Saskatoon Skies

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

Volume 55, Number 09

October 2024



Royal Astronomical Society of Canada Saskatoon Centre Incorporated Box 31086, RPO Broadway Saskatoon, SK S7H 5S8

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INSTAGRAM: @RASCYXE

To view *Saskatoon Skies* digitally, see our website: https://saskatoon.rasc.ca/newsletters.html

In This Issue:		
Membership Information / Officers of the Centre		
Newsletter Info / U of S Observatory Info	3	
Calendar of Events & Meeting Info	4	
Books and Equipment For Sale	5	
AGM & Election of Officers	6	
Election of Officers	7-10	
October Night Sky Events & Info	11-13	
Reimbursement for Centre Expenses	13	
Clear Sky Chart / Weather Info / Light Abatement Info	14	
Minutes of September Meetings	15-18	
In Memoriam	18	
Observing Certificates & Clubs	19-20	

MEMBERSHIP? JOIN TODAY!

Regular: \$111.00 /year Youth: \$61.10 /year

Family: \$105.50 + \$42.90/additional adult + \$22.20/additional youth

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.

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)
- borrow the Centre's projector to give astronomy outreach presentations – contact Les Dickson at astrochem@sasktel.net
- rent the Centre's Telescopes https://saskatoon.rasc.ca/telescopes.html
- use of the Centre library
- SkyNews Magazine (bimonthly)

SASKATOON CENTRE'S MAIN OFFICERS:

President – Brent Burlingham Vice-President – John Takala Secretary – Lorie Tedford Treasurer – *vacant* (Les Dickson interim) National Council Rep – Joelle Sheard-Patrick

Canadian Tire money - Darrell Chatfield

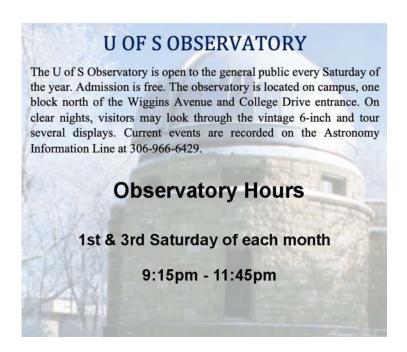
If you cannot attend a meeting but would like to donate your old Canadian Tire money please to assist with club purchases, email Darrell at novachat@sasktel.net.

NEWSLETTER INFO

Newsletter Editor – Colin Chatfield
Copy & Collate – Les & Ellen Dickson
Labels & Temps – Mark de Jong
Web Posting/Content Editor – Tenho Tuomi/Andrew Kostiuk/Brent Burlingham

Saskatoon Skies is published monthly by the Saskatoon Centre of the RASC. Distribution is approximately 80 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 colcha@gmail.com in MS Word or text format. Images (new or old): any format, less than 30MB, sent by e-mail as attached files. Send any articles of interest to the night sky or astronomy. **Deadline for submission of all articles for an upcoming issue is the first Friday of each month!**

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 colcha@gmail.com for rates. Members can advertise non-commercial items for free.



Hours subject to change, so check below for more info -

Website - https://artsandscience.usask.ca/physics/facilities/observatory.php
Facebook - https://www.facebook.com/usaskobservatory/

RASC CALENDAR OF EVENTS & MEETING INFO

Oct 21 RASC Saskatoon Centre General Meeting

Brent Burlingham

Observer's group viewing starts at dusk at the Sleaford Observatory dark site. Get there early and set up for a great night of observing! Members and their guests only.

For a complete list of club events, please visit: https://saskatoon.rasc.ca/activities.html

October RASC General Meeting

for all members and guests

Join us on October 21st, 2024 at 8:00PM (Executive meeting at 7:00pm)
Webinar (info below)

Please note: the meeting will be at the U of S Observatory at 108 Wiggins Ave (on the U of S Campus)

7:00pm - **RASC Executive Meeting** (Members may attend the executive meeting as observers if they wish)

A Zoom registration link and phone-in numbers will be emailed to Members.

After that, the procedure to register and join the meeting is the same as for the webinar (explained below).

NOTE: links to register to attend the webinar will be emailed out as well so we know who is planning to attend. After registering, an email invitation will be sent with a link to join via computer or a number to phone in. When joining via computer, participants will have to first download and install the Zoom app, if they have not done so already.

8:15pm - Main Program -

"What's Up This Month?" - Colin Chatfield

"Being a Canadian manufacturer of astronomy equipment" - Steve Malia

BOOKS AND EQUIPMENT FOR SALE

All books are in either new, or like new condition. Retail price in brackets. Please email at novachat@sasktel.net or text/call 306-222-0515 if you want a particular book to make arrangements. All books being sold by Darrell Chatfield.

"Deep-Sky Observers Handbook" Volume 1-5 Enslow-Lutterworth	\$40.00
"International Encyclopedia of Astronomy" 1987 Patrick Moore Color	\$10.00
"Backyard Astronomers Guide" T. Dickinson & Alan Dyer 2008 Color	\$25.00
	\$22.00
"Amateur Astronomers Catalog of 500 Deep Sky Objects" Vol 1 1980 B &	z W
R. Morales	\$15.00
"Observing the Constellations" 1989 J. Sanford Color charts	\$10.00

NOTE: "I will be advertising the astronomy equipment and accessories from the Melby Estate in the next few newsletters. I will also bring a selection of eyepieces, etc. to the next few meetings for your perusal. Some items were never used. All monies go to the Estate. Thank you." Darrell Chatfield

FOR SALE FROM THE MELBY ESTATE

Please email me if you want to see any other set - novachat@sasktel.net. Darrell Chatfield

- 2 1.25" rack and pinion focusers for refractor type telescopes. Brand new. Never used. Inset diameter is 57mm. Heavy duty type with metal knurled knobs. All have boxes. \$20.00 each.
- Original Celestron orange tube C5" scope with tangent arm. Fork arms. SCOPE ONLY. No tripod or wedge. 5 x 30 finder, 1.25" visual back, diagonal, eyepiece, lens cap, metal case. Was used as a spotter scope. Not a mark on the tube. Clean looking. \$250.00
- 1 1.25" eyepiece extender 3" long \$20.00
- 1 1.25" Celestron off axis guider c/w 12.5mm ep. Can be illuminated. New. \$45.00
- 1 Celestron 1.25" reticle. Can be illuminated \$20.00
- 1 3.5" long 1.25" tele-extender \$20.00
- 3 1.25" visual backs new \$10.00 each
- 1 1.25" to 0.965' visual back \$10.00
- 1 Camera to visual back adapter Lightly used \$10.00
- 1 Threaded visual back to 16mm male threads camera adapter \$10.00

AGM & ELECTION OF OFFICERS

Brent Burlingham

Official Notice to the Members of the Saskatoon Centre of the Royal Astronomical Society of Canada (RASC) Annual General Meeting and Election of Officers

To be held on October 21st, 2024, starting at 8:15 pm at the University of Saskatchewan Observatory (108 Wiggins Rd. U. of S. Campus) and by ZOOM video teleconference. Anyone in good standing with the Saskatoon Centre can be nominated for and run for a position as an Officer on the Executive Council. For more information, contact President Brent Burlingham or the Nominating Committee (that will be formed at the September General Meeting). More information on open positions and job descriptions will be published in the October newsletter.



"I caught six nights with aurora in September." Here is one taken on the evening of September 25 with a 10mm lens, 15 seconds at ISO 3200. Taken by Tenho Tuomi

ELECTION OF OFFICERS - RASC SASKATOON

Election of Officers of the Royal Astronomical Society of Canada Saskatoon Centre Incorporated

Anyone in good standing with the Saskatoon Centre can be nominated for and run for a position as an Officer on the Executive Council. For more information, contact President Leslie Dickson or the Nominating Committee (that will be formed at the October General Meeting).

List of RASC Saskatoon Centre Executive Positions

Position	Incumbent	Status/Candidate
President	Brent Burlingham	Two Year Term
Vice-President	John Takala	Two Year Term
Secretary	Lorie Tedford	Continuing
Treasurer	Les Dickson (acting)	Les Dickson (cand.)
National Council Rep	Joelle Sheard-Patrick	Continuing
Activities Coord.	Joelle Sheard-Patrick	Continuing
Librarian/Archivist	Darrell Chatfield	Continuing
Meeting Room Coord.	Les Dickson (acting)	Open
Membership Coord.	Mark de Jong	Continuing
Newsletter Editor	Colin Chatfield	Continuing
Newsletter Printer/Mailer	Les Dickson	Continuing
Observing Cert. Coord.	Darrell Chatfield	Continuing
Observing Group Coord.	Brent Burlingham (acting)	Open
Past President	Les Dickson	Continuing
Photographer	Colin Chatfield	Continuing
Photographer	George Charpentier	Continuing
Sleaford Maintenance Coord.	Darrell Chatfield	Continuing
Sleaford Joint Mgmt. Comm.	Darrell Chatfield	Continuing
Sleaford Joint Mgmt. Comm.	Yannis Pahatouroglou	Continuing
Social Media Coord.	Colin Chatfield	Continuing
Speaker Coord.	Les Dickson	Jeff Swick
SSSP Comm. Chair	Rick Huziak/Brent Harrold	Open
Telescope Rental Coord.	Ike Thiessen	Jeff Swick
Website Content Editor	Tenho Tuomi	Continuing
Webmaster	None	Open
Website Owner/Manager	Andrew Kostiuk	Continuing

List of RASC Saskatoon Centre Board of Directors

Director	George Charpentier	Continuing
Director	Mark De Jong	Continuing
Director	Yannis Pahatouroglou	Continuing
Director	Norma Jensen	Nick Larsen (cand.)

Brief job descriptions for the Executive and Support positions on the Executive Council and for the Board of Directors.

Source: Article by Rick Huziak, September 2022 newsletter, with edits and additions by Les Dickson

National Executive Positions

President – Runs the Centre meetings and coordinates and directs the general affairs of the Centre guided by our Constitution and National norms. The President is generally the contact and spokesperson for the Centre, unless delegated.

Vice-President – Assistant to the President and assumes those duties in the absence of the President. This is expected to be a "grooming" or "learning" position and a step up to President in two years.

Secretary – Records the Minutes of the Executive and General meetings of the Centre, maintains the centre records, manages the Centre mailbox, maintains the document archive and writes the National Year-end Report.

Treasurer – Manages the financial affairs of the Centre, keeps the financial books, issues and receives payments, interfaces with the bank maintaining accounts and investments, interfaces with the Provincial Government for not-for-profit status registration, creates balance sheets, income statements and the year-end statement for the Centre and the Provincial Government. Maintains all records for insurance purposes such as premium payments, processing of all insurance claims, obtaining event certificates and all other documents pertaining to insurance. Maintains all records of the SSSP, all payments, invoices, and other documentation pertaining to the SSSP.

National Council Rep – Represents the Centre at the National Council meetings quarterly, either in person or virtually. Is expected to express Centre concerns to National and to relay National news to the Centre. In-person travel to the meetings and General Assembly (not fully required) is reimbursed.

Note that RASC National requires us to have a President, Secretary, Treasurer and National Council Rep to be in good standing with National.

Support Positions

Activities Coordinator – Plans, books and manages outreach activities of the Centre and reports those plans to the Executive for approval. Solicits help in conducting outreach activates and assures proper permitting and insurance is in place, as applicable.

Librarian/Archivist – Maintains the library of the RASC (located in the basement of the University Observatory.)

Meeting Room Coordinator – Assures the in-person meeting room (U. of S. Observatory) is booked for the monthly meetings. Sets up refreshments (coffee and snacks) and ensures supplies for such are maintained.

Membership Coordinator – Interfaces with National RASC to maintain the accurate listing of Centre Members and their status.

Newsletter Editor – Solicits articles and speaker/meeting information for the newsletter, edits and publishes the Saskatoon Skies newsletter on-line monthly from September through June, and once or twice over the summer as requested. Arranges for upload of the newsletter to the Centre website.

Newsletter Printer/Mailer – Prints and mails those newsletters going to those members who request printed copies as well as copies to the Saskatoon Public Library System.

Observing Certificate Coordinator — Certifies that observers have completed the requirement of Observing Certificates and provides completion certificates for the observers, interfacing with National observing programs where required.

Observers Group Coordinator(s) – Can be one or two coordinators. – Arranges dates of Centre observing nights monthly and the fall Sleaford Open House. Generally, goes to the Sleaford Observatory to open and close up for observing nights and has traditionally arranged for snow removal and grass cutting as required, though these tasks can be delegated. Trains new Sleaford users and issues keys to Sleaford to qualified members.

Past President – Inherited position after being President. Is an advisor to the President. Photographer(s) – Takes photos as requested to document Centre activities, including the Saskatchewan Summer Star Party

Sleaford Maintenance Coordinators — Coordinates maintenance of the Sleaford buildings, equipment, and grounds to assure the site does not deteriorate faster than it should. Conducts repairs and maintenance as required but can also solicit help as required or arrange for contractors on approval.

Sleaford Joint Site Management Committee – Two representatives from the Centre and two representatives from the Department of Physics and Engineering Physics jointly manage the Sleaford site to the benefit of both parties according to the Memorandum of Agreement (2002). This committee meets at least once a year, more often as required.

Social Media Coordinator – Create content and maintains the Centre's Facebook & Instagram pages.

Speaker Coordinator – Solicits speakers for the Monthly General meetings for September through June. Speakers are announced in the Newsletter and Activities Page. Provides (external) speakers with compensation per the approved budget, as required.

SSSP Organizing Committee Chair – Coordinates the initiation, planning, execution & closing of the annual Saskatchewan Summer Star Party through the Organizing Committee that includes members of the Saskatoon and Regina Centres.

Telescope Rental Coordinators – Maintains the rental telescopes, loans the telescopes, and receives payment for the loaner telescope use.

Web Master – This position is in flux and requires discussion as many of the positions functions are covered by the Website Owner/Manager (below)

Website Owner/Manager – Maintains the Centre website and uploads content on demand.

Web Content Editor – Assures the content of the Centre website is current and accurate and uploads content changes or clarification on demand.

Board of Directors

Assures the Centre is operating within their Constitution and that this is being conducted with good intention and good faith. Provides guidance where required if questions of operation and governance arise. The Board in theory appoints the Officers of the Centre but in practice does so based on the will of the membership of the Centre as expressed in the annual elections.

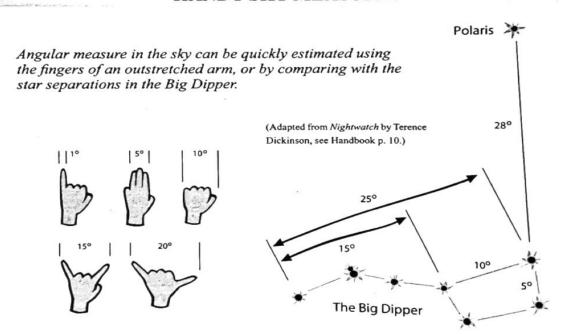


Aurora from October 10, 2024 near Langham. Taken by Colin Chatfield.

OCTOBER NIGHT SKY EVENTS AND INFO

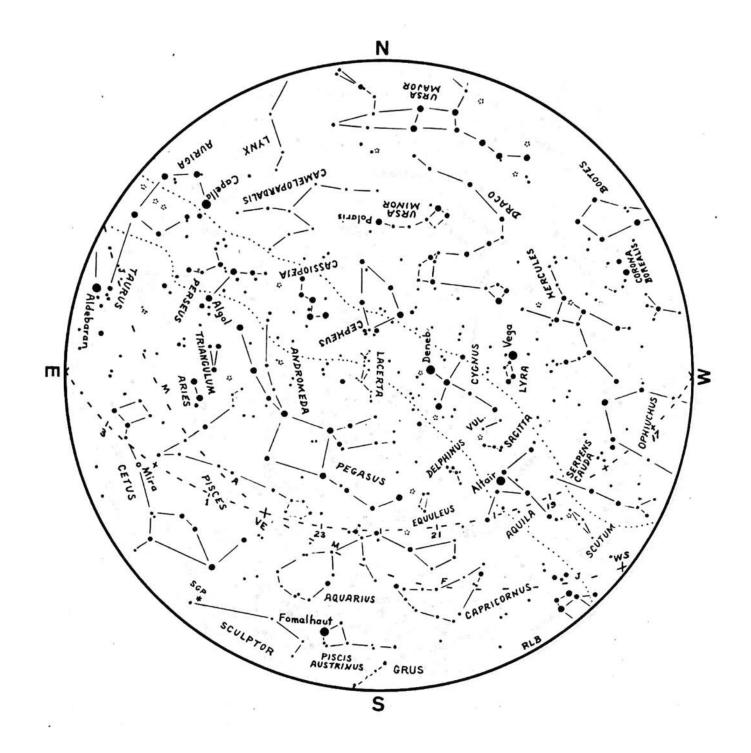
Images on the next few pages taken, with permission, from the 2024 Observer's Handbook. It can be obtained by joining the RASC here http://rasc.ca/join or ordered from https://secure.rasc.ca/store/product/observer-s-handbook-2024

HANDY SKY MEASURES



RASC OBSERVER'S HANDBOOK 2024 - STANDARD EDITION

Tim	ne (UT)	OCTOBER EVENTS	Jupiter's Sa	tellites
1111	d	h	m	7.7	West	East
T-0	11	_		Zodiacal light vis. in N lat. in E before	11.0	
Tue.	1			morning twilight for next two weeks	2.0	Europa
ivad	2	11	52	Moon at descending node	2.0	N)
Wed.	٦		32	Algol at minimum	3.0	$\overline{}$
	- 1		49	new Moon (lunation 1259)		
	- 1	•		Annular Solar Eclipse (p. 138)	4.0) /
	- 1	20		Moon at apogee (406516 km)	5.0	
Thu	3				Callisto	<u>^</u>
Thu. Fri.	4	•			6.0)/
Sat.	5	10	20	Algol at minimum	7.0	
Sat.		20		Venus 3° N of Moon		
Sun.	6	_			8.0 Ganymede	$\overline{}$
Mon.	7	19		Antares 0.2° N of Moon, occultation†	9.0	-
Tue.	8		09	Algol at minimum	1 3.0) /
Wed.	9	7		Jupiter stationary	10.0	1
Thu.	10		55	first quarter	11.0	\square
Fri.	11		58	Algol at minimum	3 ()	0/1
Sat.	12		•		12.0	//
Sun.	13			Mercury at descending node	J	K /
Mon.			46	Algol at minimum	13.0	V! /
141011.	٠.	18		Saturn 0.1° S of Moon, occultation;	7 14.0 - /	//
Tue.	15	200		Neptune 0.6° S of Moon, occultation*		\vee
Wed.		2000		Moon at ascending node	15.0	
mea.	•	15	20 100000000000000000000000000000000000	Juno in conjunction with the Sun	7 16.0	
		21	35	Algol at minimum		(
Thu.	17			Moon at perigee (357 174 km) Large tides	17.0	*
	770 SV		26	full Moon (largest in 2024)	7 18.0 - 1	1
Fri.	18					\mathbb{D}
Sat.	19	16	i	Uranus 4° S of Moon	19.0	1/
15		18	24	Algol at minimum	20.0	Ж\—
		21		Moon 0.2° N of Pleiades (M45)		
Sun.	20				21.0	<u> </u>
Mon.	21	6	,	Orionid meteors peak	22.0	1
		8	}	Jupiter 6° S of Moon	22.0	\mathbb{A}
Tue.	22	15	13	Algol at minimum	23.0	
Wed.	23			Mercury at aphelion	×	10:
		18	3	Pollux 1.7° N of Moon	24.0	
		20		Mars 4° S of Moon	25.0	1 X
Thu.	24			last quarter	×	$\Delta \mathcal{L}$
Fri.	25		2 01	Algol at minimum	26.0	ALT.
Sat.	26				27.0	-XX
Sun.	27				.	Ni
Mon.			3 50	Algol at minimum	28.0	CH'
Tue.					200	
	_,	23		(29.0	
Wed.	30	12	,	Moon at apogee (406 161 km)	30.0	
Thu.	31		5	Venus at aphelion		JP!
	J 1		5 39	Spica 0.5° S of Moon	31.0	XX
		1 .	, 59	Algol at minimum		(W/ \



REIMBURSEMENT FOR CENTRE EXPENSES

The Centre has a reimbursement procedure on submission of expense claims. A writeable pdf claim form can be found on the Centre webpage under the Executive tab. The expense form **must** be submitted *along with original receipts* to the Treasurer within 30 days of the transaction. All expenditures must be preapproved by the Executive or be within allocated budgets.

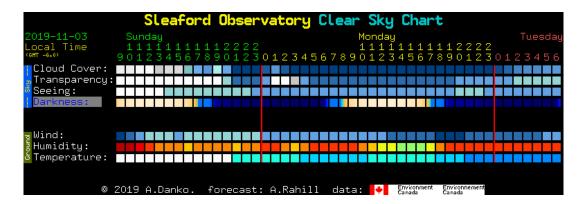
Please contact the Treasurer with any inquiries.

CLEAR SKY AND WEATHER INFO

To find clear skies, visit the Clear Dark Sky website -

https://www.cleardarksky.com/csk/

Once there, one can enter your location to find clear skies. The chart will appear as follows:



Environment Canada provides weather information for astronomy -

www.weather.gc.ca/astro



Saskatchewan Light Pollution Abatement Committee -

http://myotherlife.net/slpac/



www.darksky.org

MINUTES OF SEPTEMBER MEETINGS

Lorie Tedford

Minutes of the Monthly Executive Meeting of the RASC Saskatoon Centre Monday, Sept 16th, 2024 - 7:00 pm Hybrid: Online & In-person U. of S Observatory

Attending: Brent Burlingham, Lorie Tedford, Les Dickson, Joelle Sheard-Patrick, Colin Chatfield, John Takala, Darrell Chatfield

- **1. Call to order** 7:15 pm Brent Burlingham (President and Chair)
- **2. Approval of the Executive meeting minutes for June 2024** as printed in the July/August newsletter. Moved by Les Dickson, seconded by John Takala; carried.
- 3. Call for additional announcements/items to add to the agenda.
 - The SSSP 2024 update was moved to the general meeting.

4. Announcements from the Chair - Brent Burlingham

- The unexpected passing of Ike Thiessen on Monday, August 26th was a shock to all who knew Ike. His enthusiasm and dedication to the club as well as astronomy will be missed. The club sent flowers and a card to Leah and the family.

5. Old Business - Reports from the Executive Council

5.1President's Report - Brent Burlingham

- There has been seven new members who have signed up over the past two weeks. Two of the members are from imaging group that has recently started back up. The imaging group is run by Tim Yaworski and Jeff Swick. Another one of the new members has experience with fundraising and would like to offer the club the expertise.

5.2Acting Treasurer - Les Dickson

- The Executive had a vote, and it was in favour of conducting a third-party audit of the finances. The audit is currently underway.
- The SSSP 2024 was quite profitable this year.

5.3 National Council Rep - Joelle Sheard-Patrick

- National is no longer printing outreach materials for the clubs to use. Once the materials have gone out of stock, there will be unavailable. There was a discussion on which materials people liked the best and if the club should put in a final order.

5.4 Activities Coordinator - Joelle Sheard-Patrick

- The International Observe the Moon event on September 14th had some clouds but had a good turn out from the public. The club had scopes set up for people to observe the moon at the Shakespeare on the Saskatchewan site.
- The Broadway Street Fair on September 7th had lots of engagement with the booth set up. There were outreach materials available for the public as well as scopes set up to view the sun.
- Nuit Blanche is September 27th from 6-9 p.m. at the U. of S Observatory.

5.5 Bylaws Committee - Les Dickson

- None reported.

5.6 Sleaford Update - Darrell Chatfield

- The site has been rekeyed.
- The gates are designed to pull on them to open, do not push the gates inwards.
- The Sleaford site manual has been updated and taken offline. If anyone needs that information reach out to Darrell Chatfield.

6. New Business

6.1 Open House

- There will be no Open House taking place this year due to time constraints and not having the U. of S partnership.
- Instead of an Open House, there will be a members potluck taking place on the next observing night at Sleaford, October 5th. The imaging group will postpone until October 5th to join the potluck.

6.2 Ike Thiessen Memorial

- Discussed ideas to create a memorial in memory of Ike.

6.3 Member Engagement

- Discussed ideas for increasing club engagement and participation from the current members.
- New members to the club may be able to provide insight as to why they joined, what they hope to get out of the club etc.

6.4 Library Update - Darrell Chatfield

- The library has been cleaned out.

6.5 Fundraising

- Time had offered to organize a fundraiser of selling the "Objects in the telescope are farther than they appear" T-shirts or T-shirts with RASC logo

7. Motion to adjourn by Les Dickson; carried. 8:06 PM.

Minutes of the Monthly General Meeting of the RASC Saskatoon Centre Monday, Sept 16th, 2024 - 7:00 pm Hybrid: Online & In-person U. of S Observatory

Minutes taken and prepared by Lorie Tedford.

- **1. Sharing/Networking Time** 8:00 8:15 pm all members.
- **2.** Call to Order 8:25 pm Brent Burlingham (President and Chair)
- 3. Call for additional announcements/items to add to the agenda.
 - Addition of SSSP 2024 update
- 4. Call out to new members/guests: Nick Larsen
- **5.** Adoption of the June General meeting minutes as printed in the July/August newsletter. Moved by Les Dickson, seconded by Joelle Sheard-Patrick, carried.
- **6. Executive Meeting Summary -** Brent Burlingham
 - The club had sent flowers and a card to Leah and the family for Ike Thiessen's unexcepted passing on August 26th. The members are to come up with some ideas for creating a memorial for Ike as he was a huge part of the club and to astronomy.
 - Many outreach activities have taken place. All have seen engagement from the public and has brought in several new members over the past couple weeks.
 - The imaging group run by Tim Yaworski and Jeff Swick has been reinstated and had a good turnout for the first night back.
 - In lieu of an Open House, there will be a potluck for members at Sleaford on October 5th. The observer's group will combine with the imaging group.

7. New Business

- 7.1.SSSP 2024 Update Les Dickson
- This year was the anniversary of the Dark Sky Preserve Declaration. The park had a cake prepared for the BBQ.
- A slideshow of photos from the star party was presented.
- The star party went very well this year and was profitable.

8. Program

- **8.1The Upcoming Sky** presented by Colin Chatfield
- **8.2"Imaging Group Update"** Jeff Swick will share details about the new incarnation of the RASC Saskatoon Centre Imaging Group which he and Tim Yaworski are spearheading.
- **9.** Call to adjourn Moved by Les Dickson, carried.

Minutes of the Executive Electronic Correspondence of the RASC Saskatoon Center - June 2024

Motion submitted to the Executive for approval for an outside review of the Centre's finances and accounting. Moved by Les Dickson (Acting Treasurer), seconded by Brent Burlingham (President); carried: that the Centre engage Dalmeny Accounting Services to perform an initial review of the Centre's financial records with the purpose of assessing the need for and the cost of a more thorough full review with the intention of identifying: 1) irregularities in records and reports, and 2) possible improvements in the Centre's accounting practices and financial controls.

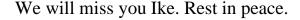
IN MEMORIAM

Ike Thiessen (1944 – 2024)

It was with shock and sadness that we learned of the sudden passing of our friend and tireless club supporter Ike Thiessen on August 26th, 2024.

In typical Ike fashion, he was in the midst of arranging a new home for the club rental telescopes the night he passed away.

Ike was the RASC Saskatoon Centre's telescope Rental Coordinator — a task he pursued with passion and dedication. He was the first to volunteer for the club's outreach activities, and generously shared his passion for astronomy at every opportunity. Ike volunteered at the U. of S. Observatory on their public observing nights twice a month, in order to once again share his passion, and to let the public know about our little club. His energy and enthusiasm were extraordinary for someone of his age, and in fact, put most of us to shame.







October 5th potluck at the U of S Observatory. Lorie Tedford, Joelle Sheard-Patrick, Lisa Caldwell, and Tammy Vallee. Photo by Jeff Swick.

Ron Waldron and Nick Larsen moving the 16" telescope from Sleaford. Photo by Jeff Swick.



OBSERVING CERTIFICATES AND CLUBS

RASC OBSERVING PROGRAMS AND CERTIFICATES

The RASC offers four observing certificates for members who observe all objects in each of the following observing lists in this chapter:

THE MESSIER CATALOGUE (p. 312)

THE FINEST NGC OBJECTS (p. 316),

THE DEEP-SKY CHALLENGE OBJECTS (p. 320),

DEEP-SKY GEMS (p. 322).

See rasc.ca/certificate-programs for details and contact the RASC Observing Committee Chair at rasc.ca/contact/observing for further information.



The RASC also offers the Explore the Universe Certificate for novice observers (who do not have to be RASC members), the Explore the Moon Certificate for beginning members, and the Isabel Williamson Lunar Observing Certificate and the Double Stars Observing Certificate for intermediate to advanced members. In addition, Astroimaging certificates are available for those members with a photographic bent. See rasc.ca/astro-imaging-certificate

RASC OBSERVER'S HANDBOOK 2023 - STANDARD EDITION

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,
Donna-Lee May

108 104
104
101
94
75
43
34
9

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 Charpentier	13
Brent Burlingham	97

EXPLORE THE UNIVERSE Certified at 55 to 110

Objects: T. Tuomi, B. GratiasWayne Schlapkohl55Jim Goodridge35

ISABEL WILLIAMSON LUNAR OBSERVING CERTIFICATE

Certified at 140 Objects: *T. Tuomi, N. Jensen*

EXPLORE THE MOON CERTIFICATE

T. Yaworski

Brent Gratias	37

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

Messier, Finest NGC, and David Levy's Deep-Sky lists in the *Observer's Handbook*. The Explore the Universe list is available here http://www.rasc.ca/explore-universe Messier and Finest NGC lists, charts and logbooks: https://www.rasc.ca/certificate-programs Herschel 400 List: https://www.astroloeague.org/al/obsclubs/herschel/hers400.html Chatfield Binocular List is at: https://saskatoon.rasc.ca/Chatfield_Binocular_List.pdf "Isabel Williamson Lunar Observing Program Guide" program details can be found at: https://www.rasc.ca/isabel-williamson-lunar-observing-program