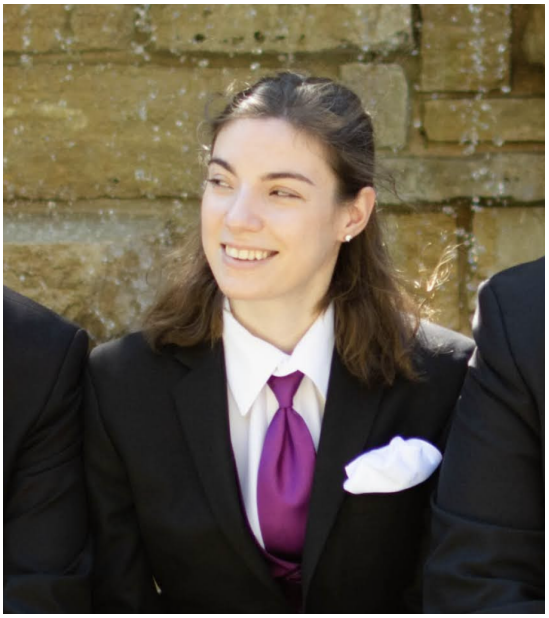
Star Formation and Long-Period Exoplanets



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Star formation and planet formation are coupled in every way, from the material they have to work with to the dynamics that dictate the mechanisms by which they grow. Mysteries in one naturally propagate to mysteries in the other. One such mystery is the "Luminosity Problem," the discrepancy between the observed brightness of young stellar objects (YSOs) and the brightness we predict. A fascinating solution to this problem is episodic accretion --- in which YSOs experience short-lived "bursts" of elevated accretion rates. The mechanism that seems to drive these bursts is gravitational instability in the protostellar disk, which may also be a formation pathway for wide-orbit planets. These planets leave imprints of themselves in their disks as well as in the statistical distribution of planets around mature stars. Uncovering those imprints can be a challenging task, but we are continually innovating new tools and methodologies to explore them.

Wednesday, Dec 8 **4:00 p.m.** **Taylor 111**