

Dillon J Teal (“Teal”)

Astrophysicist; Software Engineer; Fiber Artist

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Pronouns: They/Them/Their

Preferred Name: Teal

PROFESSIONAL EXPERIENCE

University of Maryland, College Park — PhD Candidate

August 2021 - Present

Performing thesis-related development of a new, modular photochemistry model written in Python and C, with coupling to the HELIOS GPU-accelerated radiative transfer model. Conducting research as a part of international scientific collaborations.

University of Maryland, College Park — Graduate Assistant

August 2018 - August 2021

Taught university-level courses in astronomy and mathematics. Completed Master’s degree research outlined in the Education section.

NASA Goddard Space Flight Center, Greenbelt, MD — Research Contractor

January 2017 - August 2018

Continued maintenance on the Atmos photochemistry and climate model, and co-lead the design of a Docker-based web application framework for Atmos and other planetary physics models.

University of California, Santa Cruz, CA — Junior Specialist

January 2016 - December 2016

Performed research on how hazes and generic aerosols impact Markov-Chain Monte Carlo simulations that estimate molecular composition. This project used the Cassini probe’s observations of Saturn’s moon Titan as a baseline case.

NASA Goddard Space Flight Center, Greenbelt, MD — Remote Contractor

August 2015 - December 2016

Led new development of the Fortran-based Atmos photochemistry and climate model. Wrote complementary analysis tools in Python and automation tools using bash.

EDUCATION

University of Maryland, College Park, MD — Master’s of Science in Astronomy

August 2018 - May 2020

Classes in advanced topics in astronomy and astrophysics, statistical analysis, and numerical computing methods. Constructed a detailed thesis on photochemical modeling of planetary atmospheres, resulting in the publication of [Teal et al. 2022](#).

University of California, Santa Cruz, CA — Bachelor’s of Science in Physics (Astrophysics), Minor in Pure Mathematics, Cum Laude

September 2012 - December 2015

Well-rounded undergraduate program including elementary and advanced topics in astronomy, physics, scientific instrumentation, and mathematics. Thesis focused on using concepts in machine learning to understand the statistical significance of atmospheric transmission spectra.

PROGRAMMING LANGUAGES

+ Python

+ Fortran

+ C/C++

+ HTML/CSS

+ bash

TOOLS

+ numpy, pandas, matplotlib, scipy, astropy

+ Jupyter Notebooks

+ git

+ LaTeX

+ Docker

+ OS: Windows, Linux (Ubuntu, CentOS, Debian), and macOS

SKILLS

+ Microsoft Office suite

+ Visual Studio

+ Technical writing for scientific publications and code documentation

AWARDS

+ Philip E. Angerhofer Outstanding Teaching Assistantship Award

PUBLICATIONS

+ [Teal et al. 2022](#)

+ [Marley et al. 2021](#)

+ [Diamond-Lowe et al 2021](#)

+ [Melbourne et al. 2020](#)

+ [Kopparapu et al. 2018](#)

+ [Morley et al. 2017](#)