



The Royal Astronomical Society of Canada NATIONAL NEWSLETTER

JULY/AUGUST 2018

VOLUME 3, NUMBER 1

A SHARED SKY: THE RASC 1868-2018

The RASC has been part of the Canadian scientific scene in one form or another for nearly as long as the country itself has existed. Over that century and a half, the Society has thrived moderately at times and, at other times, has only just existed. Commencing as an amateur group, the RASC became the country's professional association with a majority of amateur members, only to become an amateur association again with a few professionals adhering. Some remarkable members have achieved recognition for astronomical accomplishments beyond our borders (e.g., J.M. Barr, J.S. Plaskett, P.M. Millman, H.S. Hogg and Jay Anderson), and for two-thirds of our 150 years, we have produced the leading annual English-language observers' ephemeris. For longer than that, we have kept the sole Canadian astronomy periodical of record going. The point is, we—you—have a history, and that history is an asset worth developing. When better to do that than during our sesquicentennial year?

Looking into our history is not just an antiquarian exercise. Viewing our past enables us to see the foundations upon which the modern RASC is constructed and to build for the future. The better we know the nature, variety and range of the astronomy experienced within the RASC across time, the better we can know ourselves and the possibilities for renovation, renewal and innovation.

Continued on page 2



IN THIS ISSUE

- A Shared Sky: The RASC 1868-2018
- Nova East 2018 Star Party
- Planning a Star Party?
- Observing News
- The Binocular Table and the Ace Amateur Astronomer Programme
- New RASC Webstore!
- Dunlap Institute Celebrates Its 10th Birthday

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We invite all Centres to contribute articles about their latest activities. Have you had any public star parties, award ceremonies, special events or observatory activities? Photos are welcome. Please send articles and pictures to newsletter@rasc.ca.



Material heritage preserved in the RASC Archives.





SOUL SEARCHING

IC1848, the Soul Nebula, was captured in this 9-hour image using an NP127iis telescope and a cooled CCD camera.

—Dan Meek, Calgary Centre

NOVA EAST 2018 STAR PARTY

The RASC Halifax Centre is hosting another spectacular Nova East on August 10-13, 2018, at Smileys Provincial Park, near Windsor, Nova Scotia. With the new Moon falling just one day before the peak of the Perseid meteor shower on Sunday night, we saw the perfect reason to extend this year's star

A Shared Sky cont'd.

The RASC sesquicentennial project, *A Shared Sky: The RASC 1868-2018*, is a major multiauthor collaborative effort to examine aspects of the RASC's history that have been previously neglected and to re-examine our present historical understanding of the Society. It's not generally recognized just how few people are currently engaged in researching Canada's astronomical history and heritage. Among that select few are members of the RASC, such as Peter Broughton, FRASC (Toronto Centre); Roy Bishop, FRASC (Halifax Centre); Chris Gainor (Victoria Centre); and Clark Muir (Kitchener-Waterloo Centre).

The first stage of the project is a symposium on aspects of our history, which, thanks to the Calgary Centre and its General Assembly Committee, will be presented as part of that event (rascga2018.ca/a-shared-sky-the-rasc-at-150/). Invited speakers from the RASC and elsewhere will discuss topics such as C.A. Chant and the RASC; J.S. Plaskett and the RASC; The RASC and Astronomical Expeditions; Styles of Observing in the RASC Since 1868; The RASC and the Space Age—Participants and Spectators; An Anthropologist Looks at the RASC; A Half-Century of Involvement With the RASC and Other Pro-Am Groups; and The RASC at 150—Advancing Astronomy and Allied Sciences, or Sleeping Through the Night? Together, these will form the basis for a book advancing our history as we embark on the next 150 years of “promoting astronomy and allied subjects.” We hope to see you at the General Assembly in Calgary, where we can all make RASC history.

—R.A. Rosenfeld, RASC Archivist

party to three nights of observing the dark sky and counting meteors. We are asking the weather gods to send only *meteor* showers that weekend!

Doug Cunningham, a recent RASC Qilak Award winner, will deliver the public talk on Saturday evening. His presentation, *Poetic Experience of Astronomy*, will feature examples of poetry by amateur and professional astronomers and will conclude with a personal perspective on coming to terms with a universe filled with dark energy.

Another guest speaker, Paula Cunningham, who grew up in Nova Scotia just down the road from Smileys, will present *Building the Dream*, focusing on the building of three private observatories.

Centre members will present talks on telescope setup, meteor observing and how to beat the weather challenges of observing in Nova Scotia. There's even a workshop for beginning sketchers and an activity for children. Telescope “medics” will be on hand in the evening to provide one-on-one assistance to novice observers in setting up, orienting and using their telescopes.

As usual, our observing field will offer 20 to 30 telescopes for public viewing of planets (especially Mars) and deep-sky objects. For beginners (both participants and public), there will be sky tours, as well as the introductory Ace Amateur Astronomer binocular-observing activity (with certificate).

On Sunday, Roy Bishop will talk briefly about the high tides of the Bay of Fundy and will lead an expedition to view the tidal bores of the Herbert and Kennetcook Rivers—an opportunity not to be missed! That evening, with any luck, participants will enjoy the fireworks of the Perseid meteor shower.

Please join us and enjoy our hospitality, including the Astronomers' Breakfasts, Saturday's Potluck BBQ and the new late-night Astronomers' Lounge.

For those interested in learning more and perhaps attending Nova East 2018, please visit our website at halifax.rasc.ca/ne/.

—Judy Black, Chair, Nova East 2018

PLANNING A STAR PARTY?

In 2017, our Centre was looking for a chair for the Nova East Planning Committee (NEPC). Melody Hamilton and I volunteered to cochair. One outcome of our first NEPC meeting was a recommendation for a mechanism to track NEPC activity; hence the birth of our Task Chart. Before an NEPC meeting, NEPC members receive the Task Chart to review updates to the planning process and outstanding required actions.

Initially, it was a lot of work generating the Task Chart, but it has certainly made 2018 planning so much easier. The tasks required to conduct the star party are known to each member, and adjustments can be made as circumstances change, which is the intent of the Task Chart: to serve as a guide, *not* as a document written in stone.

Can it be revised for other Centres to use? Most certainly! This tool can be honed to meet the needs of any Centre. I would be pleased to forward the complete Nova East 2018 Task Chart template to any RASC member who requests it.

—J.B.



OBSERVING NEWS

RASC Observing Certificates Earned in February/March 2018

Dozens of active members of the RASC have distinguished themselves by earning observing certificates. For more details, see www.rasc.ca/certificate-programs.

Explore the Universe: Samuel Crane (Hamilton), Forest Pearson (Yukon) and Victoria Kayser (unattached, Toronto)

Messier Catalogue: Charles Ennis (Sunshine Coast) and Shane Grassing (unattached, Pilot Butte, Saskatchewan)

Follow @RASCobserving on Twitter

Using the @RASC account, the RASC Observing Committee now announces observing certificates as they are earned, as well as noteworthy observing opportunities, with the hashtag #RASCobserving.

#TheStarsBelongToEveryone—Helen Sawyer Hogg

We encourage those active on social media to post photos and/or short (15-second) videos showing RASC members or the general public expressing their fascination for astronomy, perhaps with a brief statement about why they enjoy the pastime. Here's a great example from Halifax: youtu.be/Rt4yYceqMpE (or just go to YouTube.com and search for RASC Halifax). On Twitter, be sure to include the hashtag #TheStarsBelongToEveryone, which is the title of a popular book on astronomy published in 1974 by RASC past President Helen Sawyer Hogg.

—Dave Chapman
Chair, RASC Observing Committee

THE BINOCULAR TABLE AND THE ACE AMATEUR ASTRONOMER PROGRAMME

After completing the Messier Catalogue and the Explore the Universe certificate programs, I became an advocate for the use of binoculars to observe the night sky, particularly for the novice observer. I began taking binoculars to outreach events instead of my telescopes. Over time, I developed the binocular table and the Ace Amateur Astronomer (AAA) Programme to enhance the experience of outreach participants. Using the AAA Programme, RASC members can guide enthusiasts on a tour of the night sky and show them how to find deep-sky objects (DSOs) with binoculars. Participants find and observe at least five DSOs in an evening and receive a record of those objects. In so doing, they achieve the status of Ace Amateur Astronomer and leave feeling a sense of accomplishment.

The AAA Programme material can be found at www.rasc.ca/resources. Following a description of the AAA Programme and suggestions for running such an event, there are 12 log sheets, one for each month, listing the binocular DSOs visible that month.

The binocular table displays 15 pairs of binoculars (10×35, 8×40 and 7×35) suitable for observing more than 50 objects in the night sky as well as star finders to help locate the objects. Your RASC Centre may consider purchasing 10 to 15 pairs of binoculars to set up a binocular table that could be used by outreach volunteers at star parties and other outreach events.

I typically have three or four shows a night lasting 20 to 30 minutes each, with 10 to 25 participants at a time. While people are viewing each target through binoculars, I give a brief description of the object. To enhance the overall experience, I often have a fellow RASC member nearby point a telescope at the object we are viewing.

The binocular table has proven to be a big success, and the AAA Programme provides added incentive for many participants to learn their way around the night sky and find DSOs. A video on YouTube called *The Magnificent Sky—a Weekend at Kejimikujik Dark Sky Preserve* includes a description of the binocular table and the AAA Programme (search for RASC Halifax on www.YouTube.com).

—Tony Schellinck, Halifax Centre



The binocular table is an effective tool for introducing novice observers to the night sky.

NEW RASC WEBSTORE!

WE HAVE AN EXCITING ANNOUNCEMENT: a brand-new RASC webstore! A ton of new apparel items, available in different sizes and colours, will be printed on demand. To shop, head to www.rasc.ca and click on the merchandise/apparel banner.

We hope you will enjoy our new webstore offerings and wear the RASC with pride. Thank you for your support!

—Julia Neeser, RASC Marketing Coordinator





RASC NEWSLETTER

DUNLAP INSTITUTE CELEBRATES ITS 10TH BIRTHDAY

On May 21, 2018, the Dunlap Institute for Astronomy & Astrophysics, University of Toronto, celebrated its 10th birthday. It was established in 2008 through an endowment created by the Dunlap family and the university from the sale of the lands surrounding the David Dunlap Observatory, in Richmond Hill, Ontario. Through the leadership of professors Peter Martin, James Graham and, most recently, Bryan Gaensler, it has grown to 70 members: 5 faculty, 8 staff, 12 scientists/postdocs, 10 associates (including me) and 35 students. It continues to grow. It has brought the original Dunlap bequest into the 21st century by becoming a world-class institute.

Research at the Dunlap Institute spans observational cosmology, galaxies, interstellar matter, time-domain astronomy and, especially, astronomical instrumentation, from visible light to infrared and radio wavelengths. Dunlap faculty recently re-

ceived \$23 million in funding from the Canada Foundation for Innovation for the development of a radio astronomy data centre and a new infrared spectrograph.

Education and training are a high priority. In addition to its graduate and postdoctoral training programs, the Institute holds a unique, annual one-week Summer School on Astronomical Instrumentation. In 2017, it attracted 42 students from 21 countries around the world. The Institute also coordinates the Summer Undergraduate Research Program (SURP) in astronomy and astrophysics, which provides research experience and professional development for about two dozen undergraduates each year.

Public outreach is an equally high priority. The Institute has organized mega-events: viewing of the June 2012 transit of Venus by about 5,000 people in Varsity Stadium; the inaugural Dunlap Prize Lecture by Neil deGrasse Tyson to a capacity crowd of

1,500; viewing (through the clouds) of the September 2015 total eclipse of the “super-moon” by an audience of 8,000 to 10,000; and viewing of the August 2017 partial eclipse of the Sun by over 20,000 people at the Canadian National Exhibition. Several times a year, crowds of over 500 enthusiastically participate in Astronomy on Tap. The Institute and its members present dozens of smaller events in schools and libraries, to seniors groups, on street corners and in our small but powerful campus planetarium. The Institute also cosponsors the national, bilingual Discover the Universe program for schoolteachers.

Together with the Department of Astronomy & Astrophysics and the Canadian Institute for Theoretical Astrophysics, the Dunlap Institute makes the University of Toronto a powerhouse for astronomy and a diverse, inclusive and attractive place for graduate students and postdoctoral fellows to study. You can check out all the details at <http://dunlap.utoronto.ca>, especially in the Dunlap annual reports.

—John Percy, University of Toronto

CAPTURING MY HEART

I used an NP127is telescope and a cooled CCD camera to take this 4½-hour narrow-band image of IC1805, the Heart Nebula, from Calgary.

—Dan Meek, Calgary Centre

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