

First Light Lite

March 1, 2023

Jim Lynch – Editor

Message from the CCAS President

A good sign for CCAS is that we are now concentrating on “live” events and activities, and not just things that we can accomplish remotely (although we also still do some of those). Two such events were planned last month (February) and one occurred, with the other being cancelled only because the weather persisted in being miserable for a solid week, rather than just one day. The event that occurred was our February 18th CCAS “workday” to repair and upgrade equipment and clean up the Werner Schmidt Observatory (WSO). We now have four Dobsonian telescopes (three 8” and one 18”) ready for star parties, a very nice “go-to” scope with operational software, and a main dome scope that is good to show real-time astrophotography pictures to the public.

The event that didn’t happen, our monthly “New Moon” star party with a February 20-25 window, was cancelled due to the weather being cloudy over most of the week and far too cold on the night of the star party. (We also cancel if it looks like the public’s comfort and health can be jeopardized by being exposed to the weather.)

So, we were operational, if not totally lucky as regards weather. We plan to continue in the same mode, with monthly star parties during the week of the New Moon and workdays and other club events during Full Moon periods. And we still have our monthly First Thursday lectures – live at the Dennis-Yarmouth HS (DYHS) if the speaker is nearby (with a Zoom link available as well) and via Zoom if we have a remote speaker (which does open a wide range of opportunities for speakers.) These will be our routine public activities. We also are looking to see if we can distribute a few of these activities to other places on the Cape now and then.

Let me next discuss the activities planned for the month of March. First, we have our monthly talk on March 2nd. Due to our originally planned speaker not

being available, Jim Lynch will fill in the slot and talk about “Dark Matter,” a phrase that was coined by the famous astronomer Fritz Zwicky. (Bonus points if you can name three things that Zwicky was famous for!) Perhaps more importantly, we will be having our traditional Hearth and Kettle club dinner at 5:30 PM just before the talk, where we can socialize a bit – an activity that took a large hit during Covid but is a needed part of a successful club. The talk starts at 7:30 PM for such live events, to give us time for dinner, so please remember that!

Next, we have a “Telescope Day” on March 11th at 2:00 PM at the Werner Schmidt Observatory (WSO) behind the DYHS. It starts at 2:00 with the following schedule of events:

2:00 – 3:20 Talks on Amateur Astronomy and Astrophotography.

3:20 – 3:45 Dome and WSO tour.

3:45 – 5:30 Hands-on “How to Use Your Telescope” session.

We will demonstrate Dobsonian, alt-azimuth, and equatorial mount telescopes, and try to help people who bring their own gear.

This event is open to all at no charge,

Next, we will “open the weather window” for our March New Moon star party on the 20th – 25th. Operationally, we tell any and all interested parties of the week-long window, and then notify them of the exact date as soon as possible (meaning early that day, given the iffy-ness of current weather forecasting capabilities.) This seems to work, though we wish we could give better advanced notice. As with our previous star parties, this event will include a binocular sky tour, small scope viewing, viewing of real-time photographs by the dome scope, and a short tour of the dome.

As mentioned last month, we also want to consider the interests of our club members of all backgrounds. Classes/sessions on how to use amateur gear (including our Observatory) and what to see in the sky will continue to be part of our scheduling. If you’re in an amateur club, gaining familiarity and skill with the basics of the craft (whether it’s astronomy, art, photography, hiking, whatever...) is a big part of the fun. I think we need to concentrate a bit more on that, as many

people that have expressed interest in CCAS have said that they wanted to learn such skills. One interesting possibility that was brought to our attention by the Phoenix Astronomical Society (PAS) was “The Astronomical League,” which is a national amateur astronomy association, with over 70 observing programs that offer a structured approach to learning about the sky and all its wonders. This bears looking into, and was the topic of a recent PAS talk.

A topic that has been a thorn in our side for some time was developing and maintaining an up-to-date, complete club “friends and membership” mailing list. Thanks to CCAS Secretary Jonathan Hatch, that has become a reality. We now have an organized list that we used to contact you. One important caveat, which is in the email to which this newsletter is attached. **IF YOU WISH TO BE REMOVED FROM THIS NEW LIST, PLEASE JUST CONTACT JIM LYNCH AT jlynchwhoi@gmail.com AND WE WILL TAKE YOUR NAME OFF IT.** We have also included the names of those who have made inquiries of various sorts to our club email cca@capecodastronomy.org since 2022. Again, if you are interested, you will keep getting our newsletter and activities invitations. If you are not, contact us as mentioned above.

I’ll only treat one more topic here, which is our collaboration with various schools and organizations on the Cape. We have a few people to get back to, but given that we’re now fairly well staffed and our observing gear is coming around, we can (and will) join in activities with you this spring! Have some patience with us – as mentioned, we’re “Pluggers” (one of my favorite comic strips, even if it is perhaps too accurate at times!)

Last Month’s Speaker

Dr. Or Graur, University of Portsmouth

Topic: The science of exploding stars

Abstract: Supernovae are the explosions of stars. They are some of the most energetic phenomena in the Universe, rivalling the combined light of billions of stars. In this talk, astrophysicist Or Graur will be your guide to these awe-inspiring

astronomical phenomena. He will explain how a deep observational understanding of supernovae why and how they shine and how their brightness changes over time allows us to use them as tools for experiments in astrophysics and physics. He will also reveal how supernovae may also have caused a mass extinction event on Earth 2.6 million years ago, how they played a role in the transformation of astronomy from astrology to astrophysics; and describe the lives and deaths of stars and the supernova remnants, neutron stars, and black holes they leave behind.

Or Graur is an Associate Professor of Astrophysics at the Institute of Cosmology and Gravitation at the University of Portsmouth, as well as a Research Associate at the American Museum of Natural History. In 2013, he received his PhD in Physics and Astronomy from Tel-Aviv University under the supervision of Prof Dan Maoz. He then held two postdoctoral research positions at The Johns Hopkins University (2013-2014) and New York University (2014-2016), before moving to the Center for Astrophysics | Harvard & Smithsonian as an independent National Science Foundation Astronomy and Astrophysics Postdoctoral Fellow (2016-2020).

Supernova, an introduction to my field, [is out now!](#)



This is a very nice lay language book that will give you a wonderful overview of an intriguing subject! I (JFL) have read it and highly recommend it!

Precis: Rather than a dry precis, try this link to see the talk as held at Cambridge University. <https://youtu.be/tAVPtU8-XLI>

This Month's Speaker (March 2nd, 7:30 PM, DYHS Library and Zoom)

Dr. James Lynch, CCAS, WHOI, ASA

“Dark Matter”

I had hoped that Violet Zitola would talk on SETI this month, but as he will be away on travel for a while, I'll try to fill in the gap. I hope folks won't mind! (And he will give a SETI talk upon his return!)

I'll admit to a real fascination with some of astronomy's great mysteries - dark matter, dark energy, and uniting General Relativity and Quantum Mechanics. While these are far beyond my personal pay grade as research topics, I still try to read up on them and understand the basic outline of what is going on, as well as learn the often-fascinating history behind the research. For this talk, I'll go with dark matter, which has both some great history and intriguing current research directions. Dark matter was first inferred close to a century ago by the irascible Swiss astronomer Fritz Zwicky and confirmed by modern astronomer Vera Rubin. But, for a century, an entity which we know to exist due to its effects has craftily defied efforts to specify exactly what it is. I think this (still not completed) story is well worth devoting an hour to! And if anyone listening to this talk figures out the solution to what dark matter is (and proves it...a minor gotcha), there's an all-expenses paid trip to Stockholm in your future!

April's Speaker

Dr. Jim Head, Brown University, CCAS

Topic: "Future Lunar Destinations for China's Chang'e 6, 7, and 8 Missions"

May Speaker

Dr. Maura McLaughlin, West Virginia University

Topic: TBD (see bio below for hints!)

<https://gwac.wvu.edu/about/people/maura-mclaughlin>

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 in 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.

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.