

# **Cleaning up the Mysteries of Star Formation with Ammonia**

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The star formation process is intimately linked to dense molecular gas. Extragalactic studies reveal that the luminosity of the dense gas is well correlated with the star formation rate in a system, though recent results point out that there are multiple parameters in this relationship. At smaller physical scales in our own Galaxy, we study the foundation of these broad trends by linking the structure of dense gas to actual process of star formation occurring in cores and clumps. In this talk, I will outline the unique properties of ammonia as a dense gas tracer and summarize several studies that leverage these properties. In particular, I will emphasize new results from the GBT Ammonia Survey (GAS) that highlight the ubiquity of quiescent cores and probe the connection of between cores and clouds.