

# **First Light Lite**

Feb 1, 2024

Jim Lynch – Editor

## **Message from the CCAS President**

January was a slow month in some ways, but active in others. We didn't have a speaker for our January First Thursday talk, which is not unusual at the end of the Holiday season. We also didn't have our scheduled star party, as the one clear night during the week of the New Moon was in the low twenties and had considerable wind chill. We don't want our guests to freeze (and we don't want to either!) But we did have a very good planning session at our monthly CCAS meeting and have a few good items to discuss. And we have a very good speaker lined up for February, as well as a star party, so let's proceed to those items!

## **Star parties**

We are scheduling our usual monthly star party for the week of the 12th of February. Let's hope for better weather conditions! As an added attraction, we also will be previewing a new, easy to use telescope. At the CCAS meeting, George Silvis showed us what the new ZWO Seestar smart telescope could do, which is impressive! He has committed to bringing this scope along to our next star party and I think people will be wowed with both its user friendliness and its imaging capabilities. This might be a good scope for us to recommend to beginners (and even some non-beginners.)

## **Speakers**

This month we have Dr. Sarah Wellons from Wesleyan University as our First Thursday speaker, via Zoom only. Her topic will be galaxy formation and black holes. See below for details! We still need to get speakers for March and beyond, and Charlie Burke and Jim Lynch are working on it. Any suggestions welcome!

## **School interactions**

We have been assisting Mrs. Garcia at DYHS with both poster projects and book reports. Jim Lynch will be talking to Mrs. Garcia about possibly highlighting the student's work in our newsletter and at a meeting. They have done some very nice work, and it really does deserve spotlighting! We also have one science fair project

ongoing with Falmouth Academy, and so we feel good about having our student programs active again!

## **Outreach**

We have events scheduled with the Chatham Bars Inn and the Chatham Library this spring and are exploring other possibilities. Plans are being made with The Cataumet Schoolhouse for a May event and the Waquoit Bay National Estuarine Reserve for participation in a fall event.

## **Workshop on using WSO dome and main telescope.**

On January 4<sup>th</sup>, Charlie Burke put together a very successful and well attended workshop on how to access WSO and use the main dome telescope. He then put together a set of instructions which was edited by a few members and distributed to our members and friends list. A follow up to this workshop on how to use the main scope for astrophotography and how to process those images is being planned for the near future. Stay tuned for details!

## **Adopt a scope, learn it, document it.**

Charlie Burke's idea to have individual members "adopt" a specific scope from the WSO inventory, and then learn its nuances and document them to make them generally useful, has taken off nicely. To date, members have adopted the C8, LX-200, Lunt Solar, 6" Meade, and 8" Dobsonian scopes. We are also compiling a list of qualified users of these small scopes (not just the above) so that we can staff our events adequately and not overuse a small number of people. Anyone interested in further developing this initiative should contact Charlie Burke.

## **Division of labor for scopes and star parties, docent material**

As mentioned last month, 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.

**Public/ and School Events:** Some of our events are public and /or school events, and others are just intended for our most active club members. Two events we are actively beginning to plan are for the public and the schools. They are: 1) an astrophotography workshop for the public and 2) an April 8<sup>th</sup> eclipse event. Frank Isik has offered to lead organizing the astrophotography event and will coordinate with our other “photography savvy” members. The public is always interested in astrophotography, so this should be a popular event. As to the eclipse, it is on a Monday during school hours, so this may just be a school event if DYHS is interested. But we could perhaps also do a public Sunday pre-eclipse event. Various members are already discussing the possibilities. We already have solar scopes, solar binoculars, and dark solar safety glasses available, so equipment is no difficulty.

### **Technical Projects for the club**

As also mentioned last month, 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!

### **Contributed Newsletter Articles**

As we have become more active post-Covid with in-person activities, there are more things to relate that would be of interest to each other. If people would like to submit brief (1-2 paragraph) articles for the newsletter about such activities or events, the newsletter editor would be more than happy to include them. This would be subject to editing, and pictures of people are discouraged, as permission rules have become rather strict of late.

### **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. This is an ongoing, longer-term project.

## **Dues**

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 1<sup>st</sup>. 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.

**This month's speaker:** Dr. Sarah Wellons, Wesleyan University

**Topic:** Simulating the growth of galaxies and supermassive black holes

**Abstract:** In this talk, I will summarize what we know about the physical processes that govern how galaxies form and evolve, from the collapse of their dark matter halos on large scales to the energetic processes like supernovae and feedback from accreting supermassive black holes which regulate star formation. I will describe why and how we use numerical simulations to test our understanding of this physics and will give a few highlights from some of my work on massive high-redshift galaxies showing what we can learn from such simulations.

**Bio:** Sarah Wellons is an Assistant Professor of Astronomy at Wesleyan University. She earned her PhD from Harvard University in 2017 for her work studying the formation and evolution of unusual high-redshift galaxy populations in the Illustris cosmological simulation of galaxy formation. Since then, she has continued studying the physics of massive galaxies using zoom-in simulation techniques and is currently focused on how galaxies interact with the supermassive black holes they harbor at their centers.

## **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.