EDGAR (TJ) FRANCISCO

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EDUCATION

Stanford University Stanford, CA

PhD Student: Earth System Science Expected June 2028
Advisor: Rodolfo Dirzo

MS: Earth Systems – Conservation Biology GPA: 4.096/4.000|Class of 2022
Thesis: "Contrasting Herpetofauna Diversity in Monoculture and Polyculture Oil Palm Farms in Costa Rica"
Advisors: Rodolfo Dirzo and Gretchen C. Daily

BSH: Earth Systems – Land Systems GPA: 3.898/4.000|Class of 2020
Honors Thesis: "Lizards as a Lens for Understanding the Effects of Land Use Change"
Advisors: Rodolfo Dirzo and Gretchen C. Daily

RESEARCH EXPERIENCE

Conservation Biology Researcher Jan. 2020 – Present
Stanford Biology Department (Rodolfo Dirzo Lab) Osa and Golfito, Costa Rica and Stanford, CA

Designing and conducting interdisciplinary research alongside community partners investigating the socioecological consequences of expanding oil palm cultivation in Costa Rica. Hired and currently mentoring two Costa Rican field assistants and Stanford undergrads. Led eight months of field surveys, collecting data on reptiles and amphibians in monoculture and polyculture palm oil smallholdings during rainy/dry seasons and diurnal/nocturnal windows (1,200 survey hours). Collected climate and vegetation data (200 hours). Hired and mentored an undergraduate assistant to help analyze canopy closure and leaf litter data. Wrote my honors and master's theses exploring conservation biology, community ecology, and the regional socio-economic history of the oil palm industry and the consequences of its proliferation. Undertaking novel investigations in Costa Rica for my PhD thesis. Dirzo Lab Bio.

Conservation Technician Oct. 2022 – Dec. 2022
Stanford Conservation Program Stanford, CA

Biodiversity monitoring, evaluation, and restoration across Stanford's lands and conservation easements. Planning and orchestrating strategic experimental release of vulnerable California Tiger Salamanders. Managing special status vertebrates, fortifying native plants, and removing non-natives in CA grasslands.

Research Ecologist May 2019 – Sept. 2019; Part-time – June 2021
Instituto Socioambiental Altamira and Terra do Meio, PA, Brazil

Evaluated use, composition, and regeneration of capoeiras (community agricultural plots) and investigated their effects on plant diversity. Translated grants and articles between English and Portuguese. Spent one month in the field teaching ecology, training local ribeirinho researchers, and holding community meetings.

Lab Assistant Oct. 2018 – Dec. 2018
Stanford School of Earth (Rob Jackson Lab) Stanford, CA

Pulverized soil and plant material and weighed samples for analyses. Investigated the resilience of carbon sequestration and productivity of forests to changes in fire regime in the California Sierras

Conservation Ecology Intern May 2018 – Sept. 2018
Santa Lucia Conservancy Carmel Valley, CA

Investigated effects of strategic "conservation cattle" grazing on rangeland arthropod diversity. Collected and identified 4,000 invertebrates under microscope. Crafted and presented posters for local community and two Stanford symposia of undergraduate research and public service, SURPS and ASURPS. Surveyed vulnerable amphibian, bird, and invertebrate species.

Research Intern June 2017 – Sept. 2017
Stanford Biology Department (Gretchen C. Daily Lab) Stanford, CA

Conducted research on historical trends in multi-national biodiversity policies and treaties. Created a comprehensive dataset of multi-national conservation treaties. Used R to discern patterns to explain historical motives influencing conservation-policy creation, implementation, and efficacy.

Research Assistant Mar. 2017 – June 2017
Stanford Biology Department (Gretchen C. Daily Lab) Stanford, CA

Investigated Costa Rican arthropod diversity dynamics. Identified invertebrates: family/morphospecies. Captured high resolution photos with microscope, weighed, and preserved thousands of specimens.

Biology Field Assistant Nov. 2016 – Mar. 2017
Manú Learning Center Parque Nacional Manú, Madre de Dios, Peru

Investigated vertebrate community responses to differing forest disturbance and land use histories in the Amazon. Conducted 700 hours of field surveys: pitfalls, mist netting, visual encounter transects, point counts, clay-lick monitoring, quadrats. Processed, handled, monitored, and identified reptiles, amphibians, insects, mammals, and birds. Led English lessons for local staff members.

Student Conservationist July – August 2014
National Geographic Student Expeditions Manaus, Campo Grande, and Rio de Janeiro, Brazil

Used radio telemetry equipment, tracked, and monitored Golden Lion Tamarins with the Associação Mico-Leão-Dourado (Atlantic Forest). Assessed forest corridors by measuring/analyzing tree growth.

TEACHING EXPERIENCE – Stanford Doerr School of Sustainability

Teaching Assistant for Ecology and Ethics of Conserving Megafauna Jan. 2024 – Mar. 2024

Taught a course with 83 master's and undergraduate students. I led a weekly discussion section with 20 students. I coordinated and managed grading and logistics for the course. We engaged with a range of interdisciplinary scholarship on how humans seek to study, understand, exploit, protect, and empathize with charismatic megafauna. Received excellent student feedback, sharable upon request.

Course Coordinator for Introduction to Earth Systems (Earthsys10) Mar. 2021 – Jan. 2022

Handled logistics and planning for the largest course in the Stanford Doerr School of Sustainability with 309 undergraduate students and 10 teaching assistants. Solicited and organized 30 lectures, each from a different Stanford faculty member. Hired and trained new teaching staff. Managed Canvas and Gradescope websites.

Teaching Assistant for Biology and Global Change (Earthsys111/Bio217) Dec. 2020 – Mar. 2021

Taught, managed logistics, and arranged accommodations for student accessibility for 94 undergraduate and graduate students. Created and evaluated five essay prompts and four major homework assignments. Hosted two course-wide student question sessions weekly and a multitude of one-on-one tutoring appointments.

Teaching Assistant for Introduction to Earth Systems (Earthsys10) June 2020 – Dec. 2020

Led three hours weekly instruction for 32 of 204 students. Planned, created, taught, and graded original lessons, mock town halls, and homework assignments. Organized 17 virtual tour experiences among six California Bay Area locations as the course field trip coordinator. Hosted three course-wide student question sessions weekly. Fantastic student reviews, sharable upon request.

PUBLICATIONS

E. Francisco, H. Herrera, A. Ortíz García, & R. Dirzo. Anolis lizards reveal conservation benefits of transforming oil palm monocultures into diversified polycultures. In prep for *Biological Conservation*.

PRESENTATIONS

2023 Invited talk for the TWS 2023 Annual Conference's Collaborative Conservation Symposium. "Diversifying oil palm farms supports smallholders and wildlife in Costa Rica: Successes and challenges". **E. Francisco**, R. Dirzo. (2023) The Wildlife Society. Louisville, KY. *Talk*.

2023 "Anolis lizards reveal conservation benefits of transforming oil palm monocultures into diversified polycultures". **E. Francisco**, R. Dirzo. (2023) The Ecological Society of America. Portland, OR. *Talk*.

2023 "Diversifying oil palm farms supports smallholders and wildlife in Costa Rica" **E. Francisco**. (2023) ESSCapades Speaker Series. Stanford, CA. *Talk*

2022 "Diversifying oil palm plantations restores key microhabitats for forest dependent herpetofauna whereas monocultures favor disturbance specialists". **E. Francisco**, R. Dirzo. (2022) The Ecological Society of America. Montréal, Canada. *Talk*.

2022 "Oil Palm Polycultures Support More Forest-Dependent Herpetofauna Compared to Paired Monocultures, Which Favor Disturbance or Open-Habitat Specialists". **E. Francisco**, R. Dirzo. (2022) The Wildlife Society Annual Conference. Spokane, WA. *Talk*.

2022 "Lizards as a Lens for Understanding the Effects of Land Use Change". **E. Francisco**. (2022) Stanford School of Earth, Energy and Environmental Sciences Research Review. *Talk*.

2022 "Lizards as a Lens for Understanding the Effects of Land Use Change". **E. Francisco**. (2022) Stanford Earth Systems Honors Symposium. *Talk*.

2021 "Reptile and Amphibian Responses to the Biological Enrichment of Palm Farms". **E. Francisco**. (2021) 19th Annual UCSC-Stanford Species Interactions Workshop. *Talk*.

2019 "Effects of Conservation Cattle on Rangeland Arthropod Diversity". **E. Francisco**, C. Wyckoff. (2019) Stanford April Symposium of Undergraduate Research and Public Service. *Poster*.

2018 "Cattle to the rescue? Investigating the Effects of Conservation Grazing on Arthropod Diversity". **E. Francisco**, C. Wyckoff. (2018) Stanford Symposium of Undergraduate Research and Public Service. *Poster*.

GRANTS

2023	The Wildlife Society, Biological Diversity Working Group Student Travel Grant	**$500**
2022	The Wildlife Society, Biological Diversity Working Group Student Travel Grant	**$500**
2022	Earth Systems Award for Outstanding Research (Master's Thesis)	**$250**

2022	The Ecological Society of America, Southeastern Chapter Travel Grant	**$400**
2021	Stanford Woods Institute for the Environment: Iniciativa Osa y Golfito Research Fund	**$1,250**
2021	Stanford Earth Systems Department, Research Travel Grant	**$1,000**
2020	Stanford Earth Systems Scholars Award	**$8,000**
2020	School of Earth Dean's Award for Outstanding Undergraduate Academic Achievement	**$250**
2019	Stanford's Center for Latin American Studies, Pessoa-Trejos Grant	**$6,000**
2018	Stanford's 'Bill Lane Center for the American West' Grant	**$5,500**
2017	Stanford Vice Provost for Undergraduate Education, Research Grant	**$7,000**

AWARDS & HONORS

2022 Earth Systems Award for Outstanding Research (Master's Thesis).

2022 Stanford Global Studies Student Photo Contest. Two photos received Honorable Mentions in the Animal category.

2021 Stanford Earth Annual Photo Contest. Runner Up in Field Work category.

2021 Earth Systems Award for Outstanding Contributions as a Teaching Assistant.

2020 School of Earth, Energy and Environmental Sciences Dean's Award for Outstanding Academic Achievement.

RESEARCH SKILLS

Communication: Full professional proficiency in Spanish, working proficiency in Brazilian Portuguese, advanced training in public speaking, science communication.

Field: Biological surveys, species identification/handling/measuring, 4x4, wilderness first aid, CPR.

Technical: R, Excel, PowerPoint, ImageJ, ArcGIS, QGIS, photography, statistics, microscopy.

SERVICE

Academic

The Wildlife Society – Chair-elect of the Biological Diversity Working Group with 268 members (2023-2024). Organized a symposium, "Common Ground for Biodiversity: Collaborative Conservation Looking Back and Moving Forward", at the annual TWS conference in Louisville, KY (2023). Reviewed 46 abstract submissions to annual meeting (2023). Volunteered as events greeter at annual conference in Spokane, WA (2022). Oversaw information table for the Biological Diversity Working Group (2022 and 2023).

Ecological Society of America – Appointed to ESA's Annual Meeting Abstract Review Committee (2024 – 2026). Reviewing 105 abstract submissions to the annual meeting (2024). Reviewed 67 abstract submissions to the annual meeting (2023). Volunteered at annual conference in Montréal, Canada. Moderator and audio-visual coordinator for 30 oral presentations. (2022)

Graduate Student Advisory Council – Stanford Doerr School of Sustainability (2020-2021)

Undergraduate Transcript Notation – Cardinal Service, Integrating Academic Learning with Public Service (2020)

Natural Capital Symposium – Volunteered at annual symposium in Stanford, CA. Moderator for oral sessions and audio-visual assistance. (2018)

Mentorship

Angelina Schapiro – Undergraduate researcher. Stanford University. (2023-2024)

Albin Ortiz García – Biologist field researcher. Osa and Golfito, Costa Rica. (2021-2024)

Hansel Herrera, MSc – Biologist field researcher. Osa and Golfito, Costa Rica. (2021-2024)

Attended the Stanford Neurodiversity Summit in Oct. 2022, diligently learning how to more inclusively and effectively teach and mentor a broader audience. (2022)

Vanessa Yarelli Rodriguez – Undergraduate researcher. Stanford University. (2021-2022)

Instituto Socioambiental – Taught environmental education courses in Portuguese to community partners working and living in Terra do Meio's Extractive Reserves, Riozinho do Anfrísio and Iriri. (2019)

Manú Learning Center – Held English lessons for local Peruvian staff. (2016-2017)

Outreach

Featured in The Wildlife Society's Biological Diversity Working Group Newsletters (2022, 2023, 2024)

Featured photographer in *Anole Annals* annual photo contest and calendar. (2022)

Laboratorio Experimental de Palma Africana (LAPA) – Crafted presentation, "Cómo responden los reptiles y anfibios a la diversificación de fincas de palma aceitera?" to share with farming families and all involved for the annual LAPA summit, part of Stanford's Iniciativa Osa y Golfito, in Costa Rica. (2021)

Instituto Socioambiental – Led four community meetings in Portuguese, teaching, learning, and discussing, "Ecologia e biodiversidade na Terra do Meio". Wrote blog posts for Stanford Global Studies. (2019-2020)

Santa Lucia Conservancy – Designed community education posterboard, "Keeping it Wild. Snakes of the Preserve". Wrote blog posts for Stanford's Bill Lane Center for the American West: "Keeping it Wild at the Santa Lucia Conservancy" and "The Little Things that Run the World". (2018)

Professional Memberships & Affiliations

Association of Southeastern Biologists (since 2022)

The Wildlife Society, Biological Diversity Working Group (since 2021)

Iniciativa Osa y Golfito, Stanford Woods Institute for the Environment (since 2020)

Ecological Society of America, Southeastern Chapter (since 2019)

Bay Area Herpetological Society (since 2015)

REFERENCES

Rodolfo Dirzo, PhD — Department of Earth System Science
rdirzo@stanford.edu — Doctoral Dissertation Advisor, MS, and BSH Principal Research Advisor

Gretchen C. Daily, PhD — Department of Biology
gdaily@stanford.edu — MS, BSH Research Advisor

Karen Casciotti, PhD — Department of Oceans
kcasciot@stanford.edu — Director of MS and BSH Programs