Gabriel C. Runte

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Education

PhD Candidate | University of California, Santa Barbara - Ecology, Evolution, and Marine Biology. Graduation date: December 2024 **Present**

Committee: Holly Moeller (chair), Leander Anderegg, Laura Bogar (UC Davis), Carla D'Antonio, Ryoko Oono

M.A. | University of California, Santa Barbara - Ecology, Evolution, and Marine Biology. **2021**

Thesis: Spheres of Influence: Host Tree Proximity and Soil Chemistry Shape rRNA, but Not DNA, Communities of Symbiotic and Free-Living Soil Fungi in a Mixed Hardwood-Conifer Forest

Committee: Holly Moeller (co-chair), Ryoko Oono (co-chair), Carla D'Antonio

B.S. | University of California, Santa Barbara - Environmental Studies. **2018**

Minor in Professional Writing for Science Communication

Writing Advisor: Amy Propen

Publications

GC Runte, A Chuen, B McKernan, HV Moeller (2024). A reflection of their roots: How soil conditioning and neighbor effects shift seedling outcomes and drought response. *In prep, manuscript available upon request.*

GC Runte, HV Moeller (2024). Is the friend of my friend my enemy? The maintenance of multiple hosts and symbionts in a mutualism network. *In prep, manuscript available upon request.*

HV Moeller, A L'Etoile-Goga, L Vincenzi, A Norlin, GS Barbaglia, **GC Runte**, JT Kaare-Rasmussen, MD Johnson (2024). Retention of blue-green cryptophyte organelles by Mesodinium rubrum and their effects on photophysiology and growth. *Journal of Eukaryotic Microbiology (in press).*

GC Runte, R Oono, NA Molinari, SR Proulx, CM D'Antonio (2022). Restoring bigcone Douglas-fir post-fire in drought-stricken Southern California: Assessing the effects of site choice and outplanting strategies. *Frontiers in Forests and Global Change*. https://doi.org/10.3389/ffgc.2022.995487

J Weverka, **GC Runte**, EL Porzig, CJ Carey (2022). Exploring plant and soil microbial communities as indicators of soil organic carbon in a California rangeland. *Soil Biology and Biochemistry*. https://doi.org/10.1016/j.soilbio.2023.108952

GC Runte AH Smith, HV Moeller, LM Bogar (2021). Spheres of influence: Host tree proximity and soil chemistry shape rRNA, but not DNA, communities of symbiotic and free-living soil fungi in a mixed hardwood-conifer forest. *Frontiers in Ecology and the Environment*. https://doi.org/10.3389/fevo.2021.641732

Grants, Fellowships, and Awards

Joseph H. Connell Field Ecology Research Fellowship ($3,000) **2024**
Worster Award Fellowship ($5,000) **2022**
Sonoma County Mycological Society Scholarship ($1,000) **2022**

Schmidt Family Foundation Mentorship Award ($8,000) **2021**
Associated Students Coastal Fund at UC Santa Barbara ($9,000) **2021**
Honorable Mention, NSF Graduate Research Fellowships Program **2021**
Garden Club of America Fellowship in Ecological Restoration ($4,000) **2020**
Honorable Mention, NSF Graduate Research Fellowships Program **2020**
Sonoma County Mycological Society Scholarship ($1,000) **2020**
NSF Research Experiences for Undergraduates **2018**
UC Global Food Initiative Fellowship ($4,000) **2018**
Diana Raab Writing Fellowship ($750) **2018**

Presentations

International Conference on Mycorrhizas **2024**
Ecological Society of America Annual Meeting **2023**
Terrestrial Microbiology (EEMB 145) Guest Lecture on Fungi in the Environment **2023**
8th Annual California Oak Symposium **2022**
Ecological Society of America Annual Meeting **2022**
Yosemite Symbiosis Workshop **2022**
Conservation Seminar Series, UC Santa Barbara **2021**
Terrestrial Microbiology (EEMB 145) Guest Lecture on Fungi in the Environment **2021**
UCSB EEMB Graduate Research Symposium **2020**
National Fish and Wildlife Fire Restoration Grantee Forum **2019**

Training

CyVerse Foundational Open Science Skills (FOSS) Course **2023**
ESIIL Forest Resiliency Working Group **2023**

Mentorship

Undergraduate Researchers
Independent projects:

Aubrey Chuen **2022-2023**
Developed a non-destructive plant health survey method for greenhouse applications. This method uses remote sensing techniques and a multispectral camera for image analysis in R. *Worster Award Recipient*

Bailey McKernan **2021-2023**
Conducted an experiment on how drought-conditioning might improve outplant success in the backcountry. *Schmidt Family Foundation Mentorship Award Recipient, URCA Recipient. Masters Student at SDSU.*

Nicholas Haghani **2019-2020**
After the campus closure due to COVID, Nicholas pivoted from a lab-based project to bioinformatic and statistical analyses on microbe communities in a highly stratified marine system. *PhD student at UC Davis.*

Additional mentoring (discipline, Graduate/Undergrad):
Ryan Fass (programming, G), Stephanie Hurtado-Gonzalez (molecular techniques, U), Ronja Keeley (data analysis, U), Piper Lovegreen (general advising, G), Emily Lu (molecular techniques, U), Keith Oshima (molecular techniques, U), Alex Smith (molecular techniques, U), Kiana Soeung (molecular techniques, U), Joanna Tang (data analysis, G)

Outreach and Teaching

Outreach

EEMB Undergraduate Research Open House **2022-2024**
Developed and ran an open house event aimed at broadening access to underrepresented groups in undergraduate research. Led fundraising and co-led organizing each year.

High school research demos **2023-2024**
Introduced high school students to university programs and facilities. Led students through a brief experimental project harvesting mycorrhizal seedlings.

Teaching Assistant

Ecological Modeling **2022**
Led a computer-based laboratory section introducing students to coding in R and working with calculus-based mathematical modeling using numerical simulations.

Introduction to Ecology **2021, 2024**
Broad introductory course to many of ecology's foundational theories. Led discussion sections centered on literature interpretation. (2021 was via Zoom)