

Saskatoon Skies

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

Vol. 47, No. 3

March 2016



This incredible shot was taken by Dale Boan on the Icefields Parkway south of the Columbia Glacier. It is a 20 shot panorama taken by a Canon 7D MkII, Tokina 11-20mm f/2.8 at 11mm, 30 second exposures, ISO1600.



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. 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

SASKATOON CENTRE'S MAIN OFFICERS:

Interim President – Les Dickson

Vice-President – to be filled

Secretary – Tenho Tuomi, 306-858-2453

Treasurer – Norma Jensen, 306-244-7360

National Council Rep – to be filled

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

March 19	Earth Hour at Centre Mall (8pm-10pm)	Dale Boan
March 21	RASC General Meeting	Les Dickson
April 2	Messier Marathon (Observers Group Night)	Larry Scott
April 8	Lakewood Star Night	Dale Boan
April 9	Beaver Creek Star Night	Dale Boan
April 18	RASC General Meeting	Les Dickson
May 7	Observers Group	Larry Scott
May 16	RASC General Meeting	Les Dickson

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



March RASC General Meeting

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

Monday, March 21st, 2016 at 8:00PM

Presented by James Edgar:

Synthesis of Elements in Stars

Presented by Darrell Chatfield:

Observe the Herschel Objects

Note: There will NOT be an Executive Meeting beforehand. The centre is inviting James Edgar to join us for dinner at Manos Restaurant. Arrival at Manos at 5:30pm, orders by 6:00pm. Please contact Les Dickson at 306-270-9184 or at astrochem@sasktel.net to reserve your spot.

March General Meeting Featured Presentation: *Synthesis of Elements in Stars* – James Edgar, National President of the RASC



All stars are born from hydrogen and during their lives they produce elements through nuclear fusion. High-mass stars end their lives as supernovae, perhaps the most cataclysmic events in the universe, producing the heavy elements.

This talk merges James Edgar's love of woodworking, astronomy, genealogy, chemistry, physics, and poetry from Northern Ireland, although the main thrust of the presentation is about how elements form within stars.

James Edgar's interest in astronomy began in the early 1970s when he and his family went into the dark of night to see Comet Kohoutek. Unfortunately, it didn't present itself at naked-eye brightness. James started by volunteering with the Vancouver Museum, going into schools, talking to children about the Sun

and the stars. In 1999, he bought his first telescope. One year later, his son bought him a membership in The Royal Astronomical Society of Canada (RASC) and, as they say, the rest is history. James has attended every General Assembly of the Society since 2001. He is now **National President of the RASC**, production manager of the Society's bi-monthly *Journal*, and is excited to be the next editor of the *RASC Observer's Handbook*.

Editor's Note: Instead of an Executive Meeting on March 21st, the centre will be inviting James Edgar to join us for dinner at Manos Restaurant. Arrival at Manos at 5:30pm, orders by 6:00pm. Please contact Les Dickson at 306-270-9184, or at astrochem@sasktel.com to reserve your spot.

Minutes of the February Executive and General Meetings – Tenho Tuomi

Minutes of the Executive Meeting, February 22, 2016

The meeting was called to order by President Les Dickson at 7 pm.

Moved by Dale Boan and Errol Frazer-Harrison that the minutes of the January 18 Executive Meeting be approved as distributed. Carried.

Committee Reports:

- President's Report by Les Dickson – The Annual Report to National is due by February 28.
- Treasurer's Report by Norma Jensen – The 2015 Financial Report is coming later tonight.
- Newsletter Editor's Report – Next deadline is March 4.
- Membership Coordinator's Report – Current membership is 76 members.
- Activities Coordinator's Report by Dale Boan
 - o Earth Hour March 19 at the Centre Mall.
 - o International Dark Sky Day April 8 at the Farmer's Market and Beaver Creek.
 - o Nature City Festival May 24-29 – More details later.
- SSSP Committee Report by Les Dickson – New web page coming soon for registration and payments.

Other Business:

Moved by Les Dickson and Dale Boan that 200 copies of SkyNews at \$100.00 be ordered for public outreach. Carried.

Jim Gorkoff presented the 2015 Financial Statements and answered questions about them.

Moved by Norma Jensen and Les Dickson that the 2015 Financial Statements be accepted as presented. Carried.

- Open Executive Positions – Vice President and National Council Representative.
- Open SSSP Committee Positions – Meadows Coordinator and Volunteers Coordinator.
- Centre Meeting Speakers:
 - o March – Short talk by Darrel Chatfield, need a main speaker.
 - o September – Astronomy student.
- Centre resources: where are they, who has them, can we get them together?

The meeting adjourned at 7:45 pm.

Minutes of the General Meeting, February 22, 2016

Moved by Ellen Dickson and Norma Jensen that the minutes of the January 18 General Meeting be approved as distributed. Carried.

President Les Dickson and Activities Coordinator Dale Boan gave summaries of the Executive Meeting reports and decisions.

Jim Goodridge gave a short talk on a web substitute for the "Night Sky Observer's Guide", that he found at <http://clearskies.eu/>

Les Dickson gave a PowerPoint presentation on "20 Years of SSSP: A Retrospective from the Inside".

The meeting adjourned at 9:30 pm.

RASC Saskatoon Centre Financial Report

October 1, 2014 to September 30, 2015

by Norma Jensen, Treasurer

	Current Year Sept 30, 2015	Previous Year Sept 30, 2014
Revenue		
Membership fees	\$ 2,615.88	\$ 2,224.15
Public Education	350.00	-
Retail Sales	709.00	437.00
Donations	218.75	461.02
Fundraising		
Saskatchewan Summer Star Party	14,245.57	15,860.56
Dinners, Raffles, etc.	-	-
Telescope Rentals	360.00	70.00
Interest	409.45	431.90
Total Revenue for the Year	<u>\$ 18,908.65</u>	<u>\$ 19,484.63</u>
Expenses		
Public Education / LPAC	\$ 358.79	\$ 484.44
Taxes & Licences	-	-
Saskatchewan Summer Star Party	14,363.85	14,331.64
Utilities	-	1,126.57
Insurance	1,579.00	1,565.00
Repairs & Maintenance	380.22	1,129.20
Office Supplies & Postage; Newsletter	673.71	915.20
Retail Sales	370.57	471.07
Depreciation	1,351.40	1,292.85
Total Expenses for the Year	<u>\$ 19,077.54</u>	<u>\$ 21,351.97</u>
Net Surplus (Deficit) for the Year	<u>\$ (168.89)</u>	<u>\$ (1,831.34)</u>
Assets		
Cash – on hand	\$	
– in bank		
– less outstanding cheques		
Total Cash	\$ 1,356.61	\$ 1,238.24
Term Deposits	26,772.25	29,151.30
Receivables -	971.38	-
Other Current Assets - Raffle Fund	-	30.14
Fixed Assets		
Equipment	25,676.69	24,564.14
Other Assets - Retail Inventory	540.00	502.00
Total Assets	<u>\$ 55,316.93</u>	<u>\$ 55,485.82</u>
Liabilities - Accounts Payable	-	\$ -
Surplus (Deficit)		
Balance Forward	\$ 55,485.82	
Current Year Surplus (Deficit)	<u>(168.89)</u>	
Balance end of Year	<u>55,316.93</u>	
Total Liabilities and Surplus	<u>\$ 55,316.93</u>	<u>\$ 55,485.82</u>

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

Editors Note: After a February newsletter that was filled with articles, March is a touch light. I pulled this article from the April 2014 newsletter, but as Jupiter is high in the sky, it is as relevant as ever. I encourage everyone to send in photos, articles, or stories to me at krisohn@gmail.com and together we can fill this newsletter every month!

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.

Observer's Group – *Larry Scott*

The Observer's Group for March 5th was cancelled due to the possibility of freezing rain. There are several new members wanting to check out Sleaford and I hope we can accommodate you in the near future. Two members did get out to Sleaford on February 29th for some winter observing. Temperature was -20C but skies were very good and there was no wind. Highlight of the night for me was the Eskimo Nebula which revealed its face and central star to me for the first time at the eyepiece. We noticed there had been several other members out during the previous week and it's nice to see the site being used regularly.

There's some good stuff coming up including a double shadow transit on Jupiter the evening of March 15th. Our next scheduled observing night is April 2nd which is the Messier Marathon. If you would like to try it and have any questions please don't hesitate to contact myself or another member. Even if you're not interested in the Marathon it can be a great night for observing if the skies cooperate. As temperatures moderate I hope to see more of you out at Sleaford observing the night sky. Cheers.

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. Hydromako, T.
Tuomi, L. Scott, G. Charpentier,
B. Johnson, M. Clancy, L.
Dickson, B. Burlingham, K.
Houston, Norma Jensen*

Ron Waldron	108
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	12
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FINEST NGC CLUB

Certified at 110 Objects:

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

Larry Scott	110
Scott Alexander	97
Norma Jensen	83
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	55
Jim Goodridge	35
Sharon Dice	31

Isabel Williamson Lunar Observing Certificate

Certified at 140 Objects:

T. Tuomi

Norma Jensen	140
Jeff Swick	29

HERSCHEL 400 CLUB

Certified at 400 Objects:

*D. Jeffrey, 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	398
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: [http://homepage.usask.ca/%7Eges125/rasc/Chatfield Binocular List.pdf](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>