BULLETIN
The Royal Astronomical Society of Canada

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

➢ Editor's Notebook by David Garner

December's Sky

Mercury is well placed in the evening sky and Venus is still shining brightly before the rising Sun. Mars is found in the morning sky whereas Jupiter rises in the east in late evening. We have a New Moon on the 11th of December and a Full Moon on the 25th. The Winter Solstice begins on the 22nd of December.

For more details, check the *2015 Observer's Handbook*. Don't forget to check out Gary Boyle's **Northern Skies**.

➢ News @ RASC.ca

News from the Society Office

by **Randy Attwood**, RASC Executive Director

5,000 and counting…

For the first time ever, membership of the Society has topped 5,000 members!

A big Thank You to all of our Centres and volunteers for their continual hard work and dedication!

Give the Gift of an RASC Membership this Christmas

Why not give the gift of astronomy this Christmas?

Membership in The Royal Astronomical Society of Canada (RASC) is the *perfect gift for the holidays* for the astronomy enthusiast in your orbit!

To arrange your gift please contact the RASC National Office: mempub@rasc.ca

Members offered the chance to give SkyNews gift subscriptions: $17

On November 26th, members received an email with a special offer. All RASC members now own a piece of SkyNews, so it makes sense for us to invest in the magazine and grow its subscription base. To encourage giving gift subscriptions this Christmas, an offer from SkyNews has been made – RASC members can give gift subscriptions of SkyNews for only $17. That is more than 52% off the regular subscription rate.

SkyNews is a great gift for family, friends, colleagues or anyone who loves astronomy. Why not give a subscription to your local school or library, or your doctor or dentist so that SkyNews can be read in the waiting area.

Let's support our magazine and give the gift of astronomy this year!

Randy Attwood

Publisher – SkyNews

Executive Director, RASC

First RASC Tour a success!

The first RASC organized tour was a great success. From November 3-9, seven RASC members toured astronomy and space destinations in the Los Angeles area.Tours included the Jet Propulsion Laboratory in Pasadena, Mount Wilson and its 150-foot tower solar telescope, 60-inch telescope and the famous 100-inch Hooker Telescope, and Mount Palomar and its famous 200-inch Hale telescope. In addition, the retired Space Shuttle Endeavour was visited at the California Space

Center. There were also some non-astronomical visits – the group visited the Walt Disney Concert Hall, the Getty Art Museum and the Cathedral of Our Lady of Angels church– three examples of modern architecture. Also, one evening the group visited the Magic Castle for dinner – a mansion where guests can take in several shows performed by some of the world's best magicians and illusionists. A visit to Oceanside's telescope store – Oceanside Photo and Telescope – was a highlight for shoppers. We even fit in an unscheduled visit to the Roosevelt Hotel in Hollywood – the site of the first Academy Awards presentation in 1929.

Griffith Observatory – we were greeted by Director Dr Edwin Krupp.

Mount Wilson – standing in front of the famous 100-inch Hooker Telescope.

Mount Palomar – our view of the famous 200-inch Hale telescope

The Endeavour Space Shuttle.

What's next? Already being offered is the **RASC's National Solar Eclipse** expedition in August 2017. Hotels and camp grounds are quickly filling up along the eclipse path – why not bring the family on this amazing trip of a lifetime? – witness over 2 minutes of totality in the Grand Teton National Park in Wyoming.

Possible Arizona trip in 2016

With the success of the Southern California trip still in the memory, we are beginning to look at the possibility of running a similar trip in Arizona next year – spots visited would include Kitt Peak National Observatory, Flagstaff and Lowell Observatory, Meteor Crater, and of course, dark-sky observing.

We are also considering repeating the Southern California tour a few years from now.

If any of these tours interest you, please contact Executive Director and Tour organizer Randy Attwood in the Society Office (**execdir@rasc.ca**)

Astronomy Toronto programs uploaded to RASC You Tube

Astronomy Toronto was a local Toronto astronomy program produced from 1981 to 1994. Producer and host Randy Attwood hosted over 60 shows on various topics dealing with astronomy and space exploration. VHS copies are now being copied and transferred online. Guests on the show included amateur and professional astronomers and educators, authors and astronauts – Canadian and American. The 80s was an exciting time - the new Space Shuttle was flying, Canadians were flying in space for the first time, there were many astronomical discoveries as well as new space-probe missions to the planets. All 62 programs should be uploaded by the New Year.

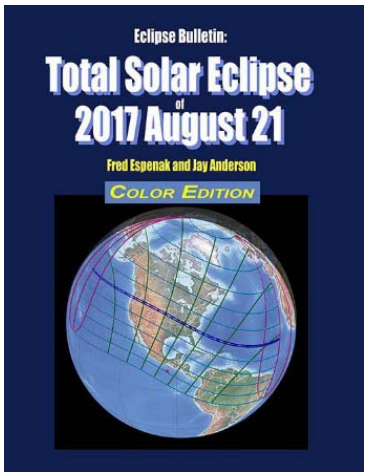
Here's a link to the YouTube site: **https://www.youtube.com/user/RASCANADA**

A highlight is show number five – a 30-minute interview with distinguished astronomer and RASC Past President, Helen Sawyer Hogg.

New 2017 Eclipse Bulletin for sale through eStore.

A new guide to the 2017 Total Solar Eclipse is available through our eStore. Written by Fred Espenak and Winnipeg Centre member Jay Anderson, this is an excellent preview to this special event – a total solar eclipse visible in the continental USA.

Pricing – $34.99 plus shipping and handling.



Holiday Office Hours

The Society Office will be closed from 12:00 pm on Thursday, December 24 to Monday, 2016 January 4.

The Society Office staff and Board members wish all RASC members a Merry Christmas, Happy Holidays, and Clear skies for 2016!

Society Election Information

by **Robyn Foret**, RASC 2nd Vice-President

Current Election Information - 2016 Board of Directors Election

The 2016 General Assembly is scheduled earlier than usual, hosted by the London Centre May 20 – 22. Coincidentally, our Treasurer's term is up, expiring on 2016 May 22. As a result, the Nominating Committee is communicating to the Membership well in advance in the hope that more of you will have time to consider a Board position.

Participation on the RASC Board of Directors is a leadership experience that provides a rich opportunity for personal and astronomical growth!

- Be part of our leadership team at The Royal Astronomical Society of Canada
- The Nominating Committee is seeking at least three candidates to run for the Board of Directors
- The President, 1st Vice-President, 2nd Vice-President, Secretary, and Treasurer will be drawn from the ranks of the Board, which will include the three members chosen in this election and six members who were elected in 2014 and 2015 for terms expiring in 2016 and 2017.

In addition to our regular Board of Directors' positions, we are looking for candidates with a strong financial background who may be interested in the Treasurer's position.

It is important to note that the Treasurer is not elected by the membership. The Board is elected by the membership, and the Board then selects its officers from the elected Board Members. Candidates with a financial background should communicate that information in their Candidate Statement, which is submitted to the Nominating Committee and subsequently communicated to the Membership for consideration in the 2016 election for the Board held at the next General Meeting.

Nominations for Board members - Deadline: 2016 March 21

Campaign Period: 2016 March 25 – April 22

Election Period: 2016 April 25 – May 13

Here are the rules for candidate eligibility as set out in the RASC Policy Manual:

Candidate Eligibility

The Nominating Committee will ensure that candidates for the RASC Board of Directors meet the following criteria:

i. be a member in good standing of the Society;

ii. meet the requirements for being a Board member as outlined by the Canada Not-for-Profit Corporations Act, and, specifically:

iii. be over the age of 18 at the time of the Annual General Meeting (this year, May 29);

iv. be an individual person (i.e. not a body corporate);

v. be solvent (not bankrupt);

vi. have agreed to stand for election in· writing;

vii. have the **support in writing of at least 3 people**, one of whom is a member of the Society; and,

viii. have agreed to abide by the Society's Directors and Officer's Code of Conduct and indicated their willingness to sign the Society's Board of Director's agreement prior to assuming office.

Candidate's Statement

As part of the nomination process, candidates will be asked to provide a **Candidate's Statement,** including:

- their previous experience with councils and committees of the Society at both the National and Centre levels;
- a suitable photograph in electronic format as well as contact information as required;
- committee work and experience outside of the Society that may be relevant to the Society; and
- their goals for the Society and how they would contribute to the Board if elected.

Anyone wishing to be a candidate should write or email the RASC Nominating Committee through its Chair, Robyn Foret (arforet@shaw.ca). Each candidate should state that they understand the eligibility requirements and state that they meet those requirements. Candidates must agree to abide by the RASC Directors and Officers Code of Conduct. They should also indicate whether they intend to seek a position on the executive, and if so, what position they are seeking. Candidates should also send a candidate's statement as set out above. The three supporters for each candidate should also write or email the committee. Candidates and their supporters must inform the Nominating Committee of their

intention to run or support a candidate **by 4:00 p.m. Eastern Daylight Time on Friday, 2016 March 21**.

Candidates' statements will be posted on the RASC website no later than 2016 March 25. Candidates can campaign from 2016 March 25 through April 22. Voting will take place from 2016 April 25 through May 13, and results will be announced on 2016 May 22. All members of the RASC will be eligible to vote, and facilities to vote on line will be available as well as paper ballots on request from the Society Office.

The nominating committee will be pleased to answer questions from any member of the RASC about this election process. The Nominating Committee can be reached by mail through the Society Office of the RASC, 203 - 4920 Dundas Street W, Toronto ON M9A IB7 or by email at arforet@shaw.ca

Robyn Foret, Chair, Nominating Committee RASC

The electronic *2016 Observer's Handbook*

by **James Edgar**, RASC President

Attention all you Observers!
The electronic version of the *2016 Observer's Handbook* is now available to RASC members for the same low price as last year -- $10 for the data file, plus an activation code good for two installations.The electronic version is available at **www.drmz.net/rasc/DRMZ/OH2016.drmz**

A **Javelin** reader is required to access the file, plus payment must be made before obtaining the activation code. To arrange payment and get the activation details, contact the Society Office either by email at mempub@rasc.ca, or call during the day **1-416-924-7973**.

The Javelin software has recently been upgraded to conform to the latest versions of Windows and Mac, plus it is suitable for iPads, iPhones, and Android devices.

Nominations for Awards

by **Glenn Hawley**, Chair, RASC Awards Committee

This year the General Assembly is being held in London Ontario on the Victoria Day weekend (May 24th) rather than the usual Dominion Day weekend (July 1st).

Accordingly, it is important that nominations and citations for awards be delivered in good time.

This is especially true for awards for which there may be a competition from which only one winner shall emerge.

The Awards Committee has received one citation for a Service Award thus far, and is hoping for more.

RASC Observing Committee

by Alan Whitman, Chair, RASC Observing Committee

The RASC Observing Committee has removed the star-hopping requirement from the Deep-Sky Challenge Objects and Deep-Sky Gems observing certificates. Here is the rationale:

Ted Forte's article on the Astronomical League's observing programs in the July, 2014 issue of Sky&Telescope says on page 39: "The Messier and Caldwell programs are designed to encourage observers to learn their way around the sky. As such, they require that traditional star-hopping methods be used to find the targets. Most of the programs, however, allow the use of Push To or Go To device-aided technology to locate objects. Star hopping is still generally encouraged – nearly all the programs acknowledge manual location as a particularly noteworthy accomplishment. But the emphasis is more on observing objects than on finding them."

Our observing requirements were written for our original program, the Messier list. Completing the Messier list is an observer's graduation certificate into the ranks of

experienced observers. Therefore, it is appropriate that we emphasize the importance of the observer being able to star-hop to objects.

However, as we added other certificate programs we blindly copied this requirement from the Messier certificate application form: “I have located each of the objects without assistance from other observers.”

This requirement is inappropriate for observers completing the more advanced lists, especially the Deep-Sky Challenge Objects certificate. If you are the owner of a moderate aperture telescope and have the relatively rare opportunity to observe with somebody else’s bigger scope at a fine dark site and the scope owner (or a small group observing together) turns the scope to an object which happens to be on the Deep-Sky Challenge list, you should be able to count it if you can perceive it in the eyepiece. **At this level it is your skill at detecting a signal of only a few photons that counts, not your star-hopping skills**. If I made the star-hop to the Double Quasar on David Levy’s list, showed it to a group of five people observing together (typically only two or three of the five would be able to perceive it within the eyepiece), and one of the group said: “Oh, I need to swing your scope ten degrees away and star-hop back to the Double Quasar so that I can count it on my observing list”, I, or any other scope owner, would be annoyed at the waste of precious observing time on a night of superb transparency and very good seeing at an excellent dark site.

Looking for *Observer’s Handbooks* and *Calendars*

by Randall Rosenfeld, RASC Archivist

The RASC’s Archives is looking for copies of the 1937 and 1965 Observer’s Handbooks, and the 1994, and 1996 Observer’s Calendars. These will be used to complete gaps in our digitized, on-line holdings.

If any members have copies of these publications which they’d be willing to lend or donate to the Archives, please contact the Society’s Archivist at **http://rasc.ca/contact/history**.

Solar Sketching

by Randall Rosenfeld, RASC Archivist

Kim Hay (Kingston Centre), along with colleagues Erika Rix, Sally Russell, and Richard Handy, have recently published a complete guide to sketching the Sun, observed in various wavelengths, through different techniques, and recorded in diverse media:

E. Rix, K. Hay, S. Russell, & Richard Handy, Solar Sketching: A Comprehensive Guide to Drawing the Sun, The Patrick Moore Practical Astronomy Series no. 178 (New York—Heidelberg—Dordrecht—London: Springer Science+Business Media, 2015), pp. XIX, 424, 314 illus., 125 in colour, softcover ISBN 978-1-4939-2900-9, eBook ISBN 978-1-4939-2901-6.

One special aspect of this publication is that it features images of historical solar sketches and equipment drawn from the resources of the RASC Archives.

The book is richly illustrated, is available in either softcover or eBook format, and is reasonably priced for Christmas. It can be ordered direct from the publisher (**http://www.springer.com/us/book/9781493929009?countryChanged=true**), or from other vendors.

Asteroids with Canadian Connections

by Eric Briggs, RASC Toronto Centre

The following have been added to the list of asteroids with Canadian connections:

(31897) Brooksdasilva = 2000 FT49
http://rasc.ca/asteroids/asteroid-31897-brooksdasilva
Discovered 2000 Mar. 30 by the Lincoln Laboratory Near-Earth Asteroid Research Team at Socorro.
Candace Rose Brooks-Da Silva (b. 1999) was awarded second place in the 2015 Intel International Science and Engineering Fair for her engineering mechanicsproject. She attends the Academie Ste. Cecile International School, Windsor,Ontario, Canada.

Ref: MPC 96930
Orbit type: Main Belt

(31899) Adityamohan = 2000 GG7
http://rasc.ca/asteroids/asteroid-31899-adityamohan
Discovered 2000 Apr. 4 by the Lincoln Laboratory Near-Earth Asteroid Research Team at Socorro.
AdityaAnand Mohan (b. 1997) was awarded first place in the 2015 Intel InternationalScience and Engineering Fair for his biomedical and health sciences project.He attends the Colonel By Secondary School, Ottawa, Ontario, Canada.

Ref: MPC 96930
Orbit type: Main Belt

(31901) Amitscheer = 2000 GU18
http://rasc.ca/asteroids/asteroid-31901-amitscheer
Discovered 2000 Apr. 12 by the Lincoln Laboratory Near-Earth Asteroid Research Team at Socorro.
AmitScheer (b. 1998) was awarded second place in the 2015 Intel International Science and Engineering Fair for his biomedical and health sciences project. He attends the Colonel By Secondary School, Ottawa, Ontario, Canada.

Ref: MPC 96930
Orbit type: Main Belt

(31902) Raymondwang = 2000 GN19
http://rasc.ca/asteroids/asteroid-31902-raymondwang
Discovered 2000 Apr. 5 by the Lincoln Laboratory Near-Earth Asteroid Research Team at Socorro.
Raymond Wang (b. 1998) was awarded best of category award and first place in the 2015 Intel ISEF for his engineering mechanics project. He also received the Gordon E. Moore Award and the Cultural and Scientific Visit to China Award. He attends the St. George's School, Vancouver, British Columbia, Canada.

Ref: MPC 96930
Orbit type: Main Belt

(31903) Euniceyou = 2000 GK26
http://rasc.ca/asteroids/asteroid-31903-euniceyou
Discovered 2000 Apr. 5 by the Lincoln Laboratory Near-Earth Asteroid Research Team at Socorro.
Eunice Linh You (b. 1996) was awarded first place in the 2015 Intel International Science and Engineering Fair for her microbiology project. She attends the Marianopolis College, Westmount, Quebec, Canada.

Ref: MPC 96930
Orbit type: Main Belt

(95824) Elger = 2003 FP85
http://rasc.ca/asteroids/asteroid-95824-elger
Discovered 2003 Mar. 28 by the Catalina Sky Survey.
Thomas Gwyn EmpyElger (1836–1897) was a British selenographer who was the first Director of the Lunar Section of the British Astronomical Association. His book The Moon (1895) is considered a classic lunar observing guide for the amateurastronomers of that time.
At the meeting of 1896-04-28 Mr. A. Elvins presented the Society a copy of the new map of the Moon by T. Gwyn Elger. The thanks of the Society were due to Mr. Elvins for this which would be of great service to the Lunar Section in the study of the Moon. At the meeting of 1896-07-07 Mr. T. Gwyn Elger was duly elected a corresponding member of the Astronomical and Physical Society of Toronto.

Ref: MPC 96938
Orbit type: Main Belt

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 website. Thanks to Gary Boyle for keeping us all in the know. Julia Neeser creates "The Solar System" monthly with data from James Edgar's "Skies" newspaper articles at **http://www.rasc.ca/observing**.

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