Carpe Noctem

The News of Central Texas Astronomical Society

November - December 2017 VOLUME XXIII, NUMBER 6

President: Aubrey Brickhouse **Editor: Kent Swarts**

Happy Holidays From CTAS to You!

We hope your holidays are joyous and filled with cheer and expectation of an even brighter tomorrow. Scientist are continously learning facts about our universe yearly that we never imagined so what astonomical adventures await us in 2018? To be a part of some, we at CTAS want you to join us to discover what our night sky offers each and every Earthling. Join our members throughout the year for public and member star parties, special events and enjoy being a part of the comradary.

CTAS CHRISTMAS PARTY

We will celebrate the holidays together on Tuesday, December 19th 6:30-8:30pm at the Golden Corral in Temple.

We will have a program and honor some folks who made contributions to CTAS. If you have any nominations for exceptional recognition, please forward those to Dick Campbell

dick_campbell@baylor.edu

We hope to see you there.

2108 CTAS Officers

The slate of officers presented and approved at the Oct 10, 2017 General Business Meeting for 2018 are:

Dick Campbell,	President
Dan Doyle,	Vice President
Dave Eisfeldt,	Treasurer
Johnny Scarborough,	Secretary
Michael Gonzalez,	Director 2

I would like to say thank you to all the 21017 officers and directors for their hard work. The Club accomplished a great many objectives and numerous successes of public star parties at both TRS and in fields around Central Texas.

I would particularly like to thank Aubrey Brickhouse for his five years of service as President. His accomplishments number more than can be listed, but I think the one thing that stands out in my mind is his friendliness with members and the

public, and the inspiration he provided to all of us during his tenure. Thank you Aubrey (Ed.)

President's Letter November & December 2017

For several years since I became President of CTAS, I have perused the back issues of Carpe Noctem and wrote a summary of events that correspond to that month from 10 and 20 years ago to put into the Column "10 & 20 Years ago" in Carpe Noctem Newsletter of CTAS. In reviewing these articles, it is rewarding to see how CTAS has progressed from a back yard astronomy club of a handful of hardworking members to a club with over 150 members and, hopefully, many more as the club turns 25 years old in May of 2018. I also noticed, that I have been an officer in CTAS for the past 10 years. Firstly, I served as your club Secretary for 3 years followed by Treasurer for 2 years and then in 2013, I took over the President post from Dean Chandler. So I now have concluded my stint as President and on January 16, 2018, I will pass the baton to Dick Campbell. I want to thank all of you who served with me on the Board of Officers during that time for all your help in keeping the club moving forward. One person who gets very little notice in CTAS is Kent Swarts who has been the Editor of this newsletter for the entire time I have been an officer. It is a difficult job to get people to submit articles and get out the 6 issues each year. So I want to thank him for doing this great service for longer than 12 years.

When I became President, I had two top priorities. First I wanted to get CTAS on a sound financial basis that would be able to operate in the "black" yearly without special contributions and secondly make sure it did not lose its heritage of astronomy for all. With all the fuss of trying to keep the Meyer Observatory funded, it could be easy for us to lose focus on all those who were not particularly interested in the science but wanted to view from a nice dark site and earn AL badges. Some others wanted to take pretty pictures while others enjoy viewing meteor showers. Asteroid occultation events also has it's own group led by Johnny Barton. I hope that all of our members will feel free to use the facility for their own particular interests, but it is up to each of us to work together to make sure we continue in harmony as a club that meets the needs of a wide range of interests in the astronomy arena.

I want to also thank all of you of the club and other outside supporters that have contributed financially and also those volunteers who provided "sweat equity" to continue to keep the Meyer Observatory and Turner Research Field in operation. I am looking forward to the "Updated 24" telescope" when it is updated early in 2018. I know this will vastly improve the operations so that many of you can get more involved in using the 24" telescope. Finally, I hope we can quickly fund and replace the science camera that failed this fall with a good quality camera that is balanced to all needs from CTAS members. Hope to see all of our members at the Star Parties and other events in 2018.

As this is the final issue of 2017, I want to wish all of you a Merry Christmas and Happy New year in 2018.

And keep looking up!

Aubrey Brickhouse

President

October Public Star Parties

By: Aubrey Brickhouse

Last October the new Bell Country Star Party Team (Brandon, Forrest and Steve Brown) did a great job as we welcomed about 17 people at Overview Lake. Dan doyle said we had about 40 at the Open House. Thanks for hosting, Dan, Johnny and Dick.

Thanks to all who continue to give CTAS a great outreach program.

10 and 20 Yearts Ago in CN

10 Years ago in CTAS: VOLUME XIV, NUMBER 12 2007 CARPE NOCTEM

Dean Chandler was the President of CTAS in December and his yearly parting letter highlights are as follows: Our foremost accomplishment for 2007 was that our education programs took off. We hosted star parties, sleep-ins, solar system and universe overviews, and astronomy lessons to many schools in the Waco and Temple areas. I wish to thank all the members of CTAS who so diligently gave their time to make these events successful. Other major accomplishments of the year were completion of our road and the dedication of the

Turner Research Station and the Paul and Jane Meyer Telescope. Along with the dedication was the fund raising to make ancillary items a reality. The dedication was hugely successful with an attendance of over 250. We were gratified by the turnout and the enthusiasm of all. We expanded our membership, and have had so much enthusiasm from new leaders to support CTAS and its functions. Officers that year were: President: Dean Chandler, Vice-Pres: Bernard Ott, Secretary: Aubrey Brickhouse, Treasurer: Dave Eisfeldt, AL Rep: Tony Biddle, ALPO Rep: George Kidwell, IOTA Rep: Johnny Barton , Public Info: Greg Jones

20 Years ago in CTAS: VOLUME IV, NUMBER 12 1997 CARPE NOCTEM (MCAC)

As many of our members know, Astronomy Clubs try to slow down and talk about things that happened that year as they come to the Christmas season and the end of the year. That was the theme in 1997. The year of issues had a lot of articles on Comet Hale-Bopp and John McAnaly accepted an offer from the A.L.P.O. to be the assistant coordinator of Central Meridian Timings. The Club Vice President, Lorraine Shiver, recounted accomplishments of members and officers as follows: Mike Green, President and his wife Lisa for their leadership, Secretary and Treasurer Johnny Barton for building the largest telescope in the club, Bernard Ott for work as the AL link, Dick Campbell for doing the newsletter and getting the members in the door at Raytheon to see the Sophia Project, and Julie Thomas and Mike Robinson who built their own scope and ground the mirror. Lorraine thanked all for here chance to be the Vice President of the club.

INTERSTELLAR ASTEROID "LIKE NOTHING SEEN BEFORE"

By: Spaceweather.com

In Oct. 2017, the Pan-STARRS 1 telescope in Hawai'i picked up a faint point of light moving across the sky. At first it appeared to be an ordinary asteroid, but astronomers quickly realized it was something entirely different. The hurtling object, since named ‘Oumuamua, came from interstellar space. At the time of its discovery, 'Oumuamua had just swung around the sun. Telescopes around the world swiveled to observe it before it could leave the Solar System.

According to a European Southern Observatory 'Oumuamua is "like nothing seen before." It is red, made of dense rock or metal, and is shaped roughly like a giant cigar at least 400 meters long.

Above: an artist's concept of interstellar asteroid 'Oumuamua

'Oumuamua varies dramatically in brightness by a factor of ten as it spins on its axis every 7.3 hours. "This unusually large variation in brightness means that the object is highly elongated and about ten times as long as it is wide, with a complex, convoluted shape," says Meech.

The asteroid's dark red color is probably caused by cosmic rays irradiating its surface for millions of years in deep space. Cosmic rays have a similar coloring effect on asteroids and comets native to our outer Solar System.

Extrapolating 'Oumuamua's trajectory back in time, it seems to come from the direction of the star Vega. 'Oumuamua may well have been wandering through the Milky Way, unattached to any star system, for hundreds of millions of years before its chance encounter with the Solar System.

Researchers estimate that interstellar asteroids similar to 'Oumuamua pass through the inner Solar System about once per year, but they are faint and thus have been missed until now.

Exoplanets

Confirmed: 3558
Solar Systems: 2650
Terrestrial: 881

One of the Oldest and Most Distant Objects in the Universe Has Been Discovered November 20, 2107

By: Live Science

Astronomers have confirmed the discovery of one the oldest and most distant objects ever known in the universe — a star-forming galaxy 12.8 billion light-years away that started forming within a billion years of the Big Bang.

The galaxy, known as G09 83808, was first spotted by the Herschel space telescope, but it only showed up as a blur. The astronomers who made the find wanted more information, so they relayed the data to a team that used the Large Millimeter Telescope, which hosts the largest steerable dish in the world atop the summit of Volcán Sierra Negra, in the Galapagos.

Tiny Slowdown in Earth's Rotation Could Unleash Major Earthquakes

By: Tia Ghose, Live Science

Bilham and his colleague, Rebecca Bendick, a geophysicist at the University of Montana in Missoula, looked at the history of earthquakes of magnitude 7 or greater since 1900.

On average, there were about 15 major earthquakes per year since 1900. However, during certain periods, the planet sees between 25 and 35 earthquakes greater than magnitude 7 in a year. When the team looked more closely, they found those periods coincided with times when the Earth spins more slowly, meaning the days get slightly longer. Changes in Earth's rotational speed can be caused by weather patterns like El Niño, ocean currents and currents in the molten core of the planet. When fluids speed up, the solid Earth must slow down, Bilham said.

Because NASA tracks the length of the day to the microsecond, these slowdowns in Earth's spin can be predicted five years in advance, Bilham said.

Based on that data, the Earth is entering a period of prolonged slower rotation. As a result, next year could see more quakes, if past data is any indication. Whereas an average year might see about 15 earthquakes of magnitude 7 or greater, the next four years could see closer to 20 earthquakes of that size, Bilham said.

Fireball Meteor November 14, 2017

By: APOD

The sky glows with soft pinkish colors of fading twilight in this serendipitous mountaintop vista. Taken in subfreezing temperatures, the thoughtfully composed photo shows snowy, rugged peaks seen from a mountain pass on November 14. Below lies the village of La Villa, Alta Badia in Italy's Dolomite Alps. Above the nestled village lights, the constellation Ursa Major hangs over the northern horizon. But most stunning is the intense fireball meteor. It was captured during the camera's exposure by chance as it flashed east to west across the northern horizon.

Voyager #1 & #2 40 Years Old and Counting

By: NASA/JPL

Voyager 1, now almost 13 billion miles from Earth, travels through interstellar space **northward** out of the plane of the planets. The probe has informed researchers that cosmic rays, are as much as four times more abundant in interstellar space than in the vicinity of Earth. This means the heliosphere, the bubble-like volume containing our solar system's planets and solar wind, effectively acts as a radiation shield for the planets. Voyager 1 also hinted that the magnetic field of the local interstellar medium is wrapped around the heliosphere.

Voyager 2, now almost 11 billion miles from Earth traveling **southward** is expected to shortly enter interstellar space. Once Voyager 2 crosses into the interstellar medium, they will also be able to sample the medium from two different locations simultaneously.

The twin Voyagers have been cosmic overachievers thanks to the foresight of mission designers. By preparing for the radiation environment at Jupiter, the harshest of all planets in our solar system, the spacecraft were well equipped

for their subsequent journeys. Also, both Voyagers carry long-lasting power supplies. Each Voyager has three radioisotope thermoelectric generators, devices that use the heat energy generated from the decay of plutonium-238 -- only half of it will be gone after 88 years.

Hubbard Star Party	**Dec. 9**
Observatory Open House	**Dec. 9**
Belton Star Party	**Dec. 9**
Member Star Party	**Dec 16**
CTAS Christmas Party	**Dec 19**

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