

Astro 426/526

Fall 2019

Prof. Darcy Barron

Lecture 13: Project Discussion

Your Project

Students will be responsible for completing a professional-style research project by the end of the semester that will be worth 30% of the course grade. You will propose project ideas individually, and then work in small groups to obtain, process, and analyze archival telescope data using the techniques covered in lecture. Each group will give an oral presentation of their project during class. Presentations will be made in class the week of December 2. Groups will be a mix of undergraduate and graduate students. Undergraduates will be expected to generate a AAS-style research poster to be used during the oral presentation. Graduate students will be required to write and submit a research journal-style paper in addition to the oral presentation.

Components of the project

- Literature review – understanding the context and field
- Description of instrument and observations - Understanding the limitations of the datasets
- Data analysis – working with the raw data to create new understanding
- Conclusions
- Future work

Timeline (still approximate)

- The rest of the class will be focused around your projects, including content in-class and homework to practice the skills you'll need for the project
- We'll likely have shorter, more focused homework interleaved between project deadlines
- Wednesday, October 16 – Initial Proposals Due
- TBD – Proposal revisions due
- TBD – In-class anonymous proposal review
- TBD – Groups formed, group proposal due (more details and work breakdown)
- Monday, November 25 – Projects Due
- Week of December 2 – Project Presentations

Astronomical Data Sources

- [LAMBDA](#) (~ MHz and GHz sky surveys)
- [Space Telescope Institute Archive](#)
- <http://vizier.u-strasbg.fr/viz-bin/VizieR>
- <http://archive.eso.org/dss/dss>
- <http://archive.eso.org/cms.html>
- <http://cas.sdss.org/dr7/en/tools/started/>
- Spitzer (Mid-IR photometry and spectroscopy)
- NRAO (Radio data from VLA, VLBA, GBT)
- Hubble (Optical, UV data from many different instruments available)
- Herschel (IR, far-IR, and sub-mm)
- Chandra (X-ray)
- Kepler and TESS