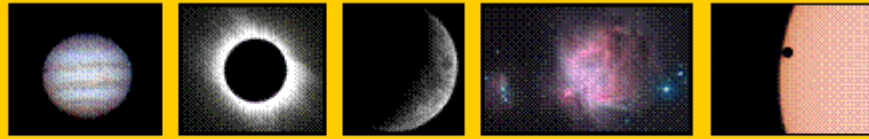


BULLETIN



OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

September 2014 - Volume 9, Number 9

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

September's Sky

We have the full Moon on the 9th of September and a new Moon on the 24th. Venus is visible in the eastern dawn sky whereas Mars is setting in the western evening sky. Likewise, Jupiter is in the morning sky and Saturn is setting in the evening sky. The Equinox occurs at 2:29 UT on Tuesday, September 23rd. The Moon occults Ceres, Saturn, and Vesta on Sunday, September 28th. For more details check the *2014 Observer's Handbook*. Don't forget to check out Gary Boyle's [Northern Skies](#).

➤ News @ RASC.ca

News from the Society Office

by [David Garner](#), Bulletin Editor

Congratulations to Randy Attwood, our new RASC Executive Director!

Randy Attwood as many of you know has considerable experience with the RASC. Just to summarize a bit about Randy:

- RASC Mississauga Centre (Past President)
- Amateur Astronomer
- Astrophotographer
- Eclipse Chaser
- Author
- Fellow of the RASC (FRASC)
- Space Exploration Historian
- Contributing Editor to Skynews
- Managing Editor at SPACE Quarterly Magazine
- Astronomy and Space Exploration Media Consultant (CTV, CBC, GLOBAL)

And now, our new Executive Director, RASC

Let's all give Randy a hearty 'welcome' as our new Executive Director.

News from the Society Office

by [Julia Neeser](#), RASC Marketing Coordinator

The *RASC 2015 Observer's Handbook* and *2015 RASC Observer's Calendar* are now available on the RASC eStore. Order yours today!



<http://www.rasc.ca/rasc/RASC/Store/store>.

The Thirty-Meter Telescope

by [Randall Rosenfeld](#), RASC Archivist

The Thirty Meter Telescope (TMT) <http://www.tmt.org/> is an outstanding next-generation engine of astronomical discovery currently in development. Construction has just started [<http://casca.ca/?p=4334>]. From the start, the TMT has had Canadian involvement in its conception, planning, and design. In 2010 CASCA designated the TMT as the “number one priority for large projects in ground-based optical-infrared astronomy”. For Canada to assume full partnership in the TMT it is vital that the Canadian Government formally commit to Canada’s share of the cost, otherwise we will lose our place in the project.

The professional astronomical community in Canada greatly values the backing of the RASC, the voice of amateur astronomy in Canada, and through its Board of Directors the Society has officially expressed our institutional support for the TMT. There is also an important role individual members of the amateur astronomical community can play. Letters of support for the TMT from individual Canadian citizens count a great deal. We encourage you to add your voice in support of the TMT by writing to the Minister of State (Science and Technology) .

A model letter can be downloaded from <http://www.rasc.ca/thirty-meter-telescope-tmt>. We encourage all RASC members to get involved and make their support for this significant project known.



Courtesy TMT Observatory Corporation

Keystone Group - Dark Skies Summit

by [Robert Dick](#), Chair, Light Pollution Abatement Committee



I attended the Dark Skies Summit in Flagstaff, AZ last week with the partial financial support of the RASC. The 2.5-day meeting brought together a wide range of stakeholders from researchers, LPA advocates (IDA and RASC) to municipalities federal and State officials and luminaire distributors. The goal was to reach a consensus about lighting across the southwest USA that:

- Protects the dark skies.
- Caters to the needs of observatories.
- Is sufficient for urban lighting.
- Can be provided by manufacturers.

There were three streams of meetings to address lighting policy, supply (technology) and promotion (education). I contributed to the supply stream based on my knowledge of LEDs and luminaire design.

You may be interested to know that all technologies are in place for compliant luminaires. The only “problem” is that only one manufacturer (Canadian Scotobiology Group) has one in production! It was demonstrated at the summit and received very favourable comments from the US Park Service, Flagstaff officials and others.

We were given a nighttime tour of Flagstaff streets that are being used to test various luminaires: LPS, HPS, white LEDs and narrowband amber LEDs (NBA LEDs). We were told the US Naval Observatory is requiring LPS to minimize contamination of spectra. Unfortunately for the City, LPS lamps have a VERY short life (<1 year of use) and have a very low fixture efficacy (<50 lm/watt). This is due to the mechanical design of the fixtures and the large size of the glass ampoules that obstruct the light from getting out of the fixture. Also, Philips is the only company that makes them and they are no longer developing the technology. LPS is seen as a bit of a dinosaur.

Fortunately there are narrow band amber LEDs. Their emission band is about 20 nm (compared to <1 nm for LPS). Unfortunately, their efficacy is about 20 lm/watt – about the same as incandescent bulbs. We saw a street illuminated with NBA LEDs costing \$1800 each!

The white LEDs were used for a few crosswalks and intersections. We learned that their intense light was needed to illuminate pedestrians as they crossed the street. The brightness had to make the pedestrians visible by compensating for the blinding light of on-coming cars. In these cases, car headlights are the culprits for increasing illumination levels.

In my view the main obstacle to good visibility was the collateral lighting from unshielded homes and business. However Flagstaff (65,000 people) still has very low skyglow. By shielding your eyes from the unshielded lighting, you could see the Milky Way from downtown.

Although the focus for the meeting was the US Southwest there are many take-aways that we can use in Canada. I hope to summarize these in a future JRASC article. If you have any questions about the meeting, feel free to contact me.



Asteroids with a Canadian Connection

by [Eric Briggs](#), Toronto Centre

The following new asteroid citation has been added to the list of asteroids with Canadian connections:

383417 DAO (2006 UY216)

Discovered 2006 Oct. 23 by D. D. Balam at Mauna Kea.

Named for the Dominion Astrophysical Observatory of the National Research Council of Canada.

MPC 89388

<http://www.rasc.ca/content/asteroid-383417>

This is listed on the Web site, www.rasc.ca/canadian-asteroids.

➤ Across the RASC

News from the Montreal Centre

by [Morrie Portnoff](#), RASC Montreal Centre

On Wednesday, August 27th the Montreal Centre hosted an evening with Canada's First Astronaut, Marc Garneau. Close to 200 people attended Mr. Garneau's presentation highlighting his experiences as an astronaut and how it changes one's perspective of the world. Prior to the main event which was open to the general public as part of our Outreach program, we hosted a private Meet and Greet for centre members. In appreciation to Marc Garneau's time as well as the City of Westmount which donated their facilities, the Montreal Centre donated a telescope to the Westmount Boy Scouts. The following is a link to Marc Garneau's website highlighting this very successful event.

<http://marcgarneau.liberal.ca/en/blog/evening-marc-garneau-royal-astronomical-society-montreal-centre/>

Annual Update on Irving Nature Park Status as an Urban Star Park -2014

by [Curt Nason](#), RASC New Brunswick

Astronomy Outreach Events

The following astronomy outreach events have been performed at the INP or nearby from July 2013 to June 2014.

10 August 2013 – Perseid Meteor Shower

Approximately 80 members of the public and 10 RASC members attended. A talk was given at the Interpretative Shelter on the Moon, Venus and Saturn, Perseid meteor shower, star clusters and nebulae. The use of Star Finders was explained before distributing them. The sky was clear and we did public observing from 21:00 – 23:00.

11 October 2013 – Perseid Meteor Shower

Approximately 140 members of the public and 10 RASC members attended. A talk was given at the

Interpretative Shelter on the Moon at 19:00, followed by public observing until 21:00. Light cloud started moving in around 20:00.

15 February 2014 – Moonlight Snowshoe at Sheldon's Point

Sheldon's Point is situated just outside the USP buffer area. It was too cloudy for observing, but park staff and a RASC member led a hike for 25 people through fields and woods to the Bay of Fundy. Several stops were made on the hike to discuss constellations and their mythology, the Moon, and how animals see at night.

Other Outreach Events

In addition to the astronomy events, outreach events at the INP included a "Welcome to Spring" nature walk with a park naturalist in May 2014, and story sessions by a local historian on pirates and Christmas. Other events were held, including geological interpretation, but were not recorded as the Park Manager was on extended leave.

Sky Quality Meter Readings

Sky quality meter readings were taken in 2010 November, 2012 April, 2013 July and 2014 August at various locations in the park. The readings were typically between 20.23 to 20.61. Contact Curt Nason for specific details.

➤ *Bulletin Photo of the Month*

NGC 7331

by [Brian McGaffney](#), Kingston Centre



NGC 7331 (also known as Caldwell 30) is a spiral galaxy about 50 million light-years distant in the constellation Pegasus. It was discovered by William Herschel in 1784. NGC 7331 is the brightest member of the NGC 7331 Group of galaxies (also known as the Deer Lick Group). , however it is quite dim and so one needs a fair size telescope to do it justice visually. The cluster above NGC 7331 is about another 80 million light years farther away.

This image was taken over the last three nights at my observatory and used a 14 inch modified DK SCT to gain full visual of this object. Total acquisition time was about 10 hours. I used an Apogee U16M all unbinned. Processing was done in MaxIm, Pixinsight and PhotoShop CS5.

Thank You to our Sponsors!

by [Julia Neeser](#), RASC Marketing Coordinator

The Royal Astronomical Society of Canada has a unique partnership with our friends in the astronomy industry. We are now offering companies the distinction of becoming a charter sponsor of the RASC, Canada's pre-eminent amateur astronomy organization. This offer is available only to those industry leaders who recognize the value in being associated with the amateur astronomy community.



<http://www.rasc.ca/rasc-sponsors>.

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.



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