

Saskatoon Skies

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

Vol. 50, No. 10

October 2019



A photo of aurora and STEVE, taken at midnight on September 5 by Tenho Tuomi. 15 second exposure at ISO 3200 with Canon T5i camera, 10mm lens at f/3.5.



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/newsletters.html>

In This Issue:

Membership Information / Bottle Drive / Officers of the Centre	2
U of S Observatory Hours / Light Pollution Abatement Website	2
Calendar of Events / Notice of Meeting	3
Sleaford Open House Poster	4
Minutes of the June & September Meetings - <i>Marcel Müller-Goldkuhle</i>	5-8
What You Need to Know about Laser Pointers - <i>Pierre Schierle, Rick Huziak</i>	9-10
General Assembly 2019 Highlights – <i>Les Dickson</i>	11 -12
Books for Sale	13
Observing Clubs and Certificates	14

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>
- 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:

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

SASKATOON CENTRE'S MAIN OFFICERS:

President – Daryl Janzen
Vice-President – Jim Goodridge
Secretary – Marcel Müller-Goldkuhle
Treasurer – Norma Jensen
National Council Rep – Les Dickson

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

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

Newsletter Editor – Kris Ohnander, Colin Chatfield

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.

RASC CALENDAR OF EVENTS

October 21	RASC General Meeting – ELECTIONS!	Daryl Janzen
October 26	Sleaford Open House	Larry Scott
November 11	Transit of Mercury	<i>Info Online</i>
November 18	RASC General Meeting	Daryl Janzen
November 23	Observers Group at Sleaford	Larry Scott

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

Join us on October 21, 2019 at 8:00PM

Presentations:

Annual Election of Offices of the RASC Centre

Please attend, volunteer, and vote! All positions open this year except for President and Vice-President

What's in the Sky This Month?

– Marcel Müller-Goldkuhle

Marcel will let us know what's up in the sky!

The 2019 General Assembly, National Council Meeting & the David Dunlop Observatory

– Les Dickson

Les will speak about the 2019 RASC General Assembly at York University, the council meeting at the GA and his tour of the David Dunlop Observatory

Note: There will be an executive meeting at 7:00pm.

ASTRONOMY NIGHT OPEN HOUSE



**NEW
DATE!**

**Saturday, October 26, 2019
7:30 p.m. to 11:00 p.m.**

Sleaford Observatory and Research Facility

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

**Visitors may join a car convoy leaving from Fas Gas
(intersection of Highway #5 and #41)
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!

**Sponsored by:
The Royal Astronomical Society of Canada - Saskatoon Centre
and
The U.of S. Department of Physics and Engineering Physics**

**For further details:
www.facebook.com/rascyxe
www.facebook.com/usaskobservatory**



**UNIVERSITY OF SASKATCHEWAN
College of
Arts and Science
DEPARTMENT OF PHYSICS AND
ENGINEERING PHYSICS
ARTSANDSCIENCE.USASK.CA**

Minutes of the June & September Meetings

— *Marcel Müller-Goldkuhle*

Minutes of the Executive Meeting, June 17, 2019

Attendees: Daryl Janzen, Ron Waldron, Norma Jensen, Chris Martin, Mark de Jong, Marcel Müller-Goldkuhle

Meeting called to order by Daryl Janzen at 7:14 PM

Minutes: Minutes from the May 13 Executive Meeting:
Name spelling errors: Daryl Janzen, Chris Martin
Approval: Motion by Ron, seconded by Norma, approved with all in favour.

Meeting Schedule: Dates are accepted as shown in the agenda:
Sep 16, Oct, 21, Nov 18, Dec 16, Jan 20, Feb 24 (Feb 17 is Family Day), Mar 16,
Apr 20, May 25, (May 18 is Victoria Day), June 15.

Sleaford Open House: Daryl to follow up with Larry to confirm date.

Treasurer: The Club has paid for the new projector.

YAC: The last and final meeting was held in May with 4 participants.

10" Scope: Motion by Ron to offer Alan to give him the mount in exchange for a donation to the Club. Seconded by Marcel, approved with all in favour.

Public Outreach: The Symphony is playing the Planets on Oct 19. Chris to follow up regarding involvement of the Club in terms of handouts, presentation of planet pictures etc.

Display Banner: Banner fabrication is in progress.

Data Projector: The projector has been purchased. Intention is to use the old projector for loan-out, to be discussed with Les.

Sleaford: The plan is to install power poles as far as possible from the warm up shelter. Installation of Internet access is going to happen soon. Due to installation of the fence around the roll-off-shelter it is planned to move the power outlets from the building walls to the fence.

Meeting adjourned at 8:05 PM.

Next Executive Meeting on September 16.

Minutes of the General Meeting, June 17, 2019

Meeting called to order by Daryl Janzen at 8:15 PM.

Daryl gives an update about the topics of the Executive Meeting.

Activities: Random Acts of Astronomy: Next event is planned for July.
Sleaford: Equipment needs to be removed from the school house.
Volunteers required , date TBD.
Presentation Seeing Black Holes With Light and Particles on July 10,
7:30 PM to 8:30 PM in HLTH 1130.

Apollo 11 Screening on July 20 @ 8:00PM in Arts 241. Idea is to set up
telescopes at the event.
Observers Group at Sleaford on July 27.
Perseid Meteor Shower on August 12.
SSSP Aug 28 - Sep 2.
Visual Observing for beginners starting on September 16.

Presentations: Marcel Müller-Goldkuhle: The June/July Night Sky.

End of the General Meeting at 9:34 PM.

Next General Meeting on September 16.

Minutes of the Executive Meeting, September 16, 2019

Attendees: Daryl Janzen, Patricia Gakis, Les Dickson, Ellen Dickson, Darrell Chatfield, Jim Goodridge, Rick Huziak, Norma Jensen, Marcel Müller-Goldkuhle

Meeting called to order by Daryl Janzen at 7:05 PM

Minutes: Minutes from the June 17 Executive Meeting were not published in the Newsletter, to be considered for the October Newsletter.

Treasurer: Fiscal year end Sep 30, details about a donation given to the Club to be clarified with National.

National: Suggestion is made to cover travel costs to the 2020 GA Vancouver.

SSSP: This year was the 2nd largest SSSP with 349 participants.
Weather conditions were poor.
Changes in camping for next year: Camp sites close to the road won't be

reserved for SSSP any longer, details still need to be determined; the park announced that conservation officers will do inspection rounds every night.

Elections: President & Vice President positions are not open.
Volunteers: Norma for Treasurer
Les for National Counsel Representative
Mark for Membership Coordinator
Darrell for Librarian
Rick for Speaker Coordinator
Eike for Telescope Coordinator

It was discussed if an Events Coordinator is still required. General understanding is that individual events can be organized by different people, role of the coordinator should be coordinate supplies and equipment, not to organize events. Position is still to be filled.

The Secretary position is to be filled.

Members of the Nominating Committee are Daryl Janzen, Ellen Dickson, Jim Goodridge.

Sleaford Open House: Advertised on Facebook and Instagram.
Arrangements have been made to have a Convoy Leader.
Potluck Barbecue before the Open House.
Snacks from SSSP and coffee supplies can be used for the Open House.

Beaver Creek: Jim to approach Kenton to clarify details.

Sleaford: Roll-Off can either be used remotely or by people present at Sleaford.
Darrell brought a sample for material which can be used for the deck renewal,
Darrell was requested to get further cost information.

Meeting adjourned at 8:07 PM.

Next Executive Meeting on October 21.

Minutes of the General Meeting, September 16, 2019

Meeting called to order by Daryl Janzen at 8:15 PM.

Minutes of the June General Meeting: Motion by Ellen, seconded by Les to accept the minutes as published, approved with all in favour.

Update by Daryl about the topics of the Executive Meeting.

National: Suggestion to cover 25% of the travel costs by the Club (75% are covered by National)

Elections: Colin Chatfield and Kris Ohnander volunteer for Social Media Coordinator.

Events: Sleaford Open House: Convoy starts from Fas Gas Station, not from the Field House.

Update by Jim about the Visual Observing for Beginners Program

Photography Event by Colin Chatfield on Oct 05

The Symphony is playing the Planets by Gustav Holst on Oct 19. Patricia to investigate further details.

Open House at McClure United Church end of Oct, talks and dark sky presentation the night before Beaver Creek Event. Jim has a meeting to discuss further details.

Presentations: Marcel Müller-Goldkuhle: The September/October Night Sky
Rick Huziak: A short Review of Green Laser Pointer Usage
Rick Huziak: Outdoor Lighting Design & its Effects on Saskatoon's Environment

End of the General Meeting at 9:53 PM.

Next General Meeting on October 21.

What You Need to Know about Laser Pointers

- *Pierre Schierle (Regina Center), ed: Rick Huziak*

Laser pointers are regulated under the Canada Consumer Product Safety Act (CCPSA), the Radiation Emitting Devices Act (REDA), and by Transport Canada.

Lasers are divided into seven different power levels (Class 1, 1M, 2, 2M, 3R, 3B and 4) under International Electrotechnical Commission (IEC) Standard 60825-1. Hand-held Class 3B and 4 laser pointers are 5mW or higher and are considered a danger to human health or safety under the CCPSA and are prohibited from being sold, imported, advertised, or manufactured in Canada.

Hand-held lasers rated as Class 2 (less than 1mW) and Class 3R (**less than 5mW**) may be used in Canada but are further regulated by Transport Canada. These regulations were updated on 28-Jun-2018 further restricting where Class 2 and 3R lasers may be possessed and used. The regulations state:

3 This Interim Order applies in respect of battery-powered hand-held lasers with a power output rating greater than 1 milliwatt.

4 (1) No person shall have in their possession a battery-powered hand-held laser

(a) in the municipalities of the Montréal, Toronto and Vancouver regions listed in the table to this subsection; or

(b) within a 10-km radius of the geometric centre of an airport or heliport.

(2) Subsection (1) does not apply if

(a) the laser is in a dwelling-house; or

(b) the person is in possession of the laser for a legitimate reason, including

(i) the person uses the laser for occupational or business purposes,

(ii) the person uses the laser for educational purposes,

(iii) the person is transporting the laser in the course of their employment, and

(iv) the person is a member of an astronomical society.

RASC has worked with Transport Canada and obtained authorization to use hand-held laser pointers at any RASC sponsored event outside the restricted airports zone.

It is recommended that:

- RASC members have their valid membership card in their possession.
- Non-RASC members be prepared to demonstrate they are using the laser for an educational purpose.

We will have trained hand-held laser operators and spotters at the formal public outreach events. You are responsible for any personal usage and for ensuring your laser is rated Class 3R or less.

The following are some links that you may find useful:

Health Canada on Class 3B / 4 lasers

<https://www.canada.ca/en/health-canada/services/consumer-radiation/hand-held-lasers-laser-pointers.html>

Transport Canada on 28-Jun-2018 Changes to Regulations

<https://www.tc.gc.ca/en/services/transportation-security/aviation/hand-held-lasers-legally-safely.html>

<http://gazette.gc.ca/rp-pr/p1/2018/2018-07-07/html/notice-avis-eng.html#ne1>

RASC Canada GLP Usage Guidelines and Authorization permit

<https://www.rasc.ca/green-laser-pointer-usage>

<http://rasc.ca/authorisation>

Laser Classification Definitions:

<https://www.lasersafetyfacts.com/laserclasses.html>

General Assembly 2019 Highlights

- *Les Dickson, Representative to National Council*

The 2019 General Assembly (GA) was held June 13 - 16 on the campus of York University in Toronto. The American Association of Variable Star Observers (AAVSO) held their Spring meeting along with the GA. Les Dickson attended the GA as alternate National Council Representative. Also in attendance from Saskatoon, was Ellen Dickson and Rick Huziak.

The GA is a mix of business meetings, astronomy related presentations and workshops and social gatherings.

The business part of the GA included meetings of the Board of Directors, National Council, and the Annual General Meeting of the society. There were some significant announcements made at the GA. Dr. Allan Carswell, a world-renowned physicist and President of the Carswell Family Foundation, announced funding of \$100,000 per year for 3 years to fund the RASC's astronomy education and outreach efforts. The funding is matched, meaning the Society needs to raise an additional \$100,000 [per year]. The RASC will use the grant to engage a Marketing and Communications Coordinator to support Society initiatives in this area. Rudolph Dorner, Kitchener-based businessman and member of the Kitchener-Waterloo Centre announce a legacy bequest of \$1.5 million to fund the establishment and operation of the Dorner Telescope Museum that will be run by its first Director Randall Rosenfeld. Mr. Dorner also has pledged donations of \$25,000 per year until his will comes into effect. The museum's mandate is to tell the story of astronomical optics in Canada through astronomical instruments, their makers and their users. The museum, for the time being, will be housed at the National Office in Toronto.

The "astronomy" part of the GA included two days of paper sessions and a half-day series of workshops. The workshop sessions covered topics such as Citizen Science, Member Retention, Light Pollution Abatement, Public Outreach and more. On Friday there was a series of featured presentations on various topics. These included:

- Dr. L. Clifton Johnson – Zooniverse and Citizen Science
- Gregg Wade – The BRITE-Constellation mission
- Catherine L. Newell – "Faith, the Future, and America's Final Frontier" and the persuasiveness of Chesley Bonestell's art.
- Jan Cami – repurposing an historic installation (the Cronyn Observatory at UWO) for successful EPO
- Maria Cahill – Helen Hogg as a communicator of astronomy, and the roles she played within both the RASC and the AAVSO.

Friday evening featured the formal launch of the autobiography of David Levy, "A Nightwatchman's Journey", published by the RASC. David was interviewed on-stage by journalist and RASC member Ivan Semeniuk. Some of you might remember that Ivan was the Fr. Lucian Kemble speaker at SSSP 2005. We had an opportunity to speak with him and have him [centre at right] join us for a picture with attending members of the SSSP organizing committee [left to right at picture on right] Ellen Dickson, Vance Petriew, Les Dickson, and Rick Huziak.



The Ruth Northcott Lecture was given Saturday evening by James Hansen, who is the author of "First Man: the Life of Neil A. Armstrong". His book was adapted into a movie that was released in 2018. After the lecture, Mr. Hansen was interviewed by Nicole Mortillaro, a CBC journalist and member of the RASC.

One development I appreciated was that the major presentations made at the GA were video recorded and are now up on Youtube. They can be found at www.youtube.com by searching for "RASC/AAVSO 2019". You can also find there two slideshows on the GA produced by the National Office team.

The social parts of the GA included a Wine and Cheese Reception Thursday evening, a BBQ dinner on Friday evening, and the Banquet Award Dinner with Keynote Speaker James Hansen on Sunday evening. On Monday there was a guided tour of the David Dunlop Observatory in Richmond Hill [Shown at right].



The GA this year was organized by the National Office of the RASC. Executive Director Randy Attwood was the Chair, ably assisted by staff members Madison Chilvers, Renato Koziol, Jenna Hinds, Miguel Del Rio and Maria Kalsatos. Randall Rosenfeld was the Program Organizer. Many members of Centres in the Toronto area assisted the committee to make this year's GA a success.

Next year's GA will be hosted by the Vancouver Centre. It will take place June 5-7 at the Executive Inn and Conference Centre in Coquitlam BC.

Books for Sale

All Books being sold by Darrell Chatfield
 Contact Darrell at novachat@sasktel.net or 306-222-0515

All books are in either new, or like new condition. Retail price in brackets. Please email or text me if you want a particular book and I will bring It to the next meeting or arrange to meet you. Thank you.
 Darrell

"The New Solar System"	2009 Patricia Daniels. Color (40.00)	\$18.00
"Deep Sky Observers Handbook"	5 vol. 1979. Ken Glyn Jones.	\$30.00
"ORBIT - Nasa Astronauts Photograph the Earth."	1996. Color.	\$2.00
"International Encyclopedia of Astronomy"	1987. Patrick Moore. Color.	\$10.00
"Backyard Astronomers Guide"	T. Dickinson & Al Dyer. 2008. Color(49.95)	\$25.00
"Atlas of Deep Sky Splendors"	1978. H. Verhenberg. (50.00) B & W.	\$22.00
"Turn Left at Orion"	2000. Dan Davis. B & W. (29.99)	\$15.00
"Amateur Astronomers Catalog of 500 Deep Sky Objects"	Vol 1. 1980. B & W R. Morales	\$15.00
"Observing the Constellations"	1989. J. Sanford. Color charts.	\$10.00
"Nightwatch"	1984. T. Dickinson. Color.	\$10.00
"Sky Atlas 2000"	W. Tirion. 1981. 3 Color atlas.	\$30.00

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
Marcel Müller-Goldkuhle	94
Wade Selvig	75
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
---------------	----

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.astroloague.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/IWLOP2015.pdf>

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