

Colette Fletcher-Hoppe

3616 Trousdale Parkway, AHF 230

Los Angeles, CA, 90089

213-740-5759

c.fletcher.hoppe[at]gmail.com

@BioBactBashOHMY

PRIMARY RESEARCH INTERESTS:

- Anthropogenic influences on the structure and function of marine microbial communities involved in biogeochemical nutrient cycling.

EDUCATION:

- 2017-Present **University of Southern California (USC), Los Angeles, CA**
PhD Candidate, Marine Biology and Biological Oceanography (Expected 2022)
Advisor: Dr. Jed Fuhrman
- 2011-2015 **Vassar College, Poughkeepsie, NY**
B.A. in Biology and minor in European History
Thesis advisors: Dr. Lynn Christenson and Dr. David Esteban

AWARDS AND HONORS:

Distinguished Achievement Award, Special Recognition Category; Kelly Government Services (KGS; National Institutes of Health contracting agency)

- KGS Offices, Bethesda, MD; May 2017

Best Poster Award, “Plain Language” Category; National Human Genome Research Institute – National Institutes of Health (NHGRI-NIH)

- NHGRI Annual Symposium, Bethesda, MD; October 2015

Departmental Honors in Biology (top 20% of graduating class); Biology Department at Vassar College

- Vassar College Commencement, Poughkeepsie, NY; May 2015

RESEARCH AND EMPLOYMENT EXPERIENCE:

- 2015-2017 **Scientific Program Analyst**, Division of Extramural Research, National Human Genome Research Institute (NHGRI), National Institutes of Health (NIH)
(Contract employee for Kelly Government Services (KGS))
- Primary supervisors: Dr. Ebony Madden, Dr. Teri Manolio, Dr. Erin Ramos
 - Supported Program Officers in leading national and international scientific consortia in human genomics via administrative and financial support.
- 2014-2015 **Senior Thesis Project**, Biology Department at Vassar College
- Advisors: Dr. Lynn Christenson, Dr. David Esteban

- Title: Soil-dwelling microbes: The lynchpin of nitrogen dynamics and aboveground forest composition?
 - Analyzed 16S rRNA tag sequences of microbial communities and investigated soil nitrogen dynamics in oak and maple-dominated forests to compare community structure and rates of nitrogen cycling associated with forest type.
- 2014 **Summer Internship**, Environmental and Microbial Genomics Department, The J. Craig Venter Institute (JCVI)
- Supervisors: Dr. Jeroen Gillard and Dr. Andrew E. Allen
 - Investigated nitrogen uptake and metabolism in the model diatom *Phaeodactylum tricornutum*; examined the potential role of an unknown regulatory gene.
- 2014 **Directed Research Project**, School for Field Studies (SFS), Tropical Rainforest Studies Program
- Advisor: Dr. Catherine Pohlman
 - Analyzed coarse woody debris mass, seedling species composition, growth, and mortality rates in a Wet Tropics World Heritage Area rainforest.
- 2013 **Ecological Laboratory Technician**, Biology Department at Vassar College
- Supervisor: Dr. Lynn Christenson
 - Supported ecological research on deer overpopulation, consequences of Emerald Ash Borer invasion, and the influences of global warming on soil-dwelling invertebrates and the Nitrogen cycle.

POSTER PRESENTATIONS:

1. “Temporal dynamics of the diazotroph UCYN-A and its known and putative hosts over 10 years at the San Pedro Ocean Time-series (SPOT)”
 - ASLO Ocean Sciences Meeting (OSM); February 2020
2. “Diazotroph Diversity and Activity at the San Pedro Ocean Time-Series (SPOT) and off the California Coast”
 - ASM Microbe, San Francisco, CA; June 2019
3. “Supporting Practice through Application, Resources and Knowledge (SPARK): Accessing solutions to genomic medicine implementation developed by the IGNITE Network”
 - NHGRI Annual Symposium, Bethesda, MD; October 2016
 - Poster presentation webcast to the public via [FaceBookLive](#) event
4. “Implementing Genomics in Practice: The progress and status of the IGNITE Network”
 - NHGRI Annual Symposium, Bethesda, MD; October 2015

ORAL PRESENTATIONS:

1. “UCYN-A associates with multiple eukaryotes over 10 years at the San Pedro Ocean Time Series”
 - USC Marine Environmental Biology Student Seminar, Los Angeles, CA; April 2020
2. “Microbially mediated nitrogen cycling dynamics in the Southern California bight”
 - Women in Science and Engineering (WiSE) Stem Bytes Student Seminar; November 2019
3. “Nitrogen fixation in a changing ocean: Tracking diazotroph diversity at the San Pedro Ocean Time-series (SPOT)” (Presentation)
 - USC Marine Environmental Biology Retreat, Catalina Island, CA; November 2018
4. “Soil-dwelling microbes: The lynchpin of nitrogen dynamics and aboveground forest composition?”
 - Biology Department at Vassar College, Senior Thesis Presentations, Poughkeepsie, NY; May 2016
5. “Influence of elevation and slope on decomposition rates of coarse woody debris”
 - School for Field Studies Public Symposium, Yungaburra, QLD, Australia; May 2014

PUBLICATIONS:

1. Wong, K.M., Langlais, K., Tobias, G.S., **Fletcher-Hoppe, C.**, et al. (2016). The dbGaP Data Browser: A new tool for browsing dbGaP controlled-access genomic data. *Nucleic Acids Research (NAR)*, DOI: 10.1093/nar/gkw1139.
2. Levy, K.D., Blake, K., **Fletcher-Hoppe, C.**, Francoisi, J., et al. (2018). Opportunities to implement a sustainable genomic medicine program: Lessons learned from the IGNITE Network. *Genomics in Medicine*. DOI: 10.1038/s41436-018-0080-y.

FINANCIAL SUPPORT:

2019 Rose Hills Travel/ Research Award
2017, 2018 Rose Hills Foundation Fellowship

OUTREACH AND COMMUNICATION EXPERIENCE:

2018, 2020 **Teaching Assistant**, BISC 300: Introduction to Microbiology, USC

- Explained and lead laboratory exercises and experiments in classical microbiology to ~20 undergraduates, including culture and staining techniques.

2019-2020 **Board member**, Young Researchers Program (YRP), USC

- Advise graduate student mentors of high school students on mentorship and devising research projects.

- 2018, 2019 **Mentor**, Young Researchers Program (YRP), USC
 ➤ Supervised two high school students in summer internships culturing *Thaumarchaeota*: designed an experiment, oversaw 16 hours of hands-on lab work/ week, and assisted her in drafting and presenting a scientific poster.
- 2019 **Mentor**, WiSTEM (Women in Science ,Technology, Engineering, and Math)
 ➤ Mentored high school students interested in STEM careers through an initiative run by the Mayor’s Office of Los Angeles.
- 2018, 2019 **Panelist**, MSMU/USC NSF-IUSE Geopaths Catalina Scholar Program Workshop
 ➤ Advised undergraduates from Mount Saint Mary’s University, a local women’s college, on applying to graduate school.
- 2016-2017 **Founder/ Leader**, NHGRI Division of Genomic Sciences Journal Club, Bethesda, MD
 ➤ Founded a new journal club within NHGRI’s Division of Genomic Sciences. Organized and led monthly discussions on cutting-edge developments in basic science research in human genomics with NHGRI Program Officers.
- 2016-2017 **Volunteer teacher**, Curiologie in the Classroom, Washington D.C.
 ➤ Assisted hands-on, introductory lessons in basic scientific concepts ranging from astronomy to neurology for underprivileged middle school students.
- 2016-2017 **Leader**, NHGRI Program Analyst Journal Club, Bethesda, MD
 ➤ Organized and participated in monthly discussions for Scientific Program Analysts and other entry-level employees of the NHGRI.
- 2015-2016 **Volunteer teacher**, Exploring Science Program, Vassar College Education Department, Poughkeepsie, NY
 ➤ Led field trips and guided nature walks for elementary school children from underprivileged schools in the Hudson River Valley, NY.

PROFESSIONAL DEVELOPMENT IN BIOINFORMATICS:

- 2019 Course: “Introduction to Bioinformatics (BISC 588),” USC, Los Angeles, CA
- 2018 Workshop: “Strategies and Techniques for Analyzing Microbial Population Structure,” Marine Biological Laboratory (MBL), Woods Hole, MA
- 2018 Workshop: “Introduction to Bioinformatics for Metagenomics Microbiome Analysis,” Center for Dark Energy Biosphere Investigations (C-DEBI), Los Angeles, CA
- 2016 Course: “Bioinformatics for Analysis of Data Generated via Next Generation Sequencing,” Foundation for Advanced Education in the Sciences (FAES), National Institutes of Health, Bethesda MD

2015 Course: "Introduction to Python," Foundation for Advanced Education in the Sciences (FAES), National Institutes of Health, Bethesda MD

CHARACTER REFERENCES:

- Dr. Lynn Christenson: lychristenson@vassar.edu; (845) 437-7418
- Dr. David Esteban: daesteban@vassar.edu; (845) 437-7433
- Dr. Jed Fuhrman: fuhrman@usc.edu; (213) 740-5757