

# Saskatoon Skies

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

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December 2018



*Incredible photo from Tenho Tuomi, see details and more on page 9-12!*



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>

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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:

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** – Chris Martin

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, 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](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!**

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# RASC CALENDAR OF EVENTS

December 10	RASC General Meeting Christmas Social	Daryl Janzen
January 4	Observers Group at Sleaford	Larry Scott
January 21	RASC General Meeting	Daryl Janzen
January 28	Youth Astronomy Club Meeting	Ron Waldron
February 2	Observers Group at Sleaford	Larry Scott
February 25	RASC General Meeting	Daryl Janzen

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

## December RASC Christmas Social and Potluck

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

**Join us on December 10, 2018**

**RASC Christmas Potluck supper. Bring your favourite dish and enjoy the evening with members of the Saskatoon RASC. Open to RASC members and their friends.**

**6:30pm – 9:00pm.**

There will NOT be an executive meeting.

# Minutes of the November Meetings

— *Marcel Müller-Goldkuhle*

## Minutes of the Executive Meeting, November 19, 2018

**Attendees:** Rick Huziak, Les Dickson, Ellen Dickson, Errol Frazer-Harrison, Ron Waldron, Jim Gorkoff, Darrell Chatfield, Daryl Janzen, Tenho Toumi, Mark de Jong, Jim Goodridge, Eike Thiessen, Marcel Müller-Goldkuhle

Meeting called to order by Rick Huziak at 7:03 PM

**Minutes:** Approval of the minutes from the Oct 15: Motion by Les, seconded by Daryl, approved with all in favour.

**Elections:** Daryl Jensen agreed to be nominated as President, Jim Goodridge agreed to be nominated as Vice President.

**Annual Report:** Marcel to issue draft, input by Les/Rick/Jim Goodridge

**Sleaford:** Just minor issues were detected during the SaskPower inspection

**Events:** Potluck: Planned for December 10 at 6:30 PM, organized by Darrell and Norma, Daryl to provide key for room access, Darrell is willing to provide an article for the newsletter.

Lunar Eclipse Jan 20/21: Plan is to join the U of S Observatory.

**Calendars:** Jim Gorkoff circulates list to collect orders.

Meeting adjourned at 7:30 PM.

## Minutes of the General Meeting, November 19, 2018

Meeting called to order by Rick Huziak at 8:01 PM

**Minutes:** Approval of the minutes from the Oct 15 meeting: Motion by Mark, seconded by Tim, approved with all in favour.

**Events:** Potluck: Information was given about the Potluck on December 10 at 6:30 PM.

The activities website has been updated.

Lunar Eclipse on Jan 20/21, plan is to organize an event in coordination with the U of S Observatory.

Tim Yaworski plans an Astrophotography event late Jan/early Feb and is asking Club members for support by joining the event with telescopes.

Eike Thiessen provided information about the Awasis Conference on April 16-18 2019. 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.

Calendars: Jim Gorkoff circulates list to collect orders.

Annual Elections: The following positions in the Saskatoon Centre were accepted during the November election. Note that under Councilors and Committees, the Executive Council will determine which positions become voting positions. The positions of Councillor at Large and Fundraising Coordinator were felt to be unnecessary at this time and have been removed. We would like to thank members for stepping forward and filling all positions.

**Directors:**

Les Dickson, Richard Huziak, Norma Jensen, Tenho Tuomi, Ron Waldron

**Executive Council:**

President – Daryl Janzen

Vice-President – Jim Goodridge

Secretary – Marcel Müller-Goldkuhle

Treasurer – Norma Jensen

**Councillors:**

National Advisory Council Representative – Chris Martin

Newsletter Editor(s) – Kris Ohnander, Colin Chatfield, Grant Ursaki

Bookkeeper (assistant to Treasurer) - James Gorkhoff

Activities Coordinator – Patricia Gakis (Others indicated they would lead individual events.)

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

Observing Coordinator – Larry Scott

Speaker Coordinator – Rick Huziak

Membership Coordinator – Mark de Jong

Telescope Rental Coordinator – Ike Thiessen

Youth Astronomy Club Coordinator(s) – Ron Waldron, Errol Frazer-Harrison

Meeting Room Coordinator – Daryl Janzen

Photographer/ Archivist – George Charpentier

Social Media Coordinator(s) – Colin Chatfield, Tim Yaworski

Librarian – Darrell Chatfield

Web-page Coordinator – Gordon Sarty

Observing Certificate Coordinator – Darrell Chatfield

**Committees:**

SSSP Committee - Rick Huziak (2019 Chair), Les Dickson, Ellen Dickson, Greg Fusick, George Charpentier, Darrell Chatfield, Andrew Kostiuk

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

Light Pollution Abatement Committee – Rick Huziak (Chair)

Constitution Committee – Jim Gorkhoff, Tenho Tuomi

Presentations: Marcel Müller-Goldkuhle: The November Night Sky.  
Tenho Tuomi: Comet 46P/Wirtanen's Favourable Approach.

Meeting adjourned at 9:20 PM

## Meeting Dave Williams — *Darrell Chatfield*

On the night of November 4<sup>th</sup>, I had the privilege of meeting and hearing the former astronaut Dave Williams at McNally Books. He had written a book called “Defying Limits”, and this evening was set up as his book launch and book signing.

I was asked by the McNally events coordinator to say a few words about the RASC Organization, which I was happy to do. I gave a brief history of both our National and local groups to this standing room only event. At one point I had made the comment that Dave had logged the most flying kilometers of any astronaut, saying that his Fitbit would have shown “Most kilometers to date: 8000”.

Dave is quite the guy, he has been ‘defying the limits’ most of his life. When in grade 5, he was knocked off his bike by a car. He learned to scuba dive by the age of 12! Later on, he joined the Royal Canadian Army Cadets. He also became an ER doctor at one point.

When he started out training at NASA, he was almost rejected as an astronaut candidate by having a condition known as “degenerative retinopathy”. And while training at NASA as a pilot, he narrowly missed being hit by a 737!

So I hope you see a pattern here with Dave’s life. He doesn’t stop when he meets adversity, he embraces it. One chapter in his book is entitled “Failure is the best teacher”. I think it is a lesson we all could learn.

Everyone enjoyed the book launch that night. Dave was interviewed by TV personality Jeff Rogstad, which worked well with the whole event. For a man that has had so many life experiences, that most people will never get to do, he presents himself as a humble person. He even said that he was humbled by meeting Neil Armstrong.



I would encourage anyone to go and buy his book. I have found the book a very easy read for the pieces I have read, and I am looking forward to reading the entire book very shortly.

Dave was easy to meet and talk with. It would be great to sit down with him for an evening, and ask more questions about his experiences and life lessons. He truly has ‘defied the limits’ to life. And so the next chapter of Dave Williams continues...

## Social Media and RASC Saskatoon — *Colin Chatfield*

Since we have started a new year of meetings and newsletters with the club and changes happening with communication, I thought I'd share a little bit about social media.

For many years, the club had used the Yahoo platform for sending emails and such back and forth. However, that is now defunct and replacing it hasn't been easy. For the moment, social media platforms are the only valid method of communication, outside of sending emails. The problem with social media, such as Facebook and Instagram, for example, is that not everyone uses them. It's understandable why some don't. The downside is that for getting mass messages with information to people in the club, it is harder now.

There are upsides to using social media too though. Facebook allows people to create groups and pages for information, send messages to people individually or in groups. Instagram is more of a picture sharing service, but now that Facebook has bought it, they are becoming more similar all the time.

For those who aren't aware, the club has a presence on Facebook and Instagram. The RASC Saskatoon Facebook group was created a couple of years ago and is administered by myself. Groups can be public, but still secure, so people from the general public can see the posts and share them if they want, yet people still have to request to join the group. It's designed that way in order to reduce spammers from joining. The group currently has 85 members. It can be found at <https://www.facebook.com/groups/rasc Saskatoon/>.

Another group to bring your attention to is the Saskatchewan Aurora Hunters. I created that group three years ago and it has grown to a network of nearly 3200 people throughout the province and beyond. The group is administered by myself and I have four others on my team. The group is setup the same way as the RASC one in terms of privacy and security. People share information about viewing and photographing auroras, as well as the Milky Way and other night sky phenomena. There is also information relevant to photographing the night sky. The group can be found here <https://www.facebook.com/groups/skaurorahunters/>.

As for Instagram, Tim Yaworski maintains an RASC Saskatoon Centre account. There is an Instagram website people can visit here <https://www.instagram.com/rascyx/>, but the phone app is the best and easiest way to view the posts. The account can be found as RASCYXE on Instagram and contains photos and tips about the night sky, as well as events the club is putting on.

Perhaps at some point we can find another platform that will allow for better group communication, but until then, either email or using these apps/websites is what we have.



# My Year with Comets – *Tenho Tuomi*

After completing my photography of almost all objects in the RASC observing lists, I seemed to lose interest in deep-sky objects and started concentrating on comets instead.

This year I photographed these 18 comets that were new to me, bringing my total of comets observed or photographed to 103, starting with comets Hyakutake and Hale-Bopp in 1996 and 1997. This is the most comets I have photographed in one year. Most of these were too faint to be seen visually.

C/2017 T1 (Heinze)  
C/2016 N6 (PANSTARRS)  
C/2015 O1 (PANSTARRS)  
C/2016 M1 (PANSTARRS)  
74P/Smirnova-Chernykh  
21P/Giacobini-Zinner  
C/2017 S3 (PANSTARRS)  
37P/Forbes  
48P/Johnson  
C/2018 N1 (NEOWISE)  
29P/Schwassmann-Wachmann  
66P/du Toit  
64P/Swift-Gehrels  
C/2017 M4 (ATLAS)  
78P/Gehrels  
38P/Stephan-Oterma  
C/2018 V1 (Machholz-Fujikawa-Iwamoto)  
C/2018 L2 (ATLAS)

This year there seem to have been very few bright comets, but a lot of faint ones. Maybe there were faint comets in other years too, but there were so many bright comets that maybe the faint ones were ignored.



The first comet bright enough to be seen easily in a telescope was C/2017 T1 (Heinze) in January. It passed almost too fast to be photographed within 0.2 au of earth and appeared large but diffused.

[LEFT] Comet C/2017 T1 (Heinze) on January 8, with 80mm telescope, picture cropped

On January 14 I photographed comet 185/Petrew which Vance Petriew found at the SSSP in 2001, which I had photographed previously in August 2012.



[ABOVE] Comet 74P/Smirnova-Chernykh passing galaxies M66 and M65 on May 5, with 12" telescope

Then there were no bright comets until C/2017 S3 (PANSTARRS) which flared in July but disappeared below the horizon before it was at its brightest. This is my brightest comet of the year so far.



[ABOVE] Comet C/2017 S3 (PANSTARRS) on July 16, with 12" telescope, picture cropped

Periodic comet 21P/Giacobini-Zinner came into the sky in June and peaked in September when it passed 0.4 au from earth and put on a show passing open clusters M35 and M37. This was the comet for the SSSP.



[LEFT] Comet 21P/Giacobini-Zinner on September 9, with 12" telescope

[RIGHT] Comet 21P passing M37 on September 10, with 300mm telephoto lens, picture cropped



With the exception of comet 21P, the other periodic comets never came closer than the orbit of Mars, and 74P stayed outside the orbit of Jupiter. M74 is the faintest comet that I have photographed.



[LEFT] Comet 64P/Swift-Gehrels on November 4 with 12" telescope

[RIGHT] 38P/Stephan-Oterma beside planetary Eskimo Nebula - November 8, with 12" scope, cropped



The surprise comet which I was able to photograph was C/2018 V1 (Machholz-Fujikawa-Iwamoto), which was discovered only on November 7 and in two weeks disappeared from us.



C/2018 V1 (Machholz-Fujikawa-Iwamoto) on November 17 with 12" scope, picture cropped

Comet 46P/Wirtanen, which I photographed in early 2008, will pass within 0.08 au of earth in the middle of December and should be the brightest comet of 2018 with brightness's estimated from magnitude 3 to 8. Some say it will be naked eye.

As the estimates for brightness of 46P show, comet brightness seems to be hard to estimate or predict and there is great variation between different comet sources. My Cartes du Ciel planetarium program seems to agree on the average with Seiichi Yoshida's page. Comet Chasing and Heaven's-Above seem to give estimates 1.5 magnitudes brighter. The Bright Comets/TheSkyLive and the IAU Minor Planet Centre give estimates 1.5 magnitudes fainter on average.

I have made little use of the Comets page in the Observer's Handbook for they go up to magnitude 18 and some are below the horizon for us, but I notice that half of the comets I photographed this year are on that list. I should make more use of that page to look for new comets.

As the Comet Chasing page says, "But always remember, comets are like cats. They both have tails and do what they want, and not always what we expect. This is one of the things that makes comet chasing interesting!"

Links for the websites that I mentioned above:

<http://www.lex.sk.ca/astro/350d/comets.htm#2018> - my comets for 2018

<http://cometchasing.skyhound.com/> - Comet Chasing

<http://aerith.net/> - Seiichi Yoshida's Home Page

<https://theskylive.com/comets> - Sky Bright Comets

<https://www.minorplanetcenter.net/iau/lists/LastCometObs.html> - Dates of Last Observation of Comets

<http://cometography.com/> - History of Comets

# 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	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.astroloague.org/al/obsclubs/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.shtm>