Xiangfeng Jing
904 Hasbrouck Apartments, Ithaca, NY 14850
Tel: (979) 739-8213 • Email: xj43@cornell.edu

EDUCATION

PhD in Entomology (December 2011)
Department of Entomology, Texas A&M University (TAMU), College Station, TX

MS in Zoology (June 2004)
Department of Entomology, Huazhong Agricultural University (HZAU), Wuhan, China

BS in Agronomy (July 2001)
Department of Plant Protection, Shandong Agricultural University (SDAU), Taian, China

RESEARCH EXPERIENCE

Department of Entomology, Cornell University (2012 – present)

- Study microbiome in phloem-feeding insects and immunological interactions between symbiont and aphid
- Identify genes involved in sugar osmoregulation in phloem-feeding insects using 'omics' technology. Establish evolutionary relations of these genes using phylogenetic tools
- Investigate the function of sugar osmoregulation genes by ***in planta*** RNAi

Department of Entomology, Texas A&M University (2007 – 2011)

- Conducted greenhouse studies to investigate the effects of two transgenic tobacco lines expressing different sterol profiles on 3 economically important caterpillar species, ***Heliothis virescens***, ***Spodoptera exigua***, ***Manduca sexta***, and a whitefly, ***Trialeurodes vaporariorum***.
- Used artificial diets to study the effects of the novel sterols contained in the above transgenic plants on different insect herbivores, to direct further modifications of plant sterol profiles.
- Used analytical techniques (e.g., TLC, HPLC and GC-MS) to study sterol metabolism in plant feeding insects.
- Used microarray techniques to explore enzymes and the corresponding genes involved in phytosterol metabolism by plant feeding insects.
- Investigated the resistant mechanism of a grasshopper, ***Schistocerca Americana***, to an anti-insect defense protein, ***Arabidopsis*** vegetative storage protein (AtVSP), by using ***AtVSP***-overexpressing and ***AtVSP***-silenced transgenic ***Arabidopsis*** lines. A key finding was that proteolytic degradation of AtVSP in the alimentary system was the main resistant mechanism.
- Developed statistical skills through Methods of Statistics (I&II), Regression Analysis, Methods in Multivariate Analysis and Statistics in Research (I&II), and extensively applied these statistical techniques in experiment design and data analyses. Proficient in numerous statistical software packages, including R, SAS, JMP and SPSS.

Shandong Forest Academy, China (2004 – 2007)

- Integrated pest management (IPM) programs on fruit trees.
- Field trials of new chemical products (e.g., insecticides, fungicides and herbicides)
- Food and Agriculture Organization of the United Nations (FAO) project: "Improvement of cultivation and storage of Chinese winter Jujube in Wudi, Shandong, China"

Department of Entomology, HZAU, China (2001 – 2004)

- Studied the population dynamics of the main insect pests under the effect of different wavelength lights in field.
- Investigated the effects of different wavelength lights on insect behavior and physiology.

Department of Plant Protection, SDAU, China (2000 – 2001)

- Participated in a project: "Population investigation of ***Oligonychus perditus*** in Mount Tai"

PRESENTATIONS

Oral Presentations:

- Hemipteran-Plant Interactions Symposium (University of California, Riverside, CA), 2014; Selected talk: "How insects exploit sugar-rich phloem sap: a molecular perspective"
- Entomological Society of America (Austin, TX), 2013; "Identification and analysis of dehydration genes in phloem-feeding insects"
- Entomological Society of America (San Diego, CA), 2010; "Novel changes in host plant sterol chemistry negatively affect generalist caterpillars"
- Entomological Society of America (Indianapolis, IN), 2009; "Effects of different ratios of 'good' and 'bad' sterols on the performance of ***Helicoverpa zea***"
- Graduate Student Forum, (Entomology, TAMU), 2009; "Effects of different ratios of "good" and "bad" sterols on the performance of ***Heliothis virescens***"
- Entomological Society of America (Reno, NV), 2008; "Dietary sterols and insect herbivores: a 2-generation study reveals significant effects"
- Graduate Student Forum, (Entomology, TAMU), 2008; "Modified plant sterol profiles and their effect on the tobacco budworm: a 2-generation study"

Posters:

- USDA Workshop, 2012; "Osmoregulation genes identified in economically important phloem-feeding pests"
- USDA Workshop, 2010; "Plant sterols as a novel tool for managing plant-feeding insect pests"
- USDA Workshop, 2009; "Paternal effects of plant sterol profile on an economically important caterpillar pest"

GRANTS

- Hemipteran-Plant Interactions Symposium travel grants (2014), $1300.00

- Nanoempires in New York: Microbes in Health and Disease travel grants (2014), $400

PUBLICATIONS (*corresponding authorship)

1. Wong, A., Luo, Y., **Jing, Xiangfeng**, Franzenburg, S., Bost, A., and Douglas A.. The host as driver of the microbiota in the gut and external environment of ***Drosophila melanogaster***, in review
2. **Jing, Xiangfeng***, Grebenok, R., Behmer, S. (2014). Balance matters: How the ratio of dietary sterols/steroids affects caterpillar development, Journal of Insect Physiology, 67, 85-96
3. **Jing, Xiangfeng**, Wong, A., Colvin, J., Mckenzie, C. and Douglas, A. (2014). Resident microbiota of exceptionally low diversity in a plant sap feeding insect, Molecular Ecology, 23, 1433-1444
4. **Jing, Xiangfeng***, Grebenok, R., Behmer, S. (2013). Sterol/steroid metabolism and absorption in a generalist and specialist caterpillar: Effects of dietary sterol/steroid structure, mixture and ratio, Insect Bicochemistry and Molecular Biology, 43(7),580-587
5. **Jing,Xiangfeng***, Vogel, H., Grebenok, R., Zhu-Salzman, K., Behmer, S. (2013). Dietary sterols/steroids and generalist caterpillar ***Helicoverpa zea***: physiology, biochemistry and midgut gene expression, Insect Bicochemistry and Molecular Biology, 42(11),836-845
6. **Jing, Xiangfeng***, Grebenok, R., Behmer, S. (2012). Plant sterols and host plant suitability for generalist and specialist caterpillars, Journal of Insect Physiology, 58, 235-244.
7. Chi, Y., **Jing, Xiangfeng**, Lei J., Ahn J., Koo Y., Yun D., Lee S., Behmer S.T., Koiwa H., Zhu-Salzman K. (2011). Stability of AtVSP in insect digestive canal determines its defensive outcome, Journal of Insect Physiology, 57, 391-399.
8. **Jing, Xiangfeng**, Luo, F., Zhu F., Huang, Q. and Lei, C. (2005). Effects of different light source and dark-adapted time on phototactic behavior of cotton bollworms (***Helicoverpa armigera***). ***Chinese Journal of Applied Ecology*** 16(3), 586-588.
9. **Jing, Xiangfeng** and Lei, C. (2004). Advances in research on phototaxis of insects and the mechanism. ***Entomological Knowledge*** 41(3), 198-203.
10. Niu, S., Li, X., Zhang, S. and **Jing, Xiangfeng**, (2004). The evaluation of an effective bactericide --- Telike on the production of vegetable in conservatory. ***Shandong Agricultural Science***, supplement, 34-35.
11. Niu, S., Li, X., Ning, Y. and **Jing, Xiangfeng**, (2004). The effect of Acetaniprid on wheat aphid, ***Sitobion avenae*** Fabricius, in field and under laboratory condition. ***Shandong Agricultural Science***, supplement, 90-91.
12. **Jing, Xiangfeng**, Duan, C. and Li, Z. (2004). Advances in research on phytochemical pesticides. ***Shandong Agricultural Science***, supplement, 8-10.
13. **Jing, Xiangfeng**, Lei, C., Fu, X. and Wang, J. (2001). Effects of the kairomones on the predation of ***Chrysopidae sinica*** larvae in different stages. ***Natural Enemies of Insects*** 23(4), 166-169.

TEACHING EXPERIENCE

Department of Entomology, Cornell University, Ithaca, NY (2014)

- Invited lecturer for Comparative Immunology (senior level course; 5-20 students/semester)

Department of Entomology, Cornell University, Ithaca, NY (2013)

- Invited lab instructor for Insect Physiology (junior level course; 15-20 students/semester)

Department of Entomology, TAMU, College Station, TX (2008 – 2010)

- Lab instructor for Insect Physiology (junior level course; about 35 students/semester)
- Lab assistant for Insect Biotechnology (senior level course; 5-20 students/semester)

Department of Entomology, HZAU, China (2002 – 2003)

- Lab instructor for Insect Physiology (junior level course; about 30 students/semester)

TEACHING TRAINING

- Center for Teaching Excellence, Texas A&M University, College Station, TX (2008)
- CTE Teaching Assistant Institute, Cornell University, Ithaca, NY (2013)

HONORS

Outstanding Student, Awarded by Department of Entomology, TAMU (2011)
Outstanding Graduate, Awarded by HZAU (2004)
Excellent Special Skills (Graduate Student), Awarded by HZAU (2004)
Outstanding Graduate, Awarded by Department of Plant Protection, SDAU (2001)

PROFESSIONAL MEMBERSHIPS AND SERVICE

Entomological Society of America (2007-2014)
Registration Chair (2012), Eastern Branch of Entomological Society of America (2012-2013)
Southwestern Branch of Entomological Society of America (2007-2011)
Treasurer, Entomology Graduate Student Organization, TAMU, College Station, TX (2009-2010)
Vice President, Graduate Student Organization, Dept. of Entomology, HZAU, China (2002-2003)

REFERENCES

Dr. Angela Douglas (Post-doctoral PI)
Daljit S. & Elaine Sarkaria Professor of Insect Physiology and Toxicology
Dept. of Entomology
Cornell University
Ithaca, NY 14853
(607) 255-8539
E-mail: aes326@cornell.edu

Dr. Spencer Behmer, (Phd Advisor)
Professor
Dept. of Entomology
Texas A&M University
College Station, TX 77843-2475
(979) 845-3411
s-behmer@tamu.edu

Dr. Keyan Zhu-Salzman
Professor
Dept. of Entomology
Texas A&M University
College Station, TX 77843-2475
(979) 458-3357
ksalzman@tamu.edu

Dr. Robert Grebenok
Professor
Dept. of Biology
Canisius College
Buffalo, NY, 14208
(716) 888-2537
grebenor@canisius.edu