

## ASTRONOMY 8400 – SPRING 2026

### Student Presentation Assignment

Each student will give a 15-minute presentation on one of the following “rungs” in the cosmic distance scale ladder. An additional 5 minutes will be allowed for questions. **Please provide a copy of the presentation in pdf to the class prior to your talk.**

In your presentation, make sure that you cover the basic technique, range of relevant distances, potential problems, and sources of error. Chapters 2 and 7 in Binney & Merrifield are good places to start, but also include “recent” results from at least one scientific journal paper.

Distance Indicators:

1. Trigonometric parallax
2. Moving cluster
3. Secular and statistical parallax
4. Main Sequence Fitting
5. Baade-Wesselink method
6. Cepheids and RR Lyrae stars
7. Luminosity functions (planetary nebulae and globular clusters)
8. Surface brightness fluctuations
9. Spiral/elliptical galaxy kinematics
10. Sunyaev – Zeldovich effect
11. Type Ia Supernovae
12. Time delays (supernovae and gravitational lens)