First Light Lite

May1st, 2026 (May Day and a Full Moon)


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Jim Lynch – Editor

Message from the CCAS President

We *will* be scheduling star parties this spring, which is "the season of galaxies" riding high in the sky. Our WSO 12" Planewave scope provides a great view of these deep sky objects. We are working on dates between May 11 – 16 and also between May 18 – 23. A separate email will be sent out once we confirm the schedule in early May, along with a posting on our website.

And, as stated in our last FLL issue, we are keeping busy in the meantime with indoor activities and equipment preparations for the spring. One of these activities that you might enjoy is our social dinner before the First Thursday talks. Currently we are doing this at the Sea Dog restaurant in South Yarmouth, until the H&K extends back to evening hours. Check the end part of this newsletter for more information.

Outreach and Coming Events

As mentioned last month, we've had requests this spring for talks and star parties from nearly a dozen venues, schools, and organizations. We're doing our best to honor these requests, as education and outreach are two of our Society's core functions and we very much enjoy interacting with people about astronomy and STEM. If you on the mailing list are interested in helping us staff some of these events, please contact us via cca@capecodastronomy.org and we will provide you with further information. We *really* could use a few extra hands!

Let me share some examples of our recent outreach.

During month of April, Peter Pilon and other CCAS members participated in the Chatham Eldredge Library exhibition of astrophotography which is shown below. And on April 23, Helen Sledzikht and Alan Collette staffed a booth at the library showing some amateur gear as part of the overall “Dark Skies” exhibit. Thanks to them, Frank Isik, Peter Pilon and others for making this exhibit a success.

Chatham astrophotography exhibit

Alan Collette and Helen Sledzikht at the CCAS booth at the Chatham library.

Another event during April was the visit by Jim and Chris Lynch to the Aquinnah Tribe Community Center on Martha's Vineyard. They had the pleasure of interacting with the schoolchildren there in the afternoon and with the adults (and kids) in the evening. We enjoyed showing them what we do, and in turn, they showed us what some traditional Native American constellations looked like!

Ojibje constellations overlaid on the Western constellation.

Additionally, Brian Twohig gave a talk at the Centerville Library on "Astronomy on Cape Cod" at 2:00 PM on April 28th. As Murphy would have it, Jim Lynch also gave a class/talk at the Orleans Library on cosmology on April 28th at 1:30 PM. These are two different topics, so we gave Cape Codders a choice! (As a note, Murphy seems to do a lot of mischief when it comes to scheduling things! ☹)

And this coming Monday, the sixth and seventh grades from the DY Middle School are due to visit the Werner Schmidt Observatory.

A busy month! 😊

Astrophotography

An opportunity to learn astrophotography "from the ground up" will be offered to all by CCAS later this year and is currently in the organizational stage. Peter Pilon and other CCAS members have formed an astrophotography group that will focus on using the new, inexpensive smart scopes as well as our dome telescope at the Werner Schmidt Observatory. He and other experienced members are planning to offer a course on that for members and friends after doing the organizational work. More details will be forthcoming in the near future, but if you're interested in astrophotography, please contact our Cape Cod Astronomy email [cca@capecodastronomy.org] and let us know.

"CCAS' Future" Workshop

Two years ago, after Covid had abated and we were able to meet in person again, we held a mini-workshop dinner at Bobby Byrne's Pub in Hyannis where we discussed future directions for CCAS. This was moderately successful, but we didn't accomplish quite as much as we hoped.

This year, we will repeat the process, tentatively at our July meeting. We would like to ask all you who are reading this for inputs about how we can improve our club's science and education programs, increase our membership, advertise better, and any other aspects that you can think of. Please send your input to cca@capecodastronomy.org . If you are coming to the Sea Dog dinner this Thursday before Dr. Bell's talk, please consider bringing some input there as well.

Elections in Mid-June

Each year in June, we elect a full slate of CCAS officers and one CCAF Board member. As Janice Marks is also standing down as a Board member, we will

need two Board members. We welcome all nominations for these positions up until our Third Wednesday meeting in mid-June. On a personal note, I would like to see some new people interested in these positions. They are part of sharing the responsibility as well as the fun of being in a club and also are not horribly onerous. As of this writing, we have one person standing for each CCAS officer position, and one person standing for the CCAF Board position. If someone is interested in the second Board position, please contact Jim Lynch at jlynchwhoi@gmail.com or our club email cca@capecodastronomy.org. The CCAF Treasurer need not be a Board member, and we are also considering getting an accountant's help with this.

Initiatives and Committees

When we do our forum/workshop, we will likely devote some time to committee structure. We are currently looking at the following committees: Website, History, By-Laws and Organization, Advertising and Publicity, and Membership. As with being an officer of the Society, committee work "makes the wheels turn" and is important to our future.

Dues Increase to original level

When Covid struck, our club activity level dwindled to a minimum, with only Zoom lectures and an occasional view of the sky via Zoom (TYVM George Silvis). That being the case, we reduced our dues to reflect the situation.

However, recently our in-person activities have resumed their former level, or nearly so. This means we have more in-person interactions with both speakers and the public via club events, and thus more expenses in those directions. As club activities (but not equipment) are supported by CCAS' dues, we feel that at this point we need to increase dues so that we can cover the increase in activity. The dues for 2026-2027, due July 1st, will be $30. This is still voluntary, and we don't restrict activities if you can't pay. But this modest amount keeps our activities viable, and we hope you can help us keep CCAS thriving as it become again.

Last Month's Speaker

April 2nd Speaker: Dr. Jacquelynne Milingo, Director of Astronomy, Maria Mitchell Association

Place: Both at the DYHS library and on Zoom (speaker will be live)

Topic: Stewarding the Past, Present, and Future of Astronomy at the Maria Mitchell Association.

Abstract: In this talk I will share my journey to the Maria Mitchell Association (MMA) and my vision for astronomy at MMA including the observatories, the role of our long-standing NSF REU program, our glass plate collection, and engaging different communities in the mission of MMA.

Biography: Dr. Jackie Milingo is an observational astronomer who earned B.S. degrees in Physics and Astronomy from the University of Kansas, and a Ph.D. in Astrophysics from the University of Oklahoma. Dr. Milingo joined the MMA after a year-long AAAS Science and Technology Policy Fellowship at the U.S. National Science Foundation, where she was a Fellow in the Office of Legislative and Public Affairs, as well as the Astronomy Division in the Math and Physical Sciences Directorate. Before her fellowship, she was a professor in the Physics Department at Gettysburg College for over twenty years.

Precis: Dr. Milingo (Jackie) came over to our pre-talk dinner at the Sea Dog via the fast ferry from Nantucket on a rather windy and rough day. As a result, she was not as enthusiastic about dinner as the rest of the attendees, but she still was able to engage happily in the table conversation.

After getting her land legs back, Dr. Milingo gave her talk at the DYHS, with a good attendance both live and via Zoom. As the talk focused on the Maria Mitchell Observatory (MMO) and her new role in it, it was familiar ground for a number of people in the audience.

Jackie started the talk giving a bit of information about her background as an astronomy educator and observatory worker, first in her native Kansas and then later in Gettysburg College. In 2006, she visited Maria Mitchell Observatory as a visiting astronomer, which gave her familiarity with the Observatory and its educational programs, particularly the REU (Research Experiences for Undergraduates) program. Then, this year, she came here in the permanent position of 8th Director of Astronomy and Steward of MMO. She next turned to the historical Observatory itself and its programs.

MMO was built in 1908 with the assistance of the Harvard College Observatory with the intention to train women in astronomy. The astronomy program was established by astronomy legends Edward Pickering (noted for his advancements of spectroscopy) and Annie Jump Cannon (who developed the Harvard Classification Scheme which organized stars by temperature and spectral type (O, B, A, F, G, K, M) and which remains the standard system today.) The MMO

initially housed a 5” Clark telescope, followed by a 7.5” astrograph which was installed in 1913.

The MMO is of great historical value, and so conservation of the astronomer’s study, the MMO interior (dome and pillar room), and renovation of astronomy director’s office & student work area have recently been pursued. Also of great historical significance is the collection of over 8,000 glass plate photographic images that were taken at MMO, with 2,000 of them being made by the MMO’s first director, Margaret Harwood.

Of the well-known astronomers that visited the MMO, of special note was woman astronomer Cecelia Payne-Gaposchkin. If Jackie doesn’t mind, let me borrow her side notes on her slide of Cecelia.

“Many well-known astronomers visited the MMO in its early days. Many of them with connections to the Harvard Observatory which continued its relationship with the MMO by sending astronomers (researchers) and students to assist at the MMO. British born astronomer/astrophysicist Cecelia Payne Gaposchkin realized she could not advance her career in the UK and came to the US. She became the first person to earn a Ph.D. in astronomy at Radcliffe College – the women’s college of Harvard. Barred from becoming a Harvard Professor because of her gender, she continued her research and was finally given the title “astronomer”.

Her accomplishments are undeniable. Her landmark 1925 doctoral thesis, *Stellar Atmospheres*, determined that stars are composed almost entirely of hydrogen and helium, revolutionizing astrophysics. She connected spectra to the underlying physics of the stellar atomospheres where the spectra are generated. Her work allowed astronomers to connect the characteristics of the spectra they saw in images, to the chemical composition, temperature, and density of the stellar atmospheres where the spectra are generated. She showed that just because you don’t see a spectral feature doesn’t mean the element isn’t present, it just means the temperature and density aren’t conducive to the presence of the spectral line. She later focused on variable stars, stellar evolution, and galactic structure.”

Jackie was especially honored that she was now sitting in the same chair that Cecelia did a century prior to her arrival!

Jackie then turned to the present, where her main themes were: 1) the REU program and undergraduate research, 2) current research, 3) and public education and outreach.

The Research Experiences for Undergraduates (REU) is a National Science Foundation program that supports training for the next generation of scientists. The

MMA REU is one of the longest standing programs in the country, and Jackie's experience with REU has stretched from 2001 to the present. Some of the notable REU projects she has mentored include a "spotted star project" (i.e. sunspots on other stars), and the study of MWC 348 (Mount Wilson Catalog), a newly formed multiple star.

Public outreach (K to Grey) is a topic that CCAS is well acquainted with, and we hope to be able to talk to Jackie in the coming years about effective ways to do this. Jackie has a rich background in outreach, which includes: Lake After Public Observatory, open house nights at the Clyde Tombaugh Observatory at KU and the OU campus observatory, a traveling inflatable planetarium, public talks, planetarium shows, school groups, scout groups, a YWCA LEGO Robotics program, connecting students to PEO through open house nights and events at GCO and the Gettysburg College radio station, nudergraduate research experiences, the Amblebrook 55+ astronomy club, and the NSF Office of Legislative and Public Affairs.

As far as public education and outreach at the MMO, Jackie listed the following efforts: Open nights at Loines Observatory, Vestal Street observatory and astronomer's study tours, integrated work with other MMA programs and development, regular podcasts – The Star Report and The Nature of Nantucket, and astro-tourism opportunities.

Finally, Jackie addressed her last topic, the current research at MMO with their 17" and 24" telescopes. CCAS is familiar with these, as senior member Gary Walker is the telescope engineer for these systems. These are beautiful instruments, and both Gary and Jackie seem very intent on getting them into prime shape for both research and public outreach!

To conclude, we wish Jackie all the best in her new position, hope we can work together with her some as a "near neighbor," and also wish her calm seas as well as clear skies!!

This month's speaker:

May 7th Speaker: Dr. Keaton Bell, CUNY NY

Topic: White Dwarf Asteroseismology

Date: May 7th, 7:30 PM

Place: Both at the DYHS library and on Zoom (speaker will be remote)

BIO: Assistant Professor Keaton Bell is an observational astronomer who studies the structures of white dwarf stars from their vibrations. Dr. Bell earned his PhD at the University of Texas at Austin, where he observed for over 200 nights on the 2.1-meter telescope at McDonald Observatory, and now he mostly works with video data of the entire sky collected by NASA's Transiting Exoplanet Survey Satellite (TESS). Dr. Bell worked as a postdoc at the Max Planck Institute for Solar System Research in Göttingen, Germany, and was an NSF Astronomy and Astrophysics Postdoctoral Fellow at the University of Washington before joining the faculty of the Queens College Physics Department of the City University of New York (CUNY) in 2022.

Abstract: Queens College astronomer Keaton Bell uses video recordings from space telescopes to measure vibrations of dead stars called white dwarfs. White dwarf stars are the glowing hot embers left over when most stars run out of nuclear fuel. Some white dwarfs vibrate spontaneously, revealing resonant frequencies of the stars that can be used to map their interior structures. This presentation will describe the physics of stellar vibrations by analogy with the physics of musical instruments, which Keaton teaches a course on at Queens College. We will discuss the importance of studying white dwarf stars and review how the QC White Dwarf Research Group studies their structures by interpreting video recordings of vibrating white dwarfs. This talk will explain some of the newest breakthroughs in the field of white dwarf asteroseismology.

Note: If anyone is interested in a "popular science" book on how helioseismology and asteroseismology work, along with some interesting history, you might look into "Sunquakes: Probing the interior of the Sun" by J.B. Zirker.

June 5th Speaker: TBD

July 9th Speaker: (delayed one week due to hiloiday) Astrophotography group presentation

August 6th Speaker: Dr. Antony Stark, HSCfA

Topic: "The tensor-scalar relation at the start of the Big Bang."

Directions to Dennis Yarmouth HS and Werner 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 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.

Sea Dog restaurant directions (No longer H&K, which recently closed)

CCAS hosts a dinner gathering for the speaker (if available), members and friends on meeting nights (just before the meeting) at the Sea Dog restaurant at 5:30 - 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 Sea Dog restaurant is located at 23 White's Path in South Yarmouth. Its phone is 508-694-6020. Chris Lynch has called ahead to confirm this new venue (as the H&K no longer has evening dining.)

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! Sometimes there are no dinners when the meeting is fully remote.