



STScI | SPACE TELESCOPE
SCIENCE INSTITUTE

EXPANDING THE FRONTIERS OF SPACE ASTRONOMY

JWebinars

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JSTUC Meeting -- June 15, 2021



JWebbinar Overview

<https://www.stsci.edu/jwst/science-execution/jwebbinars>

Data Analysis Training for JWST

- JWebbinars provide hands-on instruction on common data analysis methods for JWST observations.
- Entirely Virtual Classes
- Small class sizes (~40) to encourage interaction
- Virtual programming environment
 - AWS JupyterHub Instance
- Materials and videos are made public after the event
 - JWebbinar 1&2 notebooks/presentations are available
 - Videos will be made available on the JWSTObserver YouTube Channel
- Learning goals include:
 - Understanding the JWST pipeline processing steps
 - Familiarity with JWST data products
 - Data visualization
 - Introduction to tools and techniques for data analysis in different modes.

JWebbinar



JWebbinar Committee Members:

- Cami Pacifici (Chair, CSA)
- Susan Mullally (WMO)
- Patrick Ogle (User Support)
- Amaya Moro-Martin (SMO)
- Tim Rawle (ESA)
- Erik Tollerude (DMD/DSMO)
- Duncan Farrah (JSTUC)



Course Offerings

- #1 Pipeline Information and Data Products
 - Introduction to resources, pipeline stages, JWST data products and data models
 - ~100 participants, ~120 on the waiting list
- #2 Introduction to the JWST Data Analysis Tools
 - Specutils, Specviz, Mosviz and Cubeviz workflow
 - ~120 participants, ~120 on the waiting list
- #3 Pipeline: Imaging Mode
 - Running the pipeline for imaging
 - 150 participants, no waiting list
- #4 Pipeline: Spectroscopic Mode
 - Registration opened May 3
 - ~190 requests
- #5 MIRI and NIRSpec IFU
 - Registration opened May 15, ~50 registrants
- #6 NIRCам and MIRI Point Source Imaging
 - Registration opened June 1, ~60 registrants

Possible Future Offerings this year

- NIRSpec MSA
- NIRISS and NIRCам WFSS
- AMI and Coronagraphy with JWST
- Time Series Observations
- Repeat #1 and #2

BlueJeans Presentation

The presentation slides are visible in the background. The left slide is titled "Background/Spectroscopic ecosystem" and discusses the large-scale plan for spectroscopy support in the Astropy project. The right slide is titled "Fundamentals of specutils" and discusses the most fundamental purpose of the package.

Virtual Environment

The virtual environment shows a Jupyter Notebook titled "Data Analysis Tools JWebbinar: Specutils". The notebook content includes:

- Introduction to the package and its purpose.
- Installation instructions.
- Code for importing the package and necessary dependencies:

```
import numpy as np
import astropy.units as u
import specutils
from specutils import Spectrum1D
specutils.__version__

# for plotting:
import matplotlib inline
import matplotlib.pyplot as plt

# for showing quantity units on axes automatically:
from astropy.visualization import quantity_support
quantity_support()
```

The notebook also includes a section titled "Background/Spectroscopic ecosystem" which repeats the text from the presentation slides.

Slack for Chatting

The Slack chat window shows a conversation in the channel #jwebbinar_2_dryrun. Messages include:

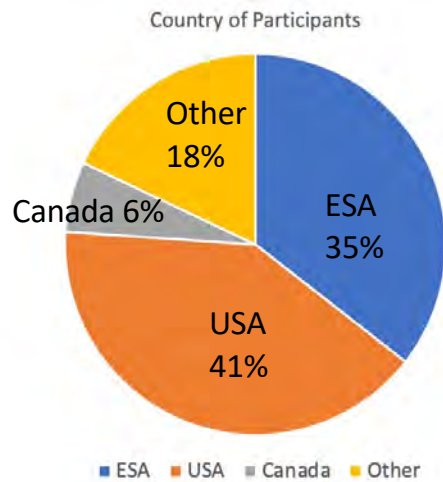
- A welcome message with links to the BlueJeans presentation and the Jupyter environment.
- A question from user csloucom: "Am I in the right room? I'm the only one here (I know it's early)".
- A response from user hines: "I didn't have any issues with Safari this time. I just remembered that we had issues before, so that's why I asked. I can try it with Safari after the Webinar today."
- A response from user cpacifici: "Link to intro presentation: https://stsci.box.com/s/h7r645qp9up8uj324kim1twwjgsmi".



Stats from JWebinars 1--3

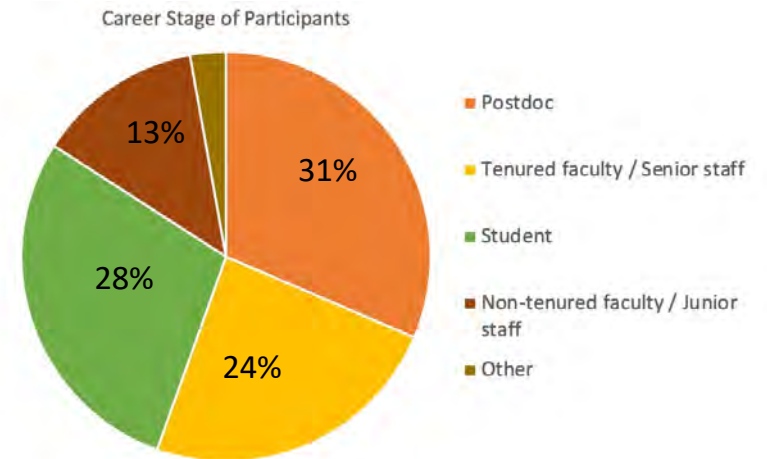
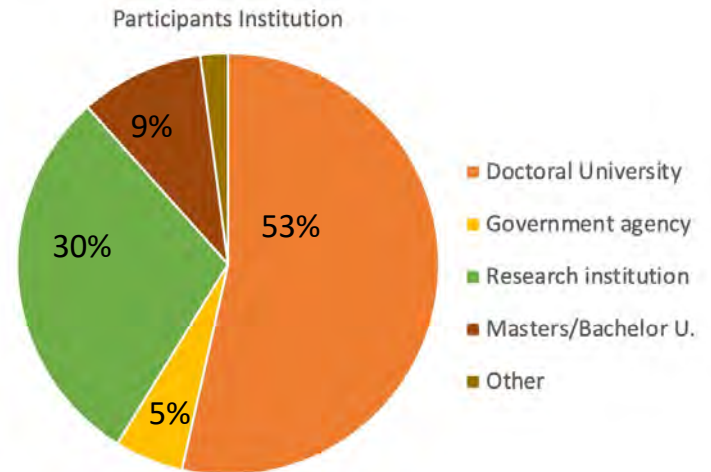
About the participants:

- 50% work at Universities
- 60% are students and postdocs
- 55% identify as men / 37% women / 7% Not Respond



Other countries include:

- Chile, Peru, Brazil, South Korea, Australia, Japan, India



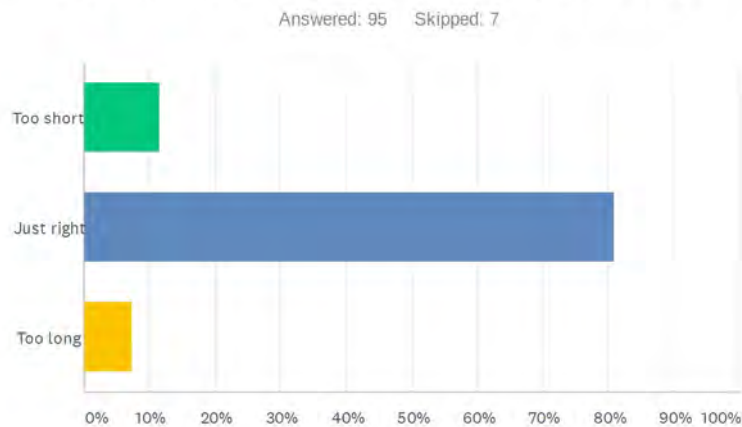


Stats from Post-Class Survey

Post Class Survey (~100 responses)

- 94% indicated that JWebinars met or exceeded expectations.
- ~60% had sufficient JWST knowledge (5% insufficient)
- ~70% had sufficient python knowledge
- 81% said the class length is just right
- Most like the speed of the class, but no one says it is too slow.

Q7 Rate the length of the class. (Pick one.)



Q8 Was your knowledge of the following sufficient to understand the material?





JWebbinar Plans

Plans this Semester:

- Classes continue at pace of ~2 different topics per month (2-6 events) until September.
- Repeat at least the first 2 JWebbinars in August/September
- Increased acceptance fraction per event (finding only ~75% attend)

Future JWebbinars:

- Next semester starts after commissioning with some repeated content.
- Considering community-led JWebbinars
 - STScI could provide the infrastructure (science platform, registration system etc.) while the teams provide the content to train on specific areas of data analysis.
 - Could start during commissioning since they do not rely on STScI INS staff.