

HAYDEN
PLANETARIUM

ISAAC ASIMOV
MEMORIAL DEBATE

2006

UNIVERSE:
ONE
OR
MANY?

WEDNESDAY ♦ 29 MARCH 2006 ♦ 7:30 PM
AMERICAN MUSEUM OF NATURAL HISTORY
LEFRAK THEATER

THE EVENING'S PROGRAM

Welcome & Introduction

Opening Questions to Panelists

Directed Free Debate

Questions from the Audience

Closing Remarks

Adjourn

Book Sale / Book & Program Signing
Hall of Northwest Coast Indians

ABOUT THE PARTICIPANTS

PANELISTS

Michio Kaku holds the Henry Semat Professorship in Theoretical Physics at the City University of New York (CUNY), where he has taught for over 25 years. He has continued Einstein's quest for a "theory of everything," and he co-founded string field theory, a leading candidate for such a comprehensive theory. His research topics of interest range from superstring theory to hadronic physics; he published one of the first papers on conformal supergravity and the breakdown of supersymmetry at high temperatures. With over 70 articles published in physics journals, Kaku has also written several best-selling books, including *Hyperspace: A Scientific Odyssey Through Parallel Universes, Time Warps and the Tenth Dimension*. Every week, he hosts an hour-long national radio program, "Explorations in Science," which covers topics in science, technology, war, and politics.

Lawrence Krauss is the Ambrose Swasey Professor of Physics and Astronomy at Case Western Reserve University, where he also serves as Director of the Center for Education and Research in Cosmology and Astrophysics. The author of over 200 scientific papers, he is the only physicist to have been awarded the highest awards of the American Physical Society, the American Association of Physics Teachers, and the American Institute of Physics. Krauss is a Fellow of the American Physical Society and the American Association for the Advancement of Science. His seven popular books include the award-winning *Atom* and his newest book, *Hiding in the Mirror: The Mysterious Allure of Extra Dimensions from Plato to String Theory and Beyond*.

Andrei Linde holds the position of Professor of Physics at Stanford University. He is one of the main architects of the multiverse concept; published in 1986, his theory of a chaotic self-reproducing inflationary universe suggests that our universe is one of many inflationary universes that sprout from an eternal cosmic tree. His works on vacuum stabilization in string theory of 2003 gave rise to the concept of the string theory landscape, which is one of the most popular versions of the multiverse theory. Linde has authored more than 200 papers on particle physics, phase transitions and cosmology. He has been awarded the Oskar Klein medal in physics by the University of Stockholm and the Dirac medal by the International Centre for Theoretical Physics. He has written two technical books on inflationary cosmology, *Inflation and Quantum Cosmology* and *Particle Physics and Inflationary Cosmology*.

Lisa Randall studies particle physics and cosmology at Harvard University, where she is Professor of Theoretical Physics. Her research concerns the fundamental nature of particles and forces and the relationships among matter's most basic elements. Randall has worked on a wide variety of models and theories, the most recent of which involve extra dimensions of space; as of last autumn, she was the most cited theoretical physicist of the past five years. In 2006, she will receive the Klopsted Award from the American Society of Physics Teachers. Randall has recently completed a book entitled *Warped Passages: Unraveling the Mysteries of the Universe's Hidden Dimensions*, which was included in the *New York Times* 100 Notable Books of 2005. Randall was also featured in *Newsweek's* "Who's Next in 2006" and in *Seed Magazine's* "Year in Science Icons."

NOTES

Virginia Trimble joined the faculty of the University of California, Irvine, in 1971, where she is presently Professor of Astronomy. Her areas of research include the structure and evolution of stars and galaxies, the gravitational redshift of white dwarfs, and the history of contemporary astronomy. Over the past 43 years, she has published more than 500 papers, articles, book chapters, and other short work. In 2001, Trimble was the recipient of the Klopsted Award of the American Society of Physics Teachers. She also received the National Academy of Sciences James Murray Luck Prize for Scientific Reviewing, and for the last fifteen years, Trimble has published an annual review of astrophysics in the *Publications of the Astronomical Society of the Pacific*.

HOST & MODERATOR

Neil deGrasse Tyson, an astrophysicist, is the Frederick P. Rose Director of the Hayden Planetarium. Born and raised in New York City, Tyson attended the Bronx High School of Science before moving on to Harvard and Columbia Universities. In addition to professional publications on stars and the Milky Way galaxy, Tyson has written eight books, including his memoir *The Sky Is Not the Limit: Adventures of an Urban Astrophysicist*, and an anthology of his best essays for *Natural History* magazine, titled *Death by Black Hole: And Other Cosmic Quandaries*, to be released this fall. He was recently appointed by the head of NASA to serve on its Advisory Council. Tyson will also host next season's PBS spinoff series *NOVA ScienceNow*.

The late Dr. Isaac Asimov, one of the most prolific and influential authors of our time, was a dear friend and supporter of the American Museum of Natural History. In his memory, the Hayden Planetarium is honored to host the annual Isaac Asimov Memorial Debate — a panel series, generously endowed by relatives, friends and admirers of Isaac Asimov and his work. The Isaac Asimov Memorial Debate brings the finest minds in the world to the Museum each year to debate a pressing question on the frontier of scientific discovery. Proceeds from ticket sales of the Isaac Asimov Memorial Debates benefit the scientific and educational programs of the Hayden Planetarium.

- 2001 Theory of Everything
- 2002 Search for Life in the Universe
- 2003 Big Bang
- 2004 Dark Side
- 2005 Enigma of Alien Solar Systems
- 2006 Universe: One or Many?

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To add your name to the Hayden Planetarium's **star-struck** e-list
for sky phenomena & Hayden events, send a blank e-mail to
star-struck-join@lists.amnh.org

Visualization of "Exploding Universe"
by Andrei Linde, Stanford University
nicely illustrates the model of
an inhomogeneous Big Bang

program by Stephanie L. Parello