

Hannah H. Chu, Ph.D. (*she/her*)
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PROFESSIONAL EXPERIENCE

John Jay College of Criminal Justice, CUNY August 2025 – present
Doctoral Lecturer of Biology, Department of Sciences

EDUCATION

PhD University of California, Riverside (UCR) June 2025
Entomology
Community ecology, population genetics, and thermal traits of southern California blow flies
Committee: Drs. Amy C. Murillo (Chair), Jessica Purcell, Alec C. Gerry

B.S. John Jay College of Criminal, City University of New York June 2019
Forensic Science/Molecular Biology | Math minor (Hons.), *summa cum laude*

RESEARCH

University of California, Riverside July 2019 – July 2025
Murillo Research Group October 2021 – July 2025
Community ecology, population genetics, thermal tolerance, forensic entomology

Yamanaka Laboratory July 2019 – October 2021
Insect physiology, endocrinology, molecular biology

John Jay College of Criminal Justice, CUNY August 2016 – August 2019
Rosati Laboratory; *Forensic entomology, entomotoxicology*

University of Florida – Summer Research Program May – August 2018
Hahn Laboratory; *Insect physiology and metabolism, thermal tolerance*

Cornell University – Summer Research Program May – August 2017
Wang Laboratory; *Insect biochemistry and physiology, pesticide resistance*

TEACHING

John Jay College of Criminal Justice, CUNY
Modern Biology I, Modern Biology II, First Year Seminar for the Sciences

University of California, Riverside

Teaching Assistant/Lab Instructor

- Medical and Veterinary Entomology (ENTM 126), Winter 2025
- Insect Physiology (ENTM 173, hybrid), Spring 2021
- Medical and Veterinary Entomology (ENTM 126, virtual), Winter 2021

Guest Lectures

- Forensic Entomology (UCR Careers in Entomology Summer Camp; 2025)
- Infographics and Science Communication (Intro Evolution; Winter 2025)
- Invertebrate Biodiversity (Organisms in Their Environment; Winter 2024)
- How to use and create Infographics (Intro Evolution, Med/Vet Entomology; Winter 2023)

John Jay College of Criminal Justice, CUNY

Teaching Lab Assistant

General Biology, General Chemistry, Organic Chemistry II, Physics I, Physics II

Additional Training & Experience

Let's AI Together Workshop, JJAY College & Teaching and Learning Center (2026)

What's Love Got to Do With It: Understanding Emotions in Critical Pedagogy, John Jay College Teaching and Learning Center (2025)

Faculty Development Day, John Jay College Teaching and Learning Center (Fall 2025, Spring 2026)

Forensic Fire Death Investigation Course, San Luis Obispo Fire Investigation Strike Team (2024)

- Instructed students in fire-related death investigations through a comprehensive learning experience, including field exercises with real scenarios, guided by recognized experts.

University Teaching Week, UCR (2024)

- Participated in a week-long pedagogical training in emerging technologies in the classroom.

Career Mentoring of Underrepresented STEM Students for the Professoriate, UCR (2024-2025)

- Professional development for graduate students interested in becoming professors.

Communicating Science in the Misinformation Age Workshop, Virtual (2020)

ComSciCon National Science Communication Workshop, Virtual (2020)

MENTORSHIP AND ADVISING

University of California, Riverside

December 2020 – June 2025

Educational Success Mentoring

Leon Kataw – UCR PhD student

Jacqueline Holquinn – UCR PhD student

Jordyn Neal – California State University, Fullerton Master's to PhD Bridge Program

Research Mentoring (Undergraduates)

Indigo Talley

AJ Arsalane

Helena Levin

Alec Wrightson

Gabriella Moussa

Anthony Sarmiento (UCR medical student)

John Jay College of Criminal Justice, CUNY

Peer Tutor, Math and Science Resource Center

September

2017 – January 2019

Peer Advisor, Academic Advisement Center

August 2016 - January 2018

AWARDS

2025

Dissertation Completion Fellowship, UCR Graduate Division

John Henry Comstock Award, Entomological Society of America - Pacific Branch

Outstanding achievement in entomology research, leadership, and service by a graduate student

2023

Earle C. Anthony Graduate Student Travel Award, UCR Graduate Division

Outstanding Student Award, Entomology Graduate Student Association

GWIS Fellowship Honorable Mention, Graduate Women in Science

Lauren and Mildred Anderson Immature Insects Award, UCR Entomology

Best PhD Student Talk, North American Forensic Entomology Association

NAFEA Travel Award, North American Forensic Entomology Association

RADCamp Travel Award, Columbia University

- Graduate Student Association Travel Award, *UCR Graduate Division*
- 2022** MUVE Student Travel Award, *Entomological Society of America*
Public Health Entomology for All Travel Grant, *Entomological Society of America*
First Place Riverside Insect Fair Booth, *City of Riverside*
- 2021** Exceptional Remote Teaching Award, *UCR Entomology*
Presidential Membership Award, *Genetics Society of America*
- 2020** Lauren and Mildred Anderson Immature Insects Award, *UCR Entomology*

GRANTS AND FELLOWSHIPS (\$259,117)

- 2026** CUNY Academic AI Innovation Fund (2025) Co-PIs: H.H. Chu & J. Rosati
It's Time to Demystify AI: An Innovative Game-Based Approach to Promote
Responsible AI Use in Higher-Ed Science Classrooms; Total Costs: \$23,116
- 2025** Dissertation Completion Fellowship, *UCR Graduate Division* (\$34,000)
- 2023** California Institute of Biodiversity Student Research Rapid Grant (\$599)
Carl Strom/Western Exterminator Scholarship, *Western Exterminator* (\$700)
- 2022** Carl Strom/Western Exterminator Scholarship, *Western Exterminator* (\$500)
Graduate Research Grant Program, *Joshua Tree National Park Association* (\$5000)
- 2021** Graduate Research Fellowship Program (**GRFP**), *National Science Foundation* (\$134,000)
- 2019** Chancellor's Distinguished Fellowship, *UCR Graduate Division* (\$29,702)
Jonas E. Salk Scholarship, *City University of New York* (\$8000)
- 2015** Honors Program Scholarship, *John Jay College of Criminal Justice, CUNY* (\$4,000)
Hecht Scholarship, *John Jay College of Criminal Justice, CUNY* (\$7,500)
Presidential Scholarship, *John Jay College of Criminal Justice, CUNY* (\$12,000)

Pending/Not awarded:

- Science for the Public Good Fund (2026) PI: H.H. Chu
Community BioBlitzes for Urban Ecology and Care; Total Costs: \$1500
- CUNY PSC Track 2 (2025) Co-PIs: H.H. Chu & S. Swenson
Experiencing the Hudson River: Integrating Research, Art, and Community in Undergraduate
Environmental Science; Total Costs: \$14,943
- NSF Postdoctoral Research Fellowship in Biology (2024) PI: H. Chu
Ecological responses of necrophagous insects to urbanization; Total Costs: \$270,000
- NIFA AFRI EWD Predoctoral Fellowship (2023, **Ranked High Priority**) PI: H. Chu
Assessing Blow Flies (Diptera: Calliphoridae) As Sustainable Pollinators for Strawberry Crop; Total
Costs: \$118,204
- NIJ Graduate Research Fellowship (2023) PI: H. Chu
Determining Thermal Limits of Blow Flies (Diptera: Calliphoridae) in Southern California's
Desert Regions for Improved Post-Mortem Interval Estimations; Total Costs: \$151,873
- NSF Biodiversity on a Changing Planet (2023) Co-PIs: A. Murillo and L. Weidner;
Key Grant-Writing Collaborator: H.H. Chu
Collaborative Research: Impact of a Changing Planet on Blow Fly Functional Biodiversity and
Distribution; Total Costs: \$1,278,681

PUBLICATIONS (Peer-Reviewed)

5. Fujinaga D, Ohhara Y, Okamoto N, **Chu H.H.**, Mauck K.E., Yamanaka N. 2025. Two cytochrome P450 epoxidases mediate juvenile hormone biosynthesis in *Drosophila melanogaster*, *Insect Biochem Mol Biol*, doi:10.1016/j.ibmb.2025.104475
4. **Chu H.H.** and Murillo, A.C., 2025. Variation in the community composition of blow flies (Diptera: Calliphoridae) in neighboring deserts within Joshua Tree National Park, *Environ Entomol*, doi:10.1093/ee/nvae121
3. Gerry A., Wilson S., **Chu, H.H.**, Lemus K., Murillo A.C. 2024. Evaluation of bacterial treatments (*Bacillus spp.*) for control of immature house flies, *Arthropod Manag Tests*, doi:10.1093/amt/tsae109
2. Masterson M, Bittar R, **Chu H**, Yamanaka N, Haga-Yamanaka S. 2022. Rapid Assessment of Insect Steroid Hormone Entry Into Cultured Cells. *Front Physiol.* 12:816058. doi:10.3389/fphys.2021.816058.
1. Yang X, Chen W, Song X, Ma X, Cotto-Rivera RO, Kain W, **Chu H**, Chen Y-R, Fei Z, Wang P. 2019. Mutation of ABC transporter ABCA2 confers resistance to Bt toxin Cry2Ab in *Trichoplusia ni*. *Insect Biochem Physiol.* 112:103209. doi:10.1016/j.ibmb.2019.103209.

PUBLICATIONS (Pending)

2. **Chu H.H.** and Murillo, A.C., Trait predictors of thermal limits differ between native and non-native blow flies, and wing morphology fails to explain cold tolerance within a native species., *J Therm Biol* (in prep 2026)
1. **Chu H.H.** and Murillo, A.C., Dispersal and environmental filtering influence blow fly metacommunity structure in southern California, *Ecosphere*, (submitted 2025, in review)

PUBLICATIONS (Education and Science Communication)

9. **Chu, H.** "Preliminary insights into the blow flies (Diptera: Calliphoridae) of Joshua Tree National Park", *Joshua Tree Science* (2024)
8. **Chu, H.** "#UCSciCommSeries Presents: Teresa Ortner", *UC Davis Science Says* (2022)
7. **Chu, H.** "#UCSciCommSeries Presents: Megan Varvais", *UC Davis Science Says* (2022)
6. **Chu, H.** and Maccaro, J. "California Native Bee Zoom", Interactive educational website (2021)
5. **Chu, H.** "Premature blowfly egg development leads to inaccurate time since death estimations", *ForensicBites* (2021)
4. **Chu, H.** "Charlene the Chuon: A new way to communicate the wave-particle duality ... to kids!", *SciComm@UCR Blog* (2020)
3. **Chu, H.** "From Murder Cases to Insect Puberty", interview with *Amy Shakespeare* (2020)
2. **Chu, H.** and Sankovitz, M. "Our experience at ComSciCon: the perspectives of two entomology Ph.D. students", *SciComm@UCR Blog* (2020)
1. **Chu, H.** "My Short Tenure as a Forensic Entomologist", *Entomology Graduate Student Association at the University of California, Riverside Blog* (2020)

INVITED PRESENTATIONS

13. **Chu, H.**, "It takes a community: lessons from blow flies on ecology and human connection". *Rutgers Entomology Seminar*. New Brunswick, NJ. (Nov 2025)
12. Murillo, A. and **Chu, H.**, "Divergent thermal strategies in native and non-native blow flies reflect a generalist-specialist framework". *Livestock Insect Workers*. Cody, WY. (Jul 2025)
11. **Chu, H.** and Murillo, A.C. "It takes a community". *Entomological Society of America Pacific Branch Meeting*. Salt Lake City, UT. (Mar 2025) – **honorary speaker**
10. **Chu, H.** "From Data to Delivery: How to give scientific presentations". *RISE Summer Undergraduate Research Workshop*. Riverside, CA. (Jul 2024)
9. **Chu, H.** "Visual Storytelling in Science: Communicating science through posters and infographics". *Science Communication Workshop*, University of Illinois Urbana-Champaign. Virtual. (Mar 2024)
8. **Chu, H.** and Murillo, A.C. "Thermal ecology of southern California blow flies (Diptera: Calliphoridae)". *Entomological Society of America National Meeting*. National Harbor, MD. (Nov 2023)
7. **Chu, H.** "Maggot Masterpieces: An Artistic Exploration of Blow Fly Diversity in Joshua Tree National Park". *Science in the Park Series*. Joshua Tree, CA. (Oct 2023)
6. **Chu, H.** "From Data to Delivery: Crafting Effective Oral Presentations". *RISE Summer Undergraduate Research Workshop*. Riverside, CA. (Aug 2023)
5. **Chu, H.** and Murillo, A.C. "From the desert to the sea: An inventory of blow flies in southern California". *Entomological Society of America Pacific Branch Meeting*. Seattle, WA. (Apr 2023)
4. **Chu, H.** "Infographics 101: Techniques for Effective Visual Communication". *Entomological Society of America Webinar*. Virtual. (Apr 2023)
3. **Chu, H.** "All About Forensic Entomology". *Science Nights in Riverside*. Riverside, CA. (Mar 2023)
2. **Chu, H.** "Putting the graphic in infographic". *Entomological Society of America National Meeting*. Vancouver, BC. (Nov 2022)
1. **Chu, H.** "Putting the graphic in infographic". *UCR Entomology Department Seminar*. Riverside, CA. (Nov 2022)

PROFESSIONAL PRESENTATIONS AND POSTERS (* denotes undergraduate mentee)

23. Murillo, A.C. and **Chu, H.** "Identifying regions of the blow fly (Diptera: Calliphoridae) genome associated with thermal traits." *S1076 USDA*. Stillwater, OK. (Jan 2025)
22. **Chu, H.** and Murillo, A.C. "Investigating patterns of blow fly (Diptera: Calliphoridae) community assembly in southern California's ecological mosaic." *Entomology*. Phoenix, AZ. (Nov 2024)
21. **Chu, H.** and Murillo, A.C. "Infographics Toolkit: Enhancing Scientific Synthesis and Communication In and Out of the Classroom." *Entomology*. Phoenix, AZ. (Nov 2024)
20. *Talley, I., **Chu, H.**, and Murillo, A.C. "Utilizing museum records for historical and ecological insights into blow fly (Diptera: Calliphoridae) populations in California." *Entomology*. Phoenix, AZ. (Nov 2024)

19. **Chu, H.** and Murillo, A.C. "Decomposers in Joshua Tree National Park: Blow fly (Diptera: Calliphoridae) communities across the Mojave and Sonoran deserts." *Ecological Society of America*. Long Beach, CA. (Aug 2024)
18. **Chu, H.** and Murillo, A.C. "Thermal limits of two blow fly (Diptera: Calliphoridae) species from the Sonoran desert". *Student Seminar Day*. Riverside, CA. (Sep 2023)
17. **Chu, H.** and Murillo, A.C. "A survey of blow flies in Joshua Tree National Park". *North American Forensic Entomology Association*. Glendale, AZ. (Jun 2023)
16. **Chu, H.** and Murillo, A.C. "Blow Fly (Diptera: Calliphoridae) Community Structure Across Urban-Natural Landscapes in Southern California". *UCR Urban Pest Management Conference*. Riverside, CA. (Mar 2023)
15. **Chu, H.** and Murillo, A.C. "Blow flies (Calliphoridae) of Joshua Tree". *Entomological Society of America National Meeting*. Vancouver, BC. **International** (Nov 2022)
14. **Chu, H.** and Murillo, A.C. "Where are the Calliphorids?: an inventory of blow flies in Southern California". *Student Seminar Day*. Riverside, CA. (Sep 2022)
13. **Chu, H.** and Murillo, A.C. "An Evaluation of Trapping Methodology for a Southern California Blow Fly Survey". *UCR Urban Pest Management Conference*. Riverside, CA. (Mar 2022)
12. **Chu, H.** and Murillo, A.C. "The Distribution and Diversity of Calliphoridae in Southern California". *Student Seminar Day*. Virtual. (Jan 2022)
11. **Chu, H.** and Yamanaka, N. "When Puberty Hits Different: abnormal juvenile hormone signaling in hemimetabolous and holometabolous insects". *Entomological Society of America National Meeting*. Denver, CO. (Nov 2021)
10. **Chu, H.** and Yamanaka, N. "A novel strategy to study loss of juvenile hormone signaling in *Drosophila melanogaster*". *Student Seminar Day*. Virtual. (Oct 2021)
9. **Chu, H.** "The Case of the Perplexing Phenotypes: Juvenile Hormone Signaling in *Drosophila melanogaster*". *Entomological Society of America National Meeting*. Virtual. (Nov 2020)
8. **Chu, H.** and Yamanaka, N. "Identifying and Characterizing a Juvenile Hormone Transporter in *Drosophila melanogaster*". *Student Seminar Day*. Virtual. (Apr 2020)
7. **Chu, H.** and Rosati, J.Y. "Drunk Flies: Oviposition Preferences of the Blow fly *Lucilia sericata* (Meigen) on Ethanol-Treated Mediums". *PRISM Symposium*. New York, NY. (Mar 2019)
6. **Chu, H.** and Yaverbaum, D.M. "Choose Charlene: What's Wrong With You? A New Way to Consider the Core Observation of Quantum Mechanics" *Departmental Seminar*. New York, NY. (Mar 2019)
5. **Chu, H.** and Rosati, J.Y. "Detection of Drug Metabolites in *Lucilia sericata*". *PRISM Symposium*. New York, NY. (May 2018)
4. **Chu, H.**, Paucar, Y., Mehta, V., Fragale, J., and Rosati, J.Y. "The Diversity of Forensically Important Flies in New York City". *Entomological Society of America National Meeting*. Denver, Colorado. (Nov 2017)
3. Wang, P., Yang, X., **Chu, H.**, and Shao, E. "Understanding the Molecular Mechanism of Insect Resistance to Bt Toxin Cry2Ab". *USDA NIFA Project Directors Meeting*. Washington, D.C. (Oct 2017)
2. **Chu, H.**, Yang, X., Shao, E., and Wang, P. "Analysis of mutations and expression of ABCA1 and ABCA2 genes in cabbage loopers resistant to Bt toxin Cry2Ab". *Undergraduate Research Symposium*. Geneva, NY. (Jul 2017)

1. **Chu, H.**, Paucar, Y., Mehta, V., Fragale, J., and Rosati, J.Y. "The Diversity of Forensically Important Flies in Central Park". *PRISM Symposium*. New York, NY. (May 2017)

OUTREACH AND COMMUNITY PRESENTATIONS

11. **Chu, H.** "What is an Entomologist and what do we do?". *Homecrest Youth Leadership Program*. Brooklyn, NY. (Nov 2025)
10. **Chu, H.** "What's a Bug?!". *Donald E. Long Detention Center*. Portland, OR. (Nov 2025)
9. **Chu, H.** "Meet the flies that pollinate!". *Entomology*. Phoenix, AZ. (Nov 2024)
8. **Chu, H** and Gerry, A. "Forensic Entomology: Real-world applications". *Poly High School Honors Science Class*. Riverside, CA. (Apr 2023)
7. **Chu, H.** "Forensic Entomology, Maggot Art, and Blow fly behavior". *CNAS Sisters*. Riverside, CA. (Mar 2023)
6. **Chu, H.** "Murder & Maggots: Can you solve this crime?". Riverside, CA. (Feb 2023)
5. **Chu, H.** "How to improve your scientific posters". *Dept. Workshop*. Riverside, CA. (Sep 2022)
4. **Chu, H.** "Medical, Urban, and Veterinary Entomology in California". *Riverside Insect Fair*. Riverside, CA. (Apr 2022)
3. **Chu, H.** "Community science and getting involved". *Riverside Insect Fair*. Riverside, CA. (Apr 2022)
2. **Chu, H.** "How to present your research creatively". *MARC U STAR Undergraduate Research Program*. Riverside, CA. (Apr 2021)
1. **Chu, H.** "How to read a research paper and not cry". Skype a Scientist. Virtual. (Oct 2020)

SERVICE

John Jay College of Criminal Justice, CUNY

Pending

Entomological Society of America

Subcommittee Member - *Formal and Informal Teaching (FIT) Online Resources, Communications*

Workshop Organizer - *Infographics Toolkit Enhancing Scientific Synthesis and Communication In and Out of the Classroom*, 2024

Member Symposium Organizer - *Scavenging Ecologists and Forensic Entomologists: Sharing Ideas to Impact People, Policy, and the Planet*, 2023

Judge for student competition, 2023, 2024

Earthlings NYC

Volunteer, 2025-present

InsectaBio, LLC.

Chief Marketing Officer, 2022-present

California Governor's Office of Precision Medicine

Science Communication and Graphic Design Policy Fellow, 2021-2022

SciComm @ UCR

President, 2020-22

Social Media and Marketing Chair, 2019-20, 2022-2024

ComSciCon

Organizing Committee Member, National Conference 2021

Organizing Committee Member, LA-Regional Conference 2021

Entomology Graduate Student Association (EGSA)

Riverside City Insect Fair Co-Chair, 2023 (Downtown Riverside Event Award-Winning Year)

Vice President, 2022-23

Social Events Committee Member, 2022-2025

Diversity, Inclusion, & Equity Committee Member, 2020-2024

Co-Chair of "Careers in Entomology: Academia and Beyond" Seminar Series, 2021

Secretary, 2020

Social Media and Technology Committee Member, 2019-present

Entomology Games Team, 2019-present

Outreach Team, 2019

UCR Entomology Department

Student Representative for Genetics/Genomics of Vectors Faculty Search, 2024

Newsletters and Technology Representative, 2022-23

Youth Summer Camp Curriculum Committee, 2022-23; 2025

Twitter Manager, 2019-present

Outreach Student Representative, 2021-22

Seminar Committee Representative, 2019-21

University of California, Riverside (UCR)

Graduate Academic Integrity Committee Student Member, 2020-2024

PROFESSIONAL ORGANIZATIONS

Society for the Advancement of Biology Education Research

Ecological Society of America

Entomological Society of America

North America Forensic Entomology Association

North American Dipterists Society