. A.L. (2016) "Variation in individual worker honey bee behavior shows hallmarks of personality." *Behavioral Ecology and Sociobiology*.

Corby-Harris V., Meador C.A.D, Snyder L.A., Schwan M.R, Maes P., Jones B.M., **Walton A.**, Anderson K.E. (2016) "Transcriptional, translational, and physiological signatures of undernourished honey bees (*Apis mellifera*) suggest a role for hormonal factors in hypopharyngeal gland degradation." *Journal of Insect Physiology*.

Corby-Harris V., Jones B.M., **Walton A.**, Schwan M.R., and Anderson K.E. (2014) "Transcriptional markers of aging and sub-optimal nutrition in the fat bodies of young adult *Apis mellifera*." *BMC Genomics*.

Anderson K.E., Sheehan T.H., Mott B.M., Maes P., Snyder L.A., Schwan M.R., **Walton A.**, Jones B.M., Corby-Harris V. (2013) "Microbial ecology of the pollination landscape: Core and non-core bacteria in the alimentary tract, corbicular pollen and beebread of honey bees (*Apis mellifera*)." *PLoS ONE*.

Dornhaus A. and **Walton A.** "Does learning increase or decrease innate behavioral variation? The role of experience in division of labor of the ant *Temnothorax albipennis*." (in revision)

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### Presentations

- 2017** Does resource limitation promote cooperation? Nutrition restriction and social cohesion in insect societies. The Annual Meeting of the Entomological Society of America. Denver, CO.
- 2016** Larval and adult pollen diets affect honey bee worker response to the queen. International Congress of Entomology. Orlando, FL.
- 2016** Larval and adult pollen diet affects a honey bee worker's response to the queen. 23<sup>rd</sup> Annual EEB Spring Symposium. Iowa State University.
- 2015** Personalities and behavioral syndromes: Sub-caste variation in honey bee behavior. The Annual Meeting of the Entomological Society of America. Minneapolis, MN.
- 2015** The effect of a pollen deficient diet on queen response in honey bees. Graduate and Professional Students' Research Conference. Iowa State University.
- 2014** Individual Personalities in an Insect Society. Congress of the International Union for the Study of Social Insects. Cairns, Australia.
- 2014** Individual Personalities in an Insect Colony: From Molecules to Societies. 21<sup>st</sup> Annual EEB Spring Symposium. Iowa State University.
- 2010** Learning and Colony Emigration in *Temnothorax albipennis* ants. The Annual Meeting of the Entomological Society of America. San Diego, CA.
- 2010** Learning and Colony Emigration in *Temnothorax albipennis* ants. 1<sup>st</sup> Annual EEB Poster Fair, University of Arizona.
- 2009** Learning and Colony Emigration in *Temnothorax albipennis* ants. University of Arizona Undergraduate Biology Research Program Poster Fair.

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### Research Experience

**Summer 2012-Present** Graduate Student at Iowa State University. PhD advisor: Dr. Amy Toth.  
**April 2011-July 2012** Biological Science Technician – Carl Hayden Bee Research Center. “Microbial diversity and nutrition in *Apis mellifera*.”  
**Summer 2010-Spring 2011** Undergraduate researcher – Dornhaus lab / U of A Engineering department. “Bumble bee flight aerodynamics.”  
**Spring 2010** Tumamoc Hill Plant Diversity Research under Michael Rosenzweig.  
**Fall 2009-Spring 2010** Undergraduate researcher – Dornhaus lab (with Jenny Jandt). “Bumble bee division of labor – undertaking.”  
**Spring 2009** Undergraduate researcher – Dornhaus lab. “Bumble bee division of labor – nest maintenance.”  
**Summer 2008-Fall 2008** Undergraduate researcher – Dornhaus lab. “Colony emigration in *Temnothorax* ants.”

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### Teaching Experience

#### Instructor of Record

**2017** Animal Behavior Lecture  
**2015-2016** Social Insect Undergraduate Seminar

#### Teaching Assistant

**2016-2017** ISU Biological Investigations Lab Course  
**2014-2016** ISU Animal Behavior Lab Course  
**2013-2014** ISU Biological Diversity Lab Course  
**2008** Insect Discovery (University of Arizona) - a program for 1<sup>st</sup> and 2<sup>nd</sup> graders

#### Guest lecture

**2016** – “Social Insects: Pinnacles of Evolution and Dominators of Planet Earth”  
ISU course: Biology 101  
**2015** – “Honey bee personalities” ISU course: Bee Biology, Management, and Beekeeping

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### Outreach

**2017** Reiman Gardens “Day of Insects” – Guest speaker  
**2016** ISU Insect Zoo Bug Village – Volunteer (Honey bee display)  
**2015; 2016; 2017** Pollinator Fest – Volunteer (Honey bee observation hive)  
**2013** Portal to the Public at Science Center of Iowa - Volunteer  
**2011** Arizona Insect Festival – Volunteer (Social Insect Tent)

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### Affiliations / Memberships / Service

Departmental service

**2016-2017** Graduate Student Chair – Ecology and Evolutionary Biology Program Supervisory Committee, Iowa State University

**2016-2017** Graduate Student Chair – Ecology, Evolution, and Organismal Biology Department Social Committee, Iowa State University.

**2015-2016** New Student Recruitment Chair – Graduate Research in Ecology and Evolutionary Biology. Graduate Student Organization, Iowa State University.

**2013-2015** Social Chair – Graduate Research in Ecology and Evolutionary Biology. Graduate Student Organization, Iowa State University.

Peer reviewing

Journals:

- *Scientific Reports*

- *Journal of Experimental Biology*

Symposia Organizer

**2017** “Phenotypic Plasticity: Cause and Consequence in Insect Sociality” The Annual Meeting of the Entomological Society of America. Denver, CO.

Society affiliations

**2010-Present** Member – Entomological Society of America

**2014-Present** Member – International Union for the Study of Social Insects