



RASC Windsor Centre's Monthly Newsletter ~ March, 2025

RASC Windsor Centre's 80th Anniversary

Sandy French, Secretary of Windsor Centre

Can you imagine the world in 1945? World War II was coming to an end and people were finally able to look beyond these terrible events. Members of the "Astronomy Study Club of Windsor" under the leadership of Lorne Rogers, C.H. Montrose and Cyril Hallam established the Windsor Centre of the Royal Astronomical Society of Canada.

Council members of our Centre have begun planning a celebration of our 80th anniversary. Stay tuned for updates on these plans and please reach out with suggestions!

John Grunsfeld's work on the Hubble Space Telescope (HST)

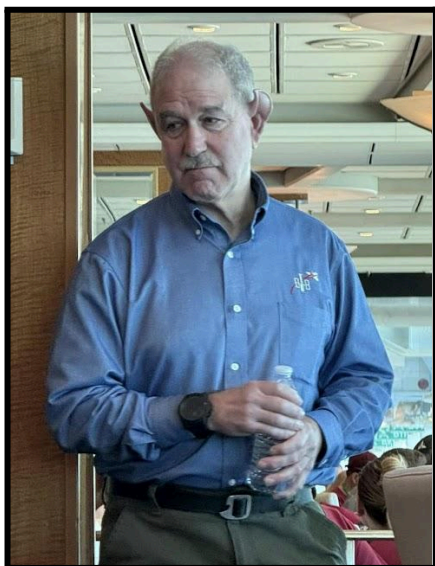
Sandy French, Secretary of Windsor Centre

I recently attended a presentation from former NASA astronaut John Grunsfeld on the Hubble Space Telescope.

Grunsfeld flew on five Space Shuttle missions between 1995 and 2009. The final three were missions to service Hubble.

Grunsfeld's third flight, STS-103 on *Discovery* (December 19-27, 1999)

was an eight-day mission during which the crew successfully installed new gyroscopes and scientific instruments and upgraded systems on Hubble. Enhancing Hubble's scientific capabilities required three spacewalks (EVA). Grunsfeld performed two spacewalks totaling 16 hours and 23 minutes.



Columbia's STS-109 mission (March 1-12, 2002) was the fourth to service Hubble, and Grunsfeld's fourth flight. The crew successfully upgraded the Hubble Space Telescope by installing a new digital camera, a cooling system for the infrared camera, new solar arrays and a new power system. HST servicing and upgrades were accomplished by four crew members during a total of five EVAs in five consecutive days. Grunsfeld served as the payload commander in charge of the space walking activities and the Hubble payload. He also performed three spacewalks totaling 21 hours and 9 minutes, including the installation of the new Power Control Unit.

Grunsfeld's final flight was on *Atlantis*, STS-125, May 11-24, 2009. During the mission, Grunsfeld performed three of the mission's five back-to-back spacewalks, which installed two new instruments to the Hubble Space Telescope: The Cosmic Origins Spectrograph, and the Wide Field Camera 3. The mission also replaced a Fine Guidance Sensor, six new gyroscopes, and two battery unit modules.

In his presentation, Grunsfeld described the purpose of the various missions and some of the special challenges he encountered. One particular issue was removing stripped bolts, due to an improper assembly. As annoying as stripped bolts can be when working in your garage, solving the problem in space was one of his proudest accomplishments!

The *Columbia* mission aimed to extend the life of Hubble to 2014. Since the Space Telescope is still active and continues to contribute to our understanding of the universe, Grunsfeld expects the HST to be in service for at least the next decade.



Aurora

Celestial Events ~ March - April, 2025

From www.SeaSky.org

March 20 - March Equinox. The March equinox occurs at 04:58 EDT. The Sun will shine directly on the equator and there will be nearly equal amounts of day and night throughout the world. This is also the first day of spring (vernal equinox) in the Northern Hemisphere and the first day of fall (autumnal equinox) in the Southern Hemisphere.

March 29 - New Moon. The Moon will be located on the same side of the Earth as the Sun and will not be visible in the night sky. This phase occurs at 7:00 EDT. This is the best time of the month to observe faint objects such as galaxies and star clusters because there is no moonlight to interfere.

March 29 - Partial Solar Eclipse. A partial solar eclipse occurs when the Moon covers only a part of the Sun, sometimes resembling a bite taken out of a cookie. A partial solar eclipse can only be safely observed with a special solar filter or by looking at the Sun's reflection. This partial eclipse will be visible throughout Greenland and most of northern Europe and northern Russia. It will be best seen from Canada with 93% coverage.

<http://eclipse.gsfc.nasa.gov/SEplot/SEplot2001/SE2025Mar29P.GIF>

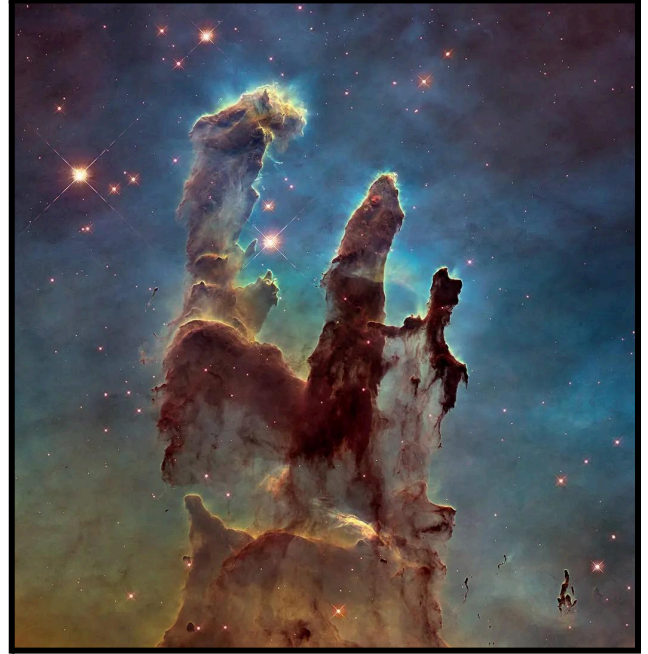
April 13 - Full Moon. The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 00:24 UTC. This full moon was known by early Native American tribes as the Pink Moon because it marked the appearance of the moss pink, or wild ground phlox, which is one of the first spring flowers. This moon has also been known as the Sprouting Grass Moon, the Growing Moon, and the Egg Moon. Many coastal tribes called it the Fish Moon because this was the time that the shad swam upstream to spawn.

A lot of people live in fear because they haven't figured out how you're going to react when faced with a certain set of circumstances. I've come to terms with this by looking deeply into whatever makes me fearful - what are the key elements that get the hairs up on the back of my neck - and then figuring out what I can do about it.

-- Chris Hadfield

Pillars of Creation

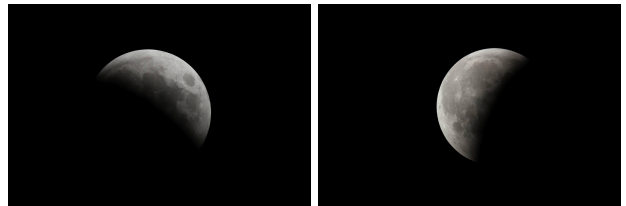
These towering tendrils of cosmic dust and gas sit at the heart of M16, or the Eagle Nebula.



NASA, ESA and the Hubble Heritage Team (STScI/AURA)

Eclipse Gallery

Members of the Centre missed a night's sleep by witnessing the Lunar Eclipse of March 14, 2025.



Photos by Randy Groundwater.



Minutes of the General Meeting

Tuesday, February 18, 2025.

Ojibway Nature Centre, Windsor Ontario

General Meeting ~ Call to Order

This meeting was called to order by Vice President Mike Mastronardi at 19:34. The chair asked all attending to sign the registration book and noted that the 50/50 draw will take place after the break.

Announcements, Attendance & Introduction of Guests

- A total of 28 people signed the registry. One guest identified themselves.
- There will be a display of RASC astrophotography at the Leamington Art Gallery this Fall.
- RASC Windsor has been invited to host day-long events at Point Pelee's Dark-Sky Night in August.
- Planning is underway for an 80th Anniversary event in the Fall..

Minutes of the Previous Meetings

January 21, 2025. General Meeting Minutes were circulated by email, and printed in the Aurora.

- **Motion to accept both Minutes as presented.**
Moved by Susan Sawyer-Beaulieu and seconded by Randy Groundwater. Carried.

Presentation ~ Observer's Handbook 2025

Mike Mastronardi gave an introduction to the annual Observer's Handbook published by RASC National. After an explanation on how to find information using the guide's Table of Contents and Edge Identifiers, Mike briefly highlighted details on information available. Mike specifically noted how to read the Time Zone Maps and adjust for local time, tables on Sun & Moon rise/set times, Moon Maps and Dark Sky objects.

Presentation ~ Icelandic Aurora

Jeremy Hansen created a multimedia presentation on his family's recent trip to Iceland. Aurora featured prominently as October was a peak time for solar activity. Along with photos and video of the landscape, Jeremy included information on Iceland's geography, position near the Arctic Circle, and its seasonal Day/Night cycles. Jeremy's presentation was a blend of information, still photography, drone footage, and POV images was skillfully produced and enjoyable.



Presentation ~ December Social

Tom Sobocan presented "Family Photos" from the December Social.

Break

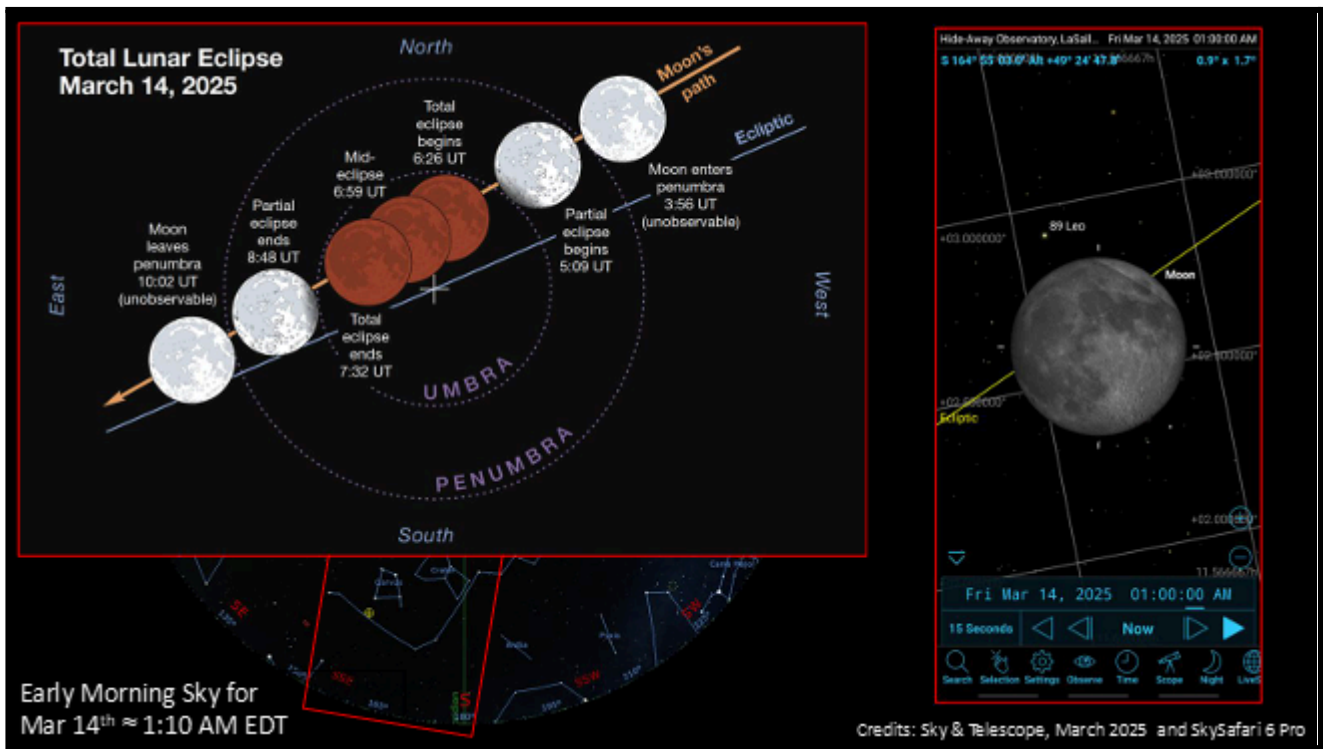
The chair called a coffee break following the presentations at 20:55. Monica Hansen won the 50/50 Draw.

Presentation ~ Director of Observing

Dr. Susan Sawyer-Beaulieu presented a selection of members' astrophotography, including Mike Mastronardi's image of Venus and the Ambassador Bridge, and her own images of space around Orion's Belt. Susan also ran through night sky events up to March 18, featuring upcoming portrait opportunities.

Aurora

The major portion of the presentation was on the March 14 Lunar Eclipse. This in depth report included suggestions for how to image the event, camera settings and reference materials.

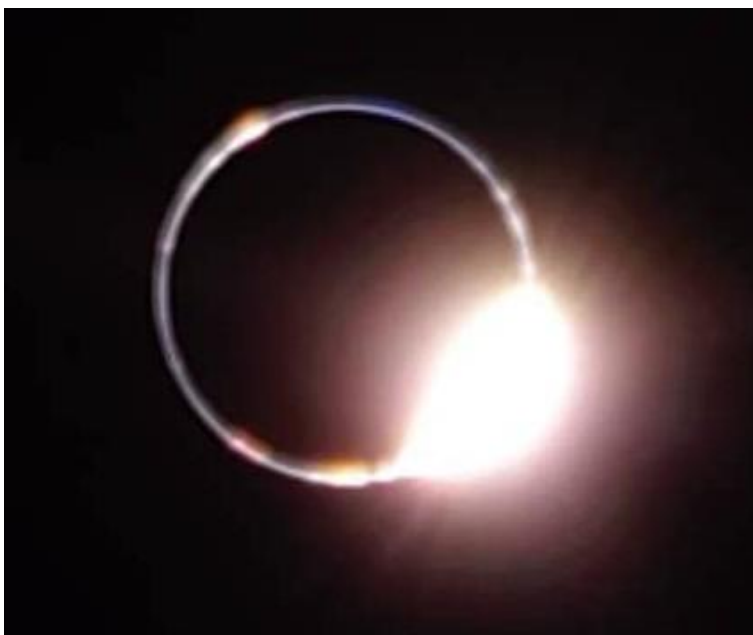


A copy of the Lunar Eclipse presentation is on the RASC Windsor website at <https://www.rascwindsor.com/pages/meeting-materials.php>

Adjournment

A motion to adjourn the meeting was called at 21:48.

Clear Skies!



Terran Eclipse

This amazing photo was shared by the new Firefly Aerospace lander sitting on the surface of the moon and looking back at the Earth during the lunar eclipse of March 14, 2025.

That ring of fire around our planet is our thin atmosphere lit up by the sun's rays shining through that column of air. This was taken near the maximum time of the total lunar eclipse with the sun right behind the Earth.