

**Planetary Wonderings**  
**February Focus: Dawn & New Horizons**  
**By Mary-Frances Bartels, NASA Solar System Ambassador**

As mentioned in last month's column 2009 has been declared the International Year of Astronomy. NASA has designated specific "hot topics" for each month some of which may be featured in this column this year. February's "hot topic" is solar system exploration. NASA's Jet Propulsion Laboratory launched America's first satellite in 1958 and has been blazing trails across the solar system ever since. "Planetary Wonderings" has discussed many of these missions over the years. Presently JPL has a total of 18 spacecraft and eight instruments conducting active missions. This month I wanted to briefly feature two current missions not discussed previously.

**Dawn** – Launched in September 2007, Dawn is using ion propulsion to take it to the asteroid belt. This spacecraft will be the first to orbit two planetary bodies — the large asteroid Vesta and the dwarf planet Ceres — on a single voyage. On the 17<sup>th</sup> of this month Dawn will fly by Mars and use its gravity to propel it to its destinations. In August 2011 Dawn will rendezvous with Vesta. It will then continue to Ceres in 2015. These are the two largest objects between Mars and Jupiter. Dawn will measure Vesta's and Ceres's shapes, surface topographies, tectonic histories, elemental and mineral compositions, masses and gravity fields. It will also search for water-bearing minerals. By exploring Vesta and Ceres scientists hope to learn more about the formation of the solar system.

**New Horizons** – This spacecraft is the first mission to Pluto and the Kuiper Belt, a region of icy bodies beyond the gas giant planets and believed to be the source of many comets. When New Horizons encounters Pluto in July 2015, it will use its seven onboard scientific instruments to study the atmospheres, surfaces, interiors, and the intriguing environments of the space around Pluto and its moons. Launched in January 2006 it is scheduled to reach Pluto in July 2015.

**Resource of the Month:** [www.unmannedspaceflight.com](http://www.unmannedspaceflight.com) has a number of discussion forums on various astronomical objects and missions.

**Activity of the Month:** Dare to observe the edge of infinity! Doug Snyder of the Palomins Observatory in Arizona challenges amateur astronomers to observe and document an optical wavelength object that is at least 1.3 billion light years from Earth. Participants receive an infinity lapel pin and are entered in a contest to win \$1,000. Details of the contest may be found at <http://www.astronomyyear2009.com/>.

Suggestions, questions, and comments about "Planetary Wonderings" are welcomed and may be directed to stargazer @ keeplookingup.net (remove spaces). Past columns may be found at [www.keeplookingup.net](http://www.keeplookingup.net) (click on "Planetary Wonderings" on the right side of opening screen) and at <http://www.freelists.org/archives/astronomyed/> (columns from Jan. 2007 to the present).

**Remember to *keep looking up!***

Sources: <http://jpl.nasa.gov/about/index.cfm>

<http://sse.jpl.nasa.gov/missions/profile.cfm?Sort=Advanced&MCode=PKB>

<http://dawn.jpl.nasa.gov>

<http://sse.jpl.nasa.gov/missions/profile.cfm?Sort=Advanced&MCode=Dawn&Display=ReadMore>