



Faculty Stars of Service

Real Stars: Astronomy Night

On November 15, 2020, Astronomy Night was an outstanding success! More than 600 community members attended this science event to observe and learn about the starry night sky. The Physics and Physical Sciences Department, led by Dr. Brian Morsony and Dr. Wing To coordinated with *Science in Our Community* to bring this event to our community. Faculty Stars of Service such as **Dr. Morsony, Dr. To, Dr. Pagano, and Dr. Mokhtari** lead more 40 College of Science students who presented and facilitated activities related to Astronomy. These activities included a Spectroscopy Lab, Radiation Lab, Computational Lab, multiple presentations and children's activities. Dr. Morsony and Dr. To worked closely with student leaders from the Society of Physics Students to prepare the telescopes and the laboratories.



Transit of Mercury: A Unique celestial event shared with the community

A transit of Mercury happens when the planet Mercury passes directly between the Earth and the Sun. Such a transit only occurs about every 10 years on average. With a telescope, Mercury can be seen as a small black disk moving across the face of the Sun. During the transit of Mercury on November 11, 2019, Stanislaus State hosted a public event to view the transit with our solar telescopes. We usually think of the sky as static, yet it does vary from night to night. The transit of Mercury showed us that planets from our solar system are actually orbiting our Sun. The transit only took a few hours showing our community the dynamics of our solar system.

It was very interesting to us to see this transit, because transits have become one of the main ways of detecting planets around other stars. For a far-away star, we don't actually see the planet. However, we can measure the brightness of stars and when a planet goes in front of a star, it will appear to get fainter. For a big Jupiter-sized planet, the star will get about 1% dimmer, while for a Mercury-sized planet, the star will only get 1/1000th of 1% dimmer. Using very sensitive, stable telescopes in space, these transits are detectable. This is how the NASA Kepler and TESS missions have detected planets around thousands of other stars in our galaxy.

