

First Light Lite

May 1st, 2018

Jim Lynch - Editor

April News

Even if April was cold, it was at least clear part of the month, and the April 21st Star Party went off as scheduled. (April 21st was also National Astronomy Day!) We did the binocular tour, with M3 and M13 being the standouts, due to there being a bit too much moon and atmospheric moisture for seeing galaxies using binoculars. The motion stabilized binoculars performed especially well, particularly for objects near zenith. We also did our usual 16" scope tour, which *could* see M51 and other spring galaxies.

On the Foundation front, the monthly meeting was cancelled, but we did get a visit to WSO from Werner Schmidt and his family, who were really excited by the new gear dotted around the Observatory and our programs. Joel Burnett has a picture of the family, which I'm sure he will post to our website.

An occasional treat for the CCAS president is wandering up to the Harvard Smithsonian Center for Astrophysics and listening to some of their colloquia. I (JFL) did so last week, and was also able to meet up with three of our coming CCAS speakers (Anastasia Fialkov, Marion Dierickx, and Tony Stark). The colloquia are great talks, and if any CCAS members would like to join me on future trips, please let me know!

May 2nd Special Seminar at WHOI

Dr. Larry Marschall, a frequent guest speaker at CCAS, will give an updated version of his CCAS talk "Tiny Bit of Shakin' Going On: Gravitational Waves and the Universe" at WHOI on Wednesday, May 2nd at 12:15 in the Smith Conference Room in Woods Hole Village. This is a public lecture, and all are invited. (WHOI often hosts interesting scientific lectures outside of oceanography per se.)

Abstract

On September 14, 2015, two unusual observatories, one in Louisiana and another in Washington State, recorded the near-simultaneous arrival of gravitational waves,

the first time these subtle distortions of space had been detected, though their existence was predicted by Albert Einstein a century earlier. The discovery, perhaps the most remarkable and challenging astronomical measurement of the century, opened up a new way for astronomers to study the universe and won the 2017 Nobel Prize for the scientists who developed it. We'll give some background on the nature of these odd ripples in the cosmos, and explain how, by observing changes on the earth's surface that are far smaller than the nucleus of an atom, astronomers are now able to study some of the most powerful events in the universe-- the collisions of black holes and neutron stars millions of light years away.

May 3rd CCAS Seminar

Each year, CCAS staff work with Mr. Jim Mitchell and the DYHS honors students on astronomy honors projects, with excellent results. This year, we worked with Mr. Mitchell to also have the students present their results to CCAS as guest speakers. We won't include their individual names in this email due to legal restrictions, but we will highlight their projects here. Here is Mr. Mitchell's writeup!

"On Thursday, May 3, 2018 students from Dennis-Yarmouth High School will present slideshows on their astronomy projects. Most students utilized the Werner Schmidt Observatory with their mentors, members of the Cape Cod Astronomical Society. This is an annual collaboration between DY Earth and Space Honors students, teacher, CCAS mentors, and observatory volunteers. In addition to the mentors listed below, we recognize Joel Burnett and Mike Hunter for their assistance with this year's projects. We also recognize Bernie Young for the hundreds of hours of "groundwork" in recent years developing challenging projects involving real WSO data, CCAS, and DY High School. DY students present four projects at 730 pm Thursday May 3rd in the DYHS library:

The first talk is on **astrophotography and using image stacking software**.

It includes Delphinus (the Dolphin constellation) images from Bernie Young and other images from their CCAS mentor: Hank Ricci.

The second talk is on **variable [brightness of] stars and estimating magnitudes**.

CCAS mentor: George Silvis

The third talk is on **spectroscopy and use of an analytic program to determine star composition and temperature.**

CCAS mentor and computer software contributor: Jim Lynch

The fourth talk is on **Using sunspots to determine solar rotation rates by latitude.**

CCAS mentor (and teacher): Jim Mitchell"

Upcoming Speakers and Topics

June - Dr. Ken Brink, CCAS. Tides and tidal forces.

July - Dr. Jim Lynch, CCAS. Spectroscopy - Observational Basics, With a Live Demonstration.

August - Dr. Anastasia Fialkov and Dr. Marion Dierickx, HSCfA. Titles TBA.

September - Open, could use a volunteer!

October - Dr. Tony Stark, HSCfA. Cosmology topic.

April Speaker notes

The April CCAS speaker was Dr. Jim Lynch from CCAS. His topic was the basic theory of spectroscopy. As an extended discussion of this talk was sent in a previous email, we won't repeat it here.

April Meeting Minutes and CCAS Business

Society Business:

A Membership conference call was held on 4/17. The following initiatives were discussed:

- Getting more organized with regards to membership – create a better system to track membership and friends of the Society
- Creating an eye-catching brochure to attract new members
- Attracting and retaining new members via a more organized program of events and participation in Society affairs.

As a result, the CCAS President and Secretary met at on April 23rd at WHOI, and initiated work on the first two of these. We hope that in May, we will be able to complete them both. As to the third bullet, it will be a major topic of discussion for the May meeting.

At the April meeting, we also discussed getting names for the CCAS officers election, which is upcoming. A POC to collect names has not been identified, and it is hoped a member will volunteer to do so at the May meeting.

Star Parties

Winter season once per month "QUARTER MOON SATURDAY STAR PARTIES", **all open to the public**, begins September 23rd, 8:30-10:30PM.

From September thru June, we will have one regularly scheduled Star Party each month taking place at 8:30-10:30pm on the Saturday closest to the date of First Quarter Moon (about 7 days old).

From July through August, we will have three or four regularly scheduled Star Parties each month taking place on Thursdays at 8:30-10:30pm.

When the moon is near its First Quarter, the terminator (the line dividing light from dark) is favorable for viewing sunlight or shadow on the sides of craters. This time is also favorable for observing the dark side of the moon occult (visually cover) stars in the sky as the moon moves in its orbit. Depending upon the calendar, we may also be able to observe planets and other celestial objects.

Here is the schedule for "Star Parties" through June, 2018; **the public is invited:**

Saturday, May 19th

Saturday, June 16th

POSSIBLE CANCELLATIONS for Star Parties: Cancellations will be very rare since we have lots to do "inside" as well as outside. Even if the forecast is "iffy"; the Staff Leader for the night may elect not to cancel in spite of possible clouds. If clouds arrive after staff and guests have convened, a virtual Star Party will usually take place indoors to include overviews of the sky for that night using computer simulations with our big screen TV, videos of interesting sky events recorded previously, demonstrations and/or training on the use of scopes and other equipment, and consultation/discussions on things astronomical, etc.

However, sometimes a solid forecast for overcast or rain or a storm will result in cancellation of a given Star Party. **IF IN DOUBT ABOUT THE WEATHER AND THE STATUS OF A STAR PARTY, CALL THE OBSERVATORY AT 508-398-4765 AFTER 7:45 pm.** No answer means the event has been cancelled.

Directions to Dennis Yarmouth HS and Schmidt Observatory

For information on the location of our Dome behind Dennis-Yarmouth High School, click on the purple button "Old Website" and once there, click on "Meeting Location" viewing the two maps that are there: external for the Dome, and internal to locate the high school library where meetings are held.

For meetings, drive in the south entrance road and go around behind the main building. Park in the lot about half way down the building and go in the back door and turn down the hall to your left to find the library.

For Star Parties at the Dome, drive in the north entrance road all the way past the north side of the main high school building, through a gate, and on to park near our Dome.

H&K directions

Please be reminded that Gus Romano or his delegate "host" a dutch-treat dinner gathering for members and friends each CCAS meeting night (before the meeting) at the South Yarmouth Hearth & Kettle restaurant at 5:45pm; (the meetings begin at 7:30 at D-Y.) The speaker for each meeting is always invited. Please join the group to dine and talk about all things interesting, including astronomy, each month before our meeting. The H&K is at 1196 Rt 28, South Yarmouth, about a half mile west of the Station Avenue/Main Street intersection with Rt 28 (stop light).

