


Justin Millar

Quantitative Ecologist

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 justinmillar

Skills

Research



Programming

R • SQL • Git • JAGS • Shiny

Python • ArcGIS • QGIS • bash

Stan • HTML • CSS • \LaTeX

Teaching

University of Florida

STA 6093: Intro. to Applied Statistics

FOR 6934: Intro. to Bayesian Statistics

University of Mississippi

BISC 333: Advanced General Microbiology

Michigan State University

LB 494: Applied Research Techniques

LB 145: Cell and Molecular Biology

Full C.V. available at:

www.justinmillar.com/cv.pdf

Education

2014 - 2018 **PhD., Forest Resources and Conservation** University of Florida
Emerging Pathogens Institute · Informatics Institute

2012 - 2013 **MSc., Biology** University of Mississippi

2007 - 2011 **BSc., Ecology and Evolution** Michigan State University

Selected Publications

Millar, J.J., P. Psychas, P. Amratia, B. Abuaku, C. Ahorlu, K. Koram, S. Opong, and D. Valle. 2018. "Detecting local risk factors for residual malaria in northern Ghana using Bayesian model averaging". *Malaria Journal* 17:343.

Valle, D.R., **J.J. Millar**, and P. Amratia. 2016. "Spatial heterogeneity can undermine the effectiveness of country-wide test and treat policy for malaria: a case study from Burkina Faso". *Malaria Journal* 15: 513.

Millar, J.J., J.T. Payne, C.A. Ochs, and C.R. Jackson. 2015. "Particle-associated and cell-free extracellular enzyme activity in relation to nutrient status of large tributaries of the Lower Mississippi River". *Biogeochemistry* 124(1-3): 255-271.

Research Experience

Aug. 2014 - Present **PhD. Graduate Research Assistant** University of Florida

Dissertation: Development of Bayesian statistical frameworks and decision support tools for the management of early childhood malaria

- Adapted a novel approach for detecting malaria risk factors using Bayesian model averaging, for fitting semi-parametric, fully interpretable risk models which account for selection uncertainty
- Analyzed the impact of local health facilities on early childhood malaria in northern Ghana, created additive model to optimize location of new health facility, and developed web-based application to provide real-time projections on cases and disease prevalence

Feb. 2014 - Aug. 2014 **Lab Manager • Field Technician** University of Michigan

- Implemented field work on microbial sampling and eDNA in inland lakes throughout Michigan, which involved maintain, transporting, and operating small watercraft, water sample filtration, and supervising graduate and undergraduate technicians
- Microbial lab analyses including DNA extraction and amplification, eDNA quantification, and enzyme assays

Jan. 2012 - Dec. 2013 **MSc. Graduate Research Assistant** University of Mississippi

Thesis: Bacterial community biogeography and nutrient processing throughout the Mississippi River network

- Organized and implemented NSF-funded project on microbial biogeography and nutrient processing throughout the Mississippi River network, which consisted of planning two extended fieldwork periods, transporting and piloting motor- and man-powered small watercraft, and daily setup of lab equipment at remote locations
- Performed microbial ecological lab procedures including enzyme assays, DNA extraction, PCR, DGGE, and bioinformatics analyses

Jul. 2011 - Dec. 2011 **Research Fellowship** Cape Eleuthera Institute

- Collected data on the biographic distribution of bonefish (*Albula vulpes*) using seine netting, hook-and-line, external tagging, and regular data entry and quality control
- Conducted lab experiments on the effects of climate change on bonefish physiology using wet-lab manipulation experiments on fish respirometry