

Nicholas A. Poulos, Ph.D.

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SUMMARY

Results-driven research scientist with experience in product development, behavioral and microbial analysis, and toxicological testing. Demonstrated success in managing complex research projects from conception to completion, including the development of novel pest control methods that led to multiple patent applications. Strong track record of analyzing large datasets and communicating technical findings to diverse stakeholders, from industry professionals to academic audiences. Combines expertise in data analysis and visualization with proven ability to develop innovative solutions for real-world problems in pest management. Proficient in Excel, QIIME 2, Python, EthoVision, Photoshop, SPSS, Sigmaplot, and R.

EDUCATION

Ph.D., Department of Entomology 2019-2025
University of California, Riverside

Dissertation title: “Attractants, Chitin Synthesis Inhibitors, and Bacterial Diversity of Fecal Pellets: Improving Localized Chemical Treatment and Detection of the Western Drywood Termite (Blattodea: Kalotermitidae)”

Committee: Dong-Hwan Choe (PI), Michael K. Rust, Chow-Yang Lee

B.S. in Ecology & Evolution 2015-2019
California State University, Northridge

RESEARCH EXPERIENCE

Postdoctoral Researcher, Laboratory of Dong-Hwan Choe
Department of Entomology, University of California, Riverside 2026-Present

Graduate Student Researcher, Laboratory of Dong-Hwan Choe
Department of Entomology, University of California, Riverside 2019-2025

- Analyzed the changes in bacterial communities over time in drywood termite fecal pellets as a method of distinguishing freshly produced from aged pellets
 - Utilized QIIME 2, Python, and R to process, analyze, and visualize molecular data
- Investigated the effects of α - and β -pinene on the behavior of *I. minor* and if their inclusion could improve the efficacy of localized insecticide injections for drywood termite control
- Investigated the toxicity and horizontal transfer of chitin synthesis inhibitors bistrifluron, chlorfluazuron, and noviflumuron against *I. minor*

Research Assistant, Laboratory of Dr. Jeremy Yoder

Department of Biology, California State University, Northridge

2017-2019

- Worked on processing ddRADseq data for a *Yucca brevifolia* linkage map
- Collected, processed, and analyzed samples of white clover, *Trifolium repens*, along an urban-rural gradient as a contribution to the Global Urban Evolution Project
- Planted, maintained, and censused 96 lines of *Medicago truncatula* for flowering data project

TEACHING EXPERIENCE

University of California, Riverside

Teaching Assistant

- ENTM 133 Urban Entomology Spring 2022
- ENTM 10 Natural History of Insects Fall 2020

California State University, Northridge

Peer learning facilitator

Fall 2018 - Spring 2019

- Led 3 review lectures/discussions per week for an introductory organismal biology class

Elementary School Outreach

Spring 2018

- Taught two different classes about the surface tension of water at Dearborn Elementary

PRESENTATIONS

- Invited Speaker UCR Urban Pest Management Conference 2025
 - “Differences in bacterial diversity between fresh and aged fecal pellets in western drywood termite”
- Annual Meeting of the ESA, Phoenix, AZ 2024
 - “Determining the age of drywood termite fecal pellets utilizing comparative analysis of bacterial diversity”
- National Conference on Urban Entomology, Mobile, AL 2024
 - “Chitin synthesis inhibitors for drywood termite control”
- Invited Speaker UCR Urban Pest Management Conference 2024
 - “Chitin synthesis inhibitors for drywood termite control”
- Annual Meeting of the ESA, National Harbor, MD 2023
 - “Efficacy of chitin synthesis inhibitors against the western drywood termite, *Incisitermes minor*”
- Invited Speaker UCR Urban Pest Management Conference 2023
 - “Wood volatiles may improve spot treatments targeting drywood termites”
- Joint Annual Meeting of the ESA, Vancouver, BC, Canada 2022
 - “The use of an attractant may improve localized insecticide treatments targeting the western drywood termite, *Incisitermes minor*”

- Annual Meeting of the ESA (Pacific Branch), Santa Clara, CA 2022
 - “The use of an attractant may improve localized insecticide treatments targeting the western drywood termite, *Incisitermes minor*”
- Invited Speaker UCR Urban Pest Management Conference 2022
 - “Chitin synthesis inhibitors for drywood termite control”
- Annual Meeting of the ESA (Virtual) 2020
 - “Evaluation of an attractant to improve localized insecticide treatments targeting the western drywood termite, *Incisitermes minor*”

AWARDS

University of California, Riverside

- The Carl Strom/Western Exterminator Company Scholarship in Urban Entomology 2025
- The Carl Strom/Western Exterminator Company Scholarship in Urban Entomology 2024
- The Carl Strom/Western Exterminator Company Scholarship in Urban Entomology 2023
- GANN Fellowship 2022
- The Carl Strom/Western Exterminator Company Scholarship in Urban Entomology 2022
- The Carl Strom/Western Exterminator Company Scholarship in Urban Entomology 2021
- Lauren and Mildred Anderson Immature Insects Award 2020
- The Carl Strom/Western Exterminator Company Scholarship in Urban Entomology 2020

California State University, Northridge

- Judge Julian Beck Outstanding Graduating Senior Biology Department Award 2019

PEER-REVIEWED PUBLICATIONS

Poulos NA, Lee CY, McFrederick QS, Ngor L, Choe DH. 2025. Bacterial communities of fresh and aged fecal pellets in western drywood termite (Blattodea: Kalotermitidae) and their potential use as biomarkers of recent or active infestations. <https://doi.org/10.1093/jee/toaf293>.

Poulos NA, Lee CY, Rust MK, Choe DH. 2025. Toxicity and horizontal transfer of chitin synthesis inhibitors in the western drywood termite (Blattodea: Kalotermitidae). *Journal of Economic Entomology*. 118(3):1373-1381. <https://doi.org/10.1093/jee/toaf064>

Poulos NA, Lee CY, Rust MK, Choe DH. 2024. Potential use of pinenes to improve localized insecticide injections targeting the western drywood termite (Blattodea: Kalotermitidae). *Journal of Economic Entomology*. 117(4):1628-1635. <https://doi.org/10.1093/jee/toae101>

Santangelo JS, Ness RW, Cohan B, et al. 2022. Global urban environmental change drives adaptation in white clover. *Science*. 375(6586):1275-1281. [DOI: 10.1126/science.abk0989](https://doi.org/10.1126/science.abk0989)

Patents

Patent Pending:

Inventors: Choe DH, Poulos NA, Lee CY, Rust MK.

Use of pinenes to improve localized insecticide injections targeting the western drywood termite (Blattodea: Kalotermitidae). Filed March 5, 2024.

Inventors: Choe DH, Poulos NA, Lee CY, Rust MK.

In-wood baiting systems with chitin synthesis inhibitors to control drywood termites. Filed May 31, 2024.

Inventors: Choe DH, Poulos NA, Ngor L, Lee CY, McFrederick QS.

Differences in bacterial communities among fresh and aged fecal pellets in western drywood termite (Blattodea: Kalotermitidae) as biomarkers of recent or active infestations. Filed May 2, 2025.

REFERENCES

Dong-Hwan Choe – Professor of Entomology

Email: donghwan.choe@ucr.edu

Phone: 951-827-5717

Chow-Yang Lee – Professor and Endowed Chair in Urban Entomology

Email: chowyang.lee@ucr.edu

Phone: 951-827-2626

Michael K. Rust – Distinguished Professor of Entomology, Emeritus

Email: mikerust@ucr.edu

Phone: 951-827-5327