Thomas St. Julien Lankiewicz

Ph.D. student in Ecology, Evolution, and Marine Biology and Chemical Engineering

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# Education

Ph.D. student Sept 2016 – Present

*University of California Santa Barbara*

**M.S.**, Marine Studies, with a focus in Marine Biosciences Sept 2012 – Dec 2014

*University of Delaware*

**B.A.**, Biology Sept 2008 – May 2012

*Grinnell College*

# Publications

Peng X, WilkenSE, **LankiewiczTS**, Gilmore SP, BrownJL, HenskeJK, SwiftCL, BarryK, TheodorouMK, GrigorievIV, ValentineDL, O’Malley MA. (2019). Microbial consortia derived from goat feces reveal cross-domain partnerships that accelerate methane release from plant biomass.*Submitted.*

Wilken SE, Seppälä S**, Lankiewicz TS**, Saxena M, Henske JK, Salamov AA, GrigorievIV, O’Malley MA. (2019). Genomic and proteomic biases inform metabolic engineering strategies for anaerobic fungi. *Submitted.*

Gilmore SP**‡**, **Lankiewicz TS‡**, Wilken SE, Brown JL, Sexton JA, Henske JK, Theodorou MK, Valentine DL, O’Malley MA. (2019). Top-down enrichment guides in formation of synthetic microbial consortia for biomass degradation. (2019). *ACS Synthetic Biology*. Published online ahead of issue.

Wilken SE, Swift CL, Podolsky IA, **Lankiewicz TS**, Seppälä S, O’Malley MA. (2019). Linking ‘omics’ to function unlocks the biotech potential of non-model fungi. *Current Opinion in Systems Biology*. 14: 9–17.

Podolsky IA**‡**, Seppälä S**‡**, **Lankiewicz TS**, Brown JL, Swift CL, O’Malley MA. (2018). Harnessing nature's anaerobes for biotechnology and bioprocessing.*Annual**Review of Chemical and Biomolecular Engineering*10: 105-128

**Lankiewicz TS**, Cottrell MT, Kirchman DL. (2016). Growth rates and rRNA content of four marine bacteria in pure cultures and in the Delaware estuary. *The ISME Journal* 10: 823–832.

‡ Indicates equal contribution by first authors

Presentations

*Characterizing lignin-active enzymes in anaerobic fungi*

JBEI Annual Meeting, June 2019, invited speaker

*Characterizing lignin-active enzymes in anaerobic fungi for biomass deconstruction*

ACS Annual Meeting, April 2019, speaker

*Identifying and Characterizing Lignin-active Enzymes in Anaerobic Fungi*

Fungal Genetics Conference, March 2019, poster presenter

# Research Experience

**Ph.D. student,** with Dr. Michelle O’Malley Jan 2018 – Present

*Chemical Engineering Department*

*University of California Santa Barbara*

Dissertation title:

Identifying and Characterizing Lignin Active Enzymes in Anaerobic Fungi

My work in the O’Malley lab involves bioprospecting non-model organisms, specifically the anaerobic gut fungi (AGF), for useful and novel enzymes. The applications of anaerobic gut fungi have been demonstrated in the context of cellulose deconstruction, but their activity against the lignin portion of lignocellulose is uncharacterized. It is my task to identify enzymes having catalytic function against lignin and then describe the mechanisms by which the AGF modify lignin.

**Graduate student researcher**,with Dr. Alyson Santoro Sept 2016 – June 2017

*Marine Microbiology and Biogeochemistry Lab*

*University of California Santa Barbara*

Isolated 85 new bacterial and archaeal cultures from the mesopelagic North Pacific using high throughput cultivation methods, early experiments indicated different preferences for various carbon based medias

**Microbial cultivation technician**, with Dr. Alyson Santoro Jan 2015 – Aug 2016

*Microbial Ecology and Biogeochemistry Lab*

*University of Maryland Center for Environmental Studies, Horn Point Lab*

Cultivated and designed experiments with serval strains of ammonia oxidizing archaea and nitrite oxidizing bacteria

**Graduate student researcher**,with Dr. David Kirchman Sept 2012 – Dec 2014

*Microbial Ecology Lab*

*University of Delaware*

Evaluated the relationship between growth rate and cellular rRNA content for our naturally abundant marine bacteria using QPCR and RT-QPCR, allowing for more accurate measurements of microbial growth rate in the environment