

PIN-CHU LAI

Department of Entomology, Cornell AgriTech
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EDUCATION

2016 – 2021. **Ph.D. in Entomology**

Department of Entomology, University of Georgia, Athens, GA, USA
Dissertation Title: “Ecological interactions of *Frankliniella fusca* (Hinds) and an orthotospovirus in the peanut pathosystem”

2013 – 2015. **M.S. in Entomology**

Department of Entomology, University of Georgia, Athens, GA, USA
Dissertation title: “Evaluation of cultural tactics, insecticides, and peanut genotypes for thrips and spotted wilt disease management in peanut”

2009 – 2013. **B.S. in Entomology**

Department of Entomology, National Taiwan University, Taipei city, Taiwan

PROFESSIONAL EXPERIENCE

2021-present. *Postdoctoral Associate.* Department of Entomology, Cornell University.

Advisor: Brian A. Nault

Research topic: Onion thrips management and their association with bacterial bulb rot in organic onion production.

2016-2021. *Graduate Research Assistant.* Department of Entomology, University of Georgia.

Advisors: Mark R. Abney & Rajagopalbabu Srinivasan

2013-2015. *Graduate Research Assistant.* Department of Entomology, University of Georgia.

Advisor: Rajagopalbabu Srinivasan

2012-2013. *Undergraduate Research Assistant.* Department of Entomology, National Taiwan University.

Advisors: Chi-Wei Tsai & Ju-Chun Hsu

PUBLICATIONS

LaTora, A. G., **Lai, P.-C.**, Chen, Y.-J., Gautam, S., Abney, M. R., & Srinivasan, R. *Frankliniella fusca* (Thysanoptera: Thripidae), the vector of tomato spotted wilt orthotospovirus infecting peanut in the southeastern United States. *Journal of Integrated Pest Management*. (Accepted on 19 Dec 2021)

Lai, P.-C., Abney, M. R., Bag, S., Culbreath, A. K., & Srinivasan, R. (2021). Impact of host resistance to tomato spotted wilt orthotospovirus in peanut cultivars on virus population genetics and thrips fitness. *Pathogens*, 10(11), 1418. <https://doi.org/10.3390/PATHOGENS10111418>

Lai, P.-C., Abney, M. R., Chen, Y.-J., Bag, S., & Srinivasan, R. (2021). Discrepancies in serology-based and nucleic acid-based detection and quantitation of tomato spotted wilt orthotospovirus in leaf and

root tissues from symptomatic and asymptomatic peanut plants. *Pathogens*, 10(11), 1476.

<https://doi.org/10.3390/PATHOGENS10111476>

Srinivasan, R., Abney, M. R., **Lai, P.-C.**, Culbreath, A. K., Tallury, S., & Leal-Bertioli, S. C. M. (2018). Resistance to thrips in peanut and implications for management of thrips and thrips-transmitted orthospoviruses in peanut. *Frontiers in Plant Science*, 871(9), 1604.

<https://doi.org/10.3389/fpls.2018.01604>

Manuscripts in preparation

Lai, P.-C., Iglesias, L., Groves, R., Havey, M., Nault, B. A. Using a semi-glossy onion cultivar to manage onion thrips, *Thrips tabaci* (Thysanoptera: Thripidae) and the association with bacterial bulb rot in organic onion production. (*In prep*)

Lai, P.-C., R. Srinivasan, M.R. Abney. Developing economic injury levels for *Frankliniella fusca* (Hinds) (Thysanoptera: Thripidae) on peanut in the southeastern United States. (*In prep*)

Lai, P.-C., M.R. Abney, R. Srinivasan. Spatial and temporal spread of tomato spotted wilt orthospovirus (TSWV) in two runner type TSWV-resistant peanut cultivars. (*In prep*)

Lai, P.-C., M.R. Abney, A.K. Culbreath, R. Srinivasan. Evaluation of newly released peanut cultivars with alternative insecticides and selected cultural practices in spotted wilt disease management in peanut. (*In prep*)

Lai, P.-C., M.R. Abney, A.K. Culbreath, R. Srinivasan. Persistence and residual toxicity of insecticides to *Frankliniella fusca* (Thysanoptera: Thripidae) in peanut. (*In prep*)

Lai, P.-C., M.R. Abney, A.K. Culbreath, R. Srinivasan. Effects of host plant resistance against tomato spotted wilt orthospovirus in tetraploid and diploid peanut genotypes on virus transmission and fitness of *Frankliniella fusca* (Thysanoptera: Thripidae). (*In prep*)

PROFESSIONAL CONFERENCE PRESENTATIONS

Lai, P.-C., L. Iglesias, B. A. Nault. *Optimizing onion thrips management programs in organic onion production* (12-minute paper). Entomological Society of America national meeting. Denver, CO. October 31-November 4, 2021.

Lai, P.-C., M.R. Abney, R. Srinivasan. *Spatial and temporal spread of tomato spotted wilt orthospovirus (TSWV) in two runner-type TSWV-resistant peanut cultivars* (10-minute paper). 53rd American Peanut Research and Education Society annual meeting (virtual). July 13-15, 2021.

Lai, P.-C., M.R. Abney, R. Srinivasan. *Relationships between tobacco thrips infestation and peanut yield in southeastern United States* (10-minute Paper). Entomological Society of America national meeting (virtual). November 11-25, 2020.

Lai, P.-C., M.R. Abney, R. Srinivasan. *Tomato Spotted Wilt Epidemiology and Impacts on Peanut Yield* (Poster). 52nd American Peanut Research and Education Society annual meeting (virtual). July 14-16, 2020.

Lai, P.-C., M.R. Abney, R. Srinivasan. *Development of decision-making thresholds for tobacco thrips management in peanut* (10-minute Paper). Entomological Society of America national meeting, San Louis, MO. November 17-20, 2019.

- Lai, P.-C.,** M.R. Abney, R. Srinivasan. *Spotted Wilt Disease of Peanut: Epidemiology and Impact on Yield* (10-minute Paper). Georgia Entomological Society annual meeting, Cordele, GA. April 10-12, 2019.
- Lai, P.-C.,** M.R. Abney, R. Srinivasan. *The Impact of Tobacco Thrips Abundance and Injury on Peanut Yield: Developing Action Thresholds for Thrips Management* (10-minute Paper). Entomological Society of America national meeting (joint meeting with ESC, and ESBC), Vancouver, BC Canada. November 10-14, 2018.
- Lai, P.-C.,** M.R. Abney, R. Srinivasan. *Assessment of tobacco thrips (*Frankliniella fusca*) feeding injury and economic impact on peanut* (10-minute Paper). Georgia Entomological Society annual meeting, Unicoi State Park and Lodge, Helen, GA. April 4-6, 2018.
- Lai, P.-C.,** M.R. Abney, R. Srinivasan. *Economic impact of tobacco thrips (*Frankliniella fusca*) feeding injury on peanut* (10-minute Paper). Entomological Society of America national meeting, Denver, CO. November 5-8, 2017.
- Lai, P.-C.,** M.R. Abney, R. Srinivasan. *Assessment of Economic Decision Levels for Tobacco Thrips (*Frankliniella fusca*) in Peanut Production* (Poster). Georgia Entomological Society annual meeting. Jekyll Island, Glynn, GA. April 5-7, 2017.
- Lai, P.-C.,** M.R. Abney, R. Srinivasan. *Evaluation of residual toxicity of neonicotinoids and resistance issues in thrips management in peanut* (15-minute Paper). XXV International Congress of Entomology, Orlando, FL, USA. September 25-30, 2016.
- Lai, P.-C.,** M.R. Abney, R. Srinivasan. *Evaluation of residual toxicity of neonicotinoids and resistance issues in thrips management in peanut* (10-minute Paper). Georgia Entomological Society annual meeting, Callaway Garden, Pine Mountain, GA. April 6-8, 2016.
- Lai, P.-C.,** M.R. Abney, A.K. Culbreath, S. Tallury, and R. Srinivasan. *The impact of Tomato spotted wilt virus (TSWV) resistant peanut genotypes on TSWV transmission by thrips and thrips fitness* (10-minute Paper). Entomological Society of America national meeting, Minneapolis, MN. November 15-18, 2015.
- Lai, P.-C.,** M.R. Abney, A.K. Culbreath, R. Srinivasan. *Integration of chemical and cultural tactics with newly released peanut cultivars for thrips and Tomato Spotted Wilt Virus management in peanut production* (10-minute Paper). Georgia Entomological Society annual meeting, Jekyll Island, GA. April 8-10, 2015.
- Lai, P.-C.,** M.R. Abney, A.K. Culbreath, R. Srinivasan. *Integration of alternatives to carbamate and organophosphate insecticides with newly released peanut cultivars for thrips and Tomato spotted wilt virus management* (Poster). Entomological Society of America national meeting, Portland, OR. November 16-19, 2014.

Other Presentations

- Lai, P.-C.,** M.R. Abney, R. Srinivasan. *Temporal and spatial spread of tomato spotted wilt orthotospovirus (TSWV) in peanut and its impact on yield*. Peanut Rx annual meeting (virtual). December 08, 2020.
- Lai, P.-C.,** M.R. Abney, R. Srinivasan. *Gauging spotted wilt incidence and its contribution to yield loss in peanut production*. Research Report Day to the Georgia Peanut Commission Board of Directors. Tifton, GA. February 05, 2020.

Lai, P.-C., M.R. Abney, R. Srinivasan. *Spotted wilt disease of peanut: epidemiology and impact on yield.*
Peanut Rx annual meeting and retreat, George. T. Bagby State Park and Lodge, Fort Gaines, GA.
December 05, 2019.

HONORS AND AWARDS

- 2020 Herbert H. Ross Memorial Scholarship, Department of Entomology, University of Georgia
- 2020 Second Place President's Prize Student Competition, 10-minute presentation, Entomological Society of America
- 2020 First Place National Peanut Board Graduate Student Poster Contest, American Peanut Research and Education Society
- 2019 Entomology Scholarship in recognition of Accomplishments as an outstanding Ph.D. student, Georgia Entomological Society
- 2019 Second Place Photo Salon Contest (biology category), Georgia Entomological Society
- 2018 Second Place C. M. Beckman Award for the best paper by a Ph.D. student, Georgia Entomological Society
- 2016 First Place C. M. Beckman Award for the best paper by a Ph.D. student, Georgia Entomological Society
- 2009 First place Presidential Award, Department of Entomology, National Chung Hsing University

GRANTS AND FELLOWSHIP

- 2019 UGA Graduate School Student Travel Grant (\$1000)
- 2019 UGA Graduate School Innovative and Interdisciplinary Research Grant (\$2000)
- 2017 UGA Graduate School Student Travel Grant (\$600)

LEADERSHIP EXPERIENCE

- 2019-2020 *Secretary*, Student Advisory Council, UGA Griffin campus.
- 2013 *Team leader*, Girls' Basketball team, Department of Entomology, NTU
- 2011-2012 *Administrative Coordinator*, NTU National Insect Camp
- 2011 *Head secretary*, Student Organization, Department of Entomology, NTU
- 2010 *Volunteering guest lecturer*, teaching science classes for 3rd and 4th graders in Jing-Mei elementary school

TEACHING EXPERIENCE

- 2019 General Entomology (three guest lectures, lecture and laboratory assistant)
- 2019 Concepts of Integrated Pest Management (teaching assistant)
- 2011-2012 High school biology and chemistry (personal academic tutor)

OUTREACH ACTIVITIES

- 2016 L.O. Lund Club outreach event at Westside middle school. Judged posters for Science Fair.
Pin-Chu Lai *December 2021*

- Winder, GA.
- 2016 L.O. Lund Club outreach event for Athens Academy 3rd graders. Hands-on presentation teaching insect and arthropods. Athens GA.
- 2015, 2017 ABAC Regional Science & Engineering Fair. Interviewed, advised, evaluated, and judged poster competition of high school science projects. Tifton GA.
- 2014 Sunbelt Ag Expo. Exhibited live insects and insect specimen and promoted department program. Moultrie GA.
- 2014-2016 Water, Wings and Wildlife festival. Live insects and insect specimen exhibition. Flint RiverQuarium, Albany GA.
- 2010 NTU Nature Conservation Club winter camp. Activities to educate local children in science and nature in a remote, aboriginal mountain community; conservational survey for crow butterfly's migration activities. Kaohsiung, Taiwan.