

Larry's Celestial Calendar & Newsletter

by Eric Erickson

New

Braunfels

Astronomy

Club

BECAUSE IT'S OUT THERE

304th Edition

Volume 25, Number 11

November 17th to December 15th, 2022

* NBAC's 25th Year! *

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Meeting Agenda

NBAC Observing Calendar

Solar System Happenings

Watch the ISS

My Celestial Pick

Astrophotography

Lagniappe

Cover Story>

BECAUSE IT'S OUT THERE


- Open meeting and introduce new members (get names, email)
- Interesting observations, experiences
- Show and tell
- Current news and what's in our sky this month: *Member input + Newsletter*
- Events, outreach
 - Astronomy Night at TPML – 11/19, 6:30pm
 - Celebration of NBAC's 25 years??? Next meeting or 2023?
 - Reports from Trunk or Treat events at MVES and in Sattler
- Main feature(s)


Coming up: OUR 279th ASTRONOMY CLUB MEETING

December 15th, 2022, from 6 - 8 pm

TJ's on Loop 337

astronomynbtx.org Email: info@astronomynbtx.org

 Astronomy Friends New Braunfels..... facebook.com/groups/354953995432792/

 Comal County Friends of the Night Sky..... facebook.com/groups/166098014710276/
comaldarksky.org/ Email: info@comaldarksky.org

NBAC Outreach




From Mountain Valley Elementary School Trunk or Treat – Kathryn Hindt, second from right, is the Math and Science Coach. Science night lab fun in the cafeteria. Charlie Khan and Eric Erickson participated. Charlie passed out candy, CCFNS literature, and Dark Sky K-cups from Big Bend Roasters. Danny McNeil provided the candy to pass out but couldn't make the event. Thank you, Danny!



From the Sattler Trunk or Treat – Jennifer Carson, Rini Walsh, Larry Wells, Eric Erickson participated. Jennifer Carson put together our “trunk”, outfitting her van with scary and fun stuff and lots of candy. Lowes Market set up next to us and donated 10 pounds of candy and it all went! What an amazing event, must have been two thousand kids, parents, pets...! Like a festival!

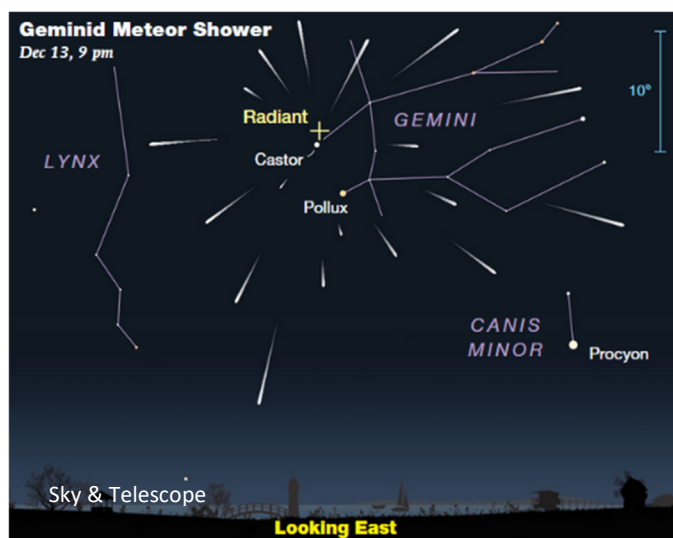
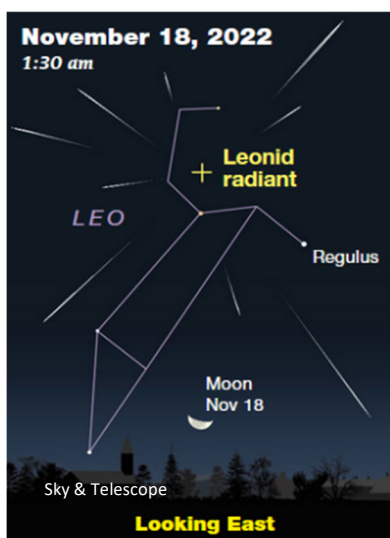


NOVEMBER/DECEMBER 2022

SUN	MON	TUE	WED	THU	FRI	SAT
<div>Cover Story Photo – JWST image of the Tarantula Nebula (30 Doradus, NGC 2070) in the Large Magellanic Cloud. The Tarantula is a massive molecular cloud star forming region, and about 100x the size of M42, the Orion Nebula. Because it's out There!</div>				17 NBAC Meeting 6:00	18 Leonid Meteor Shower peaks	19 Astronomy Night Tye Preston Library Canyon Lake, 6:30
20	21	22	23 	24	<div>Nov 25 25</div> <div>Sky & Telescope Mars Aldobaran ORION Betelgeuse PIS Jupiter Moon Dec 2 Dec 1 10° Looking East</div>	
27	28	29	30 	<div>Dec 01 01</div> <div>Sky & Telescope Dec 1 Looking West-Southwest</div>		
04	05	<div>Dusk, Dec 6-8 1 hour after sunset</div> <div>Sky & Telescope Pleiades Moon Dec 6 Occultation later tonight for much of North America Moon Dec 7 AURIGA Mars TAURUS Aldobaran Moon Dec 8 Looking East-Northeast</div>		07 	08	09
11	12	13 Geminid Meteor Shower peaks	14	15 NBAC Meeting 6:00		

Solar System Happenings

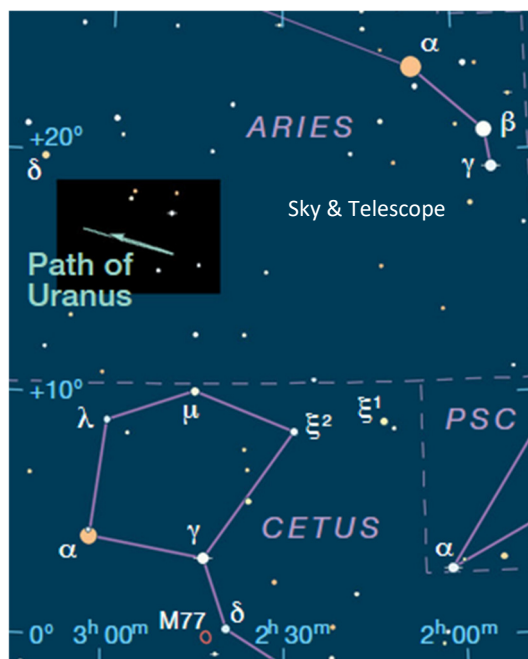
- Mercury** is in the Sun's glare after a superior conjunction on November 8. By the beginning of December, it is visible in the southwestern sky just before sunset.
- Venus** is coming out of the Sun's glare in December but remains close to the horizon until mid-month, setting shortly after sunset.
- Earth** still spins, and we are still here to marvel at it all.



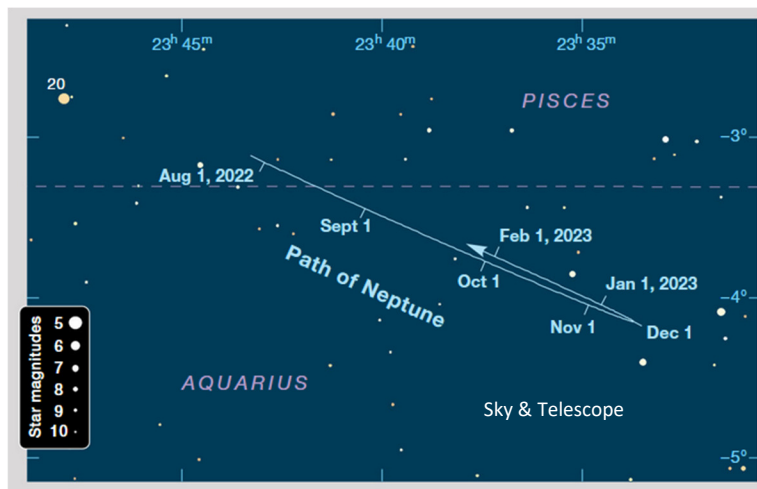
Best ISS viewing for Canyon Lake/New Braunfels -From [Heavens Above](#)

Date	Start Time	Start Loc	Max Alt °	End Loc	Note
12/09	18:27	NNW	20	ESE	Gets close to Mars. Enters Earth's shadow.
12/10	19:15	NW	28	SSE	Gets very close to Altair (Aquila)
12/11	18:26	NW	75	SSE	Passes west of Jupiter
12/13	05:12	SSW	25	NE	Passes south of Crux (Southern Cross)
12/13	18:25	WNW	15	S	Passes into Sagittarius and east of Mercury & Venus
12/14	04:23	S	11	ENE	Skims along the southeastern horizon
12/15	05:10	SW	58	NNE	Passes east of Sirius & Procyon, then into the Big Dipper cup

- The Moon** dances with planets and stars. SPECIAL EVENT: The Moon occults Mars on the evening of December 7th. Start viewing by 9pm CST.
- Mars** is moving in Taurus and beginning to dominate the night sky, rising a couple of hours after sunset and up all night. By November 30th it will be magnitude -1.8, reaching opposition on December 8th. SPECIAL OBSERVING EVENT: The Moon occults Mars on the evening of December 7. Start viewing before 9pm CST.
- Jupiter** is in great position to observe and photograph, high in the south by late evening.
- Saturn** is still a fine target, but more southwest and west.
- Uranus** is in Aries, rising late night (east) and a morning planet in the southeast – use binoculars or telescope and catch this gray-green dot.

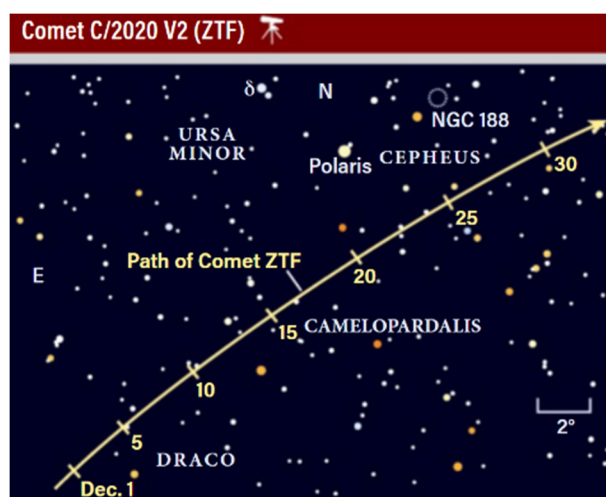
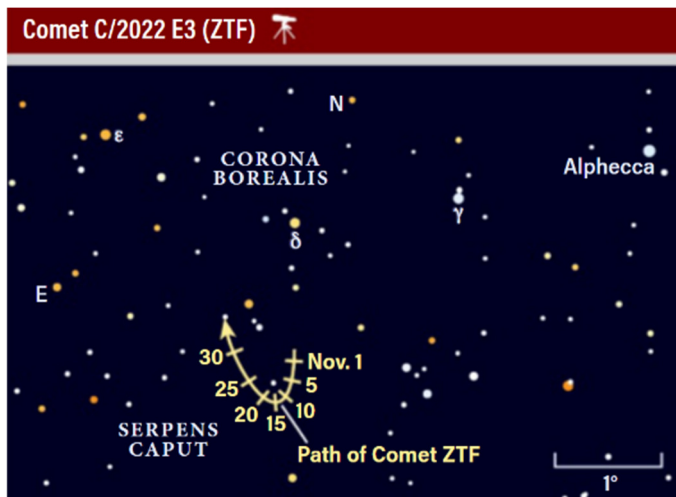


✚ **Neptune** is in eastern Aquarius, a month past opposition and up most of the night. Use binoculars or telescope to see this blue dot.



✚ Comets:

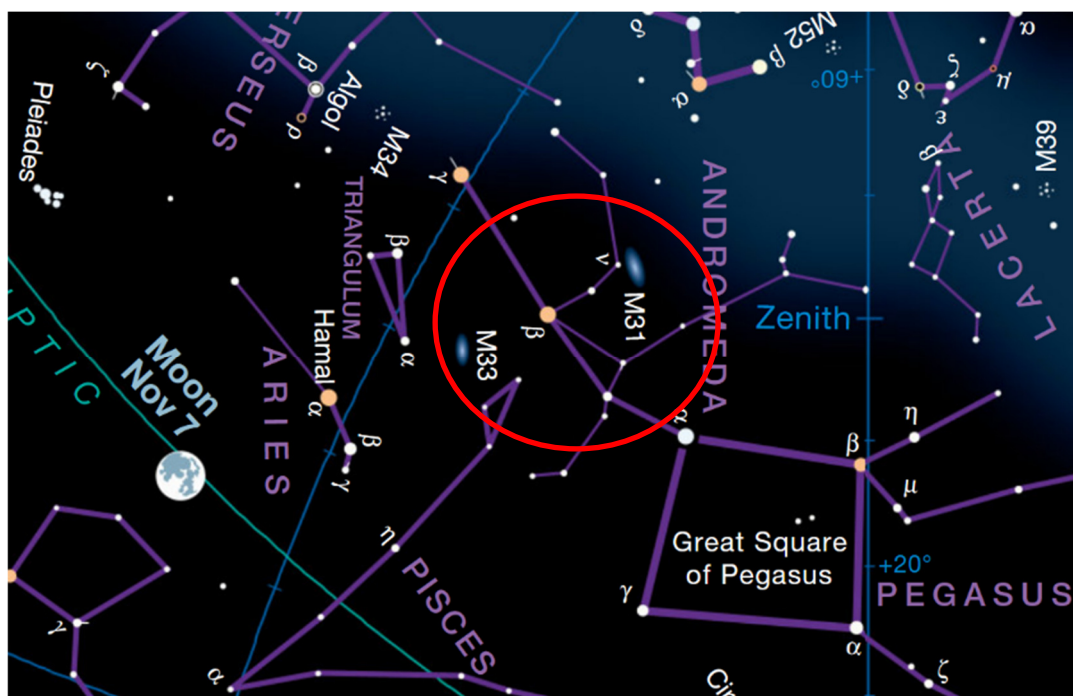
- Comet C/2022 E3 (ZTF) was discovered in March 2022 by the Zwicky Transient Facility. It is a magnitude 10 object currently in northern Serpens Caput. It will be better positioned for us later in December.
- Comet C/2020 V2 (ZTF) also discovered by the Zwicky Transient Facility, is another dim (10th magnitude) comet but at least this one is available in early December.



My Celestial Pick: M31 & M33 – The Dynamic Duo

These galaxies are close in the sky, close to us in the Milky Way but not close at all in appearance. Part of the Local Group of galaxies along with us in the Milky Way, M31 and M33 are fine targets for imaging, but M33 is not so good for visual observation. You would think that because M33 is a “face-on” galaxy it would show off its brightness, but no, it is pretty dim. M31 on the other hand, is much brighter visually.

First, M31 is way larger in mass than M33, meaning many more stars. Second, M31 is closer to us, 2.5 million light years vs 3 million for M33. Third, M31 is not quite a face on galaxy so its light is confined to a smaller visual area than M33.



Here is a NASA image of M31 and M33 in the same frame, with β Andromedae between. Notice how much brighter M31 is vs M33.



Imagining Imaging: Platform for club and imagers needed!

IN THE BEGINNING – Layne Hedrick

I started my journey into astronomy and astrophotography during the lockdown due to Covid back in 2020. Like many others, I had to look for new hobbies since so many of my other hobbies had come to a halt. I needed to find something that I could do alone, so I decided to look to the stars.

After talking to some friends, researching online, and getting advice from several astronomy forums, I decided to purchase the Celestron Nexstar 8Se. I read it was one of the best beginner, "GoTo" kits I could get, and, most importantly, it was supposed to be easy to use. Now I will admit, I immediately started overcomplicating my setup by getting an auto-focuser and a more complicated finderscope, and I started trying to set it up for astrophotography without knowing anything about how to do so.

For me, the 8Se was not a good choice, and getting the extra accessories only made learning how to get everything up and running that much more difficult. Over the course of a year, I tried to use the 8Se a dozen or so times but only got it set up correctly 4 or 5 times, but even then, my experience was very frustrating. It was those experiences that almost turned me off of astronomy altogether.

But, a couple of months ago, I had a breakthrough. For some reason, I decided the Alt-Az mount that came with the 8Se was what was causing me so much trouble. I hated the hand controller that came with the mount with all the menu items you had to constantly dig through to access all the functions you needed, and I could never really get the scope to

track properly and trying to gain proper focus or image anything was just out of the question. The results I was seeing were just blobs of light that I could barely understand. I just did not understand how to use this equipment. Obviously, the mount was not my main issue, but this line of thinking was what pushed me down a path where I am now starting to see some success.

As I started looking at EQ mounts, I found a mount from ZWO that really intrigued me. It was a new type of harmonic drive mount. Based on specific weight, I wouldn't need counterweights and it was very lite and easy to carry. As I read more about the mount, I also started reading about other ZWO products and learning how everything could work together and be controlled by the ZWO app on my tablet. For me, controlling everything in one place was exactly what I hoped I needed. All I had to do next was to decide on what I wanted to purchase.

The options from ZWO were endless and trying to decide what I wanted or needed was a little overwhelming. But, because I wanted to get straight into astrophotography, I knew I would not need eyepieces which meant I would not be using this kit for visual observations. After I completed my research, I decided on the following:

Everything listed above is what allowed me to see and control everything in one place. I knew there were other options outside of ZWO but I decided to make everything as easy as possible, and keep as much as I could within the ZWO ecosystem.

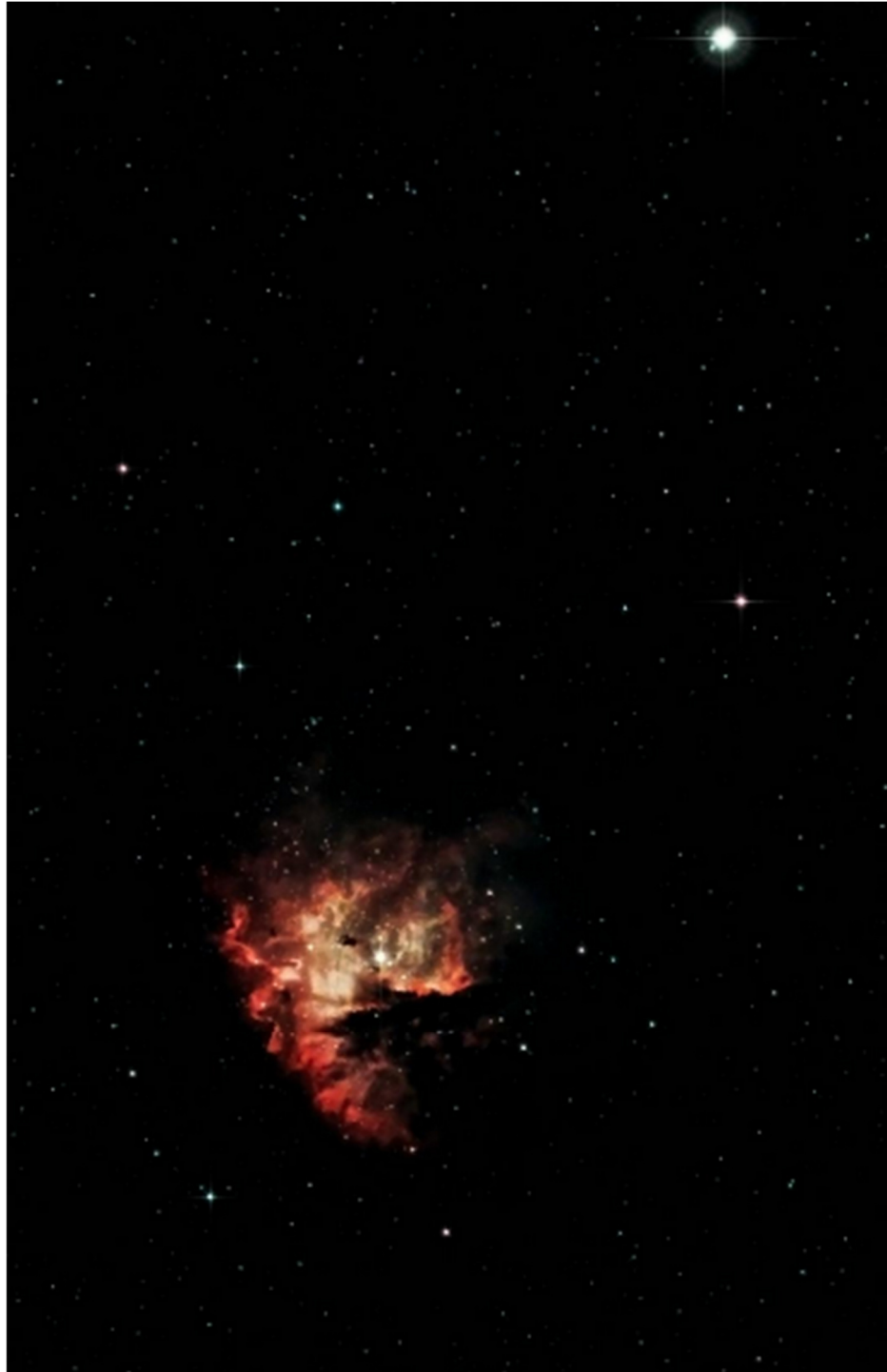
Once everything arrived, I was pretty concerned that I would not understand how to get it all connected and working together and I was equally concerned that I would not be able to get it polar aligned and guiding. I had never polar aligned anything and I had never used a guide system. Still, I was committed and I began putting it all together.



- Askar FRA 300 Pro refractor telescope
- ZWO AM5 Harmonic Drive Mount
- ZWO ASIAir Plus controller
- ZWO ASI533MC Pro camera
- Orion 60mm Guidescope
- ZWO ASI178MM Guide Camera
- ZWO 5V EAF Auto-Focuser

The first time I took it outside and set it up, I ran through a process I had found on YouTube, and within 15 min, I had everything working, the scope was even polar-aligned and guiding. I could not believe how easy it was. I was truly thrilled.

That night, I was not planning on taking any images but because everything worked so quickly, I decided to give it a try. I completely guessed what specifics I needed to use like gain, exposure time, and the number of exposures to take but I didn't care what came out, I was just happy it was working. Once I decided on the Pacman Nebula, I set up the guide system and it started guiding within minutes. The image above was a very short integration of 50 mins consisting of 100, 30-sec exposures using unity gain (100). This was all programmed into the shooting sequence and off it went. Because it was so short (50 min), I didn't have to worry about a meridian flip, I just let the system run. I was so very happy with how easy everything was to set up and how intuitive it was to get a shooting sequence programmed that actually produce something.



From that night, any chance I had to continue experimenting, I went for it. I did another session as soon as I could but wanted to increase my integration time to see how that would affect the results. On my second attempt, I choose the Bubble Nebula. For this session, I decided to take 200 images at 90 seconds each. I also used an Optolong L-extreme filter just to see what would happen. This gave me a total integration of just over 5 hours and did require a meridian flip. I didn't really know what would happen so I set an alarm to wake me so I could be outside when the flip took place. So, 1 min before the flip, everything stopped except for guiding. Once the system was where it needed to be, guiding stopped and the scope flipped around and settled. Once it settled, guiding came back on, the system refocused, and then it continued the shooting sequence. Just perfect.



For the last image I have taken to date, I choose something I have always wanted to capture, the Andromeda Galaxy. Again, I decided to increase my integration time. For this image, I shot 300 images at 90 secs each for a total integration time of 7.5 hrs.



I still have a lot to learn but these are the first 3 images I have ever captured and I could not be happier. I did try capturing a fourth, the Heart Nebula, with a much longer integration time but I was very disappointed with the results. As I said, I am still very new to astro-imaging and there are so many other variables that I don't yet understand and that I need to consider to capture better images. So, once stacked, the fourth image barely produced anything visible. I am still trying to figure out why but that is just part of the process. Luckily, I will have plenty of opportunities to practice.

As far as post-processing is concerned, I am just experimenting with various software. I have used different methods for each final image. For the first image I used Affinity photo to stack and process, the 2nd image was stacked in Deep Sky Stacker and processed in Photoshop, and the last was stacked in Deep Sky Stacker and then processed in StarTools with final adjustments made in Photoshop.

My focus, for now, will be:

- **Planning** - how to when to image and what specifics do I use?
- **Calibration Frames** - Which ones and how many of each?
- **Filters** - how best to incorporate them into imaging?
- **Post Processing** - Is there a best process or just try a different one?

Overall, after having my current system for about 2 months and getting 3 out of 4 final images to produce something I am proud of, for my level, I could not be happier. I guess for some, a "GoTo" kit might be the way to go, but for me, having the ability to learn all at once and playing around with all the features the system offers produced much better results and has really spurred my interest in astrophotography.

Cover Story: “Because it’s out There”

In Memory of Mick Homer



Mick (Michael Marion Homer) was a most energetic and positive member of the New Braunfels Astronomy Club. He gave us our motto “*Because it’s out There*” and lived it.

Mick had aspirations of our club and Tye Preston Memorial Library combining forces to realize the construction of a planetarium between the library proper and the library’s observatory. His energy was contagious, and he designed that planetarium with much care and thought. It was his baby and he promoted it fiercely to the library board and the club. Alas, getting the funds required to build, maintain, and manage such a facility was not feasible. That planetarium is still on paper...

Mick gave a lot of himself to our club, becoming our meetings leader, agenda MC, and engaging presenter. His video presentations were vivid examples of his energy and expressiveness. Mick became the MC for Astronomy Night Orientations at Tye Preston Memorial Library, wowing the audience with exciting clips of current astronomical events and acknowledging their birthdays.

Going beyond our club and the library, Mick gave his neighbors thrilling Star Parties in the open field behind them. Mick was also a dedicated Rocketeer, participating in and hosting hobbyist rocket launching events.

Unfortunately, Mick had to back away from club and library participation due to a demanding work schedule and his desire to write about religion. We missed his energy, and his positive approach to all things.

Mick left his worldly existence on August 4, 2022, and is now in the presence of all. He is there because it’s out there.

-Eric Erickson

Mick Homer

Gone too soon, our friend and years-long NBAC leader Mick was generous, caring and as enthusiastic a supporter of all things astronomy as you could find. Who can forget the McHomer Observatory, ingeniously fashioned using an oil drum and inverted security-cam dome?

When my dad, Larry Pratt, stepped down from leading our club meetings, Mick without hesitation stepped up to do so. He spent hours each month preparing elaborate video presentations for both our TJ's get-togethers and the star party intros at Tye Preston. These would open with his catchphrase for NBAC, "Because It's Out There" and included birthday shout-outs, a sci-fi film clip or two, and of course the latest sky chart news from his "girlfriend," the JPL's Jane Houston Jones.

For Mick it was all a labor of love, and as he would explain with his usual self-deprecating humor, "I'm just a big ham."

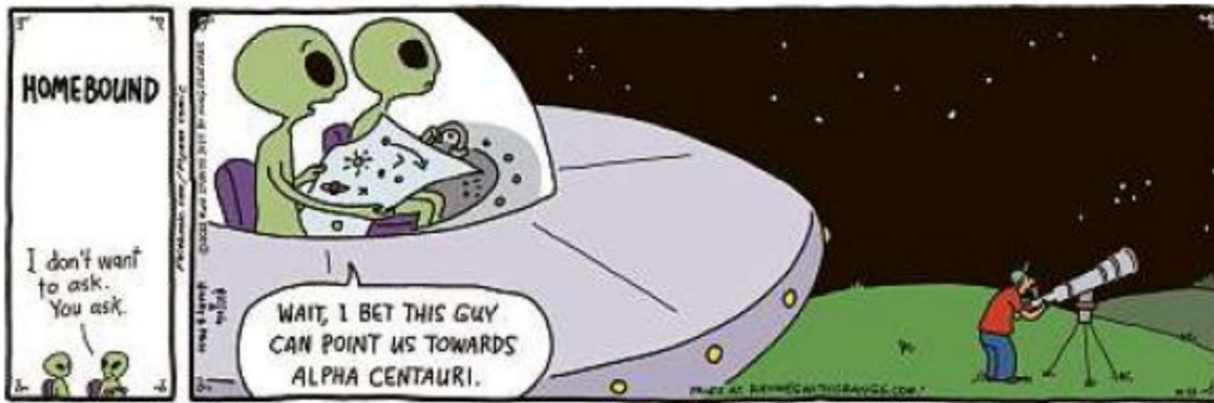
During this time Mick continued to stay very busy as an in-demand architectural draftsman for a local engineering firm, and was an ordained minister as well. He saw friends and neighbors in need as his ministry, and was a comfort to many.

I'll always be so grateful to Mick for the wonderful presentation he put together for the NBAC meeting on the occasion of Dad's 85th birthday!! It meant the world to us.

Rest in the stars, Mick, and when the day should come that any or all of us make it to a SpaceX launch at Boca Chica, we will be thinking of you and know that you will be there with us in spirit!

—Paula Pratt

RHYMES WITH ORANGE



CARPE DIEM



CARPE DIEM



CARPE DIEM

