

Butterfly Nebula.

Looking ahead **Venus** and the crescent Moon will be close on March 25th and near the Moon will be near the Pleiades on March 26th. Venus is now at greatest elongation at 46°E but will thin towards its June transit across the Sun. Venus will pass close to the Pleiades on April 3rd and near Spica on April 6th.

On observing the **Moon** Matt recalled that with the 100th anniversary of the Titanic disaster it has been discovered that the Moon due to its' unusually close approach at New Moon in early January which also coincided with the Earth at its' closest to the Sun caused unusually high tides that month that caused a large release of grounded icebergs. Areas of interest on the Moon this month include Hell Q crater (See Sky News) and Descartes Highlands where the Apollo spacecraft landed forty years ago. The landing pad can now be seen by photos taken by the lunar surveyor camera aboard the LRO as was illustrated by Matt.

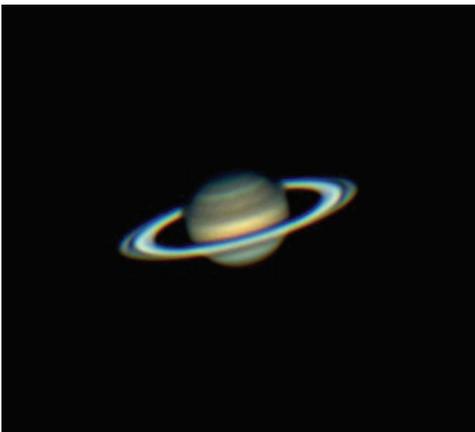
**Mars** is stationary on April 15th. Asteroid 2012 DA14 discovered this year is coming within 24,000 to 38,000KM of Earth. It is a 45m rock weighing in at 120,000 Metric tonnes.

President Paul Pratt acknowledged Matt for his fine report and informed the membership of next month's meeting presentation from **Dale Partin from Michigan and the topic of "A History of Cosmic Ray Astronomy"**.

Paul after thanking members and guests for their attending, adjourned **the Meeting at 9:43pm.**

Next meeting will be on **April 17, 2012** at the Ojibway Nature Centre.

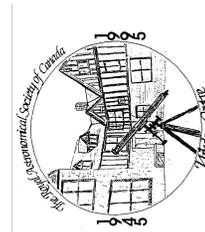
Reported by Arthur Rae, RASC Windsor Centre Secretary.



*Another fine astrophoto by Brian Thomas. Brian captured Saturn in the early morning hours of April 12 with his DFK 31 video camera at the prime focus of the Celestron 14 at Hallam. Brian then processed the video with Registax 6 and stacked the best 200 frames for the image presented here.*



# AURORA



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The Royal Astronomical Society of Canada - Windsor Centre

April 2012

## Flyer

### Next Meeting

Tuesday, May 15, 2012  
7:30 p.m.

at  
[Ojibway Park Nature Centre](#)  
5200 Matchette Road

Speaker: TBD

Topic: "TBA"

### Upcoming Events

**Lyrid Meteors:** Peak overnight on Saturday night Sunday morning April 21/22.

**Earth Day/Astronomy Day:** Sunday April 22nd from 10:00 a.m. - 3:00 p.m. at Malden Park (use Malden Road Entrance).

**Open House Night at Hallam:** The next open house night at Hallam is on Saturday April 28th at 8:30 p.m..

**Venus:** Is at greatest brilliancy (mag. -4.7) on April 30th.

**Eta Aquarid Meteors:** Peak on the night of Saturday May 5.

**Science Rendezvous 2012:** Saturday May 12 from 10:00 a.m.- 4:00 p.m. at the University of Windsor CAW Student Centre.

## Monthly Meeting Minutes

March 20, 2012

The Royal Astronomical Society of Canada - Windsor Centre, Ojibway Park Nature Centre.

Windsor Centre **President Paul Pratt** chaired the Meeting. Paul called the Meeting to order at 7:35pm and welcomed members and guests to the Ojibway Nature Centre.

Paul provided notices of **upcoming events** including:

- Next Hallam Open House, March 24 2012
- Point Pelee Park dark sky night, March 24 2012
- Earth Day, April 22nd
- Science Rendezvous at the University of Windsor, May 12, 2012

The new RASC Windsor Centre **Facebook page** is now set up and available to members to post observations and items of interest.

A response from Essex County regarding the **roadway cutoff lighting** is now posted on the Centre web site.

D of O Steve Pellarin discussed setting up an upcoming **public observing night** in Windsor.

Paul introduced the **Main Speaker** for the meeting, Steve Pellarin.

**The Hershel Space Telescope, Steve Pellarin:** The Hershel Space telescope, an infrared looking device was named after Sir William Hershel (1738-1822) who first demonstrated the existence of infrared radiation emitted from stellar objects in 1800. To properly detect stellar sources of infrared energy we must get away from the Earth's atmosphere and water vapour that traps that energy spectrum.

The space telescope was built by a European consortium at a cost of 1.1 billion Euros and has a lifetime of three and a half years. It was launched on May 14 2009. The goal of the project is to study formation and evolution of stars and galaxies. Examples of observations include those of ice/gas giants and comets in our solar system and elliptical galaxy formation in deep space.

A video of the essential component makeup of the Hershel Space Telescope was shown and the key instrument packages were described including the SPIRE instrument, a camera for IR photography and spectrometer, Canadian built, that has discovered at the center of the Milky Way galaxy a ring of cold gas ringing the black hole at the center: PACS, another camera with filters for different portions of spectra that can detect fine absorption lines to tell speed of gases and also includes spectroscopy of galactic black holes, for example

Mrk231 and for studies of molecular transitions of early galaxies. The HIFI instrument is a high resolution spectrometer, Canada built it's master oscillator module, that has imaged the Orion Nebula for it's range of chemicals and also interstellar space gas and dust.

A second video showed the launch of the space telescope via an ESA vehicle from the Kourou French Guiana spaceport with animations of the spacecraft final destination at one of Earth's two Lagrange points.

Some finds and studies include a theoretical question. Did Earth's oceans come from comets? By measuring the ratio of heavy water (deuterium) in oceans' and comets' abundances to see if they are the same. Last year no comets studied matched the D/H ratio. Measuring comet Hartley II from the Oort Cloud matched ocean water ratio compared to comets from the inner asteroid belt. Looking at nearby interstellar cloud and star formation, only in infrared shows proto-stars formation. The object IC5146 in the Gould Belt displays ropes of turbulence not seen optically before. Hershel has also discovered water in a proto-planet disk. TW Hydrae a magnitude 9 variable young star and T Tauri the closest star at 170 ly. Water has been detected in collapsing molecular clouds and all across the cloud. Water bonds with dust evolving into asteroids, comets and planetesimals. The HIFI instrument has detected where water was created in the star forming disk and how it was created by x-rays and U-V rays. This is the first time we can accurately see planetary formation with large reservoirs of water in them. Also studies is CW Leonis, a red giant losing weight fast. The PAX camera was able to see more layers of rings around the star than previously and can see back 17,000 years into the life of this star.

Steve then, after another video testimonial to the spacecraft's work, gave a comparison set of photos demonstrating a comparison of images of the Eagle Nebula between Hubble, the visible spectrum telescope and Hershel the infrared telescope.

Paul thanked Steve for his presentation then called for the **Break**.

The **50:50 draw** was held after the Break. The winner, Mike Mastronardi, kindly donated his winnings back the Centre.

**Director of Observing Report, Matt McCall:** Matt commenced his presentation with images of objects of current interest by our own **Windsor members including photos** of Mars by Brian Thomas, Caldwell 10 star cluster by Dave Panton and Jupiter and Venus by Scott Stuckless. Prominent this month has been a wall of fog that has come at us due to unseasonably warm temperatures regularly these nights around 9:00pm.

Winter triangle constellations in spring temperatures have been enjoyable to view. A seeing challenge is UGC 3912, the Rosette Nebula and NGC 2346 the

*(Continued on page 4)*