

First Light Lite

May 1st, 2017

Jim Lynch, Mike Hunter, Gus Romano - Interim Editors

Website

Even though it is still a work in progress, there is much useful information on the current CCAS website! In your browser, bring up www.ccas.ws . The Website Ad Hoc committee is working hard and making progress, and we will continue to get updates from them at each monthly meeting.

April CCAS Meeting Speaker(s)

We'd like to thank the CCAF Officers for giving the April lecture on the status of the WS Observatory and its programs. A detailed report of their talk(s) is found in the "Business Meeting" section below, as the CCAF report was on both Society and Foundation business.

Upcoming Speakers and Topics

May - Dr. Stella Kafka, Director AAVSO. Discussing the Elusive SNeIa progenitors

Supernovae Ia are the most popular stellar explosions, because their uniform properties makes them cosmic standard candles. Current theories for those progenitors hold that, a WD accumulates H- or He-rich material from a close companion, eventually reaching the Chandrasekhar limit initiating a series of thermonuclear reactions leading to an explosion (SN Ia). Although outlining this scenario is rather straightforward, the specifics are far from being understood or defined, especially with respect to the nature of the companion. I will discuss different channels leading to SNeIa explosions and various observational attempts to discern suitable candidates. I will also discuss how citizen Astronomers can uniquely help advance this research field, providing data on suitable candidates.

June - Gary Derman, CCAS. "What is electricity? What is magnetism? A discussion."

Most of us grow up thinking the prime driver in the formation of the universe as we know it has to do with gravitational attraction. The forces associated with electricity (and magnetism) play a much larger role in both forming and maintaining our world. Just what electricity and/or magnetism are, as well as the formation of electromagnetic waves and their significance will be discussed (at least to the extent we can fit into a one hour session).

July - TBD (Jim Lynch volunteers "The seventh term of the Drake equation" if no one else wants/takes this slot)

August - Dr. Tony Stark, HSCfA. Topic TBD.

September - TBD

October - TBD

November - Dr. Larry Marschall, Gettysburg College. "Tiny bit of shakin' going on: Gravitational waves and the universe."

On September 14, 2015, two unusual observatories, one in Louisiana and another in Washington State, recorded the near-simultaneous arrival of gravitational waves. This was 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. 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 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 millions of light years away.

December - TBD

* On May 10, a WHOI talk will be given that extends a previous CCAS talk. Specifically, Jim Lynch will present "Is the Universe Stringy, Loopy, or just an Entangled Mess?" 1215, Smith Conference Room. Public lecture, all invited.

* If you would like to give a talk, either as the main speaker of the evening, or as an ancillary speaker, please notify Jim Lynch at jlynch@whoi.edu. We are working

now to fill the rest of the year's "TBD" slots above, and they are on a first come, first served basis.

Note From Bernie Young

We have a Canon Power Shot 8MPx camera circa 2007 which will be good for wide field astrophotography (i.e., without a telescope). There is a plexiglass shoe in the dome that can be used to mount it on the 16" for time exposures. Images suitable for this camera are retrograde motion of the naked eye planets, meteor showers, circumpolar motion, and Iridium flares. It can take movies from video rate to 2 second time lapse. Mr. Goodwrenches is working on a way to capture spectra with it using our diffraction grating. A handout with suggestions for the Jupiter retrograde project are with it; they may be used as a guide for still shots of other subjects. The MANUALS folder in the Administrator directory of the Lenovo contains a PDF of the manual for those who are interested. Once you get the hang of it, it's easy to use.

March 2 CCAS Business Meeting minutes (Including Observatory Report)

Thanks go to Christine Lynch for standing in for Society Secretary Gus Romano and taking the following notes!

Meeting called to order at 7:30 pm

Three new audience members were introduced - the members of the Sisson family: Jay, Jeanie, and Katherine. Katherine is a recent college graduate with a concentration in Astronomy. We hope the entire family will be back again for our meetings and star parties. Also present, as we found out later, was newcomer Nan White, who we also hope will return in the future!

Staff

The speaker, Joel Burnett, Observatory Director , spoke on the State of the Werner Schmidt Observatory, IO6 official designation, Latitude +41.40.42, Longitude 70.11.37.

Key people in the CCAF are: Werner Schmidt, Co-Chair; Mike Hunter, Co-Chair; Ed Swiniarski, Vice-Chair; Bernie Young, Director of Research & Dev; Gus Romano, Treasurer, and Joel is Secretary and Director of the WS Observatory. Other supporting staff: Gail Smith, Peter Kuertz, Hank Ricci, and Jim Lynch.

New Initiatives

Binoculars are a good start to observing the night sky, especially using them on a parallelogram mount. A good companion book was passed along “Binocular Highlights: 99 Celestial Sights for Binocular Users” by Gary Seronik.

A big topic is the Solar Eclipse at 1:30 pm on August 21. Charlie Burke spoke about this and the talk he attended with Joel at the Cape’s Bridgewater State University (located on Route 28 in S. Yarmouth, close to Wood Road. He mentioned that the professor who gave the talk, Dr. Marina Arndt, has traveled the world to observe many recent eclipses, and has offered her help with the CCAS event.

Even though this will only be a partial eclipse on the Cape, we still want to share it with the public. In the next few months we have to work on a public program and put information on our website. Publicity should go out on signs, local announcements through the media, schools, and libraries. One important piece of information is to stress the critical need for eye protection during the event.

A practice run of the event will be done during solar viewing sessions during eighth grader visits. Our event program should include a lecture, activities for guests, along with a live stream of the total eclipse which can be seen from various spots around the country.

The iOptron MiniTower, along with two scopes, are available to any member who wants to sign them out. All software is free. We will use the iOptron mount to drive a Coronado solar scope on day of eclipse.

Also, we are looking at a Remote Access All-Sky Cam. Weather monitoring. Software C2A will drive this camera.

Programs

Bernie Young discussed current programs. Programs of interest include: variable stars (AAVSO), star observations and photometry, solar observing, lunar occultations and more. As an example project, Bernie took snaps of the sun position at the same time each day using a Canon PowerShot. Also of interest is Losmandy telescope astrophotography of asteroids and comets,. Google Drive hosts the instructions. Double star occultations, to observe apparent retrograde motion, were discussed. Measures of the intensity of stars, possible showing of any exoplanets, are also of interest.

Bernie tracked Jupiter using the C2A Program. It's currently in opposition. He had the star Spica in field for perspective and also another anchor star in Aquila.

As regards comets, he is watching comet Tuttle-Giacobini -Kresak .

Equipment

Mike Hunter spoke about the Losmandy Mount, which has polar alignment for photography. This mount allows for remote access photography.

He said we need to list facilities and our abundant equipment on the website to let people know what's here and that they can borrow any equipment. That includes about 16 or 17 cameras, 8", 10", 14", 16", and 18" telescopes, including a new radioscope and Spectroscope.

New Website

The new Cape Cod Astronomical Society website can be found if people search Cape Cod Astronomy. It includes info about our facilities, a calendar, links to all sorts of related organizations, etc.

Miscellaneous

The ASCOM Initiative is a loosely-knit group of astronomy software developers and astronomy device manufacturers devoted to vendor-independent plug-and-play control. ASCOM is a many-to-many and [language-independent](#)

architecture, supported by most astronomy devices which connect to Windows computers. Staff is discussing migrating to the ASCOM architecture.

Joel said we need more people trained to work with the equipment and to demonstrate it for visitors. About 250 eighth graders will be coming out to the observatory in June. We need more members and more participation. All hands needed. He called for maintenance crew volunteers to work on the 4th Tuesday of each month. Also to attend events such as Star Parties, school and scout troop visits.

Jim Lynch ended the meeting by listing the upcoming speakers. For the May meeting Stella Kafka will talk about her involvement with AAVSO .

The meeting was adjourned at 9:00 pm.

Star Parties

Winter season once per month "QUARTER MOON SATURDAY STAR PARTIES", **all open to the public**, began September 10th, 7:30-9:30PM.

From September thru June, we will have one regularly scheduled Star Party each month taking place usually ** at 7:30-9:30pm on the Saturday closest to the date of First Quarter Moon (about 7 days old).

(** In May and June, these events start at 8:30 because of later sunset times.)

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 remaining schedule for "Quarter-Moon Saturday Star Parties" thru June, 2017; **the public is invited**:

Saturday May 6th

Saturday June 3rd

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).