ILEANA A. CALLEJAS

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EDUCATION

University of California, Los Angeles (UCLA) 2023
Doctor of Philosophy in Environmental Engineering
Dissertation: Emerging Techniques in Coastal Water Quality in the US and Belize: Remote Sensing and Metagenomics

University of California, Los Angeles 2019
Master of Science in Environmental and Water Resources Engineering
Thesis: Quantification and Correlation Analysis of Antibiotic Resistance Gene, ermF, and Class 1 Integron, intI1, in Commercially Available Fertilizers

University of California, Los Angeles
Bachelor of Science in Environmental Science (Minor: Environmental Engineering) 2018

EXPERIENCE

Postdoctoral Fellow, NASA Jet Propulsion Laboratory	2024-Present
Climate Resilience Fellow, UCLA Center for Diverse Leadership in Science	2024-Present
Assistant Professor, Biological Sciences, Biola University	2023-Present
Instructor, Biological Sciences, Mount Saint Mary's University	2022-2023
Graduate Student Researcher, Civil and Environmental Engineering, UCLA	2018-2023
Intern, Water & Ecosystems Group, NASA Jet Propulsion Laboratory	2020-2022
Intern, Earth and Environmental Sciences, Lawrence Berkeley National Laboratory	2019
Undergraduate Student Researcher, Civil and Environmental Engineering, UCLA	2017-2018
Intern, Metropolitan Water District of Southern California	2018
Intern, Watershed Protection Division, Bureau of Sanitation, City of Los Angeles	2017
Public Programs Intern, Heal the Bay	2016

PEER-REVIEWED PUBLICATIONS

- Maniyar, C. B., Rudresh, M., **Callejas, I. A**., Osborn, K., Lee, C. M., Jay, J., et al. (2023). Spatio-Temporal Dynamics of Total Suspended Sediments in the Belize Coastal Lagoon. Remote Sens. 2023, Vol. 15, Page 5625 15, 5625. doi:10.3390/RS15235625.
- **Callejas, I. A.,** Huang, L., Cira, M., Croze, B., Lee, C. M., Cason, T., et al. (2023). Use of Google Earth Engine for Teaching Coding and Monitoring of Environmental Change: A Case Study among STEM and Non-STEM Students. *Sustainability,* 15, 1–13. doi:10.3390/SU151511995.
- **Callejas, I. A.**, Osborn, K., Lee, C. M., Mishra, D. R., Gomez, N. A., Carrias, A., et al. (2022). A GEE Toolkit for water quality monitoring from 2002-2022 in support of SDG 14 and coral health in Marine Protected Areas in Belize. *Front. Remote Sens*., 1–13. doi:10.3389/frsen.2022.1020184.
- **Callejas, I.** (2022). Monitoring coastal water quality with satellite data. *Nature Reviews Earth & Environment*, 3(September), 556. doi:10.1038/s43017-022-00337-1.
- Martín-Arias, V., Evans, C., Griffin, R., Cherrington, E. A., Lee, C. M., Mishra, D. R., Gomez, N. A., Rosado, A., **Callejas, I. A.**, Jay, J. A., & Rosado, S. (2022). Modeled Impacts of LULC and Climate Change Predictions on the Hydrologic Regime in Belize. *Frontiers in Environmental Science*, 10(April), 1–16. doi:10.3389/fenvs.2022.848085.
- Alves, R. J. E., **Callejas, I. A.**, Marschmann, G. L., Mooshammer, M., Singh, H. W., Whitney, B., Torn, M. S., & Brodie, E. L. (2021). Kinetic Properties of Microbial Exoenzymes Vary With Soil Depth but Have Similar Temperature Sensitivities Through the Soil Profile. *Frontiers in Microbiology*, 12(November), 1–23.doi:10.3389/fmicb.2021.735282.
- **Callejas, I. A.**, Lee, C. M., Mishra, D. R., Felgate, S. L., Evans, C., Carrias, A., Rosado, A., Griffin, R., Cherrington, E. A., Ayad, M., Rudresh, M., Page, B. P., & Jay, J. A. (2021). Effect of COVID-19 Anthropause on Water Clarity in the Belize Coastal Lagoon. *Frontiers in Marine Science*, 8, 490. doi:10.3389/FMARS.2021.648522.
- Cira, M., Echeverria-Palencia, C. M., **Callejas, I.**, Jimenez, K., Herrera, R., Hung, W.-C., Colima, N., Schmidt, A., & Jay, J. A. (2021). Commercially available garden products as important sources of antibiotic resistance genes—a survey. *Environmental Science and Pollution Research*, 1–8. doi:10.1007/s11356-021-13333-7.

PRESENTATIONS

- **Callejas, I. A.,** "A GEE toolkit for water quality monitoring from 2002 to 2022 in support of SDG 14 and coral health in marine protected areas in Belize," *GeoAqua Watch Water Talks*, Winter 2024 (Virtual)
- **Callejas, I. A.**, Hung, W., Cira, M., Cason, T., Masikip, A., Singh, A., Jones, A. C., & Jay, J. A., "The Influence of Land Use and Water Reclamation Plants on Fecal Indicator Bacteria and Antibiotic Resistance in the Los Angeles River Watershed," *Microbes in Wastewater Symposium*, Winter 2024 (Laguna Beach, Ca)
- **Callejas, I. A.,** Hung, W., Cira, M., Cason, T., Masikip, A., Singh, A., Jones, A. C., & Jay, J. A., "The Influence of Land Use and Water Reclamation Plants on Fecal Indicator Bacteria and Antibiotic Resistance in the Los Angeles River Watershed," Los Angeles River Symposium, Fall 2023 (Los Angeles, Ca)
- **Callejas, I. A.**, Hung, W., Cira, M., Cason, T., Masikip, A., Singh, A., Jones, A. C., & Jay, J. A., "The Influence of Land Use and Water Reclamation Plants on Fecal Indicator Bacteria and Antibiotic Resistance in the Los Angeles River Watershed," *AGU Fall Meeting*, Fall 2022 (Chicago, IL)
- **Callejas, I. A.**, Osborn, K., Lee, C. M., Mishra, D. R., Auil Gomez, N., Carrias, A., Cherrington, E., Griffin, R., Rosado, A., Rosado, S., & Jay, J. A., "A Toolkit for Water Quality Monitoring from 2002-2022 in Support of Sustainable Development Goal 14 and Coral Health in Marine Protected Areas in Belize," *AGU Fall Meeting*, Fall 2022 (Chicago, IL)
- **Callejas, I. A.**, Lee, C. M., Mishra, D. R., Felgate, S. L., Evans, C., Carrias, A., Rosado, A., Griffin, R., Cherrington, E. A., Ayad, M., Rudresh, M., Page, B. P., Cassano, K. S., & Jay, J. A., "Remote sensing of water quality in coastal Belize: Implications for coastal zone management and informing Sustainable Development Goals," *AGU Fall Meeting*, Fall 2021 (Virtual)
- Rudresh, M., Mishra, D. R., Wheelock, C., Phillips, M., **Callejas, I. A.**, Lee, C. M., Griffin, R., Cherrington, E. A., & Rosado, S., "Monitoring Changes in Water Quality in the Belize Barrier Reef Coastal Lagoon During COVID-19," *AGU Fall Meeting*, Fall 2021 (New Orleans, LA)
- Alves, R. J. E., **Callejas, I. A.**, Marschmann, G., Mooshammer, M., Singh, H. W., Whitney, B., Torn, M. S., and Brodie, B., "Kinetic Properties of Microbial Exoenzymes Vary With Soil Depth but Have Similar Temperature Sensitivities Through the Soil Profile," *AGU Fall Meeting*, Fall 2020 (Virtual)
- Cira, M., **Callejas, I.**, Echeverria-Palencia, C., and Jay, J. A., "Commercially Available Garden Products as Potential Sources of Antibiotic Resistance Genes," *ACS National Conference*, Summer 2019 (San Diego, Ca)

HONORS AND AWARDS

NASA Postdoctoral Program	2024
International Institute Fieldwork Fellowship, UCLA	2022
GradSWE@UCLA Support Scholarship	2022
NSF-funded Graduate Traineeship in Integrated Urban Solutions for Food, Energy, and Water Systems	2021
Charles F. Scott Fellowship, UCLA	2020
Center for Diverse Leadership in Science (CDLS) Early Career Fellow, UCLA	2019
Hispanic Scholarship Fund (HSF) Scholar	2019
Competitive Edge Fellowship, UCLA	2019
Graduate Degrees for Minorities in Engineering and Science (GEM) Fellowship	2019
Eugene V. Cota-Robles Fellowship, UCLA	2019
Graduate Opportunity Fellowship Program (GOFP), UCLA	2018

TEACHING EXPERIENCE

Instructor of Record

Biological Sciences, Biola University

Fundamentals of Organismal Biology Laboratory (Fall 2023)
Global Development & Ecological Sustainability (Fall 2023)
Microbiology Laboratory (Spring 2024)
Seminar in Advanced Biology (Spring 2024)
Land Resources (Spring 2024)
General Ecology Laboratory (Spring 2024)

Biological Sciences, Mount Saint Mary's University

Microbiology Laboratory (Fall 2022, Spring 2023)

Teaching Assistant & Grader
Civil & Environmental Engineering, UCLA
Chemical Fate and Transport in Aquatic Environments (Winter 2019, Winter 2022)
Environmental Aquatic Inorganic Chemistry (Fall 2019)

Institute of the Environment & Sustainability, UCLA
Introduction to Sustainable Architecture and Community Planning (Summer 2020)
Environmental Politics and Governance (Summer 2019, Summer 2020)
Sustainability Talks (Fall 2017)

MENTORSHIP AND DIVERSITY EXPERIENCE

Co-Lead, UCLA Center for Diverse Leadership in Science K-12 Outreach Team 2019-2023
Participant, Women in Engineering @ UCLA Leadership Academy 2022-2023
Co-Facilitator, Youth Education and Empowerment in STEM (YEE STEM) 2020-2022
Mentor, Grad Strive/Grad2Grad Mentoring Program 2022
Mentor, Civil & Environmental Engineering Graduate Student Association Mentorship Program 2022
Mentor, Summer Undergraduate Research Program (SURP) 2021
Mentor, Great Minds in STEM 2020
Mentor, UCLA Graduate-Undergraduate Mentorship Program (GUM) 2020
Graduate Research Mentor, UCLA Center for Excellence in Engineering and Diversity 2019-2020
Graduate Research Mentor, UCLA Samueli School of Engineering 2019
Speaker at Outreach Events, Various 2018-Present

- UCLA CLUSTER 80 – Satellite Remote Sensing: Monitoring the Environment from Space
- SCASM Student Virtual Meeting – Fieldwork, Research, and Grad School
- Sustainability Talks: Course at UCLA for undergraduate students interested in careers in sustainability
- Idaho Science and Aerospace Scholars (ISAS): NASA Program for Idaho high school students
- UCLA SURP – Struggles in Research Panel
- Women in STEM: Breaking Barriers Annual Conference: Science demo on satellites for K-12 classes, UCLA
- Resources for Students of Color: Panel for incoming graduate students of color, UCLA Graduate Student Orientation
- Introduction to Civil Engineering: Course at UCLA for first-year Civil & Environmental Engineering students
- Introductory College Level Experience in Microbiology (iCLEM) program at JBEI: Summer science intensive geared towards junior and senior high school students in low-income communities, Lawrence Berkeley National Laboratory
- Latinx Admit Weekend: Geared towards Latinx high school students admitted to UCLA, UCLA Latino Alumni Association

JOURNAL & GRANT PANEL CONTRIBUTIONS

Reviewed for Frontiers in Remote Sensing, Journal of Hazardous Materials
Review Panelist for NSF IUSE 2024 ENGR PANEL 2 Assessment and Community College (P241642)

SKILLS AND CERTIFICATIONS

Computer: R Studio, Python, MATLAB, ArcGIS, QGIS, Google Earth Engine (JavaScript & Python API)
Laboratory: qPCR, DNA Extraction, UV-Vis Spectrophotometry, Bacterial cultures
Certifications: Engineer-In-Training, State: California as of February 2020 No.170240, CIRTL@UCLA Practitioner, UCLA Leaders in Sustainability
Languages: Fluent in Spanish