

## **Physics and Astronomy Colloquium – Oct. 8<sup>th</sup> at 3:30 pm**

**Speaker:** J. Craig Wheeler  
University of Texas at Austin

**Title:** Betelgeuse: Active Now, Doomed to Explode Later

**Abstract:** Betelgeuse is in many ways a typical massive red supergiant doomed to explode by core collapse. It is also special because it is close enough at 165 parsecs to be spatially resolved and hence studied in unprecedented detail. The Great Dimming of early 2019 has only added to its allure. Some years ago, I began work with a group of undergraduates, the initial goal of which was to try to better estimate when Betelgeuse might explode. Our first discovery was that single-star models fail drastically in accounting for the observed equatorial rotational velocity of  $\sim 15$  km/s. We proposed that Betelgeuse was originally a binary system that underwent merger. In subsequent work, we have investigated the asteroseismological status of Betelgeuse and why a merger will yield the observed rotational velocity, rather independent of details. I will also summarize recent work of others that have elucidated the nature of Betelgeuse and its Great Dimming.

**Bio:**

J. Craig Wheeler is the Samuel T. and Fern Yanagisawa Regents Professorship in Astronomy at the University of Texas at Austin. Wheeler has made seminal contributions to our understanding of stellar evolution and supernova explosions. He served as president of the American Astronomical Society from 2006-2008.

**Zoom reservation:**

Join Zoom Meeting

<https://msu.zoom.us/j/94951062663?pwd=T3N4SXdDaW5idi9WbzVJRDF2VWk3QT09>

Meeting ID: 955 7985 4231

For the password, please refer to the Colloquium announcement sent out on Oct. 5th