Tawny A. Bolinas

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Oroville, CA 95965

0009-0005-9203-0008

EDUCATION

California State University, Chico, Chico, CA
Master of Science, Microbial Ecology, GPA: 3.9, *Distinction* 2025

California State University, Chico, Chico, CA
Bachelor of Science, Cellular and Molecular Biology, GPA: 3.8, *Dean's List* 2022

Cuesta College, San Luis Obispo, CA
Associate in Arts, Liberal Arts: Social & Behavioral Sciences, GPA: 3.7, *Honors* 2021
Associate in Arts, Liberal Arts: Science, GPA: 3.7, *Honors* 2020

HONORS & AWARDS

Office of Graduate Studies, Outstanding Master's Thesis Recipient 2026
Chico State Student Hall of Fame Recipient 2025
Outstanding Graduate Student Service Award, Office of Graduate Studies 2025
Certificate of Recognition, Office of Graduate Studies 2025
Graduate Research Poster Award, Dept. of Biological Sciences 2025
Graduate-Faculty Research: 2nd place, College of Natural Sciences 2025
People's Choice Award: Graduate Research, College of Natural Sciences 2025
3rd place: Student Poster Contest, Northern California Botany 2025
Lt. Robert Merton Rawlins Merit Award, College of Natural Sciences 2024
Graduate Research Poster Award, Dept. of Biological Sciences 2024
Michael Abruzzo Outstanding Scientist Award 2022
People's Choice Award: Undergraduate Research, College of Natural Sciences 2022
Graduate-Faculty Research: 1st place, College of Natural Sciences 2022
Dean's Honor List, California State University, Chico 2020-2022
Honors, Cuesta College 2018-2020
Honors, Atascadero High School 2018

RESEARCH EXPERIENCE

California State University, Chico, Department of Biological Sciences
Graduate Researcher, June 2023 – August 2025
PI: Gerald M. Cobián

- Led a two-year thesis project testing whether foliar endophytes shape decomposer fungal communities in valley oak (*Quercus lobata*) litter, from experimental design through analysis.
- Designed a field experiment combining mesh litterbags with leaf pasteurization to control fungal colonization, and characterized fungal OTUs with ITS metabarcoding.

- Featured by NSF ACCESS and HPCwire for HPC-based sequence analysis; received the 2026 Outstanding Master's Thesis award and multiple awards for this work.

Agricultural Research Institute; USDA National Institute of Food and Agriculture
ARI NextGen Fellow, December 2023-March 2025
PI: Gerald M. Cobián

- Awarded a $25,000 USDA NIFA fellowship, the first at Chico State, advancing research and leadership in food, agriculture, and natural resource management.
- Executed a research project that generated actionable insights for sustainable agriculture and natural resources, culminating in a peer-reviewed style report shared with academic researchers, agricultural professionals, and policymakers.
- Strengthened science communication and leadership skills through intensive workshops, applying strategies to effectively engage diverse audiences and bridge the gap between research and practice. Presented results at the 2024 ARI Science and Leadership Conference.

Chico State Enterprises; California State University, Chico
Adelante Summer Researcher, June-August 2023 and June-August 2024
PI: Gerald M. Cobián

- Identified 75°C for 15 minutes as the lowest autoclave treatment that eliminated endophytes from valley oak leaves, since no irradiation facilities were available locally.
- Compared three bead-beating matrices and lysis buffer volumes for extracting fungal DNA from oak leaves; Lysing Matrix F with two-stage homogenization gave the strongest PCR amplification.
- Both protocols became part of the thesis field experiment; published each in Adelante (2023, 2024) and presented them at the Adelante Summer Research Program.

Emerging Scientist Imaging Workshop, UC Davis & HHMI Janelia Advanced Imaging Center
July – August 2023

- Selected for a highly competitive workshop in microscopy and quantitative image analysis, with an emphasis on designing microscopy experiments to test biological hypotheses.
- Imaged specimens from UC Davis College of Biological Sciences labs using transmitted light, widefield fluorescence, confocal, and image scanning microscopy.
- Processed images and ran quantitative fluorescence analyses, and learned the ethics and reporting standards that make imaging data reproducible.

California State University, Chico, Department of Biological Sciences
Clinical Trial Intern, January 2022 – May 2022
PI: David Stachura

- Ran a double-blind trial in 50 mice (10 per condition) testing stem cell conditioned media, PGE2, minoxidil, and redensyl as treatments for androgenetic alopecia.
- Applied more than 500 daily topical treatments and tracked hair regrowth; all treatments accelerated growth, and combined factors worked best in preliminary results.
- Results supported product development for industry partner FACTORFIVE Skincare and were presented at two Chico State research symposia in 2022.

California State University, Chico, Department of Biological Sciences
Research Assistant, August 2021 – April 2022
PIs: Troy Cline, Gerald M. Cobián

- Monitored SARS-CoV-2 in wastewater from nine residence halls housing more than 2,000 students to detect infection increases before clinical cases were reported.
- Extracted viral RNA from composite wastewater samples and quantified it by RT-qPCR targeting the N1 gene, reporting genome copies per liter.
- Viral RNA trends tracked the effect of campus prevention measures and provided a way to predict case increases; presented at the 2023 CSU Biotechnology Symposium.

California State University, Chico, Department of Biological Sciences
Undergraduate Researcher, November 2020 – May 2022
PI: Gerald M. Cobián

- Compared endophytes in living canyon live oak (*Quercus chrysolepis*) leaves with decay fungi in its litter to measure how much the two communities overlap.
- Endophyte and decay communities differed significantly, with fewer than 25% of more than 200 taxa in both, suggesting some endophytes persist as early litter colonizers.
- Characterized communities with high-throughput amplicon sequencing and alpha and beta diversity analyses in R, and presented results at two Chico State symposia in 2022.

FELLOWSHIPS & SCHOLARSHIPS (total $74,500)

Agricultural Research Institute USDA Fellowship ($25,000)	2023-2025
Graduate Equity Fellowship Program ($14,500)	2023-2025
Academic Senator Scholarship, Associated Students ($8,000)	2024-2025
Lt. Robert Merton Rawlins Merit Scholarship, College of Natural Sciences ($5,000)	2024
Charles Mims Travel Award, Mycological Society of America ($1,000)	2024
Wes Dempsey Field Research Award ($5,000)	2023
Jokerst Field Botany Award ($1,000)	2023
California State University Biotechnology ($15,000)	2023

PUBLICATIONS

Bolinas TA, Cobián GM. (2026). Priority effects of foliar fungal endophytes in leaf litter decomposition *[Manuscript in preparation]*. Department of Biological Sciences, California State University, Chico.

Bolinas TA, Cobián GM. (2024) DNA Optimization of Foliar Fungal Endophytes in *Quercus lobata* (Valley Oak) Leaves. Adelante: A Journal of Student Research and Creative Work. 4.

Bolinas TA, Cobián GM. (2023). Pilot Study: Time and Temperature to Eliminate Foliar Fungal Endophytes. Adelante: A Journal of Student Research and Creative Work. 3(1):41.

PRESENTATIONS

* Contributed equally to the project

Oral Presentations

1. **Bolinas TA.** (2025). Priority effects of foliar fungal endophytes in leaf litter decomposition. Friends of the Ahart Herbarium Annual Meeting and Special Presentations. Link access.

2. **Bolinas TA.** (2025). Priority effects of foliar fungal endophytes in leaf litter decomposition. Mycological Society of America Conference, Fungal Futures: Cultivating Mycology and Mycologists. Madison, WI.
3. **Bolinas TA.** (2025). Priority effects of foliar fungal endophytes in leaf litter decomposition. 39th Annual Student Research Symposium. Chico, CA.
4. **Bolinas TA.** (2024). Priority effects of foliar fungal endophytes in leaf litter decomposition. Agricultural Research Institute HSI and NextGen Science and Leadership Conference. Sacramento, CA.
5. **Bolinas TA** and Cobián GM. (2024). Priority effects of foliar fungal endophytes in leaf litter decomposition. 38th Student Research Symposium. Chico, CA. Talk presentation.
6. **Bolinas TA** and Cobián GM. (2024). DNA Optimization of foliar fungal endophytes in Quercus lobata leaves. Adelante Summer Research Program. Chico, CA.
7. **Bolinas TA** and Cobián GM. (2024). Priority effects of foliar fungal endophytes in leaf litter decomposition. Biology Department Summer Talks. Chico, CA.
8. **Bolinas TA** and Cobián GM. (2023). Thesis proposal: Priority effects of foliar fungal endophytes in leaf litter decomposition. Biology Omicron Friday Seminar Series. Chico, CA.
9. **Bolinas TA** and Cobián GM. (2023). Pilot study: time & temperature to eliminate foliar fungal endophytes. Adelante Summer Research Program. Chico, CA.
10. **Bolinas TA** and Cobián GM. (2023). Thesis proposal: Priority effects of foliar fungal endophytes in leaf litter decomposition. Biology Department Summer Talks. Chico, CA.

Poster Presentations

1. **Bolinas TA** and Cobián GM. (2025). Priority effects of foliar fungal endophytes in leaf litter decomposition. 29th Annual Biological Sciences Student Research Symposium. Chico, CA.
2. **Bolinas TA** and Cobián GM. (2025). Priority effects of foliar fungal endophytes in leaf litter decomposition. Chico State's 21st Annual College of Natural Sciences Poster Session. Chico, CA.
3. **Bolinas TA** and Cobián GM. (2025). Priority effects of foliar fungal endophytes in leaf litter decomposition. Northern California Botanists' 13th Symposium, Collaboration, Diversity, and Partnerships in Northern California Botany. Chico, CA. Link access.
4. **Bolinas TA** and Cobián GM. (2024). Priority effects of foliar fungal endophytes in leaf litter decomposition. Expanding Networks, Mycological Society of America Conference. Markham, Ontario, Canada.
5. **Bolinas TA** and Cobián GM. (2024). Priority effects of foliar fungal endophytes in leaf litter decomposition. 28th Annual Biological Sciences Student Research Symposium. Chico, CA.
6. **Bolinas TA*,** Amezcua P, Loera G, Ortega-Soto J, Hatfield C. (2024). From Cells to Ecosystems: The pervasive web of evolutionary change. 28th Annual Biological Sciences Student Research Symposium. Chico, CA.
7. **Bolinas TA*,** Amezcua P, Loera G, Ortega-Soto J, Hatfield C. (2024). From Cells to Ecosystems: The pervasive web of evolutionary change. Chico State's 20th Annual College of Natural Sciences Poster Session. Chico, CA.

8. **Bolinas TA** and Cobián GM (2024). Priority effects of foliar fungal endophytes in leaf litter decomposition. Chico State's 20th Annual College of Natural Sciences Poster Session. Chico, CA.
9. Avila D, **Bolinas TA***, Cobián GM. (2024). Eliminating Foliar Endophytic Fungi from *Quercus lobata* Leaves for Studying Priority Effects in Leaf Litter Fungal Communities. Northern California Botanists, 12th Symposium. Chico, CA. Link access.
10. Tuttle M, **Bolinas TA**, Anderson Z, Bautista N, Barragan-Mejía N, Hibner S, Cobián GM, Cline T. (2023). Wastewater-based surveillance for determination of SARS Coronavirus-2 prevalence in the Chico State University student resident hall population. California State University Biotechnology Symposium. Santa Clara, CA.
11. **Bolinas TA,** Schultz L, Cobián GM. (2022). Community overlap between foliar fungal endophytes and leaf decay fungi associated with *Quercus chrysolepis* leaves. 26th Annual Biological Sciences Student Research Symposium. Chico, CA.
12. Tuttle M, **Bolinas TA**, Anderson Z, Bautista N, Barragan-Mejía N, Hibner S, Cobián GM, Cline T. (2022). Wastewater Surveillance of Trends in SARS-CoV-2 Prevalence on Campus. 26th Annual Biological Sciences Student Research Symposium. Chico, CA.
13. **Bolinas TA**, Brewer A, Garcia K, Shahla HA, Rueb K, Stachura D (2022). Stem cell conditioned media aids the successful treatment of androgenetic alopecia (AGA). 26th Annual Biological Sciences Student Research Symposium. Chico, CA.
14. Tuttle M, **Bolinas TA**, Anderson Z, Bautista N, Barragan-Mejía N, Hibner S, Cobián GM, Cline T. (2022). Wastewater Surveillance of Trends in SARS-CoV-2 Prevalence on Campus. 18th Annual College of Natural Sciences Poster Session. Chico, CA.
15. **Bolinas TA***, Brewer A, Garcia K, Shahla HA, Rueb K, Stachura D. (2022). Stem cell conditioned media aids the successful treatment of androgenetic alopecia (AGA). 18th Annual College of Natural Sciences Poster Session. Chico, CA.
16. **Bolinas TA,** Schultz L, Cobián GM. (2022). Community overlap between foliar fungal endophytes and leaf decay fungi associated with *Quercus chrysolepis* leaves. 18th Annual College of Natural Sciences Poster Session. Chico, CA.

TEACHING & MENTORING EXPERIENCE

Butte College, Biological Sciences Department
Associate Faculty, June 2026-present

- Delivering organized, student-centered instruction aligned with the Course Outline of Record, developing lesson plans, course materials, assessments, and learning activities that support established course content and student learning outcomes.
- Evaluating student performance through timely, fair grading and constructive feedback while maintaining accurate rosters, attendance, and assessment records, student learning outcome documentation, and final grades in accordance with College policies and deadlines.
- Collaborating with department faculty, staff, and administration to coordinate course content and instructional practices, attend required meetings, manage instructional materials and laboratory resources responsibly, and comply with College, state, and federal requirements.

Office of Graduate Studies, California State University, Chico
Graduate Assistant, August 2023 – June 2025

- Advanced faculty-led research by co-developing study designs, analyzing datasets, and producing literature reviews that informed multiple ongoing biological science projects.
- Strengthened research impact through drafting manuscripts, scientific reports, and competitive grant proposals that supported funding acquisition and dissemination of findings.
- Elevated institutional visibility by presenting at academic conferences and contributing to high-quality protocols and survey instruments, ensuring methodological rigor and recognition of the university's research contributions.

Cobián Lab, California State University of Chico
Graduate Mentor, June 2023 – May 2025

- Trained undergraduates in DNA extraction, PCR, and fungal culturing for fungal ecology projects, and supervised their bench work.
- Co-mentored D. Avila's project on eliminating endophytes from *Q. lobata* leaves for priority effects experiments, presented at the 2024 Northern California Botanists Symposium.
- Coached students on scientific posters, talks, and graduate applications.

Chico State Enterprises
STEM Peer Mentor, August 2023 – May 2024

- Met one-on-one with undergraduate STEM students, including students from groups underrepresented in STEM, to draft academic plans and funding timelines.
- Helped students find research positions, scholarships, and campus resources.

California State University, Chico, Department of Biological Sciences
Biology Peer Mentor, January 2022 – May 2022

- Assisted with Principles of Physiology and Development lab sections, demonstrating techniques and explaining procedures before students started their own experiments.
- Answered questions during the lab and reviewed course concepts with students who needed more help with the material.
- Observed student lab work and gave the instructor feedback on each student's progress, which contributed to their evaluations.

ACADEMIC SERVICE & OUTREACH

Board Member 2026- present
Friends of the Ahart Herbarium

Volunteer, Botany Department 2026- present
California Academy of Sciences

Volunteer 2025- present
Mycological Society of America Student and Postdoctoral Section

Reviewer, Oecologia 2025- present
Springer Nature

Member, University Diversity Council 2024-2025
College of Natural Sciences, Associated Students, California State University, Chico

Academic Senator, Student Learning Fee Committee 2024-2025
College of Natural Sciences, Associated Students, California State University, Chico

Member, Student Academic Senate Committee 2024-2025
College of Natural Sciences, Associated Students, California State University, Chico

Student Academic Senator, College of Natural Sciences 2024-2025
Associated Students, California State University, Chico

Note taker 2020-2021
Accessibility Resource Center, California State University, Chico

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COMMUNITY ENGAGEMENT

Environmental Center of San Luis Obispo 2025-2026
Associated Students, California State University Chico 2024-2025
Food Bank Coalition of San Luis Obispo 2021-2022
Community Action Partnership of San Luis Obispo County 2021-2021
SLO Noor Foundation 2020-2022
American Cancer Society, Chico, CA 2020-2021

MEDIA FEATURES

2025
Mycological Society of America: Student Spotlight MSA SPS Newsletter

Associated Students of CSU, Chico: Associated Students Honorees Inducted into the Chico State Student Hall of Fame

U.S. National Science Foundation ACCESS: Hidden Helpers Among the Leaves

HPC Wire: ACCESS Supercomputing Aids Chico State Research on Fungi's Role in Carbon Cycling

Chico State Today: Grad Student Breaks Personal Barriers Studying the Hidden World of Fungi

2023
Chico State Today: President's Column: 6 of My Favorite Moments from 2023

The California State University: Setting an Excellent Example

Chico State Today: National Honor Awarded to Chico State Program That Advances the Number of Latinx Students Earning Graduate Degrees

2022
Chico State Today: Poop Sleuths: Student Researchers Track COVID-19 in Residence Halls

2021
Actions News Now: Students working to stop spread of COVID-19 with new project

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PROFESSIONAL MEMBERSHIPS

Mycological Society of America
Ecological Society of America