

The June Sky

Since Polaris is in nearly the same position every night of the year, it doesn't matter much what month we mention it. Polaris is a modestly bright star as seen from Earth that is intrinsically 2,000 times the Sun's luminosity.

It appears near the north celestial pole, the point in the sky above the Earth's rotation axis. Any observer on the Earth will see the stars move [around the celestial pole](#)* once a day.

Polaris is very near the celestial pole, but not exactly so. The position of the pole traces out a circle in the sky that repeats every 26,000 years because the Earth's axis precesses like a top and for the same reasons. Polaris makes its closest approach to the pole in the year 2100. You can find an animated GIF of the motion of the pole with respect to Polaris from 2000-2200 [here](#). The pole moves by about one degree in a human lifetime. Other bright stars that are near the path of the celestial pole are Thuban and Vega. Over the time required for one precessional cycle, even the stars' slow motions with respect to each other become apparent in this [animation](#).

*If you look closely at this image you can find light trails left by stars, aircraft, and satellites.

Come and see the night sky through many different telescopes at the [Blue Grass Amateur Astronomy Club](#)'s outings at Raven Run. The remaining (Saturday) dates in 2018 are:

June 9, July 14, August 11, September 8, October 6, and, November 3. Call [Raven Run](#) an hour before sunset to verify that the weather will be sufficiently clear.

You will find an [all-sky finder chart](#) and the PDF of this flyer at [our web site](#).



The logo features the letters 'UK' in a large, blue, serif font. To the right of 'UK' is a stylized graphic of a telescope dome with a red and white striped top. Further right, the name 'MacAdam' is written in a blue, sans-serif font. Below 'MacAdam' is a horizontal red line. Underneath the red line, the words 'STUDENT OBSERVATORY' are written in a bold, black, sans-serif font.

UK MacAdam STUDENT OBSERVATORY

UK's MacAdam Student Observatory, designed and built in 2007, was officially opened in 2008. The Observatory is located atop Parking Structure #2 between the W.T. Young Library and the Chemistry-Physics Building, and its dome houses a high-quality 20-inch reflecting telescope plus a variety of state-of-the-art optical instruments. The Observatory is dedicated to serving UK students as well as astronomy enthusiasts of every age and experience level throughout Kentucky.

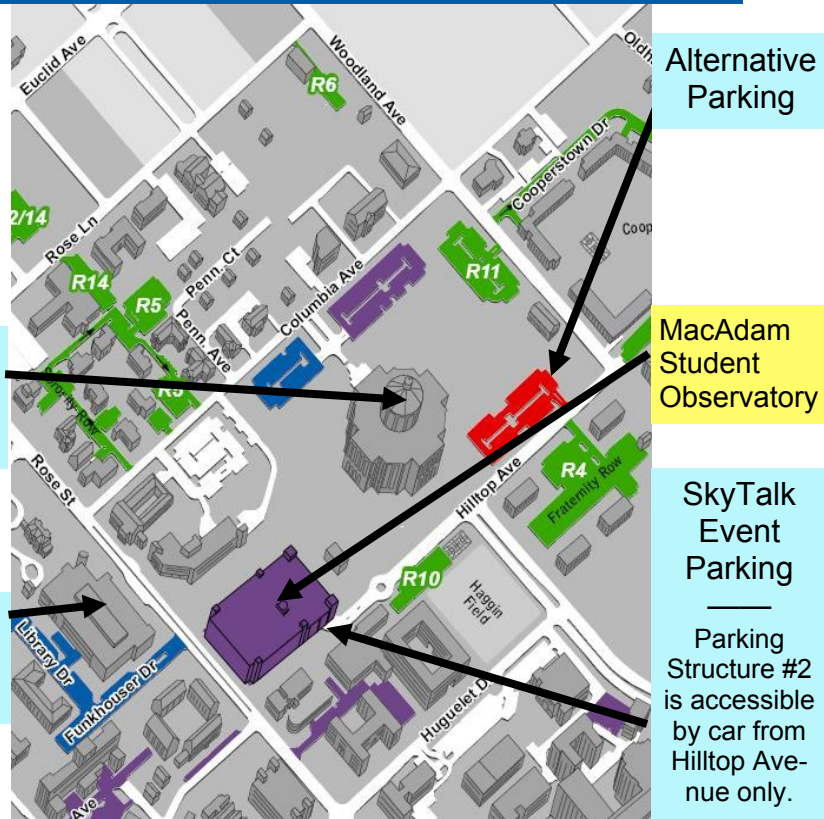
Are you interested in informal talks on astronomy and astrophysics? Are you curious about telescope design and operation? Would you care to take a look through the eyepiece?

The Department of Physics & Astronomy in UK's College of Arts & Sciences welcomes you! Join us to experience the excitement of stargazing through a powerful telescope. An up-to-date calendar of events can be found on our website:

<https://pa.as.uky.edu/observatory>



How to find the MacAdam Student Observatory



Monthly Meetings

The MSO hosts monthly public-observing sessions, each with a kick-off 40 minute presentation in the Chemistry-Physics Building. The presentations will take place even on cloudy nights. If the sky is clear, the observatory will open after the talk! Can't make the SkyTalk? Then come after!

Next month:

Tim Knauer

July 12, 2018 - **8:00 PM** - Chem-Phys Room 155

Wanted: A Planet With a View

Kentucky SkyTalk

X-ray: NASA/CXC/CfA/ M. Markevitch et al.;
Lensing Map: NASA/STScI, ESO WFI, Magellan/U.Arizona/ D.Clowe et al.
Optical: NASA/STScI, Magellan/U.Arizona/D.Clowe et al.



Dr. Ron Wilhelm — [University of Kentucky](http://www.uky.edu)

Thursday - June 14, 2018 8:00 PM

Chemistry-Physics Building Room 155

How much darker can dark matter get?

Ever since the 1970s it has been clear that galaxies and galaxy clusters do not act as expected. The speeds of objects in orbit is many times larger than what is expected from the gravity of all the stars and gas we can see. This has led to the creation of the term "dark matter" to account for the unseen mass which causes anomalously large gravity. After decades of investigation there remains no clear evidence of the nature of dark matter. I will discuss various attempts at discovering what dark matter is, and how observations and experiments might force us into a new view of the universe.

Tonight's *Kentucky SkyTalk* is part of an ongoing series. These are presented by the UK Department of Physics and Astronomy, and the MacAdam Student Observatory. Held every 2nd Thursday of the month, they are always free and open to the public.