

Saskatoon Skies

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

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January 2017



*An aurora shot, taken by Kris Ohnander, summer 2016.
Single shot, ISO 1600, 30s exposure, ~20mm focal length.*



Saskatoon Centre

The Royal Astronomical Society of Canada
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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. If you do not want to join at this time, ask to get onto our FREE 3-month Temporary Membership list. You will receive regular mailings of our Saskatoon Skies newsletter and will be invited to participate in Centre activities. 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)
- use of the Centre library
- 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*
- Free, no-cost, no-obligation, 3-month temporary membership if you don't want to join right now!

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Note: The hours above are out of date and pending newsletter update.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, 306-244-7360

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

**LIGHT POLLUTION
ABATEMENT
WEBSITE AT:
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 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

January 16	RASC General Meeting	Tim May
January 21	Observers Group at Sleaford	Larry Scott
February 25	Observers Group at Sleaford	Larry Scott
February 27	RASC General Meeting	Tim May
March 20	RASC General Meeting	Tim May
March 25	Messier Marathon at Sleaford	Larry Scott

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

January RASC General Meeting

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

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

Presented by Alan Duffy:

Radio Astronomy using Software-defined Radio (SDR)

Software-defined radio (SDR) is a way of receiving and transmitting radio signals where a general-purpose processor (i.e. computer) is used instead of dedicated hardware (i.e. traditional radio).

Significant amounts of signal processing are handled by software which leads to inexpensive receivers as small as a USB stick. Adding an appropriate antenna or repurposing an unused satellite dish one can listen to radio noise from the sun, tune into natural VLF radio phenomena spawned by aurora or lightning storms. It is also possible to listen to radio bursts from Jupiter, and one may even try to detect the next 'Wow! signal' at 1420 MHz and if that fails there is always the neutral Hydrogen spectral line emission of the Milky Way to observe.

Presented By Rick Huziak:

The New Explore the Universe Guide Handbook

This summer, the RASC published a new handbook replacement to the aging *Beginning's Observing Guide*. Authored by Brenda Shaw, with illustrations by Brenda Stuart, the *Explore the Universe Guide* is an excellent book for budding beginners to learn about the basics of astronomy. The book roughly follows the *Explore the Universe* certificate program and goes into depth about the types of objects that you'd chase down while learning astronomy basics.

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

ATTENTION STUDENTS

- *Are you currently in grade 7, 8 or 9?*
- *Are you interested in Astronomy?*
- *Would you like to learn more?*

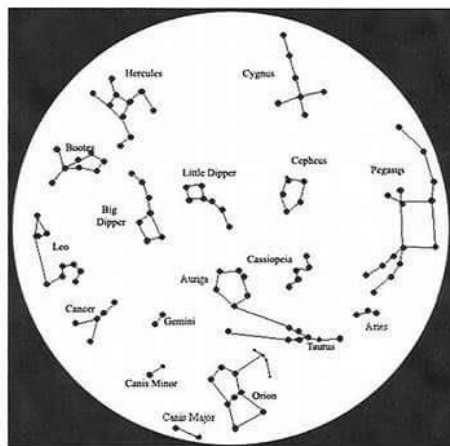


ROYAL
ASTRONOMICAL
SOCIETY
OF CANADA

We invite you to join a new and exciting group – the **Youth Astronomy Club (YAC)**. The purpose of the group is to introduce young people like you to the science of astronomy and the wonders of the night sky. Meetings will be held monthly on Monday evenings. The first organizational meeting is set for ***Monday, January 30th, 2017 from 7:30 – 8:30 PM in Room 175 of the Physics Building on the U of S Campus***. At this meeting, activities and fees will be outlined so it is important you attend with a parent or guardian. Later meetings will be held in the U of S Observatory.

Activities include:

- Learning to recognize and navigate the night sky
- Understanding and using astronomical telescopes
- Becoming an amateur stargazer with or without a telescope
- Much, much more!



* We are associated with the *Saskatoon Centre of the Royal Astronomical Society of Canada*

SSSP '17 NEEDS YOU! – *Rick Huziak*

The SSSP'17 Committee needs your help. Consider joining our committee and help us put on the 21st Annual star party, Aug. 23 - 28. The committee is looking for a Volunteer Coordinator and other coordinators, but we can use you for all of our planning activities. We meet monthly (next meeting Jan. 19) until June, then more frequently until the star party. We also need ideas for speakers and clinics and we are always looking for members who will commit to 2-hour volunteer slot at the star party *before* we call you! If you would like to help out, email Rick Huziak <rickhuziak@shaw.ca>



SSSP 2012, Photo by Larry McNish, Calgary

Comet C/2016 U1 – *Tenho Tuomi*



Broke a long drought and photographed a new comet this morning, C/2016 U1 (NEOWISE). This comet is low in the east in the morning and will sink below the horizon by the end of the first week in January. It will pass closest to the sun on January 14.

Picture taken with a Canon T5i through a 305mm F/4.9 Newtonian, 18 60sec exposures at ISO 3200.

2016 has been very sparse on comets, only my third one for this year, last one being in April. In 2015 I photographed nine new comets.

Solar Pillar across Saskatchewan



This fantastic photo of a light pillar was taken on December 25th at 16:52 from 52 degrees north and 107 degrees west, just South West of Saskatoon, near Vanscoy. A light pillar, as I'm sure most of us have experienced is a vertical band of light created from the reflection of light on ice crystals in the atmosphere. As a testament to how thoroughly cold Saskatchewan was on the 25th, I (the Editor) experienced the same phenomenon, at roughly 50.5 degrees north and 102 degrees west, roughly 430km away. Photo taken by Ken Sailor.

Observer's Group – *Larry Scott*

Too cold or too cloudy pretty much covers my observing report for the last month and a half. The forecast is for warmer weather but that does not generally translate into clear skies. Time for some on-line research into summer star parties. With our SSSP being later in August this might open up an opportunity for more than one star party for me this summer. There will be a chance to go to the Grasslands DSP in July as well as the Alberta Star Party in September. If I can't observe now I may as well plan some chances to observe during the summer. I find if I keep planning on observing then eventually when the skies do clear I am ready to go.

We will have moonless evenings from January 17th to the 31st with an Observer's Group scheduled for January 21st.

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 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	55
Schlapkohl	
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>