First Light Lite

February 1, 2023

Jim Lynch – Editor

Message from the CCAS President

"Slowly but surely wins the race." A wonderful old saw, and a reassuring one to those of us who might best be described as "pluggers." We have plugged away at surviving the Covid era, and are gradually restoring our level of activity to pre-pandemic levels. Our lecture program (more below on that) has kept us afloat, and finally late last summer we returned to doing some live star parties, another major part of the club's activities. This last week (January 27th) we held our second star party back at Werner Schmidt Observatory (WSO), and as that is our biggest piece of recent news, let me get to that first.

One lesson we have learned (and not really that hard a one) is that the Cape's weather is not exactly the friendliest as regards doing amateur astronomy. So, we've gotten away from setting a single date for a star party, and instead are going with a week-long "weather window." We tell interested parties of the week-long window, and then notify them of the exact date as soon as possible (meaning 1-2 days before, given current weather forecasting capabilities.) This actually worked out brilliantly this last week, as we slipped in a very acceptable winter sky between some very gray weather. It was cold, but the skies were clear, which is exactly what we want in the winter.

We had a very good public turnout (maybe 40-50 people), and I think they got a good show overall. We saw the "green comet" C/2022 E3 (ZTF) through binoculars and some of the outdoor telescopes. It is a smallish, fuzzy cloudlike affair in such instruments, but it was there, and I think people appreciated being able to say "Hey, I actually saw it!" We also saw the Great Orion Nebula, Jupiter and its Galilean moons, the Pleiades and other open clusters, a meteor or two, and had a "constellation tour" and an Observatory tour as well. All in all, people (including some rather young ones!) braved the cold and seemed to enjoy the fresh air and night sky. This is what we hope the outcome of our star parties will be, and we are planning to make them more frequent and routine as the season progresses.

Mike Hunter prepares the 18” Dobsonian telescope for transport outside during the star party. Violet Zitola and Jim Lynch look on.

That being said, we also learned as a club about some things we want/need to improve. Observatory Director Charlie Burke made a heroic effort to install some software on our PlaneWave main scope which would better track the comet (which is a fast mover) and give a superior time-exposure image - and that software crashed the scope for the evening. Charlie has since fixed it, but we lost one of our prime attractions for the evening. We also found out that the “finder scopes” that are a key to using our outdoor Dobsonian scopes were not adequate, and are replacing those. And one of our outdoor “go-to” scopes lost its program as well – again, we’re fixing it! Two plus years of Covid has left us (and our observing instruments) a bit rusty, but we’re inching back as mentioned above! We have some WSO workdays planned, and if anyone reading this is interested in joining the fun (and heck yeah, playing with the gear is a bit of the fun), let me know at jlynchwhoi@gmail.com, and I’ll add you to the list!

As mentioned last month, we also want to be of more interest to 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 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.

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're hoping that 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

January was the first open spot in quite a while, but hey, it was New Year's week! 😊

Next Month's Speaker

Dr. Or Graur, University of Portsmouth

Topic: The science of exploding stars

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!

Next Month's Speaker

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.