

Saskatoon Skies

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

Vol. 48, No. 10

October 2017



Star trails – done a little differently. Taken from SSSP by Kris Ohnander, this was shot on a Pentax 6x7 film camera, made in 1965. Using medium format Portra 400 film, this ~1 hour exposure was self-developed and scanned using an Epson V600.



Saskatoon Centre

The Royal Astronomical Society of Canada
P.O. Box 317, RPO University
Saskatoon, SK S7N 4J8

WEBSITE:

<http://www.usask.ca/rasc/>

E-MAIL: krisohn@gmail.com
To view *Saskatoon Skies* digitally,
see our website:
<http://www.usask.ca/rasc/newsletter.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
- 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 966-6429.

Observatory Hours:

January-February	7:30-9:30 pm
March	8:30-10:30 pm
April	9:30-11:30 pm
May-July	10:00-11:30 pm
August	9:30-11:30 pm
September	8:30-10:30 pm

October-December 7:30-9:30 pm

*Note: The hours above are out of date and pending newsletter update.
For current hours please visit:
<http://artsandscience.usask.ca/physics/observatory/hours.php>*

SASKATOON CENTRE'S MAIN OFFICERS:

President – Tim May

Vice-President – Alan Duffy

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

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 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 for rates. Members can advertise non-commercial items free of charge.

LIGHT POLLUTION ABATEMENT
WEBSITE AT:
www.ras.sk.ca/lpc/lpc.htm

RASC CALENDAR OF EVENTS

October 16	RASC General Meeting	Tim May
October 21	Sleaford Open House	Larry Scott
October 28	Dark Skies at the Creek [Beaver Creek]	Tim May
October 30	Youth Astronomy Club Meeting	Ron Waldron
November 18	Observers Group at Sleaford	Larry Scott
November 20	RASC General Meeting – Elections!	Tim May
November 27	Youth Astronomy Club Meeting	Ron Waldron

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

October RASC General Meeting

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

Monday, October 16th, 2017 at 8:00PM

SSSP and Summer Observing Talks

Open floor for anyone to talk about their SSSP experiences

Please bring images on USB drives.

Note: There will be an Executive Meeting at 7:00PM



Astronomy Night 2017

Come and see the Wonders
of the Universe through our
telescopes!

Saturday, October 21

7:30 p.m. to 11:00 p.m.

Sleaford Observatory and Research Facility

Car Convoy from Field House at 7:00 p.m.

This event is weather dependent. Please check our Facebook page.

The Royal Astronomical Society of Canada and the U. of S.
Department of Physics and Engineering Physics invite you to an
Open House at the Sleaford Observatory and Research Facility

Visitors may join a car convoy that will depart from the east side
of the Field House main parking lot at 7:00 p.m.

This event is free and open to the public.

There are warm-up facilities but viewing happens outside.

Dress Warmly!

**Presented by the Royal Astronomical Society of Canada
Saskatoon Centre**

For further details call the Observatory Information line at
306-966-6429
or

Find us on Facebook: RASC Saskatoon Centre

www.rasc.ca

www.usask.ca/rasc

email: SK_Centre@rasc.ca

Event Notice

Saskatchewan Environmental Society Sustainable Speaker Series

Tuesday, October 17

“Is it really darkest before the dawn: A look at light pollution in the city of Saskatoon and its effects on ecosystems.”

Speaker: Kenton Lysak, Senior Interpreter, Meewasin Valley Authority

We are only now beginning to understand the importance of dark skies for human health, plant physiology and nocturnal wildlife. Light pollution has been shown to negatively affect nocturnal wildlife and ecosystems as a whole by changing animal behaviours, disrupting seasonal movements, and altering the structure of ecosystems. Recent research has indicated that many native species residing in and around the City of Saskatoon depend on dark skies for their survival; however, there has been little research into the extent of light pollution within the city and its effect on local wildlife populations. By mapping the extent of light pollution, researchers and the Meewasin Valley Authority are now identifying areas of concern for nocturnal wildlife while also determining the direct effects on wildlife movements and behaviours.

The Sustainable Speakers Series is a monthly event hosted by the Saskatchewan Environmental Society and the Saskatoon Public Library. These environmentally-themed presentations are free for all to attend and are located in lower level meeting room of the Frances Morrison Central Library (311 23rd Street East) in Saskatoon. All talks run from 7:00pm to 8:30pm.

Minutes of the September Meetings - *Marcel Müller-Goldkuhle*

Minutes of the Executive Meeting, Sep 18, 2017



Meeting called to order by Tim May at 7:10 PM

Approval of June 19 Executive Meeting Minutes: Moved by Les, seconded by Darrel, approved.

Reports:

National: Update from the National General Assembly Meeting
Hours spent for Outreach Events are supposed to be reported to National
Professional Fundraiser has been hired
to be discussed, which budget the Club should consider for National speakers
New tuque and new pins are offered

Sleaford:	Electrical work is done, Electrician Invoice is 3,498 \$ Darrel requests 540 \$ for remuneration and 240 \$ for supplies, moved by Marcel, seconded by Ron, approved.
SSSP:	Presentation planned for the next meeting Receipts to be submitted by end of Sep
Youth Club:	Monthly meeting every 4th Monday Currently 8 members Explore the Universe Certificate will be the overarching topic for the next months. For this purpose Erroll and Ron are looking for someone who can present his/her Astronomical Logbook. Currently the Club does not approve certificates. Prerequisite for this is to have an active observers group. Further steps TBD. Requirement of Police Checks for work with kids was discussed. General agreement is that costs would be covered by the Club if the check is necessary. Jim G. to check with National what the current standard is.
Treasurer:	no update, concerns were raised about issuing of blank checks, recommendation was made to put at least a name in.
Events:	Sleaford Open House is planned for October 21 Beaver Creek is planned for October 28
Membership:	no update
Observers Group:	Next Observers Group Meeting is on Sep 23
Newsletter:	no update
Telescope Coord.:	no update

Old Business:

Yahoo Forum:	no update
Advertising:	no update
Memorabilia:	no update

New Business:

Request from Blair MacDonald from the Halifax Centre to submit photos of the Partial Solar Eclipse taken in SK, for an imaging article in the upcoming RASC Journal. *b.macdonald@ns.sympatico.ca*

Meeting adjourned at 8:05 PM

Minutes of the General Meeting, Sep 18, 2017

Meeting called to order by Tim May at 8:20 PM.

Updates were given about Observer's Group
 Youth Club
 Sleaford Open House (Oct 21)
 Dark Sky Event at Beaver Creek (Oct 28)
 Request to submit SK Eclipse pictures to b.macdonald@ns.sympatico.ca
 Sleaford Electrical works
 SSSP: 340 participants, from which about 50 volunteered
Public Viewing Solar Eclipse: About 1000-1200 visitors, local broadcasting like Global News, CTV, Rock 102 were interested as well.

Overview over Monthly Meetings for the next year:

Jan 15, Feb 12 (Feb 19 is Family Day), March 19, April 16, May 14 (May 21 is Victoria Day), June 18, Sep 17, Oct 15, Nov 19, Dec 17 (Potluck)

Presentations:

Presentations about the Solar Eclipse were given by Ron Waldron, Rick Huziak, Dale Boan.

Link to Rick's Solar Eclipse Video: <https://vimeo.com/231962787>

Lunar Libration – *Rina Rast*

You may have heard that we can only see half of the Moon's surface from Earth. In technical terms, one could say that this is because our rocky satellite is tidally locked to Earth, and it exhibits synchronous rotation. This occurs because the Moon's orbital period is roughly equal to its rotational period. Therefore, one side of it is constantly turned in the direction of Earth, as it orbits.

However, observant sky-watchers may have noticed something strange: the Moon can be seen to "wobble." The positions of the craters appear to change over the course of a single night, and they also "move" over the course of several weeks and months. The fact is, Earth-bound observers can actually see slightly more than half of the Moon's surface: about 59%. This is caused by a combination of effects known as lunar librations. "Libration" comes from the Latin for "balance scales"—a description for the Moon's appearance of "wobbling" back and forth.

This phenomenon is manifested in three different ways: libration in latitude, libration in longitude, and diurnal libration. Libration in latitude occurs because the Moon's axis is inclined relative to Earth. From the vantage point of our planet, our view of the lunar surface fluctuates between peeking over its north and south poles. This gives the impression that the Moon is slowly nodding its head over the course of the lunar month. Libration in longitude occurs because the Moon's orbital speed isn't perfectly constant. As it follows its elliptical path around the Earth, it travels faster when closer to the Earth and slower when it is farther away; this makes it look like the Moon is slowly shaking its head "No." Finally, the third form of libration, diurnal libration, can be observed over the course of a single night. When the

Moon rises, its western edge is facing Earth. When it sets, our viewpoint has shifted to up to four thousand miles away to the east. Once again, this causes the Moon to appear as though it is shaking its head “No” over the course of the night.

The following two photographs illustrate an example of diurnal libration. The image on the left was taken at 9:30 PM on 13 November 2016. The image on the right was taken at roughly 5:30 AM on 14 November 2016. Notice how the craters and lunar maria have shifted over the course of the night.

(Image credit: Rina Rast, Silver Moon Photography)



September Astro Images – Tenho Tuomi

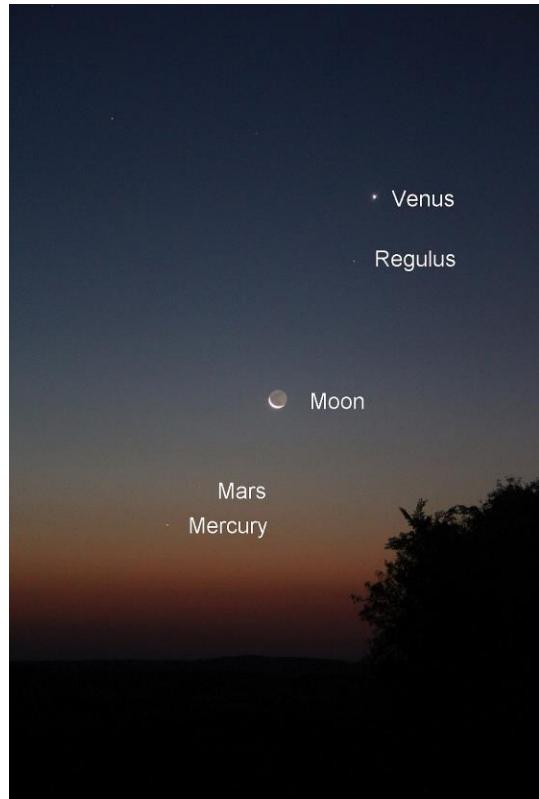


Picture of the newest comet C/2017 O1 (ASAS-SN) taken September 25, 19x60sec exposures at ISO 3200 with Canon T5i and F/5 305mm Newtonian. This comet is supposed to be at its brightest in the middle of October, but does not seem to be the binocular object that they were predicting.



[Above] Aurora across the Milky Way after midnight September 18, 20 sec exposure at ISO 3200 with Canon T5i and F/3.5, 10mm lens. I believe this is what they used to call a "proton arc" and lately called "Steve".

[Below] Planets on the morning of September 18. 1 sec exposure at ISO 3200 with Canon T5i and F/5.6, 100mm lens.



Observers Group – Larry Scott

Old Business: Four members attended the June 24th Observer's Group on a beautiful evening that was unfortunately completely cloudy. Two members attended the July 22nd meeting at Sleaford and were rewarded with warm temperatures, clear skies and no mosquitoes. A single member showed up for the September 23rd meeting which was again clouded out.

New Business: Open House! Open House! Open House at Sleaford on October 21st! Volunteers are requested to show up with their telescopes to share the night sky with our guests. If possible, let me know you're coming to volunteer so we'll know if there will be enough telescopes on hand. There will be a potluck BBQ prior to the Open House at 17:00 for those so inclined. Sunset is 17:56 and our guests will be arriving around 19:40 so it's best to be set up and ready to go by then. Dress warm as once the public shows up there won't be much opportunity to warm up for several hours. See you there.

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
Wayne	43
Schlakohl	
Ellen Dickson	34
Graham	9
Hartridge	

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	13
Charpentier	

EXPLORE the UNIVERSE

Certified at 55 to 110 Objects:

T. Tuomi,

Wayne	55
Schlakohl	
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	400
Chatfield	
Tenho Tuomi	378
Rick Huziak	246

LEVY DEEP-SKY GEMS

Certified at 154 Objects:

Tenho Tuomi	150
Darrell	70
Chatfield	



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.astroloegue.org/al/obsclubs/herschel/hers400.html>

Binocular List is at: https://www.usask.ca/rasc/Chatfield_Binocular_List.pdf

"Isabel Williamson Lunar Observing Program Guide:

<http://www.rasc.ca/sites/default/files/TWLOP2015.pdf>

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