Type 1a Supernovae Events SHERIDAN CURLEY, Stony Brook University — Type 1a supernovae (SNe 1a) are among the most energetic celestial events observed on a regular basis, which has made them very useful in recent cosmological studies. Specifically, SNe 1a are one of the most effective astronomical distance measuring tools, thanks to the Phillips Relation which allows these supernovae to be used as standardizable candles. Because of this property, SNe 1a were instrumental in the recent discovery of the acceleration of the expansion of the universe. Since SNe 1a can help further our cosmological understanding, it has become more important to better explain the basics of how these events work, in order to more effectively use them in future studies. This talk will begin by briefly introducing supernovae and what distinguishes the different types of such events. I will address the Phillips Relation and how it can make type 1a supernovae into standardizable candles. Then I will discuss some possible progenitor systems for SNe 1a, and how these different origins can impact the observed light curves, altering the uncertainty in distances obtained using SNe 1a. Finally, I will go into some of the computational work that has been done to simulate these events, as well as some of the outstanding questions regarding our understanding of type 1a supernovae.