

Department of Entomology
 Texas A&M University
 College Station, TX 77843
 joanie_king@tamu.edu

4302 Boyett St.
 Apt C
 Bryan, TX 77801
 (407) 690-6855

Education

- Fall 2017 - present* Ph.D., Entomology, Texas A&M University
Graduate Advisor: Dr. Edward Vargo
- Fall 2014 - Summer 2017* M.Sc., Entomology, University of Georgia
Graduate Advisor: Dr. Brendan G. Hunt
- Graduated Spring 2013* B.Sc., Biology, University of Central Florida

Employment

Texas A&M University, College Station, Texas

Fall 2017 - present Research Assistant

Summer 2015 - Summer 2017 Teaching Assistant, University of Georgia, Department of Entomology

- *Maymester 2017:* Teaching Assistant for ENTO 3140 & 3720L, Animals and Insects of Ecuador and the Galápagos Islands.
- *Spring 2017:* Teaching Assistant for ENTO 2010, Insects and the Environment.
- *Fall 2016:* Teaching Assistant for ENTO 3140, Insect Natural History.
- *Summer 2016:* Curation of Insect Teaching Collection.
- *Spring 2016:* Teaching Assistant for ENTO 2010, Insects and the Environment.
- *Fall 2015:* Teaching Assistant for ENTO 3140, Insect Natural History.
- *Summer 2015:* Curation of Insect Teaching Collection.

Fall 2014 - Spring 2015 Teaching Assistant, Department of Biology

- *Spring 2015:* Laboratory Instructor for BIOL 1108L, Principles of Biology II.
- *Fall 2014:* Laboratory Instructor for BIOL 1108L, Principles of Biology II.

University of Central Florida, Orlando, Florida

Summer 2013 - Spring 2014 UCF Ant Lab Research Assistant; *Employer:* Dr. Joshua R. King

- Rearing and behavioral studies of the fire ant, *Solenopsis invicta*.

Fall 2012 Oyster Mat Material Preparation; *Employer:* Dr. Linda G. Walters

- Prepping materials for oyster mat making events.

Research Experience

Fall 2017 - present Research on the molecular basis of behavioral and physiological manipulation of fire ants by phorid fly parasitoids.

Fall 2017 - present Science communication research on how to communicate entomology effectively with the general public. The purpose of this study is to collect information from the questions received by individuals to determine patterns and predict seasonality of questions, phenology of insects, and possible public issues.

Summer 2018 - present Assist with differential expression analysis of *Nylanderia fulva*

Fall 2014 - Summer 2017 Research Conducted on Behavioral Genetics in *Solenopsis invicta*.

- Experience collecting and rearing *S. invicta* and rearing *S. geminata*
- Experience dissecting tissues from *S. invicta*
- Experience genotyping *S. invicta*
 - DNA Extraction
 - PCR
 - Gel Electrophoresis
- Conducting differential gene expression analysis using RNA-seq

Fall 2012 - Spring 2014 Research Conducted in the UCF Ant Lab

- Insect Identification and Observations of Fire Ant Community Behavior

Fall 2012 Research Conducted in Invertebrate Zoology Course

- Collected environmental data on invertebrates, fish and amphibians in the Upper St. Johns River Basin
- Preserved and identified freshwater invertebrates, fish, and amphibians
- Conducted statistical tests on environmental data

Spring 2012 Research Conducted in Marine Biology Course

- Blue Crab (*Callinectes sapidus*) Preferential Predation on Invasive Muscles in Mosquito Lagoon

Presentations

King, J., Struminger, R. *Using front-end evaluation to identify audiences for science communication*. 2020 Joint North Central and Southwestern Branch. 20-24 April 2020. Virtual Meeting *Poster*.

King, J., Puckett, R., Vargo E., *Beyond decapitation - exploring transcriptomes of the decapitating fire ant fly and its fire ant host*. Entomological Society of America. 18 November 2019, St. Louis Missouri *Oral*.

King, J., S. Arsenault, S. Kay, K. Lacy, B. Hunt, K. Ross. *Supergene in the red imported fire ant (Solenopsis invicta) leads to increased gene expression* Entomological Society of America Southwestern Branch Meeting. 17 April 2019, Tulsa, Oklahoma *Oral*.

King, J., *3-minute thesis walk in*. Entomological Society of America Southwestern Branch Meeting. 16 April 2019, Tulsa, Oklahoma *Oral*.

King, J., Ballenger, J., N. Miorelli, E. Vargo. *Science Communication in Entomology: Knowing What's Bugging Them Can Help Us Connect With Communities* Student Research Week at Texas A&M University. March 2019, College Station *Oral*.

King, J. *Student talk: Fire Ant Decapitating Flies as Biological Control Agents of Fire Ants. How Do They Do It?* 73rd Pest Control Operator Conference. 17 January 2019, Bryan, Texas *Oral*.

King, J., Ballenger, J., N. Miorelli, E. Vargo. *Science Communication In Entomology: Knowing What's Bugging Them*

Can Help Us Connect With Communities. Entomological Society of America National Meeting. 14 November 2018, Vancouver, Canada *Oral*.

King, J., *Workshop: Extension Entomology Share Fair: Using Facebook as a tool for science communication and outreach*. Entomological Society of America National Meeting. 13 November 2018, Vancouver, Canada *Workshop*.

King, J., List, F., Davitt A., E. Vargo., Tarone A. *Differential expression analysis of Nylanderia fulva workers and queens under varying dietary treatments XVIIIth International Congress of IUSSI - IUSSI 2018*. 10 August 2018, Guarujá, Brazil. *Oral*.

King, J., Ballenger, J., N. Miorelli, E. Vargo. *Science communication in entomology: Knowing what's bugging them can help us connect with communities* Entomological Society of America Southwestern Branch Meeting. 27 March 2018, Albuquerque, New Mexico *Oral*.

King, J., S. Arsenault, S. Kay, K. Lacy, B. Hunt, K. Ross. *Exploring gene regulatory differences between monogyne and polygyne red imported fire ants (Solenopsis invicta)*. Entomological Society of America. 6 November 2017, Denver, Colorado. *Oral*.

Ballenger, J., N. Miorelli, **J. King**. *What's bugging them: The importance of building relationships in science communication*. Entomological Society of America. 7 November 2017, Denver, Colorado. *Oral*.

King, J., B. Hunt, S. Kay, K. Ross. *Gene regulatory differences between alate gynes from monogyne and polygyne colonies of the red imported fire ant (Solenopsis invicta)*. 22 October 2016, Madison, Florida. *Oral*.

King, J., B. Hunt, S. Kay, K. Ross. *Exploring gene regulatory differences between monogyne and polygyne red imported fire ants (Solenopsis invicta)*. 2016 XXV International Congress of Entomology. 28 September 2016, Orlando, Florida. *Oral*.

King, J. *Quantifying differences in queen size and fecundity in the social forms of the red imported fire ant, Solenopsis invicta*. Southeastern Ecology and Evolution Conference 2015. 14 March 2015, Athens, Georgia. *Oral*.

King, J. *Queen and worker dynamics of the fire ant, Solenopsis invicta, during egg laying events*. UCF Showcase of Undergraduate Research 2013. 4 April 2013, Orlando, Florida. *Poster*.

Szabó, N. R., **J. King**, B. Bahlmann, C. Debevec, W. Gerrard, M. Leonard, C. Nguyen. *Blue Crabs: Biological Barriers Against Invasive Mytella Muscles*. UCF Service-Learning Showcase. 17 April 2012, Orlando, Florida. *Poster*.

Campbell, D., **J. King**, P. Yespelkis. *The Lionfish Wranglers*. UCF Service-Learning Showcase. 10 April 2012, Orlando, Florida. *Poster*.

King, J., B. Bahlmann, C. Debevec, W. Gerrard, M. Leonard, C. Nguyen, N. R. Szabó. *Biological Barriers: Preferential Predation of Invasive Mussels By the Blue Crab Callinectes sapidus*. UCF Showcase of Undergraduate Research 2012. 5 April 2012, Orlando, Florida. *Poster*.

Publications

King, J.. Major professor: Dr. Brendan Hunt. Committee members: Dr. Kenneth Ross and Dr. Patricia Moore *Exploring gene regulatory differences between monogyne and polygyne red imported fire ants (Solenopsis invicta)* Summer 2017, Master's thesis.

Arsenault, S.*, **King, J.***, Kay, S., Lacy K., Ross, K.**,& Hunt, B.**. *Simple inheritance, complex regulation: supergene-mediated fire ant queen polymorphism*. Molecular Ecology, 2020. In Revision. *Contributed equally; **Corresponding author.

Outreach

December 18th, 2019 Podcast Guest for Lil Dudes Insect Academy

Ask an Entomologist *July 2017-present*

I am part of a science communication outreach project called Ask an Entomologist (AaE) with two other entomologists - Nancy Miorelli and Joseph Ballenger. AaE is a blog where people may submit questions to be answered by myself or another qualified person. In addition to the blog, AaE is on various social media platforms, including: Facebook, Twitter, and Instagram. We have made multiple guest appearances on podcasts, have been invited to speak at primary schools, and have been interviewed by the media (such as The Washington Post).

<https://askentomologists.com>

<https://www.facebook.com/AskEntomologists/>

Twitter: @BugQuestions

Instagram: @bugquestions

Dragon*Con 2018

August 30 - September 3, 2018

Nancy Miorelli and I attended Dragon*Con 2018 as professionals.

We created and presented a panel titled, "Insects: Aliens on Earth," as well as served on other panels as scientists/entomologists. Please note that I have the alias, "Joanie Mars."

The Hands-On Science Power Hour Presented With the Atlanta Science Festival

Everyone is welcome at this hands-on science activity party!

We've got fun demonstrations of science and a passel of take-home activities.

Activities are suitable for everyone and definitely come in costume!

Presented with the Atlanta Science Festival.

K. Hari, J. Fooshee (M), N. Householder, SciBugs, J. Mars, S. Harris; Sun 10:00 am; 309-312 [Hilton]; 2.5 Hrs

Does It Fart?

You've heard the age old adage that everybody poops. This year brings an exciting new twist: Does it fart?

Come on by; there's science in the air!

L. DeRosier, J. Greco, K. Hari (M), K. Holder, J. Mars; Sun 4:00 pm; Crystal Ballroom [Hilton]

Insects: Aliens on Earth

Ever look at an insect and think, "It looks alien"?

Everything from bursting out of body cavities to elaborate sand traps are in the magnificent world of insects.

We'll dive into insect biology and physiology to see how these magnificent animals have inspired our favorite other-worldly monsters.

SciBugs, J. Mars; Mon 10:00 am; 210-211 [Hilton]

Community Outreach Coordinator for the Texas A&M Entomology Graduate Student Organization

May 2018-present

Coordinated and planned seven outreach events since May 2018. Personally attended six of the events.

4-H Summer Camp for high school students in Huntsville TX

June 9, 2018 Showcased insects and other arthropods and discussed possible careers in entomology. 5 adults and 26 children .

CSISD Early Childhood Carnival Outreach Event

April 12, 2018 Brought pinned and live arthropods to present to attendees. approx. 100 adults and children .

Monarch March at Lick Creek Park

March 4, 2018 Brought pinned and live arthropods to present to attendees. approx. 60 adults and children .

Greens Prairie Elementary "Animal Club"

Feb. 28, 2018 Brought pinned and live arthropods to present to attendees. approx. 5 adults and 26 children .

Outreach Continued...

Rock Prairie Elementary "Discovery Night"

Feb. 22, 2018 Brought pinned and live arthropods to present to attendees. approx. 60 children with parents.

Forest Ridge Elementary "Bug Out"

Oct. 18, 2017 Brought pinned and live arthropods to present to attendees. approx. 20 children and five adults.

Greens Prairie Elementary "STEM Night"

Oct. 17, 2017 Brought pinned and live arthropods to present to attendees. approx. 200 parents and children.

Boonville Days at the Brazos Museum of Natural History

Oct. 14, 2017 Brought pinned and live arthropods to present to attendees. Large event with hundreds of attendees.

Entomology Presentation and Showcase of UGA Entomology Insect Zoo

Oct. 12, 2016 Presentations to three classrooms at Athens Academy Lower School Science Center
Brought arthropods and insects to classrooms to teach approx. 30 first graders about entomology.

Supervising Showcase of UGA Entomology Insect Zoo

May 3, 2016 Classroom Presentation at Prince Avenue Christian School.
Brought arthropods to classroom to teach approx. 30 kindergartners about entomology.

Supervising for the Don't Bug Me event

March 28, 2015 Part of the Elementary Science Olympiad at North Oconee High School.
Helped run and judge a bug competition during the event.

Presentation for Tech Trek:

A national program from the American Association of University Women (AAUW).
July 25, 2013 Taught middle school girls about how to preserve our local Indian River Lagoon by making oyster mats.

Presentations at UCF Creative School

July 26, 2013 Brought interactive touch tanks to pre-school; Taught children about Florida native sea life.
Mar. 22, 2013 **Ocean Day** at the school; created animal-habitat matching game for an educational presentation.

Presentation at UCF Book Festival

April 13, 2013 Taught children about marine habitats through an educational game.

Presentation at Andover Elementary School in Orange County, Florida

Mar. 15, 2013 Communicated invasion biology to 4th grade classroom through an interactive presentation and games.

Presentation at Sanford Middle School in Seminole County, Florida

Mar. 29, 2012 Presented about the scientific method and marine biology research to 7th - 8th graders through an interactive presentation and games.

Volunteer Work

<i>July 17th, 2019</i>	Guest speaker for Brazos County 4-H Wildlife & Fisheries Day Camp
<i>April 15th, 2019</i>	Southwestern Branch Insect Expo
<i>March 26th, 2018</i>	Southwestern Branch Insect Expo
<i>Nov. 11-13, 2016</i>	Guest Teaching Assistant for Insect Taxonomy (ENTO 8010) Annual trip to Sapelo Island ; ~ 60 Hours.
<i>Dec. 7-8, 2013</i>	Assisting a survey of fire ant mounds using transects; ~ 10 Hours.
<i>Sept. 28, 2013</i>	National Estuary Day at Indian River Lagoon; ~ 6 Hours.
<i>June 15, 2013</i>	Eldora Shoreline Stabilization Day; ~ 6 Hours.
<i>Fall 2012</i>	Volunteer Teaching Assistant at UCF: BOT 4434 General Mycology; ~ 45 Hours.
<i>Spring 2012 - Summer 2013</i>	Oyster Reef & Mangrove Restoration; ~ 100 Hours.

Mentorship

Aggie Women in Entomology

Fall 2017- present

Panel Discussion on Graduate School for the Undergraduate Entomology Student Organization

March 5th, 2019 Texas A&M University

Study Abroad and Workshops

<i>May 2019</i>	BugShot 2019 SoCal Steele Burnand Anza-Borrego Desert Research Center
<i>Summer 2016</i>	Ant Course at Edward O. Wilson Laboratory at Gorongosa National Park, Mozambique, Africa: Completed courses on the Phylogeny, Diversity, and Classification of Ants; the Social Dimensions of Ants; and the Roles in Ecosystems and Sustainability of Ants.
<i>Summer 2012</i>	Tropical Marine Biology in Roatán, Honduras; diving experience and damselfish research.

Teaching Assistance Abroad

<i>Maymester 2017</i>	UGA - CAES - Animals and Insects of Ecuador and the Galápagos Islands.
<i>(May of Summer 2017)</i>	Type of instruction: experiential, fieldwork/research, lecture, service-learning. Course professor: Dr. Robert Matthews.

Awards & Honors

- September 2019* Pest Management Foundation Graduate Student Scholarship, \$2,000
- March 2019* 2nd place in Graduate Oral in Agriculture and Life Sciences Category
Student Research Week at Texas A&M University, \$150
- May 2019* BugShot Student Scholarship, \$895
- April 2018* Pi Chi Omega Osmun Scholarship, \$3000
- August 2017* Dr. Roger E. Gold Endowed Graduate Scholarship, \$2000
- April 2017* 1st Place in the Photo Competition for Macro Photography - *African Stink Ant*, \$50
The University of Georgia, Department of Entomology Annual, Lund Week April 14th, 2017
- April 2012* STEM (Science, Technology, Engineering, Mathematics) Award; UCF Service-Learning Showcase

Extracurriculars

- May 2018 - present*
Community Outreach Coordinator for the Texas A&M Entomology Graduate Student Organization
- September 2019 - present*
Texas A&M Climbing Team A
- Spring 2018 - present*
Member of the Texas A&M University Linnaean Team. Coach Dr. Juliana Rangel
- April 2019* The Linnaean Games at The Entomological Society of America: Southwestern Branch Meeting
Tulsa, Oklahoma. *1st place.*
- November 2018* The Linnaean Games at The Entomological Society of America: National Meeting
Vancouver, Canada. *2nd place.*
- March 2018* The Linnaean Games at The Entomological Society of America: Southwestern Branch Meeting
Albuquerque, New Mexico. *1st place.*
- March 2017* The Linnaean Games at The Entomological Society of America: Southeastern Branch Meeting
Memphis, Tennessee. *Semi-finalist.*
- Spring 2017* Member of the University of Georgia Linnaean Team. Coach Dr. Nancy Hinkle.
- October 17-19, 2018* Seminar host for Dr. Corrie Moreau
Texas A&M University Department of Entomology Seminar Series
- January 22-24, 2020* Seminar host for Dr. Mary Jane Epps
Texas A&M University Department of Entomology Seminar Series

Professional Organizations

Student member of the Entomological Society of America

Student member of the Pi Chi Omega Professional Pest Management Fraternity

Student member of the International Union for the Study of Social Insects, North American Section

Collegiate membership with USA Climbing