CORNELL ASTRONOMICAL SOCIETY NEWSLETTER

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LETTER FROM THE EDITOR

Hello readers, I know it's been a while, but welcome back to another edition of the CAS Newsletter! If you're craving to see some astronomical events, don't worry. There are quite a few in the coming month for you all to enjoy!

In just a few days, the Cornell Astronomical Society, alongside all of North and South America, will be experiencing a total lunar eclipse on the morning of Friday, March 14th! In Ithaca, the eclipse starts around midnight and will continue to around 6 in the morning. However, the partial lunar eclipse will only last from around 1:00 to 5:00 am EDT, and totality from 2:30 to 3:30. Weather and unforeseen circumstances permitting, we will be open throughout the entire eclipse from midnight to 6 am, so stay tuned for further details! Additionally, Ithaca will see a partial solar eclipse on the morning of Saturday, March 29th, as well! It will also be visible throughout most areas in the northeastern United States and Canada. However, this eclipse will only reach a maximum of 12-13% in Ithaca just minutes after sunrise, so be sure to have a good view of the eastern horizon for the best experience watching the eclipse. As with last year's total solar eclipse, be sure to view the partial solar eclipse only through certified eclipse glasses from the American Astronomical Society website. It is unsafe to view the sun directly without certified eclipse glasses at any time during this partial solar eclipse.

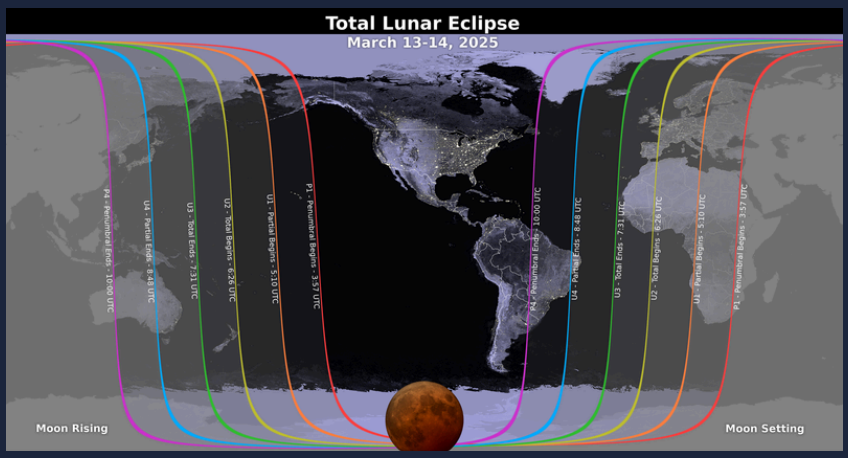
Professor Mason Peck will also deliver a lecture on How to Thrive on the Moon to celebrate Yuri's Night next month! Additional information about each of these pages is listed below.

Clear skies and happy observing!
Shane Kuo, Newsletter Editor in Chief

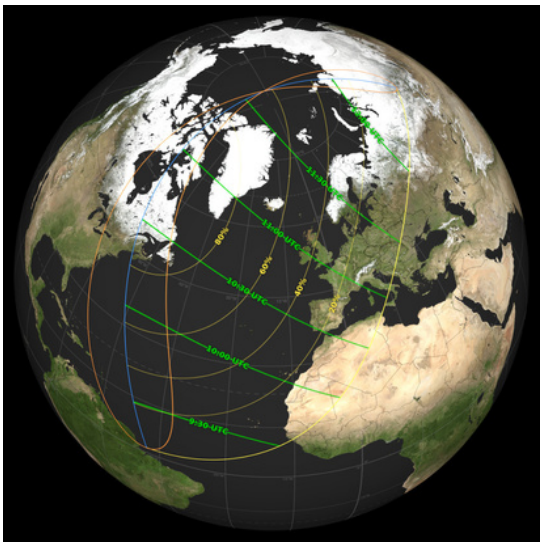
NEXT MONTH FOR CAS

Friday, March 14, 12:00 - 6:00 AM

A total lunar eclipse will be visible on the morning of March 14th in North and South America. The penumbral eclipse, where portions of the moon dim slightly as the Earth starts blocking the sun on the lunar surface, begins around midnight EDT and lasts to around 6:00 EDT. The partial lunar eclipse, where portions of the moon dim significantly as the Earth blocks the sun completely from those areas, starts around 1:10 EDT and ends around 4:45 EDT. The total lunar eclipse, where the moon dims significantly and appears as shown in the figure on the right, occurs between 2:30 and 3:30 EDT. The moment of greatest eclipse occurs around 3:00 AM EDT.



Map showing where the March 13-14, 2025 lunar eclipse is visible. Contours mark the edge of the visibility region at eclipse contact times, labeled in UTC.
Credit: Ernie Wright, NASA's Scientific Visualization Studio



A global map of the shadow path for the March 29, 2025 partial solar eclipse.
Credit: Ernie Wright, NASA's Scientific Visualization Studio

Saturday, March 29, 6:45 - 7:10 AM

A partial solar eclipse will be visible just after sunrise on Saturday, March 29, in Ithaca, NY. The eclipse will start at sunrise at 6:53 AM EST and end at 7:08 AM EST, reaching a maximum visible eclipse of 12-13% just a few minutes after sunrise at 6:56 AM; more of the sun is eclipsed before sunrise, when the sun is not visible. For this eclipse, totality doesn't occur anywhere on the Earth's surface, although some areas in eastern Canada will see over 90% of the sun eclipsed.

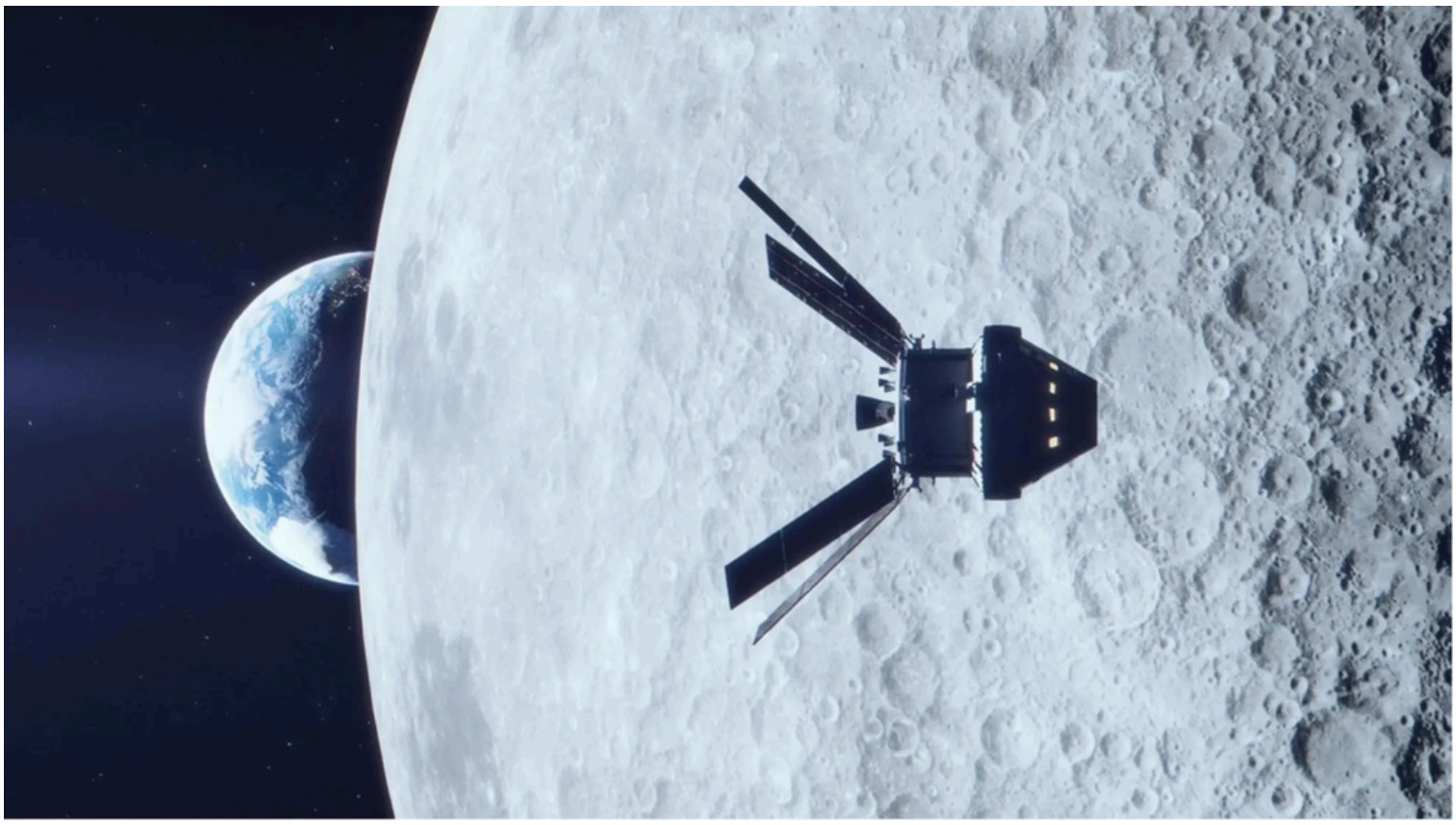
Make sure to stay safe as you watch the partial solar eclipse! Never look directly at a partial solar eclipse without wearing eclipse glasses certified by the American Astronomical Society; you can find a list of them here. Viewing the eclipse without sufficient eye protection will lead to serious, often permanent, eye injury. Sunglasses are unsafe alternatives for certified eclipse glasses, as are cameras, binoculars, and telescopes without solar filters. If you still have any leftover eclipse glasses from last year's solar eclipse, ensure they are not damaged or scratched before watching an eclipse through them! If you are uncertain, it is always safer to get a new pair of certified eclipse glasses.

(continued on next page)

Friday, April 18, 7–8 PM
Appel Multipurpose Room 303
Lecture Series: Prof. Mason Peck

Prof. Mason Peck will deliver his fourth Yuri's Night lecture for the Cornell Astronomical Society on How to Thrive on the Moon! More than 50 years after the last crewed moon mission, recent missions plan to stay, with the ultimate objective of permanent human settlement, national security, and commercial enterprises. Professor Peck, who researches spacecraft system architectures, attitude dynamics and control, and organizational practices for technology development and innovation, will discuss some of the space-technology innovations that must be in place if humanity is to realize these aspirations.

Artist depiction of NASA's Artemis mission
Credit: NASA



Artist concept of the Orion capsule in lunar orbit. BioExperiment-01 (BioExpt-01) will serve as a pathfinder for biological research beyond LEO, with four investigations in the Artemis I Orion capsule for its orbit around the moon and return to Earth. The investigations will evaluate the effects of deep space on the nutritional value of plant seeds, DNA repair of fungi, adaptation of yeast, and gene expression of algae. The common theme to these investigations is to study the biological effect of deep space, including the elevated levels of ionizing radiation, which is stronger outside low Earth orbit (LEO).
Credit: NASA

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Cornell Astronomical Society (CAS) is a student-run non-profit organization founded in 1972.

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