

2020—2021 ASTROPHYSICS SEMINAR SERIES**The astonishing rise and fall of the massive protostellar accretion
outburst in G358.93-0.03**

The formation and growth of a massive protostar arises from a competition between high accretion rates and strong radiative feedback. In the last few years, the detection of sudden large increases in the dust continuum emission surrounding two massive protostars demonstrates that accretion outbursts can produce large increases in luminosity for extended periods. Because both continuum outbursts were heralded by flares in the 6.7 GHz methanol maser line, they have invigorated single-dish maser monitoring programs on a quest to find more cases. As a result, a third event was discovered on 14-Jan-2019 in a poorly-studied massive star-forming region G358.93-0.03. Since then, the global maser community has discovered 20 new torsionally-excited methanol maser transitions from 6 to 360 GHz toward this source(!), all likely powered by an ongoing accretion outburst in a massive protostar. I will present results from a wide range of follow-up observations from the radio to infrared for this intriguing source, including 30 mas resolution ALMA data of the millimeter wavelength methanol maser emission. This third massive protostellar outburst event exhibits properties quite different from either of the other two known cases (which also differed from each other significantly), highlighting the importance of further characterizing what may be an important and even essential phase in massive star formation.

**Monday, November 16th****3:30 - 4:30 p.m.**

See website for Zoom details

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