

The Hayden Planetarium
of the
American Museum of Natural History
presents the

Isaac Asimov Memorial Panel Debate



LeFrak Theater
Monday Evening, 10 June 2002
7:30 – 9:00

THE EVENING'S PROGRAM

Welcome & Introduction of Panelists

Neil deGrasse Tyson

Opening Questions to Panelists

panelists

Directed Free Debate Among Panelists

Questions from the Audience

Closing Remarks

Neil deGrasse Tyson

Adjourn

Book Sale / Book & Program Signing

Hall of Northwest Coast Indians

panelists and host

ABOUT THE PARTICIPANTS

Panelists

CHRIS MCKAY is a Planetary Scientist with the Space Science Division of NASA Ames Research Center in Mountain View, California. He received his PhD in Astro-Geophysics from the University of Colorado in 1982 and has been a research scientist at NASA Ames since that time.

McKay is a leading researcher on Saturn's giant satellite Titan, and has worked in numerical modeling of planetary atmospheres. His current research focuses on the evolution of the Solar System and the origin of life. He is also actively involved in planning future Mars missions, including human settlements. He has taken part in polar research since 1980, traveling to the Antarctic dry valleys and more recently to the Siberian and Canadian Arctic, to conduct research in these Mars-like environments.

PENELOPE BOSTON is a Research Associate Professor in the Department of Biology at the University of New Mexico in Albuquerque, and directs Complex Systems Research, Inc., in Boulder, Colorado. She has a PhD from the University of Colorado in microbiology and atmospheric chemistry. Her field research focuses on "extremophiles," microorganisms living happily in extreme environments, ranging from chemically unusual and ancient caves, to deserts, to high altitudes and latitudes.

Boston has written popular and technical works on astrobiology; extreme environments and the extremophiles who live there; human life support in space and on planetary surfaces; global-scale evolution on Earth and potentially other planets; and long-term consequences of human/robotic interactions. She coauthored *Scientists Look At Gaia*, edited *The Case for Mars*, and was recently named a NASA Advanced Concepts Fellow.

SETH SHOSTAK is Senior Astronomer at the SETI Institute, in Mountain View, California. He earned his PhD in astronomy from Caltech, has conducted radio astronomy research on galaxies, and has published nearly fifty papers in professional journals. He has written several hundred popular articles on various topics in astronomy and technology; and frequently appears on CNN, Discovery Channel, The Learning Channel, and NPR.

Shostak participates in Project Phoenix, the world's most comprehensive radio search for extraterrestrial signals. He is particularly interested in the strategies to be used for such searches. His book *Sharing the Universe: Perspectives on Extraterrestrial Life* describes why researchers expect that intelligent extraterrestrials exist, how we might find them, and what the consequences of a successful detection would be.

PETER WARD is a Professor of Geological Sciences, Professor of Zoology, and Adjunct Professor of Astronomy at the University of Washington in Seattle. He is a Fellow of the California Academy of Sciences, and Senior Councilor of the Paleontological Society. He is Principal Investigator of the University of Washington Node of the NASA Astrobiology Institute, and is a member of a NASA group charged with assigning post-2007 Mars missions.

Ward has published numerous books including: *On Methuselah's Trail: Living Fossils and the Great Extinctions*; *The End of Evolution: On Mass Extinctions and the Preservation of Biodiversity*; *The Call of Distant Mammoths*; *Time Machines: Scientific Explorations in Deep Time*; *Rivers in Time*; *Future Evolution*; and *Rare Earth: Why Complex Life is Uncommon in the Universe* (with Donald Brownlee).

FRANK J. TIPLER is a Professor of Mathematical Physics at Tulane University in New Orleans. He is the co-author of *The Anthropic Cosmological Principle*, on the relationship between cosmology and intelligent life. His research is focused on global general relativity, which deals with the structure of the cosmos on the largest scales, and the physics of computation, concerned with the limits on computers imposed by the laws of physics.

In his book *The Physics of Immortality*, Tipler concludes that there are no limits to computation, which implies that the form of computation called “intelligent life” will continue forever and eventually expand from Earth to encompass the entire Universe. Tipler was a post-doctoral student of John A. Wheeler of Princeton University, the man who named the “black hole.”

Host & Moderator

NEIL DEGRASSE TYSON was born and raised in New York City where he was educated in the public schools clear through his graduation from the Bronx High School of Science. Tyson went on to earn his BA in Physics from Harvard and his PhD in Astrophysics from Columbia University. Tyson’s professional research interests include star formation, exploding stars, dwarf galaxies, and the structure of our Milky Way. In addition to dozens of professional publications, Tyson writes a monthly essay for *Natural History* magazine entitled “Universe.” Tyson’s recent books include a memoir *The Sky is Not the Limit: Adventures of an Urban Astrophysicist*, a playful Q&A book on the Universe for all ages titled *Just Visiting This Planet*, and the companion book to the Rose Center for Earth & Space *One Universe: At Home in the Cosmos* (coauthored with Charles Liu and Robert Irion).

Tyson is the first Frederick P. Rose Director of the Hayden Planetarium and a Visiting Research Scientist in astrophysics at Princeton University, where he also teaches. Tyson lives in New York City with his wife and two children.

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 Panel Debate — a panel series, generously endowed by relatives, friends and admirers of Isaac Asimov and his work. The Isaac Asimov Memorial Panel series brings the finest minds in the world to the Museum each year to debate pressing questions on the frontier of scientific discovery. Proceeds from ticket sales of the Isaac Asimov Memorial Panels will benefit the scientific and educational programs of the Hayden Planetarium.

- 2001 Theory of Everything
- 2002 Search for Life in the Universe

ARTWORK ON THE COVER AND PROJECTED DURING THE DEBATE:
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American Museum of Natural History
www.amnh.org 212 769 5100

Hayden Planetarium
www.amnh.org/hayden 212 769 5900

Department of Astrophysics
research.amnh.org/astrophysics 212 769 5900

Hayden Planetarium's Night Sky Q&A Hotline
212 769 5901

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