SMCAS General Meeting and Presentation on May 6, 2016

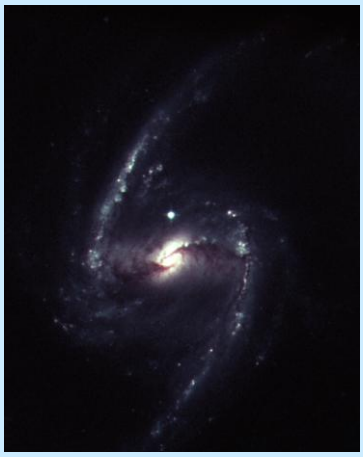
Dr Brad E Tucker

Astrophysicist/Cosmologist
Mt. Stromlo Observatory at the Australian National University

Exploding Stars, Dark Energy, and the End of the Universe

Friday, May 6, 2016 , College of San Mateo, Building 36
SMCAS General meeting at 7:00 p.m. ISC Room, room 110
Presentation at 8:00 p.m. Planetarium
Free and open to the public, free parking.

Most stars end their lives in brilliant explosions known as supernova. These massive bursts briefly outshine all the light from the galaxy wherein they occur. The past 15 years has been a "boom" period for supernovae with vast amounts of time and effort being invested in these objects. Not only are they important for understanding the life of stars, but they can be used use as cosmological probes to study what the Universe is made of and how it is growing. This use has shown that the Universe is accelerating in its expansion, the subject of the 2011 Nobel Prize, and is being caused by dark energy which will cause the end of the Universe. I will show how our understanding of these objects has been revolutionized using new techniques including the Kepler Space Telescope and the Hubble Space Telescope, and what this means for the Universe.



Supernova exploding in galaxy
(white dot above center)

Brad Tucker is an Astrophysicist/Cosmologist, and currently a Research Fellow at the Research School of Astronomy and Astrophysics, Mt. Stromlo Observatory at the Australian National University.

Brad received Bachelor's degrees in Physics, Philosophy, and Theology from the University of Notre Dame. He then undertook a PhD at Mt. Stromlo Observatory at the Australian National University, working with Nobel Laureate Brian Schmidt. He is currently working on projects trying to discover the true nature of Dark Energy, the mysterious substance causing the accelerating expansion of the Universe, which makes up 70% of the Universe. He is the lead of the Kepler Extra-Galactic Survey, which uses the Kepler Space Telescope to understand why and how stars blow up. He is also leading a project to build a network of ultraviolet telescopes in the upper atmosphere.

In addition to his research, Brad frequently gives talks to school groups and the general public about Astronomy and has regular segments on various radio and TV stations talking about Astronomy news and events. Among other things, Brad has also developed a series of Astronomy coins in conjunction with the Royal Australian Mint, consulted on science fiction movies, advised on Astronomy-themed art projects, and has been featured in specials on the National Geographic Channel. He is currently in the process of writing his first popular book and producing a Massive Open Online Course.