

SANDRA F. PRITCHARD MATHER PLANETARIUM NEWS

2016-2017 Season

The Mather Planetarium at West Chester University



Happy New Year! I hope you all had a wonderful holiday season and that 2017 is off to a good start for you. We're starting the New Year with a new movie in the Mather Planetarium all about missions to the Moon - past and future! We're planning some special public events this year, including an observing session for the big solar eclipse in August. Let's hope the weather cooperates. Of course, it's always clear in the planetarium! We look forward to seeing you under the dome!

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"I can hear the sizzle of newborn stars, and know anything of meaning, of the fierce magic emerging here. I am witness to flexible eternity, the evolving past, and I know we will live forever, as dust or breath in the face of stars, in the shifting pattern of winds." - Joy Harjo

Remaining Shows for the 2016-2017 Season

January 27, 2017 - Mars & Venus: Our Planetary Neighbors

February 10, 2017 - Movie "Back to the Moon for Good"

February 17, 2017 - Movie "Black Holes: The Other Side of Infinity"

February 24, 2017 - A Star Is Born

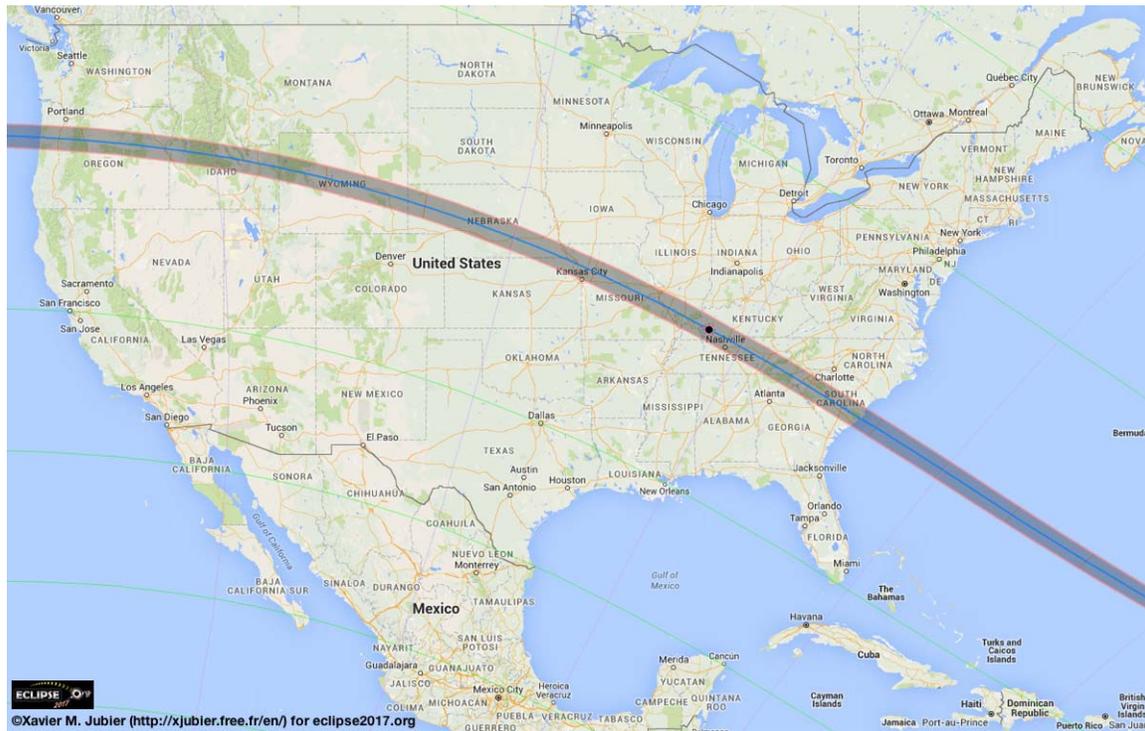
March 3, 2017 - Movie "To Space and Back"

March 24, 2017 - Movie "Oasis In Space"

March 31, 2017 - A Universe of Galaxies

April 7, 2017 - Movie "Back to the Moon for Good"

April 21 - Movie "Black Holes: The Other Side of Infinity"



Looking Up: Eclipse 2017

On August 17, 2017 a total solar eclipse will make its way across the United States, from Oregon all the way to South Carolina. This will be the first total solar eclipse visible from the U.S. since 1979 and the last until 2024.

A solar eclipse occurs when the Moon passes between the Earth and the Sun, temporarily blocking the Sun's light from reaching the surface of the Earth. The Moon and the Sun, while drastically different in physical size, are roughly the same *angular* size in our sky because the Moon is much closer to us. If the Moon and the Sun happen to be perfectly aligned, the Moon will exactly block the Sun resulting in a total solar eclipse. If the alignment is a bit off then the Moon will only block part of the Sun giving rise to a partial solar eclipse. If the Moon and the Sun aren't aligned at all then there is no eclipse.

Imagine going to a concert where your seat is towards the back of the auditorium. If you are unlucky enough to have someone sitting directly in front of you, his or her head may

entirely block your view of the singer on stage (a total eclipse). Your companions on either side of you might have only part of their view blocked by this same person (a partial eclipse). Patrons farther down in your row have a completely unobstructed view of the stage because they aren't positioned behind Mr/s. Big Head (no eclipse)!

Eclipses happen all of the time, however the chances of being in just the right spot (or the wrong spot in our example of the concert) are small. Remember, the Earth is a big planet and most of it is covered in water. And since the Moon is always on the move, as it orbits the Earth, the alignment is brief. The above map shows the path of totality for the August eclipse. You'll notice that it doesn't include Pennsylvania. Rats! But it should be clear that you don't have to travel far to get into that path. If you're interested in seeing a total solar eclipse this might be your best chance! Of course, a few (thousand?) other folks might have the same idea so make your travel plans early!

If you can't get away you don't have to miss out entirely. We'll be getting a decent-sized partial eclipse here in West Chester, with about 76% of the Sun obscured. The Moon will begin to cross in front of the Sun starting at 1:23pm. The maximum of the eclipse will occur at 2:45pm and the whole thing will be over by 4:02pm.

Here at the Mather Planetarium we'll be inviting the public to join us for this celestial alignment. The event will include solar telescopes, eclipse glasses (It's never safe to look directly at the Sun without proper eye protection!), remote viewing (in case the PA weather doesn't cooperate), and activities for the whole family. Look for announcements via e-mail and on our website with more

details as the date gets closer.

In case you want to know exactly where to go to see the total eclipse, there are some great websites with interactive maps. Here's one to start with:

<http://www.eclipse2017.org/2017/maps.htm>

FYI, lunar eclipses (where the Earth blocks the sunlight from reaching the Moon's surface) are easier to catch sight of because the Earth's shadow is much larger than the Moon. Imagine sitting at the concert behind someone wearing a mascot suit! You won't be the only one whose view is ruined!

Making an Entrance!

In our last newsletter we outlined some of the beautification work that was being done with the donations of WCU alum Helga Knox. If you've visited us this fall then you've already seen the amazing mosaic, "Constellation", that local artist Rhoda Kahler installed this summer. I'm afraid the photo here doesn't do it justice!



I hope you take the time to admire this amazing work of art the next time you come by. Bonus points are awarded for finding the WCU rocket!

A sculpture being created by Dave Beck, another local artist, is expected to be installed early this spring. It will occupy the area just outside the entrance. With colors, lights, and motion, we hope that all of our visitors will enjoy it! You can be sure that we'll send a special e-mail to announce the grand unveiling.

None of this could be done without the generous support of Helga. We are so grateful for her involvement in this project. Of course, we understand that not everyone has the resources to make contributions of this magnitude. There are many ways to support the Mather Planetarium and our public education programs. If you're interested in learning about these opportunities please don't hesitate to contact us.