



First Light

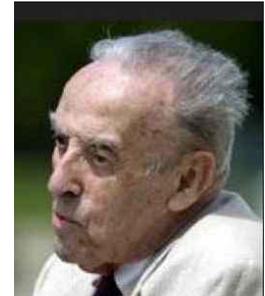
The Newsletter of the Cape Cod Astronomical Society



October, 2014

Vol. 25 No. 10

Schmidt Observatory: 10th Birthday! Werner Schmidt: 100th Birthday!



Werner Schmidt

[from the left: Werner Schmidt, founder; Bernie Young, Director of Research; Mike Swiniarski, founder; Mike Hunter, past Director, and Charlie Burke, VP of CCAS; (Cape Cod Times photo, Sept. 18, 2014; see reference b, page 9 this document.)]

At a gathering at the Werner Schmidt Observatory on September 26th, members and friends of the Cape Cod Astronomical Society, celebrated two significant milestones taking place this year: the 10th anniversary of the opening of our Schmidt Observatory... and the 100th anniversary of the birth of its founder, Werner Schmidt.

Please see the full story beginning on page 6, a brief history of the Observatory and a short biography of Werner including his observations on the conception and completion of the observatory project.

Next Monthly Meeting: is Thursday, October 2nd at 7:30pm: **Dr. Michael J. West, Director of the Maria Mitchell Observatory** on Nantucket Island, will tell us something about the observatory and ongoing activities. Public welcome.

Reminder: The next "Quarter Moon Saturday" Star Party takes place at the Dome on October 4th, 7:30pm. Public welcome.

In this issue: Two special Anniversaries / *four* new members / Good progress on dues / Enthusiastic Visitor / *Two* eclipses this month / Orionid Meteor Shower / Comet meets Mars / Special Occultation coming 10/17 / Starry Nights / History of the Observatory / Celebrating Werner Schmidt /

Bright New Stars:

We are pleased to welcome *four* new members to membership in CCAS this issue; both joined us in September.

Howard Pollack of Yarmouth Port is an octogenarian with a background in engineering and physics. He views the sky with his 7x42 binoculars. He is interested in learning some astrophysics and in meeting people who share this interest. Thank you, Howard, for your open-ended offer to “be helpful”. Welcome aboard!

Dr. Jim Lynch and his wife Christine of East Falmouth also joined us in September. Lynch is a working scientist at WHOI, a Journal Editor, and an experienced amateur astronomer who lives year round at the Cape. He is interested in astrophotography and “showing various physics effects with amateur gear.” Still working, Lynch points out that his time is limited until he retires in a few years but “I can probably help with some Society functions.” We look forward to that, Lynches; welcome to CCAS!

Finally we welcome Antonia C. Porcari of Chatham to our society. Antonia sent us her address and such but did not yet volunteer other information. Antonia, please send a bit more about yourself: background, interests etc., to info@ccas.ws. Welcome to CCAS!

We like to profile new members in our Society in this section of *First Light* each month. If you are a new member and have not yet been so recognized, or might have new information for us (background, astro equipment preferred, interests, etc.) on yourself or someone else, please let us know (email info@ccas.ws).

PLEASE CONSIDER SUBMITTING AN ITEM OR ARTICLE FOR PUBLICATION IN *FIRST LIGHT*.

CCAS News Items and Current Events:

Dues:

Many thanks to the 35 members, new and old, who have recently paid dues for the 2014 – 2015 cycle. We look forward to *all* active members getting up-to-date in the next few months.

Please bring your check to the October 2nd meeting or mail to: CCAS, 34 Ridgewood Rd., Orleans, MA 02653. Thank you.

We have yet to find a member to serve as CCAS President since the end of Mike Hunter’s term, which occurred June 30. If you know of anyone who might consider serving, please let one of the current officers know.

CCAS Meetings:

Many thanks to **Dr. Colin Bishchoff**, researcher from the Harvard-Smithsonian Center for Astrophysics, who returned to us on September 2.nd On that date he gave "Part II" on the work coming out of the South Pole site studying Cosmic Background radiation (CMB). Colin spoke on "**Observing the Origin of the Universe from the South Pole**" including more tidbits about what it’s like conducting astronomy research in Antarctica.

BICEP2 is a microwave telescope designed to search for evidence that the universe underwent a burst of inflationary growth at the time of the Big Bang. After observing for three years from the South Pole, they have detected a swirling pattern in the polarization of the Cosmic Microwave Background that might provide confirmation for this theory.

Colin enjoyed explaining to us how the results of their work may confirm the observation of “B mode” polarization in the CMB. Observation of “B mode” polarization will strongly support the “Inflation” theory about the earliest stages of the formation of the universe.

But, astute scientist that he is, he cautioned us that more work is needed to be sure their observations were not affected by anomalous factors which could invalidate the current conclusions.

Indeed, an article in the Cape Cod Times (Sept. 23, 2014; page A4) from the NY Times notes that a recent paper (published in the Journal Astronomy and Astrophysics authored by scientists of the Astrophysical Institute of Paris and others) makes the point that there is even more dust than previously thought possibly interfering with BICEP2 observations. This might cast some doubt on the complete validity of BICEP2 indications supporting cosmic inflation.

This is a concern Colin was careful to note in his presentation. All of this is “good” science and the efforts will continue on both sides until even stronger conclusions can be drawn.

We are pleased to announce that **Dr. Michael J. West**, **Director of the Maria Mitchell Observatory** on Nantucket Island, will speak at our **October 2nd meeting**. Welcome to Dr. West. We look forward to learning more about the Nantucket observatory and work going on there.

We are also pleased to announce that Professor **Larry Marschall**, gradually retiring Professor Emeritus of Astronomy at Gettysburg College in Pennsylvania will return to us on November 6th to speak on “**Gems of the Ringed Planet: New Views of Saturn and its Moons**”.

Professor Marschall sent us this abstract:
Ten years ago, an unmanned space probe, NASA’s Cassini mission, arrived at the planet Saturn, opening up a new era

in the exploration of the ringed planet. Still sending back spectacular pictures and data, Cassini has opened our eyes to storms on Saturn, weird patterns in its rings, odd moons, one which resembles a walnut, another that resembles a sponge, and another with active geysers of ice. Most remarkably, it has given us our first detailed look below the clouds of the mysterious moon Titan, which turns out to resemble our Earth in some surprising and remarkable ways. We'll illustrate how much we've learned in the past decade with striking images and videos of planet, moons, and rings from the Cassini spacecraft.

Effort continues to find a speaker and topic for our meetings for December and thereafter.

Members, *PLEASE* participate in the effort to recruit good speakers to present programs in astronomy and related sciences at our meetings. Please send any ideas or contact information to Charlie, Gus, or Peter or to info@ccas.ws. For sure we will follow up.

Please let us know if you have any leads...

or, even better, volunteer to give a talk yourself!

Minutes:

The minutes of our September meeting are on our website; click on the "Minutes" button at www.ccas.ws or go to <http://www.ccas.ws/minutes/ccasminutes090414.pdf>

From the Dome:

Once-a-month "Quarter Moon Saturday" Star Parties

continue this month. Each event begins at 7:30pm. These events are usually held on a Saturday closest to the date of the First Quarter Moon. All events are open to the public. Here is the schedule:

Schedule for Monthly Quarter Moon Saturday Star Parties for 2014-2015:

<u>1st QTR Moon Date</u>	<u>Star Party Saturday</u>
1-Oct-14	4-Oct-14
30-Oct-14	1-Nov-14
29-Nov-14	29-Nov-14
28-Dec-14	27-Dec-14
26-Jan-15	24-Jan-15
25-Feb-15	21-Feb-15
27-Mar-15	28-Mar-15
25-Apr-15	25-Apr-15
25-May-15	23-May-15
24-Jun-15	20-Jun-15

As always, "Private" group or individual observing sessions at the Werner Schmidt Observatory may be scheduled by contacting Observatory Director Joel Burnett at Joelburnett@comcast.net or sending an email to info@ccas.ws

Our Society exists to promote observing! Help us promote this objective by asking for time at the Dome! CCAS has both 8" and 14" Dobsonian telescopes for loan to members. If you wish to borrow one of these 'scopes, contact info@ccas.ws

Enthusiastic Visitor:

Those of you who were at the excellent presentation by Colin Bischoff on Cosmic Microwave Radiation may remember comments and questions by one British visitor: Rupert (Roo) Powell from the York (England) Astronomical Society. Roo sent the following info to us:

Comments on his experience here:

"I just thought I would drop you a line to say what a great evening I had at the meeting last night. I would also like to thank you for making me feel so welcome.

"The speaker, who I got to have a chat with later on in your fabulous obs, was very good indeed. A proper science-based talk without the patronizing dumbing-down you often can get these days. A really nice guy and a deeply fascinating subject.

"I look forward to receiving your newsletter and will circulate it to our members over in York. I will also send you guys ours so you can see what we are up to.

"Looking forward to my next vacation on the cape and I will be sure to come and see you all again if I do."

Rupert provided the following links to their newsletter, the city of York, and their observatory:

- Newsletter, "Algo!":
<https://www.dropbox.com/s/md8bwu03th1ycf6/Algo!%2083%20Colour%20web%20version.pdf?dl=0>

[FL comment: If you look at their newsletter, it is clear York is a *great* place for observing Aurora Borealis!]

- on the City of York:
(<http://www.visityork.org/>),
 - on their observatory:
(<http://www.historyofyork.org.uk/themes/victorian/the-york-observatory>)
-

October Observing:

Please see resources in October's *Astronomy Magazine*, pp 36-43, and *Sky and Telescope*, pp 43-60, and Reference 5

for good guides to the October sky. See p 41 in *Astronomy*, and p 54 in the *S&T* and also reference 6 for positions of the moons of Jupiter for October. Details for the red spot of Jupiter and special phenomena of its moons for October can also be found on p 54 of the *S&T*.

Here are observing highlights for October at Cape Cod:

TWO SPECIAL ECLIPSES TAKE PLACE THIS MONTH!

- Get up just a little bit early on Wednesday, October 8th. You'll find a spectacle in the west. The large (near perigee) moon will be full before dawn on October 8th when **the earth's shadow begins to creep across it beginning at 5:15am EDT, 90 minutes before sunrise at Cape Cod (6:45am.)** Since it takes about 90 minutes for a total eclipse of the moon to progress from the beginning of totality to totality, for us at the Cape, the rising of the sun behind us will take place about the time eclipsing is complete. Enjoy! (More info in articles in the October issue of *S&T*, p50, and *Astronomy*, p54.)
- Set your smartphone alarm for 5:30pm on Thursday, October 23rd. This one doesn't require getting up with the chickens. Cape Codders will be able to **see the moon take just a small nibble out of the sun** before it sets for us at 5:48pm, EDT. In fact, the moon will cover nearly 40% of the sun by about 6:45pm that evening but, unfortunately, as far east as we are, at best we will only see the first nibble before sunset.

So, very little effort to try to observe the nibble, very little nibble if we can see it at all. But worth a look for sure from 5:30pm until after sunset.

(About that look: looking at the sun can permanently damage your eyes. So use either the "pinhole projection onto a piece of paper" technique, look through welders glasses if trying "naked eye", or if you use binoculars or telescope, have them properly filtered for sun viewing. More information on safe techniques for viewing the sun in articles in the October issue of *S&T*, p52, and *Astronomy*, p54 and online references contained therein.)

MAYBE JOEL OR BERNIE WILL OPEN UP THE SCHMIDT OBSERVATORY TO OBSERVE OUR "NIBBLE" WITH OUR SOLAR TELESCOPE! Bernie or Joel, if you or another Observatory Staff member decide to do this, please let your editor know and he will send out a special email announcement to CCAS members. Thanks.

Mooncusser's Almanac and Monthly Alert¹ OCTOBER 2014			
Object	OCT. 1 (EDT)	OCT. 15 (EDT)	OCT. 31 (EDT)
Sun	R: 06:38 S: 18:22	06:53 17:59	07:12 17:36
Moon	R: 13:46 S: 23:34	23:40 13:41	13:58 00:42
Mercury (sun/predawn)	R: 08:45 S: 18:59	07:08 17:54	05:34 16:59
Venus (near sun)	R: 06:05 S: 18:14	06:39 17:58	07:19 17:44
Mars (evening)	R: 12:08 S: 21:13	12:01 20:57	11:51 20:45
Jupiter (predawn)	R: 02:08 S: 16:18	01:24 15:29	00:32 14:32
Saturn (early evening)	R: 10:08 S: 20:18	09:20 19:27	08:26 18:29
Uranus (most of night)	R: 18:32 S: 07:15	17:35 06:17	16:31 05:11
Neptune (most of night)	R: 17:01 S: 03:54	16:05 02:58	15:02 01:54
Pluto (evening)	R: 13:59 S: 23:31	13:05 22:36	12:03 21:34

- The always reliable and long lasting **Orionid meteor shower** takes place over the period October 2nd thru November 7th this year. So *anytime you are out under a clear dark sky over the next month, look up and see what you can see!* Peak night for the Orionids this year is after midnight on Tuesday, October 21st. This year should permit seeing most of the expected peak rates of 25/hour since there is essentially no moon to interfere. Two nights either side of peak night should also be rewarding.
- Mag 10.1 **Comet Siding Spring (C/2013 A1)** passes within 1' of **Mars** on Sunday, October 19th. The pair are only 20° above the western horizon at sunset on the 19th (5:53pm) so don't dawdle. The pairing will set just a bit before 9pm. Watch the approach and departure from this "close encounter" for days preceding and following 10/19.
- **Planets:** Continue to check out **Saturn** and its moons and **Mars** in the evening. The season for them ends pretty soon. Study **Jupiter** and its moons if you get up to observe before sunrise. And, as was true in September, both mag 7.9 **Neptune** and mag 5.7 **Uranus** are still well placed for viewing with binoculars or a telescope in the evening sky during October.

Occultation by 439 Ohio on October 17th:

(from Bernie Young)

The main belt asteroid 439 Ohio will occult an 11.4 magnitude star in Pegasus (TYC 0571 00956-1) at 3:27 UTC on Saturday October 18 (11:27 pm EDT on Friday October 17). We are only 1 mile from the center of the path which crosses Cape Cod and West Palm Beach but is otherwise over the ocean. The event should last 7 seconds allowing for a timed exposure.

A faint star like this will be a challenge, so I will be checking out the pointing accuracy of the telescope and minimum exposure time starting October 7th. Anyone wanting to participate in the planning or observation of this event can contact me at bjyoung716@yahoo.com.

Light Pollution Ruining Starry Nights

We are pleased to repeat here a letter to the Editor of the *Cape Cod Chronicle* weekly newspaper which appeared September 4th, 2014:

Editor:

I'm not sure if it's our summer visitors or new year-rounders, but just to let you know, we got rid of the "boogey man" a long time ago. It seems more houses have more and more outside lights, and some are left on all night.

One of the beautiful things about this time of year is the night sky! Stars, the moon, half or full. Not only are you affecting maybe the person across from you or behind you, but you may be missing out on a great Cape Cod night.

Mike T Fortman, North Chatham.

[You said that about as well as it can be said, Mr. Fortman; please consider yourself invited to any of our meetings or Star Parties. Check out <http://www.ccas.ws/>!]

Minima of Algol^{1,3}, October:

Algol, a variable double star in Perseus, shines normally at mag 2.1 but once every 2.87 days dims to mag 3.4. The dimming is caused by the dimmer of two self-orbiting stars eclipsing the brighter as viewed from earth.

There are two evening occurrences of the Minima of Algol at Cape Cod during October: Monday, October 13th, at 9:25pm (prime time!) and Thursday, October 16th, at 6:14pm. Because sunset this night is at about 6pm, only the brightening part will be visible.

Using binoculars or a small telescope, try to begin viewing two to three hours before the minima to watch the dimming and up to two to three hours after the minima to watch the brightening.

Declination Tables for the Moon² during this month please contact your editor for information or sources.

Moon Phases, October, 2014

First QTR Wednesday, October 1st at 3:33pm EDT

Full Moon, Wednesday, October 8th at 6:51am EDT

NOTE: TOTAL ECLIPSE OF THE MOON AT 6:25AM

Last QTR Wednesday, October 15th at 3:12pm EDT

New Moon Thursday, October 23rd at 5:57pm EDT

**A PORTION OF THIS PAGE IS
INTENTIONALLY LEFT BLANK TO REMIND
ALL MEMBERS THAT THERE IS ALWAYS
PLENTY OF ROOM IN *FIRST LIGHT* FOR
YOUR CONTRIBUTIONS.**

Schmidt Observatory: 10th Birthday!

Werner Schmidt: 100th Birthday!

At a gathering at the Werner Schmidt Observatory on September 26th, members and friends of the Cape Cod Astronomical Society, celebrated two significant milestones taking place this year: the 10th anniversary of the opening of our Schmidt Observatory... and the 100th anniversary of the birth of its founder, Werner Schmidt.



Party Time! [Thanks, Hank Ricci, CCAS member, for the photo!]



[Wicked Local photo by Conor Powers-Smith (ref d below)]



Christine Legere of the Cape Cod Times interviewing Werner Schmidt and colleagues in the "lower room" at the Schmidt Observatory (Sept, 2014) [photo by CCAS VP Charles Burke]

History of the Werner Schmidt Observatory^a

[Please see the references on page 9 for sources used in this article]

- The Werner Schmidt Observatory was first conceived in the late 1980's
- Construction began in the fall of 2003.
- The Observatory was dedicated on April 30, 2004.

The Werner Schmidt Observatory is located on the campus of the Dennis-Yarmouth Regional High School in South Yarmouth, Massachusetts. It includes a 12.5-foot Ash Dome, a 16-inch Meade LX200 GPS telescope, an Obsession Classic 18" f/4.5 Dobsonian telescope, a 14" Dob (mirror ground by Werner Schmidt and colleagues well before the Observatory was built,) an 8" Schmidt-Cassegrain telescope, an 8" Dob, a 6" Ritchey-Cretien telescope on a Losmondy mount, a 6" Meade LightSwitch 'scope, two Solar hydrogen alpha telescopes –(a SolarMax II 60mm, and Lunt LS100T); an SBIG ST-8XE CCD camera, a MallinCam color video camera, a Stellacam STV video camera, software, recording devices, a 47" LCD TV, many miscellaneous pieces of equipment, and various computers with internet access. The hi-def flat-screen TV is used for viewing stored still and video images from past observations and projects.

Our observatory adds an important dimension to science education on Cape Cod and contributes real and valuable data to the astronomical community.

The idea to build an observatory on Cape Cod goes back to 1986, at the return of Comet Halley... when several amateur astronomers came together to form the Cape Cod Astronomical Society. In those early days the society built a 14.25-inch f/4.25 Serrier truss telescope to be shared by the members. The building of this 'scope included grinding its main mirror. Over the years it traveled back and forth among the towns on the Cape serving to profile the sky for students at several schools in the area, and visitors from Nickerson State Park, the Cape Cod Museum of Natural History, and the National Seashore.



Time for a Star Party!



Dedication of the Werner Schmidt Observatory, April 30.2004

It wasn't until 1989, however, that the idea to build an observatory acquired firm footing with the establishment of the Cape Cod Astronomical Foundation, a 501(c)(3) tax-deductible organization. Five trustees from the CCAS were elected to raise funds, and upon completion, manage the observatory. The original five included Jim Carlson, Scott Kennedy, Lili Seely and Charles Weidman. Lili served as chairperson for many years and Charles Weidman, a tax lawyer, drew up the Foundation's articles of establishment. The Foundation's current members govern and support activities and facilities at the Dome to this day.

During the first decade the fund raising went slowly, but the Foundation met weekly without fail to discuss plans and organize a full-scale effort. However, it wasn't until Werner Schmidt assumed chairmanship of the CCAF that the plans came to fruition. Werner asked the chairman of the science department at the Dennis-Yarmouth Regional High School, Owen Graf, whether the school would be interested in having a state-of-the-art observatory built at the school. The answer was made in the affirmative and the result is the building you see today. Another key contributor was Kelvin Parkinson. Kel entered the game about the time fund raising had achieved its goal; he provided key service in overseeing nearly all phases of construction from hiring an architect to obtaining permits.

Astronomy is an observational science. Its primary goal is to collect, catalog, and interpret data in a systematic manner. Much of it involves big science projects costing tens of millions of dollars annually, yet few realize that much of the most significant research arrives nearly free of charge. Given the enormous number of astronomical objects that require long-term study, and the limited number of professional observatories available to pursue them, dedicated amateurs routinely contribute valuable data to many areas of basic research.

Through programs that often involve the advisory efforts of many observers, at a facility like the Schmidt, students can record the activity of variable stars, the behavior of the Sun's magnetic cycle, the positions of comets and supernova, and measurements of objects that lie in the asteroid belt or travel near the Earth. Led by Bernie Young, the current Research Director at The Schmidt,

students and others have recently been participating in observations of the moon and certain asteroids occulting (moving in front of) distant stars and observing prominences and other phenomena at the sun in daylight hours using our solar scopes.

As with many advances in recent years, some of the most important involve electronics. Using a camera called a charge-coupled device, or CCD, images can be recorded through the telescope, analyzed on a personal computer, and stored on a hard drive for later retrieval. Such images can be viewed live or from storage on the 47" TV in the lower room of the observatory.

Over the course of several months, for example, while one group of students monitors a supernova as it brightens and fades, another group can study the appearance of a comet, or record the light curve of a variable star, continuing the work of students who have graduated and gone on to college.

The Minor Planet Center (MPC) at the Harvard-Smithsonian Center for Astrophysics in Cambridge has awarded the Werner Schmidt Observatory the observatory code I06 (eye zero six). This was done when Jim Carlson was Director in recognition of the work the observatory did in measuring the positions of main belt and near Earth asteroids. The latter are those which cross the plane of the Earth's orbit and have the potential to strike the planet; clearly they must be tracked.

The Werner Schmidt Observatory was dedicated and turned over to the Dennis-Yarmouth Regional High School on April 30th, 2004. The high school manages the site and the utilities; astronomy resources inside are owned by and managed by the Cape Cod Astronomical Foundation.

Regularly scheduled and specially arranged Star Parties at The Schmidt provide continuous outreach to students and the citizens of Cape Cod providing opportunity to enjoy the night sky and learn about the wonders of our universe.

... a Little Bit About (and from) Werner Schmidt...

[Again, please see references on page 9 for key sources to the information assembled here.]

No one would argue with Werner being counted as the Principal Founder of our Observatory. He has been a key provider of both tangible (think \$\$) and intangible support both in the creation of the Observatory and in its continuing evolution.

From Mike Hunter: "Werner was born on September 24, 1914. He is an original member and the leading force of the Cape Cod Astronomical Foundation; Werner is also one of the Foundation's leading benefactors. As Chairman of the Foundation's Board of Trustees, Werner guided the planning, funding, and construction of the observatory; he continues to guide its operation. It was for good reason that the Foundation named the observatory the Werner Schmidt Observatory."

Some biographical information on Werner was provided in an excellent WickedLocal online article by Conor Smith-Powers (reference d below; direct quotes from article are shown in italics.)

Schmidt was born in Germany, and moved to the US with his family at the age of 15. He graduated Tufts University in 1936—where he taught a class during his senior year, in exchange for room and board—then went to work as a chemical engineer for Lever Brothers. His career took him on frequent trips to England and Holland, and he has traveled extensively outside of work, visiting Spain, Switzerland, and, on a memorable photo safari, Africa.

It was partly his love of photography, including the technical side of the process, that led Schmidt to astronomy, which he did not become seriously interested in until after his retirement in 1976. "I always used to be interested in optics, photography," he said. "And then, the next thing, you catch yourself looking at the moon," he said.

A frequent visitor to the Cape while living and working in New Jersey, Schmidt moved to Yarmouth following his retirement. "We used to come here on a vacation basis, and it looked interesting, so we went and did it." Like many wash-ashores before and since, Schmidt had to disabuse himself of some widely held assumptions. "Part of the attraction is that you're moving here with the belief that it never snows," he said. "That's just a plain lie."

Although Schmidt did not come to astronomy until a stage that would, for most people, be considered relatively late in life, one of his major motivations for building the observatory was to get young people interested in the field, and in science in general. "His big dream was to have children using it," said [Sandy] Cashen [administrator at DY High School]. "He wanted it in his town, for the students here to use it." [Smith-Powers goes on to note that a key to getting high schoolers interested in the night sky and amateur astronomy was the advent just this past year of offering daylight viewing of the sun to students during classroom hours using special scopes suitable for viewing the sun.]

Werner gave us other glimpses of his past and involvement with amateur astronomy in an interview (see photo above) with Christine Legere^b, which led to her article of September 18th, 2014 in the Cape Cod Times. Much of the following is extracted from that article including Werner's views of various stages of the Observatory project. Direct quotations from Christine's article are noted in italics following.

Schmidt has enjoyed several hobbies during his life, including ham radio operation, photography and tinkering with just about any kind of mechanical gadget. He didn't become interested in astronomy until he moved to the Cape with his wife, Martha, after a 40-year career as a chemical engineer for Lever Brothers.

"I drifted into astronomy once I retired," Schmidt said. Not one to start small, he began by constructing his own telescope, which boasted a lens 5 inches in diameter. "I even ground my own mirrors, which was a very tedious job, but it kept me out of the local bars," he said with a chuckle.

Schmidt joined the Cape Cod Astronomy Society in the late 1980s, at about the same time Ed Swiniarski signed on. The pair, at one point, built a telescope with a lens 14 inches in diameter from scratch, which is one of several stored in the observatory and available for stargazing. [This telescope, the 14" Dobsonian noted at the beginning of this story.]

"When I joined the society, we had a few portable telescopes, and we'd have star parties at various locations," Schmidt said. "Then we decided we wanted an observatory."

"The initial plan called for a sliding roof model to be built at a location in Brewster, but that proposal fell through."

"We kept looking and then we found a scale model with a rotating dome like this observatory just outside Boston, and we decided it was just the thing we wanted," Schmidt said.

"Plans were drawn up and the Dennis-Yarmouth school district enthusiastically partnered with the society, allowing the observatory to be built behind the high school."

"It took us two years to raise the money [\$140,000]," Schmidt said. "Then another two years to construct the building."

Students from Cape Cod Regional Technical High School in Harwich saved the group about \$20,000 by handling a great deal of the construction work.

Schmidt remains an active member of the astronomical society, and continues as chairman of the Cape Cod Astronomical Foundation, which meets once a month at his home and handles the administration and financial aspects of the Observatory for CCAS.

SOURCES:

Sources of information for this article include the following: a history of the observatory^a written by Jim Carlson, former Director, the invitation to our September 26th party written by Mike Hunter, former Director, the excellent Cape Cod Times article^b written by Christine Legere of the Times and published in print on September 18th, 2014, a presentation on the History of the Observatory presented at a meeting of CCAS in April, 2009, by Bill Boyd, one of the founders of CCAS and a key driving force and organizer for the observatory project,^c an online WickedLocal article by Conor Smith-Powers, Sept. 25, 2014,^d and the main editorial published in the Cape Cod Times on September 25th, "Eyes on the Skies", about the observatory and Werner's vision for same.^e

a) http://www.ccas.ws/cape_cod_observatory.htm

b) <http://www.capecodonline.com/apps/pbcs.dll/article?AID=/20140918/NEWS/409180319/0/SEARCH>

c) Please contact Peter Kurtz, editor of *First Light*, for notes and slides from Bill's presentation.

d) <http://capecod.wickedlocal.com/article/20140925/NEWS/140928170>

e) <http://www.capecodonline.com/apps/pbcs.dll/article?AID=/20140925/OPINION01/409240304/0/>

**THANK YOU, WERNER SCHIMIDT, FOR THE
VISION, ENERGY AND SUPPORT YOU HAVE
GIVEN TO CAPE COD ASTRONOMERS.**

**"CLEAR SKIES" TO YOU AS YOU BEGIN YOUR
SECOND CENTURY!**

Cape Cod Astronomical Society

President	Position is Open	
Vice President	Charles Burke	508-394-9128
Secretary	Gus Romano	781-924-4770
Treasurer	Peter Kurtz	508-255-0415
Observatory Director	Joel Burnett	508-221-7380
<i>First Light</i> Editor	Peter Kurtz	508-255-0415

Mailing Address: A. P. Kurtz, CCAS Treasurer, 34 Ridgewood Rd,
Orleans MA 02653

Cape Cod Astronomical Foundation

Chairman	Werner Schmidt	508-362-9301
Vice Chairman	Michael Hunter	508-385-9846
Director of R&D	Bernie Young	508-394-1960
Secretary	Ed Swiniarski	508-896-5973
Treasurer	Pio Petrocchi	508-362-1213
Observatory Director	Joel Burnett	508-221-7380
Observatory Phone Line		508-398-4765

The **Cape Cod Astronomical Society** meets at 7:30 pm on the first Thursday of every month in the library of the Dennis-Yarmouth Regional High School in Yarmouth, Massachusetts. Meetings are open to the public. Membership dues are \$30 for adults, \$15 for students in two year colleges and part year residents, and no charge for spouses or for students in K-12 schools.

REFERENCES AND NOTES FOR THIS ISSUE:

- 1) Information for The Mooncussers Almanac and Monthly Observing Alerts was extracted from Sky Events, Astronomy Magazine Online (Astronomy.com), Stargazing.net's Planet Rise/Transit/Set calculator (<http://www.stargazing.net/mas/planet2.htm>), *Astronomy Magazine*, *Sky & Telescope Magazine*, *Sky and Telescope Skywatch 2011*, and other sources. The *Observer's Handbook, 2010 and 2011*, published by The Royal Astronomical Society of Canada is also an important reference, particularly for information on lunar libration and declination and the minima of Algol.
- 2) Information on how Libration and Declination Maxima and Minima can make visible parts of the moon normally hidden was reviewed in the January2007-January2008 *First Light*. Quick recap: Max Long brings to view extra right side; Min Long, extra left side; Max Lat, extra north side; Min Lat, extra south side. Max Dec puts it high in our sky during its transit; Min Dec puts it low.
- 3) Algol is an eclipsing variable star in Perseus which has its brighter component eclipsed or covered by its companion once every 2.87 earth days. When the dimmer component is not eclipsing the brighter, Algol appears typically about magnitude 2.1; when eclipsed, magnitude 3.3 The minima usually lasts about two hours with two hours on either side to bring it back to mag 2.1. Good comparison stars are γ -Andromedae to Algol's west, mag 2.1, and ϵ -Persei to its east, mag 2.9.
- 5) Here is the web address for Astronomy Magazine's "The Sky This Month" online for October: <http://www.astronomy.com/magazine/sky-this-month/2014/08/a-double-dose-of-eclipses> See also S&T resources online at <http://www.skyandtelescope.com/>
- 6) S&T's interactive Java utility for showing the positions of Jupiter's main moons for any date and time: <http://www.skyandtelescope.com/observing/objects/planets/3307071.html> :
for Saturn's moons: <http://www.skyandtelescope.com/observing/objects/planets/3308506.html>