Planets to Plutoids:
Our New Solar System

Pluto: Down but Maybe Not Out
Robert Roy Brit, Space.com, August 31, 2006

After the International Astronomical Union (IAU) downgraded Pluto in 2006 to "dwarf planet," a number of scientists are still arguing that the Internet's first computer Simulations of how the planets might have formed suggest that Pluto and Earth may have grown as sister planets. According to the new designation, a celestial body must be big enough to form into a nearly round shape through gravitational forces. Pluto does not meet this requirement. However, some scientists argue that the existing definition should be expanded to include Pluto and other similar objects. They point to the historic evolution of our solar system, which is thought to have formed from a rotating cloud of gas and dust. Scientists believe that Pluto and similar objects played a role in shaping the solar system's evolution. The IAU has suggested that Pluto and other similar objects could be classified as "Kuiper Belt objects," which are thought to have formed in a region beyond the orbit of Neptune. This classification could allow Pluto and similar objects to retain their current status. Others have proposed that Pluto be classified as a "trans-Neptunian object," which is any object beyond the orbit of Neptune. This classification has gained support from some scientists, but it has not been widely accepted by the scientific community. The debate over Pluto's classification continues, with some scientists arguing that it should retain its current status as a planet. The scientific community is working to establish a new classification system that can accommodate Pluto and similar objects. In the meantime, Pluto remains a controversial part of our solar system's evolution. Pluto's Not a Planet? Only in New York

As the outermost planet in our solar system, Pluto was thought to be a distant, icy world. However, recent discoveries have challenged this view and raised questions about its classification as a true planet. In 2006, the International Astronomical Union (IAU) reclassified Pluto as a "dwarf planet," citing its size and shape. However, some scientists argue that Pluto should be classified as a "trans-Neptunian object," which is any object beyond the orbit of Neptune. The debate over Pluto's classification continues, with some scientists arguing that it should retain its current status as a planet. The scientific community is working to establish a new classification system that can accommodate Pluto and similar objects. In the meantime, Pluto remains a controversial part of our solar system's evolution. Pluto's Not a Planet? Only in New York

As the outermost planet in our solar system, Pluto was thought to be a distant, icy world. However, recent discoveries have challenged this view and raised questions about its classification as a true planet. In 2006, the International Astronomical Union (IAU) reclassified Pluto as a "dwarf planet," citing its size and shape. However, some scientists argue that Pluto should be classified as a "trans-Neptunian object," which is any object beyond the orbit of Neptune. The debate over Pluto's classification continues, with some scientists arguing that it should retain its current status as a planet. The scientific community is working to establish a new classification system that can accommodate Pluto and similar objects. In the meantime, Pluto remains a controversial part of our solar system's evolution.
When the International Astronomical Union of 2006 reclassified Pluto as a dwarf planet, controversy followed over this most beloved object in the solar system. Recent discoveries of icy Kuiper belt objects and hot exoplanets have forced scientists to re-think previous classification schemes and their associated nomenclature.

For more information about this topic, we recommend the following articles:

http://astro.berkeley.edu/~basri/defineplanet/index.html
http://wwwifa.hawaii.edu/faculty/jewitt/kb.html
http://science.news.org/view/access/id/38812/title/ALAN_STERN

Full texts of the articles featured on the cover are available online at these sites:

Pluto: Down but Maybe Not Out
http://www.space.com/scienceastronomy/060831_planet_definition.html

Pluto Gets the Boot as the Planet Count Drops
http://www.newscientist.com/article/dn9824

Pluto Demoted, No Longer a Planet

Pluto's Not a Planet? Only in New York
THE EVENING PROGRAM

Welcome & Introduction of the Panelists
Opening Questions to Panelists
Directed Free Debate among Panelists
Questions from Audience
Adjourn
Book Sale/Book & Program Signing

Hall of Northwest Coast Indians

Program Note:

The Isaac Asimov debate is not a formal panel but is conceived as a free flowing, adversarial conversation such as what might occur in the coffee lounges of academia. Think of yourself not as a member of an audience but rather as an eavesdropper on the scientific process.
ABOUT THE PARTICIPANTS

Panelists

**Gibor Basri**

is on the faculty at UC Berkeley. He studies newly born stars and their disks, which are the sites for planet formation, and brown dwarfs: objects between stars and planets in mass. He is now involved in NASA’s Kepler mission, which is a space-based transit search for terrestrial planets around other stars.

**Sara Seager**

is the Ellen Swallow Richards Associate Professor of Planetary Science and Associate Professor of Physics at MIT. She was part of a team that co-discovered the first detection of light emitted from an exoplanet and the first spectrum of an exoplanet.

**Jack Lissauer**

is a research scientist who has been at NASA’s Ames Research Center, California since 1996. Principally a theorist, he also searches for exosolar planetary systems, both from ground-based as well as space borne telescopes.

**Steven Soter**

is a planetary scientist (PhD Cornell University) at AMNH, and a visiting professor in the Environmental Studies Program at New York University. He was co-author with Carl Sagan and Ann Druyan of the “Cosmos” television series.
Alan Stern
is a planetary scientist and an expert in the origin and evolution of our outer solar system. He is also a Principal Investigator on several NASA planetary exploration missions and the former head of all science missions at NASA Headquarters.

Mark V. Sykes
is director of the Planetary Science Institute in Tucson, AZ. His research interests include the origin and evolution of dust in the solar system. He is former president of the Division of Planetary Sciences of the American Astronomical Society.

Host & Moderator

Neil deGrasse Tyson
is an Astrophysicist with the American Museum of Natural History where he also serves as the Fredrick P. Rose Director of the Hayden Planetarium. Holder of nine honorary doctorates, Tyson is also host of the acclaimed PBS series NOVA Science Now and is author most recently of The Pluto Files.
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.

2001 The Theory of Everything
2002 The Search For Life In the Universe
2003 The Big Bang
2004 The Dark Side
2005 The Enigma of Alien Solar Systems
2006 Universe: One or Many?
2007 The Pioneer Anomaly
2008 Mining The Sky