

Saskatoon Skies

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

Vol. 45, No. 4

April 2014



This impressive time exposure was taken by member Kris Olander using his Canon 60D and a Rokinon 8mm Fisheye lens. Exposure time was roughly 2.5 hours and the camera was connected to a laptop and controlled using Canon's proprietary software. 30 second subs, combined using the software found at startrails.de



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To view *Saskatoon Skies* in colour, see
our Website:

<http://homepage.usask.ca/~ges125/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
Minutes of the March Executive Meeting – Tenho Tuomi	4
Minutes of the March General Meeting – Tenho Tuomi	5
Congratulations	5
National Advisory Council – Tenho Tuomi	6
Observer's Group Notes – Larry Scott	6
2013 Saskatoon Centre Annual Report – Rick Huziak	8
Observing Jupiter with an Aperture Mask – Rick Huziak	8
Earth Hour Successful Despite Snowfall – Jim Goodridge	9
Observing Clubs and Certificates	10

MEMBERSHIP? JOIN TODAY!

Regular: \$82.00 /year

Youth: \$43.00 /year

Family: \$77/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 <national@RASC.ca>!

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 <http://homepage.usask.ca/ges125/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!

*New subscription or renewal of Sky & Telescope? Send new info or renewal notice, plus credit card # to Norma Jensen, 128 – 4th Street East, Saskatoon, SK S7H 1H8, or email her at norj@sasktel.net.

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

SASKATOON CENTRE'S MAIN OFFICERS:

President – James Gorkoff, 644-1343
Secretary – Tenho Tuomi, 306-858-2453
Vice-President – Jim Goodridge, 370-8530
Treasurer – Norma Jensen, 244-7360

**Bottle Drive &
Canadian Tire \$**
By Colin Chatfield

If you cannot make it to a meeting but would like to contribute your Canadian Tire money please call me at 934-7046.

**LIGHT POLLUTION
ABATEMENT
WEBSITE AT:**

www.ras.sk.ca/lpc/lpc.htm

Newsletter Editor – Ron Waldron
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. **Articles can be sent by mail in any format to the Centre's mailbox.** Submitted materials can be returned upon request. Submissions may also be sent by e-mail to the editor at rmwaldron@shaw.ca as a .doc, no indents, no tabs, one line between paragraphs. Images: .jpg please, no larger than 1 – 1.5 MB, 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. **DEADLINE for submissions** for each month's issue is the 1st Friday of the month. Saskatoon Skies accepts commercial advertising. Please call the editor 306-665-3392 for rates. Members can advertise non-commercial items free of charge.

RASC CALENDAR OF EVENTS

April 14-15	Total Eclipse of Moon - Penumbral eclipse begins at 10:53 p.m. Partial eclipse begins at 11:58 p.m., Total eclipse begins at 1:07 a.m. Greatest eclipse at 1:45 a.m. See <i>Observer's Handbook 2014</i> pp.126 - 128.	
April 21	RASC Executive and General Meeting	Jim Gorkoff
April 26	Observer's Group at Sleaford	Larry Scott
May 12	RASC Executive and General Meeting	Jim Gorkoff
May 23	Observer's Group at Sleaford	Larry Scott
May 25	Solar Observing at Farmer's Market for City Nature Festival	
June 28	Observer's Group at Sleaford	Larry Scott

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



General Meeting

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

Monday, April 20th at 8:00 PM

Program

Hope Boyce and Taylor Bell who are Observatory Guides and Students at the University of Saskatchewan will be giving a presentation on ***Spectroscopy***.

Note: *there will be an Executive meeting at 7:00 PM*

Minutes of the March Executive Meeting – *Tenho Tuomi*

Moved by Les Dickson and Darrel Chatfield that the minutes of the February 10 Executive meeting be accepted as distributed. Carried.

Committee Reports:

Fundraising Report – Les Dickson announced that money had been turned in from the sale of pop cans.

Observing Co-ordinator Report – Norma Jensen reported that due to weather there has been no observing at Sleaford since November 29.

Newsletter Report – Ron Waldron announced that the deadline for the next newsletter is April 4.

Rental vs. borrow of the Centre's Data Projector was discussed.

New portable loudspeaker system has been ordered for about \$1500.00.

Sleaford Site Report – Darrel Chatfield reported that there has been a problem with the door lock on the new shed but it is being fixed.

Events Co-ordinator report – Jeff Swick reported briefly on these.

Earth Hour, March 29, Circle Park Mall, "Please do not use laser pointers at public events"

Astronomy Week, April 4, Lakewood Civic Centre

Astronomy Week, April 5, Beaver Creek

It would be good to have site captains for each of these events.

SSSP Report – Rick Huziak reported that all speakers have been arranged.

Murray Paulson – "Eclipse Chasing"

Joshua Toth – "Dioptric glasses for astronomy"

Alan Dyer – TBA

Registration will be open in three weeks.

Still need to find a Meadows co-ordinator or co-ordinators.

National Report – Tenho Tuomi reported attending a National Advisory Council (NAC) meeting on Saturday morning. Some of the items from that meeting were:

The 2014 budget still has a \$38,000 deficit in spite of a \$2 membership increase.

All nine board positions will be up for election in June.

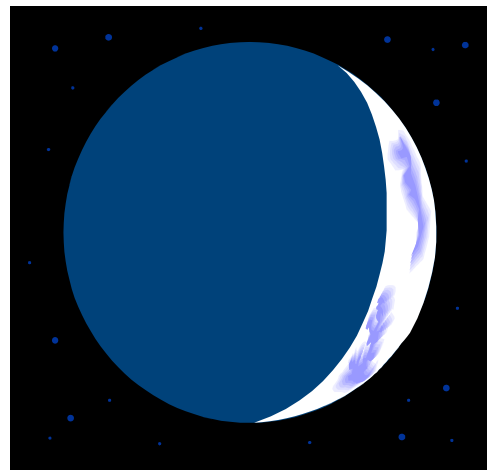
New anti-span legislation is coming which might affect what we can mass email.

Questions and discussion followed regarding the budget deficit, and how we can notify members of meetings.

Saskatchewan Light Pollution Abatement Committee – Rick Huziak reported that the Northeast Swale Watchers are proposing zoning bylaws that would include nocturnal protection for a buffer around the Swale.

Darrel Chatfield moved that the meeting adjourn.

Meeting adjourned at 8:00 PM.



Minutes of the March General Meeting – *Tenho Tuomi*

Chairman Jim Gorkoff opened the March 17 General meeting at 8:10 PM.

Moved by Cam MacLelland and Ellen Dickson that the minutes of the February 10 meeting be approved as distributed. Carried.

Rick Huziak gave an invitation to attend the Saskatchewan Summer Star Party from August 21-24.

Ron Waldron announced the April 4 deadline for articles for the newsletter.

Upcoming events were announced.
Earth Hour, March 29, Circle Park Mall
Astronomy Week, April 4, Lakewood Civic Centre
Astronomy Week, April 5, Beaver Creek

Larry Scott announced the Sleaford Observing and Messier Marathon dates, March 22 and 28.

Jim Goodridge announced the speakers for the next meetings;
April – student from U of S Astronomy 214
May – Jim Goodridge

After a brief delay to set up a computer and a projector, a WebEx meeting was held with speaker Albert Holm from the AAVSO who gave a PowerPoint presentation, “Behind the Scenes at the Hubble Telescope”. His talk concluded with a description of the next space telescope that will be sent up, the James Webb Space Telescope (JWST). He took questions at the end.

The meeting adjourned at 9:30 PM.



To former member Colin Chatfield (son of Darrell and Bev) on the launch of his first children's book *“If a Fish Had a Wish”*. The book was also edited by former member Shelley LePoudre. Colin can be seen here at McNally Robinson's in Saskatoon launching his book in front of proud parents, family and friends.



Photo by Ron Waldron

National Advisory Council Report – *Tenho Tuomi*

On March 15 the National Advisory Council met over the phone, with Committee Chairs and some members of the Board of Directors present as well.

Several Centre Reps reported good success by advertising their centres through internet social media.

The Constitution Committee reported that the Centre model By-law is delayed again due to delays by the Ontario government in implementing their new regulations.

The Beginner's Observing Guide is sold out. There was discussion about its future.

The 2014 Budget was discussed. The Budget as originally distributed had a \$57,000 deficit after a \$2 per year membership increase. Some computer system upgrades and a Tools for Schools program launch were deferred to next year to bring the deficit down to \$38,000. On March 22 the Board of Directors met and approved the amended budget with the \$2 membership increase effective April 1.

The General Assembly will be in Victoria this year from June 26 to 29.

This year from June 14 to 25, you as members of the RASC will have the opportunity to vote for a new board of directors to run the Royal Astronomical Society of Canada.

As a result of a major rewrite of the Society By-laws, a nine-member board of directors will replace the National Council which used to run the affairs of the Society. All nine members of the board will be elected in this first year under the new by-laws. In subsequent years three members of the board will be elected or re-elected each year for three year terms.

If you wish to run for a director, or know someone who is willing to run, the candidate should write or email the RASC Nominating Committee telling them of their intentions. They need three supporters who will also write or email the committee. All nominations and support letters have to be in by April 30.

Full details of the qualifications and the statement needed by candidates, and other information, can be found at the RASC website at <http://www.rasc.ca/news/call-nominations-2014-rasc-board-directors>.

Give your support to James Edgar from our province, who is stepping down from his position as National Secretary to run for the Board.

Observer's Group Notes – *Larry Scott*

The Observer's Group for March 22nd was cold but with some very good skies. I was unable to attend so am hoping the one person that did will write about that evening sometime soon. Messier Marathon was held March 28th with decent skies till 23:30 and nine members and guests in attendance. Although we were finished early it was very satisfying to see so many out at Sleaford. We had a great evening touring the sky and the temperature only got down to about -5C.

Don't forget the total eclipse of the moon on April 14/15th. I may be out of town but hopefully something will be organized. Next Observer's Group will be April 26th with moonless evenings from about April 18th till May 1st.

2013 Saskatoon Centre Annual Report – Rick Huziak

2013 was a busy year for the Saskatoon Centre with activities that spanned administrative work, building construction, many public activities, a dark-sky tour, running the Saskatchewan Summer Star Party, and a full slate of monthly meetings.

President Jim Gorkoff spent time working on the new *Articles of Incorporation* for the Saskatoon Centre. Vice-president Jim Goodridge worked on programming for the year and worked with the University of Saskatchewan to provide RASC tour guides for Saturday night open houses at the University Observatory.

The year's activities began on March 23rd with an *Earth Hour* star night at the Centre Mall, where the mall helps by extinguishing all of the parking lot lights. On April 13th, Centre members helped out at the *Children's Discovery Museum* at Market Mall, where Ron Waldron ran the *STARLAB* inflatable planetarium, Kathleen Houston ran an astronomy-focused art activity and Barb Wright and Christine Kulyk ran the RASC information table.

Other activities in the spring, *Astronomy Day* observing at Lakeview Civic Centre on April 19th and *Astronomy Day* observing at Beaver Creek Conservation Area on April 20th were unfortunately clouded out. The Centre also was the opening act for the first *Nature City Festival* with solar observing at the Farmer's Market on May 25th.

Members also participated in a *Saskatchewan Dark-sky Preserve Tour* from June 2nd through 5th, organized by Chris Beckett of the Regina Centre that featured three lectures by science journalist Peter McMohan. The tour began in Regina, and over the next four days toured the Cypress Hills Dark-sky Preserve, the T.rex Discover Centre and Wilkinson Observatory in Eastend, and both the West and East Blocks of the Grasslands National Park Dark-sky Preserve. At this time of the year, being in pre-camping season and hindered by a monstrous thunderstorm, the tour still managed to reach about 160 members of the general public, and managed to review the dark-sky programs with all park managers. Dark-sky conservation efforts also continued in Saskatoon with support to the City's *Dark-sky Policy* and to the *Northeast SwaleWatchers*, who are attempting to preserve a pristine wetland by considering using the RASC *Nocturnal Preserve* certification.

Outgoing National Council Representative Richard Huziak and incoming National Advisory Committee Representative Tenho Tuomi attended the excellent Thunder Bay General Assembly from June 29th to July 2nd.

From August 16th through 19th, the *Saskatchewan Summer Star Party* ran for its 17th year and had an attendance of 337. Speakers included Jenn Newman (Edmonton Centre, *The Whitecourt Meteorite Impact*), Dr. Gord Sarty (Saskatoon Centre, *An MRI for the Space Station*) and Dr. Erica Bird (Saskatoon Centre, *The Saskatoon Children's Discovery Museum*), with clinics by Alan Dyer (Calgary Centre) Tenho Tuomi and Jim Goodridge (Saskatoon Centre).

Our Sleaford Observatory continued to have excellent use with monthly *Observer's Group* sessions and many members using the site between those times. In the fall, Darrell Chatfield, Rick Huziak and others gave the observatory's Warm-up Shelter a major facelift with the conversion of a cold-storage area into more warm-space that doubles countertop space for observers to make their notes. In addition, a new 200 square-foot cold-storage shed was constructed for storage of the snow blower, lawn mowers and important supplies.

On October 5, the Sleaford Open House, a join RASC / University of Saskatchewan open house, had about 20 carloads of visitors, despite inclement weather. Ron Waldron managed to entertain the chilled crowd by projecting a star talk against the siding of our new shed. The *Observing the Moon* event was combined with this open house.

General Meetings changed meeting times this year, now beginning at 8:00 p.m. on every third Monday of the month. The programs this year are given below.

January – Richard Huziak, *So You Think You've Discovered Something! Digital Cameras, False Reports and IR Leaks; SSSP'12 in Pictures* (George Charpentier, photographer)

February – Tenho Tuomi, *Showing the Structure of Our Galaxy as Seen from Deep-Sky Objects*

March - *Discussion and Vote on Developing our Sleaford Dark Site*

April – Dr. Erica Bird, *The Children's Discovery Museum*

May - Dr. Tom Field, *You Can Almost Touch the Stars - Simple Spectroscopy*

June - Ron Waldron, *Sharing the Passion – Living the Dream: Highlights of a lifelong astronomer's passion for sharing the night sky*

September - Paul Lemkuhl, *U of S Campus Observatory – A Brief History (a film by P. Lemkuhl)*

October - *The City Dark (a film by Ian Cheney)*

November – Garry Stone, *Building a Sextant; Observing the Planets With a Telescope (from Our Night Sky)*

December – *RASC Potluck Christmas Social*

Observing Jupiter (and Other Planets) with an Aperture Mask – Rick Huziak

Since Jupiter is high in the sky these nights, it is a worthy target for any clear night. But sometimes you find that Jupiter is not all that sharp or the image is simply too bright. There are a few solutions to this, and a bit of experimentation on your part might be fun and help you get better observations. If you simply want to reduce the brightness, you can just use a neutral density filter. Another method of reducing brightness and increasing sharpness is to use colour filters. Each different colour will show different features and will penetrate different levels of the Jovian atmosphere. The benefits of this are described well in the following article from Sky and Telescope website, so I won't repeat it here.

<http://www.skyandtelescope.com/observing/objects/planets/3304326.html>

But one other option is to make an aperture mask; basically a piece of cardboard with a round hole cut in it. For instance, if you have an 8" SCT, you could make an off-axis mask with a 3" hole off-centre to avoid your secondary. Then in effect you get a 3" f/27 refractor, assuming you have a standard 2000mm focal length. You will improve sharpness by getting rid of the secondary obstruction, reduce brightness with the smaller aperture and improve contrast with the longer focal length. Then you also rotate your off-axis mask round into different positions of your mirror to see which part of the mirror/secondary has the best-corrected figure. You might also be able to use higher powers than at your full aperture because your seeing will have improved. You can do the same with Newtonian reflectors, positioning the off-axis mask to avoid the secondary and spider vanes, and still rotating around to see which mirror quadrant is best figured. This trick works well on any planet or other high-brightness object. Since they are so simple to build, the off-axis mask should be in everyone's observing kit.

Earth Hour Successful Despite Snowfall – *Jim Goodridge*

All photos by Ron Waldron and Jeff Swick



The Earth hour event at The Centre Mall (Circle and Eighth) on March 29th 2014 at 8:30 PM was a huge success. It started off looking like it was going to be a pretty much “non-event” because of the cloud and snow. Our faithful volunteers set up inside the Mall and had our display board, lots of literature, and several telescopes set up. Set up started at 7:30 and we were quite prepared to be around the table and talk to a few people who came by. Fortunately Jeff Swick announced at about 10 to nine that you could see Jupiter. Lo and behold Jupiter was shining through the clouds. We rushed outside and set up two 80mm telescopes and had line ups of people until 10 PM. I can’t tell you how excited some people were to be seeing Jupiter for themselves, I’m guessing we had about 100 people actually look through the scopes, lots of questions and our guests were also quite excited to

hear that we would be at Lakewood and Beaver Creek next weekend. All in all it turned into a great event especially since it started out without much promise.

Lessons Learned: Do not assume that you will not be outside and only take your lighter jacket. I also didn’t pack my Dob because I thought there was no point in it and only had my 80 mm grab n go. I really wish I had taken the bigger scope.

Special thanks to the Centre Mall for hosting us for this event. They make beautiful posters to promote it and turn off the parking lot light for earth hour, arrange for table and chairs and put in extra security.

Thanks to the following members who either were there for the duration or showed up to give their support:

Ellen Dickson, Les Dickson, Ron Waldron, Barb Warkentin (Barb came from Leoville to participate, thank you Barb), Jeff Swick, Bob Johnson, Larry Scott, Barb Wright, Jim Goodridge(me). If I missed anyone please let me know and I will correct this and humbly apologize. (I forgot to write names down and had to do this from memory after the event)



Observing Jupiter with earth’s natural filter – ice fog!



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. Jeffrey, D. Chatfield, B.
Christie, K. Noesgaard,
M. Stephens, B. Hydomako, T. Tuomi, L.
Scott, G. Charpentier, B. Johnson, M.
Clancy, L. Dickson, B. Burlingham, K.
Houston*

Norma Jensen	110
complete	
Ron Waldron	105
Wade Selvig	75
Garry Stone	57
Bernice Friesen	45
Wayne Schlapkohl	43
Barb Wright	40
Ellen Dickson	34
Jeff Swick	24
Graham Hartridge	9

Chatfield BINOCULAR CERTIFICATE

Certified at 35 to 40 Objects:

*M. Stephens, T. Tuomi, M. Clancy,
R. Huziak, K. Maher*

Jim Goodridge	Up!	12
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FINEST NGC CLUB

Certified at 110 Objects:

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

Larry Scott	Done!	110
Scott Alexander		97
Norma Jensen		72
Sandy Ferguson		23
Kathleen Houston		23
George Charpentier		13
Mike Clancy		7

EXPLORE the UNIVERSE

Certified at 55 to 110 Objects:

*M. Clancy, T. Tuomi, K. Maher,
B. Gratias*

Wayne Schlapkohl	Done	55
Sharon Dice		31
Jim Goodridge	Up!	35

Isabel Williamson Lunar Observing Certificate

Certified at 140 Objects:

T. Tuomi

Norma Jensen	133
Jeff Swick	29

HERSCHEL 400 CLUB

Certified at 400 Objects:

*D. Jeffrey, R. Huziak, D. Chatfield, T.
Tuomi*

Gordon Sarty	251
Scott Alexander	117
Sandy Ferguson	18
Larry Scott	20

HERSCHEL 400-II CLUB

Darrell Chatfield	Done!	400
Rick Huziak		246
Tenho Tuomi		160

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

Binocular List is at: http://homepage.usask.ca/%7Eges125/rasc/Chatfield_Binocular_List.pdf

"Isabel Williamson Lunar Observing Program Guide:

<http://www.rasc.ca/observing/williamson-lunar-observing-certificate>

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