

**Public Lecture**  
5 December, CTICC

29<sup>th</sup> International Texas Symposium on Relativistic Astrophysics

3 – 8 December 2017  
CTICC  
**CAPE TOWN**  
SOUTH AFRICA  
[www.texas2017.org](http://www.texas2017.org)



**Public Lecture:** Tuesday 5 December 2017 • 19h30 – 21h00 • Auditorium 2, CTICC, Cape Town

### ***Einstein's Biggest Blunder? Dark Energy and the Runaway Universe***

by **Alex Filippenko**: Professor of Astronomy, Richard and Rhoda Goldman Distinguished Professor in the Physical Sciences, University of California, Berkeley

We expected the attractive force of gravity to slow down the rate at which the Universe is expanding. But observations of very distant exploding stars (supernovae) show that the expansion rate is actually speeding up, an amazing discovery that was honored with the 2011 Nobel Prize in Physics to the teams' leaders and the 2015 Breakthrough Prize in Fundamental Physics to all team members.

Over the largest distances, the Universe seems to be dominated by a mysterious, repulsive "dark energy" – an idea Albert Einstein had suggested in 1917 but abandoned in 1929, supposedly as his "biggest blunder." It stretches space itself faster and faster with time. But the physical origin and nature of dark energy, which makes up about 70% of the contents of the Universe, may be the most important unsolved problem in all of physics, providing clues to a unified quantum theory of gravity. Our most recent data yield an additional surprise: the current rate of expansion is even *faster* than expected, perhaps showing that dark energy is growing stronger or revealing a new type of fundamental particle.

**Alex Filippenko**, an elected member of both the U.S. National Academy of Sciences and the American Academy of Arts & Sciences, is one of the world's most highly cited astronomers. He is the recipient of numerous prizes for his scientific research, and he was the only



person to have been a member of both teams that revealed the Nobel-worthy accelerating expansion of the Universe. Winner of the most prestigious teaching awards at U.C. Berkeley and voted the "Best Professor" on campus a record 9 times, he was named the U.S. National Professor of the Year in 2006. He has produced 5 astronomy video courses with *The Great Courses*, coauthored an award-winning astronomy textbook, and appears in more than 100 TV documentaries. He has given about 1000 public presentations, and he was awarded the 2004 Carl Sagan Prize for Science Popularization. He is addicted to observing total solar eclipses throughout the globe (16 so far, all successfully).



**Registration: Free / Limited space**

Please book your space by e-mailing your name, organisation to [tammy@soafrica.com](mailto:tammy@soafrica.com), Subject Header: Public Talk booking

Enquiries: Tel: +27 (0)21 422 2402