

# Welcome!

**Slides and all materials here:**

<https://github.com/astropy/astropy-workshop/>

**Be sure you have followed the installation steps in  
"00-Install\_and\_Setup"!**



# Facilitators and Organizers

Brett Morris

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# Code of Conduct

The community of participants in open source Astronomy projects is made up of members from around the globe with a diverse set of skills, personalities, and experiences. It is through these differences that our community experiences success and continued growth. We expect everyone in our community to follow these guidelines when interacting with others both inside and outside of our community. Our goal is to keep ours a positive, inclusive, successful, and growing community.

[https://www.astropy.org/code\\_of\\_conduct.html](https://www.astropy.org/code_of_conduct.html)

# The PLAN for today

- Introduction to the Astropy project and core package
- Introduction to core *astropy* sub-packages
  - Quantities, Coordinates, Input and Output (I/O), Tables
  - Introduction to Object-Oriented Programming (OOP)
- *specutils*: coordinated package for spectroscopy analysis)
- *photutils*: coordinated package for photometry)
- *uncertainty*
- working with or contributing to the Astropy community

**(See README.md for full schedule)**

# **The FORMAT**

alternate between short introductory slides  
and individual working time

working time is all done using the jupyter  
notebooks provided in the workshop  
repository

# How to use this workshop

## **Ask questions**

- Raise your hand and a facilitator will come to you.
- Post in Slack

If you finish the tutorial notebook:

- browse the docs for the relevant functions, packages
- think about how you would use the features in your own research
- review previous notebooks.



# Overview

# What is ASTROPY?

## **the astropy core package:**

- a community-driven, open-source, open-development Python library for Astronomy
- provide core functionality for more specialized astro packages

## **the Astropy Project:**

a community effort to develop the core package and foster an ecosystem of interoperable astronomy packages



# astropy core package

## Some examples of key subpackages:

- `astropy.units`: represent and convert numbers with units
- `astropy.coordinates`: transform astronomical coordinates
- `astropy.time`: represent and convert astronomical times
- `astropy.table`: represent tabular data
- `astropy.io.fits`: reading and writing FITS files

# astropy core package

## **open source**

Code is licensed so that anyone can duplicate and modification.

## **open development**

Bugs, code contributions, discussions all done in the open [on GitHub]

# Affiliated and Coordinated packages

<https://astropy.org/affiliated>

## **Affiliated** packages:

- not part of `astropy` core but part of the ecosystem.
- Demonstrate good coding standards (testing, documentation), reduce duplication, developed openly.
- Use `astropy` when possible to improve interoperability

## **Coordinated**

- maintained by the Astropy Project.