



AMERICAN MUSEUM OF NATURAL HISTORY

HAYDEN PLANETARIUM
ISAAC ASIMOV
MEMORIAL DEBATE

WEDNESDAY

3.29.17

AT 7:30 PM

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SAMUEL J.
AND
ETHEL
LEFRAK
THEATER

#asimovdebate



ABOUT THE DEBATE

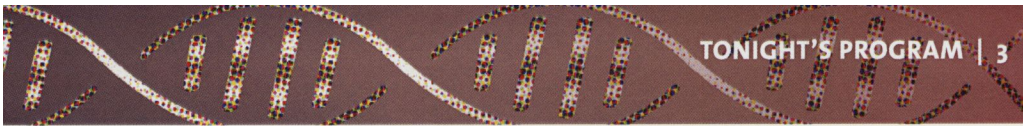
The late Dr. Isaac Asimov, one of the most prolific and influential authors of our time, was a dear friend and supporter of the American Museum of Natural History.

In his memory, the Hayden Planetarium is honored to host the annual Isaac Asimov Memorial Debate, generously endowed by relatives, friends, and admirers of Isaac Asimov and his work, bringing 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 Debates benefit the scientific and educational programs of the Hayden Planetarium.

PREVIOUS ASIMOV DEBATES

- 2016 | Is the Universe a Simulation?
 - 2015 | Water, Water
 - 2014 | Selling Space
 - 2013 | The Existence of Nothing
 - 2012 | Faster than the Speed of Light
 - 2011 | The Theory of Everything...Still Searching?
 - 2010 | Rose Center 10th Anniversary Asimov Debate: Is Earth Unique?
 - 2010 | Moon, Mars, and Beyond: Where Next for the Manned Space Program?
 - 2009 | From Planets to Plutoids
 - 2008 | Mining The Sky
 - 2007 | The Pioneer Anomaly
 - 2006 | Universe: One or Many?
 - 2005 | The Enigma of Alien Solar Systems
 - 2004 | The Dark Side
 - 2003 | The Big Bang
 - 2002 | The Search For Life in the Universe
 - 2001 | The Theory of Everything
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**HAYDEN PLANETARIUM
2017 ISAAC ASIMOV MEMORIAL DEBATE**

De-Extinction



TONIGHT'S PROGRAM

Welcome and Introduction

Opening Questions

Directed Free Debate Among Panelists

Questions from Audience

Adjournment



ABOUT THE TOPIC

Biologists today have the knowledge, the power, and the tools to influence the direction of evolution for life on Earth. Is there an obligation to bring back species that human activities may have rendered extinct? Is there the technology to do so?

Join host and moderator **Neil deGrasse Tyson** and his panel of experts for a lively discussion and debate about the merits and shortcomings of this provocative idea.





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PANELISTS

George Church is a professor at Harvard & MIT, co-author of 450 papers, 95 patent publications and the book *Regenesis*. He developed methods used for the first genome sequence (1994) and genome recoding and million-fold cost reductions since. He co-initiated the BRAIN Initiative (2011) and Genome Projects (1984, 2005) to provide and interpret the world's only open-access personal precision medicine data.

Henry T. (Hank) Greely is the Deane F. and Kate Edelman Johnson Professor of Law and professor, by courtesy, of Genetics at Stanford University. He directs Stanford's Center for Law and the Biosciences and its Program on Neuroscience in Society. He serves on the Committee on Science, Technology, and Law of the National Academy of Sciences and the NIH Multi-Council Working Group on the BRAIN Initiative. His recent book is *The End of Sex and the Future of Human Reproduction*.

Gregory E. Kaebnick is a research scholar and editor of the Hastings Center Report at The Hastings Center, an independent bioethics research institute. He is the author of *Humans in Nature: The World As We Find It and the World As We Create It* (Oxford, 2014), and he recently served on a committee of the National Academy of Sciences, Engineering, and Medicine that developed recommendations for responsible research on using gene drives in nonhuman organisms.

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Ross MacPhee is a curator in the Department of Mammalogy, Division of Vertebrate Zoology at the Museum and a professor at the Richard Gilder Graduate School. MacPhee studies recently extinct mammals, particularly ones that have disappeared within the past 50,000 years. He has worked in many parts of the world looking for evidence of their causation. Human depredation? Climate change? Both? Other possibilities? Even with the advent of new tools in paleontology, explaining how extinctions in Near Time actually occurred remains a major challenge.

Beth Shapiro, author of *How to Clone a Mammoth*, MacArthur Fellow, and Professor in the UCSC Genomics Institute, is one of the world's leading ancient DNA specialists and a clear voice in the debate over the future of genetic engineering as a tool for conserving species and ecosystems. A National Geographic Explorer, Shapiro studies how species and populations evolve through time and how human activities affect this dynamic process.

HOST AND MODERATOR

Dr. Neil deGrasse Tyson is an astrophysicist with the American Museum of Natural History, and the Frederick P. Rose Director of the Hayden Planetarium.

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FRONTIERS LECTURE SERIES

The Frontiers Lectures highlight the latest advances in our knowledge of the universe by presenting the work of scientists conducting research at the cutting edge of astrophysics.

Our Path to a New Home in the Planets

Monday, April 3 | 7:30 pm | Hayden Planetarium
\$15, \$12 Members, \$13.50 seniors/students

Planetary scientist **Amanda Hendrix** and science writer **Charles Wohlforth** highlight the developments and initiatives that have transformed the dream of space colonization into something that could become reality. The two discuss groundbreaking research and make the case that Saturn's moon Titan offers the most realistic prospect for life without support from Earth.

A book signing follows.

Deep Life: The Hunt for Hidden Biology of Earth, Mars, and Beyond

Monday, May 15 | 7:30 pm | Hayden Planetarium
\$15, \$12 Members, \$13.50 seniors/students

Geoscientist **Tullis Onstott** provides an insider's look at pioneering fieldwork on Earth's thriving subterranean biosphere—a place where scientists once thought life could not possibly exist. Onstott reveals how astonishing new discoveries by geomicrobiologists exploring Earth's most extreme environments are furthering the search for life elsewhere in the solar system.

A book signing follows.

Support for Hayden Planetarium Programs is provided by the Schaffner Family and the Horace W. Goldsmith Endowment Fund.

SPECIAL EVENTS

Earth Day

Friday, April 21 | 7 pm | Hayden Planetarium
Free; registration required, call 212-769-5222

Celebrate Earth Day in the planetarium dome! **Carter Emmart** guides you through the immersive story of our beautiful planet. Observing the Earth from space provides a window on the unique and fragile beauty of our home planet.

Manhattanhenge

Tuesday, May 30 | 7 pm | Hayden Planetarium | \$15, \$12 Members

As the Sun sets on May 30th, it perfectly aligns with Manhattan's east-west streets, kicking off a summer of grid crossings that create cinema-worthy photo opportunities. **Jackie Faherty** guides us through the history and astronomy behind this phenomenon in a special presentation.

Mars as Never Seen Before

Monday, June 5 | 7 pm | Hayden Planetarium | \$15, \$12 Members

Get closer to Mars! Using pioneering technology, the Museum uses NASA's current Mars data to showcase never-before-seen details of the red planet. Join **Carter Emmart** for a new look at the Martian landscape, beyond the reach of rovers.

HAYDEN PLANETARIUM PROGRAMS

Visit amnh.org/calendar or call 212-769-5200 for program and ticket information.

NIGHT SKY Q&A HOTLINE

Call the Hayden Planetarium at 212-769-5901 with your astronomy questions.

STARSTRUCK EMAIL NEWSLETTER

Sign up for occasional emails about sky phenomena and upcoming Hayden programs at amnh.org/email.

HAYDEN PLANETARIUM

Explore the frontier of astrophysical research at haydenplanetarium.org.

DEPARTMENT OF ASTROPHYSICS

Learn about current astrophysical research at research.amnh.org/astrophysics.

ROSE CENTER FOR EARTH AND SPACE

Explore the cosmos, stars, galaxies, and planets at amnh.org/rose or call 212-769-5900.

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