Carpe Noctem

Going Boldly into 2021!

Presidents Letter – December 2020

By the time you read this, I hope you have been able to figure out how to have a Merry Christmas/Hanukkah Sameach despite the difficulties this past year has seen. It certainly has been a trying time for CTAS. We have had to forgo public events and outreach, and we have suffered revenue loss as a consequence. Hopefully the promise of the vaccines will get us on the road to meeting again in person, opening up the observatory, and sharing our love of astronomy with everyone.

On a positive note, we completed the upgrade of the Meyer Observatory, installed new computer systems, and conducted real science that has made a contribution to our professional community. We have also trained some new operators, and we will continue that training in the new year. The telescope and its equipment are operating better than they ever have. Hopefully, you will have a chance to participate in some of the operations.

As you know, I am stepping down as President, but I know the Society will be in good hands with Johnny Scarborough. Johnny has demonstrated a commitment to the success of CTAS and I urge you to give him your support, become involved, and contribute to the Society.

Who knows what the new year will bring? Regardless, I wish you all health, safety and happiness in 2021. It can only get better.

Clear Skies!

- Dick Campbell
President, CTAS

Observatory training

If you are interested in receiving training on the Meyer Observatory 24-inch telescope, join one of our ongoing training classes!

To sign up for training, please send Dick Campbell (Dick_Campbell@baylor.edu) your availability (Mondays, Fridays, or don't care). All sessions will be limited to two trainees at a time conducted on either a Monday or Friday evening.

If you are inexperienced, please don't feel hesitant to sign up. The system is relatively easy to operate, and it will be a great learning experience for you. Responses will be accepted continually, and scheduling will be based on the availability of the responders.

Stellar Photography

Aubrey Brickhouse has begun a series of astrophotography workshops. The workshops focus on how to capture your favorite stellar images. For more information, email Aubrey at abrickhouse1@att.net.

Science Opportunity

Another science opportunity is available to us. There is a new NASA/AAVSO program starting up, called Exoplanet Watch. The objective is to observe transits of known exoplanets in order to refine ephemerides, and keep them updated so that when the JWT is launched they won't either miss transits completely, only capture partial transits, or devote a lot of extra telescope time to make sure that they capture transits. A second objective is to collect enough information to identify transit timing variations that indicate potential additional bodies in the system. Another objective is to capture large number of light curves of potential comparison stars to identify the best comparison stars for JWT to use. That might seem peculiar, but micro-variability at and below the millimag level can affect JWT transit timing observations. Essentially no surveys that are generally used to select comparison stars have even a fraction of the observations needed to detect such low-level variability on time scales that affect extremely high precision transit observations.

For this project, NASA has developed a new analysis program, called EXOTIC. This program is intended to be better, easier to use and more

automated for exoplanet light curve image processing and modeling than AIJ. Even if you don't join Exoplanet Watch, you can still get EXOTIC for your own use.

Windows users have to run EXOTIC in a Linux environment under Windows. You also need WSL2, which is an upgrade of the Windows Subsystem for Linux (WSL1) that you turn on by completing these steps:
1. Access your computer settings.
2. Click **Turn On Windows Features**.
3. Download and install the latest Ubuntu LTS app from the Windows store.

This is a bit of a long tricky process before you can load and use EXOTIC. However, you can operate EXOTIC from the cloud in Google Colab without loading it on your machine. That is the way you will want to use it if you are remote observing using PJMO. Upload your images from PJMO to your Google Drive and then process them with EXOTIC in Google Colab.

Also, you can also use AIJ, but you will have to reformat the output files to match the AAVSO Exoplanet Database upload format. There is a macro developed by Dennis Conti to do this. See the instructions on https://astrodennis.com/.

Exoplanet Watch
https://exoplanets.nasa.gov/exoplanet-watch/about-exoplanet-watch/

The Great Conjunction 2020

We just experienced the Great Jupiter & Saturn Conjunction!

If you've been looking at Jupiter over the past few weeks, you would have noticed that it's slowly closing the gap between itself and Saturn. On the evening of December 21, it was a mere 6 arc minutes below Saturn. That's about 1/5 the diameter of the full Moon! A telescope with a wide field high-magnification eyepiece revealed the rings of Saturn and the cloud belts of Jupiter all in the same field of view. That was an amazing sight,

and offered a great opportunity for our astrophotographers.

Conjunctions between these two celestial bodies aren't all that rare. They happen regularly about every 20 years, but usually no closer than a degree or two. However, the last time they appeared this close was in 1623, and the next time will be 2080. So that made it a must-see event!

What made it really special is that everyone could see it from their own backyard, or even if they were out in the parking lot doing Christmas shopping.

The media billed this as a repeat of the Star of Bethlehem. Of course, it's not exactly what really happen over two thousand years ago.

If you're really interested in knowing what the Star of Bethlehem was, there's a documentary that has been made available on line. It's called The Star of Bethlehem by Rick Larson. I actually bought the DVD several years ago.

Here's a link to the video:
https://www.leroydiener.com/spirit/star-of-bethlehem-documentary-by-rick-larson-2015/

Some of you may have seen this, but if not, I highly recommend that you watch it with the whole family. Twelve years and younger will find it hard to follow, but teenagers will get it. It's a Christian based documentary that uses Astronomy to reveal Biblical prophecy about the birth and death of Jesus Christ. He uses Starry Night to illustrate his findings. He talks fast and puts out a lot of information. It's a little over an hour long, but you'll find yourself wanting to watch it again.

Johnny Barton

January General Business Meeting

We will install our new Officers at the Annual General Business Meeting on Tuesday, January 19th at 6:30pm. This meeting will be held virtually online via Zoom. Check the Calendar of Events for details.

Upcoming CTAS Events

All events are shown on the Calendar of Events on our [website](). In the event of discrepancies, the web Calendar of Events is the official schedule, as changes may occur throughout the year.

New Moon	Member Star Party	Meetings	Open House
January 12	January 9	January 19*	January 16
February 11	February 13	February 16	February 20
March 13	March 13	March 16	March 20

*General Business Meeting

New Members

Ahmet Akdemir	Esat Akdemir
Haldun Akdemir	Greg Alvord
Siobhan Arden	Brian Aynesworth
John Aynesworth	Lewis Aynesworth
Sarah Aynesworth	William Aynesworth
Michelle Farrar	Easter Glynn
Ema Kisel	Luke Mace
Micheal Ramos	Cory R. Shields
Adrian Walsh	James Christopher Walsh
Stephen W. Wright	

We welcome you aboard the Starship CTAS!