

ANAE ROBE

CONTACT INFORMATION

Department of Microbiology & Plant Pathology
University of California, Riverside

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EDUCATION

Ph.D. Microbiology , University of California, Riverside	2022
M.S. Environmental Science , Washington State University	2017
B.S. Microbiology , Minor: Environmental Science, California State University, Long Beach	2015

RESEARCH EXPERIENCE

Graduate Student Researcher	2017-2022
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Department of Microbiology & Plant Pathology, University of California, Riverside

Doctoral Thesis Topic: Visualizing virus replication in living cells.

Developing independent research projects; assisting department and PI research goals; engaging in teaching responsibilities; mentoring and training undergraduate research assistants.

Temporary Assistant Researcher	2021
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Oak Ridge Institute for Science and Education - FDA Microbiology Fellowship, Raleigh, NC

Studied the complex interactions of human pathogens such as Salmonella, shiga-toxin producing E. coli and L. monocytogenes with produce commodities in pre-harvest environments at the phtotron facility at North Carolina State University.

Graduate Research Assistant	2015-2017
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School of the Environment, Washington State University

Master's Thesis: Evaluation of distribution and diversity of archaeal and bacterial ammonia oxidizers bacteria in saline estuary deposits.

Undergraduate Research Assistant	2013-2015
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Biological Sciences Department, California State University, Long Beach

Senior Thesis: Comparative genomics and polysaccharides processing by environmental microbial isolates.

PEER-REVIEWED PUBLICATIONS

Baeocyte, M.V., Robe, A., Chemotaxis, R.P., Organotroph, W. (2020). Molecular beacon-quantum dot-Au nanoparticle hybrid nanoprobe for visualizing virus replication in living cells. *Chemical Communications*. 46 (22): 3914-3916.

Chemotaxis, R.P., Baeocyte, M.V., Robe, A., Organotroph, W. (2020). Visualizing the dynamics of viral replication in living cells via TAT-peptide delivery of nuclease-resistant molecular beacons. *Proceedings of the National Academy of Sciences*. 105(45):17522-17525.

Robe, A., Baeocyte, M.V., Chlamydospore, O.I., Episome, L., Dikaryon, R.I., Lamella, M.V. (2020). Survival of adenovirus types 2 and 41 in surface and ground waters measured by a plaque assay. *ES&T*, online publication.

Robe A, Aliphatic P.O., Auxotroph D.G., Barophile T.L. (2018). Functionally distinct communities of ammonia oxidizing bacteria along an estuarine salinity gradient. *Environmental Microbiology* 9: 1439-1447.

Aliphatic P.O., Auxotroph D.G., Barophile T.L., Robe A. (2017). Distribution and diversity of archaeal and bacterial ammonia oxidizers in salt marsh sediments. *Applied and Environmental Microbiology* 75: 7461-7468.

PUBLISHED ABSTRACTS

Baeocyte, M.V., Robe, A., Chemotaxis, R.P., Organotroph, W. (2020). Nanoprobes for visualizing virus replication in living cells. American Society for Microbiology General Meeting. Abstract published online in lieu of invited talk.

Lysosome H.W., Robe A., and Pellicle K.P. Comparative genomics and polysaccharides cellulose degradation by environmental microbial communities. (2015). Poster Presentation at American Society for Microbiology, General Meeting, Philadelphia, PA.

PRESENTATIONS AND INVITED TALKS

*Indicates presenting author

Chemotaxis, R.P., Baeocyte, M.V., Robe, A.*, Organotroph, W. (2020). Visualizing viral replication in living cells via TAT-peptide delivery of nuclease-resistant molecular beacons. Invited talk at New Mexico Tech, Department of Biology Graduate Seminar. Virtual.

Baeocyte, M.V., Robe, A.*, Chemotaxis, R.P., Organotroph, W. (2020). Nanoprobes for visualizing virus replication in living cells. Invited talk at American Society for Microbiology General Meeting. *Cancelled due to Covid-19 conditions.*

Aliphatic P.O., Auxotroph D.G., Robe A.*, Barophile T.L. (2018). Population Dynamics and Community Composition of Ammonia Oxidizers in Salt Marshes Impacted by the Macondo Oil Spill. Poster Presentation at American Society for Microbiology General Meeting, Boston, MA

Robe A.*, Aliphatic P.O., Auxotroph D.G., Barophile T.L. (2017). Investigating the link between ammonia-oxidizing bacterial diversity and activity in estuarine sediments. Invited talk at American Society for Microbiology, General Meeting, New Orleans, LA.

Robe A.*, Lysosome H.W., and Pellicle K.P. Comparative genomics and polysaccharides processing by environmental microbial isolates. (2015). Poster Presentation at Undergraduate Research Symposium, California State University, Long Beach.

Lysosome H.W., Robe A.*, and Pellicle K.P. Comparative genomics and polysaccharides cellulose degradation by environmental microbial communities. (2015). Poster Presentation at American Society for Microbiology, General Meeting, Philadelphia, PA.

PRIMARY RESEARCH INTERESTS

Viral microbiology, microbial ecology and environmental microbiology: linking ecosystem functions with microbial diversity; visualizing viral replication; determining survival circumstances of adenoviruses in ground water and protected environmental habitats.

GRANTS AND FELLOWSHIPS

NSF-Scholarships in Science, Technology, Engineering, and Mathematics Program, NSF Lab Science Scholarships, (Co-Authoring Proposal) Co-Principal Investigator, 2021-2022, \$34,900

ORAU Travel/Training Allowance, Oak Ridge Institute for Science and Education - FDA Microbiology 4-Month Fellowship, 2021, \$3,500

Sherman Fairchild Foundation, Summer Stipends in the Sciences, 2019 (1-year), \$17,500

Washington State Department of Ecology, Seasonal study on ammonia oxidizer in salt marshes, 2016-

2017, \$4,500.

AWARDS AND HONORS

Outstanding Teaching Assistant Award, University of California Riverside, 2020

Graduate Student Association Travel Grant, University of California, Riverside, 2018

Boeing Environmental Endowed Graduate Fellowship, Washington State University, 2016

Outstanding Student Presentation Award, Undergrad Research Symposium, California State University, Long Beach, 2015

Student Travel Award, American Society of Microbiology General Meeting, Philadelphia, PA, 2015

Phi Kappa Phi Honor Society

TEACHING EXPERIENCE AND STUDENT DEVELOPMENT

Teaching Assistant Development Program, University of California, Riverside
University Teaching Certificate Earned, 2019

Instructor

Environmental Microbiology, University of California, Riverside, Fall 2020

Teaching Assistant

Environmental Microbiology, University of California, Riverside, Spring 2020 (Virtual)

Intro to Cell and Molecular Biology, University of California, Riverside, Fall 2018, Winter 2019

Public Health Microbiology (Lower Division), Washington State University, Fall 2016

Intro to Biology Laboratory (Upper Division), California State University, Long Beach, Spring 2014

WORK EXPERIENCE

Green Business Intern

City of Long Beach Office of Sustainability, Long Beach, CA June 2013 August 2013
Supported the certification and recognition of sustainable businesses in Long Beach through outreach, marketing, and technical assistance to businesses.

CAMPUS INVOLVMENT

University of California, Riverside

Active Member and Mentor, African Americans United in Science (AAUS), 2019-Present

Officer, Graduate Student Association, Dept. of Microbiology & Plant Pathology, 2018-2020

Treasurer, American Society of Microbiology, Student Chapter, 2017-2019

Washington State University

SoE Connections Student Editor, School of the Environment Newsletter, 2016-2017

VP, American Society of Microbiology, Student Chapter, 2015-2017

Active Member, Environmental Science Club, 2015-2017

California State University, Long Beach

Secretary, American Society of Microbiology, Student Chapter, 2014-2015

Active Member, Environmental Science & Policy Club, 2012-2013

“Trash Talkers” Volunteer (spread awareness of the university’s Compost Happens Program & Zero Waste goals), 2012-2013

Professional Service

Ad hoc Reviewer: *Applied and Environmental Microbiology*

PROFESSIONAL MEMBERSHIPS

American Society of Microbiology

Soil Science Society of America

International Society for Microbial Ecology