Betelgeuse and the Death of Stars

North Museum Planetarium 400 College Ave, Lancaster, PA 17603

Thursday, March 5th at 6:30 - 7:30 pm

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ABSTRACT: One of the most well-known constellation in the winter sky is the great hunter Orion with its bright stars, Betelgeuse and Rigel. Both rank in the top 10 brightest stars visible from Earth, until recently. Betelgeuse has been growing dimmer over the past few months, well beyond its usual variability, and dropped out of the top 25. Is this a result of an extreme case of Betelgeuse's variability, or is it a sign that it will soon die in a supernova explosion? This talk will review the different types of variable stars and the important discoveries made using them over the years. We will examine Betelgeuse's recent behavior in that context, and try to understand the most recent images that create more questions than they answer. The second part of the talk will consider the possibility of Betelgeuse going supernova. What would that look like from Earth? How would it affect us? Stellar evolution can lead to different outcomes, based on the mass of the star. We will review what happens to stars as they come to the end of their lifecycles, discovering that massive stars, like Betelgeuse, will go out as a supernova. By examining historical supernova explosions, and the more recent SN 1987A, we will envision what would happen when Betelgeuse's time is at an end.

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