What's up in Astronomy By Eric Erickson

Offered Title: Can You Say 'Oumuamua?

Makes me want to go back to Hawai'i and munch on pupus (poo-poos), Hawaiian appetizers.

'Oumuamua is Hawaiian, meaning "messenger from afar arriving first" or "scout" and was the name given to an asteroid that came in from interstellar space. This chunk of rock was already far away from Earth by the time it was spotted. How could this happen? Fortunately, it didn't come close to us.

On October 19th, 2017, at Haleakala Observatory on the Hawaiian island of Maui, NASA's Pan-STARRS1 first detected an object rapidly receding from Earth and heading toward the outer solar system. This is what Pan-STARRS was designed to do, find new comets, asteroids, other objects in our solar system. Especially those near our Earth. That's good, but it's supposed to find them while they are coming our way, not after we have crossed paths! The long name for this array of telescopes and cameras is the **Panoramic Survey Telescope and Rapid Response System.** Pan-STARRS was originally funded primarily by the Air Force and is now part of NASA's Near Earth Objects (NEO) survey. It not only finds new objects, it tracks known objects and produces accurate information for them, such as orbit, size, shape, spin, reflectance, etc. It's helping keep us aware of threats from space.

The object was first thought to be a comet, so it was given a designation of C/2017 U1. Then it was determined this object is an asteroid and given the name A/2017 U1. After determining its trajectory, scientists understood why it was not detected earlier. It came from above our solar system, got within about 25 million miles from the Sun and then was slingshot outward by the Sun's gravity. It's now travelling around 100,000 mph. Because it is from interstellar space 'Oumuamua has been designated 1I/2017 U1. 1I means it's the first interstellar object, 2017 is this year, and that makes sense. But U1 means it was the first object discovered in the second half of October – really. Seems kind of dense but that's the International Astronomical Union and they make the rules.

What info do we have about this interloper from the direction of Vega? It looks to be around 900 feet by 100 feet, long and skinny. It is tumbling eccentrically with a rotation rate between 7 and 8 hours. 'Oumuamua's surface appears reddish, like parts of the outer solar system objects Pluto and Charon. These are estimates of course due to 'Oumuamua's small size and great distance from Earth. One thing we know, it will not return to our neighborhood unless it gets turned around by a very large object.

Bye – bye 'Oumuamua, pronounced ow – mooa – mooa.

What's in the Sky?

01/01; 8:24 pm CST: Celebrate the beginning of our new year with the biggest full Moon of 2018.

01/06: Get up before sunrise to see Mars and Jupiter hugging in the south southeast.