CHRISTOPHER LOGAN PIERPONT
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Curriculum Vitae (2013–2023)

EDUCATION

2017–2022 **Master of Science** · Cellular, Molecular, & Microbial Biology
Specialized in microbial ecology and evolution
University of Montana

2012–2017 **Bachelor of Science** · Biology, *Cum Laude*
Specialized in cellular, molecular, and genetic biology
Coastal Carolina University

2012–2017 **Bachelor of Science** · Marine Science, *Cum Laude*
Coastal Carolina University

TECHNICAL EXPERTISE

Environmental sample collection of microbes · Bacterial strain isolation and culturing · Husbandry of thermophilic and photosynthetic organism collections · Light microscopy · Spectrophotometry and spectrofluorometry, including PAM fluorometry · Clark-type oxygen microsensor profiling · PCR · rRNA screening · Molecular cloning · Preparation of Illumina sequencing libraries · *De novo* genome assembly from Illumina and Nanopore sequences · Functional genome annotation · Phylogenetic reconstruction and related analyses · Comparative genomics · Linux BASH scripting and related practical computing · Experienced with the Microsoft Office suite, and Adobe-like graphics manipulation software

ACADEMIC RESEARCH EXPERIENCE

2022–*curr.* **Exploring cellular growth laws with *Chlamydomonas reinhardtii***
PI: Jim Elser, PhD
University of Montana, Flathead Lake Biological Station

Conducted controlled evolution experiments using the model alga *Chlamydomonas reinhardtii*. Culture lines were grown in chemostats under different nutrient limitations; genomic, transcriptomic, and physiological parameters were measured periodically.

2017–2022 **Investigating thermal adaptation of *Synechococcus* A/B**
PI: Scott R Miller, PhD
University of Montana

Generated 60+ thermophilic, unialgal strains isolated from geothermal hot springs. Employed a variety of phylogenetic, genomic, and physiological approaches to understand thermal adaptation in the most thermotolerant phototrophs on Earth.

2018 **Transcriptomic characterization of mealybug endosymbionts**
PI: John P McCutcheon, PhD
University of Montana

Collected bacteriomes from the mealybug species *Planococcus citri* and *Pseudococcus longispinus* with dissection microscopy. Prepared transcriptomic libraries of these bacteriomes for downstream analysis of gene expression.

2013–2017 **Designing a functional assay of the plastid protein MatK**
PI: Michelle M Barthet, PhD
Coastal Carolina University

Generated cloning constructs for each of the putative splicing targets of the chloroplast maturase MatK from *Arabidopsis thaliana* and *Oryza sativa* gDNA. Helped conceptualize an *in vitro* assay to demonstrate, for the first time, MatK enzymatic activity.

OTHER LABORATORY EXPERIENCE

2022–*curr.* **Research Laboratory Manager**
Supervisor: R. Frank Rosenzweig
University of Montana

Established and then managed a brand new lab space for the Rosenzweig Lab ahead of its move from Georgia to Montana. Responsibilities included management of chemical inventory and EHS compliance, maintenance of lab equipment, and ordering of supplies,

2013–2017 **Marine Science Assistant Lab Manager**
Supervisor: Walter Showers Jr.
Coastal Carolina University

Part of a team that prepared lower- and upper-division marine science laboratory classes, including marine biology, chemistry, and geology. Responsibilities included maintenance of department research labs, aquaria, stockrooms, and preserved specimens.

2017 **Biology Laboratory Assistant**
Supervisor: Suzanne S Senchak
Coastal Carolina University

Aided in the preparation of introductory-level biology laboratory classes for a summer session, which largely included simple assays and activities designed to highlight the properties of life and matter.

PUBLICATIONS

Pierpont CL, Broddrick JT, and Miller SR. (in prep). Leveraging constraint-based metabolic modelling to investigate the principles of thermal adaptation during diversification of *Synechoccocus* A/B cyanobacteria.

Pierpont CL. An integrative investigation of the Synechococcus A/B clade during adaptive radiation at the upper thermal limit of phototrophy. 2022. *Graduate Student Theses, Dissertations, and Professional Papers*, 12009.

Pierpont CL, Ohkubo S, Miyashita H, and Miller SR. 2022. Draft genome sequence of the cyanobacterium *Synechococcus* sp. strain Nb3U1. *Microbiology Resource Announcements*, 11(5).

Barthet MM, **Pierpont CL**, and Tavernier E. 2020. Unraveling the role of the enigmatic MatK maturase in chloroplast group IIA excision. *Plant Direct*, 4(3).

PRESENTATIONS

2022 **An integrative investigation of the *Synechococcus* A/B clade during adaptive radiation at the upper thermal limit of phototrophy.**
Oral presentation
University of Montana, Thesis Defense

2019 **New perspectives in understanding *Synechococcus* A/B thermotolerance**
Poster presentation
Astrobiology Science Conference

2019 **New perspectives on thermal adaptation in the *Synechococcus* A/B clade**
Oral presentation
University of Montana Graduate Seminar Series

2018 **A systems-level approach to understanding cyanobacterial thermophily**
Oral presentation
University of Montana Graduate Seminar Series

2017 **An *in vitro* functional splicing assay for the putative maturase MatK**
Poster presentation
American Society of Plant Biologists, Southern Section Meeting

2016 **Functional characterization of an essential chloroplast protein**
Poster presentation
BOTANY Conference

TEACHING EXPERIENCE

2018, 2022 **Graduate TA, BIOB-272 Genetics & Evolution**
Professor: Doug Emlen, PhD
University of Montana

2017, 2021 **Graduate TA, BIOB-260 Cellular & Molecular Biology**
Professors: Mark Grimes, PhD and Scott Samuels, PhD
University of Montana

2014–2017 **Department of Biology Student Tutor**
Supervisor: Michael M Pierce, PhD
Coastal Carolina University

AWARDS

2019 **Student Poster Competition, Top-10 Finalist**
AbSciCon 2019 Poster Committee
Astrobiology Science Conference

2019 **AbSciCon Travel Award** ($800)
NASA Astrobiology Program
Astrobiology Science Conference

2017 **Department of Biology Student of the Year**
Coastal Carolina University
Honors Convocation