PHY 517 / AST 443:
Observational Techniques in Astronomy

Lecture 6:

Final Presentations

Final presentations

- **Wednesday, Dec 4 + Monday, Dec 9**

- Format: series of talks, break with poster session and lightning talks by poster presenters
- Just like a real conference!

- For each talk / poster, you will fill out a grading rubric and assign a score (0-10). We will collect them, and pass to the presenter after anonymizing the feedback.

Final presentations

- graduate students: make a poster + 1 minute "lightning talk"
- undergraduates: give a presentation; 10 minute talk + 5 minutes questions
- undergraduates who have already fulfilled the SPK requirement: can do presentation or poster

  (send me your transcript to show SPK has been fulfilled)

Final presentations

- posters will also be asked to attend the poster session of the physics graduate lab (free food + talk to many people in the department), date TBD

Final presentations

- graduate students: poster has to be on one of your 3 labs

- undergraduates: if you do research in **observational astronomy**, you can present your research instead

- within your group, one of you has to present your Lab 3

How to give a good talk

- Know your audience!
- Aim: *everyone* should get something out of your talk
  - Include enough background
  - Avoid too much jargon
  - Avoid too many equations
  - Tell a coherent story

How to give a good talk

- Slides: *visual aids* to your *story*
  - Assume ~1-2 minutes / slide
  - Don't put too much "stuff" on one slide
  - Include relevant **pictures / figures**
  - Prefer concise keywords to full sentences (let alone paragraphs)
  - Make everything legible (e.g., axis labels)
  - Use color and font style / size to highlight points, but **Don't overDO** IT
  - Don't use yellow, light green, low-contrast colors

How to give a good talk

- Speaking:
  - Don’t speak too fast
  - Prepare not just your slides, but also what you will say
  - … but don’t memorize your talk, **speak freely**
  - *Your tone and articulation play an important part in conveying your story*
  - Engage with your audience - make eye contact
  - Avoid too many “umm”s - better to pause
  - **Practice** your talk, more than once, with different people!

How to give a good talk

- References, and avoiding plagiarism
  - Make sure to give proper credits
  - Every figure (that you did not make) needs to reference the author
  - Every research result needs to be properly cited with author / collaboration name + year; good to include journal, etc.
  - Visibly acknowledge your co-authors when presenting your own research, e.g. on title slide

How to make a good poster

- *Many of the same guidelines as for talks*
- Avoid too much text!!!
- Clearly structure your poster
- Make sure figures and text are well legible
- Include your picture + e-mail address

Presentation structure

- Title slide:
  - Title: be descriptive! (I.e. NOT "AST443 Final Presentation")
  - Speaker name, with affiliation
  - Co-authors
  - Venue, date
  - Good to include: affiliation logo, funding source logo (if applicable), pretty picture relevant to your talk

Presentation structure

- Background / introduction
  - Present the big picture
  - Introduce the main concepts
  - Describe your target
  - Summarize previous work
  - Clearly state the question(s) your project addresses

Presentation structure

- Data / observations
  - Equipment
  - Important information depends on project, e.g.
    - Date of observations (time-variable observations)
    - Filter (imaging)
    - Grating (spectroscopy)
    - …
- Calibration data (e.g. star XX for spectrophotometric flux calibration)

Presentation structure

- Data analysis and measurements
  - "Basic" data reduction does not have to explained (but can be mentioned) - by now, everybody should know what a dark frame is
  - Describe analysis choices, e.g. lightcurve binning + estimates of uncertainties
  - Describe measurements clearly, e.g. emission line flux measurements

Presentation structure

- Inferred physics and interpretation
  - E.g. gas density + temperature
  - Comparison to expectations / literature

Presentation structure

- Conclusion
  - Summarize the main points that you want your audience to take away
  - Can include next steps, future work, etc.

Practicalities

- You'll have to tell me your title ahead of time (for scheduling)
- Talks:
  - To use my laptop to present: send me your talk in google slides or pdf format.
  - Otherwise: make sure your laptop has a VGA port, and test your presentation well before class.
- Posters:
  - PHY515 templates and guidelines
  - You will be able to sign up for poster-printing slots at the Physics Dept. a few days before the presentation
  - Lightning talk slides will be collected on google slides