

First Light Lite

Jan 1, 2024

Jim Lynch – Editor

Message from the CCAS President

First, Happy Holidays and a Happy New Year! Overall, 2023 has treated CCAS well, and we're optimistic (see below) that we can be even more active in 2024. Many elements are falling into place, and if we can be organized and not have to deal with any further major crises (like Covid), we can start doing some new and interesting things. We've had a number of meetings and Zoom calls discussing our future plans, and much of what appears below comes from those meetings and conversations.

Star parties

Snowflakes have not glistened so far (more than a dusting, anyway), and we had clear winter skies and clear ground for our recent star party in December. The Orion Nebula, the Pleiades, Jupiter, and some stray Ursids and Geminids lit up the outdoor scenery. These were shown by our laser pointer sky tour and observed outside the dome with binoculars. Inside the dome, our main scope behaved well, and Charlie Burke and other CCAS members displayed some of winter's deep sky wonders on our large computer screens. Chris Lynch, mindful of the cold, brought along some Dunkin Donuts hot chocolate and cups, which was a big hit, especially with the goodly contingent of children who came along. (And fueled by the chocolate, the young ones asked some excellent astronomy questions during the presentations!) In all, a successful party!

By way of making things even better, for our next star party, we could use a few more small scope operators, and some reclining chairs for the binocular observations! (Looking past 45 degrees with binoculars while standing up is a perfect invitation to dizziness, a stiff neck, or both!)

We are planning our January star party for the week of January 15th, and as usual, we will broadcast the "Go" signal the day of the party. (Such is Cape Cod weather.)

Speakers

Right now, we are actively looking for First Thursday speakers for February through the spring and early summer months. If anyone would like to help us with this routine but important task, please let Charlie Burke and I know. It would be very helpful to have at least one more person tending to this with us. (But if you just want to toss in an occasional idea for a speaker, we surely won't say "no!")

Workshop on using WSO dome and main telescope

The following (paraphrased) was recently sent out to our members. This workshop is for those who will use the main telescope for club activities, including our star parties.

“The big announcement is that our main scope in WSO is working, and that Charlie Burke is preparing a “soup to nuts” workshop at 1100 AM next Thursday (Jan 4th) at WSO to train members how to get in and out of WSO, open and close the dome, turn the computers and scope on and off, direct the scope, take pictures with it, and do basic image processing. He will have some documentation prepared as well.

Chris (Lynch) and I plan to go there, and a few of our “usual” scope users, but I hope we can get a much wider audience from the club. The main scope has a learning curve, true, but it is not an impossible one. And the more people that learn to use it, the more projects we can do as a club and the more help we will have available for star parties and for helping out with the schools.

If you're interested and can come, please let Charlie and I know. And if you're interested, but can't come then, please also let us know, and I'm sure we can arrange a repeat performance!”

Division of labor for scopes and star parties, docent material

We'd like to get more members trained in using not just the large scope, but also the Dobsonians, Go-To Scopes, and Binoculars. This is not only for the enjoyment of our members, but also to have enough people who can use these instruments at our monthly star parties. Users of each type of equipment should also learn what some popular sky targets are for them during each season. Towards this latter goal,

Brian Twohig is putting together some “docent notes” which he will distribute when he has finished them.

Borrow a scope, learn it, document it.

An “adopt a scope” borrowing program is available for those who need a scope to learn on. If you do adopt a scope, it is hoped that you will learn it and then write up a bit of documentation so that others can also learn it. There are a limited number of scopes available, so things are on a “first come, first served” basis. Charlie Burke is the POC.

Club Events

Public events with a focused theme have always worked well for our club, such as the transit of Mercury event and the partial eclipse of a few years ago (pre Covid.) Three event themes that were brought up during our conversations were: 1) the April eclipse, which won’t be full here, but will still attract many people who can’t leave the Cape, 2) a “full moon” event, focusing solely on lunar features and photography, and 3) an astrophotography night, where we give people some hands-on experience with how to do astrophotography and how to process some raw images. There are certainly more possibilities, but these are a sampling. Any further ideas are welcome!

Technical Projects for the club

Many of our club members are looking for astronomy related technical projects which can be done either individually or as a team. Some of the possibilities mentioned to date have been: 1) a radio telescope project, 2) displaying the spectral classes of stars using RSPEC, 3) measuring the full set of lunar orbital parameters, and 4) a photo gallery of deep sky objects using the main telescope. Many such projects are possible, and these can provide the basis for nice talks for the club and also website material when completed. And as above, any further ideas are welcome!

As a beautiful example of astrophotography that can be done at home with a small (6”) scope, here is a picture of M42 (the Orion Nebula) taken by CCAS member Frank Isik. (This sort of result takes time and patience but is a great example of what amateurs CAN do!)



Fig. 1. M42 (courtesy of Dr. Frank Isik)

Student Interactions

Our work with the DYHS students has now been resumed after a long break due to Covid, and several projects are underway. We also have one project starting with Falmouth Academy, and so we feel good about having our student programs active again!

Main Scope Automation Project

The main dome telescope automation project is well into its initial planning stages, money is available, and a possible suite of equipment has already been identified. However, the complication of the system is making us think hard and look before we leap, and we are still looking at alternate solutions.

Some Repeated Notes

Three last items, repeated from the last two months: 1) for those contacting us on the web or by email, please give us a day or two to respond. Our mail is checked roughly every other day, and also on the days of star parties. We are still somewhat personnel limited! 2) for those asking for special star parties, please know that we can sometimes handle large group requests, but not always. We generally ask smaller groups to come to our regular star parties, where we are used to dealing with groups as well as individuals. 3) we are offering some used gear we have acquired (some in mint condition) on our website and via email to our members and friends.

Dues

During Covid, we did not require dues, and left them to be entirely voluntary at \$30 per family. This year, as we are resuming activities, we are requesting dues at a reduced flat rate of \$15 per family (or individual, if there is no family to consider. Also, dues are waived for any students.) Dues were due July 1st. If you have sent our treasurer (Dr. Ken Brink) dues in the last year, you will be considered to have paid dues for this year. If not, we would ask you to submit them, as this money is used to support our activities with the schools and the public. (We don't buy equipment, as that is the Foundation's function.) Dues should be sent to: Dr. Ken Brink, 16 Greengate Rd., Falmouth, MA 02540. If you send your dues to the Observatory or DYHS, they will be delayed in their transmission to the CCAS Secretary.

I'd note that most CCAS activities will be available to those who do not pay dues, but when we eventually have club observing events, those might be restricted to those who are dues paying members. Also, we plan to make our surplus and donated equipment available to members at a reduced rate. It is a small amount, and it is hoped you can pay if you wish to be active in CCAS.

**Last Month's Speaker (December 7th, 6:30 PM Zoom Only): Dr. Jim Lynch
CCAS and Mr. Yaz Aubrey, Falmouth Academy**

Title: "How the first stars and galaxies formed – revisited."

Abstract: This was a talk I gave several years ago, and at that point I thought that Dr. Avi Loeb (whose book I followed) and many other investigators had solved this complicated problem, at least in broad brush. Hubble observations and others seemed to confirm their model of quantum fluctuation stretching, dark matter haloes, etc. forming early stars and galaxies, and while there were still some good problems left, the model seemed to agree with the data overall. About a decade or two later, the JWST has come along and shown some pictures that seem to disagree, seeing very evolved structures long before they should be there. In this talk, we'll show the basic theory, try to describe what the JWST saw that disagrees, and (given that the data makes sense) make a wild guess or two at what is causing this.

No speaker for January.

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. **NOTE:** We are redoing the website, so that this information may become dated soon. We intend to move any currently useful information to our new website.

For meetings, drive along the south entrance road and go around behind the main building. Park in the lot about halfway 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. You can (and should) park on the grass there.

H&K directions

CCAS hosts a dinner gathering for the speaker (if available), members and friends on meeting nights (just before the meeting) at the South Yarmouth Hearth & Kettle restaurant at 5:45pm; (the meetings begin at 7:30 at D-Y.) Please join the group to dine and talk about all things interesting, especially astronomy, 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). **NOTE:** Since Covid, we have a mix of fully remote and hybrid in-person + remote meetings. Check the newsletter and/or website to see what the format is each month! There are no dinners when the meeting is fully remote.