

Saskatoon Skies

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

Vol. 49, No. 3

March 2018



A beautiful sunset picture of Sleaford, taken by Norma Jensen on March 9th.



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/newsletter.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 Meetings - <i>Darrell Chatfield</i>	5
Mounting a Camera on a Telescope – <i>Colin Chatfield</i>	6-10
Observing Clubs and Certificates	11

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>
- 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 – Alan Duffy
Vice-President – **To be Filled**
Secretary – Marcel Müller-Goldkuhle
Treasurer – Norma Jensen
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

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.

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

RASC CALENDAR OF EVENTS

March 10	Observers Group at Sleaford	Larry Scott
March 19	RASC General Meeting	Alan Duffy
April 7	Observers Group at Sleaford	Larry Scott
April 16	RASC General Meeting	Alan Duffy
May 5	Observers Group at Sleaford	Larry Scott
May 14	RASC General Meeting	Alan Duffy

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 19th, 2018 at 8:00PM

Presented by Alan Duffy:

Standard vs. Drizzle vs. Bayer-Drizzle Image Integration for Astrophotos

Using images collected using a DSLR colour camera how do you get the best possible results? Alan will explain the difference between standard image integration and drizzle and bayer-drizzle integration and demonstrate how this is done in PixInsight using images of the Rosette Nebula, showing the final results.

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

University of Saskatchewan
Department of Physics and Engineering Physics

Public Talk and Star Party

Featuring: Dr. Michael A. Earl

Wednesday, April 4, 2018 – 7:30 pm

“Fake News”, “Alternative Facts”, and Critical Thinking: Astronomical Differences

The new climate of “Fake News” and “Alternative Facts”, coupled with the lack of critical thinking, is a troubling trend in the 21st century because it threatens to weaken the rational and scientific foundations of society, carefully constructed over the past several hundred years. Today, even the basic facts of astronomy, the cornerstone of many scientific achievements, have recently been targeted and labelled “fake” or “incorrect” because these facts don’t seem to fit comfortably within a specific belief, such as the “Flat Earth Theory”. Some have offered what they call “astronomy facts” with little to no evidence to support their assertions. Nevertheless, these assertions are instantly broadcast to much of the developed world and can be read by anyone, including children. A number of these assertions can be proven incorrect by simply observing the night sky. This talk will discuss the most incorrect astronomy assertions found online and will offer reasons why fact should be considered much more important than assertion in the 21st century.

The talk will last approximately one hour. After the talk, all are welcome to attend a public star party at the university’s observatory that will feature the wonders of the night sky, including planets, star clusters, galaxies, and satellites.

Minutes of the February Meetings – Darrell Chatfield

Minutes of the Executive Meeting, February 12, 2018

MEMBERS PRESENT – Alan Duffy, Les and Ellen Dickson, Rick Huziak, Errol Frazer-Harrison, Mark De Jong, Rob Shepard, Norma Jensen, and Darrell Chatfield.

Meeting called to order by Alan Duffy at 7:12 pm.

Executive minutes of Jan. 15 approval moved by Norma. Seconded by Mark

REPORTS:

Treasurer – no formal report. Norma said we have money in the bank. Talked about possible capital projects.

Sleaford – no formal report. Darrell talked about a possible deck extension towards the old observatory. Yard had been blown out by Larry the week prior.

SSSP – financial report in the newsletter. Les stated we are looking for speakers. He asked if we should have speakers regarding the 150th RASC National anniversary and our 50th anniversary at SSSP.

Membership – Mark reported 86 members.

Youth Club – Errol said there are 5 committed members, with sometimes 8 present. Next Meeting in 2 weeks. Last meeting was to prepare for the lunar eclipse.

National – Rob reported about the \$11.00 membership fee increase. National is facing a \$30,000.00 deficit. Our club asked Rob to report back to us why the deficit. There was a proposal for a portable planetarium which wasn't met with much approval.

Obs. Group – was cancelled.

Newsletter – March 2 is the next deadline. Motion to buy an RASC cap/crest for Kris O. Seconded by Les. Norma to put in the order.

Events – Alan and Tim Y. will take care of Astronomy Day/Beaver Creek, which is on April 21.

Rentals – Errol said we have 3-8" dob scopes to rent, which are usually rented. He also set up a table with equipment to buy and/or rent, or we could reassemble the parts that go with our newly donated telescope. Norma suggested selling the following; 4" Astoscan, the 3.1" Tasco, and the 6" Widefield scopes. Seconded by Rob. Carried.

Motion to adjourn at 8:00 pm. Moved by Les, with second by Darrell.

NEW BUSINESS - 150th RASC National anniversary preparations were discussed for our centre, as well as our own 50th anniversary activities.

Minutes of the General Meeting, February 12, 2018

Meeting called to order by Alan Duffy at 8:15 p.m.

Alan gave a short synopsis of the Executive Meeting.

PRESENTATION:

Tim Yaworski: “The Best Camera is the One You Have with You”

Meeting adjourned 9:30 p.m.

Mounting a Camera on a Telescope

— Colin Chatfield

In this article, I thought I'd look at using a camera with a telescope. For our purposes, I'll be talking about DSLR cameras for the most part. Currently I have a Canon 7D and 7D MKII and I can mount them on my telescope, which is an Orion 113mm (4.5") reflector with an equatorial mount and slow motion controls. The eyepieces mine can use are 1.25" in size. However, much of the adapters and such below come in 2" as well or can be adapted for larger telescopes.

I'm certainly not an expert at this, and there may be better ways to do this, but I've been able to capture some awesome pictures of the Moon and have tried with Jupiter too using this method. It is possible to use a cell phone and hold its camera over the eyepiece of a telescope and take some pictures that way. One can also use a point-and-shoot camera and mount it on the telescope with a special adapter.



Cell phone and P&S camera adapter

There are a few adapters one needs to use when mounting a DSLR on a 'scope. The first one is a T-ring adapter (pictured below).



The T-ring mounts where the lens normally is. It is, therefore, very important to keep dust and such from getting into the front of the camera until it is mounted on the ‘scope. In addition to the T-ring, sometimes an extension tube is needed as below:



On my small telescope, the extension tube isn't needed as there is not enough travel while trying to focus. Another piece that may be required is a barlow (such as a 2x or 3x). These act as magnifiers in a way, essentially doubling or tripling the size of what is seen in the eyepiece.



Other gear that can be helpful include field flatteners which will help with any distortion issues that can distort stars closer to the edges of the field of view picked up by the camera.



Another very useful piece of gear is an A/C adapter for your camera that utilizes electricity instead of battery power. Obviously if you are out in the field somewhere and not around a power source, then there is no benefit to this.



One point to note is that because there is no lens attached to your camera, the f-stop (aperture) will show something similar to f/0. That's not really an issue. As for settings, it will depend on what you're shooting and what kind of telescope you have as well as how bright the object is. For the Moon, for example, I've used between ISO 100 to 800. Because everything in the field of view is moving rapidly, if one has access to a tracking mount, that is ideal. However, increasing the ISO will allow for a faster shutter speed to be used, thus reducing visible movement. The trade-off is that there may be an increase in noise (grain) in the picture.

One more important aspect is to ensure the camera is not too heavy for the telescope. A camera with a battery grip attached will most certainly be too heavy and could damage the 'scope and make focusing difficult. Having a proper counterweight is essential as well to balance out the weight of the camera.

One reason I enjoy shooting the Moon is because it is never the same twice. It can be a different amount of illumination, different height in the sky, different colour, and so on. There's features one can try to capture, such as the Lunar X (or Werner X) feature, which is only visible at around 50-60% illumination, often in the waxing Moon.



Depending on the type and size of telescope being used, a focal reducer may be needed as well. What it does is widens the field of view to fit the entire object better. For example, an f/6.3 reducer/corrector converts an f/10 optical system to a much faster f/6.3 for a wider field of view.



An essential accessory is a remote shutter release cable to reduce vibrations while taking the pictures. If one doesn't have a cable, the camera timer will work too.



One can get many of the above-mentioned adapters and such from places like All-Star Telescope in Didsbury, AB or Khan Scope in Toronto.

The main point with all of this is to have fun. It won't always work the first time, or ten times, or fifty times. But when it does, it will have been worth the effort. There are many others in the RASC who can help with any tips or setup.

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-	Up!
Goldkuhle	59
Wayne	43
Schlakohl	
Ellen Dickson	34
Graham	9
Hartridge	

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	13
Charpentier	

EXPLORE the UNIVERSE

Certified at 55 to 110 Objects:

T. Tuomi,

Wayne	55
Schlakohl	
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	400
Chatfield	
Tenho Tuomi	378
Rick Huziak	246

LEVY DEEP-SKY GEMS

Certified at 154 Objects:

Tenho Tuomi	150
Darrell	70
Chatfield	



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.astroloegue.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/TWLOP2015.pdf>

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