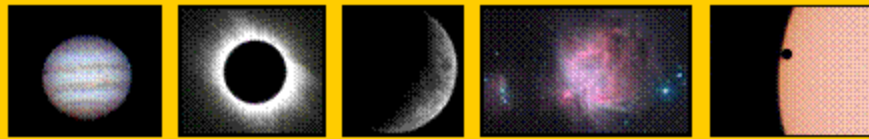


BULLETIN



OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

December 2012 - Volume 7, Number 12

David Garner, Editor

We welcome your comments on the *Bulletin*. Email them to the Editor at bulletin@rasc.ca.

A PDF version of the *Bulletin* is available [here](#).

A Web-based version of the *Bulletin* is available [here](#).

► Editor's Notebook

by David Garner

December's Sky

According to the 2012 *Observer's Handbook*, Mercury has its best morning apparition of the year during the first week of December. Venus is still bright in the early morning eastern sky whereas Mars sets in the early evening western sky. Jupiter is at opposition on the 3rd and Saturn appears in the dawn sky. Uranus and Neptune are in the western evening sky. At around midnight (Universal Time) December 25, the Moon will occult Jupiter. The Winter Solstice begins on December 21 and the next full Moon is December 28th.

► News @ RASC.ca

Call for Nominations for RASC National Awards

by [Mary Lou Whitehorne](#), Past President & Chair, Awards Committee

Do you know someone who has done outstanding work in the RASC? Do they qualify for one of the RASC's national awards? A list of national awards is given below. Please look within your Centre, and among our unattached members, for those bright and shining stars that deserve recognition. Go to www.rasc.ca/awards to check the requirements for these national awards, think about the contributions of those hard working RASC members that you know, and nominate them for an award. Now is the time! Nominations are due on 2012 December 31.

RASC National Awards

The RASC sponsors several annual national awards that recognize achievement or service by our members. These awards include:

- The **Chant Medal** is awarded, not more than once a year, to an amateur astronomer resident in Canada on the basis of the value of the work carried out in astronomy and closely allied fields, for original investigation, and specifically not for services to the Society, worthy though these may be.

- The **Ken Chilton Prize** is awarded annually to an amateur astronomer resident in Canada, in recognition of a significant piece of astronomical work carried out or published recently.
- The new **Qilak Award for Astronomy Outreach and Communication** recognizes individual Canadian residents, or teams of residents, who have made an outstanding contribution, during a particular time period, either to the public understanding and appreciation of astronomy in Canada, or to informal astronomy education in Canada, and to promote such activities among the members of the sponsoring organizations.
- The **Service Award** is given to members in recognition of outstanding service, rendered over an extended period of time, where such service has had a major impact on the work of the Society and/or of a Centre of the Society.
- The **Simon Newcomb Award** is intended to encourage members to write on the topic of astronomy for the Society or the general public, and to recognize the best published works through an annual award.

More detail, including eligibility and nomination requirements for each award can be found at www.rasc.ca/awards. Click on the links to individual awards for full information.

The deadline for nominations is 2012 December 31. Send your letters of nomination or questions about the awards program to Mary Lou Whitehorne, Awards Committee Chair at: [Mary Lou Whitehorne](mailto:MaryLou@rasc.ca)

Vote for the Top Ten (Canadian) Astronomy Stories of 2012

by [Roland Dechesne](#), Chair, Membership and Promotion Committee

Over the past year, the study of Canadian skies and the physical Universe once again provided us with many newsworthy stories. We want you to look back over 2012 and decide which stories were merely newsworthy and which ones are fundamentally important to us as Canadian astronomers.

The Membership and Promotion Committee of the RASC is interested in your views and we have set up a short list (below) of some of the biggest science announcements of 2012. You can tell us what you think of the stories on this list by voting via email to [Roland Dechesne](mailto:Roland@rasc.ca) and if your favourite 2012 story is not our short list, feel free to write it in. The deadline for voting is Wednesday, 2013 January 2, 23:59 PST.

As an incentive for voting, 3 participants, drawn at random, will each receive a copy of the excellent "Skyways Astronomy Handbook for Teachers" (ou, en francais, "Explorons l'astronomie") by Mary Lou Whitehorne. Congratulations are due to last year's winners, Mark Michener, Tina Barker and Jennifer Lyndon.

You have ten votes that may be used in a flexible fashion. For example, you may choose to give one vote to each story you think makes your top ten. But what if you can't really decide that there are ten stories you think are important? You then may give more votes, to a maximum of five, to a single story that you believe is far more important than others, with your next most significant story only receiving a maximum of four votes, leaving you with just one vote for your third place story. You cannot give two stories five votes each. Perhaps you like eight stories, you can choose to double-up the votes on your top two stories or give three votes to your single most favourite on your list. How you choose to vote is up to you, but please do vote!

We would like to acknowledge the assistance of RASC Calgary's Larry McNish in compiling these stories. He has put last year's list on the web here: http://calgary.rasc.ca/2011_top_ten.htm.

Here's this year's short list in random order; please use the item # as it will help us in tallying your votes:

1. Voyager spacecraft reach interstellar space
<http://www.sciencedaily.com/releases/2012/08/120804082858.htm>,
<http://apod.nasa.gov/apod/ap120908.html>.
2. Curiosity survives '7 minutes of terror' and lands safely on Mars in August (with its alpha particle X-ray spectrometer (APXS), a Canadian-designed component on the rover).
3. Budget cuts to the Canadian Space Agency and to pure research in other fields http://www.nserc-crsng.gc.ca/Professors-Professeurs/RTII-OIRI/MRS-ARM_eng.asp.
4. May 20 Annular Solar Eclipse; partial phases widely viewed in eastern Canada.
5. Canadian comet discoverer Vance Petriew views namesake comet during SSSP 2012 as interplanetary visitor makes its return again.
6. Higgs Boson detection bests '5-sigma' threshold in two separate experiments at CERN, calculations done with world's largest distributed computing network with Canada's TRIUMF facility one of 11 Tier 1 sites involved in this.
7. Kepler exoplanet bonanza and extended mission approved - also nine-planet system found
http://www.sciencedaily.com/news/space_time/61/.
8. Huge storm on Saturn.
9. June 4 partial lunar eclipse.
10. Milky Way's black hole soon to devour massive cloud of gas and dust called "G2"
<http://apod.nasa.gov/apod/ap120702.html>.
11. Exoplanet Found in Nearest Star System to Earth: HARPS Instrument Finds Earth-Mass Exoplanet Orbiting Alpha Centauri B <http://www.sciencedaily.com/releases/2012/10/121016184436.htm>,
<http://apod.nasa.gov/apod/ap121018.html>.
12. Two new moons for dwarf planet Pluto <http://apod.nasa.gov/apod/ap120716.html>.
13. November 13 total solar eclipse in Southern Hemisphere enjoyed by many Canadians "down under".
14. Canadian and French astronomers discover rogue exoplanet.
<http://www.theglobeandmail.com/news/world/canadian-french-researchers-discover-free-roaming-planet-not-attached-to-any-star/article5253503/> and quadrillions of exoplanets are likely adrift in Milky Way
<http://www.sciencedaily.com/releases/2012/05/120510100217.htm>.
15. University of Calgary scientists propose Quark Nova as explanation for super luminous SN 2006gy
<http://quarknova.ucalgary.ca/>.
16. Automated surveys up and running - Supernova search and NEO/Asteroid/Comets - e.g. PAN-STARRS

17. Possibly habitable Super Earth exoplanet?
<http://www.sciencedaily.com/releases/2012/11/121108073927.htm> and nearby super-Earth likely a diamond exoplanet - <http://www.sciencedaily.com/releases/2012/10/121011090647.htm>.
18. Dawn spacecraft leaves its orbit around Vesta for Ceres.
19. Neutrinos not faster than light after all and how the erroneous measurements arose-
<http://www.sciencedaily.com/releases/2012/06/120608152339.htm>.
20. Canadian Astronaut Chris Hadfield's launch to the ISS.
21. Milky Way is confirmed to be headed for collision with Andromeda Galaxy
<http://www.sciencedaily.com/releases/2012/05/120531135438.htm>.
22. Twin GRAIL spacecraft examine Moon's gravity field in detail.
23. The transit of Venus, June 5.
24. Hinode and SOHO Paint an Asymmetrical Picture of the Sun's magnetic field
<http://www.sciencedaily.com/releases/2012/04/120421203959.htm>.
25. Titanium Paternity Test Fingers Earth as Moon's Sole Parent
<http://www.sciencedaily.com/releases/2012/03/120329124722.htm>.
26. Evidence is continuing to build for a previously wet Mars
27. New evidence and support for a hypothesis that a comet may have exploded over Canada 12,900 years ago (the Younger Dryas Boundary), killing off the Clovis people and large animals and also triggering a glacial episode <http://www.sciencedaily.com/releases/2012/09/120918111320.htm>.
28. Hubble Extreme Deep Field - XDF <http://apod.nasa.gov/apod/ap121014.html>.
29. Pioneer spacecrafts' de-acceleration anomaly solved
<http://www.sciencedaily.com/releases/2012/10/121009161103.htm>
<http://www.sciencedaily.com/releases/2012/07/120718115354.htm>.
30. Neil Armstrong, the first man on the Moon, passes at age 82.
31. RASC proclaims Bluewater Dark-Sky Preserve on the Bruce Peninsula of Ontario
32. Canadians take top 2 spots in Royal Observatory's 'Astronomy Photographer of the Year 2012' in Young Astronomer category.
33. Internet awash with 2012 December 21 hoax doomsday scenarios.
34. Write in your own top astronomy story here

Update to the List of Asteroids with Canadian Connections

by [Eric Briggs](#), Toronto Centre

Several new asteroids have been named to the List of Asteroids with Canadian Connections, as part of the minor planet circulars published after the most recent full moon:

(28210) Howardfeng = 1998 XF63

Discovered 1998 Dec. 14 by the Lincoln Laboratory Near-Earth Asteroid Research Team at Socorro.

Howard Feng (b. 1995) was awarded second place in the 2011 Intel International Science and Engineering Fair for his cellular and molecular biology project. He attends the Bayview Secondary School, Richmond Hill, Ontario, Canada.

MPC 81064

(28353) Chrisnielsen = 1999 FH32

Discovered 1999 Mar. 19 by the Lincoln Laboratory Near-Earth Asteroid Research Team at Socorro.

Christopher Stephen Nielsen (b. 1993) was awarded first place in the 2011 Intel International Science and Engineering Fair for his electrical and mechanical engineering project. He is home-schooled in Calgary, Alberta, Canada.

MPC 81065

(28457) Chloeanassis = 2000 AX143

Discovered 2000 Jan. 5 by the Lincoln Laboratory Near-Earth Asteroid Research Team at Socorro.

Chloe Anassis (b. 1995) was awarded second place in the 2011 Intel International Science and Engineering Fair for her environmental sciences project. She attends the Study School, Westmount, Quebec, Canada.

MPC 81067

(28538) Ruisong = 2000 DY106

Discovered 2000 Feb. 29 by the Lincoln Laboratory Near-Earth Asteroid Research Team at Socorro.

Rui Song (b. 1995) was awarded second place in the 2011 Intel International Science and Engineering Fair for her plant sciences project. She attends the Walter Murray Collegiate Institute, Saskatoon, Saskatchewan, Canada.

MPC 81070

These are all listed on the website, www.rasc.ca/canadian-asteroids.

New Canadian Dark-Sky Preserve

by [Robert Dick](#), Ottawa Centre, Chair, LPAC

The Blue Water Outdoor Education Centre has been designated the latest RASC-DSP.

The Centre is at the base of the Bruce Peninsula in Ontario - west of the town of Wiarton (of Wiarton Willy fame - the spring-foretelling ground hog). This extends the designation southward from the Bruce Peninsula and Fathom Five National Park DSP - protecting a major bird migration route.

IDA Adopts RASC-DSP Lighting Protocol

by [Robert Dick](#), Ottawa Centre, Chair, LPAC

At their November annual meeting, the IDA adopted essentially the same DSP guidelines created by the RASC. Robert Dick, the author of the RASC-DSP and USP lighting protocol was given their Sky Defender Award for the work in developing the lighting protocol, which was based on his work in scotobiology - the biological need for periods of darkness.

The lighting protocol will be applied to their various Dark-sky Place designations.

➤ *Bulletin Photo of the Month*

The Crab Nebula

by [Brian McGaff](#), Kingston Centre

This image of M1 (The Crab Nebula) was taken here at the Nutwood Observatory last month (October 28th). This image was taken with the following equipment: A 300-mm astrograph telescope, an Apogee U16m CCD camera and 50-mm Astrodon filters. Aquisition was achieved by guided data with a WO 110 for approx 8 hrs. Telescope was a carbon fibre Cervolo 300. This image is an (Ha +L) (R+Ha) G B.



› The Sky this Month

What's New in the Sky

Members are encouraged to check out the [Northern Skies](#) section of the RASC Web site. Thanks to **Gary Boyle** for keeping us all in the know.



The Royal Astronomical Society of Canada

203 – 4920 Dundas St W, Toronto ON M9A 1B7 CANADA

Tel: (416) 924-7973, Fax: (416) 924-2911

Member Service: nationaloffice@rasc.ca

Visit Us at: www.rasc.ca

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