Proposal: D. Stark HST Cycle 26 GO

Here we propose to obtain ultra-deep (10 orbit) COS/G160M spectra capable of measuring stellar photospheric and wind absorption features in four nearby metal poor galaxies with UV nebular line spectra approaching those seen at z>7. The data will provide the first quantitative constraints on the metallicity of massive stars required to power the hard radiation fields implied by the nebular lines and will allow us to investigate whether the stellar metallicity (sensitive to iron) departs from the metallicity of the nebular gas (sensitive to oxygen) in the extreme UV line emitters.

1. What might be the problem(s) to address?
2. What is the “key component”?
3. What is the “Target”?
4. What might be the facts to set the stage?
5. What might be the title?