

SANDRA F. PRITCHARD MATHER PLANETARIUM NEWS

2021-2022 Season

The Mather Planetarium at West Chester University



Greetings and happy winter! It's been wonderful to see people in 3-D in WCU's Mather Planetarium. Due to the recent rise in COVID cases, the University is taking a 2-week break from face-to-face activities, but we have been assured that we will be allowed to open our doors again after the first week of February. The mask mandate will remain in effect, and we thank everyone who has visited us for complying so graciously. We're excited to be starting up our movie shows again and hope you'll check out the newest features. We look forward to seeing you under the dome!

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"Thus, the explorations of space end on a note of uncertainty. Eventually, we reach the dim boundary – the utmost limits of our telescopes. There we measure shadows, and we search among ghostly errors of measurement for landmarks that are scarcely more substantial."

– Edwin Hubble

Remaining Shows for the 2021-2022 Season

February (TBD), 2022 – Unseen Universe

February 25, 2022 – Men are from Mars*

March (TBD), 2022 – Birth of Planet Earth

March 25, 2022 – The James Webb Space Telescope*

April (TBD), 2022 – Phantom of the Universe

April 29, 2022 – Binary Stars: Celestial Twins*

* Indicates a live show; other shows are movie shows. The March 25 show is part of a larger special event (see next page) and will be free of charge.

Movies and JWST

We have two things for you to look forward to at the Mather Planetarium this spring: the return of our movies shows, and a special event focused on the James Webb Space Telescope.

Movie Shows:

A long time ago in a galaxy far, far away, we used to have movie shows at the Mather Planetarium. Well, maybe it wasn't that long ago or far away but it's been while for sure. Regardless, we're happy to announce that we'll be offering them again this spring!

The movies are specifically formatted for the dome, providing an impressive and immersive experience. Each movie show consists of a live 25-minute overview of the current night sky followed by an educational and entertaining movie roughly 30 minutes in length. These presentations are given by West Chester University students. While the content of the movies may not be completely accessible to very young children, the night sky tour and the visuals of the movies tend to keep the little ones quite engaged.

Back in the spring of 2020, pre-COVID, we were fortunate enough to purchase two new movie licenses. Only one of the movies – Phantom of the Universe – could be shown before we were forced to close down. Now, two years later, we're finally able to share the second "new" movie – Unseen Universe – with our audiences.

Unseen Universe explores the Universe far beyond our human senses. For millions of years our view of the heavens has been limited by our eyes; allowing us to only see a narrow band of electromagnetic radiation we call visible light. We now have the technology to capture the Universe over an amazing width of the spectrum and beyond. We can even interlink telescopes around the world to capture data on a global scale.

Phantom of the Universe and *Unseen Universe* are enticing looks at the new era astronomy and what has yet to come. We think you'll enjoy both of our newest features! Stay tuned for exact show dates.

JWST:

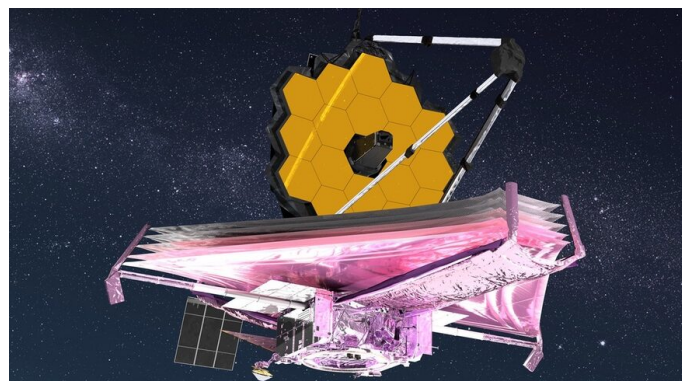
Launched on December 25, 2021, the James Webb Space Telescope (JWST) is the largest, most powerful and complex space telescope ever built. JWST is the Hubble Space Telescope's infrared cousin. Infrared light is the wavelength just beyond what the human eye can see. It's what we think of as heat. Night vision goggles are an example of detectors that pick up infrared light.

Quoting from the NASA JWST webpage:

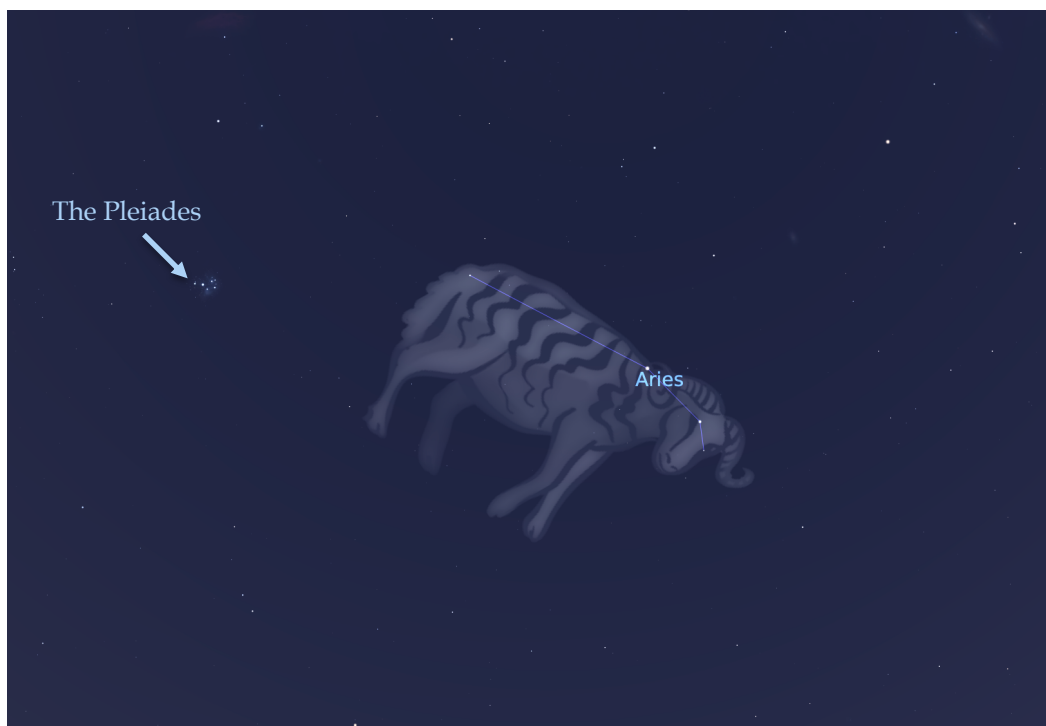
"The James Webb Space Telescope's revolutionary technology will study every phase of cosmic history – from within our solar system to the most distant observable galaxies in the early universe. Webb's infrared telescope will explore a wide range of science questions to help us understand the original of the universe and our place in it."

JWST is now settling into its orbit and going through a lot of configuration and testing. We won't have any images from it for some time yet but so far everything has checked out perfectly!

In the meantime, we're planning a special event at the Mather Planetarium on March 25. This will be a free event, open to everyone! There will be planetarium shows, activities for the kids, lots of info on JWST, and more! Details will be forthcoming soon so check our website or Facebook page in the coming weeks. We'll also be sending out an email blast to those of you on our distribution list.



The James Webb Space Telescope (NASA)



Looking Up: Aries

I can't believe it's taken us 11 years to finally talk about the constellation Aries. After all, we are the West Chester University Rams!

This time of year, you'll find Aries about 70 degrees above the southern horizon as soon as it gets dark. The constellation doesn't have any bright stars to catch your eye, which makes finding it a bit of a challenge. However, the Pleiades star cluster – which looks like a tiny dipper – sits very close by and can be used as a guidepost.

The Greek story of Aries involves King Athamas and his two children, Phrixus and Helle. The king's second wife was jealous of the king's children and concocted an elaborate plan to convince the king to sacrifice Phrixus. The children's mother, Nephele, sent Aries – a golden ram with wings – to rescue the children and carry them to Colchis. On the journey, Helle fell off the rams back and drowned in the Dardanelles (also known as the Strait of Gallipoli). The spot was later renamed Hellespont in her memory.

Phrixus made it safely to Colchis where he was welcomed by King Aeëtes. Phrixus presented the Golden Fleece to the king, and in return the king

gave Phrixus his daughter's hand in marriage. The Golden Fleece goes on to be featured in another legendary story about Jason and the Argonauts.

While Aries doesn't contain any notable celestial objects, it does have a history related to celestial navigation. The First Point of Aries was the original location of the intersection between the ecliptic (the path of the Sun and planets) and the celestial equator (the projection of the Earth's equator onto the sky). This crossing is the zero point of right ascension, one of the two celestial coordinates used by modern astronomers. When the Sun reaches this spot in the sky it marks the vernal (spring) equinox. However, due to the precession of the Earth, the crossing point has now shifted into the neighboring constellation Pisces.

