



**FREE SPECIAL
PRESENTATION
2:00 p.m.**

The
**E X P A N D I N G
UNIVERSE**



Given by cosmologist

DR. BHARAT RATRA

About 100 years ago we learned that the universe is expanding—the so-called Big Bang. Dr. Ratra will reflect on the differences in distribution of matter on both large and small spatial scales; and the relative strengths of the gravitational and electric forces on these differing scales that, in Einstein’s general theory of relativity, result in this observed cosmological expansion.

Ratra, a distinguished professor of physics at K-State, has pioneered research in cosmology and particle astrophysics for over 40 years, including on the quantum mechanics of inflation and dark energy dynamics. In 1988 he, along with Jim Peebles, proposed the first dynamical dark energy model. Dark energy is thought to be the catalyst causing the expansion of the universe to speed up. This discovery that expansion is speeding up is one of the most significant discoveries of the last quarter of a century. Ratra’s recent receipt of the American Physical Society’s prestigious 2025 Julius Edgar Lilienfeld Prize is just one of many awards for his research and contributions to science education at all levels.

Ad Astra Kansas Foundation
www.adastra-ks.org

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**Washburn University Dept.
of Physics and Astronomy**



Since 2009 we have co-sponsored this event with the Washburn University Dept. of Physics/Astronomy with the goal of awakening youthful Kansas minds to the wonders of space and science. This annual event is held each April on the Saturday closest to April 24. That date is symbolic in that it connects to Kansas astronaut Steve Hawley's part in the deployment of the Hubble Space Telescope in April of 1990, a source of Kansas pride.

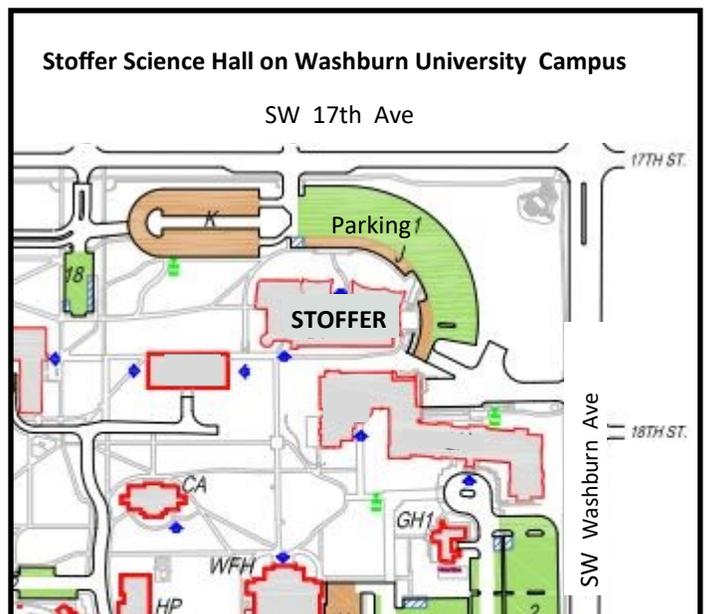
Planetarium shows are back HOORAY!

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Questions? Need information: contact@adastra-ks.org
 website: adastra-ks.org



To learn about Dr. Bharat Ratra, click here

For participants and location map, click here



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**For participants list and event location map
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