



**THE ROYAL ASTRONOMICAL
SOCIETY OF CANADA**
**LA SOCIÉTÉ ROYALE
D'ASTRONOMIE DU CANADA**

2022

**Annual Report
Rapport Annuel**



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Royal Astronomical Society of Canada – as of May 2023

RASC Web Site	rasc.ca
RASC eStore	secure.rasc.ca/RASC/Store/StoreMain.aspx
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Office Manager	
Membership Co-ordinator	
Youth Outreach Co-ordinator	
Fundraising Consultant	
Communications & Marketing	

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1st Vice-President	Michael Watson	Michael.Watson@gowlings.com
2nd Vice-President	Brendon Roy	novationheart@hotmail.com
National Secretary	Eric Briggs	ebriggs733@gmail.com
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	Katherine Dulong	katherine.dulong@gmail.com
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Past President	Robyn Foret	arforet@shaw.ca

Editors

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Observer's Handbook Editor	James Edgar	james@jamesedgar.ca
Observer's Calendar Editor	Chris Beckett	cabeckett@gmail.com

2023 Committees

Astroimaging	Stuart Heggie
Awards	Robyn Foret
Constitution	Michael Watson
Editorial Board	Chris Gainor
Education and Public Outreach	Lauri Roche
Finance	Catherine Carr
History	Randall Rosenfeld
Inclusivity and Diversity	Roland Dechesne
Information Technology	Walter MacDonald
Light-Pollution Abatement	Bob King
NextGen	Ivan Tockovski & Lucas Kuhn
Nominating	Michael Watson
Observing	Blake Nancarrow

Annual General Meeting 2023—Agenda

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA



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Annual General Meeting 2023

The Annual General Meeting of members will be held on Sunday,
2022 June 26 at 4:00 p.m. PDT (7:00 EDT) by Teleconference.

Agenda

1. Minutes of the 2022 Annual General Meeting

Published in the on-line version 2022 Annual Report, and located on the Members-only section on the website (www.rasc.ca/annual-meeting-minutes)

2. Reports of Officers

President (Charles Ennis)
National Secretary/Recorder (Eric Briggs)
Treasurer (Catherine Carr)
Financial Statements
Motion to approve the financial statements

3. Reports of Permanent Committees

Astroimaging (Stuart Heggie)	Inclusivity and Diversity (Roland Dechesne)
Awards (Robyn Foret)	Information Technology (Walter MacDonald)
Constitution (Michael Watson)	Light-Pollution Abatement (Bob King)
Education (Lauri Roche)	NextGen (Ivan Tockovski & Lucas Kuhn)
Editorial Board (Dr. Chris Gainor)	Nominating (Michael Watson)
Finance (Catherine Carr)	Observing (Blake Nancarrow)

4. Reports of Other Committees

Dorner Telescope Museum (Randall Rosenfeld)
Robotic Telescope (Samantha Jewett)
Solar Eclipse (Randy Attwood)
General Assemblies (Randy Attwood)

5. Election of Board of Directors

6. Motion re By-Law Amendment

Download the amendment as a .pdf

7. Election of Auditor

8. Other Business

9. Adjournment

RASC 2022 Annual General Meeting Minutes (draft for approval)

The Royal Astronomical Society of Canada
La Société Royale d'Astronomie du Canada
Minutes of the Annual General Meeting, Sunday, June 26th, 2022 at 16:00 PDT.

1. Call to Order

Robyn Foret, in the chair, called the meeting to order at 17:06 MDT.

(MOTION AGM2022-1:Foret/Robinson) To approve the agenda as circulated in the Annual Report 2021. CARRIED.

Mr. Foret introduced Jennifer Howse (Calgary), educational specialist at the Rothney Astrophysical Observatory, and a member of the Métis Nation Region 3, who presented a territorial acknowledgment:

"I would like to take this opportunity to acknowledge the traditional territories of the people of the Treaty 7 nation comprised of the Blackfoot Confederacy, Stoney Nakoda, Tsuut'ina Nations and the Metis Region 3. At the Rothney Observatory we are very proud that we are surrounded by these nations and we feel very much a part of that community at the base of the foothills. I would like to humbly acknowledge indigenous lands, waters and skies over the entirety of Turtle Island from coast to coast. Indigenous peoples are the first astronomers and reflect their science, culture and spiritual connection to the land and sky through song, dance, oral traditions and architecture. I ask you as astronomers to consider and welcome diverse perspectives on space and time and welcome traditional ways of knowing. I am grateful for the diversity and inclusion goals of the RASC. One of the tenets of the RASC mission is enrichment of our community through diversity and I am very

proud of this organization's genuine and tangible actions toward reconciliation. I encourage the executive and membership to continue with this positive mission. Kinanâskomitin ay-ay, thank you."

Mr. Foret noted that the updated link to the meeting was being re-sent to all registered attendees. He noted 152 attendees were in the meeting, before proceeding.

Mr. Foret introduced the Board members:

- Dr. Chris Gainor, Past President
- Robyn Foret, President
- Charles Ennis, 1st Vice-President
- Michael Watson, 2nd Vice-President
- Catherine Carr, Treasurer
- Eric Briggs, Secretary
- Brendon Roy, Director
- Betty Robinson, Director
- Malhar Kendurkar, Director
- Dr. Phil Groff, Executive Director

Mr. Foret noted the thirty organized centres of the RASC and the National centre. He asked participants in the meeting to add their centre affiliations to their name in Zoom to participate in the chat window.

(MOTION AGM2022-2:Briggs/Ennis) Motion to adopt the minutes of the 2021 Annual Meeting as produced in the Annual Report 2021. CARRIED.

2. Reports of Officers

President's Report

Mr. Foret referred to his previously circulated written report in the Annual Report. He added the following correction and statement:

"I would first like to correct an error in my note to all of you last night. I should have said that when Mr. Hawley was suspended from the Society he remained a member of the Edmonton Centre. When his membership expired in November of 2021, he ceased to be a member of that Centre too and I hope that my earlier statement does no harm nor brings any misgivings to the Edmonton Centre.

Secondly, as I was profoundly inspired by Dr. Robert Cardinal in our opening Keynote address, I will repeat that with Honor comes Obligation and by fulfilling that Obligation we receive the true gift of that Honor. But there is a corollary to that statement. Once given the Honor, you must continue to address the Obligation. And while the honor and title may go away, the Obligation remains. I have been honored by the opportunity to serve you and the Society and for this I am forever grateful. You can be assured that I will respect and continue to carry out the obligations associated with serving the Society forevermore.

Thank you!

In closing, I want to thank Dr. Douglas Hube for serving these past 4 years as our Honorary President and to announce that Dr. Sara Seager has accepted the position as RASC's Honorary President for the next 4 years. I'll provide a proper introduction to Dr. Seager later in the program as she is our Keynote Speaker this evening."

Secretary's Report

Mr. Briggs referred to the previously circulated written report in the Annual Report. He briefly described the by-law changes, and offered condolences to the families of the following members who passed during the reporting period:

- Thomas Wray, Michael James, and Paul Sheppard (Ottawa)
- Norm Folkers (Belleville)
- Tom Bolton, Alan Kosugi, Kulli Milles (Toronto)
- Jon Gunning, Dr. Amelia Wehlau (London)
- Ken Jackson (Vancouver)
- Joyce Sims (Niagara)
- Rick Marion (Windsor)
- Ingrid Wilcox, Gerry Whitley (Yukon)
- Sherman Williams (Halifax)

After a moment of silence, Mr. Briggs suggested that because some members of the RASC had passed away after the end of the reporting period, and would be remembered at the Annual Meeting 2023, that members may wish to remember those members in the chat window for the time being.

Treasurer's Report

Ms. Carr presented an overview of the written report and Finance Committee Report that was presented in the Annual Report. Beginning with the Statement of Revenue and Expenses, she reported that the year ended with the Society in a financially strong position. She recognized the donation of over \$1 million in the will of Mr. William Allan McDonald of the Winnipeg Centre, and expressed thanks. She briefly described the RASC purchase of SkyNews Magazine in 2015, RASC ownership of the Robotic Telescope, and the Dorner Telescope Museum. She described the Canadian government COVID loan. She also mentioned three internally restricted funds: for the Dorner Telescope Museum, the Ruth Northcott Fund and the Legacy Fund.

The Balance Sheet presented by Ms. Carr described increased revenue over the past reporting period in Donations and Skynews, and smaller growth in Publications, Membership fees and Grants. She cautioned that the Investment income performance improvement over 2020 would not be repeated in 2022. Revenue for the year was \$2,120,073. She noted that the cost of membership services

exceeded the income from membership fees, as part of the rationale for the fee increase. The excess of Revenue over Expenses was \$1,105,031. She recommended reading the Notes to the Financial Statements as the meat of the detail behind the numbers.

Mr. Foret noted that the Budget is shared by the Board with National Council typically in December before approval by the Board in January, and the unaudited annual financial statements are shared with National Council typically in February.

David Chapman asked if it was possible to see a breakdown of income and expenses for publications. Ms. Carr said that that breakdown was not available in the annual report, but that information per publication could be obtained. Mr. Chapman asked for that question to be taken up with the Editorial Board at their next meeting. Ms. Carr responded to a query why the annual Publications expenses increased over the past year, concerning paper cost increases and a couple of re-published items.

Ms. Carr presented a Statement of Operations - Revenues slide including the 2022 Budget. The budgeted cost of membership services (\$315,126) still did not exceed the budgeted Membership fee income post-fee increase (\$261,450), but there was still a budgeted excess of revenue over expenses of \$47,703.

Don Town asked for a detailed breakdown of the membership services costs. Ms. Carr and Mr. Foret planned to discuss that matter with National Council at their next meeting. They said that the McDonald bequest was not restricted. Mr. Foret requested further questions from members be directed to their centre national council representatives before their September meeting.

(MOTION AGM2022-3:Carr/Ennis) That the membership adopt the audited financial statements as presented.

Peter Macnamee noted that expenses increased 24% year on year and asked how the Board expected to manage expenses moving forward, beyond the budget. Colin Haig suggested future expenses were not relative to the motion. Edward Wright asked if National would make communications regarding the justification to the membership fee increase, and Ms. Carr said she would circulate a statement based on her report.

Motion CARRIED.

Executive Director's Report

Dr. Groff referred to his previously circulated written report as part of the Annual Report and briefly expanded on his statement about the resilience of the membership. He noted the largest bequest in the Society's history, increased fundraising, record

number of Observing Certificates presented, and record attendance at the virtual General Assembly in 2021. He thanked the staff team:

- Renata Koziol (Director of Finance)
- Adela Zyfi (Membership Co-ordinator)
- Jenna Hinds (Former Outreach Co-ordinator)
- Allendria Brunjes (SkyNews Editor)
- Renee Drummond (Marketing and Publications Co-ordinator)
- Lisa di Veto (Fundraising Consultant)
- Reem Khalifeh (Communications and Marketing Assistant)
- Katarina Holborough (Membership Assistant)

- Nick Hammar (Environmental Outreach Intern)
- Samantha Jewett (Outreach Co-ordinator)
- Shannon Dales (Publications Co-ordinator)
- Lauren Knowles (Environmental Outreach Co-ordinator)
- Aline Alcaraz (Membership Assistant)
- Ranak Shah (Administrative Assistant)
- Randall Rosenfeld (Dorner Telescope Museum Curator)

He welcomed new staff:

- Stephanie Michalik (Office Manager)
- Miko Gourlie (Membership Co-ordinator)

3. Reports of Permanent Committees

Astro-Imaging Certificates

Stuart Heggie gave a brief spoken report, that the program had a strong start for the year but then fell off. He described working with the National Office and SkyNews to generate an uptick in submissions of astrophotos for achievement certificates in three varieties: Wide Field/Skyscape, Solar System and Deep Sky. He thanked the judges: Steve Holmes, Blair MacDonald, Luca Vanzella, Tenho Tuomi and Kim Sibbald, Art Cole and himself. He posted a link to the gallery in the chat window. He encouraged units of the RASC to collaborate to produce results.

Awards

Dr. Gainor thanked his committee members, Nicole Mortillaro and Randy Attwood, and presented the following awards:

- Qilak Award: Jenna Hinds
- President's Award: Emilie Lafleche (Montreal)
- Simon Newcomb Award: Chris Vaughan (Toronto)
- Ken Chilton Prize: Francois Chevrefil and Michel Duval (Centre français de Montreal), and Normand Amyot for a publication in the Journal, "Effect of Diffraction Halos on the Position and Size of Baily's Beads and Diamond Rings during Eclipses of the Sun" (October 2021.)

Service Awards:

- Robert Babb (St. John's)
- Philip Downey and Robert Lewis (Niagara)

- Merlyn Melby, Tenho Tuomi and Barbara Wright (Saskatoon)
- Ron MacNaughton (Toronto)

Dr. Gainor noted the annual deadline for award submissions is December 31st.

Editorial Board

Dr. Gainor briefly described problems with paper supplies, cost increases and the disruption of the shipping process. He thanked James Edgar for his work on the Observer's Handbook, the Journal of the RASC and the Annual Report. He also thanked Nicole Mortillaro for her work as editor of the JRASC. He thanked Paul Gray as the outgoing editor of the Observer's Calendar and thanked Chris Beckett as the incoming editor. He described the delayed Shared Sky publication and a future astrophotography publication. He expressed thanks on his retirement from the RASC Board and thanked Lisa di Veto for her work as fundraiser.

James Edgar spoke on behalf of himself and Mary Lou Whitehorne, nominating Dr. Gainor to the Fellowship of the RASC. Mr. Foret endorsed the nomination on behalf of the Board and Dr. Gainor accepted the award.

Education and Public Outreach

Lori Roche thanked committee members Kirsten Vanstone, Karim Jaffer, Lucas Kuhn, Christa van Laerhoven, Ron MacNaughton, Douglas Schellinck, Jo Ann Salci, Francesco Amrochi, and in memoriam Linda Pulliah. She also thanked Dr. Groff, Jenna

Hinds, Samantha Jewett, Brendon Roy and Robyn Foret. She described school astronomy clubs, Creation Station, Novice Observing, First Nations resources, NOVA Program, EPO Representatives' meetings, hybrid meetings, communications with other committees and task forces including eclipses and GAs. She invited attendees to contact her to make suggestions or ask questions about committee activities.

History Committee

Randall Rosenfeld reported on behalf of the committee chair, Clark Muir. He described the committee's online lecture meetings and publications by committee members, including Peter Broughton, 'Some Canadian Links to the Herschel Family' in JRASC June 2020, and Chris Gainor, 'Not Yet Imagined: A Study of the Hubble Space Telescope Operations', published by NASA.

Inclusivity and Diversity

Roland Dechesne, the incoming chair, thanked outgoing chair Virginia Rufina Marquez-Pacheco. He briefly described the World Asterisms Project, French translations, Indigenous Astronomy promotion, Black History Month webinar, Pride Month and Indigenous History Month.

Information Technology Committee

No report.

Light Pollution Abatement Committee

Bob King thanked committee members Chris Weadick, Victoria Kronkowski, Roland Deschenes, Peter Brackett, Robyn Foret, Phil Groff and National Office Staff Nick Hammar, Lisa di Veto, and Lauren Knowles. He also thanked outgoing members Rob Dick and Rick Huziak for their expertise. He said some visitors to national parks expressed concerns about low light levels and were installing lighting around campsites, and park staff trying to work with them. A leaflet was produced for distribution to Parks Canada Parks about light pollution. For RASC members, a PowerPoint was produced and distributed for all the centres to use. A list of light pollution abatement bylaws from across Canada was drafted for members' reference. He described greenhouse lighting guidelines. Short videos about light pollution abatement were produced for YouTube and TikTok with help from the National Office. Mr. King also described the joint bid of the Calgary Centre and the University of Calgary to host the Artificial Light at Night Conference between August 11th-13th, 2023, conference expected to be a hybrid in-person/online.

Next Generation Committee

Ivan Tockovski briefly described the committee's activities funding scholarships. There was a \$500

community leadership fund and a \$1000 post secondary award. Amanda Tomlinson's Solar System Scavenger Hunt Project, from the Okanagan Centre, was awarded the former. The Postsecondary award had been presented to Willow Bennet of Vancouver Centre, a physics & astronomy graduate student, used for her degree. He noted a partnership with the Diversity and Inclusion Committee to take a diversity census, with responses from 200 members. He presented a short message from Lucas Kuhn, who was away in Germany during the meeting.

Observing Committee

Blake Nancarrow reported on the record 68 observing certificates awarded during the year, and procedures for processing applications. He thanked the committee members, Dale Armstrong, Chris Beckett, Dr. Randy Boddam, Dave Chapman, Charles Ennis, Melody Hamilton, Bruce McCurdy, Murray Paulsen, Jo VandenDool, Bill Weir, Roger Hill, Karel Socander, and outgoing members Vikki Zsohar and Blair Stunder.

Working Groups

Dorner Telescope Museum

Randall Rosenfeld eulogized Rudolph Dorner, the benefactor of the museum, who passed away in March 2022. He presented the names of the DTM Board of Advisors:

- Bart Fried, founding president of the Antique Telescope Society
- Dr. Sara J Schechner, David P. Wheatland Curator of the Collection of Historical Scientific Instruments at Harvard University
- Dr. Roger Ceragioli of the University of Arizona's Steward Observatory Mirror Lab
- John Briggs of the Astronomical Lyceum
- Mr. Rosenfeld briefly described the plan for the Museum.

Robotic Telescope

Samantha Jewett briefly described the Robotic Telescope program with a recent photo of the instrument at Sierra Remote Observatories taken by Jenna Hinds. She thanked the Telescope volunteers.

General Assembly Working Group

Randy Attwood described the past rationale of RASC annual general assemblies hosted in cities across Canada since the mid-1960s. The working group had presented its report to the National Council and the Board and Mr. Attwood recommended members contact their representatives for information. Mr. Attwood felt the goal of the working group for the future was to bring back in-person general assemblies.

2024 Solar Eclipse Working Group

Mr. Attwood described the project to assist centres with their programs and to support RASC activities centered on the upcoming total solar eclipse on April 8th, 2024.

4. Election of Directors

Mr. Foret spoke about the Society's responsibilities under the Canada Not for Profit Corporations Act to elect Board members. The three candidates were Katherine Dulong, Vikki Zsohar, and Eric Briggs. Mr. Foret added that further nominations could be

New Honorary Member

Eric Briggs revealed the name of the RASC's new Honorary Member, Dr. Wendy Freedman of the University of Chicago.

made from the floor of the Annual Meeting. Under the Society's bylaw, only members of the Society were eligible to be elected as a director, and without further nominees, the three already nominated would be acclaimed. The three nominees were acclaimed.

5. By-Law Amendment

Michael Watson reiterated that by-law amendments passed by the Board become effective immediately, but are subject to ratification by the membership at the next business meeting of the membership of the Society. He described the important advisory role of the National Council, which was consulted in the process before the present meeting. He presented the proposed amendment as a committee motion.

Amendment 1, deletion of the following:

Article 9 - Board of Directors and Officers

"No person who is a Director of the Society, or who is the President, a Vice-President, Secretary or Treasurer of the Society, may simultaneously be the President, Vice-President, Secretary, Treasurer, or a National Council Representative of a Centre."

Mr. Watson described how this prohibition stifled members from participating in RASC necessary offices.

(MOTION AGM2022-4:Constitution Committee) To delete the aforementioned from Article 9 of By-Law #1.

CARRIED by special resolution.

Amendment 2, restoration of provisions which were in the By-Law between the 1980s and 2013:

Article 3.2 Relationship of Society and Centre Members

3.2.1 Every member of every Centre is a member of the Society, and is attached to the Centre of which he or she is a member. A person who for any reason ceases to be a member of the Society thereupon ceases to be a member of the Centre to which he or she was attached.

3.2.2 No person who is not a member of the Society may:

- i) exercise any rights of membership of any Centre, including voting rights;
- ii) stand for election as a director, councillor, officer or National Council Representative of a Centre.

Mr. Watson described the understanding that every member of a centre of the RASC intends to be a member of the RASC. He said he felt it was fair to say that the wording being corrected was changed in reaction to a concern about the Centre Francophone de Montreal.

Mr. Foret asked Patrice Scattolin of the Centre Francophone de Montreal, and M. Scattolin responded, that this amendment did not cause any concern to the members of that centre.

There was a question concerning suspension: If a person was suspended from a centre, were they suspended from the RASC as a whole? Mr. Foret responded that was not necessarily so, that there was a process in the bylaw, and that centres may have their own by-laws concerning suspensions, some guided by provincial legislation. He asked that any time a centre might suspend a member, that the suspension be reported to the National Board in order to make a decision.

(MOTION AGM2022-5:Constitution Committee) To restore Article 3.2 of By-Law #1, as above.

CARRIED by special resolution.

6. Appointment of the Auditor

(MOTION AGM2022-6:Carr/Bennett) that Tinkham LLP be appointed as auditor for 2022.

CARRIED.

7. Other Business

Eric Klauszus spoke on the subject of limitations on suspensions from the membership of the RASC. He expressed concern that because RASC centre meetings were generally open to the public, a person suspended from membership could disrupt a meeting after being suspended.

(MOTION AGM2022-7:Klaszus/Poole)

I, Eric Klaszus of the Calgary Centre of the RASC, move that the RASC creates a bylaw prohibiting any person that has been suspended or expelled by the National Board of the RASC from attending or appearing at any event that is organized by the RASC, including events that are:

- a) Organized by National RASC or local RASC centres,
- b) Held in spaces that are digital or in-person.

The motion was seconded by Simon Poole, Calgary Centre president.

Brendon Roy raised a point of order that the motion was new and could not be voted on on the present day, and should be added to the agenda of the next Annual Meeting.

Michael Watson responded to the point of order, that these motions were advisory only, and that aside from some exceptions under the Act, the Board was the governing board of the Society and that votes by advisory bodies or the membership should be regarded as a straw poll instead of new rules. Therefore, he suggested that delaying a vote of this nature by a year would not be responsible.

Mr. Roy stood by his point of order. Mr. Watson indicated that in Robert's Rules of Order that the chair should make a ruling unless the chair was uncertain, in which case the chair should call for a vote on the point of order. Mr. Foret asked for a vote on the point of order. Mr. Watson and Mr. Roy agreed that the wording of the question should be whether or not the matter at hand should be deferred to the next Annual General Meeting. 96 votes were in the negative and 49 were affirmative of deferral.

Returning to Mr. Klaszus's advisory motion, 85% of votes wished the Board to take the matter under advisement.

CARRIED.

(MOTION AGM2022-8:Attwood/Hinds)

Mr. Attwood moved that the Society recognize Robyn Foret and Chris Gainor for their activities as president. Seconded by Jenna Hinds.

Mr. Roy reiterated his point of order concerning new motions at the annual meeting being deferred to the next annual meeting.

A vote on Mr. Roy's point of order was taken, resulting in the non-deferral of the motion.

CARRIED.

(MOTION AGM2022-9:Ennis/Lyons) to adjourn the meeting.

CARRIED.

President's Report

This year proved pivotal for our Society. Our National Council and the Board got down to developing a working relationship founded on communications, transparency, and cooperation. We've begun to work as a team on issues facing the Society. We are starting to see the results.

This was also the year that the combined economic effects of the pandemic shutdowns and global conflicts pushed our Society into a unstable financial situation. A century after the end of World War 1, we've again been through a global pandemic. A whole series of decisions (and a lack of them) over the past decades left us in a very tenuous circumstance. We started the year with a promising budget, expecting things to begin opening, to getting together face to face once more and returning to normal. Instead we discovered that there is a new normal. Our Society's finances went entirely in a different direction than expected. Sanctions and profiteering sent the prices of everything spiraling ever upward with no end in sight. Supply lines were disrupted due to lack of personnel. Contractors and systems that we trusted proved to be very unreliable. One business we relied on abruptly went out of business.

We've had to engage in serious introspection, re-evaluating our priorities. Our office procedures were shown to be complicated, expensive, and unwieldy. We're developing new and better ways to do things. We've had to tighten our belts and go back to our roots.

Our ancestors had to deal with this a century ago and triumphed. We had to relearn the lessons they learned. We need to learn to make do with what we have. In fact, we must reassess what we have and what we do with it to get even more out of it. We need to develop alliances and partnerships with other astronomical organizations to share costs and support one another. We're assembling a team of treasurers and financial experts to work on this. We need the support of all our centres to make this work. We can do this. As NASA Flight Director Gene Kranz once said: "Failure is not an option." Through transparent communications and cooperation, we can see this through.

National Secretary's Report

During the year starting with the 2022 Annual Meeting on June 26th, by the time of writing there have been 4 National Council meetings and 13 Board meetings. During the calendar year 2022 there were 4 National Council meetings and 14 Board meetings.

The following changes to policies were put into effect in the calendar year 2022 before June 26th.

The regular membership fee was raised by \$15.

The By-Law No.1 Section 3.2, Relationship of Society and Centre Members was amended, and ratified by the membership at the 2022 Annual Meeting as follows:

3.2.1 Every member of every Centre is a member of the Society, and is attached to the Centre of which he or she is a member. A person who for any reason ceases to be a

member of the Society thereupon ceases to be a member of the Centre to which he or she was attached.

3.2.2 No person who is not a member of the Society may:

- (i) exercise any rights of membership of any Centre, including voting rights;
- (ii) stand for election as a director, councillor, officer or National Council Representative of a Centre.

Policy G10: Editors' Leadership Roles and Responsibilities was amended to increase the honoraria by \$500/a each to the Editors of the Journal of the RASC, the Observer's Handbook and the Observer's Calendar.

The following was added to Policy G9: Nomination and Election of Directors:

1. Any person (an "Ineligible Person") who is not a member of the Society, including any person whose membership in the Society has been suspended or terminated, is not eligible to be nominated for, or to be elected or appointed to, the position of director of the Society.
2. Any proposed nomination or proposed appointment of any Ineligible Person for the position of director shall be deemed to be ineffective as contrary to By-Law No. 1.
3. No Ineligible Person may be elected or appointed as a director of the Society.

The following changes to policies were put into effect after the Annual Meeting on June 26th, 2022.

A change was implemented to accounting policy, to recognize membership fee revenue on a monthly basis instead of on a semi-annual basis, starting July 1st, 2022.

The words "plus the Executive Director, who will be a non-voting ex-officio member" were deleted from Policy B1: Board of Directors Terms of Reference paragraph concerning membership.

Policy C4 on the composition of the Finance Committee was changed to add up to three other members to the committee, instead of one, other than the Society President, Treasurer, 1st Vice-President and 2nd Vice-President.

By-Law No.1 of the RASC Article 8.5 concerning National Council was amended. Please refer to the Agenda item 9 for this meeting for details of By-Law Amendments. By-Law amendments take immediate effect after passage by the Board, and are subject

to ratification by the membership at the next Annual Meeting.

We offer condolences to the families of the following members who have passed away:

- Terence Dickinson
- Bill Almond (Victoria Centre)
- Dave Bennett (Victoria Centre)
- Mark Coady (Kingston Centre)
- Dr. Peggy Dixon (St. John's Centre)
- Rudolph Dorner (Kitchener-Waterloo Centre)
- Rev. Robert O. Evans (Honorary Member)
- J. Donald Fernie (former National President, 1974-76)
- Prof. Owen Gingerich (Honorary Member)
- Dr. David F. Gray (Western University)
- The Hon. Donna Jean Haley, Q.C. (former Solicitor, 1969-82)
- Patrick Heinz (Edmonton Centre)
- Carl Jorgensen (Montréal Centre)
- Franklin Loehde (Edmonton Centre)
- William Allen McDonald (Winnipeg Centre)
- Michael Noble (Edmonton Centre)
- Constantine Papacosmas (Montréal Centre)
- Prof. Jay M. Pasachoff (Honorary Member)
- Prof. Judith L. Pipher (Toronto Centre)
- Linda Pulliah (Sudbury Centre)
- Tony dos Santos (Toronto Centre)

Eric Briggs
National Secretary

Executive Director's Report

2022 had its ups and downs. With significant staff turnover and financial challenges, it was not an easy year for the National Office. I would like to thank the staff at the Office for their hard work under challenging conditions during this past year. I would also like to thank the many volunteers, including Board and Committee members, editors and publishers, and Centre representatives that have provided immeasurable support. Finally, I'd like to thank you, our members, for your ongoing support

of the Society. Your words of encouragement throughout this time have been extremely meaningful.

Having just returned to this role recently, I am focusing on learning from past mistakes and making changes moving forward. RASC still faces significant challenges, including a fluctuating economic environment and high costs of shipping and printing. Reducing costs will be key to succeeding financially in

the coming years. Limiting our reliance on expensive software, streamlining our office services and better managing our shipping and sales will have a significant impact on our bottom line.

RASC has a very powerful resource: our volunteers. We have incredible volunteers, but no formal volunteer training or engagement program. Many of our volunteers have identified burn-out as a problem and as we move forward into 2023, I plan on developing a comprehensive volunteer training program to ensure new and existing volunteers feel supported stepping into new roles.

Communication is extremely important to me. Over the coming year, I will be placing a strong focus on how we at RASC communicate to you, our membership. Changes to communication pathways will help members know where to look for information at the National level. There will be some changes to the National website coming in the next year as well.

Thank you for trusting me with the future of the RASC. I care deeply about our Society, and I look forward to leading us through 2023 and beyond.

Jenna Hinds

Treasurer's Report

Dear members of The Royal Astronomical Society of Canada, I am writing to address the challenges our organization has faced in the past year. As the Treasurer, it is my duty to share with you the financial situation and decisions that have been made.

Unfortunately, in 2022 we experienced significant operational losses totaling \$690 thousand, which led us to make the difficult decision to close down SkyNews Magazine in January of 2023. This decision was not made lightly. As a result, the Society had to write off all of the amounts receivable from SkyNews which totalled \$292 thousand. Overall, the Society suffered a loss of \$982 thousand in total.

There were several factors which led to the severe losses in 2022. It is important to recognize that we operate in a dynamic environment where economic conditions and shifts in the media landscape can have a profound impact. Some of the major factors leading to the losses in 2022 include the following:

The Society had been allocating resources to keeping SkyNews operational for some time, and we could simply no longer afford to do so.

Like many others, we suffered losses in our investment portfolio which accounted for \$87 thousand of the deficit in 2022.

Our staffing levels were excessive, leading to inefficiency and a lack of streamlined operations.

Upon reflection, it is evident that we lacked proper financial oversight, and for that,

I sincerely apologize. Our spending was uncontrolled, and even when leaving aside the problems we experienced with our former fulfillment provider, we were incurring exorbitant costs for freight and postage which were not sufficiently covered by shipping revenue.

Finally, we had become overly reliant on grants to fund operations, such that when grant revenue did not occur in 2022 for various reasons, our publications and membership revenues were insufficient to cover operations.

We have conducted a thorough examination of our financial practices and are taking steps to improve our procedures, strengthen our financial safeguards, and enhance our planning.

The Board has committed to review monthly financial statements at every meeting and has promised to share quarterly financial statements with National Council, so there will be no extended period in which financial performance is not being reviewed.

Additionally, the entire Finance Committee participated in the 2023 budgeting process. Previously, the annual budget was done primarily by the Executive Director, the Finance Manager and the Treasurer. The budget would be approved by the Board and presented to National Council in its complete form.

This year, as part of the examination of the financial losses in 2022 and wholesale staff turnover in early 2023, we vowed to take a much more collaborative approach.

To that end, the annual budget process involved an expansion of the Finance Committee, and budget planning sessions took place in March

and early April. Indeed, we had marathon sessions, in which every line item was discussed in detail. Some of our meetings were over 4 hours long.

At the end of all that, we embarked on the consultation and feedback process National Council. Many NC members and their Centres and Presidents provided feedback on the 2023 budget and had questions and comments which were insightful and useful. The result is a budget in which we are setting a new more fiscally responsible course.

Thank you to Finance Committee members Charles Ennis, Michael Watson, Brendon Roy, Stephen Bedingfield, Gregg Dill, and Susan Gagnon. I'd also like to extend thanks to Randy Attwood for stepping in as interim Executive Director and assisting the Finance Committee during the budget process, and to Jenna Hinds who has jumped into her new role as Executive Director with both feet!

In particular, I'd like to extend a heartfelt thank you to Michael Watson, who provided unwavering support and guidance during the recent challenging months.

While the recent trials have been demanding, we must not lose sight of our core mission—to educate and inspire people about astronomy and the wonders of the universe. Our organization's true purpose lies beyond financial figures and spreadsheets. Our volunteers remain dedicated to sharing knowledge and fostering a passion for astronomy among our members and the wider community.

As we move forward, let us remember that our strength lies in our collective efforts. By working together, we can navigate these difficulties, rebuild, and continue to fulfill our mission. We are committed to restoring the vibrancy of The Royal Astronomical Society of Canada and creating a brighter future.

Thank you for your support and let us embrace the challenges ahead as opportunities for renewal and when the time is right, growth.

Sincerely,
Catherine Carr
National Treasurer

TINKHAM LLP | CHARTERED PROFESSIONAL ACCOUNTANTS

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P J Brocklesby CPA CA LPA
M Y Tkachenko CPA CA
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May 31, 2023

Finance Committee
The Royal Astronomical Society of Canada
La Société Royale D'Astronomie Du Canada
203-489 College Street
Toronto ON M6G 1A5

Attention: Ms. Catharine Carr, Treasurer

Dear Finance Committee Members,

We are pleased to report on the results of our audit examination of the financial statements of The Royal Astronomical Society of Canada / La Société Royale D'Astronomie Du Canada (the "Society") for the year ended December 31, 2022. In our view, a direct line of communication between our firm and the Finance Committee is essential to the proper exercise of our respective responsibilities.

The purpose of this letter is to review our responsibilities as auditors in accordance with the terms of our audit engagement, and in the attached memorandum we report on the year end and various elements of the audit examination.

We have performed an audit examination of the Society's financial statements for the year ended December 31, 2022, in accordance with Canadian generally accepted auditing standards. We have performed the audit to obtain reasonable assurance about whether the financial statements present fairly, in all material respects, the financial position, results of operations and cash flows in accordance with Canadian accounting standards for not-for-profit organizations.

We have also considered the Society's internal control over the financial reporting solely for the purpose of determining the nature, extent, and timing of auditing procedures necessary for expressing our opinion on the financial statements. Our work does not provide assurance on the internal control structure and does not necessarily consider all control systems upon which management may be relying. As a result, this consideration will not be sufficient to enable us to render an opinion on the effectiveness of internal control over financial reporting.

The detailed terms of our engagement are outlined in our engagement letter. Also, as part of our audit engagement, we have requested a letter of representation from the Society's management confirming representations made to us orally during our audit as well as representations implicit in the Society's records.

Our appointment as auditors involves the responsibility on our part to call to your attention any significant matters which we believe require your consideration. We report in the attached memorandum on the results of our audit for the year ending December 31, 2022, including the following:

- Audit Report;
- Engagement Team and Statement on Independence;
- Audit Approach;
- Materiality;
- Significant Accounting Policies;
- Significant Management Judgments and Estimates;
- Related Party Transactions;
- Recommendations Arising from the Audit Examination;
- Management Co-operation;
- Adjusting Journal Entries;
- Summary of Audit Differences; and
- Developments in Accounting Standards

The accompanying report is intended solely for the use of the Finance Committee, the Board of Directors and management, and presents information regarding our examination, which we believe, will be of assistance to the Society.

Yours very truly,

A handwritten signature in blue ink, appearing to be "Tinkham LLP" or similar, written in a cursive style.

TINKHAM LLP

Encl.

**The Royal Astronomical Society of Canada
La Société Royale D'Astronomie Du Canada
Audit Results
December 31, 2022**

Audit Report

We will issue our audit opinion following approval of the financial statements by the Board of Directors and completion of the following outstanding audit issues:

- receipt of the signed representation letters; and
- completion of subsequent events review procedures to date of approval by Board of Directors

Engagement Team and Statement on Independence

We continue to serve you with a team of professionals who offer industry expertise, engagement continuity with the Society and many years professional audit experience. We believe that the following professionals have provided responsive, innovative, and forward-looking service and we note the high level of expertise engaged on your audit:

Michael Rooke, CPA, CA, LPA	Engagement Partner
Dale C Tinkham FCPA, FCA, CMC, LPA	Concurring Partner
Michele Y. Tkachenko, CPA, CA	Audit Manager

It is a fundamental principle that auditors providing assurance services be objective with unimpaired professional judgment in the eyes of a reasonable observer. We confirm that we are independent with respect to the Society within the meaning of the CPA Ontario Code of Professional Conduct Rule 204.

Audit Approach

Our audit approach is a risk-based approach that focuses on your operations, the associated risks, and their potential effects on financial statement accounts. Our audit approach emphasizes the importance of understanding the Society's operations. We also reviewed and considered management's assessment of the internal control environment.

The audit included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation.

We have reviewed and evaluated the overall internal control environment, assessed the computer environment, and the specific internal controls upon which we place reliance in expressing our opinion on the financial statements. In the current year, we identified and tested selected internal controls for the disbursement transaction stream to obtain evidence that key controls were operating as expected and were effective. Based on the results of our testing, we modified our audit plan for the year end to reduce substantive work where the tests of internal controls justify reliance and reduced our year end substantive testing in this area.

We used primarily substantive audit procedures on year end balances for assets, liabilities, revenues, and expenses. In addition, we confirmed the Society's cash and investment balances.

Our audit was carried out in accordance with our plan.

Materiality

Our evaluation of areas of audit significance is made relative to materiality. An understanding of what is significant or material in relation to the overall results of the Society is critical to the performance of an effective and efficient audit. An item is considered material if its impact might reasonably be expected to affect the decisions of a reader of the financial statements.

Our assessment of materiality considers the CPA Canada guidelines but is also affected by the size and nature of potential misstatements, as well as our knowledge of the Society's business. We have set quantitative materiality for the purposes of this examination at \$65,000.

Significant Accounting Policies

Our audit also includes assessing the Society's accounting policies. The preparation of financial statements may require management to select from more than one acceptable approach to accounting.

Please refer to the summary of accounting policies in the notes to the financial statements for a detailed description of the Society's accounting policies.

There was one accounting policy change this year affecting revenue recognition for membership fees. In prior years, the Society recognized revenue from membership fees collected in the first half of the year as revenue of the current year and membership fees collected in the second half of the year as revenue of the following year, for simplicity of calculation. In the current year, the policy was amended to recognize membership fees evenly over the 12-month membership period. The change in revenue recognition policy had no material impact on revenues.

The accounting policies selected are appropriate for the Society's reporting purposes and reflect best practices.

Significant Management Judgments and Estimates

The preparation of financial statements requires the use of accounting estimates. Certain estimates are particularly sensitive due to their significance to the financial statements and the possibility that future events may differ significantly from management's expectations. Management is responsible for applying sound judgment in preparing estimates and disclosures and assessing the impact of misstatements on the fair presentation of the financial statements.

Inventory on hand recorded in the accounts as at December 31, 2022 totaling \$52,873 (2021 - \$31,759) is recorded at the lower of cost and net realizable value. Any items considered obsolete or unsaleable have been removed or the value appropriately reduced.

The Society purchased 100% of the shares of SkyNews Inc. (herein after referred to as "SNI"), a profit-oriented entity, in June 2015. The investment was accounted for using the equity method. It is management's opinion that the investment is impaired such that no recovery of the investment is expected and accordingly, a write-down of the carrying amount of the investment has been made as at December 31, 2022.

Charges for amortization of capital assets are based on the estimated useful lives of the assets which are disclosed in the detail of the notes to the financial statements.

Canada Revenue Agency ("CRA") is conducting an "Educational Review" of the Society's HST filings for the period January 1, 2020 to June 30, 2021. Results from the review have not been received to date. Management does not anticipate any liability to result from the review.

It is management's opinion that the Society meets the eligibility requirements of the Canada Emergency Business Account Loan ("CEBA") and that the Society has the ability and intention to repay 75% of the loan by December 31, 2023.

It is management's opinion that the Society complies with the terms of all grants received.

Based on our audit procedures, we have concluded the estimates and judgments are reasonable in the context of the financial statements when taken as a whole. Financial results as determined by actual events could differ from those estimates and it is reasonable to assume such differences may be material

Related Party Transactions

During our audit, we conduct various tests and procedures to identify transactions considered to involve related parties. Related parties exist when one party has the ability to exercise, directly or indirectly, control, joint control or significant influence over the other. Two or more parties are related when they are subject to common control, joint control, or common significant influence. Related parties also include management, council members and their immediate family members and companies with which these individuals have an economic interest.

We have not identified any related party transactions during the audit other than transactions with SNI as disclosed in note 5 to the audited financial statements.

Management has advised that no related party transactions have occurred that have not been disclosed to us. Management is required to advise us if they are aware of or suspect any other related party transactions have occurred, which have not been disclosed in the financial statements.

Recommendations Arising from the Audit Examination

Our examination of the financial statements for the year ended December 31, 2022 would not necessarily disclose all areas where the systems can be improved because it was based on selective tests of accounting records and related data.

SkyNews Inc.

We recommend that management endeavor to complete the closure of SkyNews Inc. business on a timely basis to minimize losses incurred.

HST

HST returns have not been filed for 2022. We recommend that management ensure they are filed as soon as possible and are filed on a timely basis in future.

Reconciliation of "Driven" database to QuickBooks general ledger

The Driven database and the QuickBooks general ledger were not reconciled at year-end.

We recommend that the registration database be reconciled to the general ledger periodically throughout the year, and any differences appropriately investigated. Best practice would be to complete monthly and at the conclusion of each event.

Expenses

In our limited testing of expenses, we identified several expenses paid by credit card which did not have adequate supporting backup. We recommend that all expenses be supported by original vendor invoices supporting the amount of the expense as well as taxes, if any, for PSB rebate recovery.

We note that freight and postage expenses increased 62% this year although publication revenues have decreased 2%.

We recommend management undertake a review of expenses incurred and processes in place to ensure expenses are bona fide.

Board minutes

Board meeting minutes are not signed, not consistently documented and approved.

Board meeting minutes should document all significant decisions and should be Board-approved and signed.

Helm Fund

The Society received approximately \$100,000 for the Helm Fund on February 4, 2022. These funds were not transferred to the Helm Fund investment account until December 19, 2022.

We recommend that management ensure that funds received for the benefit of the Helm Fund be transferred to the Helm fund on a timely basis.

Dorner Telescope Museum Policy

The intention of the Society is to hold for public exhibition, education and/or research the items acquired and displayed in the Dorner Telescope Museum. We understand management is formalizing a policy to protect, care for and preserve the collection.

Cyber Coverage

The finance committee should consider cyber insurance coverage to reduce the risk of loss in the event of a cyber-attack.

Strategic Plan

The Society's strategic plan is dated June 2017, and has not since been updated.

We recommend the Society endeavor to update its strategic plan to focus the discussion of the future of the Society and to guide the business forward.

Other immaterial issues were discussed with management during the audit process.

Management Co-operation

We have received full co-operation from management and staff, and there have been no disagreements on any issues. There were no restrictions placed on the approach to or extent of our work. We were provided complete and timely access to all books and records, documents, and other supporting data that we required.

Adjusting Journal Entries

Adjustments made to the records of the Society are attached and have been approved by management.

Summary of Audit Differences

During our audit, we accumulate differences between amounts recorded by the Society and amounts that we believe are required to be recorded under Canadian generally accepted accounting principles.

There are no remaining unadjusted items greater than a trivial amount, nor have we found material misstatements that would likely cause future financial statements to be misstated.

Details of all Audit and Non-Audit Services

In addition to preparing the audited financial statements and our audit opinion, and a letter reporting the significant audit results arising from our examination, we also prepare the Registered Charity Information Return (T3010) for filing by management with the CRA, Charities Directorate.

Developments in Accounting Standards

Cloud Computing Arrangements

The Accounting Standards Board (“AcSB”) issued accounting guideline AcG-20 Customer’s accounting for cloud computing arrangements.

The guideline provides guidance on:

- (a) accounting for a customer's expenditures in a cloud computing arrangement; and
- (b) determining whether a software intangible asset exists in the arrangement.

The guideline applies to annual financial statements relating to fiscal years beginning on or after January 1, 2024, with earlier application permitted. This guide permits an enterprise to apply a simplification approach to accounting for expenditures in a cloud-based computing arrangement. Under the simplification approach the enterprise expenses expenditures as incurred.

Contributions – Revenue Recognition and Related Matters

The AcSB issued an Exposure Draft on March 30, 2023, proposing to replace Section 4410, *Contributions – Revenue Recognition* and Section 4420, *Contributions Receivable* with new Section 4411, *Contributions Received by Not-for-Profit Organizations* and proposed amendments to Section 4400, *Financial Statement Presentation by Not-for-Profit Organizations*. Comments are due by September 30, 2023.

Proposed Section 4411 and the amendments to Section 4400 would be applied retrospectively. The standard is expected to be issued in July 2024 with an effective date for fiscal years beginning on or after January 1, 2026. Earlier application would be permitted.

The proposed new standard replaces the existing standards with a single approach for revenue recognition from restricted contributions, eliminating the choice between deferral method and restricted fund method. The proposed new standard provides guidance on special types of contributions, including contributed materials and services, capital asset contributions and endowments as well as guidance for the recognition, presentation and disclosure of net investment income earned by NFPOs

The proposal still permits the use of fund accounting as an optional presentation choice. The new standard proposes certain changes to financial statement presentation and disclosures for revenues aimed at improving the usefulness of information provided to users when fund accounting presentation is applied.

NFPOs currently using the restricted fund method of accounting for restricted contributions will be impacted by this proposed new standard as it will result in a change to timing of revenue recognition for certain contributions and will change the accounting for capital asset and endowment contributions. Contributions of capital assets will now be deferred and amortized over the useful life of the related asset. Endowment contributions will be recorded as direct increases in net assets.

For NFPOs currently using the deferral method of accounting for restricted contributions, this could result in a change in timing of revenue recognition for certain contributions as a result of applying the amended definitions and new revenue recognition guidance proposed in the Exposure Draft.

Under the proposals, in many cases pledges will no longer be recognized until the cash is received. This is because the proposed recognition criteria, which include the requirement that collection be reasonably assured, must be applied to each individual pledge.

Recognizing that the capital asset contribution proposals will bring a significant change for some organizations, the AcSB proposes transition relief such that organizations would not be required to make retrospective adjustments in the case of capital asset contributions that were recognized in revenue in full prior to the beginning of the earliest comparative period presented.

The proposals also include additional presentation and disclosure requirements which are meant to improve the understandability of restricted contributions received, the entities ongoing obligations related to those contributions, and the assets available to meet those obligations.

Financial Statements of

**THE ROYAL ASTRONOMICAL
SOCIETY OF CANADA**

**LA SOCIÉTÉ ROYALE D'ASTRONOMIE
DU CANADA**

December 31, 2022

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INDEPENDENT AUDITOR'S REPORT

To the Members of
**The Royal Astronomical Society of Canada /
La Société Royale D'Astronomie Du Canada**

Qualified Opinion

We have audited the financial statements of The Royal Astronomical Society of Canada / La Société Royale D'Astronomie Du Canada ("the Society") which comprise the statement of financial position as at December 31, 2022, and the statement of operations, changes in net assets, and cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, except for the possible effects of the matter described in the *Basis for Qualified Opinion* section of our report, the accompanying financial statements present fairly, in all material respects, the financial position of the Society as at December 31, 2022, and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

Basis for Qualified Opinion

In common with many charitable organizations, the Society derives revenue from donations, the completeness of which is not susceptible of satisfactory audit verification. Accordingly, our verification of these revenues was limited to the amounts recorded in the records of the Society and we were not able to determine whether any adjustments might be necessary to donation revenue, excess of revenue over expenses (expenses over revenue), and cash flows from operations for the years ended December 31, 2022 and 2021, current assets as at December 31, 2022 and 2021, and unrestricted net assets as at January 1 and December 31 for both the 2022 and 2021 years. Our audit opinion on the financial statements for the year ended December 31, 2021 was modified accordingly because of the possible effects of this limitation in scope.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Society in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our qualified opinion.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian accounting standards for not-for-profit organizations and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Society's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Society or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Society's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Society's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast doubt on the Society's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Society to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

TORONTO, Ontario
June 12, 2023



Licensed Public Accountants

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA
Statement of Financial Position

As at December 31	2022	2021
Assets		
Current		
Cash	\$ 270,017	\$ 1,109,748
Accounts receivable	130,332	73,688
Public service body rebate receivable	73,676	23,066
Accounts receivable SkyNews Inc. (note 5)	-	34,983
Inventory	52,873	31,759
Prepaid expenses	28,759	22,808
	555,657	1,296,052
Long term		
Investments (note 4)	581,462	602,368
Investment in SkyNews Inc. (note 5)	-	238,529
Capital assets (note 6)	87,104	102,739
Collections (note 7)	55,079	55,079
	723,645	998,715
	\$ 1,279,302	\$ 2,294,767
Liabilities		
Current liabilities		
Accounts payable and accrued liabilities (note 5)	\$ 73,474	\$ 117,019
Deferred revenue		
Membership fees for ensuing years	152,103	141,809
Journal subscriptions	18,217	14,828
Unamortized life membership fees (note 8)	7,951	10,602
	251,745	284,258
Loan payable (note 9)	40,000	40,000
	291,745	324,258
Net Assets		
Unrestricted	365,456	1,345,902
Internally restricted (note 12)	622,101	624,607
	987,557	1,970,509
	\$ 1,279,302	\$ 2,294,767

Contingency (note 5)
Commitments (note 11)

On behalf of the Board:

_____ President

_____ Treasurer

See accompanying notes to financial statements.

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA
Statement of Changes in Net Assets

Year ended December 31	Internally Restricted (note 12)	Unrestricted	2022	2021
Balance, beginning of year	\$ 624,607	\$ 1,345,902	\$ 1,970,509	\$ 865,478
Excess of revenue over expenses (expenses over revenue) for the year	-	(982,952)	(982,952)	1,105,031
Transfers (note 12)	(2,506)	2,506	-	-
Balance, end of year	\$ 622,101	\$ 365,456	\$ 987,557	\$ 1,970,509

See accompanying notes to financial statements.

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THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA
Statement of Operations

Year ended December 31	2022	2021
Revenue		
Membership fees	\$ 283,656	\$ 256,505
Publication sales	269,894	276,507
Grants (note 10)	97,582	229,692
Donations (note 10)	53,372	1,111,057
Miscellaneous	21,272	10,010
Investment income (loss)	(17,682)	65,448
SkyNews Inc. (note 5)	-	101,539
Cost recovery SkyNews Inc. (note 5)	-	69,315
	708,094	2,120,073
Expenses		
National operations (note 13)	459,328	272,265
Member services (notes 5 and 13)	368,586	260,312
Publications	256,847	236,120
Programming		
Centre support / public outreach (note 13)	143,509	107,759
Telescope museum	49,586	24,646
Light pollution prevention (note 13)	47,299	20,488
Youth Outreach and education	40,043	43,111
Robotic telescope	28,447	32,684
General assembly	5,093	17,657
	1,398,738	1,015,042
Excess of revenue over expenses (expenses over revenue) before undernoted	(690,644)	1,105,031
Impairment loss - SkyNews Inc. (note 5)	(292,308)	-
Excess of revenue over expenses (expenses over revenue) for the year	\$ (982,952)	\$ 1,105,031

See accompanying notes to financial statements.

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THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA
Statements of Cash Flows

Year ended December 31	2022	2021
Cash provided (used) by operating activities		
Excess of revenue over expenses (expenses over revenue) for the year	\$ (982,952)	\$ 1,105,031
Charges not requiring a current cash payment or receipt		
Amortization of capital and intangible assets	26,521	13,424
Amortization of life membership fees	(2,651)	(2,650)
SkyNews Inc. income	-	(101,539)
Impairment loss - SkyNews Inc.	238,529	-
	(720,553)	1,014,266
Changes in non-cash working capital components		
Accounts receivable	(56,644)	(50,494)
Public service body rebate receivable	(50,610)	(20,283)
Accounts receivable from SkyNews Inc.	34,983	(34,983)
Inventory	(21,114)	2,269
Prepaid expenses	(5,951)	(14,798)
Accounts payable and accrued liabilities	(43,545)	82,378
Deferred revenue	13,683	(30,032)
	(849,751)	948,323
Cash provided (used) by investing activities		
Investments (net)	20,906	(73,049)
Loan to SkyNews Inc. (net of repayments)	-	4,500
Purchase of capital and intangible assets	(10,886)	(24,812)
Purchase of items for collections	-	(20,433)
	10,020	(113,794)
Increase (decrease) in cash during the year	(839,731)	834,529
Cash, beginning of year	1,109,748	275,219
Cash, end of year	\$ 270,017	\$ 1,109,748

See accompanying notes to financial statements.

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA

Notes to Financial Statements

December 31, 2022

1 Organization

The Royal Astronomical Society of Canada / La Société Royale D'Astronomie Du Canada ("the Society") is a Canadian corporation without share capital and a registered charitable organization, incorporated for the purpose of stimulating interest in and promoting astronomy and related sciences. The Society is not subject to income taxes pursuant to exemptions accorded to registered charities in the income tax legislation.

2 Significant accounting policies

These financial statements have been prepared by management in accordance with Canadian accounting standards for not-for-profit organizations.

a) Cash

Cash includes cash on hand and deposits in financial institutions.

b) Investments

The Society has elected to value all investments, with the exception of the investment in SkyNews Inc., at fair value, which is based on quoted market values.

c) Investment in SkyNews Inc.

The Society purchased SkyNews Inc., a private corporation, on June 29, 2015 to further the Society's mission. SkyNews Inc. published a highly regarded magazine which provided an excellent source of educational information on astronomy and allied sciences to the public.

The Society owns 100% of the shares of SkyNews Inc., a profit oriented entity, and accordingly controls the corporation. The Society elected to account for the investment using the equity method.

The investment in SkyNews Inc. has been deemed impaired in 2022 (note 5).

d) Inventory

Inventory is comprised of publications and promotional items for re-sale and is carried at the lower of cost and net realizable value. Cost is determined on an average cost basis.

e) Collections

Collections are capitalized in the Society's statement of financial position but not amortized. Collections consist of a library and the Dorner Telescope Museum. The library is recognized at a nominal value. The museum collection is recognized at cost as items are purchased. Costs incurred to maintain these collections are expensed as incurred.

f) Capital assets

Capital assets are recorded at cost. Cost comprises the purchase price and any directly attributable cost of preparing the asset for its intended use.

When conditions indicate a capital asset no longer contributes to the Society's ability to provide services or that the value of future economic benefits or service potential associated with the capital asset is less than its net carrying amount, its net carrying amount is written down to its fair value or replacement costs. As at December 31, 2022, no such impairment exists.

Amortization is provided over the estimated useful lives of the assets using the straight-line basis as follows:

Tangible assets:	Telescope	7 years
	Computer hardware	3 years
	Office furniture	10 years
	Leasehold improvements	15 months
Intangible assets:	Software	5 - 10 years
	Website development	3 years, 1/2 in year of acquisition

**THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA**

Notes to Financial Statements

December 31, 2022

2 Significant accounting policies continued

g) Revenue recognition

i) Membership fees

Membership fees are recognized as revenue in the period to which these fees relate. Fees received in the current year, applicable to a subsequent year are recorded as deferred revenue in the statement of financial position and will be accounted for in revenue in the year to which they pertain. The Society previously offered life memberships to members. Life memberships received in prior years were credited to unamortized life membership fees liability account, as described in note 8. The unamortized life membership fees are being recognized as revenue evenly over 10 years to 2025.

ii) Contributions

The Society follows the deferral method of accounting for contributions, which include grants and donations. Unrestricted contributions are recognized as revenue when received or receivable, if the amount to be received can be reasonably estimated and collection is reasonably assured

iii) Investment income

Investment income is recognized on an accrual basis. Changes in the unrealized gain or loss on investments, being the difference between cost and fair value, is recognized in investment income for the year.

iv) Subscriptions and publications

Journal subscription revenues are amortized into income over the subscription period. Publications are recognized as revenue when shipped.

h) Contributed goods and services

The value of goods and services is recorded as revenue and an expense in the financial statements when the fair value can be reasonably estimated and when the goods and services would otherwise be purchased if not donated.

The Society is dependant on the voluntary services of many individuals. Since these services are not normally purchased and because of the difficulty of determining their fair value, donated services are not recognized in the financial statements.

i) Allocation of common expenses

The Society allocates a number of its expenses by function: national operations, member services and certain programming. The costs of each function include an allocation of the costs of personnel, fundraising and computer and IT costs.

Personnel costs are allocated based on the number of hours spent on each function; fundraising expenses are allocated primarily to national operations as the majority of cost relates to general fundraising activities. Smaller portions are allocated to member services and public outreach for expenses related to fundraising for Centres and communications with members. Computer and IT costs are allocated based on the estimated usage of technology by each function.

j) Management estimates

The preparation of financial statements in accordance with Canadian accounting standards for not-for-profit organizations requires management to make estimates that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Significant estimates include the impairment of financial assets and the useful lives of capital assets. All estimates are reviewed periodically and adjustments are made to the statement of operations as appropriate in the year they become known.

**THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA**

Notes to Financial Statements

December 31, 2022

2 Significant accounting policies continued

k) Financial instruments

i) Measurement

The Society initially measures its financial assets and financial liabilities at fair value. The Society subsequently measures all its financial assets and financial liabilities at amortized cost except for its investments, excluding SkyNews Inc., which are measured at fair value. Changes in fair value are recognized in the statement of operations for the year.

ii) Impairment

At the end of each reporting period, the Society assesses whether there are any indications that a financial asset measured at amortized cost may be impaired.

Objective evidence of impairment includes observable data that comes to the attention of the Society. When there is an indication of impairment, the Society determines whether an adverse change has occurred during the period in the expected timing or amount of future cash flows from the financial asset. The investment in SkyNews Inc. is impaired at December 31, 2022 (see note 5). There are no other indications of impairment of financial assets as at December 31, 2022.

iii) Transaction costs

Transaction costs are recognized in the statement of operations in the period incurred, except for financial instruments that will be subsequently measured at amortized cost. Investment management fees associated with the Scotia McLeod managed portfolio are expensed as incurred.

3 Helm Fund

The Society is trustee of an endowment fund created by Mr. Walter J. Helm (a former Royal Astronomical Society of Canada member) who passed away June 5, 1960. In his will he provided a bequest to the Society that was to be used to support the general purposes of the David Dunlap Observatory (DDO) in Richmond Hill, Ontario. Under the terms of a 2010 court interpretation, the income of the Helm Fund is presently being applied in support of on-going public education programs at the DDO site.

The fair value of the total assets of the Helm Fund under administration by the Society at December 31, 2022 is \$890,626 (2021 - \$820,874) and is excluded from the Society's financial statements as the Society is not the legal owner or beneficiary of the Fund.

**THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA**

Notes to Financial Statements

December 31, 2022

4 Investments

As at December 31	2022	2021
Managed portfolio at Scotia McLeod		
Fixed income investments	\$ 276,147	\$ 256,546
Canadian equity investments	169,520	205,752
U.S. equity investments	117,155	125,636
Cash	10,640	6,434
Non-redeemable guaranteed investment certificate		
RBC, matures April 8, 2023, 1.25% interest	8,000	-
RBC, matures April 8, 2022, 0.04% interest	-	8,000
	\$ 581,462	\$ 602,368

The fixed income portfolio is comprised of government and corporate bonds with stated interest rates ranging from 1.55% to 3.80% (2021 - 1.75% to 3.55%), maturing on dates ranging from May 1, 2023 to June 2, 2027 (2021 - June 15, 2022 to March 2, 2026).

The Canadian equity investments is comprised of share and trust units of 38 Canadian entities of which the single largest holding is 74 shares of Royal Bank with a market value of \$9,420 (2021 - 88 shares of Royal Bank with a market value of \$11,814).

The U.S. equity investments is comprised of share and trust units of which the single largest holding is 23 shares of Microsoft Corp. with a market value of US D\$9,420 (2021 - 36 shares of Apple Inc. with a market value of USD \$6,393).

The fixed income and equity investments have been recorded at market values based on pricing information provided by Scotia McLeod.

5 SkyNews Inc.

The Society purchased 100% of the common shares of SkyNews Inc. on June 26, 2015.

Subsequent to the year end, SkyNews Inc. ceased operating. Management has determined that the impairment existed as at December 31, 2022 and accordingly has written off the investment in SkyNews Inc. and all amounts receivable from SkyNews Inc. totaling \$292,308. There is no expectation of recovery. The Society has an amount payable to SkyNews Inc. as at December 31, 2022 of \$22,374 which is included in accounts payable and accrued liabilities and was paid subsequent to the year end. Additional losses may be incurred in 2023. No amount has been accrued for additional losses as the amount and timing is unknown at this time.

Pursuant to an agreement dated January 1, 2021, the Society previously allocated salaries to SkyNews Inc. in the year ended December 31, 2021 in the amount of \$69,315 of which \$34,983 was receivable at December 31, 2021. There is no allocation of salaries in the current year due to the impairment of SkyNews Inc.

Included in member services expense is \$62,359 (2021 - \$46,149) for purchases of SkyNews Magazine in the year which is distributed to Society members as part of their membership subscription. The Society also expensed \$Nil (2021 - \$1,495) in advertising and marketing for advertisements in SkyNews Magazine. These transactions were made in the normal course of operations and have been measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties.

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA
Notes to Financial Statements
December 31, 2022

6 Capital assets

As at December 31	2022		2021	
	Cost	Accumulated Amortization	Cost	Accumulated Amortization
Tangible assets				
Telescope	\$ 51,947	\$ 35,250	\$ 51,947	\$ 27,829
Computer hardware	33,532	25,527	22,950	22,457
Office furniture	6,969	4,362	6,664	4,015
Leasehold improvements	2,147	1,861	2,147	143
Intangible assets				
Software	106,300	46,791	106,300	32,825
Website development	13,715	13,715	13,715	13,715
	\$ 214,610	\$ 127,506	\$ 203,723	\$ 100,984
Net book value		\$ 87,104		\$ 102,739

7 Collections

As at December 31	2022	2021
Dorner Telescope Museum	\$ 55,078	\$ 55,078
Library	1	1
	\$ 55,079	\$ 55,079

8 Unamortized life membership fees

	2022	2021
Life membership fees as of January 1	\$ 10,602	\$ 13,252
Deduct: Amortization to income	(2,651)	(2,650)
Balance, December 31	\$ 7,951	\$ 10,602

9 Canada Emergency Business Account (CEBA) loan

The Society received a \$60,000 loan under the federal government's Canada Emergency Business Account (CEBA) program which provides assistance to small businesses and not-for-profit organizations in paying non-deferrable operating expenses.

The loan is interest free and no payments are required until December 31, 2023. Any portion of the loan can be repaid at any time without penalty. Provided \$40,000 of the CEBA loan is repaid on or before December 31, 2023, the remaining \$20,000 will be forgiven. The Society recognized the forgivable portion as government assistance included in grants in the statement of operations at December 31, 2020 as there is reasonable assurance that the Society will be entitled to the grant.

If the loan is not repaid in full by December 31, 2023, the government assistance will be reversed and the full \$60,000 loan would become payable. Interest would be payable monthly, charged at 5% and the balance of the loan would be due in full December 31, 2025.

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA

Notes to Financial Statements

December 31, 2022

10 Donations and grants

Included in grants is government assistance totaling \$30,885 (2021 - \$118,136).

11 Commitments

The Society leases space for offices and a museum which expires on December 31, 2031. The minimum annual payments, excluding HST, for each of the next five years and thereafter are as follows:

2023	\$	57,672
2024		59,616
2025		61,560
2026		63,504
2027		65,448
Thereafter		<u>281,232</u>
Total	\$	<u>589,032</u>

In addition the lease requires additional rent estimated to be \$55,000 per annum in 2023.

12 Internally restricted net assets

The Society has internally restricted certain funds. The Dorner Telescope Museum Fund was established in 2021 for the purpose of assisting with the costs of maintenance of the Museum (note 7). The Ruth Northcott Education Fund was established in 1969 and funds are used for a variety of specified purposes related to public education and outreach. The RASC Legacy Fund was established in 1990 for the purpose of providing for the long-term growth of the Society.

An amount equal to the investment income for the year is transferred to all funds annually on a proportionate basis. All disbursements from these funds must be approved by the Board of Directors.

				2022	2021
	Dorner Telescope Museum Fund	Ruth Northcott Education Fund	RASC Legacy Fund	Total	Total
Balance, January 1	\$ 25,000	\$ 256,476	\$ 343,131	\$ 624,607	\$ 552,739
Transferred from (to) unrestricted net assets:					
Investment income (loss)	(224)	(2,301)	(3,079)	(5,604)	42,575
Donations	-	4,015	583	4,598	30,043
Expenses	-	(1,500)	-	(1,500)	(750)
	(224)	214	(2,496)	(2,506)	71,868
Balance, December 31	\$ 24,776	\$ 256,690	\$ 340,635	\$ 622,101	\$ 624,607

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA

Notes to Financial Statements
 December 31, 2022

13 Expense allocations

Personnel, fundraising and computer and IT costs were allocated as follows:

Year ended December 31	2022			2021		
	Personnel costs	Fundraising expenses	Computer & IT costs	Personnel costs	Fundraising expenses	Computer & IT costs
National operations	\$ 89,682	\$ 46,433	\$ 7,833	\$ 65,078	\$ 46,897	\$ 8,139
Member services	189,341	5,804	15,665	144,967	5,862	16,279
Centre support / public outreach	126,408	5,804	7,833	87,162	5,862	8,139
Light pollution prevention	42,415	-	-	20,384	-	-
	\$ 447,846	\$ 58,041	\$ 31,331	\$ 317,591	\$ 58,621	\$ 32,557

14 Financial instruments

The Society is exposed to various risks through its financial instruments. The following analysis provides a measure of the Society's risk exposure and concentrations.

Credit risk

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. The Society is exposed to credit risk through its cash, accounts receivable, loan receivable and investments. Credit risk related to cash is minimal as funds are fully insured and held by credit-worthy parties. Accounts receivable are generally unsecured. The investment policy requires diversification of investments within categories, and sets limits on exposure to individual investments.

Liquidity risk

Liquidity risk is the risk that the Society will not be able to meet a demand for cash or fund its obligations as they come due. The Society meets its liquidity requirements by ensuring adequate cash is maintained and investments are available to be converted to cash if and when required.

Market risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk is comprised of currency risk, interest rate risk and other price risk.

Currency risk

Currency risk reflects the risk that the Society's earnings will decline due to the fluctuations in foreign exchange rates. The Society has cash, investments and accounts receivable denominated in U.S.\$ totaling USD \$167,520 at December 31, 2022 (2021 - USD \$129,044). The exchange rate used to convert US\$ assets at December 31, 2022 is \$1 US = \$1.3544 CAD (2021 - \$1.2678 CAD).

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Society is subject to interest rate risk to the extent of its fixed income investments and cash on deposit with financial institutions that earn interest at market rates. The Society manages its exposure to the interest rate risk of its cash by maximizing the interest income earned on excess funds while maintaining the liquidity necessary to conduct operations on a day-to-day basis. Fluctuations in market rates of interest on cash do not have a significant impact on the Society's results of operations.

The primary objective of the Society with respect to its fixed income investments is to ensure the security of principal amounts invested, provide for a high degree of liquidity, and achieve a satisfactory investment return.

14 Financial instruments continued

Market risk continued

Other price risk

Other price risk refers to the risk that the fair value of financial instruments or future cash flows associated with the instruments will fluctuate because of changes in market prices (other than those arising from currency risk or interest rate risk), whether those changes are caused by factors specific to the individual instrument or its issuer or factors affecting all similar instruments in the market.

The Society is exposed to other price risk because of its equity investments.

Changes in risk

There have been no significant changes in the Society's risk exposures from the prior year.

Reports of Permanent Committees

ASTRO-IMAGING CERTIFICATE COMMITTEE REPORT

Terms of Reference:

Promote the program via RASC electronic media, canvass social media and present at club meetings, constructively critique submissions

Host winning portfolios at: <https://rascastroimaging.zenfolio.com/imagegalleries>

Membership:

Art Cole (Solar System), Stuart Heggie (Deep Sky + Chair), Steve Holmes (Deep Sky), Blair MacDonald (Deep Sky), Kimberley Sibbald (Wide-Field), Luca Vanzella (Wide-Field)

2022 Objectives/Projects and Results/Activities

Encourage up-and-coming astrophotographers to submit portfolios. Coach and mentor people who are close but not quite at the level to be awarded a certificate.

2022 Metrics

Deep Sky: 10 certificates awarded to: Katelyn Beecroft, Rick Wagner, Mark Johnston, David Jenkins, Richard Taylor, Steve Burr, Jason Dain, Benjamin Law, Oscar Echeverri, Mike Stockley

Solar System: 6 certificates awarded to: Steve Burr, Omar Alnaji, Andrea Girones, Jim Thompson, Benjamin Law, Richard Taylor

Wide-Field: 7 certificates awarded to: Theresa Clarke, Amireza Goli, Stewart Cameron, Andrea Girones, Benjamin Law, Jim Thompson, Bill Longo

2022 Challenges

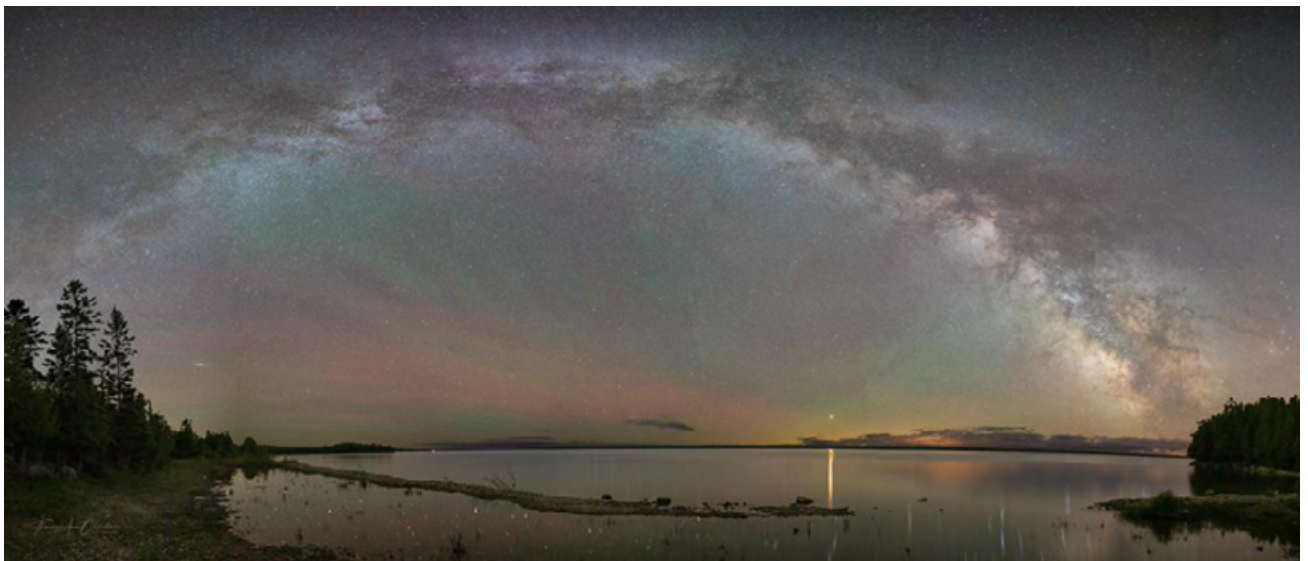
Getting onto the radar of the various centres

Finding and reaching out to promising photographers via social media

2023 Plans/Focus

Redouble efforts via social media

Refresh the Committee membership – set term limits – get rising talent and past winners involved in the process – involve more people who can become ambassadors.



AWARDS COMMITTEE REPORT

The Awards Committee is pleased to present the 2023 Award Recipients. These awards recognize the extraordinary efforts of the named individuals and on behalf of the Society, we thank and congratulate all recipients for this good work.

FELLOWSHIP AWARD – COLIN HAIG, DAVID LEVY

The award of Fellow of the RASC is to recognize the long-term and on-going contributions of members whose service to the Society has been exemplary and substantive for an extended period of time. Such contribution will far exceed the level required for our Service Award. Nominees may already hold the Service Award, but it is not a prerequisite for Fellowship.

Colin Haig's service to the Royal Astronomical Society of Canada goes back more than a quarter century, starting in the Hamilton Centre, where he served as newsletter editor starting in 1995 and then as president. Colin soon became interested in national activities and in 2010 he joined the national executive as second vice president.

He spent a decade on the National Executive and the Board of Directors, capped by a year as National President in 2017 and 2018 as the Society celebrated its sesquicentennial. During those years, Colin played important roles on committees as the RASC dealt with issues such as government-mandated changes to the Society structure. Colin's service to the Society goes far beyond the positions he held. Colin's business acumen has often been called upon, and his advice has proven valuable to fellow executive and board members, executive directors and other staff during his many visits to National Office in Toronto. More than once he provided important assistance to treasurers before he served in that position himself when it unexpectedly came open in 2017. Colin is well known in RASC Centres in Ontario due to his frequent appearances at Centre events, often as a highly regarded speaker on astronomical topics. He is also known for his high level of technical knowledge that has proven valuable to the RASC when equipment needs to be wired or when computer systems have required expert attention. With his knowledge of digital imaging, Colin played an important role in launching the RASC Robotic Telescope Project, and he is continuing to use that knowledge in his work today.

Colin Haig's service to the RASC has previously been honoured with a Service Award in 2015. He has been credited with reviving the concept of the Fellowship Award in the RASC, and so it is most appropriate that his service to the RASC be honoured with this award.

David Levy is noted in the RASC web site as "Possibly the RASC's most famous member and most active observer. He has been an ambassador for astronomy both amateur and professional throughout his many years in the discipline. David received the Chant Medal in 1980 and the Simon Newcomb Award in 2002." Levy received the Chant Medal in 1980, the year he was the AAVSO's most prolific observer with over 10,000 estimates made in one year. He is best known as co-discoverer of Comet Shoemaker-Levy but amongst the world-wide observing community he is known for his long-term and extraordinary efforts in comet hunting. As with Charles Messier, Levy cataloged the many unique and interesting non-comets and created his Deep-Sky Gems list, first published in the RASC Observers Handbook in 2008.

David Levy studied Physics at McGill University and Geology at Acadia University and switched to English Literature at Queens University where he received his M.A. in 1979. This combined talent in astronomy and literature has resulted in a broad portfolio of books encompassing general astronomy, observing, comets, advanced observing techniques and astronomy's place in literature. His books have been variably aimed for beginners, observers, historians and children. They have been well received.

For his lifetime service to the astronomical community, whose roots remain in the RASC, the Society is honored to bestow a Fellowship Award upon David Levy.

QILAK – WILFRED BUCK

Established in 2011, this award is intended to recognize individual Canadian residents, or teams of residents, who have made an outstanding contribution, during a particular time period, either to the public understanding and appreciation of astronomy in Canada, or to informal astronomy education in Canada, and to promote such activities among the members of the sponsoring organizations.

CASCA and the Royal Astronomical Society of Canada are pleased to announce that Wilfred Buck is the recipient of the 2023 Qilak Award for Astronomy Communications, Public Education and Outreach. This award recognizes outstanding outreach efforts over a career, in particular the incredible impact Mr. Buck has had sharing Indigenous knowledge of the sky with both Indigenous peoples around the world and the Canadian public. Wilfred Buck is a member of the Opaskwayak Cree Nation and a well-known Indigenous star lore expert. He worked for over a decade as a Science Facilitator at the Manitoba First Nations Education Resource Centre

and has researched and consulted with elders for over 15 years to learn more about the astronomical knowledge of Cree, Ojibway, and Lakota peoples. He is highly regarded internationally for his efforts in communicating this knowledge with educators and researchers, having shared his expertise for museum exhibits and films, panel discussions, and in many public lectures. For nearly two decades, Wilfred Buck has been using portable planetariums to teach First Nations students about the stars (“atchakosuk” in Cree) visible in the night sky. He is the author of two books exploring the night sky from an Indigenous perspective. His third book and autobiography “I Have Lived Four Lives” outlines a heart-stirring journey from an impoverished upbringing to pursuing a career in teaching and speaks to discovery and healing for Indigenous youth. He was recognized in 2018 by the Canadian Teachers Federation with its Outstanding Indigenous Educator Award and is the subject of an upcoming National Film Board sponsored documentary, “Wilfred Buck.”

CASCA and the Royal Astronomical Society of Canada are delighted to recognize Wilfred Buck’s efforts with this award.

La CASCA et la Société Royale d’Astronomie du Canada ont le plaisir d’annoncer que Wilfred Buck est le lauréat du Prix Qilak 2023 pour la communication, l’éducation et la sensibilisation du public à l’astronomie. Ce prix récompense les efforts de sensibilisation exceptionnels déployés au cours d’une carrière, en particulier l’impact incroyable que M. Buck a eu en partageant le savoir autochtone du ciel avec les peuples autochtones du monde entier et le public canadien. Wilfred Buck, membre de la Nation crie Opaskwayak, est un expert autochtone réputé en matière d’astronomie. Il a travaillé pendant plus de dix ans comme animateur scientifique au “Manitoba First Nations Education Resource Centre” et a mené des recherches et consulté des aînés pendant plus de 15 ans pour en savoir plus sur les connaissances astronomiques des peuples Cris, Ojibwés et Lakotas. Il est reconnu à l’international pour ses efforts de communication de ces connaissances avec les éducateurs et les chercheurs, ayant partagé son expertise dans le cadre d’expositions, de films, de tables rondes et de nombreuses conférences publiques. Depuis près de vingt ans, Wilfred Buck utilise des planétariums portables pour enseigner aux élèves des Premières Nations les étoiles (“atchakosuk” en cri) visibles dans le ciel nocturne. Il est l’auteur de deux livres qui explorent le ciel nocturne d’un point de vue autochtone. Son troisième livre et autobiographie, “I Have Lived Four Lives” (J’ai vécu quatre vies), retrace un parcours bouleversant, d’un milieu modeste à la poursuite d’une carrière dans l’enseignement, et parle de découverte et de

guérison pour la jeunesse autochtone. En 2018, la Fédération canadienne des enseignantes et des enseignants lui a décerné le prix Outstanding Indigenous Educator Award et il fait l’objet d’un documentaire à paraître parrainé par l’Office national du film, “Wilfred Buck”.

La CASCA et la Société royale d’astronomie du Canada sont ravies de reconnaître les efforts de Wilfred Buck en lui décernant ce prix.

KEN CHILTON PRIZE – Dr. CHRIS GAINOR

Established in 1977 in memory of [Ken Chilton](#), this prize is awarded for a specific piece of astronomical research or work carried out or published recently.

Chris Gainor’s book, *Not Yet Imagined*, documents the history of the Hubble Space Telescope from its launch through its first 30 years of operation in space. Focusing on the interactions among the general public, astronomers, engineers, government officials and members of Congress, the book reveals the decision making related to service missions that made the Hubble Space Telescope a model of supranational cooperation.

The book also covers the impact of the Hubble Space Telescope and the images it produces on the public’s appreciation for the universe and how the Hubble Space Telescope has changed the way astronomy is done.

Dr. Gainor offered PDF version of the book to the RASC membership in advance of the publication of the hard copy of the book, published by the National Aeronautics and Space Administration, Office of Communications, NASA History Division.

YOUNG ASTRONOMERS AWARD (NEW FOR 2023) – ARTASH and ARUSHI NATH

Artash and Arushi Nath have been members of the RASC Toronto Centre since they were just young children.

The young brother and sister team (Arushi, now 13 years old; Artash, now 16 years old) have an insatiable curiosity about the world around them, researching everything from the impacts of climate change to — what else? — the Universe around them.

In 2014, the pair won the NASA Space Apps Toronto Award for their Mars Rover: CuriosityBot and were among the top five NASA Space Apps winners globally.

Once again, they won the same award in 2017, 2018 and 2019, as well as the 2017 Canadian Space Agency’s Space Apps Challenge for their project “Yes I Can” which used Canada’s own RadarSat-2 satellite data to recreate the #Canada150 logo. For that, they were invited to present their project to newly named Canadian astronauts, Jennifer Sidey-Gibbons and Joshua Kutryk.

Most excitingly, the pair were global winners of the 2020 NASA SpaceApps COVID-19 Challenge, and were even invited to watch a rocket launch.

They have given numerous talks, including at several Toronto Centre events as well as at the RASC General Assembly.

In October, Arushi gave a presentation at the Toronto Centre on her photometric observations on the Didymos asteroid system, where NASA's DART spacecraft slammed into its smaller companion, Dimorphos.

And, most recently, she won the Best Project Award (Innovation) along with the Excellence in Astronomy Award from the RASC, a gold medal, the Top Category Award in Curiosity and Ingenuity, and the Youth Can Award at the 2022 Canada-Wide Science Fair (CWSF) for her research paper "Strengthening Planetary Defense: Detecting Unknown Asteroids using Open Data, Math, and Python," which was also published in the February 2023 issue of the Journal of the Royal Astronomical Society of Canada.

This brother and sister team exemplifies what it is that we look for — and hope to inspire — as a Society: youth, diversity and passion.

SERVICE AWARDS – CHRIS YOUNG, QUINN SMITH, SILVIA GRACA, JOHN MARCHESE, EMMA MacPHEE, PIERRE SCHIERLE

Chris Young, of the RASC Halifax Centre, in recognition for his long and steadfast service to the RASC. This includes his serving as Centre Secretary for 5 years, contributing meeting reports, providing public outreach talks, helping organize the Centre's star party, assisting with Centre BBQs, and generally providing support and counsel on a plethora of Centre activities.

Chris Young is one of those stalwart members who do not seek the limelight but is always ready to jump in to lend a hand without being asked. He has a level head and a calming manner, always helpful in problem-solving and providing guidance. Countless volunteers have credited Chris with keeping them "sane" during stressful episodes such as running GAs and other complex events — one individual called Chris his "guardian angel."

One episode is telling: when a former elderly Centre President became too sick to drive himself to meetings, Chris arranged to pick him up, bring him to meetings, and take him home afterwards — no one asked Chris to do that, he just saw the need and quietly took care of it. Later, before that gentleman's death, he requested to look once more at the dark night sky from the Centre's Saint Croix Observatory, and Chris took care of that as well. Chris carefully managed the disposition of the

eventual donation of astronomical equipment to the Centre.

Quinn Smith, of the RASC Halifax Centre, in recognition for his long and steadfast service to the RASC. This includes his serving as Centre newsletter Editor for 9 years, Chair of the RASC Halifax IYA 2009 Committee, co-chair of the Dark Sky Committee for 12 years, Registrar of the Centre's star party for 4 years, co-chair or chair of the star party for 2 years, Chair of the 2015 RASC GA in Halifax, providing public outreach talks, presenter at the Halifax Planetarium, and participating in Exhibition outreach opportunities.

Quinn Smith is a passionate amateur astronomer whose hard work has contributed much to the success of the RASC Halifax Centre. As a small tech business owner, he has superb organizational and managerial skills, along with an engaging personality in representational matters with outside organizations such as Parks Canada, local universities, and exhibitions.

Silvia Graca joined the Winnipeg Centre in 2008 and has been an active member and volunteer since that time.

From 2010 to 2022, Silvia chaired the Spruce Woods Star Party (SWSP) committee and was the driving force behind a small cadre of volunteers running the event. Beginning as a simple camping and observing weekend for members and their families, SWSP has grown under Silvia's leadership to include local and guest speakers, public outreach events, evening banquets, and many other highlights that make it the Winnipeg Centre's flagship member event.

Silvia also was instrumental along with other Winnipeg Centre members in the establishment of Spruce Woods Provincial Park as a certified Dark Sky site. While many others had a role in the creation of the Dark Sky Preserve at Spruce Woods, it was Silvia's vision to make a celebratory commemoration event of it all. In addition to her SWSP duties, Silvia has been active in astronomy outreach programs at Oak Hammock Marsh and the Telescopes and Teepees events that have spread across the prairies.

She is also an avid visual observer and astro-sketcher, producing wonderful pencil, pastel, and even watercolour images of the Sun, Moon, planets, and deep sky objects as seen through her telescope. Silvia organized the Winnipeg Centre's current astro-sketching group and is active in the national AstroSketchers group as well. Her art has appeared in the RASC Journal, Sky News, and our Centre's local newsletter, Winnicentrics, and her sketch of Comet Wirtanen won the Special Award for sketching as part of the Imagining the Universe

event celebrating the RASC's 150th anniversary. Her sketching inspires others to spend more time at the eyepiece and fosters observers with a desire to search for ever elusive details and encourages the somewhat lost skill of recording and journaling observing sessions.

Silvia is a friendly and welcoming presence in the Winnipeg Centre and is very deserving of the Society's Service Award.

John Marchese started out as a Council member of the original Mississauga Astronomical Society, formed in 2003. Shortly after the Society became a Centre of the RASC in May 2006, John joined the Mississauga Centre Council and became Membership Secretary, a position he has held for the past 17 years, although he stepped down from Council in 2021. During this time, he has diligently and enthusiastically fulfilled his role and proven himself to be an important and valued member of the Centre.

John is constantly updating the membership list, sending polite and respectful reminders to members whose renewals have lapsed, and presenting membership reports at Council meetings when invited.

John set up and oversees the Centre e-mailbox and sends out notices and announcements to members before meetings. A few years ago, he took the initiative to draft a welcome letter, with Mississauga Centre Council, to new members. He ensures that members receive astronomical name badges. While no longer on Council, he continues to regularly discuss membership numbers and strategies to recruit and hold onto members for the Centre. He regularly submits the names of new members every two months for inclusion in the Centre's newsletter. For years, he has stood at the welcome table at meetings and goes out of his way to engage new members. In fact, John is the face of the Mississauga Centre because he is the one who members see first when attending meetings (when meeting in person).

John is not only an extremely pleasant person, but he has an outstanding memory of members' names and lives, indicating his unique ability to connect with the membership. In addition to the time he spends weekly on behalf of the Centre, John has for years organized the Mississauga Centre Starfest contingent. He keeps a running tally of potential attendees to Starfest, and gives a talk and encouragement at meetings for members to attend Starfest with maps, directions, etc. As a result, the Mississauga Centre has one of the largest attendances of any club at Starfest. He has also acted as the chief barbecuer at our annual picnic. In addition, John co-led a highly successful Mississauga Centre trip to SNOLab, which involved careful co-ordination and organization.

Emma MacPhee has been a member of RASC

N.B. since November 2001, shortly after it was established originally as RASC Moncton Centre. Since joining, she has been an important, dedicated, hard-working and integral part of the centre.

She has been a council member since 2003, holding numerous positions on the council:

- Secretary 2003-2006
- Newsletter Editor 2007
- Treasurer 2007-2010
- Treasurer & general committee member for the N.B. Centre GA/AGM in 2010
- Councillor 2011
- 2VP in 2012
- Treasurer 2012 interim
- Treasurer 2013 to present
- National Observing committee member currently
- RASC N.B. Inc. Observing Chair at present
- Secretary-Treasurer 2020 to present
- Frequent speaker at meetings
- Outreach: about 100 events since 2016 (mostly courses for seniors; Guides, public observing at Moncton HS observing, Mad Science summer camp)
- Prior to 2016, participated in numerous of the observing events held by RASC N.B. -annually
- star parties, special events
- Earned certificates for the Explore the Universe, Messier and Finest NGC programs, now working on the Double Star & Lunar Program certificates

Emma has contributed in many ways to the growth and well-being of our centre. She has been supportive of and involved in centre and member initiatives, projects, and events. She was part of the committee for the application for charitable status from 2019-2022. Emma has helped mentor new members in their observing as well as recruiting new members to the centre. She has also been involved in planning for the future of RASC N.B. Inc... Over the years, Emma has demonstrated her commitment and dedication to RASC N.B. in small, quiet, unsung ways. Supporting new members in their efforts, offering ideas for future plans, events, problem-solving, observing, etc...

She has contributed much to RASC N.B. who are proud to nominate her for the well-deserved RASC Service Award.

Pierre Shierle is a stalwart member of the RASC Regina Centre. His daughter, Katelyn, joined the Society in 2012, and a year later, Pierre followed her lead. Pierre quickly became involved in Centre outreach activities and learned astronomy at a rapid pace by engaging fellow members with thoughtful questions. After much research, Pierre purchased a 15-inch Obsession telescope which he and Katelyn frequently used to work on their observing certificates.

Pierre is always quick to lend a helping hand and started assisting the Centre executive. He became a Centre Councillor in 2014 and took on the duty of managing the Centre's mailing lists. By the fall of 2018, Pierre was the Centre President and started

spending more time solidifying the foundation of the Centre in the areas of membership, finances, team building and documentation. Pierre spent countless hours every week working on something to benefit the Centre.

During his last year as Centre president in 2021, Pierre started identifying, troubleshooting and documenting issues that appeared when the new Driven system was implemented. He was spending 20-40 hours a week just addressing issues that were showing up and causing Centre's grief. Through patience, persistence and attention to detail, Pierre was able to help resolve a lot of issues for the betterment of the entire RASC organization. This was no small feat in itself, which he took on in addition to the other local duties he was working on.

Pierre completed the Messier Certificate Program in 2017, after a two-year effort in which he sketched every object and created a very beautiful observing log of it all. Through his observing learning journey, he took note of shortfalls that exist for the real newcomers to astronomy and developed the Regina Centre's Beginners Observing List. This is a very well-documented set of charts and list of 12 objects, that someone that who knows absolutely nothing about astronomy to can pick up the list and get started with the very basics. It covers topics that seasoned observers typically gloss over when trying to teach a new person from scratch. It's also great for youth to help them get started as well.

Pierre is a regular volunteer for Centre outreach events, most often accompanied by Katelyn—they make a great team. He always finds a way to re-arrange his schedule to assist with the public events and will often do outreach events on his own. He really enjoys sharing his passions with others and has become a mentor within the Regina Centre as a result. He always treats people

Dorner Telescope Museum

This year saw significant progress on planning aspects [fig. 1] of the Dorner Telescope Museum (DTM), and more significantly, the satisfying progress of seeing this RASC resource beginning to take shape in its physical space [fig. 2].

The DTM achieved some notable acquisitions this year, but it also suffered a major loss in the death of its founder, Rudolph Dorner (1949–2022) [fig. 3]. Rudolph had been a member of the RASC since his teens, and was a passionate visual observer who loved telescopes, and who wanted to endow the RASC with a resource to celebrate and explore the story of the telescope in Canada, a resource which would invite people to enrich their lives through

with kindness and welcomes them into the hobby whenever he can. He truly is an ambassador for the RASC and an advocate for astronomy and the allied sciences.

The Saskatchewan Summer Star Party in Cypress Hills is one of Pierre's favourite summer camping destinations. He is often one of the first attendees to arrive and the last to leave. He often sets up his telescope well before the event and does public outreach to the general public while waiting for the SSSP to officially begin. His willingness to help quickly lead him to volunteer as a member of the planning committee. He spends many hours ensuring the Star Party is ready for when guests arrive and takes care of them as Meadows Coordinator to ensure the event runs as smoothly as possible.

For his hard work and continuing dedication to both the RASC – Regina Centre and the RASC Nationally, Pierre is highly deserving of the Society's Service Award.

PRESIDENT'S AWARD - Judy Black, Halifax Centre

Judy Black has been working tirelessly as Chair of the National Council to turn it into a functioning entity, focussing on communication, cooperation, and transparency. She's been on the phone with the President just about every day working on this, running productive National Council meetings and mentoring the process online through the chat groups and email. We've now reached a point where we are seeing results. Therefore I have nominated Judy for the President's Award for 2023 to recognize this important contribution to the Society.

Charles Ennis, he/him
President, Royal Astronomical Society of Canada

these miraculous portals on the universe. A full biographical memoir relating the role of astronomy in Rudolph's life, and his various acts of kindness to other astronomers enabling them to further their journey of astronomical exploration, can be found in the 2022 August number of the Journal of the Royal Astronomical Society of Canada.

Among the acquisitions in 2022 are:

- DTM 49.20220130, a Cave Astrola 10-inch Newtonian (1979)
- DTM 50.20220323, the Donald M. Hennigar 8-inch f/8 reflector (ca. 1931–1932)—a beautifully crafted telescope by a London Centre member

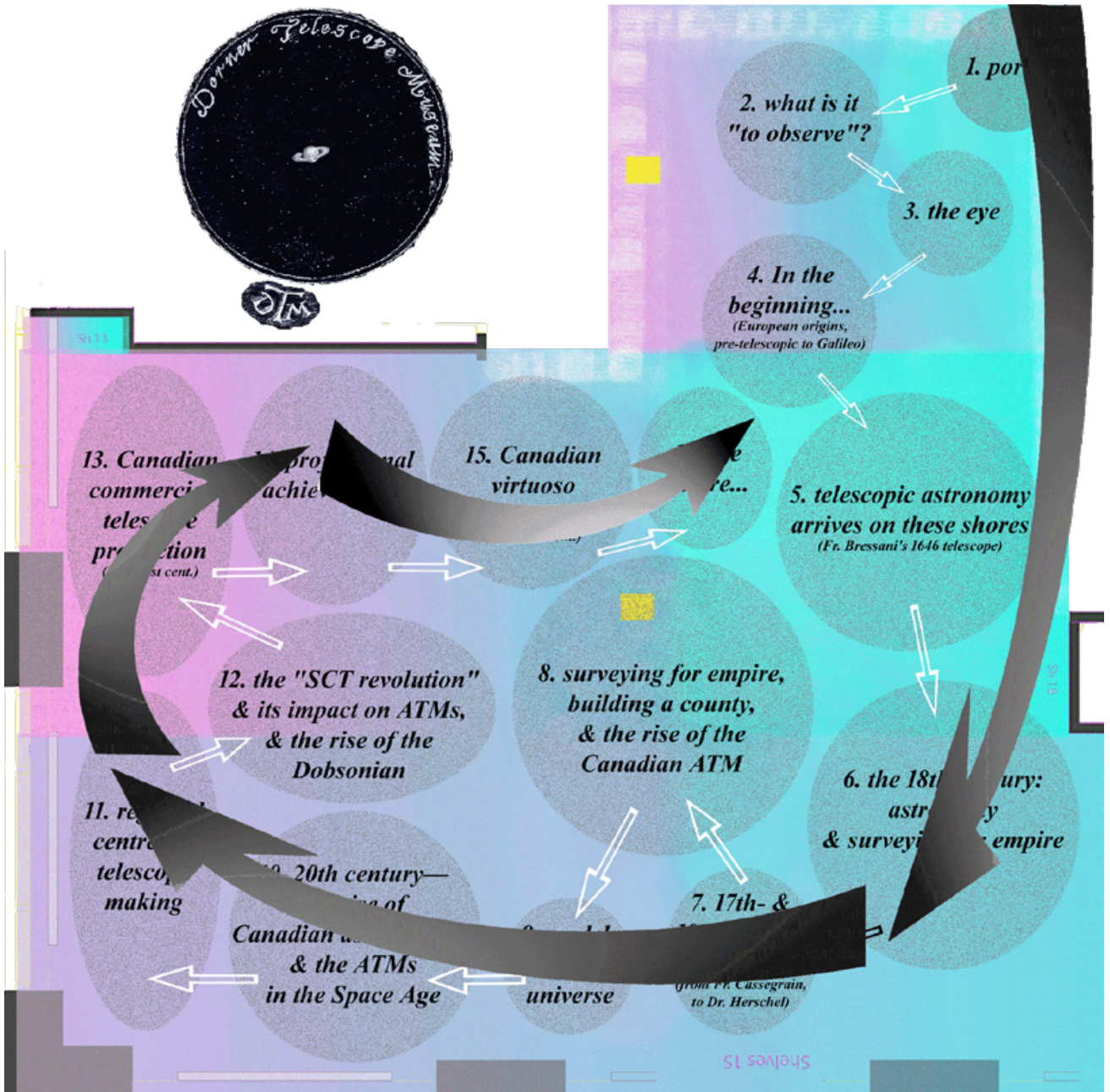


fig. 1



fig. 2



fig. 3



fig. 4

- DTM 51.20220506, a Unitron Satellite Telescope (ca. 1957) — the “Cadillac” of satellite spotting telescopes during the first space age [fig. 4]
- DTM 52.20220506, a Polarex (Unitron) 4-inch equatorial (ca. 1960)
- DTM 53.20220506, a 12-inch Tinsely Cassegrain (ca. 1960s) — a professional instrument used at a Canadian university
- DTM 54.20220506, a Mann plate measuring machine (ca. 1950s)
- DTM 56.20220507, a REL 6x30 binocular (1944) — one of the WWII Canadian made pieces of optical ordinance with optical glass made in Toronto



fig. 5

- DTM 57.20220706, a TASCOS 15TE 76-mm refractor on an equatorial mount (ca. 1960s)
- DTM 58.20220926, a Trippensee Celestial Globe (1991)
- DTM 59.20221019, a TASCOS 7 TE-5 60-mm on an equatorial mount (ca. 1960s)
- DTM 60.20230119, a J. Walker copperplate engraving of William Herschel (1785) — a portrait made only four years after Herschel discovered Uranus, but showing a Gregorian reflector rather than the telescope used for the discovery! [fig. 5]
- DTM 62.20230318, an E. Scriven portrait of Sir Isaac Newton after Vanderbank (ca. 1835)
- DTM 67.20220314, a Phil Johnson designed 12-inch Dobsonian by Nic David (2011) — a testament to the skill of two notable members of the Calgary Centre [fig. 6]
- DTM 68.20220812, a 9-inch Fullerscope Newtonian (mid 1970s – 1980s)

The Director of the DTM wishes to thank the following for their contributions towards the museum, in the form of valued advice, donations, or volunteer labour. Their work is much appreciated. Matteo Statti’s outstanding contribution deserves special recognition.

- Kirby Alguire
- Dr. Dale Armstrong
- Randy Attwood, FRASC
- John Briggs
- Joe Buda
- Dr. Roger Ceragioli
- Prof. Nic David
- Lisa Di Veto
- Steve Dodson
- Patrick Dodson
- Prof. Mick Fich
- Bart Fried
- Jim Goetz
- Peter Jedicke, FRASC
- Samantha Jewett
- Richard Miller
- Brian Moore
- Clark Muir
- Murray Paulson
- Peter Pekurar
- Adam Quinan
- Dr. Patricia Raby
- Dr. Sara J. Schechner, FAAS
- Matteo Statti
- Dr. Michael Szipir
- Alan Ward



fig. 6

EDUCATION COMMITTEE

Terms of Reference:

The Education and Outreach Committee's purpose is to oversee, in accordance with the policies determined by the Board, the activities of the Society in the field of education for RASC members, Centres, and the public. The committee recommends and develops tools, materials and events for Centres to promote knowledge and understanding of astronomy in general and Canadian astronomy in particular.

We are accountable to and report to the National Board of the RASC. We meet five times per year. Agendas, Minutes and Reports can be found on the Volunteer Google Drive.

Membership:

Chair:

Lauri Roche	Victoria
Karim Jaffer	Montreal
Lucas Kuhn	Vancouver
Ron Macnaughton	Toronto
Linda Pulliah	Sudbury (in memory)
Jo Anne Salci	Unattached
Tony Shellinck	Halifax
Kirsten Vanstone	Toronto
Christa Van Laerhoven	Yukon

Board Liaison:

Brendon Roy

2022 Goals/Projects

Creation Station: This webpage on the RASC site (www.rasc.ca/creationstation) is a space dedicated to children's written and artistic creations. In 2022 we expanded the age levels to range from 5 to 17 and also added video and mixed media to the formats that could be submitted. Some of the creations were shown at the 2022 GA and were highlighted in the Sept./Oct. Skynews issue. We had fewer entries this year so there was discussion that the project might be continued but with the collaboration with the Canadian Space Agency's art contests.

School Astronomy Clubs: We continue to look at setting up a framework to support high schools to form and maintain astronomy clubs. This year a set of resources was put out on the website but more work must be done to ensure that the links work properly. There were meetings with

interested teachers and lead students and a few new astronomy clubs were set up in two provinces. A Welcome Package was designed and prototyped and will be sent out to new clubs next year.

Novice Observing Program: The Novice program was revised to have seasonal observing charts prepared for final edits. In discussions with the Observing Committee it was decided to keep this Certificate program under the auspices of the EPO committee. The final versions will be completed and put on the website with communication sent to Centres about the program.

Security Checks Report: A further draft of the security checks report for volunteers working with children and vulnerable adults was sent to the Board for review but was not finalized. The committee also reviewed the Volunteer Best Practices Guidelines created by the National Council as part of the Centre's Handbook.

The NOVA Course: Under the leadership of the Outreach Coordinator at the National Office the EPO committee supported the planning, module writing, and implementation of the New Observers to Visual Astronomy course in 2022. The course was beta-tested and the session modules, presenter and student handbooks and resources documents were then finalized. A launch to Centres was set for early 2023.

Outreach Town Halls: The Outreach Coordinator and the EPO committee held the first of several Town Halls with representatives of the Centres. These sessions were a space where Outreach reps could highlight what was happening at the Centres and have a forum for discussion of any challenges that they were having, particularly with starting up hybrid meetings post pandemic. The Town Halls are regional and will continue in 2023.

2022 Challenges:

We have an excellent group of committee members who have worked well together again this past year. We were incredibly grieved by the sudden passing of Linda Pulliah from Sudbury last April and we miss her spirit, her talents, her compassion for others and passion for astronomy outreach both locally and nationally.

We continued to be challenged with the work that needs to be done and the number of hours that members can commit to the tasks. We are volunteers and can only do what feels right when balancing working lives and family responsibilities. So, as much as we generate great ideas and all believe firmly in the value of public outreach and member inreach, we don't always get projects completed as we expect to. We intend to ensure we

complete what has been started and be spare with new initiatives.

We have so appreciated the support that we received from the Outreach Coordinator and the Marketing team. We simply would not have been able to coordinate our work without them.

2023 Plans/Focus:

- Complete the Security Check report and communicate relevant information to Centres
- Complete Novice Certification Program and send out to Centres

- Continue setting up resources for School Astronomy Clubs, produce and send out Welcome packages to new clubs, and ensure website is functional when new system comes onboard
- Advertise and support the NOVA Course for Centres
- Continue with the regional Outreach Town Halls
- Support the Eclipse Task Force for 2023 and 2024 Eclipses with information, resources for the website, and Eclipse Rep meetings.



EDITORIAL BOARD

RASC Editorial Board – Annual Report 2022

- Christopher Gainor (Chair)
- Chris Beckett (Editor, Observer’s Calendar)
- Allendria Brunjes (Editor, SkyNews)
- Dave Chapman
- James Edgar (Editor, Observer’s Handbook)
- Charles Ennis (Board of Directors Representative)
- Robyn Foret
- Phil Groff (RASC Executive Director)
- Nicole Mortillaro (Editor, Journal of the RASC, & RASC Night Sky Almanac)
- Blake Nancarrow (Observing Committee Representative)
- Randall Rosenfeld

The RASC Editorial Board was created in 2020 by the RASC Board of Directors as the successor body to the RASC Publications Committee, and it began meeting in 2021. The Editorial Board has responsibility for all aspects of the Society’s publications including their editorial teams, financial arrangements, and marketing and sales efforts. Its membership includes the editors of RASC publications and other interested members appointed by the Board of Directors.

As the RASC and the wider world emerged from the COVID-19 pandemic in 2022, RASC publications faced unprecedented challenges due to inflation and supply chain problems that affected printing, fulfilment, delivery and distribution firms. Some had difficulties meeting commitments, including those involving costs, and some went out of business. RASC staff in National Office and volunteers involved with Society publications were kept busy dealing with the problems relating to publications in 2022. Although the RASC Editorial Board met only once in 2022, on September 13, its members and Society

Staff were kept busy throughout the year resolving many problems.

As 2022 began, the Society was busy dealing with outstanding delays in deliveries of the 2022 Observer's Handbook and Observer's Calendar that should have been completed in 2021. Fortunately deliveries of the 2023 publications later on in the year went smoothly.

The year was extremely difficult for SkyNews, which was affected by cost and delivery problems affecting advertisers, and printers and other contractors. In the fall, Allendria Brunjes, who had done an excellent job steering SkyNews through the many challenges of the pandemic years, accepted a new job outside the Society and was succeeded as Editor by Carina Ockedahl.

Publication of the Journal of the RASC went smoothly in 2022. In the October issue, an article was published in French, and it is hoped that more will follow. The 2023 Observer's Handbook was published on schedule. A search for a new assistant editor to assist James Edgar is ongoing. The 2023 Night Sky Almanac, published in cooperation with Firefly Books, went on smoothly.

In 2022, Chris Beckett of Regina succeeded Paul Gray of the Halifax Centre as editor of the Observer's Calendar and produced the 2023 Calendar with Paul Gray and others assisting with the selection of photos for the calendar.

For many years, the Society's Annual Report was designed and laid out by James Edgar and Catherine Berry of the Halifax Centre. Starting with this Annual Report, production goes to Society Past President Robyn Foret of the Calgary Centre, who also coordinates production of the Night Sky Almanac.

In 2022, Society Archivist Randall Rosenfeld continued his work of editing and preparing A Shared Sky, which will bring together papers presented for the 150th anniversary of the RASC in 2018. The book is due to have about 300 to 400 pages and contain a number of articles about the history of the RASC from 29 contributors.

The Editorial Board also received a manuscript for a biography of legendary, Canadian astronomer Dr. Helen Sawyer Hogg from Dr. Maria Cahill, which is undergoing assessment. The Editorial Board has also received a proposal for a Guide to Astrophotography from Stuart Heggie of the Astroimaging Committee, and another for a guide to the 2024 Total Solar Eclipse.

Christopher Gainor, Ph.D., FRASC
Chair, RASC Editorial Board

HISTORY COMMITTEE

Viewed in retrospect (an inescapable vantage beloved of the historically inclined), the activity of the Committee was more reminiscent of the velocity of a planet near perihelion, than one approaching aphelion. The Chair may console himself with the thought that the area covered should be equal to that of previous years, but if not, he accepts the blame!

Corporately, towards the end of the year progress was made on the Astronomical Landscape of Canada (ALC) project. If all goes to plan it should become visible to members (and others) when it appulses the 2023 GA. The ALC is a cumulative

web-based resource uniformly listing in some detail the astronomical structures, manmade and natural, in Canada. A sneak preview of the project's logo can be seen here [fig. 1], as well as several of the category logos [figs. 2 & 3]. Stay tuned!

The RASC Archives received some donations of more than passing interest.

Dave StremLaw of the Niagara Centre generously donated several items from the personal library of the Rev'd Norman Green (www.rasc.ca/norman-green). Rev'd Green was a prominent 20th-century member of the Society, an Assistant Director of



the McLaughlin Planetarium, and RASC National Secretary. The books have direct connections with two other RASC members of note, Dr. Helen Hogg, c.c. [fig. 4], and Sir Patrick Moore, FRS [fig. 5].

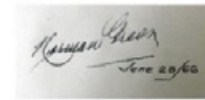
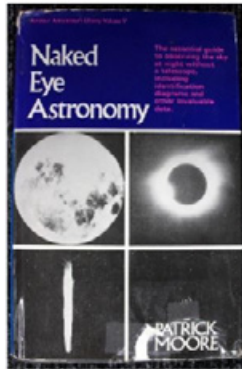
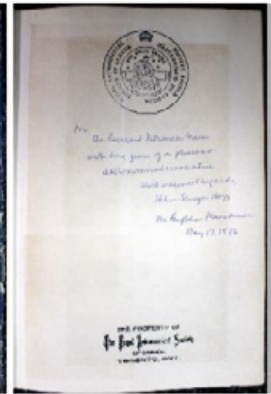
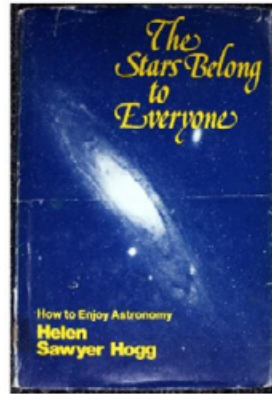
We also received two notable donations from an artist whose work has been collected by several notable planetarium directors in the USA, and Europe. Knowing that the RASC never received a Royal Charter, he created a shadow box to commemorate the granting of the appellation Royal by a very pro-science Canadian sovereign, King Edward VII, in 1903 (www.rasc.ca/societys-royal-charter). The artist used authentic materials from 1903—a photograph of the king, and two Canadian 1¢ pieces, and added an inscription succinctly explaining why we're a Royal society.

We may not have a royal charter, but we now have a material object to point to tell this part of our story [fig. 6]. And, like the rest of our material heritage of Canadian astronomy, any and all members are invited to drop by and look at the stuff.

In October a rather sensational find of an ancient astronomical artifact was announced, and widely covered in the press (skyandtelescope.org/astronomy-news/lost-star-catalog-of-ancient-times-comes-to-light/). The first fragment of Hipparchus' hitherto lost star catalogue (2nd century B.C.) had been found in the under text of a manuscript from the library of St. Catherine's Monastery (mid 6th century A.D.), in Mount Sinai, Egypt. Naturally, the Society's Archivist thought to himself "Wouldn't it be great if we had something like that on display in the RASC's National Office! But that's impossible"—except that the same artist made it happen. There was enough information in the discovery paper to allow him to reconstruct the probable appearance of the epochal Hipparchus passage, and he did it on a real piece of parchment. The he gave it to us. It too is now hanging in the office for members to see when they drop by [fig. 7]. We're likely the only place in Canada to have one of these.

Finally, we close by noting a few publications by Committee members which may prove of interest to members:

- Christopher Gainor, "Apollo Geological Training in Canada, 1970–1972", *JRASC* 116, 1 (2022 February), 9-15
- Christopher Gainor, "The Apollo 11 Astronauts Visit Canada", *JRASC* 116, 2 (2022 April), 43–47
- Christopher Gainor, "Canadian Visits of Early Spacefarers", *JRASC* 116, 3 (2022 June), 96–99
- R.A. Rosenfeld, "Technology Obscuring the Night: How Long Has Light Pollution Been Perceived as a Problem by Society Members?", *JRASC* 116, 2 (2022 April), 65–71 (dedicated to Rob Dick, FRASC, to mark his retirement from his notable chairmanship of the Light Pollution Abatement Committee)



INCLUSIVITY AND DIVERSITY COMMITTEE

I&D consists of the following RASC Members

- Virginia Rufina Marquez-Pacheco
- Paul Heath
- Noemi Vikki Zsohar
- Judy Sterner
- Brenda Shaw
- Simon Poole
- Bill Weir
- Kathrine Dulong
- Akram Fashatay
- Ari Giles
- JJ Rohit
- Kanika Gupta
- Katie Francis
- Labani Mallick
- Max Ramage Lee
- Michael Stevenson
- Shaf Hassan
- Saadia Shoaib
- Shaurya Bhatt
- Shawn Ouellette
- Shriya Naik
- Patrick Wilson
- Roland Dechesne (Chair)
- Charles Ennis; ex officio nbsp; (President)
- Jenna Hinds; ex officio (Executive Director)

World Asterisms Project

Project is led by Charles Ennis, and has so far examined over 570 of the world's cultures and recorded over 11,300 asterisms and 1,500 names for the Sun, Moon, and planets. The list includes 1,312 telescopic asterisms. Besides compiling and preserving sky information from over 570 of the world's cultures, the project has created and strengthened ties with astronomy researchers and institutions around the world.

Indigenous Astronomy Promotion and Reconciliation

Previous Committee work by Bill Weir on land acknowledgments for each of the RASC Centres was used to craft a 'Twitter-sized' version for ease of use by each Centre's social media person or for use on documents and presentation materials.

Although work on additional cultural content for the Indigenous Star Wheel has not progressed as much as planned, Roland Dechesne participated both a public unboxing and telescope assembly event with IndigiSTEAM, and also took part in a public outreach event entitled 'Tipis and Telescopes' during which hundreds of guests observed the night sky under spectacularly dark condition in the Rocky Mountains near Calgary.

I&D Committee member Shawn Ouellette is pursuing an ambitious outreach program for several First

Nations communities in Manitoba. He has past support from several RASC Winnipeg members for outreach events and is looking to build on the initial efforts.

Contact has also been made with a knowledge keeper with the Tsuu T'ina nation near Calgary.

Accessibility Workshop

Judy Sterner and Roland Dechesne presented a talk/workshop during the 2022 General Assembly, highlighting how creating opportunities for disadvantaged populations/members creates a more welcoming environment for everyone – a real win-win situation.

Traductions en Français

This is still an important goal for the Committee though admittedly not much progress has been made thus far.

Updates to the Inclusivity and Diversity Committees pages on the RASC.ca Website

Compared to the previous web content, which had a strong focus on Committee members' needs, additional outward looking content has been added, with the following links and information for Society members as well as the general public:

Resources Created by the Inclusivity and Diversity Committee

- [RASC Centres' Land Acknowledgements](#) Twitter-sized text
- [From 'The Stars Belong to Everyone' to 'Making Space for Everyone'](#) YouTube recording of I&D Committee workshop at 2022 General Assembly
- [The Insider's Guide to the Galaxy - World Asterism Project](#) YouTube recording of Charles Ennis discussing this project
- [World Asterisms Project](#) YouTube recording of Charles Ennis previewing this project
- [The Stars Belong to Everyone: Gender and Sexual Diversity in Astronomy](#) YouTube documentary
- [To the Stars and Beyond: Celebrating Black History Month February 2022](#) YouTube recording of presentation
- [Astronomy today. Framing the future February 2021](#) YouTube recording of presentation
- [Canadian Women in Astronomy](#) YouTube recording of presentation
- [Astronomical and Cultural Significance of the Lunar \('Chinese'\) New Year](#) PDF brochure file
- [Astronomical and Cultural Significance of the March Equinox \(Nowruz and Easter\)](#) PDF brochure file

Resources Created by other RASC Committees and Centres

- [Mi'kmaw Astronomy video playlist](#) YouTube recordings
- [The Golden Age of Islam – Contributions to the World of Sciences by Muslims](#) YouTube recording of public lecture

Planned Outreach Brochures

- Planned: Cultural significance of Big Dipper; brochure and PowerPoint presentation
- Planned: Cultural significance of the Pleiades; brochure and PowerPoint presentation

- Planned: Cultural significance of Orion (Belt); brochure and PowerPoint presentation
- Revamped: Cultural significance of Lunar ('Chinese') New Year; Brochure and planned PowerPoint presentation
- Revamped: Cultural significance of Equinox; Brochure and planned PowerPoint presentations

Planned Committee Inreach PowerPoint

Presentation for use by either I&D Committee members or local Centre members for use at Centre meetings, etc. Project is inspired by a similar presentation from the Light Pollution Abatement Committee.

INFORMATION TECHNOLOGY COMMITTEE

The Committee has continued over the last year with its usual tasks of maintaining rasc.ca and its ticket system, as well as the website for Regina Centre. Ryan May maintains the IP whitelist for JRASC institutional subscriptions, and Dave Lane tends to our domain names and SSL certificates. Curious Orbit renders occasional assistance in keeping both rasc.ca and our ticket system running on AWS. In August the ticket system was upgraded to a much more recent version.

rasc.ca runs on Drupal 7 which will reach official end-of-life in November 2023. In December an RFP was released to solicit bids on building a new RASC website. Thanks are due to Michael Wilson for doing much of the heavy lifting writing this document. The goal is to have a new website up and running by the end of 2023. This project will be the major focus of the committee in 2023 (but hopefully not 2024!).

LIGHT POLLUTION ABATEMENT COMMITTEE

Committee Membership

Bob King, Chair (Calgary)	Victoria Kramkowski (Toronto)
Peter Brackett (Calgary)	Charles Ennis, President, ex officio & Board Liaison (Sunshine)
Roland Dechesne (Calgary)	Jenna Hinds, ex officio (National office)
Lauren Knowles, Environmental	Outreach Coordinator, ex officio (National office)

Discussion

During 2022, the National Light Pollution Abatement Committee (NLPAC) continued its focus on revitalising our dark-sky preservation programme and on providing supportive resources and guidance for local light pollution abatement efforts. Much of the work was delivered through the Environmental Outreach Coordinator, who liaises with the RASC's dark-sky sites and Centres for their light pollution abatement resource needs. Work to develop and refine resources

and processes progressed during 2022. Specific achievements in 2022 are summarised below.

1. Directional Priority: maintain extensive resources on LPA initiatives:
 - A. Update and reorganise the LPA website:
 - I. Continued to update website with a focus on pages supporting the dark-sky sites.
 - B. Public outreach & education:
 - I. Promoted dark skies through a social media campaign. Gained 200+ followers.
 - II. Made three social media posts per month related to dark skies.
 - III. Gave several external presentations and press interviews:
 - a. CPAWS Manitoba webinar "Astronomy 101: How to Start Stargazing" - July 2022 <https://vimeo.com/showcase/8214378/video/734118730>

- b. Friends of Fish Creek & Calgary RASC Get to Know the Night Sky event - Oct 2022
- c. The Land Between blog Jan 2022
- d. Miranda Leybourne (Brandon Sun) July and August 2022
- e. Hanna Hett (UBC journalism student and freelance journalist) Sept 2022
- IV. Collaborating with Gina Payzant, playwright/producer, to create a film about light pollution.
- 2. Directional Priority: liaison with the International Dark-Sky Association (IDA) and other LPA groups
 - A. Participate in select conferences:
 - I. Participated in the Crime Prevention Through Environmental Design (CPTED) seminar offered by the Illuminating Engineering Society. Among a variety of crime prevention strategies, CPTED promotes visibility not just lighting.
 - II. The NLPAC is indirectly connected to and supporting the next Artificial Light at Night (ALAN) conference of ALAN researchers and select citizen scientists, scheduled for 2023 Aug 10-13.
- 3. Directional Priority: LPA Certificate of Merit programme
 - A. No certificates issued.
- 4. Directional Priority: conduct research on current light-pollution levels
 - A. No new work completed.
- 5. Directional Priority: sharing of strategies and techniques to effectively engage individuals, companies, and municipalities in adopting effective measures to reduce light pollution:
 - A. Dark-sky site applications and approvals:
 - I. Spruce Woods Provincial Park Dark-Sky Preserve (Manitoba), which was officially announced in Sept 2022.
 - II. Johns Family Nature Conservancy Nocturnal Preserve (BC), which will be publicly announced 2023.
 - III. Enquiries from three prospective sites were received and formal applications are anticipated.
 - B. Operational support of Dark Sky Sites: In response to a request by dark-sky sites, an informational leaflet was created and 24,485 English and 7,440 French copies were distributed to 20 dark-sky sites in a pilot project. These were used by the sites to educate visitors about what a dark site

is and how they can support protecting the nocturnal environment. The leaflets also helped sites' management ensure its staff provide consistent messaging to visitors. The sites felt the leaflets were very beneficial and provided constructive feedback for improvements.

- C. Municipal Dark Sky Toolkit: This toolkit is intended to help RASC members advocate to municipalities and other levels of government for dark sky and light pollution abatement measures, such as outdoor lighting by-laws and the establishment of dark sky sites. In 2022, the LPA Committee presented at the RASC GA on how to reach out to municipalities on dark sky actions. The toolkit concept was also introduced, and audience feedback was obtained on which components of the toolkit would be most useful and should be prioritized. During 2022, parts of the toolkit were drafted, including a guide on how to navigate municipal and government processes, a communication template for reaching out to elected officials, and template slides for presenting to Councils, elected officials or governmental staff. These resources will be finalized in 2023.
- D. Create a library of LP presentations: A PowerPoint presentation about the LPA committee and the Dark Sky Sites programme was prepared and distributed to all Centres to use. A PowerPoint intended for general audiences was also prepared and distributed. Some NLPAC members supported local presentations of these PowerPoints.

Expenditures

NLPAC Expenditures in 2022 were \$4701.44 as follows:

Spruce Woods Dark-Sky Preserve declaration ceremony:	\$126.44
- Printing and courier fees	\$31.86
- Travel (fuel only)	\$94.58
Leaflets pilot—print and distribute:	\$4,535.00
IES CPTED seminar registration (1):	\$40.00

NEXT GENERATION COMMITTEE

ABOUT

The NextGen Committee's purpose is to address the needs of current and future RASC youth members (meaning members between 13 and 25 years of age, inclusive) as they relate to programs and services of the Society. The committee serves to represent the unique viewpoints, values, and experiences of the Society's youth members as they apply to their RASC membership, including a core dedication to upholding the ideals of respect, inclusivity, and diversity within the Society.

COMMITTEE MEMBERS

Chair: Ivan Tockovski.

Members: Disha Patel, Keegan Oickle, Dennis Lu.

Observing Member(s): Matteo Statti.

Board Liaison: Betty Robinson.

OBJECTIVES, PROJECTS, AND ACTIVITIES

In 2022, the NextGen Committee continued its work on initiatives and projects that carried over from 2021 including the "NextGen Scholarship Program", educational outreach on social media, amplifying youth voices and talents on social media, planning and leading the youth sessions in the General Assembly (GA), and working on its "Passport to the Universe" project.

1. 2022 GA Youth Sessions.

NextGen organized and led several of the youth sessions in the Reach Up segment of the 2022 GA including the Origami Telescope workshop, Getting involved in Astronomical Research presentation, the Constellations: Night Sky workshop and the Mission: Stop the Asteroid! team-building activity. NextGen received several compliments regarding the variety and scope of the youth sessions, however, lower-than-expected turnout in the youth sessions has been taken into consideration to ensure greater reach in 2023.

2. Social media outreach.

The NextGen Committee successfully created 18 social media posts in 2022 geared toward educational outreach and public engagement.

3. Meetings.

NextGen held 11 general meetings throughout 2022.

4. NextGen Scholarship Program.

The NextGen Committee once again offered a total of \$1500 CAD worth of scholarships for the potential of two youth members in the Society, split into two separate bursaries: the \$500 Community Leadership Fund (CLF) and the \$1000 Post-Secondary Scholarship (PSS).

Despite its success in 2021, the initiative did not receive enough applicants, even after extending deadlines. It was not possible to fairly select two winning candidates. Thus, the scholarships were, unfortunately, not awarded in 2022.

CHALLENGES IN 2022

The NextGen Committee experienced an early change in leadership followed by shifts in its membership throughout 2022. Without a set internal procedure to allow smooth transition between incoming and outgoing members, this resulted in an unexpected change in momentum that required re-establishing goals, initiatives, and projects throughout 2022. The committee began seeking new members near the end of 2022 to be able to take on larger projects in 2023 and to fill in the gap left by outgoing members.

REACH

Additionally, near the end of 2022, it was apparent that the reach of the NextGen Committee was not as wide as was aimed for at the beginning of 2022. This was most evident in the lower-than-expected turnout at the youth sessions in the GA and in the lack of applicants for the scholarships. NextGen RASC took the opportunity to turn these challenges into action items and has established greater reach as one of its main goals for 2023.



FOCUS FOR 2023

Connecting youth members is among NextGen's main goals for 2023. Several projects are being developed to reach this goal including hosting monthly "Youth Game Nights", preparing more social media outreach, launching a Discord community, and showcasing youth talents in the "Full STEAM Ahead!" initiative. NextGen will also introduce a revamped scholarship program to continue the assistance for the community, will design new merchandise, establish a Speaker Series program, and plan improved youth membership benefits, alongside continued work on the "Passport to the Universe."

OBSERVING COMMITTEE

Summary

The calendar year 2022 (Jan '22 to Dec '22) was somewhat quiet in contrast to 2021. The previous year kept us hopping as we processed 68 certificates. This year saw 35 certificates issued.

We ordered lapel pins. We replenished the Explore the Moon-Telescope supply. Happily, we made a brand new pin for the Double Stars observing program. We were pleased to come in under budget for these items.

The updated committee is healthy and we're looking forward to 2023.

Observing Programs

The RASC national Observing Committee oversees 8 visual observing certificate programs, 9 if you count the sub-types for the EM. See rasc.ca/certificate-programs for more information. We show them below, ranked in increasing levels of difficulty.

1. Explore the Universe (EU) [with pin]
(the only program open to the public)
 - A. Explore the Moon (EM)
 - B. Binoculars (EM-B)
2. Telescope (EM-T) [with pin]
3. Messier Catalogue [with pin]
4. Finest NGC Objects (NGC) [with pin]
5. Double Stars (DS) [with pin]
6. Isabel Williamson Lunar Observing Program (IWLOP, IW LUNAR) [with pin]
7. Deep-Sky Gems (DSG)
8. Deep-Sky Challenge (DSC)

The Observing Committee issued its first certificates in 1981. At the close of 2022, a total of 817 certificates were awarded to RASC members and some members of the public across Canada and around the world.

We wish to remind observers that earning a certificate is an individual effort. In other words, the finding or locating (L), examination and observing (E), and logbook text and sketching or recording (R) must be all your own work.

We remind observers that we consider an observation to be a brief log note and/or an annotated sketch. Photos may be included in submissions but logging/sketching must be done from an eyepiece.

We continue to provide additional files for download for observers wanting observing lists for their favourite astronomy software. We have lists in Excel,

SkyTools, Stellarium, and SkySafari formats for many of our programs (with supplemental notes as needed).

Certificate Recipients

We approved the following 35 applications in 2022. Listed in reverse-chronological order.

EU, Michelle Brodie, National member living in Montana
 EM-T, Jeff Hiscock, St. John's
 EM-B, Peter McNamee, Vancouver
 NGC, Eric Klaszus, Calgary
 EU, Stephen Biggs, Toronto
 EU, Mark R. Barclay, Saskatoon
 EM-B, Chris Vaughan, Toronto
 EU, Chris Vaughan, Toronto
 EM-T, Curtis Breslin, Ottawa
 M, Dave Anderson, Ottawa
 EU, Andrew Bennett, Calgary
 EU, Santiago Ortiz, Public - Spain
 EU, David Goldstein, Thunder Bay - Minnesota
 EM-T, Ross Ens, Vancouver
 EM-T, Elsie Ferguson, Halifax
 EU, Chris D Thompson, Toronto
 NGC, Charles E Allen III, Montreal - Louisville
 M, Charles E Allen III, Montreal - Louisville
 EU, Rob Fanning, Halifax
 NGC, Frank Dempsey, Toronto
 EU, Michel Michaud, Victoria - Saint-Anaclet
 DS, Leonard Larkin, New Brunswick
 EM-T, Nishat Khan, National - Maple
 ISLOP, additional targets, Melody Hamilton, Halifax
 M, Thomas Bracken, Montreal
 EU, Eric Hess, Calgary
 EU, Michael Arseneault, Public - Edmonton
 EU, David Nuth, Calgary
 EM-T, Brian Barber, Victoria
 EM-T, Denis Pilon, Regina
 DS, Denis Pilon, Regina
 EU, Bernard Venasse, National - Hamilton
 EU, Zoë Amelja Kenney, Public - Quebec
 EM-B, Matt Stroh, National - Redcliff
 EM-T, Mark R. Barclay, Saskatoon

Notes: Melody Hamilton remains our most decorated observer; she logged additional targets from the challenging Isabel Williamson Lunar Observing Program. Chris Vaughan continues to complete more RASC programs. Santiago Ortiz is our most distant observer for the year, working from his home in Spain. Chuck Allen, vice president of the Astronomical League, wanted to complete some of the programs north of the border and we were happy to certify him. And last but not least, Bernard Venasse is an accomplished observer with a great number of certificates from the Astronomical League.

We congratulate all the observers who completed their certificate programs. It fills us with pride to see RASC members, and the general public, active in visual astronomy.

Analyses

Let us analyse the RASC observing certificates which we processed for the year.

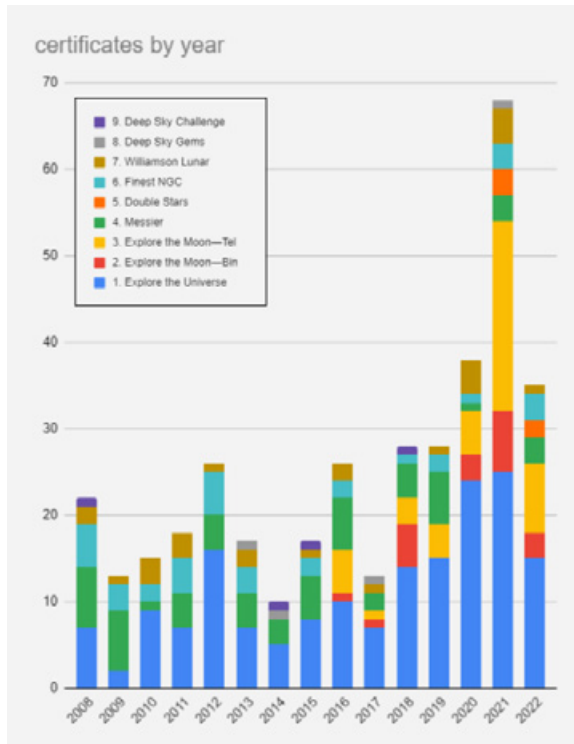


Figure 1. Certificates awarded by year back to 2008.

The calendar year 2022 shows 35 certificates awarded (see figure 1). This is the third highest activity in recent years going back to 2008, which we were very pleased to see. The lion's share of certificates were for the Explore the Universe and the Explore the Moon-Telescope. There were nearly equal numbers for the EM-Binoculars, Messier, and Finest NGC. We saw a couple more Double Stars applications.

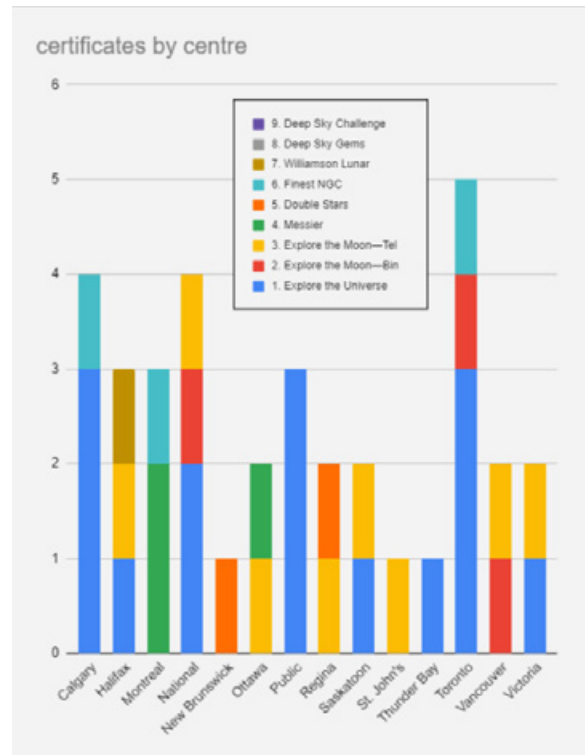


Figure 2. Certificates issued by centres.

We like to slice and dice our data. It is fun to see where observers were working across this great nation. This chart (figure 2) shows Toronto and Calgary taking the top two spots followed by Halifax and Montreal. We were equally thrilled to see contributions from New Brunswick, St John's, and Thunder Bay. RASC members not affiliated with a particular centre, designated National, submitted 4 applications. These came in from the United States and other parts of Canada. The Public column represents people outside RASC applying for the Explore the Universe certificate and again these came in from all over Canada plus Spain.

The Team

The Observing Committee at the start of 2022 was comprised of Dale Armstrong (London), Chris Beckett (National, Regina), Dr Randy Boddam (Belleville), Dave Chapman (Halifax), Charles Ennis (Sunshine Coast), Melody Hamilton (Halifax), Roger Hill (Hamilton, Kingston), Malhar Kendurkar (Prince George), Bruce McCurdy (Edmonton), Blake Nancarrow (National), Murray Paulson (Edmonton), Karol Socander (Kitchener-Waterloo), Jo Vandendool (Mississauga), and Bill Weir (Victoria).

Ahead of the 2022 AGM, team members were consulted as to their status. Dave Chapman wanted to step down. He's a busy man and will be missed. We thanked him for his tremendous support over 10 years. Bruce McCurdy asked to step away. Happily, he continues to help on the *Observer's Handbook* proofreading team. Roger Hill asked to take a break for a little while, to get more involved next year.

Curt Nason declined an invitation but suggested Emma MacPhee. She accepted and joined the committee in May. She's an accomplished visual observer and holds 3 RASC observing certificates. And she's bilingual. It is excellent to have a representative from New Brunswick. Eric Klaszus from Calgary is also a very busy member, but happily accepted an invitation to join the committee.

Malhar Kendurkar served as the national board representative liaison.

We conducted a team meeting over Zoom in February with a good number present. We discussed a number of matters including clarifying what we expect observers to submit for their logs, the many *Deep-Sky Gems* list changes over the years, some criticisms of the *Explore the Universe* program, more French language translations, and our shared file management.

As an aside, some general members somehow discovered the private Observing Committee forum and requested to join. We remind members that this particular forum is for the national committee, and is for committee members only, and is where we conduct committee business. It is not a general forum on observing matters. The "main" RASCals forum may be used for this. Or, alternatively, the members could lobby for a distinct or separate public forum to be created to discuss visual observing topics with fellow members.

Promotion

The Observing Committee endeavours to promote our visual observing certificate programs to the RASC membership.

We primarily utilise the monthly RASC *Bulletin*. Typically, we issue an update with a list of certificates issued in recent months.

We occasionally deliver talks to RASC centres. We remind centre meeting coordinators or local observing committee chairs that we're only too happy to receive requests and invitations to present at their meetings to their local members. It's a great way to update people as to our new programs and recent activities and to build a buzz, get observers excited and invigorated, hopefully inspiring them to undertake a new program or challenge themselves.

We talked about the RASC visual observing certificate programs in January, within the *Insider's Guide to the Galaxy* webinar, co-presented with Samantha Jewett and Chris Vaughan. This was streamed live and recorded on YouTube.

<https://www.youtube.com/watch?v=mTQIcTINX8c>

Upon receiving an invitation from Luca Vanzella in February, we delivered a presentation on our visual

observing certificate programs as part of the Astro Café event for the RASC Edmonton centre. The video recording is on YouTube and a PDF copy of slide deck can be found on their web site.

<https://www.youtube.com/watch?v=mTQIcTINX8c>
<https://edmontonrasc.com/2022/02/astro-cafe-feb-16-2022-rasc-visual-observing-certificates/>

The Observing Committee is grateful for the tremendous efforts to refer to our visual observing programs via the *Insider's Guide to the Galaxy* webinars delivered by live stream and recorded to YouTube. See the RASCANADA YouTube channel for all their videos. The link here specifically connects to the playlist for the *Messier Minutes* delivered by Chris Vaughan and Samantha Jewett.

https://www.youtube.com/playlist?list=PLzou3EKq3thvi7W_7WrLQKVxtjqGIkbnj

Of course, if RASC members haven't otherwise heard of the visual observing certificate programs, we encourage you to visit our web site's main program page for more info, or send us an email with all your questions. We're happy to help.

<https://rasc.ca/certificate-programs>
observing@rasc.ca

Do we sound like a broken vinyl record? We really are keen to help in any way. Do not hesitate to reach out.

Other Matters

With our budgeted funds from 2021, we planned to order more lapel pins. Inventory counts revealed we were running low of *Explore the Moon* pins (provided to observers completing the *ETM-Telescope* program). We also wished to make a new pin for the nascent *Double Stars* program. We submitted an order for 100 of each, and the artwork files for the manufacturer. The Observing Committee attempted to piggy-back our order onto the national office's run for the 2022 General Assembly pins so to realise some cost savings but unfortunately this was not accomplished. We re-opened the matter in July and, despite a number of staff changes and hand-overs, completed the pin order, under budget too! The office received the new pins on 24 Oct '22. As 5 members had completed the newest observing program, we mailed them the *Double Stars* pin to complement their printed certificate. Len Larkin (Saint John), Denis Pilon (Regina), Chris Vaughan (Thornhill), Frank Dempsey (Pickering), and Melody Hamilton (Litchfield) happily received the hardware. Shiny!

There are now a total of 6 different pins (figure 3) which observers may acquire.



Figure 3. The lapel pins up for grabs.
 Apologies: the IWLOP is upside-down. But then the Moon appears rotated in a reflecting telescope—so there!

We reviewed the Workgroups file management feature of Driven within our private forum, but did not find it easy to use or flexible. It was clearly an immature tool that impeded our workflow. We switched to Google Drives and made a new Shared Drive for the team and migrated all our content from dropbox (which was necessary as dropbox usage was impacting committee member personal storage limitations). The Google services are provided via Google Workspace for education organisations and effectively gives us infinite storage space with many added benefits such as co-authoring and co-editing of files. It is working very well and we plan to run training sessions for team members to fully exploit the potential of Google file sharing.

Budget

For 2022, we were not asked and we did not submit a budget. We did not anticipate any unusual expenses.

Outlook

The Observing Committee is looking to stay the course, continuing to maintain and promote our existing programs. We constantly update our materials for clarity and inconsistencies, while balancing the needs and expectations of long-time members as well as new people joining RASC.

It is our great honour to assist members in improving their observing and logging skills while having fun and learning at the eyepiece. We're in the business of giving goosebumps and feathers in caps.

Colophon

Blake Nancarrow made a brief note with a deadline task in Evernote. He drew notes, facts, and figures from committee documentation including the previous year's report, the Obs Comm Google Sheets "master database," the Google Sheets tracking register shared between Obs Comm and national office staff, and Observing Committee emails in the Driven private forum. Data was manipulated in Sheets to produce the charts. Content migrated directly to Google Docs for the formal report. Output to PDF.

Images prepared separately in high resolution and saved as PNGs for use in the InDesign app for the preparation of the board reports.

Reviewed by various committee members. Apologies for errors and omissions. Please submit corrections, additions, and requests for deletions to the author.

Humbly prepared and assembled by Blake Nancarrow (observing@rasc.ca), Observing Committee Chair.

National Council Report

2022 was certainly a year of change for the National Council (NC). Much activity evolved around the objectives to help the NC more clearly define its role within the RASC, how to reinforce the importance of the NC Reps attendance and reporting to their

Centres, and how to strengthen the connection between the Board and the Council – all this to improve understanding and the willingness to work together as a team. We came a long way in starting this process.

Meetings

National Council scheduled five but held four meetings in 2022 – March 6, June 12, September 11, and December 4. Because the June date was so close to the General Assembly (GA), members decided to forego the GA meeting date. Each

meeting averaged 23 of 45 members representing an average of 19 of the 30 Centres. For a timelier response to proposed changes and advice requested from the Board, the NC will host seven meetings in 2023.

Officers & Centre Representatives to the National Council

(brackets indicates resignation during 2022)

As Chair, I thank NC Officers Jim Fairles and Eric Klaszus for their invaluable opinions and guidance to find a way forward, to Alister Ling for his years of

service as Council Recorder, and to my fellow RASC NC Representatives who have volunteered their time and expertise for the betterment of the Society.

Chair	Judy Black, Halifax Centre (elected June 12)		
Vice-Chair	Jim Fairles, Kitchener-Waterloo Centre (elected December 4)		
Council Recorder	Eric Klaszus, Calgary Centre (elected December 4)		
Belleville	Donald Town	Ottawa	Mick Wilson
	Debi Butler		Jonathan Falbo
Calgary	Steve Donaldson		(Paul Sadler)
	Robyn Foret	Prince George	Rob Woods
	Eric Klaszus		(Blair Stunder)
	(Judy Sterner)	Regina	Peter Hagar
Edmonton	Alister Ling		Mark Meadows
	Sharon Morsink	Sarnia	Marty Cogswell
Fraser Valley	Greg Sebulsky	Saskatoon	Les Dickson
Halifax	Judy Black	Sudbury	Alan Ward
Hamilton	Abigail Hughes	Sunshine Coast	Bill Haskett
Kingston	John Hurley	St. John's	Marcellus Redmond
Kitchener-Waterloo	Jim Goetz	Thunder Bay	Andreas Buccholz
	Jim Fairles	Toronto	Ralph Chou
London	Norm McCall		Paul Delaney
	Mark Tovey		Lucy Winnicki
Mississauga	Randy Attwood		Laila Zichmanis
	Swapna Shrivastava		(Richard Weatherston)
CF de Montréal	Patrice Scattolin	Vancouver	Nolan Smith
Montréal	Frank Tomaras	Victoria	Bill Weir
	Morrie Portnoff		Nathan Hellner-Mestleman
New Brunswick	June MacDonald		(Sherry Buttner)
	Francois Therriault	Windsor	Tom Sobocan
Niagara	Pauline Horton	Winnipeg	Dennis Lyons
Okanagan	Jim Failes		Bryan Stach
	(David Hawkins)	Yukon	Patrick Egan

Terms of Reference & Position Descriptions

Much activity has centred around redefining the role of the National Council within the RASC. Although no longer the RASC decision-making body, the Council does have a role in providing guidance to the Board, input to RASC Committee projects when requested, and guidance to the Centres when challenges arise. The NC will also investigate ways to involve those Centres infrequently attending meetings.

Policy C12: National Council Terms of Reference requires revision. Following input from fellow NC members, the NC officers will provide a suggested revision in 2023 prior to forwarding to the Board for approval.

The various roles within the NC needed defining to ensure members knew their roles, responsibilities,

accountability and reporting mechanisms. In light of the upcoming retirement of long-time Council recorder Alister Ling coupled with discussion about the role and accountability of NC Representatives and especially their role as liaison between the centres and the NC, position descriptions were drafted for these positions. Given the mid-year elections, clarity of the roles of the Chair and Vice-Chair were required. Consequently, position descriptions for *Chair, Vice-Chair, Council Recorder and Centre Representative to the National Council* were approved at the December NC meeting and were posted on the RASC website. Thank you to Alister Ling (Edmonton), Eric Klaszus (Calgary), and Jim Fairles (Kitchener-Waterloo) for their time to complete this project.

Relationship with the RASC Board of Directors

The Board acknowledged the need to communicate with the NC not only more frequently but also before decisions are made, and we worked to improve the working relationship. The RASC Presidents Robyn Foret (January-June) and Charles Ennis (June-December), RASC Executive Director Dr. Phil Groff and other Board members regularly attended meetings to provide guidance when needed, reports on Board activities for which they requested input, and updates regarding challenges such as publications and distribution, staffing and the database.

The increased RASC membership fees announcement at the RASC AGM was seen as a tipping point and created much discussion across all levels of the RASC. On August 16, a 12-page *Open Letter to the RASC Board of Directors from the National Council* outlined the numerous concerns of the Centres and their membership. On August 18,

co-signers Stephen Nourse (President, Ottawa Centre) and Judy Black (Chair, National Council) were invited to attend the October 15th Board meeting. It was a very positive meeting. There was a recognized need for improvement between the Board and National Council (NC), the Board with the members at large, and the Centre Representatives with their Centres. All agreed there was a need to work to improve communications at all levels of the RASC, to work collaboratively as a team, and to improve transparency (especially relating to the financial aspects). It was the beginning of building on the 3 Pillars of Trust (collaboration, consultation, transparency).

As Chair, I thank the RASC Board of Directors for their ongoing support of the NC and recognition of the invaluable service its members and that of their Centres contribute to the Society.

Consultation with RASC Committees & Task Teams

Following a recommendation made at the September NC meeting, revisions to the RASC Finance Committee membership policy were made to include up to 3 Centre Treasurers. Consequent to the call for Centre Treasurers to join the RASC Finance Committee, three volunteered.

Education and Public Outreach (EPO) Committee members Lauri Roche (Chair) and Judy Sterner (Calgary) requested NC input for the *Centres Manual*. It was consequently approved for posting to the RASC website. Thanks to members Paul Sadler (Ottawa) and Dennis Lyons (Winnipeg),

documents regarding *Preparation for EPO Activities* (for Centre Use) and *Becoming an EPO Volunteer* were developed for inclusion in the manual.

Randy Attwood (Mississauga), Chair of the General Assemblies Working Group, provided their perspective on how to make General Assemblies (GAs) more attractive to attend, including development of a guide for Centres considering hosting a GA and that the GA take place separate from the AGM. Randy, as Chair of the 2024 Eclipse Task Team, apprised NC members of the RASC and American Astronomical Society (AAS) planning activities and workshops.

Other Meeting Activities

The requirement for Centre Reports at NC meetings was removed. Centre Reports is now a standing item on the NC agenda should a Centre wish to have an item addressed.

Questions were raised regarding the RASC public liability insurance. Consequent to a presentation by Executive Director Dr. Phil Groff, an FAQ was posted on the RASC site to explain the process for application, what events are covered, who is covered, the scope of coverage, and when things are covered.

Members requested assistance in how best to conduct hybrid meetings with the return of in-person meetings. Jim Fairles (Kitchener-Waterloo) agreed to compile a 2-page hybrid meeting best practices document regarding hosting and the

mechanics of hosting, based in part on input from Centres with hybrid meeting experience.

Concerns regarding fewer volunteers available to maintain Centre websites were raised; it was suggested that the RASC be the Centres' website host. Donald Town (Belleville) collated responses received to a questionnaire. Most input was from large Centres and they preferred to retain their autonomy.

A GLP training session was conducted by Dennis Lyons (Winnipeg) for NC members. We are very grateful to Dennis for his time and expertise to acquire the authorization letter from Transport Canada and for development of the GLP training program used by the Centres.

Summary

These are interesting times to say the least. The Society is on a much better footing because of the Council's role in providing the information and the guidance needed to go forward. There also was the much improved communication between the NC and the Board. Not all changes made in 2022 were perceived as positive but I firmly believe that the Society will be thriving and strong for years to come because of changes already made and those to be made in the coming year with continued input from us all.

It is said that if there is any one secret of success, it lies in the ability to get the other person's point of view and see things from that person's angle as well as from their own. Understanding successes and challenges of Centres and our members from

various perspectives – individually and collectively – is key to a stronger RASC. Sincere thanks to the many RASC members across the country who provided their personal and Centre perspectives to the National Council table – their criticisms, the accolades, and their suggestions on how to make improvements. All truly appreciated.

To all our fellow RASC members, remember to look up. Starting at your feet, the skies are open to explore our Universe.

Respectfully submitted,
Judy Black
Chair, National Council

Annual Reports Of Centres

Belleville

Apathy, Covid-19, and the recent membership fee increase have contributed to our declining membership - down to 21 members at the end of 2022 versus 37 at the beginning of the year.

We have managed to meet virtually every month and have augmented Zoom with in-person meetings that restarted in October. We plan on continuing to hold Hybrid meetings for the remainder of 2023.

Public Outreach at Presqu'ile Provincial Park consisted of both night and solar observing for park guests from June through August.

The annual Fall-N-Stars star party held jointly with the Kingston Centre in September was well attended this year.

The Centre also provided a public presentation **"The Art of the Universe: An Evening with 3 Astronomers"** (Wed Nov. 30, 2022) to a sold out crowd at the Theatre in The Wings.



The evening featured three members of the Belleville Centre of the RASC who discussed the scientific and social impacts of the images sent back to earth from the James Webb Telescope; examined the benefits and environmental aspects of creating dark sky parks/cities; and a 'how to' session in capturing the night sky with digital cameras.



Fall-N-Stars 2022: Dark Skies in Prince Edward County...and the requisite group photo

Belleville Centre	Website:	rascbelleville.ca	
	Email:	rasc.belleville@gmail.com	
Co-Presidents:	Greg Lisk	greglisk7@gmail.com	11 Robert Dr, Trenton ON
	Don Town	donald.town@gmail.com	119 Trillium Rd, Belleville ON
Vice President:	Randy Boddam	dr__druid@msn.com	
National Council Rep:	Debi Butler	debi.i.butler@gmail.com	
Secretary:	Joanne Burns	jburns9@sympatico.ca	
Treasurer:	Garth Penn	gjpenn@hotmail.com	
Observing Chair:	David Billo	dbillo@sympatico.ca	
Media Coordinator:	Steven Burr	steveburr100@gmail.com	
Database Manager:	Robert Mindenhall	rfminden@gmail.com	

CALGARY

Secretary's Annual Report 2022

Centre:	Calgary Centre
Submitted by:	Peter Brackett
Date:	April 14, 2023
Established:	1958 : 2023 is the 65th year for RASC, Calgary
Membership:	579 as of Nov 9, 2022
Assets:	Meetings held at the Calgary Central Library Wilson Coulee Observatory – just north of Okotoks- Multiple Scopes on site Eccles Ranch Observatory- Conservation Easement- yearly Star Party site Ralph Klein Park Observatory- underdevelopment in SE Calgary- planning stages Extensive Telescope and Binoculars for rent program
Partnerships:	With University Of Calgary Rothney Astrophysical Observatorytelus Spark Science Centre City Of Calgary, City Libraries, schools
Outreach:	3-6 monthly public events and educational outreach programs
Special Projects:	
2021-22	Funding raising and planning development of the RALPH KLEIN PARK OBSERVATORY Major renovations of the buildings at the Wilson Coulee Observatory plus additional observing equipment

Centre Contact Information

Centre name:	Royal Astronomical Society of Canada, Calgary Centre
Centre address:	R.A.S.C., Calgary Centre
Updated Apr 2023:	PO Box 22099 Calgary RPO Bankers Hall, Calgary, AB, T2p 4J5
Previous address was:	PO Box 20282 250, 300 5th Ave. SW Calgary, AB T2P 4J3
Centre Telephone:	587-573-4197 Peter Brackett cell
Centre email:	Secretary Peter.Brackett@shaw.ca 2021-22 / Bruce Foster- jbfooster@icloud.com 2022-23
Centre websites:	http://calgary.rasc.ca Royal Astronomical Society of Canada - Calgary Centre (RASC) - Group Facebook Calgary RASC (@CalgaryRASC) / Twitter

Centre Executive- 2021-2022

Name	Role(s)	Email
Phil Langill	Honorary President	
Simon Poole	President	simonjastronomy@gmail.com
Steve Donaldson	1st Vice Pres	sdonalds@telusplanet.net
Heather Laird	2nd Vice Pres	hmlaird@outlook.com
Russ Dueck	Treasurer	calrasc treasurer@gmail.com
Bruce Foster	Secretary	jbfooster.calrasc@shaw.ca
Roland Dechesne	Past President	roland.dechesne@cnrl.com
Council		
Phil Tracey	Councilor	yecartpilih@shaw.ca
Andrew Bennett	Councilor	andrewianbennett@gmail.com
Larry McNish	Councilor	RASCwebmaster@shaw.ca
Fred Ritter	Councilor	f.ritter@shaw.ca
Adriana Stone	Councilor	adri.stone@live.com
Patricia Jeffery	Councilor	patjeffery@shaw.ca
Myrna Fleury	Councilor	kaymin57@shaw.ca
Daniel Boychuk	Councilor	boychuk.daniel@gmail.com
National Reps		
Steve Donaldson	NC Rep	sdonalds@telusplanet.net
Eric Klaszus	NC Rep\WCO Coordinator	eric.klaszus@gmail.com
Robyn Foret	NC rep\Casino Coordinator	arforet@shaw.ca
Committees- non voting		
Judy Sterner	Library	judy.sterner@gmail.com
Jack Milliken	Observing Committee	calrascsec@telus.net
Doug Thorp	Youth Group Comm	dthorp@shaw.ca
George Grant	TFR coordinator	calgary.scopes@gmail.com
Peter Brackett	ERO Coordinator	peter_brackett@shaw.ca

Centre Activity Report Nov 2021-Nov 2022

2022 was another very active year for the Calgary Centre

In person and hybrid general meetings were restarted in Sept 2022 at the Calgary Central Library, previously just online

Calgary Centre's Public Outreach efforts hosted many public events with many being online only meetings until the fall of 2022 when we started hybrid in person and online meetings at the Calgary Central Library.

Simon Poole delivered many topics while handling all the Calgary RASC Presidential duties with help from weekly volunteers.

Centre Members also continued to show support to our communities of interest, the University of Calgary (Rothney Astrophysical Observatory Public Nights), Alberta Provincial Parks, and the Banff and Waterton National Parks.

Special mention to Ken and Bev From, owners of All-Star Telescope for their long term support of the

Calgary Centre, and for their generous sponsorship. Nicholas Kennett is continuing with All-Star Telescope, moving it to Edmonton.

Membership

At the end of November 2021, the Centre had 475 members. This had grown to 579 as of Nov 9, 2022.

Calgary celebrated exceeding this 500-member level and the additional national council representation based on exceeding 500 members.

At our public events volunteers highlight Centre activities and the benefits of RASC membership to encourage attendees to join the RASC.

Key Activities

Our Social Media web information managed by Roland Dechene and Larry McNish continues to attract growth and likely help to sustain awareness to the public concerning our activities in the Calgary Centre and support the membership level we currently maintain

Our Youth Group lead by Doug Thorp helps with the addition of new Youth Members and their families.

Jack Milliken organizes both our Observer's Group and New Observer's to Visual Astronomy (NOVA) with active online monthly meetings.

Our [Calgary Centre of the RASC | Inspiring Interest and Knowledge of Astronomy](#) home page has been updated via a support person per a Canada Summer Jobs grant while maintaining links to our legacy support online information. Larry McNish, our long-time technical support Guru worked with Christian to continue to connect the new webpages with our extensive legacy online information

Our Calgary Centre Facebook page also promotes events and encourages participation of members in sharing their astronomical areas of interest and astronomical events. Many members submit their work through this site increasing awareness of astronomical events to the community. Meetup, Twitter and YouTube are also used to disseminate astronomical information to the community.

Our new Calgary Group organized by David Brown Promoting Amateur Research and Scientific Exploration of the Cosmos (PARSEC) has had series of high level technical online presentations which have been well received.

George Grant organized our Telescope For Rent Program (TFR) and moved it to a local Calgary storage site and restarted it in September 2021.

PARSEC: Nuts and Bolts talks for 2021-22

Date	Speaker	Topic
January	Phil Langill	exoplanets.
February	Gary Billings	eclipsing binaries
March	Denis Vida	Meteor Camera
April	Laurie Sibbald	Backyard Exoplanet Transit Measurements.
May	Richard Harshaw	Double star speckle measurement.
June	Terry Bridges	Trans-Neptunian objects.
Oct 2022	Rick Wagner	RASC Remote Telescope in California
November	Dr Phil Langill	Review of the published results of the Asteroid moon Plus did an introduction to Mira software

General Meetings

Active programs promoting events with Meetup.com encourages the interested public to attend our events, usually augmenting attendance significantly and supporting healthy membership sustenance.

We have attracted many attendees from outside our geographic area and Canada via the online presentations

General meetings were held on the third Thursday of the month online hosted by the Calgary Public Library and featured the following main speakers and topics:

Date	General Meeting Speakers and Topic	Attendees	
		Online	Total
20-Jan-22	Dr. David Grinspoon - Venus	218	218
17-Feb-22	Various - Astroimaging: The Best of the Night Sky	373	373
17-Mar-22	Roland Dechesne – Are We Alone?	140	140
21-Apr-22	Dr. Abbie Stevens - How Do Scientists See Black Holes?	203	203
19-May-22	Dr. Gregory Sivakoff - The Fast and the Furious: Jets from Black Holes as We Enter the JWST Era	140	194
16-Jun-22	Sophia Gad-Nasr - The Dark Side of the Universe	131	281
21-Jul-22	Dr Samantha Lawler- Megaconstellations of satellites are ruining the night sky for everyone		
28-Sep-22	Dr. David Pankenier - Chinese Astronomy and Cosmology	75	150
20-Oct-22	Dr. Sarah Rugheimer - How to Find Life on Another Planet?	100	225

Public Education

Centre member Don Hladiuk appears on the CBC radio Eye-Opener show the first Monday of every month presenting Sky Highlights for the month.

Casino

Robyn Foret did his usual incredible job organizing the 2022-23 casino on Dec 30,31.

We have been reaping the benefits from the casino funds for various public related projects

Wilson Coulee Observatory

Eric Klaszus and team led the continuing upgrade of our Wilson Coulee Observatory (WCO) with new drywall and walls, painting, AV system etc. with the help of many of our members and other volunteers.

Judy Sterner continued to re-organized the WCO's library and work to catalog our material.

The PARSEC and other members organized the addition of cameras and scopes including meteor tracking

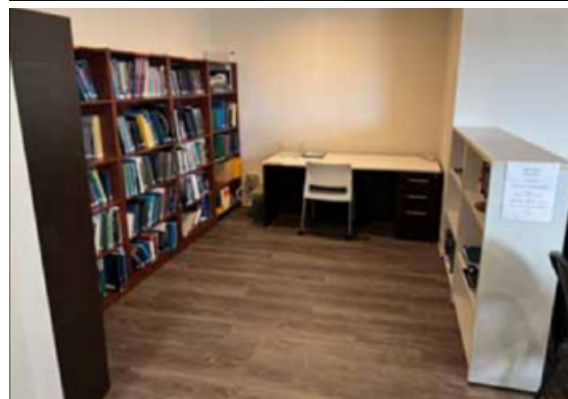
Ian Binmore of Bow River Brewing loaned a 14” Planewave Telescope <https://planewave.com> for science projects.

WiFi access was added to WCO to facilitate remote camera activity and onsite meetings.

Judy Sterner, Librarian and Andrew Bennett, Library Volunteer did an amazing revamp of the RASC Calgary Centre Library. For details see the March Starseeker [ss202303.pdf \(rasc.ca\)](https://www.rasc.ca/ss202303.pdf)



WCO - Wilson Coulee Observatory



The revised library is an open-concept design focused on welcoming members to:

- browse the library collection,
- sit down for some reading while taking a break from those cold winter observation sessions,
- sign out or return reference material, and
- purchase items for sale.

Ralph Klein Park Observatory Building Plans

Robyn Foret again has been the driving force in organizing the casino funding and the actual planning of an observatory building within the SE boundaries of the City of Calgary.

Eccles Ranch Observatory

Peter Brackett took over the role of site coordinator and had a team doing the site maintenance with a July long weekend star party organized by Roland Dechene

Other Activities

The Centre newsletter, The StarSeeker edited by Carole Benoit is distributed electronically and published monthly

The Alberta Star Party (ASP) organized by Jason Nishiyama was held in September at the Starland Count campground near Drumheller and enjoyed excellent observing conditions under dark skies.

Russel Dueck used his professional expertise to handle our extensive financial transactions and reporting.

Public Outreach

Some events included the Outdoor Adventure and Travel Show, Ambrose University Star Night, Mount Royal University star night, Cross Conservation Area Star Night, Fish Creek Park Star Night, Lunar Eclipse viewing, girl guide and scout nights and other local events

National and Calgary Light Pollution Abatement committee

Calgary RASC members carrier out significant work for LPAC

Peter Brackett

Secretary, Calgary Centre 2021-2022

Edmonton

Who We Are

The RASC Edmonton Centre (RASC EC), established in 1932, exists to promote the advancement of astronomy and allied sciences as well as to increase public awareness of astronomy as an enjoyable hobby and as an important scientific endeavour.

President's Message

In 2022, the RASC Edmonton Centre experienced "fourth contact" with the pandemic, moving out of the shadow cast by necessary public health restrictions, and resuming in person public meetings and outreach activities. Our membership numbers and financial situation remain healthy. Work on the 32-inch telescope build continued, as well as the preparation of the facilities for it and the public at the Black Nugget Lake campground. We look forward to first light for it in the fall of 2023.

– Tom Owen

RASC Edmonton Centre Executive Council – 2021-2022

President	Tom Owen
Past President	Geoff Robertson
Vice President	Adbur Anwar (2021) Jay Lavender (2022)
General Secretary	Sukrit Ahluwalia
Treasurer	Florin Sabac
National Council Rep	Alister Ling
Public Education Director	Clayton Knoll
Councillor-at-Large	Luca Vanzella
Councillor-at-Large	Mike Szelewicki
Councillor-at-Large	John Woolley
Councillor-at-Large	James McNeice
Internal Communications Officer	Michael Ward
Observing Group Director	Jon Stolte
Membership Secretary	Sharon Morsink
New Member Advisor	Murray Paulson

MEMBERSHIP (Jan 2022 – Dec 2022)



What We Do For Our Members

Provide the opportunity to participate in and have access to the following:

- Regular monthly meeting (except in July and August) – open to the public
 - Monthly guest speaker (local, national, and international)
 - Astroimaging Corner – showcases astro images done by members
- Astro Café series of workshops to support members (monthly)
- Observers' Group (monthly)
- What's Up Over Edmonton (monthly)
- Monthly newsletter, STARDUST (except in July and August)
- Equipment Loaner Program (also open to non-members)
- Lamplighter Memorial Library located at TELUS World of Science - Edmonton
- RASC Observatory, in partnership with TELUS World of Science - Edmonton
- Public outreach, and much more...

Finances

Most of RASC EC funds come from volunteering at casino events. Funds coming from membership fees are minimal.

RASC EC maintains two accounts: the GENERAL account, which is used to sustain the centre's operation, while the CASINO account is used to fund the delivery of public programs (e.g., Northern Prairie Star Party, Astro Cafés, guest speakers' fees, Equipment Loaner Program, etc.).

The centre's budget for 2022 expenses to be taken from the GENERAL account was \$19,410.52 while the actual 2022 expenses was \$15,390.63. For the CASINO account, a \$62,408.83 expense was budgeted while the actual 2022 expenses was \$36,521.59. The variances for both accounts could be attributed to some donations, programs, and initiatives that didn't push through.

(Figures were taken from Florin Sabac's report.)

RASCEC received a generous donation of \$25,000 from Bob Drew to augment the budget for the Black Nugget Lake Observatory telescope. The telescope's 32" mirror was also donated by Bob Drew a few years ago.

Our Priorities

1. Membership Growth and Retention
 - A. Engage with old and new members, e.g., mixing during events and pre-meeting
 - B. Invite guest speakers to regular meetings
 - C. Provide a range of membership program
 - D. Continue to offer Equipment Loaner Program
2. Public Outreach
 - A. Promote astronomy at schools and special interest groups
 - B. Continue partnership with Jasper Dark Sky Festival (JDSF) and the Beaver Hills Dark Sky Preserve (BHDSP)
3. Black Nugget Lake Observatory
 - A. Support the completion of the BNLO
 - B. Support the annual Northern Prairie Star Party (NPSP)
4. Dark Sky Advocacy
 - A. Support and assist communities interested in obtaining a dark sky preserve designation
 - B. Promote light abatement practices

Our Activities

Date	Activities / Events	Alignment with Priorities
December 12	RASC EC Regular Meeting – December (via Zoom) Guest Speaker: Randy Enkin, RASC Victoria Centre “A 32-Year Time Series of Naked-Eye Lunar Phase Observations”	Membership Growth and Retention
November 30	What’s up over Edmonton: December 2022 Hosted by Geoff Robertson (via Zoom)	Membership Growth and Retention; Public Outreach
November 16	Astro Café: How to Buy a Telescope 2022 Edition Hosted by Luca Vanzella (via Zoom)	Membership Growth and Retention
November 14	RASC EC Regular Meeting – November (via Zoom) Guest Speaker: Dr. Gregory Sivakoff, University of Alberta “New Golden Eyes for the Infrared Skies”	Membership Growth and Retention
November 2	What’s up over Edmonton: November 2022 Hosted by Geoff Robertson (via Zoom)	Membership Growth and Retention; Public Outreach
October 21-23	Jasper Dark Sky Festival: Solar Gazing with RASC and Star Gazing with RASC	Public Outreach
October 19	RASC EC Astroimaging Community Café (via Zoom) Members-only event Presenters: Dave Mussell, Denis Boucher, and David Fielder	Membership Growth and Retention
October 17	RASC EC Regular Meeting - November (via Zoom) Guest Speaker: Dr. Martin Connors, Athabasca University “Is STEVE’s friend “The Blob” eating the Ozone Layer?”	Membership Growth and Retention
October 5	What’s up over Edmonton: October 2022 Hosted by Geoff Robertson (via Zoom)	Membership Growth and Retention; Public Outreach

Date	Activities / Events	Alignment with Priorities
September 20-25	Northern Prairie Star Party (NPSP) NPSP Coordinators: Susan Bramm and Rick Bramm	Public Outreach; Black Nugget Lake Observatory
September 12	RASC EC Regular Meeting – September (via Zoom) Guest Speaker: Dr. Samantha Lawler, assistant professor of astronomy at Campion College at the University of Regina “Mega constellations of satellites are ruining the night sky for everyone”	Membership Growth and Retention
August 31	What’s up over Edmonton: September 2022 Hosted by Geoff Robertson (via Zoom)	Membership Growth and Retention; Public Outreach
August 3	What’s up over Edmonton: August 2022 Hosted by Geoff Robertson (via Zoom)	Membership Growth and Retention; Public Outreach
June 29	What’s up over Edmonton: July 2022 Hosted by Geoff Robertson (via Zoom)	Membership Growth and Retention; Public Outreach
June 22	Introduction to Stargazing and the Universe Hosted by Berta Beltran and Alister Ling (via Zoom)	Membership Growth and Retention; Public Outreach
June 15	RASC EC Astroimaging Community Café (via Zoom) Members-only event Presenters: Dave Mussell, Stefan Farkas	Membership Growth and Retention
June 13	RASC EC Regular Meeting - June Members’ Night (via Zoom) Guest Speaker: Various RASCEC members giving short presentations about their recent projects	Membership Growth and Retention
June 1	What’s up over Edmonton: June 2022 Hosted by Geoff Robertson (via Zoom)	Membership Growth and Retention; Public Outreach
May 25	Introduction to Stargazing and the Universe Hosted by Berta Beltran and Alister Ling (via Zoom)	Membership Growth and Retention; Public Outreach
May 9	RASC EC Regular Meeting – May (via Zoom) Guest Speaker: Dr. René Plume, Professor of Astronomy, University of Calgary “Magnetic Fields in Interstellar Clouds: Getting that Pesky 3rd Dimension!”	Membership Growth and Retention
May 4	What’s up over Edmonton: May 2022 Hosted by Geoff Robertson (via Zoom)	Membership Growth and Retention; Public Outreach
April 27	Introduction to Stargazing and the Universe Hosted by Berta Beltran and Alister Ling (via Zoom)	Membership Growth and Retention; Public Outreach
April 20	Astro Café: The May 15 Total Lunar Eclipse (via Zoom) Hosted by Alister Ling, Geoff Robertson, Luca Vanzella	Membership Growth and Retention

Date	Activities / Events	Alignment with Priorities
April 11	RASC EC Regular Meeting – April (via Zoom) Guest Speaker: Dr. Aaron Boley, Associate Professor, University of British Columbia “A Brief Overview of Planet Formation and Planetary System Evolution”	Membership Growth and Retention; Public Outreach
April 6	What’s up over Edmonton: April 2022 Hosted by Geoff Robertson (via Zoom)	Membership Growth and Retention; Public Outreach
March 30	Introduction to Stargazing and the Universe Hosted by Berta Beltran and Alister Ling (via Zoom)	Membership Growth and Retention; Public Outreach
March 14	RASC EC Regular Meeting – March (via Zoom) Guest Speaker: Sir Franklin Loehde “90 Years of the Edmonton RASC”	Membership Growth and Retention; Public Outreach
March 2	What’s up over Edmonton: March 2022 Hosted by Geoff Robertson (via Zoom)	Membership Growth and Retention; Public Outreach
February 23	Introduction to Stargazing and the Universe Hosted by Berta Beltran and Alister Ling (via Zoom)	Membership Growth and Retention; Public Outreach
February 16	Astro Café: RASC Visual Observing Certificates (via Zoom) Hosted by Blake Nancarrow, Interim Chair, RASC National Observing Committee	Membership Growth and Retention
February 14	RASC EC Regular Meeting – February (via Zoom) Guest Speaker: Dr. Allison Man, University of British Columbia “Galaxies: a journey through cosmic time”	Membership Growth and Retention; Public Outreach
February 2	What’s up over Edmonton: February 2022 Hosted by Geoff Robertson (via Zoom)	Membership Growth and Retention; Public Outreach
January 26	Introduction to Stargazing and the Universe Hosted by Berta Beltran and Alister Ling (via Zoom)	Membership Growth and Retention; Public Outreach
January 19	Astro Café: How to Use a Telescope (via Zoom) Hosted by Alister Ling, Clayton Knoll, Geoff Robertson, Alan Hobbs	Membership Growth and Retention; Public Outreach
January 10	RASC EC Annual General Meeting (via Zoom) Various centre awards were given to members.	Membership Growth and Retention
January 10	RASC EC Regular Meeting and Members’ Night (via Zoom)	Membership Growth and Retention
January 5	What’s up over Edmonton: January 2022 Hosted by Geoff Robertson (via Zoom)	Membership Growth and Retention; Public Outreach



Photo by Tom Owen

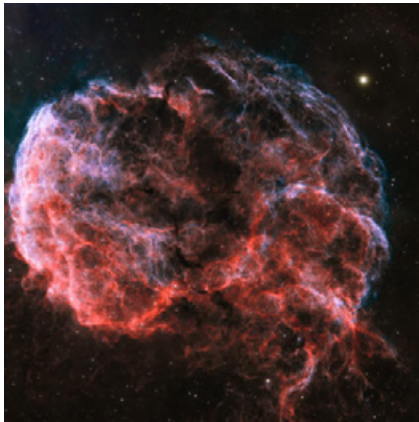


Photo by Dave Mussell

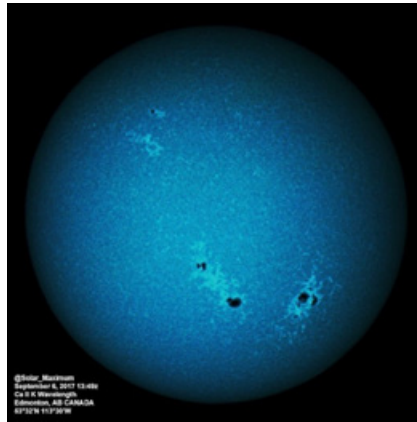


Photo by Jay Lavender



Photo by Abdur Anwar



Jasper Dark Sky Festival, October 2022
RASC EC Volunteers

Photo by Abdur Anwar



The BNLO Committee members were acknowledged (from left to right): Kent Martens, Susan Bramm, Roman Unyk, Alan Hobbs, Warren Finlay (chair), Luca Vanzella and Rick Bramm.

Photo by Colin Bramm



Northern Prairie Star Party, September 2022

Photo by Rick Bramm

Halifax

About

Established in 1951 as the Nova Scotia Astronomical Society. In 1970, reformed and renamed the *RASC Halifax Centre*. Our membership varies from 165-181.

Assets

The Centre hosts hybrid meetings (in-person with Zoom attendance) at Saint Mary's University in Halifax on the first Saturday of each month (except July, August, and holiday weekends). The University provides free meeting space.

We operate the St. Croix Observatory (SCO) with a roll-off-roof, a 16" (40.6 cm) Sky-Watcher f/4.4 GoTo Dobsonian Reflector Telescope, a warm room, and storage room/toilet. Members can access the Thurlow achromatic doublet binoculars (named after Dr. Bill Thurlow) and its parallelogram mount. No equipment rental.

Kejimikujik National Park Dark-Sky Preserve, Acadian Skies & Mi'kmaq Lands (UNESCO Starlight Reserve) and the Southwest Nova Biosphere Reserve are within 3 hours of SCO. We have a formal partnership with *Parks Canada* regarding the annual Dark-Sky Weekend (DSW). We have partnered with *The Discovery Centre* in Halifax to conduct outreach events.

Outreach

Dark-Sky Weekend (DSW) held the nights of August 19-21 at Kejimikujik National Park was a highlight that had 12 volunteers from RASC Halifax Centre engage with 825 campers. Our partnership with the Discovery Centre resulted in 2 weekend events (October 1 and October 15) that saw 178 individuals of all ages visit the RASC display. Fourteen additional outreach events conducted by RASC Halifax members engaged with 798 members of the public, through both in-person and on-line presentations. In some cases, electronically assisted astronomy was used to mitigate health concerns.

Special Projects

With monies raised in the prior year and with assistance from Scotia Investments Limited with some of the logistics, the electrical system at our Observatory was upgraded. The electrical panel was brought up to code and more outlets were installed inside and outside the roll-off observatory. Thanks to John Liddard, SCO Manager, and the many members for their donations and time for the long-awaited upgrade to become a reality. Further improvements to the site are expected in 2023.

Centre Executive, 2022

President: Judy Black

Vice-President: Patrick Kelly

Treasurer: Gregg Dill

Secretary: Peter Hurley

Board members: Timothy Doucette, Matthew Dyer, Paul Heath, David Hoskin, Kathy Walker, Jaime Whynot

Highlights

Our Centre annually publishes 5 editions of our newsletter, *Nova Notes*, thanks to Editor Lisa Ann Fanning and Copy Editor John McPhee.

Board of Directors meetings continued using Zoom. Eight Members' Meetings were held using Zoom exclusively; our first hybrid meeting was held November 5, 2022. Volunteers Jerry Black, David Lane and Bob Russell managed the technology. Our hybrid AGM was held December 2.

A special BBQ was held June 10 to commemorate SCO's 25th Anniversary. Judy Black presented John Woods and Harden Wile from Scotia Investments Limited with a framed and annotated nighttime photo of the Observatory. The five former presidents who offered guidance during the build were in attendance as well – Dr. Roy Bishop, David Chapman, Patrick Kelly, David Lane and Mary Lou Whitehorne.



Our 35th Nova East Star Party was held the nights of August 26-28 at Smiley's Provincial Park. Highlights were guest speakers, workshops, our Astro breakfasts and Lounge, and door prizes. Our first *Sherman Williams Walk – Birding at Smileys*, held in memory of longtime member Sherman Williams, was

led by birder and astroimager Jason Dain. Thank you to Planning Committee members for another successful event – Judy Black (Chair), Gregg Dill, Lisa Ann Fanning, Paul Gray, Melody Hamilton, Patrick Kelly, Tony McGrath, Jaime Whynot and Chris Young.

The Annual SCO BBQ, cancelled in September due to Hurricane Fiona, was rescheduled for October 21. Approximately 25 members attended the BBQ and enjoyed the observing session that followed.

Challenges

One challenge is acquiring members from around the province who will become active in EPO activities.

Hamilton

About

Established in 1908 and Incorporated in 1968

Membership: 136

Assets (meeting place, observatories, dark-sky sites, club scopes, telescopes for rent, etc.

1. Club Observatory established in 1974 with four buildings located in Flamborough, ON.
 - A. Larger Leslie V. Powis building serves as a meeting place, library, and warm room
 - B. Chilton Building has a roll off roof and houses numerous scopes, including the Trillium 16" Ritchey Cretien telescope and a 14" Celestron SCT telescope.
 - C. Quonset Hut for storage
 - D. Lavatory
2. Two 10" Dobsonian Telescopes used for outreach.
3. Three 8" Sky-Watcher Dobsonian Telescopes and a number of donated reflectors and Dobsonians available as loaners
4. Comprehensive astronomical library
5. Two antique telescopes currently residing at Westfield Heritage Village. Also on display is a transit scope. The Centre also processes an antique sextant.
6. Antique sextant

Partnerships (Parks, Universities, Municipalities)

1. Westfield Heritage Village

Outreach (may include # of volunteers, # of events, size of audience, in-person and on-line)

1. Saltfleet Secondary (Nov 2022) Cloudy evening but still had 10-15 people attended.
2. Bronte Astronomer Jan 2023 30-40 people attended.

Looking forward - 2023/beyond

Updates to our Centre and Nova East Star Party websites are in progress. Further changes at our observatory will be planned as will the 2023 annual barbecue. We hope the pandemic will no longer deter members from attending meetings nor the public from participating in outreach events. Most importantly, may there be many more clear skies in 2023 than in 2022!

3. Several additional public outreach events will be held at Spencer Smith Park in Burlington weather permitting. The first one was held on February 15th with approximately 30 people attending.
4. Several outreach educational activities within our region are delivered in-person and virtually. These are typically for school classrooms (typically grades 6 and 9 as astronomy is part of the Ontario curriculum for these grades), cubs/embers, at libraries, and clubs with the presentation tailored for the audience. These activities include a presentation and optionally a telescope visual session if it occurs in the evening and weather permits.

Special Projects:

1. Issued RASC Hamilton Centre Anti-Harassment Policy

Centre Executive

President	Andrew Blanchard
Vice Presidents	John Williamson
Treasurer	Bruce Murray
Secretary	Erin Vassair
Council members	Victor Abraham
	Bob Prociuk
	Tom Jensen
	Bob Speck

Highlights

One of our members, Edward Mizzi, had a minor planet (10492) named after him.

Looking forward - 2023/beyond

Solar Eclipse on April 8, 2024 will be a large focus for our Centre as the path of totality will transit the city of Hamilton for almost 2 minutes.



Kingston

Board of Directors

President:	Kim Hay
Treasurer:	Susan Gagnon
Secretary:	Elena Zanetti
Vice President:	Laurie Graham
Editor:	Kevin Kell
Librarian:	Kim Hay
NCRep:	John Hurley
Honourary President:	David Levy



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Established in 1961, in our 61st year, virtual meetings kept our group engaged and energized. Our membership has remained stable and we in good financial health. Ten Regular meetings were held in the past year with monthly presentations and guest speakers. Our members weekly socials by Zoom were well attended throughout the entire year.

Members and guests were welcome to all our Regular meetings with invitations to join us live by Zoom or livestreamed on our Kingston Centre YouTube channel where they now reside. With a

variety of speakers, our regulars included David Levy with a poetry moment, Rick Wagner with What's Up in the Sky, Hank Bartlett with Hank's Sunspot, announcements by Kim Hay, and National Council updates from John Hurley. Invitations to meetings were given on Facebook, Twitter, the Rascals email list, an on our website.

We had four Executive Meetings this past year to discuss budget, EAA, outreach, and other Centre business.

December 8, 2021 – Al Ward, President of the RASC Sudbury Centre and President of Moonward Vacuum Coatings, “Testing of Astronomical Optics in the Astronomical Age”. Rick Wagner gave a presentation on Siril. Malcolm Park and Rick Wagner presented images of Comet Leonard.

January 12, 2022 – Dr. Andrew Godefroy, RASC KC member and scholar, “Upper Atmospheric Research and the Origins of the Canadian Space Program”. Planning started for in-person events at Science Rendezvous in May. Planning for the Frontenac Lennox & Addington Science Fair (FLASF) also commenced with Bruce Elliott taking the lead.

February 9, 2022 – Dr. Jennifer West, Research Associate at the Dunlap Institute for Astronomy & Astrophysics, “Inside the Galactic Tunnel in the Sky”. Planning has started for Fall’N’Stars 2022, September 23-25, with Susan Gagnon taking the lead.

March 9, 2022 – Dr. Marcus Leech, President of the Canadian Centre for Experimental Radio Astronomy, “Hunting FRBs on a budget: The SIFT Telescope”.

April 13, 2022 – Peter Pekurar, from Kitchener-Waterloo, “The Fun of Making Large Aperture Ultra-Fast Newtonians”. Our Centre awarded this year’s Leo Enright Prize in Astronomy at the again virtual FLASC to Chloe Jugroot, of King’s Town School, with her presentation, “Project Martian”, receiving a \$100 cash prize and the book, “Explore the Universe Guide”. Thank you to Bruce Elliott, along with Graeme Hay and Elena Zanetti for reviewing submissions and awarding the prize. This month, our Centre began a new monthly segment, “Members Observing Reports – Round Table”, where participants discuss what they observed, read, worked-on, and all things astronomy and was very well received.

May 11, 2022 – Dr. Richard Schmude, Professor at Gordon College in Barnsville, Georgia, “The Total Lunar Eclipse of May 15-16, 2022”. On May 7th, our Centre participated in Science Rendezvous with 3 video presentations created by members of our Centre: a Star Hopping video by Susan Gagnon, Origin of the Universe video by Kevin Wenkoff, Graeme Hay and Francesco Ambrogi, and an Observing Ideas PDF by Bruce Elliott. About 350 people attended the RASC-KC tent with solar telescopes set up and video projection. Thank you to Hank Bartlett, Laurie Graham and Devin, Rick Wagner, Kim Hay and Kevin Kell. A great event.

June 8, 2022 – Richard Wagner, member of our Kingston Centre, Ottawa Centre, a life-member of the RASC, and a member of the Science Team of the RASC Remote Telescope in California, “(Not so) Basic Image Reduction”.

July 13th and August 10th Summer meet-ups at Lake Ontario Park were held to finally have an in-person outdoor event.

September 14, 2022 – Dr. Andrew Godefroy, “Alouette +60 Years”. Our patron, Queen Elizabeth II, passed away September 8th and a moment of silence was held in her honour.

Fall’N’Stars 2022 September 23-25, a joint camping event with the Belleville Centre was held in Prince Edward County. Members enjoyed two evenings of observing, a swap table, solar observing, short presentations and a catered dinner with door prizes.

October 12, 2022 – Member’s Night: Brian McCracken, “Using the Nikon Z9 Mirrorless Camera and Lightroom for Astrophotography”. Kevin Kell, “Live demo of Installing a Heating Element in the popular Telrad Finder”.

October 22, 2022 – Queen’s University Observatory open house. The first one we have participated in since the pandemic started. Presenters were our own Kevin Kell and Rick Wagner.

November 9, 2022 – Our Annual Meeting and Regular Meeting to follow with Dr. Kristine Spekkens, “Galaxies, Cosmology and The Biggest Telescopes”.

December 14, 2022 – We will meet by Zoom and livestreamed on YouTube.

We look forward to 2023 with hybrid monthly meetings, virtual and livestreamed, and continuing with our weekly Zoom socials. We partner with Queen’s University Observatory open house with our volunteers operating telescopes for the general public. Our volunteers offer judging and an award from our Centre for the Kingston, Frontenac, Lennox and Addington Science Fair and take part in Kingston’s Science Rendezvous which offers STEM learning events for all ages.

Elena Zanetti,
RASC-KC Secretary.



Kitchener-Waterloo

2022 KW RASC Activities Report

January 14, General Meeting

Zoom Online, 41 attendees

Trevor Chandler introduced the meeting talking about his visit to Allen Ward in Sudbury.

There were no observing reports, being January.

Ellen Papenburg gave a Comet Talk on Comet C/2021 A1 Leonard. There was a star party at McLennan Park, December 21. Leonard was observed with Marie Newnham's 8" SC. Ellen, Maryanne Weiler, Steve Holmes, Daniel and Trevor Chandler showed up.

Michael Wright gave a talk: Feathers, Ripples and Fossil Galactic Arms, Galactic Structure Insights from 2021.

Brian Holland inch telescopes. He talked about the five members building 20 inch telescopes.

February 11, General Meeting, online

President Trevor Chandler

30 in attendance

Michael Wright - What's Up

Marie Newnham - Moon

Jim Fairles - Top 2021 Astronomy Events

George Pucula - Capturing USSF-8 Fuel Dump Capture

Steve Holmes - Lisa Lynn Bisset Memorial Observatory report

February 25, Stargazers 101, 33 attendees

Hosted by Steve Holmes

Ellen Papenburg - Comet Update

Jim Fairles - What's Up, James Webb Telescope

Steve Holmes - Using the Sharp Cap program to view a telescope camera image to a laptop screen or may be upload to the net.

Marie Newnham - Remote Observing Two Clusters, Palomar 5 and Tersan 6 using the Slooh Telescope

Trevor Chandler - Astroquiz in the Jeopardy format

Ayah Amer- UW Satellite Club, University of Waterloo Orbital Design Team. Her team is building a Cube Sat for the Canadian Satellite Design Competition.

Michael Wright - Astro Sketching Workshop

Retirement to the Starlight Lounge

March 1 Rudolph Dorner dies.

March 11, General Meeting online, 39 attendees

Hosted by Trevor Chandler

Observing Reports

Ellen Papenburg - Comet Report

Doreen Koenig told a story of her husband Ray Koenig

Ellen Papenburg was awarded the 2022 Ray Koenig Award. The award was presented by her husband James Sannes at home while online.

Michael Wright present "What's Up"

Samantha Jewett, KW Centre member and RASC Outreach Coordinator gave a talk on the current Outreach Projects.

Retirement to the Starlight Lounge

March 25, 2022 Stargazers 101, 32 attendees

Steve started the meeting with a talk about Rudolph Dorner. Randall Rosenfeld, Allen Ward and Peter Pekurar told us stories about Rudi. Trevor Chandler read a poem he wrote as a tribute.

Randall Rosenfeld talked about the progress being made towards the Dorner Telescope Museum.

Ellen Papenburg gave a comet talk.

Marie Newnham talked about the fourth largest asteroid.

Michael Wright - Early Spring Galaxy Hunt, Small Scope Targets Away from the Messiers

Trevor Chandler - Astro Quiz

General discussion

Retirement to the Starlight Lounge

April 8, General Meeting, online, 36 attendees

Comet Update by Ellen Papenburg

Realm of the Galaxies by Trevor Chandler

Starlight Lounge

May 13, 2022, General Meeting, online, 30 attendees

Observers Reports

Comet Update by Ellen Papenburg

What's Up, Michael Wright

Rivers of the Solar System, Trevor Chandler

Starlight Lounge

May 27, Stargazers 101, 30 attendees

Hosted by Steve Holmes

Who's Been Observing?

Ellen Papenburg - Comet Update

Michael Wright - What's Up

Trevor Chandler - Rivers in the Solar System

May 26 to 28, Equinox Star Party at Bayfield, Huron Church Camp. 30 members attended. Three good nights for observation.

June 10, General Meeting, 32 attendees

Hosted by Trevor Chandler

Who's Been Observing?

Bayfield Star Party Review

Ellen Papenburg - Comet Update

Michael Wright - What's Up

Rahul Karkhanis - Tiny Things in Space, An Evolution of Internet Satellites

June 24, Stargazers 101, 35 attendees

Hosted by Michael Wright

Observing Reports

Presentations:

Michael Wright - Messier Minute - M4

Group Discussion - My First Telescope

Marie Newnham - NGC6712 and its Black Widow Pulsar

Trevor Chandler - Astrojeopardy

Retirement to the Starlight Lounge

Summer Outreach

Throughout the summer the club ran over twenty-five star party and sidewalk astronomy events. Locations included McLennan Park in Kitchener, Waterloo Park in Waterloo, Hackbart Hill in Wellesley Township west of St Clements (August 12 Perseid Meteor Shower Party, August 27) and Conestoga Lake Conservation Area near Drayton in Wellington County (July 22 and Sept 2).

Outreach: First Telescope Lessons - September 10, McLennan Park in Kitchener

Host: Jim Goetz

September 12, General Meeting, 22 attendees

Hosted by Steve Holmes

Observing Reports

Jin Sang Sia from the Mars Society of Canada, "Walking With Martians." Jim told his story of his work at the Mars simulator in Utah.

Outreach: September 17, Hackbart Hill

Hosted by Jim Goetz

September 22 to 24. Equinox Star Party at Bayfield Huron Church Camp.

** McLennan Park Star Party - Thursday Sept 28

25 attendees

Hosted by Jim Goetz, Michael Wright, Bruce Erb and Dan Sinclair

Participants shared views of the Moon, Saturn, Jupiter, the Andromeda Galaxy, the Lagoon Nebula, and M22

** Stargazer's 101- September 30, 2022 at 7pm on Zoom.

attendees: 37

Hosted by: Michael Wright

Presenters:

Michael Wright - Messier Minute: M27

Marie Newnham - Moon Minute: Practical Libration

Stephen Holmes - Beginner Astrophotography - Stretching

Michael Wright - The Fox and The Arrow - A Milky Way Star Hop

Special feature guest presentation: Rob Teeter, founder of Teeter Telescopes. He discussed the journey from building his first telescope - a Stellafane award winner - to the 300+ telescopes designed and built for a customer base which spans the globe. From off-axis Newtonians to a 20" F/3.0 Truss-Dobsonian in South Korea to a 24" F/3.5 that resides in a ROR Observatory in Texas, Rob's customers and their requests have been novel and unique. After 20 years, the business is winding down and Rob highlighted the ups and downs of the telescope business.

** Outreach - Forest Heights Public Library 'Telescope Time' Monday Oct 3

attendees: 45

Hosted by: Paul Fagan, Michael Wright and Bruce Erb

Paul Fagan, a member of the club that works at I Forest Heights Public Library organized an event at the library. At 7pm, Dr. Michel Fich from the University of Waterloo gave a talk about some evening sky objects and how to find them. Around 7:45 pm, the people enjoying the talk moved outside to do some public viewing through telescopes. Paul, Michael and Bruce set up 5 telescopes to give participants views of the Moon, Saturn, Jupiter and M13.

** Outreach - Aurora Watch Star Party Tuesday October 4

of attendees: 5

Hosted by: Michael Wright and Denise Sutherland

Michael and Denise shared views of the Moon, Jupiter, Saturn, Albireo and a few star clusters with participants. A few meteors were spotted. Unfortunately, no aurora was noted, despite the high chance.

** Outreach - Waterloo Park Star Party - Monday
October 10

of attendees: 8

Hosted by: Michael Wright and Rick Burke

Michael and Rick helped people with their telescopes and shared views of Jupiter, Saturn, the Moon, M27, M13 and NGC457, along with stories and astrophotos with the participants.

KW RASC General Meeting at 7pm on Friday
October 14, 2022.

of Attendees: 32

Hosted by: Trevor Chandler

Latest club news was updated, members shared observing reports, Michael Wright presented What's Up for October, Ellen Papenburg presented a talk on current comets, and Jim Fairles presented AstroNews. Our feature presentation will be **Amateur Telescope Making with a 3D Printer**, hosted by Josh Shabtai. The October 14 meeting was our first hybrid meeting.

Outreach Event: Introduction to Stellarium - Friday
October 21, 7pm

of Attendees: 15

Hosted by - Michael Wright

Michael introduced the free planetarium/night sky software Stellarium on Google Meets to a mix of club members and members from the general public. Topics covered include downloading, start up, setting your location, playing with the date and time, basic navigation of the sky and viewing options, setting up telescope ocular views, camera sensor views, and telrad views, seeing a list of what is up in the sky at a given time, non-western star lore settings, making observing lists, and other useful features of the program.

Outreach - Public Star Party, Thursday October 27,
7 pm

Waterloo Park - field by the band shell

Hosted by: Michael Wright & J. Brian Watson

of Attendees: 7

Brian Watson and Michael Wright shared views through their telescopes of Jupiter, Saturn, Albireo, Gamma Sagittae, the Double Cluster, the Andromeda Galaxy, M13, NGC457, M103, NGC663 and Stock 2.

Stargazers' 101 Meeting: On Zoom - Friday October
28, 7pm

of Attendees: 56

Hosted by - Michael Wright

This month's meeting featured Michael Chapman, a PhD student at the University of Waterloo who studies cosmology, galaxy clustering and dark energy. Michael presented a talk titled "The Expanding Universe: From Big Bang to Big Chill". He described what we know about how the Universe started, how it's evolved and where it's going. He showed the original evidence that convinced astronomers that there was an entire Universe beyond our galaxy, and the discovery that it is expanding and evolving from an original Big Bang. He explained the race to determine the course of this expansion and the discovery of the mysterious 'dark energy'. He finished the talk discussing ongoing research to determine the nature of dark energy and its role in determining the fate of the Universe.

Ellen Papenburg gave a talk about basic science of what comets are, Steve Holmes discussed principles of focusing for beginners in astrophotography, and Michael Wright presented this month's Messier Minute focusing on M2.

Outreach Event: Jupiter Double Shadow Transit
Star Party - Wednesday November 2, 2022 7:45pm-
10:00pm

Trio on Belmont Rooftop Terrace, Kitchener

of Attendees: 12

Hosted By - Michael Wright

Michael helped guests view the double shadow transit of Europa and Ganymede across the face of Jupiter and then took them on a tour of Saturn, the Moon, Mars, and NGC457.

Outreach Event: Total Lunar Eclipse Star Party -
Tuesday November 8, 2022 4:30am-7:00am

McLennan Park, Kitchener

of Attendees: 21

Hosted By - Michael Wright

Michael gave views of the lunar eclipse through his telescope to guests and provided some basic science knowledge of why lunar eclipses happen and why the moon turns red.

RASC Kitchener Centre Annual General Meeting -
Friday November 11, 2022 7:00pm-10:00pm

Zoom Meeting

of Attendees: 29

Hosted By - Trevor Chandler

The annual general meeting took place. Jim Fairles provided a Treasurer's report, Trevor Chandler provided a 'Year in Review' report, members who were active in volunteer roles were recognized, and the President and Board were acclaimed for reelection to their roles. Trevor Chandler presented Double Star of the Month, Almach, and Michael Wright presented a What's Up report on solar system and deep sky highlights for the month.

Stargazers' 101 Meeting: On Zoom - Friday
November 25, 7pm

Zoom Meeting

of Attendees: 41

Hosted By - Michael Wright

This meeting featured a talk reflecting on libration features visible during and after the Lunar Eclipse at the beginning of the month by Marie Newnham, a feature on Observing Mars by Michael Wright, a Messier Minute talking about M31, M32 and M110, and a wonderful special guest talk by Howard Banich on Sketching the Deep Sky at the Telescope.

London

The RASC London Centre celebrated its Centennial year, having been founded on February 24, 1922. We look forward to our second century. Our monthly meetings continued to be held online on the third Friday of each month throughout the year. Outreach and observing activities took place under pandemic protocols. Our website helped inform non-members about our club, we established a YouTube channel, and our online Forums were actively used by members. We presented a live online tour of the Hume Cronyn Memorial Observatory during the Society's 2022 General Assembly. Asteroids (177830) Rubenhagen, (175203) Kingston and (177667) Schieven were named after former London Centre members by the discoverer, London Centre's Tom Glinos. The Hennigar reflector was delivered to the Society's Dorner Telescope Museum on March 23. London Centre was represented by Peter Jedicke on the Local Organizing Committee of the Division of Planetary Sciences conference in October. London Centre member Bob Duff received an Ontario Volunteer Service Award. Some London Centre members participated in the memorial services for Western University Professors Amelia Wehlauf and David F. Gray. Bjarni Tryggvason and Steven B. Sharpe passed away in 2022. As of 2023-02-23, our membership stood at 96.

Kids Stargazing Night - Monday November 28,
6:30pm-8:30pm

of Attendees: 35

Hosted By - Michael Wright

Although it was cloudy, Michael demonstrated his telescope, talked about how telescopes gather more light than the eye can so you can see faint objects, explained how mirror and lens telescopes work, and gave kids an opportunity to see objects that were far away and notice how they are 'upside down' in his Newtonian telescope because of the mirror design.

KW RASC's First Stargazer's Meeting - Friday
December 9, 7pm

of Attendees: _____

Hosted by: _Trevor Chandler_

Solar observing and imaging

An eyewitness report of the Artemis launch

News of an approaching comet or two

Managing noise in your astrophotos

News from the astronomy world and much more

Regular Meetings

Our goal is provide members and guests with motivation to learn about and to participate in astronomy at every level of involvement and expertise, both in depth and breadth. We aim to present a variety of topics that include theory, observation, equipment, travel and history. Meetings were chaired by President Rick Saunders, who presented news about space missions and astronomy research. Dr. David H. Levy regularly gave a brief poetry reading. Dale Armstrong described observing highlights and shared members' astrophotography efforts at each meeting, as well as updates about work at and the status of our facilities at Fingal Wildlife Management Area. After a featured lecture, members continued to chat informally. In 2022, the briefings were as follows.

- January 21 Dr. Phil Stooke, "Upcoming Uncrewed Moon Landing Missions"
- February 18 Dr. Phil McCausland, "The Golden Meteorite;" Malcolm Park, "Observing in the Atacama Desert"

- March 18 Official Centennial meeting. Eric Clinton, Peter Jedicke and Mark Tovey talked about London Centre's history, our relationship to the national Society and our connections with the Hume Cronyn Memorial Observatory at Western University.
- April 22 James Edgar (Regina Centre), "Planetary Motion (and Other Neat Stuff)"
- May 20 Dr. Deborah Lokhorst, "The Firefly Imaging Array"
- June 17 Dr. David H. Levy, "A Tribute to Carolyn S. Shoemaker (1929-2021)"
- July 15 Robert Bunge, "Observing All the Arp Galaxies"
- August 19 Dr. Mark Boslough, "A 100-Megaton Airburst in Ancient Egypt"
- September 16 Randall Rosenfeld and Kirby Alguire, "Donald M. Hennigar (1887-1951) and the Hennigar Reflector"
- October 21 Dr. Christa Van Laerhoven (Yukon Centre), "The Outer Reaches of the Solar System"
- November 18 Katelyn Beecroft (London Centre), "Imaging Techniques"
- December 16 Members' night; Dale Armstrong, "A Tribute to Steve Sharpe;" Bill Gardner, "My Evolving Killarney Project"
- Science Rendezvous (2 events), May 7th:
 - Solar Observing in Western University's Alumni Stadium and
 - Hybrid In-Person & Virtual Public Night at Cronyn Observatory.
- Saturday Virtual Public Nights with various themes at Cronyn Observatory, including:
 - "Do Look Up," January 29th;
 - "Back to the Moon," March 19th.
- In-Person Public Nights with slide presentations at Cronyn Observatory :
 - Lunar Eclipse May 15th;
 - "Seeing Black Holes with the Event Horizon Telescope," June 11th;
 - "Canada Returns to the Moon!" on Canada Day, July 1st;
 - "Webb's First Views of the Universe," August 6;
 - Doors Open London at Cronyn Observatory, September 17th;
 - "Rocks on Earth and in Space" & International Observe the Moon Night (InOMN), October 1st, 2022;
 - SNAC 2022 Public Night, November 1;
 - Mars at Opposition Public Night, December 10th.

Assets

The London Centre assets primarily consist of the two observatory buildings, and the associated observing telescopes and support equipment at our Fingal dark-sky site. As the London Centre does not offer scopes for loan or rent to members, the Fingal fixed assets and a legacy projector amount to all of the fixed assets and are currently valued on the books at approximately \$30,271. The bank balance is \$9,646. As the organization has no debt, our net equity position is \$39,918.

Outreach Activities

The London Centre has an excellent partnership with the University of Western Ontario Physics Department in which members volunteer to support their public outreach events at the Cronyn Observatory, the annual Science Rendezvous at Alumni Stadium at Western and their other events at local elementary schools. There were 12 Public Nights and Special Events hosted by Western University at the Cronyn Observatory. These included:

The other events included:

- UWO/London Centre Fanshawe Pioneer Village Star Party, April 29,
- John Kenneth Galbraith Library, Slide Presentation, July 14,
- E.M Warwick Conservation Area Star Party, July 14,
- London Centre Fanshawe Conservation Area Star Party, September 2,
- Centre Lambeth Public School Star Party, September 29, and
- Sir Isaac Brock Public School Star Party, October 4, 2022.

The London Centre hosted or supported public outreach events as listed in the table below.

Table 1: Summary of Public Outreach Events

Event Type	Event Description	# of Events	Person Hours	Attendees		
				Adults	Youth	Total
On-line	UWO Cronyn Observatory (Themed) Virtual Public Night	2	24.5	-	-	266
In-person	UWO Cronyn Observatory Themed Public Night with slide presentation	8	133	856	262	1118
In-person	UWO Science Rendezvous Solar Observing and Public Star Night	1	20	941	739	1680
Hybrid	UWO Science Rendezvous Cronyn Observatory (Themed) Virtual Public Night	1	20	97	81	178
In-person	UWO/London Centre Fanshawe Pioneer Village Star Party	1	18	69	6	75
In-person	John Kenneth Galbraith Library, Slide Presentation	1	2	19	15	34
In-person	E.M. Warwick Conservation Area Star Party	1	10	24	12	36
In-person	London Centre Fanshawe Conservation Area Star Party	1	9	27	8	35
In-person	London Centre Lambeth Public School Star Party	1	15	24	55	79
In-person	London Sir Isaac Brock Public School Star Party	1	20	350	350	700
GRAND TOTALS		18	271.5	2407	1528	4201

Observing

Over the course of 2022, there were 22 observing sessions at Fingal involving a total of 14 different club members (and sometimes their friends too). Notable was the predicted Comet 73P/Schwassmann-Wachmann3 meteor storm on May 30-31 during which some of our members observed and photographed a few good meteors! Our heavily attended event was the club observing night on July 30, when at least ten members were all present at once.

London Centre completed an upgrade to the solar powered battery system used to power the two observatories at Fingal Wildlife Management Area. The work included replacement of the batter charger and an engineering benchmark analysis to verify the operational performance of the charger to ensure system reliability. The work and engineering report was completed by Norman McCall.

2022 Executive Team

London Centre executive met four times during 2022. The Executive team consisted of the following:

- President: Rick Saunders
- Vice President: Bill Gardner
- Treasurer: David McCarter
- Secretary: Norman McCall
- Council members:
- National Representative: Mark Tovey
- Observer's Chair: Dale Armstrong
- Honorary President: Peter Jedicke
- Higher Education Liaison and Librarian: Robert (Bob) Duff
- Youth Programs / Women's Programs: Heather Maclsaac
- System Administrator: Tyrone Klassen

Currently, new members are being recruited for the position of Councillor at Large.

Member Images



The California Nebula by Frank Sowa with an ASI071MC and a Skywatcher Esprit 80mm refractor



Elephant Trunk Nebula by Ewa Pasiak with an eight-inch RC and an ASI294



The Lion Nebula by Ryan Fraser



The Shark Nebula by Katelyn Beecroft with an ASI533MC and a Skywatcher Evostar 72mm refractor



Milky Way over Killarney by Bill Gardner

Submitted by
Norman McCall, London Centre Secretary

Mississauga

Year established: 2006

Membership: 240 members

Assets & Partnerships:

- The Centre partners with University of Toronto Mississauga (UTM) for in-person meetings and the Riverwood Conservancy for public outreach and member observing events.
- The Centre owns five telescopes.

Outreach:

- Six public outreach events were held between April and October 2022 at the Riverwood Conservancy, which attracted 139 members of the public, on average, to each event.
- The Centre held seven additional outreach events in 2022 for various schools and groups.
- 30 people participated in a 4-week beginners' astronomy course with the Riverwood Conservancy.

Centre Executive:

- President: Randy Attwood
- Vice president: Allan Connery
- Treasurer: Anil Mathur
- Secretary: Swapna Shrivastava
- Councillors: Betty Robinson; Val Connery; Rob Neill; Chris Malicki; Steve Mallia; Kirby Alguire; Keith Jarvie (and Ulrich Krull, Honorary president)

Programming Highlights:

The Centre hosted 8 Speaker Nights and 10 Potpourri Nights as well as the Centre picnic, which was attended by approximately 50 people.

Challenges:

The pool of volunteers has shrunk because we have not met in person, due to the pandemic. As a result, we have not been able to fill some of our committee positions.

Looking forward - 2023/beyond:

The Centre looks forward to partnering with UTM for Speaker Nights in 2023.

This report was prepared and submitted by Swapna Shrivastava, Secretary, RASC Mississauga Centre.



Photo by Wilf Morrison.

Montreal Centre

2022 saw the Montreal Center rebound from restrictions to active in-person observing, meetings and events, increasing membership and growing public exposure. Embracing technology has both promoted member participation and allowed our talks and events to be heard and seen around the world.

This success was tempered however by the loss of two long time members, Constantine Papacosmas and Carl Jorgensen, as well as Wendee, the loving partner and wife of our honorary President Doveed Levy.

Members Observing

Despite early restrictions and the vagrancies of Montreal Weather, our 40 plus public observing dates were well-attended.



Bellevue Observatory Dome at Morgan Arboretum

Regular weekly observing was held at our Bellevue Observatory located at the Morgan Arboretum in Ste-Anne-de-Bellevue. The observatory benefits from the darkest skies on the island of Montreal and houses a 14" Meade LX200.

Our volunteers, led by Alex Stefanescu, performed several updates to the observatory, upgrades to the iOptron mount, and piggyback mounted a William Optics Megrez auxiliary scope along with a Herschel wedge solar filter.

Dark-sky observing sessions were hosted at the Centre's Woolly Woods Observatory - our Dark-Sky Preserve located about an hour South of Montreal and home to BumbleBee, our 16" Explore Scientific Dobsonian.

Public Events

The 2022 Public Events and Outreach schedule moved through the year with dynamic, engaging events with an amazing turnout, both virtually and in-person!

Events slowly transitioned from uniquely on-line to co-modal and in-person. This was highlighted by a Double Bill for International Observe the Moon Night on Oct 1st, with the annual Townsend Lecture held online in the late afternoon and an in-person Moon Party at John Abbott College in the evening.



Members dark-sky observing at Woolly Woods

Our Centre also took an active role in programming for the Artemis Moon Parties in collaboration with the CSA (Canadian Space Agency), the 2022 IAD (International Astronomy Day) online RASC event, moderated the Q&A for the 2022 Helen Sawyer Hogg Lecture, contributed to Virtual Telescope Project Live Streams and remained an active participant in the Explore Alliance Global Star Parties – culminating in co-hosting a Star Party during the Starmus VI Festival in Armenia.

Most of our Public Events from the past year (and the previous two) are now archived at:

<https://YouTube.com/RASCMontreal>

Public Outreach

Our Citizen Science Presentations series continued with presentations from Karim Jaffer, Russell Fralich, Jane Lubenskyi, Carl Jorgensen, Luc Descoteaux, Gerald & Dominique MacKenzie, François Quesnel, and Blake Nancarrow.



Presentation at the Montreal Centre Library located in John Abbott College

Topics included processing high-resolution Jupiter images, radio astronomy, quantum entanglement, double star measurement and observing, and building a high-precision star-tracker.

Russell Fralich enjoyed being put on the spot by Grade 2 students in his 'How Big? How Far?' presentation. The in-person AstroFest event at the Planetarium in May enjoyed an amazing turnout. August saw a parade of outreach events including a Night Sky event, a Moon Presentation, an Observing Campout and a Family Fun Day.

SkyWard

The Montreal Centre is fortunate to have Skyward - our own bi-monthly astronomy magazine produced by its untiring editor Gerald MacKenzie.

Each issue features an article or two from David Levy - our Past and Honorary President, observing and astrophotography articles from Marc Ricard and Nicole Laporte, event and outreach news from Russell Fralich and Karim Jaffer, as well as frequent Member contributions, astrophotographs, sketches and observing logs.



In Memoriam:**Carl Jorgensen & Constantine Papacosmas**

With all of the good, like being active during the on-going Covid pandemic/restrictions and high memberships numbers, comes sorrow with the loss of two long time members: Constantine Papacosmas and Carl Jorgensen. Also, the loving partner and wife of our honorary President Doveed Levy: Wendee. They will be sorely missed for their zeal and contributions to the Montreal Centre.

Constantine has been a fixture at the Centre for decades sharing his love and expertise of astronomy with members but more so to the public. At any given public event, Constantine could be seen talking the ear off of a person who innocently asked a question. During the Perseids he would regale us with tales of how in his days they would observe and record the meteors in great detail. I will always remember the first time I met Constantine at the Arbo, he had a mount for binoculars made from hockey sticks. A true Canadian astronomer. Constantine, a man of many talents, was instrumental in the installation of the Zeiss projector at the old Montreal Dow Planitarium.

A good friend of Constantine and Doveed, Carl Jorgensen, our long-standing Secretary, also left us suddenly. Carl was always there for his Centre, friends, family and community.

Always adapting to new technologies in the pursuit of sharing his love of everything related to astronomy, Carl would regularly post his observations and sketches of the sun and astro photos. Carl showed us that observing does not require pristine conditions. Although a clean living room window helps as many observing sessions were done through a window during the cold winter nights. As the saying goes... Just Do It!

Carl will be remembered for his love and knowledge of Double Stars. He, in fact, developed our Double Star Program and certificates. Carl made sure that even beginners could succeed in attaining the beginner level certificate. He took great pride and satisfaction in presenting his program and overall love for astronomy to the public and members.

A short memorial video was put together by Morrie Portnoff on our two dear friends... Carl and Constantine. The following is a link:

<https://youtu.be/-nf9qNnwRI0>



*In Memoriam:
Carl Jorgensen
& Constantine
Papacosmas*

*Photos courtesy of
Frank Tomaras*

RASC Montreal Board of Directors: Paul Simard, Morrie Portnoff, Earl Wyllie, Terry Doucette, Terry Ladd, Frank Tomaras, Karim Jaffer, Russell Fralich, David Shuman, Alex Stefanescu, Richard Trottier, Nicole Laporte, Thomas Bracken, Santiago Lopez, Karl Petruch, Dena Zakaib, Gerald MacKenzie, David Levy.

New Brunswick

In 2022 our centre has continued to have challenges relating to retention of members and meeting attendance.

We feel this is due still to the continuing impact of the Covid pandemic.

Our meetings are still being held via Zoom, as numerous of our members seem to prefer it to in-person meetings. We have not yet settled on what we actually need to hold hybrid meetings. Some members prefer Zoom meetings only, while others much prefer to meet in-person. Our meeting attendance remains low at 10-14. We are changing the schedule of our meetings due to the decreased attendance, hoping more people will attend meetings held on a weeknight. Some members have drifted away to other activities or projects while the pandemic prevented in-person meetings.

Our membership numbers have dropped slightly once again to 87. Some members were contacted for their input on issues affecting the centre and their involvement. The few replies were positive - with lack of time, concern about the increasing cost of membership and refocusing their interests elsewhere, as the main reasons for not being more involved or allowing their membership to lapse. They also felt the pandemic was still a reason for not being involved in the centre – missing the in-person meetings and having the star parties on hold for two years.

Our Zoom AGM had to be cancelled due to internet problems on the day and the rescheduled meeting was changed to business only, as the speakers were unavailable and could not be replaced at such a late date.

We returned to holding our usual five-star parties in 2022 and attendance was good with much positive feedback from both the public and the parks

Prince George

About

- Year established: 1979
- Membership: 60
- Assets: Observatory, classroom, club scopes, digital cameras, library
- Partnerships: None
- Outreach: Weekly open houses
- Special Projects: converting the 0.6m telescope for remote operation



personnel. Our members are once again involved in education outreach with observing and presentation sessions at schools and youth organisations, senior's groups, etc., the number of events increasing over the year. "Astronomy by the Bay" and the "Sunday Night Astronomy Show" continue their success with excellent attendance by members of the public and amateur astronomers from the Atlantic region and a variety of countries around the world. They both are on Facebook and YouTube.

We continue to actively search out members for our board of directors. We had four board positions vacant at the end of their term and only one position has been filled. Three executive/council members hold 2 positions each.

Our main challenge currently (as always) is recruitment and retention of members. It has been difficult to prove there is value to being a member of RASC. There are several amateur astronomy clubs active in the province, which are not interested in being part of RASC and do not have membership fees. Fees are a significant issue.

We remain committed to moving our centre forward and anticipate our charitable status will be of help in this endeavour.

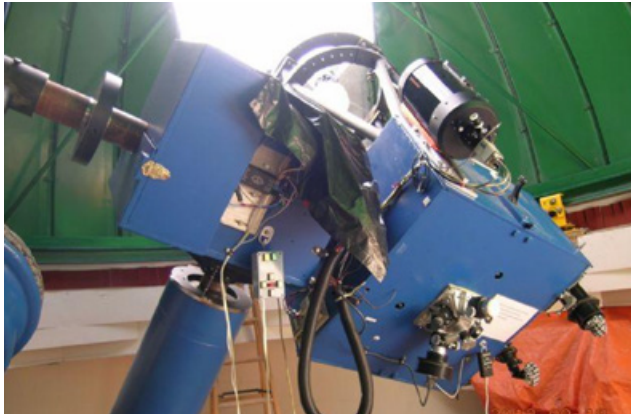
June MacDonald, 1st VP, President Pro Tem, RASC N.B. Inc.

Centre Executive

- President: Malhar Kendurkar
- Vice President: Maurice Sluka
- Treasurer: Glen Harris
- Secretary: Glen Harris
- Council members: Gil Self, Rob Woods, Jim Van Doren

Challenges

Building a larger pool of volunteers, completing telescope conversion, sourcing funds for technological improvements.



Looking forward

Establishing relationships with the University of Northern BC, College of New Caledonia, local high schools, Indigenous community, Exploration Place.



Regina

The RASC- Regina Centre was founded on October 11, 1910 becoming the first Centre outside of Ontario to join the RASC. Halley’s comet was a big news item at that time and one of the reasons why our society was formed.

We currently have about 80 members spread out across southern Saskatchewan. We operate two facilities: the Kalium Observatory on the roof of the Saskatchewan Science Centre and a dark observing site 30 minutes southeast of Regina. We do have a few telescopes that members can borrow for free.

Our public outreach in the first half of 2022 was subdued due to the pandemic. During the latter half of the year, our members volunteered for various public outreach events and the response from the general public was awesome. You could tell people were happy to be out and about again. Overall, we had over 1000 people look through our telescopes in 2022 so a big thank you to all our volunteers that helped make that happen!

The Saskatchewan Summer Star Party was held in Cypress Hills last August and was well received by attendees. While the weather wasn’t perfect, it did provide a couple good nights of observing from very dark skies. We had a great turn out at both our public observing nights and planning has already started for the 2023 SSSP.

Our council members for 2023 are the following:

Name	Role
Vance Petriew	President
Rick Saunders	Vice President
Denis Pilon	Secretary
Ken Luciak	Treasurer
Mark Meadows	National Representative
Fred Cawsey	Councillor
Peter Hagar	Councillor
Jackie Waldenberger	Councillor
Pierre Schierle	Past President

Looking forward into 2023, we will be back to a full year of public outreach and Centre events starting off with our weather-permitting, Messier Marathon. Weather on the prairies does not often cooperate for this but when it does, it’s most people’s first chance to get out observing in decent weather.

I also want to thank all our council members for volunteering their time and talents to the society and to thank all our members who will be volunteering in the upcoming year. I’m looking forward to working and observing with all of you this year. Keep looking up!

Clear Skies,
Vance Petriew
 President
 RASC – Regina Centre



Saskatoon

Submitted by: Rick Huziak, Secretary

Year established: 1968

Membership: 85 members

Assets: Sleaford Observatory & dark-sky site, 16" Meade club scope, 8" Dob. telescopes for rent.

Partnerships: University of Saskatchewan, Grasslands National Park DSP, Old Man on His Back Nocturnal Preserve, Cypress Hill Provincial Park DSP, Meewasin Valley Authority.

2022 – 23 Executive

President – vacant (Donna-Lee May Interim)

Vice-President – Brent Burlingham

Secretary – Richard Huziak

Treasurer – Donna-Lee May

National Council Rep – Les Dickson

Awards & Honours

We were proud to have Service Awards presented to Meryn Melby, Tenho Tuomi, and Barbara (Barb) Wright for all of the excellent work they have done for our Centre over the years. Barb was a member of our Centre, but in retirement, moved to Victoria and then Calgary, becoming a member of their centres. Gordon Sarty was also awarded asteroid (10499) Sarty.

Activities & Outreach

With COVID-19 becoming less of a concern the Saskatoon Centre began to hold more public outreach events in 2022 though we did not resume in-person centre meetings. Ike Thiessen managed to run a very successful Telescope Rental program.

Sleaford Observatory was more of a concern this year due a break-in that resulted in the loss of our snowblower and a subsequent insurance claim. Darrell Chatfield took care of the shed repairs and Sleaford site maintenance with his crew.

This year we held our **25th Saskatchewan Summer Star Party** at Cypress Hills Inter-Provincial Park (Aug. 23 to 28). We reduced COVID protocols and returned to indoor programming. We had an amazing attendance of 301 whereas non-COVID years attract 330. We were able to observe on every night except Saturday. Programming included 10-, 20- and 25-year awards, having 6 people who had attended all 25 years. (For all events below, attendance is given by numbers in parentheses.)

Other SSSP programming included Astrophoto, Sketching and Art Contest awards, short talks and door prize draws. Main talks were given by Dr. Gordon Sarty (U of S) and Daryl Janzen (U of S). Clinics were a Binocular Star-walk (90), a Laser Pointer Certification (35), Astro-sketching (25) and SSSP Kids (12). The main organizers were Les & Ellen Dickson, Rick Huziak, Donna-Lee May, George Charpentier, Darrell Chatfield, Greg Fusick, Darrell Chatfield, Brent Harold, Andrew Kostiuik, Pierre Schierle, Vance Petriew and Laura Egler, assisted by about 35 other volunteers at the star party.

The star party also included sessions for public outreach within the park: Solar observing (150), the star-nights on Friday (150) and Saturday (100) at Cypress Observatory. Mark Zalcik NLC talk (200). Filming and interviews were done by *Tourism Saskatchewan* for future dark-sky preserve promotion.

With the lull in COVID numbers our Centre was able to conduct more public events over the summer. Amazingly, *every event* listed below was conducted under amazingly clear skies!

May 14: *Canadian Wildlife Services Youth Program starnight* (21) at Bergheim, SK. Tim Yaworski & Rick Huziak..

May 15: *Total Lunar Eclipse at Northeast Swale* (60). Tim Yaworski, Brent Burlingham, Ike Thiessen, Rick Huziak & two others..

Jul. 2: *The Importance of the Cypress Hills DSP talk* (52) at Cypress Hills Dark-sky Preserve. Rick Huziak. Later that evening: *Cypress Observatory starnight* (150). Other light pollution abatement work was reduced this year, with mostly articles contributed to the Saskatoon Skies newsletter.

Aug. 13: *Perseid Shower/Meteorites talk & star-night* (45) at Pike Lake Provincial Park. Patty Gakis, Rick Huziak, Colin Chatfield and Tara Magee.

Sep. 1 – 5: *Spruce Woods Star Party to represent the National LPA Committee at the signing of the Spruce Woods Provincial Park Dark-sky Preserve* (150). Rick Huziak & Donna-Lee May.

Oct 1: *Sleaford Observatory Open House* (250). Patty Gakis, Murray Strankey, Brent Gratias. Darrell Chatfield, Les Dickson, Daryl & Kim Janzen.

Oct 17: *Solar System talk and solar observing* (60) at Classical Conversations International School in Neuanlage, SK. Rick Huziak & Patty Gakis.

Oct. 28: *Dark-skies at the Creek: Your First Telescope & JWST talk & star-night* (60) at Beaver Creek Conservation Area. Brent Gratias, Rick Huziak, Tyler Stoddard & Ron Waldron.

General Meetings: All Centre General meeting programming was held via Zoom due to COVID-19 restrictions. Programming was as follows:

Jan. *Book Review - The Backyard Astronomer's Guide* – Mike Dolan; *The Quest for a Saskatoon Light Pollution Bylaw* - Rick Huziak

Feb. *Welcome from RASC National – Everything You'd Always Wanted to Know, but Were Afraid to Ask* - Philip Groff, Ph.D. Executive Director, RASC & Robyn Foret, National President of RASC

Mar. *Repairing the Centre's 16" Meade* - Yannis Pahatouroglou

Apr. *Sketching the Planets* – Rick Huziak

May *My 19 Comets of 2021* - Tenho Tuomi; My 12-year-old son Gavin's pictures of the lunar eclipse - Colin Chatfield

Jun. *From City Lights to Deep Space: Deep sky observing from urban and suburban locations* - Rod Mollise, Contributing Editor, Sky & Telescope magazine

Sep. *Spruce Woods Provincial Park – Canada's 27th Dark-sky Preserve* – Rick Huziak

Oct. AGM and elections

Nov. *3D Printing a Small Telescope* – James Chapman

Dec. *The 2022 Saskatchewan Summer Star Party in Pictures* – Les Dickson & George Charpentier

Colin Chatfield gave *The Upcoming Sky* talk at the January, April, May, June, September, November, and December meetings. Colin Chatfield & Tara Magee gave *The Upcoming Sky* talk at the February, March, and October meetings.

Sunshine Coast

About: Year Formed: 2004

Membership: 32

Assets (meeting place, observatories, dark-sky sites, club scopes, telescopes for rent, etc.):

The club maintains and operates an observatory at Sechelt Airport and has a number of telescopes available for members to borrow free of charge. The club also maintains a substantial library.

Meetings, which are open to the public, are held once a month at the Sechelt library with a Zoom component. The meetings generally feature an invited speaker and the popular Sky-This-Month portion presented by a member of the executive committee.

Partnerships (Parks, Universities, Municipalities)

The observatory is located on land made available by the District of Sechelt.

Special Projects

Charles Ennis is gathering data on asterisms from multiple cultures.

Centre Executive

President: Bruce Fryer

Vice Presidents: Michael Bradley

Treasurer: Bill Haskett

Secretary: Richard Mitchell

Council members: Charles Ennis, Mervin Hunter, Richard Corbett

Highlights

We maintained a booth at the Canada Day events in Sechelt, and at two additional outdoor events over the summer.

Challenges

The continuing challenge is to maintain and grow our membership. As for everyone, the pandemic has been a challenge, but with life gradually returning to normal, we are making every effort to make the monthly in-person meetings as attractive as possible

with a strong social component and audience participation. For example, our next monthly meeting will involve a hands-on demonstration of telescope operating procedures with a view to having a follow-up meeting at the observatory.

Looking forward - 2023/beyond

We are looking forward post-pandemic to having more sessions at the observatory, although the weather, especially in the winter, on the Sunshine Coast can be a challenge.



Canada Day 2023



Opening of new runway extension at Sechelt Airport

St. John's

About

Year established: 1966

Membership: 60

Assets: Seven telescopes, accessories for member borrowing. Access to Butterpot Provincial Park for darker sky observing. Members-only chat group (RASCNLTalk on groups.io) used to share observations, alerts, and advice.

Partnerships: Memorial University Physics (meeting space), Johnson Geocentre, Terra Nova National Park, Butterpot Provincial Park.

Outreach: Public Observing Events in 2022 at Johnson Geocentre at Memorial University's Signal Hill Campus (International Astronomy Day, International Observe the Moon Night), Butterpot Provincial Park (August Star Party), Terra Nova National Park (August Night Sky Celebration). Typically 5-10 volunteers, up to 100 attendees. At least eight presentations to youth groups (Scouts, Guides, etc.) online and in-person (typically 12-25 attendees). The Centre makes extensive use of RASC-developed material (SkyNews, Star-Finders, Moon Guides, etc.) at all outreach events

and at times when we have other opportunities for interactions with interested members of the public. Local media organizations interviewed centre members several times in 2021-2022. Topics covered included the anniversary of the discovery of Uranus and the observation of a fireball, both in March 2022, International Dark Sky Week in April 2022, light pollution in July 2022, and the opposition of Jupiter in September 2022.

Centre Executive

President: Michael Morrow,
 Vice President: Robert Babb,
 Treasurer: Jim Johnston,
 Secretary: Randy Dodge,
 Council members: Garry Dymond, Doug Grouchy, Craig Peterman, Marcellus Redmond, Chris Stevenson

Highlights

Starting in Spring 2022, the Centre undertook an effort to organize a series of in-person outreach events after the pandemic-induced hiatus. The result was a clear step toward a more normal range of outreach activity. For *International Astronomy Day*

(May, Johnson Geocentre), we had an information exhibit, telescope workshop, and solar viewing during the day (about 170 visitors) and an *Observe the Moon* event in the evening (mostly cloudy but treated a couple of dozen visitors to nice views of the Moon). For our *Butterpot Star Party* (August 5-6, 2022), we had public observing (hosted by about 10 members) in the evenings (60-80 visitors Friday, about 100 visitors Saturday) and solar viewing on the Saturday afternoon (60-80 visitors). For the *Terra Nova Night Sky Celebration* (August 27-28, 2021), five members provided solar viewing in the afternoons and public observing at the Sandy Pond dark sky site on Saturday evening. There were about 80 visitors plus some park staff at each event. We celebrated *International Observe the Moon Night* at the Johnson Geocentre on September 30, 2022. There were 8 members with telescopes and about 130 visitors.

The Centre held 10 meetings over the year (online until September 2022, hybrid since then, all archived on our YouTube Channel). Meeting presentations included four talks by members and three talks by outside experts (Phil McCausland (London Centre) on “The Golden B.C. Meteorite”, Mahumm Ghaffar (Memorial University) on “Dark Matter – The Hidden Mystery of our Universe”, and Susan Redmond (Princeton University) on “Balloon-borne Telescopes: To the Stratosphere and Beyond”). At three meetings, several members gave short talks about interests and activities. Members receiving special recognition were Garry Dymond (by the centre for

ongoing contributions), Robert Babb (RASC Service Award), Jim Johnston and Jim Stacey (images in various RASC and external venues). Observing highlights included comet C/2021 A1 Leonard in December 2021 (early morning viewing from Signal Hill by some members) the May 2022 Lunar Eclipse (some members shared observing in real time through a Google Meets session).

Challenges

Membership is slowly growing. While some new members are quite active in observing and interested in contributing to public observing, it is more difficult to find new members willing to take on leadership roles within the centre. Finding suitable venues for public observing within the city remains a challenge. Discussions about renewing a long-standing partnership with Signal Hill National Historic Site are ongoing but the Centre continues to look for venues that could provide an observing site with more year-round public amenities.

Looking forward - 2023/beyond

Before the pandemic, we held public observing events with other community partners (for example, Canadian Parks and Wilderness Society in Witless Bay, Admiralty House in Mount Pearl, Signal Hill National Historic Site, Salmonier Nature Park). In 2023, we hope to re-establish some of these partnerships and continue our return to pre-pandemic levels of public outreach.



Thunder Bay

Centre Meetings

The Thunder Bay Centre held 10 monthly meetings since the last Annual General Meeting, from October 2021 to September 2022, with a break in July and August. These meetings were held virtually on Zoom, with one hybrid in-person/Zoom meeting being held in September 2022. Every meeting is held on the second Tuesday of the month and typically includes the following:

- Centre News
- RASC National News
- Presentations
- Show & Tell Segment
- Naked Eye to Deep Sky segment
- Door Prize Draw

Attendance at Centre Meetings

Meetings had between 8-15 people in attendance.

Membership

As of October 2022, there are 36 members.

Centre Executive

President: Douglas Stuart

Vice-President: Fr. Francisco Blazek

Treasurer: Brigitte Schaffer

Secretary: Brendon Roy
(replacing Tracy Irvine after 4 years service)

National Rep. Andy Buchholz

Appointed Positions

Facebook Page: Brendon Roy

Newsletter Editor: Ted Bronson

Observing Chair: Douglas Stuart

Outreach: Brendon Roy

Centre News

The previous two years have seen many changes in the way we hold our meetings at the Thunder Bay Centre. After a prolonged period of being unable to get together, we have finally resumed our in-person monthly meetings at the David Thompson Astronomical Observatory located at Fort William Historical Park. In addition, we have decided to continue with Zoom in order to make our meetings more accessible for members who may be unable to attend in person.

Outreach

October 2021 – Brownies

The Thunder Bay Centre was contacted by the local Brownies group who requested an outdoor astronomy activity that would be fun and informative for their girls. The sky was completely overcast but we were still able to let the Brownies use binoculars and telescopes to learn about viewing objects at a distance. As well, we did a physical demonstration of distance between solar system objects that required the full participation of the girls. We were able to hand out Moon Gazer Guides to everyone and some SkyNews magazines. In attendance from the Centre were Brendon Roy, Tracy Irvine and Douglas Stuart.

August 2022 – Quetico Star Party

After a hiatus of two years, the astronomy weekend at Quetico Provincial Park has returned and, as in the past, our Centre was contacted to provide presentations and astronomy outreach. The Centre was represented by Brendon Roy, who spoke to audiences of approximately 40 people on the evenings of August 12-13. Observing conditions after each talk were not optimal; nevertheless, the crowd was enthusiastic to do some observing. These astronomy weekends are timed to coincide with the peak of the Perseid meteor shower and allow for easy viewing of astronomical wonders, even without the aid of equipment. However, in addition to Brendon setting up his 8-inch telescope, the Park has made available four 4-inch telescopes as well as cell phone adapters that guests can use, giving them easy access to the night sky and the ability to do their own astrophotography.

Monthly Talks

The following are the presentations that were given at each of our monthly meetings. Presenters during the year were Brendon Roy, Ted Bronson, Tracy Irvine, Douglas Stuart, Fr. Francisco Blazek and Mike Bazdarick.

October 2021

Thunder Bay Centre AGM:

Position of Treasurer was open for election; Brigitte Schaffer was the only person nominated; she accepted the nomination and was acclaimed to the position. After the AGM concluded, the regular meeting began.

Presentation:

My Pictures of Comet NeoWise by Ted Bronson

Show & Tell Segment (new):

This portion was added to our meetings in order to encourage discussion and engagement between our members over the Zoom platform. This had been an important component of our in-person meetings and we felt a less formal and more interactive part of the meeting would be appreciated by our members. At this meeting, Brendon Roy showed pictures of the progress he had made on his new property.

Naked Eye to Deep Sky

Constellation: Triangulum
Asterism: The Sauce Pan

November 2021Presentation:

The Upcoming Partial Lunar Eclipse by Ted Bronson

Show & Tell:

Ted Bronson shared the books he uses to find eclipse information

Presentation:

Seeing the Starlink Satellites by Douglas Stuart

Naked Eye to Deep Sky

Constellation: Ophiuchus
Asterism: Smiley Face in Auriga

December 2021Presentation:

Astronomical Catalogues by Tracy Irvine

Show & Tell:

November Partial Lunar Eclipse pictures from Brendon Roy, Fr. Francisco Blazek, Ted Bronson and Douglas Stuart

Naked Eye to Deep Sky

Constellation: Antlia
Asterism: Num Sum

January 2022Presentation:

Great Comets of History & Comet Nomenclature by Ted Bronson

Show & Tell:

Mike Bazdarick showed us his new set of binoculars and spoke about his search, what he decided on and why he chose them; general discussion followed

Presentation:

Viewing Kemble's Three Asterisms by Douglas Stuart

Naked Eye to Deep Sky

Constellation: Lepus

February 2022Presentation:

Binoculars by Ted Bronson

Presentation:

All-Sky Cameras by Brendon Roy

Naked Eye to Deep Sky

Constellations: Reticulum, Scutum, Arcinus, Carina
Asterism: The Navigator (from Polynesia)

March 2022Presentation:

Light Pollution by Douglas Stuart

Presentation:

Let's Try Some Filters! By Ted Bronson

Presentation:

Staring at the Sun - Solar Observing by Tracy Irvine

Naked Eye to Deep Sky

Constellation: Leo
Asterism: Asses and Manger in Cancer

April 2022Presentation:

Using Smartphones for Night-Sky Imaging by Brendon Roy

Presentation:

Preview of May 2022 Lunar Eclipse by Ted Bronson

Show & Tell:

Tracy Irvine spoke about the passing of Eugene Parker (Parker Solar Probe); she also shared a book she recently read called Bewilderment by Richard Powers

Brendon Roy shared an example of how he processed an image from his presentation and talked about image stacking software.

Naked Eye to Deep Sky

Constellation: Hydra
Asterism: Spring Triangle

May 2022Presentation:

Astronomical Landmarks (South America)-Chankillo Observatory by Tracy Irvine

Presentation:

Observing Structures on the Sun by Douglas Stuart

Show & Tell:

Brendon Roy showed pictures he took at McFarlane Road with the camera on his smartphone

Naked Eye to Deep Sky
Constellations: Indus and Dorado

June 2022

Show & Tell:

Members chatted about the recent lunar eclipse; Douglas Stuart and Father Francisco Blazek showed pictures

Presentation:

Twilight Types by Brendon Roy

Presentation:

Noctilucent Clouds by Brendon Roy

Presentation:

Summer Satellite Sightings by Brendon Roy

Naked Eye to Deep Sky

Asterism: Jobs Coffin

September 2022

Centre Business:

Douglas Stuart (President) put out a call for nominations for elections at upcoming October AGM;

Douglas Stuart requested volunteers for a naming committee to compete in the Name ExoWorlds 2022 contest;

Brendon Roy asked for volunteers for a committee to name an asteroid

Show & Tell: the September newsletter highlighted a number of pictures of noctilucent clouds and each contributor spoke about their picture (Douglas Stuart, Tracy Irvine, Fr. Francisco Blazek and Ted Bronson)

Presentation: Upcoming Eclipse Paths and Weather Statistics by Ted Bronson

Special Presentation: Ted Bronson presented an RASC 150th Anniversary Coin to Brendon Roy in appreciation of his years of hard work and dedication to the Thunder Bay Centre and to astronomy outreach.

Naked Eye to Deep Sky

Constellation: Horologium

October 2022

Thunder Bay Centre AGM:

Positions of President, Vice President, Secretary and National Council Representative were open for election. All accepted their nominations and were acclaimed to their positions.

The new RASC Thunder Bay Centre Executive is as follows:

President: Douglas Stuart

Vice-President: Fr. Francisco Blazek

Secretary: Brendon Roy

Treasurer: Brigitte Schaffer

National Rep: Andy Buchholz

After the AGM concluded, the regular meeting began.

Centre Business:

Douglas Stuart spoke about the Centre's opportunity to name an asteroid and the two possible names that were suggested 'Sleeping Giant/Nanabijou' and 'Lakehead'. It was decided by a vote of the members in attendance.

Majority decision: Lakehead.

Brendon Roy informed the members that he recently received a donation of an 8-inch telescope to the Centre, complete with lenses and a collimating scope.

Presentation:

A Lunar Eclipse by Ted Bronson

Presentation:

Exoplanets – Touring the Night Sky by Brendon Roy (this presentation was done to meet the requirements of the outreach component for the NameExoWorlds 2022 contest)

Naked Eye to Deep Sky

Constellation: Taurus

Special Events

A total lunar eclipse was visible from Thunder Bay on the night of May 15-16 of this year. Six members of the Centre came out to Hillcrest Park to view the eclipse together. Although there was variable cloudiness throughout the event, members were able to catch glimpses of the various phases of the eclipse and some imaging was possible. As well, we were able to do some impromptu outreach using binoculars and telescopes. Some of the public were even able to get high quality pictures by simply holding their smartphone to the eyepiece of a telescope.

Special Recognition

We are pleased to congratulate lifetime RASC member Ted Bronson who was recognized for his outstanding contributions to amateur astronomy by having an asteroid named after him. Ted helped to found the Thunder Bay Centre of the RASC and served in every position on its executive. In 2006, Ted was awarded an RASC Service Award. He is an avid eclipse watcher/chaser and is currently serving as the newsletter editor for the Thunder Bay Centre.

Asteroid (10082) Bronson = 1990 OF2 is a main belt asteroid with an orbital period of 3.62 years.

Centre Observing Sessions

We held fewer monthly observing sessions than usual, mainly due to harsh weather and a Spring that was a month late. This resulted in extreme melt water pooling and unusable observing locations. However the February, March, May, June, July and September sessions were clear and those that attended had good opportunities for deep sky observing and astrophotography.

February 25th 8 people in attendance.

Location Boulevard Lake.

Objects observed M42, M35, NGC 884/869, M45, NGC457, M31, M32, M110

Equipment 10 inch Dobsonian

March 27th 2 people in attendance.

Location Swingers Golf Course

Objects observed M42, M45

Equipment 4 inch Vixen binoculars!

May 5th 5 people in attendance.

Location Boulevard Lake.

Objects observed M65, M66, NGC3628, NGC 884/869, M44, M35, M31, M32, M110, M45

Equipment 10 inch Dobsonian

May 15th 6 people from the club in attendance. Many more from the public.

Location Hillcrest Park.

Objects observed total Lunar eclipse, Starlink string with 53 satellites.

Equipment 10x50 binoculars, 10 inch Dobsonian, DSLR camera

June 5th 2 people in attendance.

Location McFarlane Road

Objects Observed M4, M6, M7, M8, M20, M21, M22, M23, M24, M25, M17, M18, M16, M10, M12, M15, M11, M27, M13, M57, M109, M97, M81, M82, M65, M66, NGC 3628, M44, NGC6992/95, NGC6960

Equipment 10 inch Dobsonian

July 2nd 4 people in attendance.

Location Barney's

Objects observed M27, M4, M8, M20, M21, M23, M24, M25 M18, M17, M16, M22, M26, M10 M12, M15, NGC7789, IC1590, NGC663, NGC659, NGC884/869, NGC7331, M101, M51, M35, M13, NGC457, Jupiter, Saturn, Mars

Equipment 17 inch Dobsonian

September 1st 5 people in attendance.

Location Barney's

Objects observed M13, M10, M12, M22, M15, M71, M57, Jupiter, Saturn, Mars, M31, M32, M110, M27, NGC7789 (Caroline's Rose), Abell 426, Stephan's Quintet

Equipment 17 inch Dobsonian

September 22nd 5 people in attendance.

Location Jackpine Park

Objects Observed NGC 884/869, NGC 457, M31, M32, M110, M101, M51, M57, M13, M15, NGC 6992/95, NGC 6960, Jupiter, Saturn

Equipment 10 inch Dobsonian

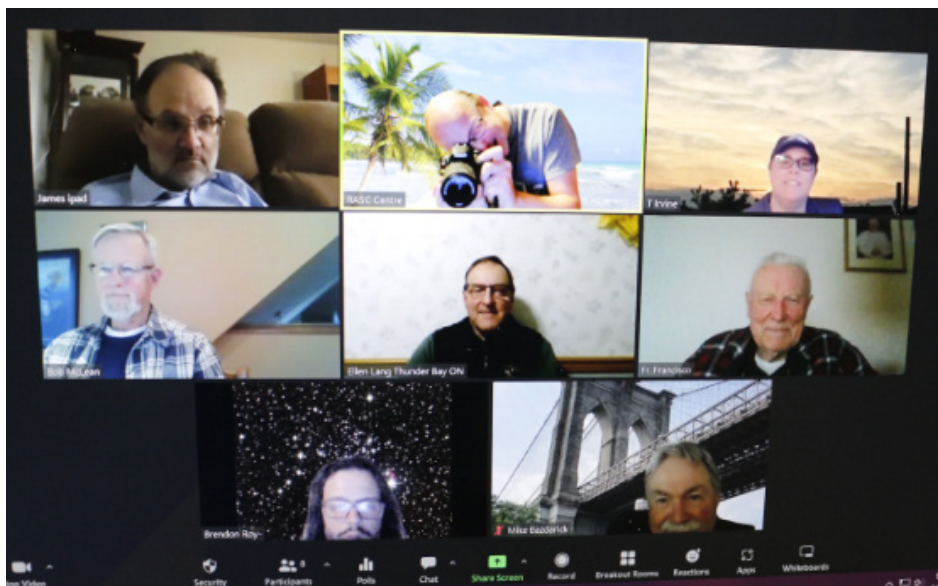
September 28th 3 people in attendance.

Location Barney's

Objects observed Jupiter, Saturn

Equipment 5 inch Apo Refractor

Our group photo at the June meeting



Top left to bottom right.
James Kowalski, Douglas Stuart,
Tracy Irvine, Bob McLean,
Jacques Lang, Fr. Francisco Blazek,
Brendon Roy and Mike Bazdarik.

Toronto

Incorporated: 1974

Charity registration: 1983

Membership: Regular - 470;
Life - 64; Family - 113;
Youth - 35

Official Meeting Place:
Ontario Science Centre,
Toronto ON

Partnerships: Ontario
Science Centre, David Dunlap Observatory -
(Town of Richmond Hill/RASCTC), University of
Toronto, York University, Durham Skies Astronomy
and Birding Store (EPO Pickering ON Events).
E.C. Carr Observatory: University of Western
Ontario Meteor Network, Beaver Valley Bruce Trail
Association, Owen Sound Transportation Company
(Stargazing Cruise) L.E. Shore Memorial Library
Thornbury ON



Centre Executive

President: Tom Luton

1st Past President: Dr. Ralph Chou

VP-Finance: Scott Masteton

2nd Past President: Tony Horvatin

VP-Program: Dr. Elaina Hyde

Treasurer: Adrian Aberdeen

Honorary President: Dr. Roberto Abraham

Secretary: Lucy Winnicki

Honorary Councillor: Dietmar Kupke

Recorder: Marc Teitelbaum

Councilors

Kirsten Vanstone, Frank Dempsey, Tanya Olesiuk,
Charles Yung, Doug Carmen, Diane Salerno,
Ed Treijis, Reza Mohamad, Charles Darrow

2022 Highlights

Opening of some in person public astronomy events
mid-year:

- Millennium Square (Pickering, ON) drew 2200+ guests over 6 monthly events.
- Members were elated when City and Dark Sky Observing resumed officially.
- Members & families once again enjoyed the excellent night sky and fellowship at the Annual Algonquin Adventure held at Algonquin Park ON, following a 2 year hiatus.

35 Live streamed events on our RASCTC Youtube channel with over 59,000 views, totaling 10,000 viewing hours watched. Online Subscribership is holding steady at 2173.

The Centre's E.C Carr Observatory was well used by members despite the continued pandemic protective measures in place at the facility. And by the year's end, three weekend 'Scouts Astronomy Programs' were held.

Challenges

- 27% drop in Centre membership since 2015 - under review.
- Low donations due to Driven issues and limited in person public events & programs which generate donations.
- Low revenue from in person Program fees due to limited offerings.
- Decreases in donations & fees resulted in deficit vs operating costs.
- Most regular in person events did not resume due to logistics and lingering health concerns post lifting of pandemic restriction.

Looking forward - 2023/beyond

We hope to resume full scheduling of in person public events & programs at all our regular venues, boosting revenues from donations and fees.

A primary focus will be on rebuilding membership and improving member retention through initiatives to help people learn and do astronomy in fun and more supportive ways.

Accessibility

Our membership is spread across a very broad geographic area, which creates distance & travel time issues for attending meetings, events and volunteering opportunities for many members.

The Centre will provide hybrid Regular Astronomy Night and Speakers Night meetings going forward.

Currently, members gather for observing at 1 north-central city park observing site, the Ontario Science Centre (solar observing) in Toronto's central south-east and 2 dark sky sites to the suburban far north east and east. We will investigate more optional observing sites closer to those living in other areas of the GTA.

Our E.C. Carr Observatory in the Town of the Blue Mountains (2 hours from Toronto) is available to members for day, weekend and longer stays. Facility training has increased more recently so members may use the site without dependance on site supervisors.

Learning, Ongoing Support and Social Opportunities:

Review and improve delivery of learning materials and ongoing member integration/support.

Investigate non observing activities and social meeting spaces to promote camaraderie & community.

Vancouver

In 2022, we returned to in-person events but to accommodate those that continue to be careful about COVID19, we have maintained a hybrid format with our monthly meeting being attended both in-person and via Zoom.

In December of 2021, we ended the year with 294 members. Over the last year, our membership count has remained consistent and is currently at 281 members ending December 2022.

Here is a summary of our events for 2022:

- January 7 – Virtual presentations co-hosted with SFU Starry Nights (4 speakers)
- January meeting – Don Hampton, Space Weather
- February meeting – Matthew Borghese, The year that was and the year that it's shaping up to be
- March meeting and the Paul Sykes Memorial Lecture – Sophia Gad-Nasr, Collapsing Dark Matter into Black Holes at Cosmic Dawn
- April meeting – Rouzbeh Bidshahri, Introduction to a few basic concepts of Astrophotography, the gear used and then several sample images can be viewed and discussed
- April 20 – Aldergrove Park Spring Astronomy Event with Metro Parks (online webinar)
- April 21 – Campbell Valley Regional Park with Metro Parks (stargazing)
- May 7 – International Astronomy Day and Science Rendezvous (online speakers)
- May meeting – Clare Higgs, Dwarf Galaxies in the Local Group
- June meeting – Dr. Joanna Woo, A View of the Universe - The Trottier Observatory and Galaxy Formation
- June 4 – Girl Guides “Nights under the Stars”
- July 1 – Canada Day at Maple Ridge
- July meeting – Wes Fraser and Dr. Madeline Marshall, First Webb Data
- August – Perseid Meteor Shower with Metro Parks
- September meeting – Dr. Patrick Seitzer, Space Debris and Astronomy

Website Upgrade:

A major & costly upgrade of Toronto Centre's website & revamping of many site forms is scheduled for 2023.

- October meeting – Jennie King, Planetary Defense or “How to Avoid Impacts and Influence Orbits”
- October 21 to 23 - Manning Park Dark Sky Weekend – Little Dipper
- October 28 to 30 - Manning Park Dark Sky Weekend – Big Dipper
- November meeting – Chris Gainer, Canada's contribution to astronomy and spaceflight
- December meeting – Theresa Fisher, Biosignatures and exoplanets in the JWST era

Not listed above are the weekly in-person Friday evening Starry Nights hosted by the Simon Fraser University at the Trottier Observatory, which weekly events re-started in 2022, weather permitting. Our RASC Vancouver volunteers and their telescopes have continued our partnership with SFU and attended all scheduled Starry Nights. The public-at-large has returned to these star parties with enthusiasm, averaging 250 people each event.

After an exhausting four years, our Centre's observatory renovation is complete and has been re-branded as the Vancouver RASC Observatory (VRO). This new beginning will be a useful asset to our Centre members and as an outreach focal point. This is truly a great accomplishment of our Centre resulting from many years of many members' volunteer efforts.

Council also started a Discord messaging group for members on local astronomy topics. It is intended to be a way to communicate current events, topics of interest, arrange observing get-togethers, and encourage astronomy discussion among our membership.

Next year we hope to do more in person events to inspire our members to learn about astronomy and astrophotography, and inspire the public to join us and protect our dark skies.

Our Centre survives and prospers through membership so our goal is always to encourage and inspire new members through lending telescopes from our collection and sharing our excitement and knowledge about astronomy.

Victoria

About

Year established: 1914, Membership: 259

Assets

Victoria Centre Observatory on the grounds of the Dominion Astrophysical Observatory

OGS 12.5" RC telescope - optical tube

Takahashi TOA 130S apo-chromatic telescope

Paramount ME equatorial mount

Obsession 20" telescope + Argo Navis Setting Circles
many lending telescopes and books

Partnerships

Friends of the Dominion Astrophysical Observatory
(Centre of the Universe)

University of Victoria Astronomy Department

Cowichan Valley Star Finders – Vancouver Island
Star Party

Fairfield Community Centre – host for the weekly
hybrid Astrocafe

Outreach

~40 volunteers, 159 Events Total, 15421 Galileo
Moments

International Astronomy Day at the Royal BC
Museum

Vancouver Island Star Party, Saanich Fair, Fall
Fairfield

FDAO Star Parties at the Centre of the Universe. 6
Virtual, 14 Live

Monday evening Astrocafé. 13 Virtual, 18 Hybrid
90 School Visits

Centre Executive 2023

President: Randy Enkin

Vice Presidents: Dan Posey, Garry Sedun

Treasurer: Doug Hardy

Secretary: Ken Atkinson

Council members: Brian Barber, David Lee, Jeff
Pivnick, Lauri Roche, Alex Schmid

Highlight

Asteroid named after Sid Sidhu, our lead for
outreach, school visit, and telescopes

New Bylaws – with many improvements and a new
Council structure

Challenges

Increasing diversity – women, youth, and ethnicity

Looking forward - 2023/beyond

More in-person events! Build up the Vancouver
Island Star Party



*International Astronomy Day
at the Royal BC Museum*



*Star Party with the Friends of the Dominion Astrophysical
Observatory at the Centre of the Universe*

Windsor

About:

Year established 1945

Membership 99

Centre Executive

President: Mahayarrahh-Starr Livingstone

Vice President: Steve Pellarin

Treasurer: Laura Burgess

Secretary: Kelsey Romaniuk

National Council Representative: Tom Sobocan

Council members: Sandy van Gaalen,
Mike Mastronardi, Brian Simpson, Joady Ulrich

The RASC Windsor Centre has had a very active and productive year. While COVID-19 precautions kept us from meeting face-to-face for the first half of the year, we were able to continue to hold monthly membership meetings online using the RASC ZOOM account. We enjoyed several interesting presentations and online discussions. In September, we were excited to be able to gather for our first in-person meetings for over two years. We also decided at that time to continue to offer online access to our monthly meetings through the zoom app to those who were not able to attend in person. Our monthly General Meetings continue to be held at the Ojibway Nature Centre.

RASC-Windsor Monthly Meetings:

Centre Speakers/Presentation Topics

February Dr. Bill Baylis, Professor Emeritus, University of Windsor 'Truth in Science – Galileo'

March Roland Dechesne, RASC-National, LP Committee (Calgary Centre Past President) 'Light Pollution Monitoring and Abatement'

April Steve Pellarin, RASC-Windsor & University of Windsor 'The Diversity of Active Galaxies and Consequences of Active Galactic Nuclei'

May Members Night, featuring Dr. Susan Sawyer-Beaulieu, Director of Observing Report on Monthly Astronomy Events/ News/ Member Astrophotos

June Members Night, featuring Nancy Ng, Director of Observing Report on Monthly Astronomy Events/ Highlights of Member Astrophotos

September Members Night, Mahayarrahh-Starr Livingstone 'Light Pollution Initiatives Update for Hallam Observatory', Steven Pellarin, 'IAU Name Exoworlds Contest 2022' and Julianna Grigorescu, Director of Observing

October Dr. Bill Baylis, Professor Emeritus, University of Windsor 'Recent Nobel Prize Winners & Black Hole Discoveries'

November Juliana Grigorescu, RASC-Windsor 'The Visual Telescope'

December We hosted our Holiday Social gathering, consisting of a Potluck meal, an Astronomy themed gift exchange and prize draw, as well as an open book quiz based on the 2023 RASC Observers' Handbook.

Outreach

RASC-Windsor continued to partner with Pt. Pelee National Park to provide astronomical outreach activities for park visitors. Six 'Dark Sky Nights' were hosted by volunteers to provide a laser-guided tour of the constellations, telescope views and lively discourse. In October and November, member Steven Pellarin provided 'StarTalk' presentations in the Visitors' Centre before the observing session began. Club members also hosted a special dark sky viewing night and presentation at the YMCA Camp Henry campground at Point Pelee National Park for youth group from the Walpole Island First Nation on December 5th, 2022.

The Windsor Centre's Hallam Observatory located near Comber, Ontario was used on a regular basis this past year for privately-booked observing sessions for groups and families. The 14" Schmidt-Cassegrain telescope provided clear views of planets, nebulae and star clusters both on weekends and nights during the week.

An astronomical presentation and observing night was held for members of the Fogolar Furlan Club of Windsor and surrounding neighbours and friends on the night of Friday, September 30th. About 60 visitors (some with their own telescopes) came out to join club volunteers for the evening under the stars.

The club also teamed up with students and faculty at the University of Windsor to organize several very well attended observing events and public education activities during the past year. This included a visit to Hallam Observatory by a group of approximately 70 students, friends and faculty organized by the University of Windsor Physics club on July 28th. About 10 club members were on hand to provide telescope views and laser-guided tours of the night sky as well as a tour of the large LED-lit solar system scale model we have built on our observing site. Our second event occurred on the University of Windsor campus and was co-hosted with the local IAU NameExoWorlds 2022 contest team to celebrate their submission to name the exoplanetary system HAT-P-12 in the contest. Windsor RASC volunteers hosted over 165 visitors at their telescopes in this outreach observing event.

The City of Windsor once again provided the Windsor Centre with the opportunity to participate in 'Open Streets' - a family-oriented open house event

in the downtown of our city on September 18th. With a long stretch of streets closed, pedestrians had the opportunity to visit our booth, pick up astronomical handouts and star wheels and look through our solar telescopes. The club also participated in the 'Summer in the City Car Show' at the Fogolar Furlan Club of Windsor on Sunday, July 24 th with an information booth, solar observing and several telescope displays. Over 200 attendees had the chance to come by and look through our telescopes. The Windsor Centre participated in a pair of concerts performed by chamber musicians of the Windsor Symphony on July 17 th . The concert performances, entitled 'Dark Sky Music' included a daytime performance in downtown Windsor, and a second later that evening under dark skies at the John R. Park Homestead Conservation Area on the shore of Lake Erie. Astronomy related topics were narrated by RASC volunteers between groups of songs to enhance the experience. A question and answer session followed both under the unfortunately cloudy skies.

Fundraising

The yearly RASC Windsor Centre astronomical calendar was created and sold as a major fundraising event in the period from late October to December. The calendar showcases astronomical images taken by the talented astrophotographers from our club.

We also undertook, for the second time, a showing and sale of astronomical photos and art created by members of the RASC Windsor Center at the Leamington Arts Centre in late October of 2022. Beyond the photos and works for sale, the gallery also provided space for a few displays of astronomical equipment.

Hallam Observatory

A number of electrically serviced outdoor telescope pads were installed at the observatory. This now provides easy power access for members bringing their own telescopes and astrophoto gear out to the observatory. Hallam observatory continues to provide opportunities for members as well as the general public to connect in various ways with the dark sky.

RASC National

RASC National Council representative, Tom Sobocan continues to attend National Council ZOOM Meetings and the General Assembly Meeting. He summarizes the pertinent information to share with the RASC Windsor Centre Council and/or with the RASC Windsor Centre general membership.

NameExoWorlds 2022 Contest

NameExoWorlds 2022 is a collaboration between the Executive Committee Working Group on Exoplanetary Systems Nomenclature and the IAU

Office for Astronomy Outreach to have public teams from around the world submit naming proposals for 20 exoplanets that the James Webb Space Telescope will study during its first observing campaign. Through the efforts of member Steven Pellarin, who is the Canadian national contest organizer, a team was brought together including University of Windsor students and faculty and members of the Windsor Centre. A thoughtful written proposal and engaging video were created by this team, which also organized a very successful outreach event. Team members are anxiously waiting to hear the results from the IAU international judging panel.

Directorate of Observing

The Directorate of Observing committee has worked hard this year to provide a detailed sky report at each of our monthly meetings. Planet locations, moon phases, upcoming meteor showers and much more has been highlighted. The total solar eclipse due to travel directly over our area on April 8, 2024 is a highly anticipated event.

Light Pollution and Light Pollution Abatement

Hallam Observatory, which is located in Comber, ON is owned and operated by the RASC Windsor Centre. We have been using it for public outreach, as well as member observing and astrophotography for 18 years. Our observing and astrophotography facing South has been impacted by light pollution emanating from the greenhouses in Leamington. RASC Windsor president, Mahayarrahh-Starr Livingstone, has attended and made presentations at Leamington council meetings. Side and ceiling curtains, as well as lights on and off bylaws, enacted in 2022, give the greenhouse owners until Oct. 2023 to comply. It remains to be seen if the owners will cooperate and if the bylaws will be enforced.

Kingsville, an adjacent municipality with greenhouses, has succeeded in significantly reducing greenhouse light pollution with the use of blinds at night. We are hoping that Leamington follows suit.

Challenges

Our Centre continues to look for ways to engage our full membership and reconnect with those who have yet to return to regular participation in club events and meetings since the COVID pandemic shut many of those activities down. We look forward to 2023 to further build our connections within the local community and in particular the underserved people of our city and county. We also hope to build stronger ties with our fellow RASC Centres across the country.



Winnipeg

About

Year established

Membership 232

Assets Glenlea observatory, Spruce Woods Provincial Park dark-sky Preserve, Loaner scope program

Partnerships

University of Manitoba, Spruce Woods Provincial Park, Nature Conservancy of Canada, Oak Hammock Marsh Interpretive Centre, Manitoba Museum

Outreach

monthly meetings average 30 to 40 in person and online. Posted on Youtube as well. Astronomy Day, several small outreach events by members.

Special Projects Telescopes for Kids, Dark Sky Preserve, Incorporation of the Centre

Centre Executive

President Dennis Lyons

Vice President Judy Anderson

Treasurer Abdul Al Manni

Secretary Ed Wright

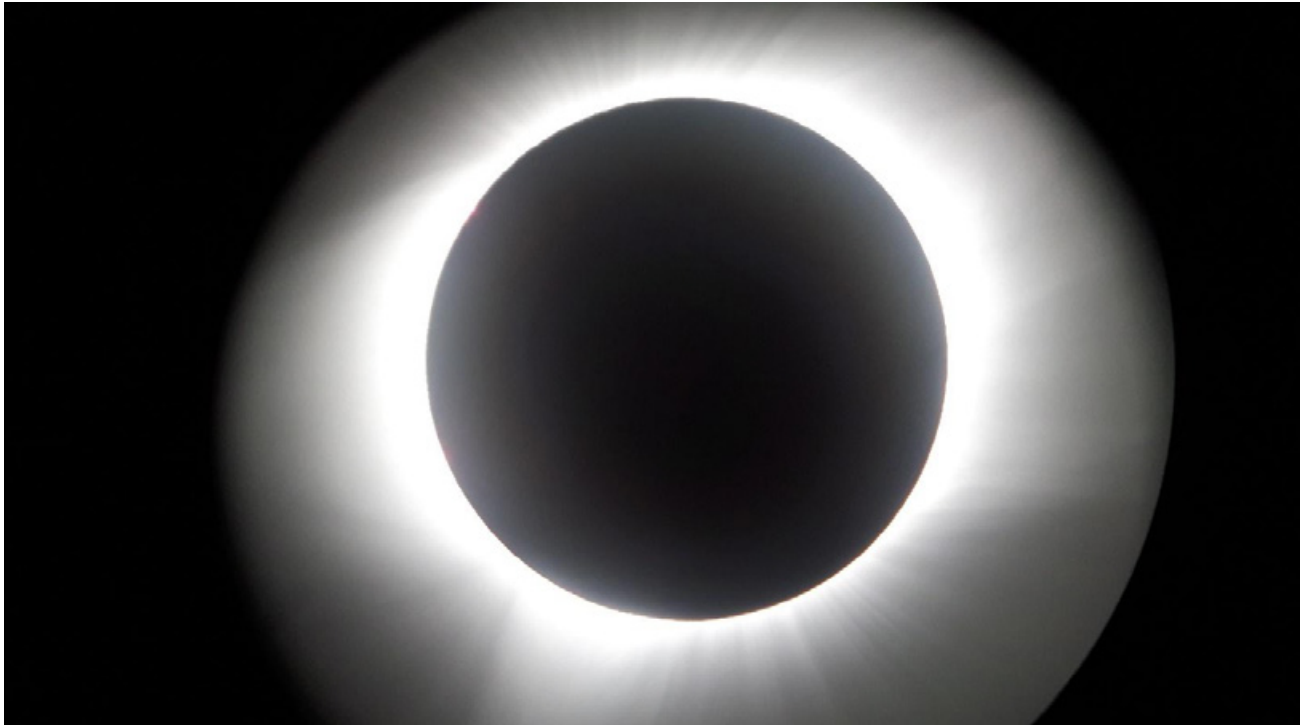
Council members Scott Young, Mike Karakas, Marc Sarrasin, Mark Irvine, Michelle Boyce, Russell Brown

Highlights

End of Covid restrictions allowing in person events again

Challenges

Glenlea Observatory flood mitigation efforts.



Yukon

About

Year established: 2015

Membership: 28

Assets

Our observatory facility consists of an astronomical observatory containing a telescope, a warm-up building which does double duty as a lounge and as a classroom space, an outdoor concrete pad, a small gravel parking area, some lawn area, and an outhouse.

Outreach

We have two regular programs: 1) Astro 101: a series of one-hour lectures going through introductory astronomy and planetary science, and 2) Explore the Universe: This program is designed to encourage people to explore nighttime observing, with the eventual goal of acquiring the RASC's Explore the Universe certificate. Both of these programs are open to the general public.

We held two star parties in 2022, one at our observatory just north of Whitehorse and one at Kluane National Park in partnership with Parks Canada.

Our members visited several classrooms, student groups, and camps for youth.

Special Projects

We held an additional "moon party" in early April, designed to bring attention to the upcoming Artemis missions.

Centre Executive 2022

President: Christa Van Laerhoven

Vice President: Vikki Zsohar

Treasurer: Forest Pearson

Secretary: Patrick Egan

Director at Large: David Millar

National Council member: Patrick Egan



Christa Van Laerhoven talking at RASC:Yukon's "Moon Party", April 2022

Highlights

The biggest highlight of 2022 was that we learned our suggestion to name an asteroid after Skookum Jim was accepted by the IAU, with the naming of the asteroid 10112 Skookumjim. The naming of an asteroid after an Indigenous figure central to Yukon history generated substantial interest, resulting in several media interviews on the topic.

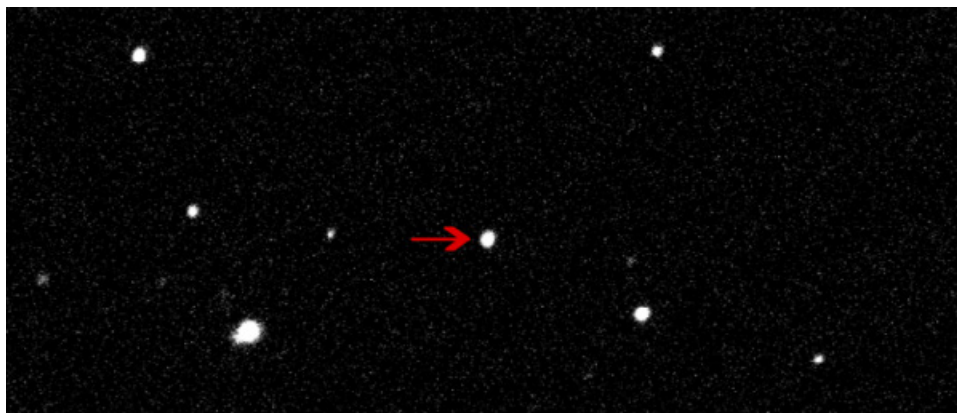
Some administrative highlights were that we got a PO Box dedicated to the society and we got control of the listing for our observatory on Google Maps. We also worked on transitioning to the Yukon's new Societies Act.

Challenges

Our main challenge is bringing in enough money to keep paying the electricity bills at our observatory, plus directors insurance and insurance for the observatory. Fees from our membership is nowhere near enough. We have started offering private observing tours to cover these costs.

Looking Ahead

In 2023 we hope to continue much of the same as in 2022. We are planning to take one of our regular programming events (probably Astro 101) and morph it into something that more resembles a monthly general members meeting while keeping the attributes that make that program successful in its current incarnation.



Asteroid 10112 Skookumjim. Image taken by the Sloan Digital Sky Survey in January 2006.

2023 Award Winners

Ken Chilton Prize	Dr. Chris Gainor (Victoria)	Fellowship Award	Colin Haig (Hamilton)
Service Award	Chris Young (Halifax)		David Levy (Montreal)
	Quinn Smith (Halifax)	Young Astronomer	Artash Nath (Toronto)
	Sylvia Graca (Winnipeg)		Arushi Nath (Toronto)
	John Marchese (Mississauga)	President's Award	Judy Black (Halifax)
	Emma MacPhee (New Brunswick)	Qilak Award	Wilfred Buck

Past Award Winners

Below is a list of former winners of the Society Awards.

For names before 2000, please refer to “Looking Up—A History of the RASC” by Peter Broughton. www.rasc.ca/sites/default/files/LookingUp-300-text.pdf For names after 2000, go to the RASC website www.rasc.ca/rasc-awards

Chant Medal

The Chant Medal of the Society was established in 1940 in appreciation of the great work of the late Professor C.A. Chant in furthering the interests of astronomy in Canada. The medal is awarded not oftener than once

a year to an amateur astronomer resident in Canada on the basis of the value of the work carried out in astronomy and closely allied fields of original investigation.

- 2001** Richard Huziak (Saskatoon)
- 2002** Dr. Roy Bishop (Halifax)
- 2006** Ed Majden (Victoria)
- 2008** Dr. Geoff Gaherty (Toronto)
- 2018** Peter Broughton (Toronto)
- 2020** Michel Duval

Fellowship Award

Developed jointly by the Awards and Nominating Committees, and approved by the RASC Board of Directors in November 2013, the award of Fellow of the RASC (FRASC) is created to acknowledge the work of long-serving members. It recognizes those outstanding members who have made extraordinary contributions to the Society over the long term, much of which service has been rendered at the national level.

2014

- Randy Attwood (Mississauga)
- Dr. Roy Bishop (Halifax)
- Peter Broughton (Toronto)
- Dr. James Hesser (Victoria)

2015

- Robert Dick (Ottawa)
- Dave Lane (Halifax)
- Dr. John Percy (Toronto)
- Mary Lou Whitehorne (Halifax)

2016

- Jay Anderson (Winnipeg)
- Alan Batten (Victoria)
- Doug Hube (Edmonton)
- Franklin Loehde (Edmonton)
- Patrick Kelly (Halifax)

2018

- Peter Jedicke (London)

2020

- David Chapman (Halifax)
- Randall Rosenfeld (National Member)

2021

- Roland Dechesne (Calgary)
- James Edgar (Regina & Halifax)
- Michael Watson (National Member)

2022

- Dr. Chris Gainor (Victoria)

Ken Chilton Prize

The Chilton Prize was established in 1977 by the National Council of the Society in remembrance of Ken E. Chilton, an active member of the Hamilton Centre. The prize is awarded annually to an amateur astronomer resident in Canada in recognition of a significant piece of astronomical work carried out or published recently.

2008

- Eric Briggs (Toronto)
- Debra Ceravolo (Ottawa)
- Peter Ceravolo (Ottawa)
- Lou Cox (Ottawa)
- Steve Gauthier (London)
- Doug George (Ottawa)
- Paul Gray (New Brunswick)
- Walter MacDonald (Kingston)
- Jack Newton (Victoria)
- Ajai Sehgal (Ottawa)
- Jennifer Tigner (Victoria)
- Dave Toth (London)

2009

- Brian Battersby (Prince George)

2010

- Brian Battersby (Prince George)
- Lise Charlebois (National Member)
- Ted Dunphy (New Brunswick)
- Paul Gray (New Brunswick)
- Kim Hay (Kingston)
- Marc Keelan-Bishop (Belleville)

- Don Kelly (New Brunswick)
- Rémi Lacasse (National Member)
- Dave Lane (Halifax)
- Damien Lemay (Québec)
- Ron Macnaughton (Toronto)
- Chris Weadick (New Brunswick)
- Jennifer West (Winnipeg)

2012

- Holly Ayles (New Brunswick)

2014

- Kathryn Gray (Halifax)
- Nathan Gray (Halifax)

2020

- Peter Pekurar (Kitchener-Waterloo)

2022

- Normand Amyot (non-member)
- Francois Chevrefils (Centre francophone de Montreal)
- Michel Duval (Centre francophone de Montreal)

Plaskett Medal

The Royal Astronomical Society of Canada and the Canadian Astronomical Society together present an award in recognition of the pivotal role played by John Stanley Plaskett in the establishment of astrophysical research in Canada. The award is made to the graduate from a Canadian university who is judged to have submitted the most outstanding doctoral thesis in astronomy and astrophysics in the preceding two calendar years. An award need not be made every year.

2006 Dr. Lauren A. MacArthur (British Columbia)

2007 Dr. Frédéric Grandmont (Université Laval)

2008 Dr. Adam Muzzin (University of Toronto)

2009 Dr. Catherine Lovekin (Saint Mary's University)

2010 Dr. Helen Kirk (University of Victoria)

2011 Dr. Kaitlin Kratter (University of Toronto)

2012 Dr. Pier-Emmanuel Tremblay (Université de Montréal)

2013 Dr. Yasuhiro Hasegawa (McMaster University)

2014 Dr. Andrew Pon (University of Victoria)

2015 Dr. Anne Archibald (McGill University)

2016 Dr. Jonathan Gagné (Université de Montréal)

2017 Dr. Fereshteh Rajabin (Western University)

2018 Dr. Gwendolyn Eadie (Queen's University)

2019 Dr. Alexandra Tetarenko (University of Alberta)

2020 Dr. Simon Blouin (Université de Montréal)

2021 Dr. Ziggy Pleunis (McGill University)

2022 Dr. Deborah Good (British Columbia)

President's Award

Established in 2008, this award is to be given at the President's discretion, usually once a year, to a member who has made an important contribution to the Society, and to be presented by the President either at the General Assembly or during a visit by the President to the home Centre of the recipient.

- | | |
|---|---|
| 2010 Sid Sidhu (Victoria) | 2017 Dave Garner (Kitchener-Waterloo) |
| 2011 Mayer Tchelebon (Toronto) | 2018 Rick Huziak (Saskatoon) |
| 2012 Randall Rosenfeld (National Member) | 2019 Michael S.F. Watson (National Member) |
| 2013 Dave Lane (Halifax) | 2020 Barry Shanko (Vancouver) (posthumously) |
| 2014 Robert Dick (Ottawa) | 2021 Renata Koziol (Society Office) |
| 2015 Walter MacDonald (Kingston) | 2022 Emily Lafleche (Montreal) |
| 2016 Terence Dickenson (Toronto) | |

Qilak Award/Le Prix Qilak

This award is jointly administered by CASCA, the FAAQ, and the RASC, instituted to acknowledge excellence in astronomy outreach and communication. One prize can be awarded annually in each of the three founding societies

- | | |
|---|---|
| 2012 Colleen O'Hare (Okanagan) | 2019 RASC—Chris Curwin (New Brunswick) |
| 2013 Robert Duff (London) | CASCA—Dr. Jan Cami (Western University) |
| 2014 Dr. Howard Trottier (Vancouver) | FAAQ—Hugues Lacombe (Club d'astronomie de Charlevoix) |
| 2015 Toronto Centre DDO Volunteers (Toronto) | 2020 Not awarded |
| 2016 Doug Cunningham (Toronto) | 2021 Not awarded |
| 2017 Paul Heath (Halifax) | 2022 Jenna Hinds (Society Office) |
| 2018 Dr. Rob Thacker (Halifax) RASC | |
| Mike Moghadam (Ottawa) | |
| Daniel Brousseau (Sherbrooke) | |

Service Award

The Service Award was established in 1959 and takes the form of a bronze medal presented to members who have performed outstanding service to a Centre or to the National Society. Below is a list of recent winners of the Service Award.

- | | |
|------------------------------|---------------------------------------|
| 2016 | • Dr. Brian Pihack (Niagara) |
| • Andy Blanchard (Hamilton) | • Betty Robinson (Mississauga) |
| • Gary Bennett (Hamilton) | • Randall Rosenfeld (National Member) |
| • Paul Gray (Halifax) | • Stan Sammy (Niagara) |
| • Hugh Pett (Okanagan) | • Gerry Smerchanski (Winnipeg) |
| • Chris Teron (Ottawa) | • Don Town (Belleville) |
| 2017 | 2018 |
| • Eric Briggs (Toronto) | • Colleen O'Hare (Okanagan) |
| • Simon Hanmer (Ottawa) | • Grant Rice (Okanagan) |
| • Katrina Ince-Lum (Toronto) | • Brian Lucas (Sunshine Coast) |
| • Michael Moghadam (Ottawa) | • Neil Sandy (Sunshine Coast) |
| • Charles O'Dale (Ottawa) | |

2019

- Michael Bradley (Sunshine Coast)
- Joanne Burns (Belleville)
- Phil Chow (Toronto)
- Bruce Fryer (Sunshine Coast)
- Robyn Foret (Calgary)
- Mike Hanes (London)
- A.W. Scott Masterton (Toronto)
- Ed Mizzi (Hamilton)
- Blake Nancarrow (Toronto)
- Roger Nelson (Calgary)
- Vance Petriew (Regina)
- Linda Pulliah (National Member)
- Laurie Roche (Victoria)
- Rick Saunders (London)
- Danny Sklazeski (Sunshine Coast)
- Leslie Strike (Mississauga)
- David Thompson (Sunshine Coast)
- Luca Vanzella (Edmonton)

2020

- Dennis Krause (Okanagan)

- Steve Holmes (Kitchener-Waterloo)

2021

- Diane Bell (Victoria)
- Andrew Bennett (Okanagan)
- Zoltan Boda (Okanagan)
- Darrell Chatfield (Saskatoon)
- Paul Delaney (Toronto)
- Ellen Dickson (Saskatoon)
- Dr. Leslie (Les) Dickson (Saskatoon)
- Blair MacDonald (Halifax)
- Ronald (Ron) Waldron (Saskatoon)
- Ian Wheelband (Toronto)

2022

- Robert Babb (St John's)
- Philip Downey (Niagara)
- Robert Lewis (Niagara)
- Ron Macnaughton (Toronto)
- Merlyn Melby (Saskatoon)
- Tenho Tuomi (Saskatoon)
- Barbara Wright (Saskatoon)

Simon Newcomb Award

This award was instituted in 1978 to recognize literary ability among non-professional members of the Society.

- 1994 Michael S.F. Watson (National Member)
- 1999 Terence Dickinson (Toronto)
- 2001 Dan Falk (Toronto)
- 2002 Dr. David Levy (Kingston)
- 2003 Alister Ling (Edmonton)
- 2004 Mary Lou Whitehorne (Halifax)
- 2006 Dr. Warren Finlay (Edmonton)
- 2007 Alan Dyer (National Member)
- 2008 Gary Seronik (Victoria)
- 2009 James Edgar (Regina)
- 2011 Jay Anderson (Winnipeg)
- 2012 Randall Rosenfeld (National Member)
- 2013 Alan Whitman (Okanagan)
- 2016 Martin Hellmich & Halley Davies (Halifax)
- 2017 Ivan Semeniuk (Toronto)
- 2018 Nicole Mortillaro (Toronto)
- 2020 John A. Read (Halifax)
- 2021 not awarded
- 2022 Chris Vaughan (Toronto)

Honorary President of the RASC

Dr. Sara Seager (Canada)

Honorary Members of the RASC

Dr. Oscar Álvarez-Pomares (Cuba)
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Dr. David L. Crawford (United States)
Rev. Robert Evans (Australia)
Dra. Julieta Fierro (Mexico)
Prof. Andrew Fraknoi (United States)
Dr. Wendy Freedman (Canada-USA)
Dr. Owen Gingerich (United States)

Dr. Jean Meeus (Belgium)
Dr. Jay Pasachoff (United States)
Dr. P.J.E. (Jim) Peebles (United States)
Dr. Lisa Randall (United States)
Dr. Sara Seager (Canada)
Dr. William Sheehan (United States)
Dr. R. Brent Tully (United States)

Past Appointed and Elected Officers of the RASC

Below are lists of former Honorary Presidents, Presidents, Secretaries, and Treasurers of the RASC. For names before 1990, please refer to “Looking Up—A History of the RASC” by Peter Broughton.

Honorary Presidents

1997–2001 Dr. Jack Locke
2001–2005 Dr. Roy Bishop
2005–2010 Dr. Robert Garrison
2010–2013 Dr. James Hesser
2013–2018 Dr. John Percy
2018–2022 Dr. Douglas Hube
2022– Dr. Sara Seager

Presidents

1998–2000 Randy Attwood
2000–2002 Dr. Robert Garrison
2002–2004 Dr. Rajiv Gupta
2004–2006 Peter Jedicke
2006–2008 Scott Young
2008–2010 Dave Lane
2010–2012 Mary Lou Whitehorne
2012–2014 Glenn Hawley
2014–2016 James Edgar
2016–2017 Craig Levine
2017–2018 Colin Haig
2018–2020 Dr. Chris Gainor
2020–2022 Robyn Foret
2022– Charles Ennis

Secretaries

1999–2005 Kim Hay
2005–2007 Stan Runge
2007–2014 James Edgar
2014–2016 Dr. Karen Finstad
2016–2018 Charles Ennis
2018–2020 Roger Nelson
2020– Eric Briggs

Treasurers

1998–2004 Michael Watson
2004–2006 David Clark
2006–2007 Alan Whitman
2007–2012 Mayer Tchelebon
2012–2016 Denis Grey
2016–2016 Susan Yeo
2016–2017 Colin Haig
2017–2018 Anthony Gucciardo
2018– Catherine Carr

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