

2016 HARCOURT C. "ACE" VERNON MEMORIAL LECTURE

Tuesday, April 26, 2016 | 7:30 PM | Clayton Hall Conference Center

PLUTO: Insights from the New Horizons Mission



Harry Shipman

Annie Jump Cannon Professor of Physics
and Astronomy, University of Delaware

Join Professor Shipman for a fascinating new look at Pluto and its largest moon, Charon, thanks to NASA's New Horizons mission. An expert in stellar physics, Shipman received his bachelor's degree from Harvard and his doctorate from the California Institute of Technology. He has written four books on astronomy and the space program including the popular *Black Holes, Quasars, and the Universe*. He has received the National Science Foundation's Distinguished Teaching Scholar Award.

Erosion and faulting sculpted
this portion of Pluto's icy crust
into rugged badlands.

Credit: NASA/JHUAPL/SwRI

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Pluto inhabits the frigid edges of our solar system, affording only blurry glimpses even with the best Earth-based telescopes. But all that has changed. Passing within 13,000 miles of Pluto's surface in July 2015, NASA's New Horizons mission has transformed Pluto and its moons from fuzzy blobs of light into complex worlds with nitrogen glaciers, water ice mountains and other amazing geology.

Free and open to the public.

Please register online at mountcuba.org

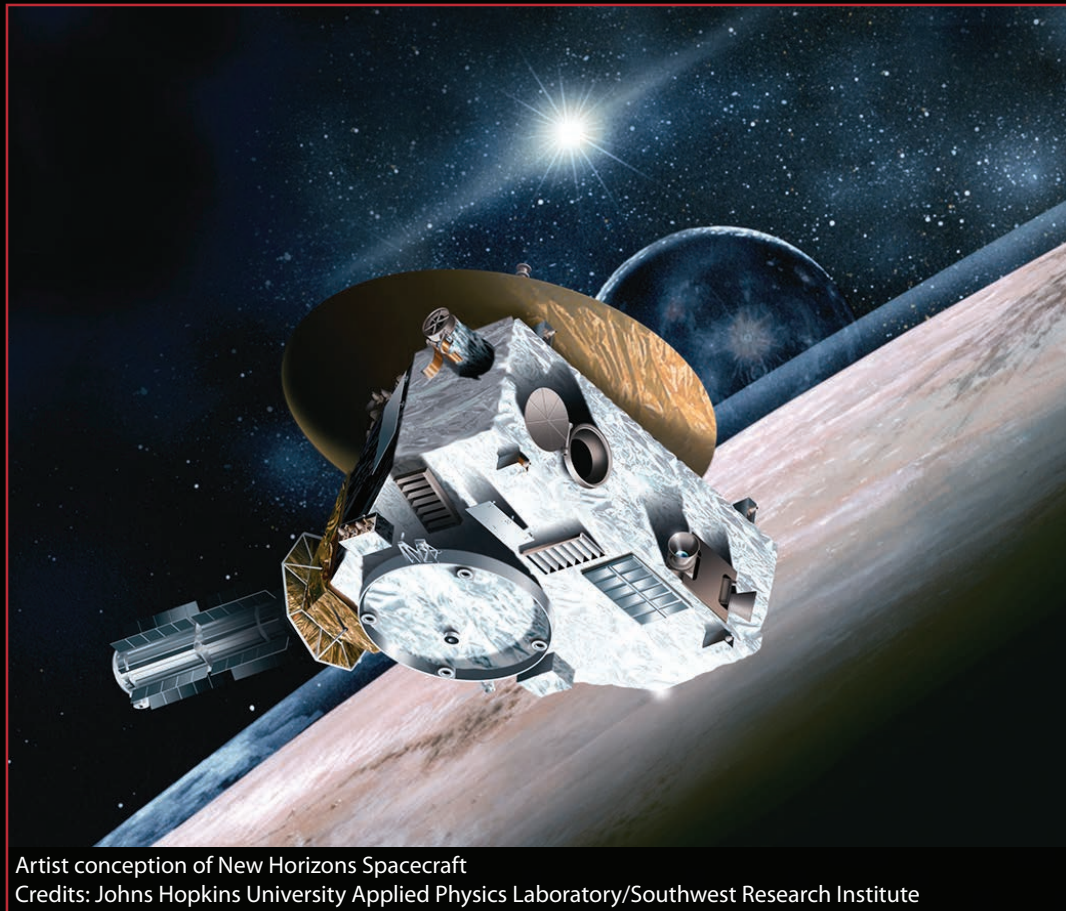
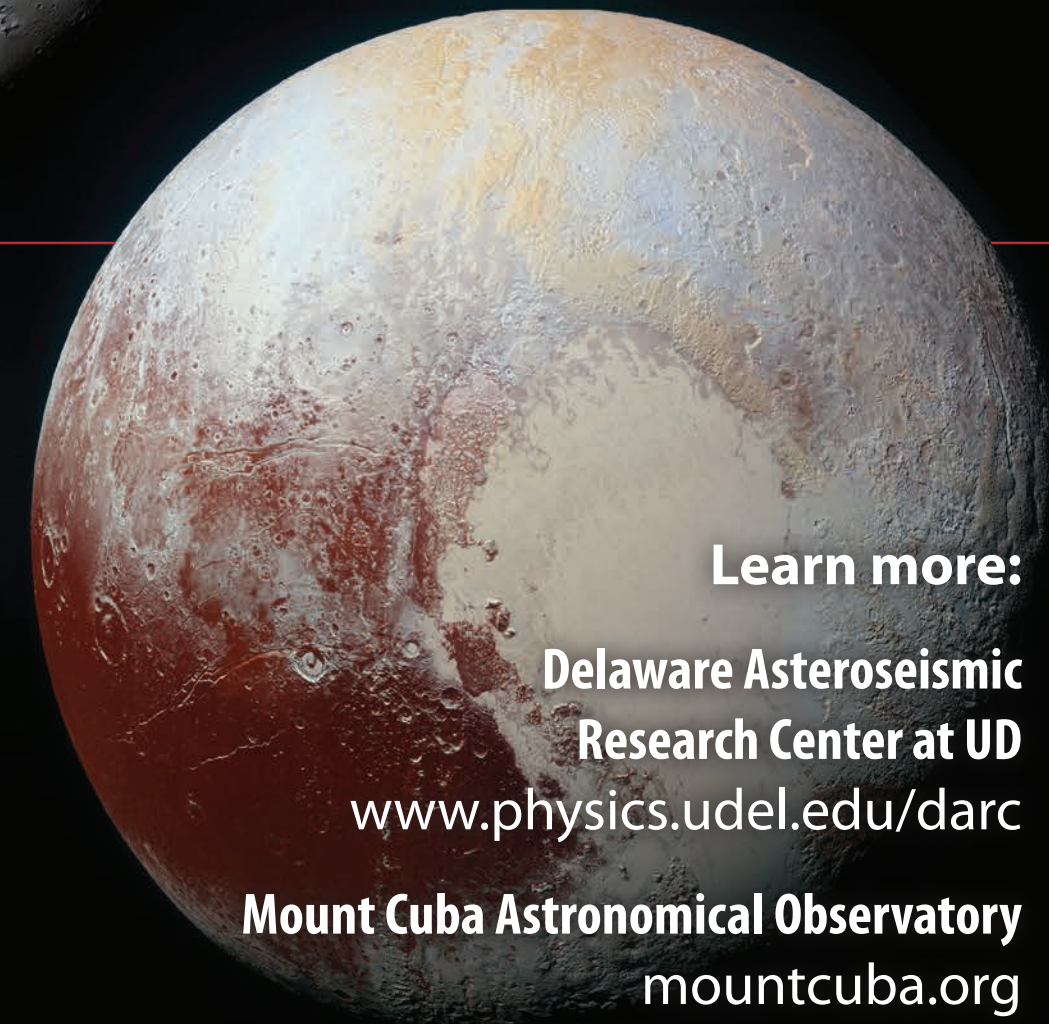
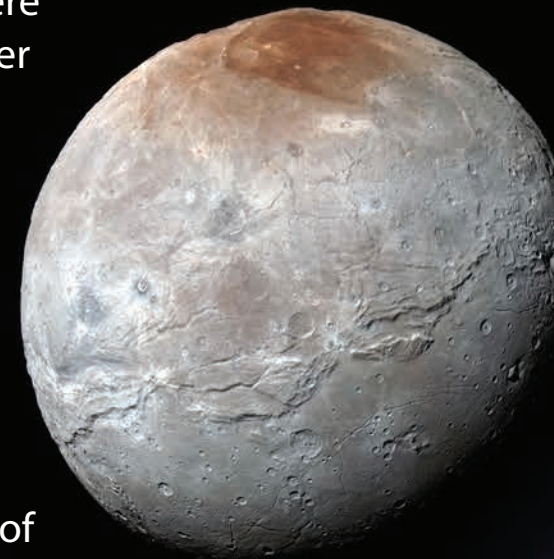
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Delaware Asteroseismic Research Center at UD (www.physics.udel.edu/darc)
and Mount Cuba Astronomical Observatory (mountcuba.org)

The Need to Explore

The United States is now the first nation to reach every planet in our solar system with a space probe.

New Horizons seeks to understand where Pluto and its moons “fit in” with the other objects in the solar system, such as the inner rocky planets (Earth, Mars, Venus and Mercury) and the outer gas giants (Jupiter, Saturn, Uranus and Neptune). Pluto and its largest moon, Charon (*right*), belong to a third category known as “ice dwarfs.” They have solid surfaces but, unlike the terrestrial planets, a significant portion of their mass is icy material.



Artist conception of New Horizons Spacecraft
Credits: Johns Hopkins University Applied Physics Laboratory/Southwest Research Institute

How big is Pluto?

About 5.5 times smaller than Earth, or about two-thirds the diameter of the Moon. Side by side, Pluto and its largest moon, Charon, would barely span the United States.

How long does it take Pluto to orbit the sun?

248 years

Would you weigh more on Earth or on Pluto?

A person on Pluto would weigh 1/15 of what they weigh on Earth.

Who discovered Pluto?

Clyde Tombaugh, an amateur astronomer from Kansas. He was hired by Lowell Observatory in Flagstaff, Arizona, to search for “Planet X,” an effort begun by observatory founder Percival Lowell. Tombaugh found it on Feb. 18, 1930.

How did Pluto get its name?

Eleven-year-old Venetia Burney from Oxford, England, suggested the name, for the mythological god of the underworld who was able to render himself invisible.

Adapted from <http://pluto.jhuapl.edu/Participate/learn/What-We-Know.php?link=The-Basics>

Learn more:

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