

# Saskatoon Skies

The Newsletter of the Saskatoon Centre of the Royal Astronomical Society of Canada

Vol. 49, No. 11

November 2018



*Great timelapse photo from Tim Yaworski of constellation hunting with Larry Scott.  
Taken at Sleaford on October 17<sup>th</sup>.*



## Saskatoon Centre

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To view *Saskatoon Skies* digitally,  
see our website:  
<http://www.usask.ca/rasc/newsletters.html>

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# MEMBERSHIP? JOIN TODAY!

**Regular: \$85.00 /year**

**Youth: \$45.00 /year**

**Family: \$80/year**

The Saskatoon Centre operates on a one-year revolving membership. You will be a member for the next 12 months no matter when in the year you join. Members are encouraged to renew early to avoid disruption in publications. Renew through the National Office at <http://www.rasc.ca/join-us>

## Benefits of Membership in the Saskatoon Centre

- knowledgeable & friendly amateur astronomers
- use of the Sleaford Observatory
- use of the U of S Observatory (after training)
- Saskatoon Skies Newsletter
- Observer's Handbook
- Journal of the RASC (electronic format)
- SkyNews Magazine (bimonthly)
- borrow the Centre's Data Projector to give astronomy outreach presentations – contact Les Dickson at [astrochem@sasktel.net](mailto:astrochem@sasktel.net)
- rent the Centre's Telescopes <https://www.usask.ca/rasc/telescopes.html>
- discounts to Sky & Telescope Magazine\*
- use of the Centre library

## U OF S OBSERVATORY

The U of S Observatory is open to the general public every Saturday of the year. Admission is free. The observatory is located on campus, one block north of the Wiggins Avenue and College Drive entrance. On clear nights, visitors may look through the vintage 6-inch and tour several displays. Current events are recorded on the Astronomy Information Line at 306-966-6429.

### Observatory Hours:

<b>January – February</b>	<b>7:30 – 9:30 pm</b>
<b>March</b>	<b>8:00 – 10:30 pm</b>
<b>April – August</b>	<b>9:15 – 11:45 pm</b>
<b>September</b>	<b>8:30 – 11:00 pm</b>
<b>October – December</b>	<b>7:00 – 9:30 pm</b>

## SASKATOON CENTRE'S MAIN OFFICERS:

**President** – To be Filled

**Vice-President** – To be Filled

**Secretary** – Marcel Müller-Goldkuhle

**Treasurer** – Norma Jensen

**National Council Rep** – Rob Shepard

Bottle Drive &  
Canadian Tire \$  
By Les Dickson

If you cannot attend a meeting but would like to donate your Canadian Tire money please email me at [astrochem@sasktel.net](mailto:astrochem@sasktel.net)

**LIGHT POLLUTION  
ABATEMENT**

WEBSITE AT:  
[www.ras.sk.ca/lpc/lpc.htm](http://www.ras.sk.ca/lpc/lpc.htm)

**Newsletter Editor** – Kris Ohnander

**Copy & Collate** – Les & Ellen Dickson

**Labels & Temps** – Mark de Jong

**Web Posting** – Gord Sarty

Saskatoon Skies is published monthly by the Saskatoon Centre of the RASC. Distribution is approximately 100 copies per issue. Saskatoon Skies welcomes unsolicited articles, sketches, photographs, cartoons, and other astronomy or space science material. Submissions should be sent by e-mail to the editor at [krisohn@gmail.com](mailto:krisohn@gmail.com) in msword or text format. Images: any format, less than 30MB, sent by e-mail as attached files. **Deadline for submission of all articles for an upcoming issue is the first Friday of the month!**

A separate by-mail subscription to Saskatoon Skies is available for \$15.00 per year. Saskatoon Skies is also posted on our Saskatoon Centre homepage as a .pdf file and can be downloaded free-of-charge. Members may choose to receive the newsletter by regular mail or via the Internet. Articles may be reprinted from Saskatoon Skies without expressed permission (unless otherwise indicated), provided that proper source credit is given. Saskatoon Skies accepts commercial advertising. Please email the editor at [krisohn@gmail.com](mailto:krisohn@gmail.com) for rates. Members can advertise non-commercial items free of charge.

## RASC CALENDAR OF EVENTS

November 19	RASC General Meeting	-
December 1	Observers Group at Sleaford	Larry Scott
December 10	RASC General Meeting Christmas Social	-
January 4	Observers Group at Sleaford	Larry Scott
January 21	RASC General Meeting	-
February 2	Observers Group at Sleaford	Larry Scott

For a complete list of club events, please visit: <http://www.usask.ca/rasc/activities.html>

### November RASC General Meeting

for all members and guests, Room 175,  
Physics Bldg. University of Saskatchewan

**Join us on November 19, 2018**

7:00 **Executive members meeting** (abbreviated)

7:30 **Members' Social** (earlier than usual)

8:00 **Annual Elections** of Board of Directors, Executive and  
Committee/Coordinator positions

**8:30 Speakers:**

Tenho Tuomi – *Comet 46P/Wirtanen's Favourable Approach*  
Rick Huziak – *The Very Useful AAVSO VSP On-line Chart Plotter*

9:45 **After-Meeting Meeting** at Alexander's restaurant.

### Elections Notice!

Elections will be happening at the November General Meeting.  
Please attend this critical meeting and help make the future of  
this club a success!

Please contact anyone on the Executive if you would like to  
volunteer!

# Minutes of the October Meetings

— *Marcel Müller-Goldkuhle*

## Minutes of the Executive Meeting, October 15, 2018

**Attendees:** Les Dickson, Ellen Dickson, Errol Frazer-Harrison, Norma Jensen, Darrell Chatfield, Daryl Janzen, Rick Huziak, Tenho Toumi, Mark de Jong, Eike Thiessen, Marcel Müller-Goldkuhle

Meeting called to order by Les Dickson at 7:06 PM



Les gave an update about Alan stepping down as President.

Jim Goodridge is not willing any more to take over the Activities Coordinator position.

**Elections:** Elections are postponed to November as this date was announced in the Newsletter. A chair for the Nov meeting has to be determined.

Approval of September 17 Executive Meeting Minutes: Motion by Norma, seconded by Darrel, approved with all in favour.

### Reports:

**Membership:** Currently 83 members, slight increase after summer break.

**Youth Club:** In last meeting adults outnumbered students, 3 of 8 registered students showed up. Plan is not to continue the Youth Club after March.

**SSSP:** 1st board meeting on Nov 1. Rick to be contacted for further details. SSSP 2018 shows a profit.

**Sleaford:** Deck Renovation planned for next spring. Meeting with Sask Power to remove the power pole, plan is to install an underground cable.

**Treasurer:** Nothing to report.

**Telescope Rentals:** Errol does not continue to do the telescope rental coordination. 1 telescope is rented out at this point.

Events: Sleaford Open House was cancelled due to weather conditions. Decision not to try another date in 2018. Next Open House will be in fall 2019. Parking at the field house becomes more difficult due to new Hockey Stadium. For 2019 the meeting point for the convoy will be the FasGas Station on Hwy #5.

Beaver Creek Event on Oct 27, night event starts at 7:30PM. 2 presentations are planned. 2 people required from the Club to coordinate the parking lot.

General information: Participating Club members are covered by the Club insurance when they attend an event.

On Nov 04 McNally Robinson hosts the event "An afternoon with Dave Williams". Club was contacted by the store. Darrell is willing to contact the store to clarify details and what kind of participation by the Club is requested/feasible.

National: No update.

Observers Group: No update.

Newsletter: Kris Ohnander is stepping down as Newsletter Editor. Colin Chatfield is in contact with Kris to support the Nov issue. Grant Ursaki is willing to take over the position.

Other business: Eike Thiessen provided information about a workshop on April 16-18 2019 about Training of Aboriginal Teachers. He asks for support by Club members to give a presentation about Astronomy Basics and how it can be taught at school. An article in the newsletter is planned.

Daryl to check with Alan as he still has a key of room #175.

Rick is willing to continue to make coffee before the meeting.

Meeting adjourned at 7:54 PM

### **Minutes of the General Meeting, October 15, 2018**

Meeting called to order by Les Dickson at 8:15 PM.

Update by Les about the topics, which were discussed in the Executive meeting.

Nominations: Nominating Committee: Alan Duffy, Les Dickson, Ellen Dickson

The following people are willing to be nominated for the upcoming elections:

National: Chris Martin

Treasurer: Norma Jensen

Observers Group Coord.: Larry Scott

Newsletter: Grant Ursaki

Secretary: Marcel Mueller-Goldkuhle

Positions to be filled:

President

Vice President

Activities Coordinator

Telescope Rental

Presentations: Marcel Mueller-Goldkuhle: The October Night Sky.  
Daryl Janzen: Astronomy Programming and facilities at the University of Saskatchewan.

Meeting adjourned at 9:20 PM

## Light Pollution Abatement Update – Rick Huziak

We have made some good progress on controlling light pollution in Saskatoon and around Saskatchewan over the last few years. Periodically, I will report progress in trying to keep the sky dark, and will provide a summary of recent programs and successes in the December issue of the newsletter.

For now, though, note that on November 18, *The Nature of Things* (CBC-TV) will be airing *Lights Out!*, an excellent documentary on light pollution issues. It was first aired in December 2012, but remains relevant today. You can also stream this at:

<https://www.cbc.ca/natureofthings/episodes/lights-out>

A second excellent *The Nature of Things* program is *Songbird SOS*, which starts out with a good discussion of light pollution's impact on migrating songbirds. It can be streamed at:  
<https://www.cbc.ca/natureofthings/episodes/songbirdsos>

# NOTICE OF THE ANNUAL AND SPECIAL MEETING OF THE MEMBERS

TAKE NOTICE that the annual and special meeting of the Members of *The Royal Astronomical Society of Canada Saskatoon Centre Incorporated* ("Centre") will be held at Room 175 of the Physics Building on the University of Saskatchewan campus, in the City of Saskatoon, Province of Saskatchewan, on Monday, the 19th day of November, 2018, at the hour of 8:00 o'clock in the evening for the purposes of:

1. To receive and consider the Corporation's year-end Financial Statements;
2. To elect directors for the next year.
3. To elect executive officers for the next year. The executive offices to be elected are as follows: President, Vice-President, Secretary, Treasurer and National Advisory Council Representative

The other offices are appointed by the executive officers on the recommendation (by election) of the membership as follows. (Such *suggested* positions may be deleted or changed at the discretion of the Executive officers):

Newsletter Editor(s)	SSSP Committee
Events Coordinator	Youth Astronomy Club Coordinator
Sleaford Joint Site Committee	(terminating)
Sleaford (Maintenance) Coordinator(s)	Councillor(s) at Large
Observing Coordinator	Meeting Room Coordinator
Fundraising Coordinator	Light pollution Abatement Coordinator
Speaker Coordinator	Photographer/ Archivist
Membership Coordinator	Social Media Coordinator
Telescope Rental Coordinator	Librarian

An ad hoc committee was formed and an attempt was made by individuals of the said committee to personally contact certain members of the Centre to encourage them to consider letting their names stand for election to the above mentioned positions. Some members have responded positively and some members have let their name stand for positions they currently hold. Although a partial slate of officers will be proposed by the committee at the general meeting, nominations from the floor will be requested, accepted and greatly appreciated.

Please consider or reconsider letting your name stand for one or more of these positions. The success of the Centre is best served by very active membership.

4. To dispense with the requirement of an auditor for the upcoming year. To that end, the following resolution will be moved:

"Pursuant to subsections 150(1) and (4.1) of The Non-profit Corporations Act, 1995 (Saskatchewan), the members of the corporation resolve not to appoint an auditor nor a person to review the financial statements of the corporation."

5. To transact such further and other business as may properly come before the meeting.

DATED AT SASKATOON, SASKATCHEWAN this 4th day of November 2018.

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Richard Huziak, director

## November 19 Saskatoon Centre AGM and Elections – *Rick Huziak*

The Official Notice for the Annual meeting of our Centre is published elsewhere in this newsletter. According to our Constitution, we elect our council at this meeting (which is typically in October, but deferred for reason this year.) The notice, and the running of the November meeting, are being put together by the Centre Board of Directors because we currently do not have a functioning executive. For the last few years, we have not had a Vice-president or an Activities Coordinator, so a lot has fallen onto the President. This was not what was intended, but it happened because members simply have not stepped up to help out in the Centre.

The Board of Directors (Jim, Norma, Les, Ron and Rick) met two weeks ago and discussed the issues of the Centre. We will, over the next week, be contacting members with the hope to convince some of you to take on an executive, coordinator or committee position. If a dozen or two people volunteer for at least a *small* job, then the work of the Centre gets spread around and no one becomes overwhelmed by their perceived duties, especially the Executive members.

Some basic ideas that the BoD had and will be discussed with the new Executive include:

- changing of the time and date of the monthly Executive meeting to allow for an earlier and more social start to the General meeting,
- that executive positions President & VP become more leadership positions and less working positions as not to be overwhelmed,
- committee or coordinator positions are taken on as mini-committees of one to several individuals so that work is spread around, and,

- that our yearly outreach activities are not sacred, and we can add to or subtract from what the Centre wants to do.

Of course, it is the Executive and Membership themselves that should set the structure of the Centre, and above all, we should be having the fun that a Center can bring to us. So, if something works, we do it, and if there is no interest, we drop it. There are few things that we really must do, but at least to some of us, we do think that we should have meetings with speakers or activities that make our Centre fun. This can only happen if our 86 members each contribute a little bit some of the time, whether it be a short talk, a newsletter article, a coordinator position, or provide an idea of what you'd like to see and help out with in the club. The October newsletter contains the results of an excellent survey put together by Past-president Alan Duffy. It is full of good information and ideas for the future. Our club will work best if we have good participation and support. Some very good news is that after our September meeting and through some e-mails we do have some ***nominations*** for positions in the list below, who will have to be elected at the meeting. Names in ***italics*** indicate positions held in 2017 – 2018:

Directors: *Richard Huziak, Norma Jensen, Tenho Tuomi, Ron Waldron and Les Dickson.*

President – Daryl Janzen

Vice-President – Jim Goodridge

Secretary – *Marcel Müller-Goldkuhle*

Treasurers – *Norma Jensen, Jim Gorkoff*

National Advisory Council Representative – Chris Martin

Newsletter Editor(s) – *Kris Ohnander, Colin Chatfield*

Events Coordinator - tbd

Sleaford Joint Site Committee – *Les Dickson, Darrell Chatfield* (& two U of S reps)

Sleaford (Maintenance) Coordinator(s) – *Darrell Chatfield, Rick Huziak*

Observing Coordinator – *Larry Scott*

Fundraising Coordinator - tbd

Speaker Coordinator – Rick Huziak (would like help)

Membership Coordinator – *Mark de Jong*

Telescope Rental Coordinator - tbd

SSSP Committee - *Rick Huziak, Les Dickson, Ellen Dickson, Greg Fusick, George Charpentier, Darrell Chatfield, Andrew Kostiuk*

Youth Astronomy Club Coordinator (terminating)

Councillor(s) at Large - tbd

Meeting Room Coordinator - tbd

Light pollution Abatement Coordinator – *Rick Huziak*

Photographer/ Archivist – *George Charpentier*

Social Media Coordinator - tbd

Librarian – tbd

Please take time to come to the November meeting, support us and help us build our Centre. Besides the elections, we will have two short topic speakers and will have the *After Meeting Meeting* at Alexander's as always. See you there.

## Dark Skies at the Creek

### How it went at Beaver Creek – *Rick Huziak*

On October 27, the Saskatoon Centre helped out at the Meewasin Valley Authority (MVA) fifth annual *Dark Skies at the Creek* nature and astronomy night. The night was organized by MVA Senior Interpreter, and centre member, Kenton Lysak. At 7:00 pm, Kenton did a talk on the need for controlling light pollution to preserve the habitat of nocturnal animals, and also had two live bats for kids and their parents to hold. At 8:20 pm, I did a talk about *International Observe the Moon Night* (Oct. 20) and ended with more about light pollution solutions. About 150 people attended the talks. At the conclusion of talks, attendees went outside for a starnight that started out clear and ended up, by 10:00 pm, with broken cloud moving in and out.

Members, past-members and friends who helped out are Tim Yaworski, Michael Earl, Jane Yaeger, Erich Keser, Kathleen Solose, Les Dickson and Ellen Dickson. Although our Centre turnout was lower than we expected, the group of us was more than sufficient to handle 50 people who attended the astronomy part of the evening. We were able to show everyone Saturn, Mars (both low), the bright gibbous moon, Alberio, the Ring and Dumbbell nebulae, star cluster IC4665 and a few other objects here and there.

Every year, the Beaver Creek event helps to promote the interaction between nature, expanding cities, light pollution and its effect on the plants, animals and darkness of the night sky. The MVA is a strong advocate for controlling lighting emitted from cities for all of our good.

## Sask Summer Star Party 2019 Notes – *Rick Huziak*

The SSSP Committee gets a huge 2-month break at the conclusion of the previous year's star party, and then we are back at it, with our first meeting of the new planning season held on November 8<sup>th</sup>. This year, the SSSP'19 Committee consists of: Rick Huziak (2019 Chair), Les Dickson, Ellen Dickson, Greg Fusick, George Charpentier, Darrell Chatfield and Andrew Kostiuk (webpage).

The 2019 SSSP will run from August 28 through September 2. Camping and registration will open in April. We already have a few volunteers and a confirmed clinic: *The AAVSO 10-Variable Star Tutorial*, run by Jim Goodridge. We will be looking for our three main speakers and one more clinician. If you have any suggestions, please let us know. We are also looking for innovative and educational workshops and activities to run at the star party.

If you would like to join our planning committee, please let us know and feel free to drop by one of the next meeting on January 10, February 7, March 7 or April 4. Meetings are held once a month for now on Thursday evening at 7:30 pm, with the location to be determined. Watch the Centre website *Activities Page* for information. If you don't want to be a full committee member, we always need volunteers to work at the SSSP. It takes over 50 inter-Centre volunteers to run the star party, so please chip in if you can and ask us before we ask you! All we ask for at the star party is to help out with a 2-hour shift on one of the days in one of the two-dozen main tasks we have to do.

## Asteroid 433 Eros makes a Favourable Approach

Written by Dave Chapman, Dartmouth, Nova Scotia [dave.chapman@ns.sympatico.ca](mailto:dave.chapman@ns.sympatico.ca)

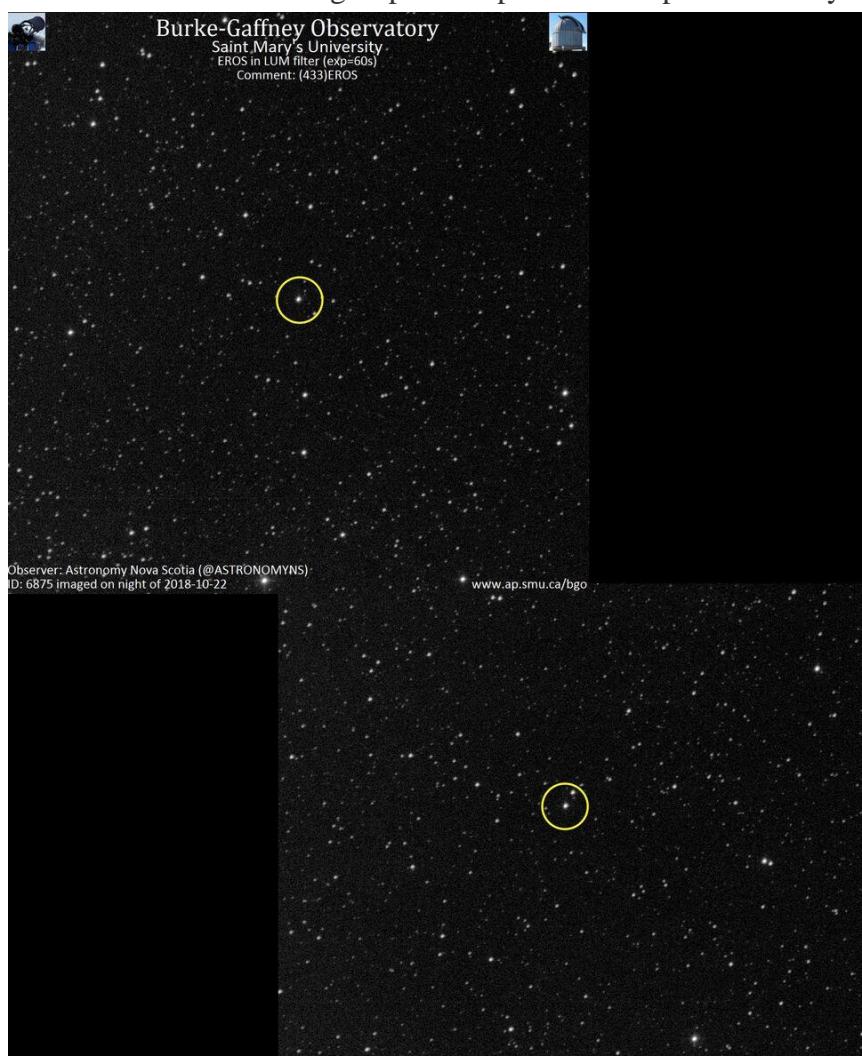
This article was originally posted on the RASCList discussion group and expanded with permission by Rick Huziak [rickhuziak@shaw.ca](mailto:rickhuziak@shaw.ca) for this newsletter.

With all the talk of a RASC robotic telescope, I thought I'd share a fun and easy activity I've been doing with the Saint Mary's University robotic telescope "Ralph" housed in the Burke-Gaffney Observatory.

<https://www.ap.smu.ca/pr/bgo-useme>

With the help of Ralph, I finally snagged two consecutive images of the minor planet (asteroid) 433 Eros about 24 hours apart (see link below). I overlapped them to show the motion (yellow circles). Eros currently moves about 2/3 of the diameter of the Full Moon in a day. It has a funny path in the sky around opposition December 17, owing to its highly inclined orbit.

Closest approach is in mid-January, when it will move almost 2 full moon diameters in 24 hours. It is



currently at magnitude 11, but will be magnitude 9 then, at a distance of 0.21 astronomical units.

Its peculiar motion derives from it being a near-Earth asteroid with a highly inclined and eccentric orbit (but it does not cross the Earth's orbit). There's a 7-year cycle in its close approaches, and (previously) we had a good look at it in January 2012.

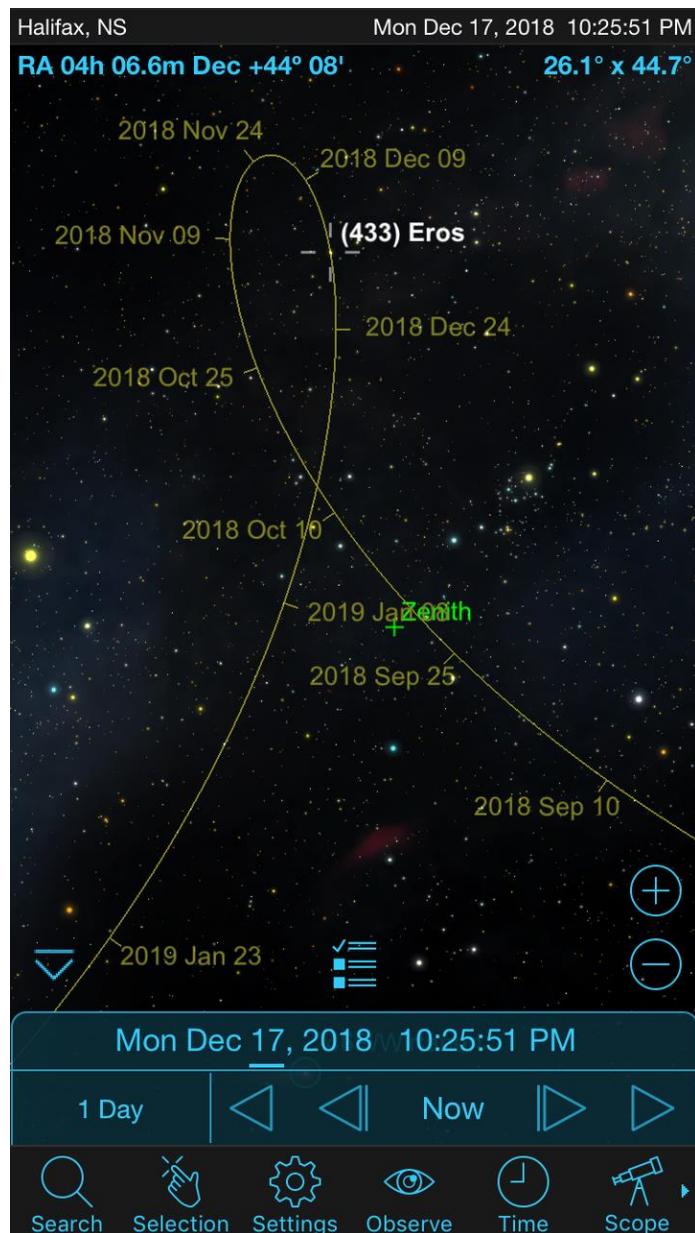
More trivia: Eros was the first minor planet NOT named after a female mythological character. There must be a story behind that.

I imagine that most potential users of a RASC robotic telescope have visions of creating much more sophisticated images than what I'm sharing; however, this is one example of how student groups could use a robotic telescope to learn about orbital motion.

(Eros's high inclination brings this asteroid high up into our sky from now until January. The asteroid has been climbing through Perseus, will make a loop as it passes through Camelopardalis and then falls again and passes between Perseus and Auriga.)

(Because the asteroid becomes quite bright over the next few months, it will be an excellent target for visual observing even in a small scope, and motion can be detected within a few minutes of staring. It is also easily within the reach of DSLR cameras. Two interesting programs come to mind: 1. Taking nightly images to watch its strange motion, and 2. Doing a set of all-night time-series (several hundred) and then doing photometry on the image to see if the rotation period can be determined. The asteroid should be varying by about 0.4 magnitudes over the rotation.

Eros was visited by the NEAR Shoemaker spacecraft in 1998. It is 34.4 x 11.2 x 11.2 km in size. It orbits the sun every 1.76 years (643 days) and can be as bright as 7th magnitude at its most favourable approach.)



# Observing Clubs and Certificates

Join the Club! Observe all 110 Messier, 110 Finest NGC, 400 Herschel I or II, 140 Lunar, 154 Sky Gems or 35 Binocular objects, or Explore the Universe and earn great OBSERVING CERTIFICATES!

## MESSIER CLUB

### Certified at 110 Objects:

R. Huziak, G. Sarty, S. Alexander,  
S. Ferguson, D. Chatfield, T.  
Tuomi, L. Scott, G. Charpentier,  
B. Johnson, L. Dickson, B.  
Burlingham, Norma Jensen

Ron Waldron	108
Wade Selvig	75
Marcel Müller-Goldkuhle	Up! 81
Wayne Schlapkohl	43
Ellen Dickson	34
Graham Hartridge	9

## Chatfield BINOCULAR CERTIFICATE

### Certified at 35 to 40 Objects:

T. Tuomi, R. Huziak

Jim Goodridge	12
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## FINEST NGC CLUB

### Certified at 110 Objects:

R. Huziak, G. Sarty,  
D. Chatfield, T. Tuomi

Larry Scott	110
Scott Alexander	97
Norma Jensen	83
Sandy Ferguson	23
George Charpentier	13

## EXPLORE the UNIVERSE

### Certified at 55 to 110 Objects:

T. Tuomi,

Wayne Schlapkohl	55
Jim Goodridge	35

## Isabel Williamson Lunar Observing Certificate

### Certified at 140 Objects:

T. Tuomi, N. Jensen

## HERSCHEL 400 CLUB

### Certified at 400 Objects:

R. Huziak, D. Chatfield, T. Tuomi

Gordon Sarty	251
Scott Alexander	117
Larry Scott	45
Sandy Ferguson	18

## HERSCHEL 400-II CLUB

Darrell Chatfield	400
Tenho Tuomi	378
Rick Huziak	246

## LEVY DEEP-SKY GEMS

### Certified at 154 Objects:

Tenho Tuomi	150
Darrell Chatfield	70



The Messier, Finest NGC and David Levy's Deep-Sky Gems lists can be found in the *Observer's Handbook*.

The Explore the Universe list is available on the National website.

On-line Messier and Finest NGC lists, charts and logbooks: <http://www.rasc.ca/observing>

On-line Herschel 400 List: <http://www.astrolounge.org/al/obclubs/herschel/hers400.html>

Binocular List is at: [https://www.usask.ca/rasc/Chatfield\\_Binocular\\_List.pdf](https://www.usask.ca/rasc/Chatfield_Binocular_List.pdf)

"Isabel Williamson Lunar Observing Program Guide:

<http://www.rasc.ca/sites/default/files/IWLOP2015.pdf>

Program details can be found at: <http://www.rasc.ca/williamson/index.shtml>