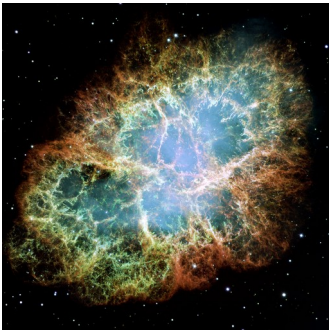


**FREE AND OPEN  
TO THE PUBLIC**

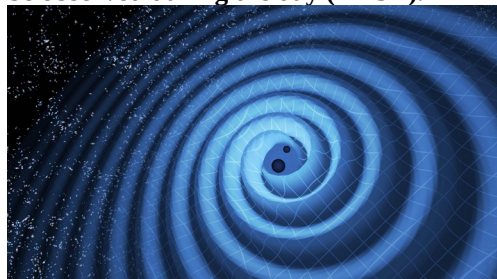
*Sponsored by  
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in conjunction with  
Delaware Asteroseismic  
Research Center, the  
Mount Cuba Foundation,  
and the University of  
Delaware.*



**Dr. J. Xavier**



The Crab Nebula is the remnant of a star that underwent a supernova explosion in 1054. The explosion was so bright it could be observed during the day (NASA).



An illustration of gravitational waves generated by two merging black holes (LIGO).

**SPACE IS LIMITED**  
**Please register at**  
**[Vernon Registration](#)**

# Spring 2024 Harcourt “Ace” Vernon Memorial Lecture

**April 18, 2024  
7:30 pm Clayton Hall  
University of Delaware**

*Featuring Guest Speaker*

**Dr. J. Xavier Prochaska**  
University of California, Santa Cruz

## ***Things that go Bump in the Night***

While the majority of objects in our night sky never appear to change (e.g. stars), on cosmic timescales the universe is a highly dynamic place. Even in our short human lifetimes, we are treated to select phenomena that change in position, brightness, and even composition.

In this talk, I will describe forefront research of the transient sky, what astronomers refer to as time domain astronomy. This includes exploding stars (supernovae, gamma ray bursts), colliding black holes that generate gravitational wave events, and an enigmatic and unknown source which generates fast radio bursts.



An artists illustration of what a fast radio burst source may look like. Fast radio burst (FRBs) are incredibly intense and brief flashes of radio energy that can appear in any part of the sky. (Credit: Dana Berry/NASA)