

# NOVAC

THE NEWSLETTER OF THE NORTHERN VIRGINIA ASTRONOMY CLUB

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## President's Column

**Brenda Clements Jones**

*44 Lines About 88 Children*

Sunday night, October 6th had me waiting to hear from Jerry Wolczanski. He has a well earned reputation throughout the local

elementary science community for what he calls his "dog and pony shows". He is often asked to bring his telescopes out to show the kids the night sky. Early in the summer he had been asked to come to Camp Highroad for the

evening of October 10, and that night was fast approaching. Unfortunately, Jerry's employer was sending him on a trip to some far off country leaving him unable to attend the star

# Official Notice

The Annual Meeting of the Northern Virginia Astronomy Club (NOVAC) will be held on January 7, 1997 at 7:30 P.M. EST, at the Arlington Planetarium, 1426 North Quincy St., Arlington VA.

## DARK SKIES AT CABIN JOHN

**Ron Ferris**

Who would have thought that you could find crystal clear night skies at Cabin John? Those who have ever been there know that it's a common occurrence. No, I'm not crazy and no, I'm not referring to the light polluted Cabin John Bridge, a.k.a. the American Legion Bridge, where the best fun you could hope for is to have no

traffic on the road. I'm referring to a friend's very neat and remote get-away place in the hills of wild and woolly West Virginia. Near the top of one of the mountains near the Lost

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## Upcoming NOVAC Meetings at the Arlington Planetarium

### Nov. 20, 1996

◆NOVAC's own Brent Archinal of the U.S. Naval Observatory giving a presentation on Star Clusters.

### Dec. 18, 1996

◆Presentation by Steve Smith of the Arlington Planetarium reviewing the proposed Northern Virginia Science Center and the planetarium's "Tis the Season" show.

◆Election of Officers and Trustees

# Through Beginner's Eyes Stephen Blake

I'm a re-beginner, someone getting back into amateur astronomy after a 30-year break. I have a new 8" f/6 Celestron Star Hopper, a few lenses (15 mm, 26 mm, and a 2x barlow), some ancient charts, and a backyard observing site smack in the middle of the red splotch on the NOVAC light pollution chart that is Rockville.

Inspired by Brenda's request for articles by and for beginners, I thought I would submit my first impressions of some famous and not so famous Messier objects. In trying to work my way through the Messier list, I have consulted a fair number of books including Burnam's three-volume masterpiece, Clark's *Visual Astronomy of the Deep Sky*, Harrington's *Touring the Universe Through Binoculars*, and recent issues of *Sky and Telescope*. These all make for great reading and provide excellent tips and advice. But in going through those publications, it seemed to me that the authors often had much better scopes, lived in much better locations, and had much better vision, vision honed by years of observing. I wondered what I, a relative novice living in a major suburb, could see. Well, quite a lot actually as you will see from the comments below. And I think I am getting better at this -- both the finding and the viewing as I work my way through Messier's list.

Comments/suggestions from other NOVAC members are more than welcome. I can be reached via e-mail at SCBlake@aol.com Clear skies!

Messier Log

96/08/18

M13

Large globular cluster that is very easy to find along the western side of the Hercules key-stone. Pretty bright, but the brightness is spread out over a large area making it less impressive than I expected it to be. Looked granular, but hard to confirm that in my light-polluted yard. A couple of bright stars in the field make it a nice view.

M57

The Ring Nebula, small but bright planetary nebula in Lyra. Really is small, less than a minute across, but it is easy to see the hole in the middle. Like M13, easy to find if you realize how little an item you are looking for. Just line the Telrad up on the center line of the two stars at the base of Lyra and it should be in a low power, 49x field. Comparing my view to pictures in magazines and books makes me ask -- what power are those photos anyway? A grand?

96/08/31

M92

Finally! I tried at least twice this month to locate this globular cluster in Hercules, both times without success. Must have been because I was not looking far enough North. Anyway, this one is worth waiting for. It has a bright center with a lighter ring around the center. Three reasonably bright stars form a line lead-

ing you to it. From my yard, this is more impressive than M13, perhaps because its center is brighter. Heresy!

M27

LARGE planetary nebula in Vulpecula. Called the "Dumbbell Nebula," it looks more rectangular to me. The darker the skies, the better for this one. This 8/21 observation took place after the almost full moon had risen, washing out much of the nebula. I did see it earlier in the month, when there was no moon. Then it was very impressive. This time (and on 9/1) I had trouble even finding it. Then again, the skies were so poor it was hard to see Alberio through the Telrad! Helps to know how big this is before you go looking for it.

96/09/01

M29

Open cluster in Cygnus that is only a couple of degrees away from Gamma Cygni at the center of the cross-bar. You really have to know what you are looking for to find this cluster since it is small and in a crowded area. In fact, I can't figure out why Messier included this one. It is small, 7' say the guides, and consists of only a dozen or so bright stars. Even then, the stars are not that bright. They have a nice shape though, a small rectangle with legs off some of the stars. One thing I am beginning to realize -- photos of open clusters are a big help in confirming that you found what you are looking for. That seems to especially true in the Milky Way area where several clumps of stars fill the field. In contrast to open clusters, globular clusters are easy to identify. I have not found a place yet where there are two in one field.

M11

Wow! This is a gem, even from my yard. I found it in Scutum just above the trees. A faint but dense collection of stars that just sparkles. It is small, but really beautiful with some dark lanes apparent. A bright star at one edge of the wedge makes it look like jewelry. Higher power, 15mm, cuts through the light pollution and makes this one larger and sparklier. A showpiece.

96/09/14

M15

A very easy to find globular just a few degrees northwest of Epsilon Pegasus. Like other globulars, it shows well when there are others stars in the field. I thought it interesting that the brightness seems to increase uniformly as you look closer to the center of the cluster. That differs from M92, where the brightness jumps up at the center, and from M13, that seems to be remarkably uniform. Anyway, it was nice to find this cluster after failing to locate M56 in Lyra (again!) and not being sure that I saw the "coat hanger" in Vulpecula.

(BTW, great first view of the year of Saturn as it rose over the trees. I saw at least four moons, two very close together, but S&T, for some reason, is not starting its Saturn moonchart until October. Easy to see bands both north and

south, and the rings looked like a tight line. Pretty nice at all powers.)

96/09/16

M4

Finally I get the Dob out to a dark sky site, Savage farm. A beautiful night -- must be Mag 6 skies since I can clearly see the Milky Way straight overhead. Low in the South West is Scorpio, with Antares perhaps 15 degrees above the horizon. Got to run to catch some Messiers there!

M4 is a strange globular tonight. Reasonably bright, but looks more like a diffuse nebula than a globular cluster. Is it because I am seeing it so close to the ground? It is very easy to find, just 1 1/2 degrees west of Antares. Too hard to say if it is resolvable. BTW, a tip for beginners would be to start with objects close to bright stars. Helps build confidence that you can actually find things.

M80

A small and bright globular, half way between Beta Scorpio (a nice double in its own right) and Antares. A fair number of stars in the field make it a pretty sight. Starhopping note: the Telrad is working very well tonight. I tightened it up so it does not move, and lined it up so what you see is what you get. With all the stars in the sky, it is pretty easy to find and line up on guide stars. This is a lot different from the sky from my back yard which has large blank spots. Hard to hop if you can't find a nearby star!

M22

Wow! My favorite GC so far. It is bright, large, very mottled with much of it resolvable. Even more remarkable, tonight Jupiter and its moons are 1/2 a degree away! A spectacular pairing, especially in Sagittarius where lots of other stars fill the field. I bet they both are hard to photograph since Jupiter is so much brighter than M22. You have to push the planet out of the field to see the cluster at its best. Increasing the power shows lanes extending away from the cluster and breaks up the stars close to the center. Another attraction is that it has a few bright stars; it is not entirely filled with stars of the same magnitude.

M28

Another Sagittarius globular close to the top star of the teapot. Small and bright. Nothing special although there is a lot of the milky way out this way.

M8

This diffuse nebula, the Lagoon, is really spectacular from Savage. The nebulosity of the lagoon is very big, extending through much of the field towards the star cluster. The night is dark enough that I can see this naked eye. Lots of texture in the nebula. Seems to be lit up by the cluster. It does not take much imagination to make seeing this object live seem very much like seeing the photos. And with an 8"!

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# Hidden Hollow '96

## Robert Bunge

Cathy and I arrived at the hotel near Mansfield, Ohio, about eight hours after leaving our Bowie home, Friday October 4. We had come to Mansfield, about half way between Columbus and Cleveland for the Hidden Hollow '96 star party.

Hidden Hollow is sponsored by the Richland Astronomical Society (RAS), a small club that also maintains the 31-inch f/7 newtonian telescope at Warren Rupp Observatory (WRO), located on the grounds of Hidden Hollow, a day camp operated by Friendly House, a Mansfield non-profit group.

For me, this star party is very much a homecoming - I grew up and went to college in Columbus. WRO's 31-inch telescope, nicknamed the "Big Blue Beast", was my primary observing instrument for the last half of the 1980's.

RAS started Hidden Hollow in 1987 after the completion of the telescope. Over the years, the convention has developed a reputation of somewhat clear skies and a good collection of national speakers. This year was no different. Comet hunter David Levy, NASA Jet Propulsion Laboratory employee and noted amateur astronomy Stephen Edberg, and Sky & Telescope contributing editor Stephen James O'Meara rounded out the speakers. Of course, not to be forgotten, Brent and Jo Ann Archinal of NOVAC would also give talks on star clusters and being a "secondary" observer, respectively.

After arriving at the camp late Friday afternoon, I first ran into an old Columbus friend, Ron Ravneburg, well known among telescope scope making circles for his series of super portable twin-truss reflectors. A large number of telescopes, ranging from large refractors to large reflectors had already made their appearance on hill in the shadow of the 31-inch dome. As I talked to Ron, "Crazy" Bob Summerfield of Astronomy To Go arrived to scope out a location for a Hidden Hollow first - a telescope larger than the 31-inch. Bob's 36-inch "Yard" Dobsonian telescope took a commanding presence on the hill. At least a dozen people showed up to either help or watch the set up of this monster telescope.

After meeting and talking to several friends, a trip to town was made for dinner where the local *Bob Evens* was full of astronomers, most looking outside at gathering clouds in what had otherwise been a great looking day!

Back at the camp after dinner, I dropped in to listen to Steve Edberg's talk on the latest results from Galileo. But of more interest was his showing of recent data showing that comet Hale-Bopp has slowed down its rate of brightening. This led Steve to predict that comet H-B will be least two magnitudes fainter than earlier projections.

When the talk was over a walk up to the dome revealed Brent Archinal at the controls of the 31-inch telescope with a line of observers waiting to look at Jupiter through a layer of thin

clouds. Knowing from experience that running the 31-inch at a convention can be a bladder stressful operation because of the never ending line of observers, I spelled Brent from the duty.

Running the 31-inch is also a fun job. Access to the eyepiece is via a rolling scissors-jack platform like you normally see at construction sites. This "Mit-E-Lift" can take four or five people at a time up to the eyepiece, where everyone must squeeze around each other on the three by five foot platform. This almost always makes for a friendly, close quarter grouping! Even though Jupiter was low, at times the seeing was surprisingly good and at 200x, more than a dozen belts could be seen on the planet along with several ovals and other atmospheric jovian features.

After a dozen or so trips to the eyepiece, Jupiter was quickly setting into the southwestern trees and ever-increasing clouds. A move to Saturn worked for awhile, but the clouds finally won. Unlike the public nights that I've run at WRO, the astronomers knew what the clouds meant - you can't see through them - so the line got shorter as the clouds got thicker!

After all hope was gone, I wandered to one of the lodges at the camp. This one was set up with a self-serve candy and coffee bar. The warm friendly environment was wonderful. In what was perhaps the most interesting talk of the party, an ad hoc group of TN's - Telescope Nuts, or those who have ground and figured their own telescope mirrors, gathered to discuss ideas, methods and rumor. From testing methods to wave ratings to blank quality to just funny stories, the intercourse was lively, fun and educational. It also let me catch up on the doings of a mirror making group in Columbus that I helped to start in 1990.

Before we knew it, it was well after midnight. Finally, around 2 A.M., I finally made it back to the hotel. In the past, I had stayed in either the cabins at the camp or in RAS's little club house (it's heated!). One year, I even slept under the 31-inch telescope! This year, the thought of a warm bed and showers in the morning, all within walking distance of a number of good restaurants was very attractive.

While the action on Saturday started early, I didn't make it to the camp until early afternoon after sleeping in, in hopes of clear skies Saturday night. I had already missed the opening talks and the early minutes of the swap tables, so I didn't have high hopes as I wandered around the swap tables.

Much to my surprise, there were a number of bargains, or at least bargains to my eyes. I finally settled on a 20mm Vernonscope Coma-Correcting "Pretoria" eyepiece. I had recently decided that a 20mm eyepiece would neatly fit into the slot between my favorite two eyepieces - a 32mm König and 12mm Erfle that I use on my 20-inch telescope out at Crockett. After past experience with the Pretoria design, I was thrilled to find it available, and even more thrilled when Gary Hand of Astronomy by Hand pronounced it to be the last new Pretoria available anywhere!

Between talking to friends from Columbus and

Cleveland, I caught parts of Edberg's second talk, about the Cassini project to Saturn, and a very interesting talk by O'Meara who has recently moved to the island of Hawaii and lives within two miles of an active volcano!

O'Meara talked about rediscovering observing the Messier objects with small telescopes from the dark, dark skies of Hawaii. David Levy finished with a talk about his experiences before, during and after the great comet crash of Shoemaker-Levy 9. As David finished and door-prize drawings started, the sun was getting low. At the finish of the drawings, folks were quick to leave to get dinner and then rush back as the clear sky beckoned.

I returned from dinner to find the 31-inch dome empty. It took only a few minutes to point the big telescope toward M-15, a wonderful globular cluster in Pegasus. With a 28mm University Optics Pretoria eyepiece, 200x, the cluster appeared to be completely resolved right up to a tiny, slightly larger than stellar core - thousands of stars packed around a bright white ball. Past experience had taught me that at higher powers, and with good seeing, the core, normally about two or three seconds across, would start to breakup and become mottled.

In addition, I had once spent three hours painfully navigating the stars of M-15 in a hunt for Pease 1, a 14th magnitude planetary nebula that is inside of M-15. The hunt was finally successful, but only after two hours confusion - I hadn't realized that my finder chart for the planetary was mirror reversed! Flipping the chart upside down and using a red flash light to look at it through the back of the paper, worked like a charm and Pease 1 was found pretty quickly.

As expected, the noise of the dome rotating and the whine of the Mit-E-Lift moving into position attracted folks from the telescopes out in the field, and soon the normal line was standing at the dome. The twist on tonight, though, was that this Saturday was a visitor's night for the public. While one load of observers were public visitors with no telescope experience and required an explanation of what they were looking at, the next load would be amateurs anxious to compare the big scope's view to their own scope's view of the same object.

After awhile, as the visitors thinned out, leaving the amateur astronomers behind, I moved the telescope to M-31, the great galaxy in Andromeda. M-31 can actually be a boring object in the 31-inch. 200x will only show a small part of the galaxy and the core of M-31 is pretty bland looking, especially to people who have never looked through a telescope before. But to an experienced amateur, scanning around and averted vision start to display star clusters, dust lanes and even a nebula in the distant galaxy. With the proper charts, it's quite easy to pick out globular clusters in M-31 as stellar points of light inside the galaxy. Now as the observers came up, I showed them how to grasp the telescope and move it around so they could take in the complete view.

At this point, I would guess that about a hundred people had made the trip up the Mit-E-

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## SOUTH TO STELLAFANE Bill Burton

The big question this year for the annual Stellafane astronomy convention in Vermont was: would it or wouldn't it? Would it rain on Friday and clear on Saturday, as it has for about the last 8 or 9 years? Or would the unthinkable happen: a double-night cloudout? With the summer of 1996 being one of the wettest on record in the Northeast, the latter was a distinct possibility.

I was able to answer the question this year from the perspective of a summer-long resident of Vermont, since I was doing geologic fieldwork near Rutland. The trip to Stellafane was an easy one-hour drive south to Springfield, where I arrived at mid-day on Friday. True to tradition, it was pouring.

I left my government vehicle in Springfield and within minutes hitched a ride up to Breezy Hill with a local. There at the campsite I met Brenda, Kevin, and Bill Jones setting up Kevin's tent in a prime spot between the big striped tent and the outdoor amphitheater. They had saved me a spot, and I pitched my tent as the rain slackened.

As usual the big tent was the site for a mirror-making demonstration by the Springfield Telescope Makers (STM), sponsors of Stellafane. Stations around the tent were devoted to different phases of mirror-making, including rough grinding, fine grinding, polishing, testing and pitch-lap making. I soon ran into Jerry Wolczanski, NOVAC member and former winner of Stellafane's telescope-making competition. We watched the start of rough grinding for a new 27-inch mirror blank, which was at least four inches thick and required two people pushing back and forth, like old-time loggers with a crosscut saw.

The crowd for the mirror-making demo was bigger than usual thanks to the presence of John Dobson, legendary telescope maker and inventor of the Dobsonian mount. (When pestered by too much praise about starting the "Dobsonian Revolution" he will reply that cannons using Dobsonian mounts have been starting revolutions for centuries!) Dobson, an older man with a silver ponytail and California tan, was not breaking a sweat pushing glass but instead engaged in his other favorite activity: talking to a group of people. The topic was Dobson's rather unique opinion of life and the cosmos, embellished by anecdotes from his long interesting career. A self-schooled champion of Einstein's theories of relativity, Dobson takes pride in correcting astrophysicists' misuse of those theories. Jerry and I listened to him a bit and then Jerry invited me to go up and shake his hand. I demurred, replying that since I had not made a telescope I was not worthy. Jerry did shake his hand and thanked him for his contribution to amateur astronomy.

After a walk around Breezy Hill, still bare of telescopes, and a cafeteria-style dinner at the bunkhouse next to the camping area, it was time for the Friday Evening tent talks. I joined Jerry and his father Stan, also an amateur as-

tronomer who has attended several previous Stellafanes. The skies had cleared and for once we were able to sit outside of the tent without getting wet from the rain or water dripping from the eaves. Comet Hyakutake was of course a favorite topic this year, and a "comet chaser" from Maryland described how he and his wife drove all the way to Lake Placid, N.Y. for a clear view of the comet. A solar scientist from California called for any photos of Hyakutake and Hale Bopp, calling their tails "solar-wind socks" that reveal valuable information about processes originating in the Sun's interior. At the end of the evening John Dobson got up and fielded questions on telescope making and All and Everything.

A clear Friday night? Almost, but not quite, for unstable air following the cold front that passed through was producing scattered clouds, and "heat" lightning to the southeast indicated Boston was getting a thunderstorm. But there was still plenty of clear sky, and I got great views of Messier objects and Comet Hale-Bopp from a variety of large telescopes. The 13-inch folded-optic Schuppmann telescope of STM's MacGregor Observatory, overlooking the campground, yielded a beautiful view of Saturn with its rings and satellites. Early Perseid meteors, two days from the peak, were an added attraction that filled the time between views through the eyepiece. Since Saturday promised to be even better, I retired at the early hour of 2 A.M.

By 6:30 the next morning, the Stellafane swap meet was off and running, with tables filled with every conceivable kind of pre-owned astronomical accessory, including hand-painted astronomy ties. I found a 135mm f/2.8 telephoto lens for \$20, and was happy. Around midday Jerry and I walked over to Breezy Hill to view the telescopes entered for competition. On the way we encountered a group of people staring up and pointing into the bright blue sky, and discovered a waning crescent moon and nearby Venus. It was the first time I had seen a planet and such a thin moon at midday, and I took pains to point it out to others as well, although spotting Venus was very difficult.

You go to Stellafane for years and you think you've seen it all on Breezy Hill, but you haven't. The most conspicuous entry this year was the restored 13-inch Fitz refractor from the Arunah Hill Observatory in Massachusetts, which is owned by a consortium of astronomy clubs. The pier had just been erected by the time we arrived and stood at least 15 feet tall. We watched as the metal tube of the refractor, about 12 feet long, was rolled out on caissons with the help of six men. The huge objective lens was carefully taken out of its wooden crate and attached to the end of the tube. Using a block and tackle permanently mounted to the pier, the team then hoisted the telescope high in the air and bolted it into place. This massive white telescope was probably one of the visually most impressive instruments ever erected

on the hill. Also present was a beautiful and highly accurate handmade brass sundial and a larger than usual selection of "cannon-style" telescopes.

Saturday evening meant the annual Stellafane chicken-and-corn-on-the-cob dinner, and after heaping our plates, the Jones, Wolczanskis and I convened at our tent site and were joined by fellow member John Stewart—a much better NOVAC attendance than last year. After dinner, we moved over 50 feet and took our places on the sloping grass for the evening program, watching our raffle tickets become useless as over six thousand dollars of merchandise went to less deserving individuals. The twilight speaking slot traditionally held by the late Scotty Houston was taken this year by Dobson, who gave another of his off-the-cuff performances, including his reasons why the Big Bang theory was wrong. This now being the third time I had heard him speak, I was starting to grasp where this rather eccentric person was coming from. Following personal tradition, I then blew off the featured speaker (a SETI researcher) and headed up the hill ahead of the crowd.

First stop was the Arunah Hill refractor which was aimed at Jupiter, low in the southern sky. The image was so bright it actually hurt my eyes! I retreated to a group of large Dobsonians owned by Virginia Beach resident and NVTM regular Kent Blackwell and two of his friends. Kent decided to quickly look at all the Messier highlights before the lines formed, and in the next hour I saw more objects than I usually see in an entire night at Stellafane. Hale-Bopp was very interesting, and consisted of a very small bright inner coma and more diffuse outer coma fanning in a north-south direction, which passed into a diaphanous proto-tail that was flattened in an east-west direction. Kent then aimed his 16-inch f/6 at the Veil Nebula and screwed on an OIII filter. It was the best view of that fine object I have ever had. All of the nebular components were clearly visible, including the elusive ones in the center. Later that evening this telescope won an award for optical excellence.

It wasn't even midnight, but I felt I had done it all. I went back to the tents, grabbed a lounge chair and a blanket, and settled down to watch the Perseids. Soon, of course, I was sound asleep. But the question had been answered: Stellafane had once again delivered a clear Saturday night!

One of the traditional Stellafane activities I had never attended was the Sunday morning worship service, and I resolved to do so this year. It was a beautiful clear morning, and around 8:30 a group of people pulled chairs into a circle under the tent. There were 15 adults and children, and one dog. About half the group were STM members, including Bob Morse, the Stellafane "master of ceremonies", still wearing his blue T-shirt and showing signs of little sleep. Another member led the group in prayer and several hymns, and even gave a short sermon. We prayed for those who had been injured during the two-day event, including one guy whose

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## President's Column

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party with 88 children who wanted someone to show them the night sky.

At our club picnic in June, Jerry had rounded up several folks including myself who thought they could help him out on that then far away night. The weekend of October 5 and 6 though, proved to be very frustrating for Jerry. He called me with a very bleak report. He had tried our e-mail list and made phone calls and had not been able to find one person to assist.

I've been out many, many times with other NOVAC members showing school groups the stars. It's a lot of fun, but the thought of just me, stumbling around the sky, fumbling with my 'scope was pretty frightening. The next morning I again gave our email list a try - asking anyone who might be able to help to send me a message or give me a call.

I was elated with the response I got, but now the weather was teasing me. One of those nasty

hurricanes/tropical storms was playing games with the forecasters and threatening our Thursday night star party.

Thursday I was stuck at work and only got an occasional peek out at the partly cloudy skies. I had no idea what the prospects for the evening were. At 5 P.M. I was pleased to see that there indeed was a good amount of blue up there and as I drove, and munched down a Subway sandwich, I was pleased to see bigger and bigger patches of blue. By the time I found where we were to set up and began to pull out the ol' SCT, the skies played another trick on me. The clouds had rolled back in and I couldn't even tell where the sun was setting!!

By the end of the evening, though, I was able to write it off as a smashing success! The clouds teased us quite a bit at first, but finally gave way to beautiful clear skies with lovely views of Saturn, Jupiter and many other sights to dazzle the first time observers. The biggest success of the evening, I'll have to say, goes not to the clearing skies, but to NOVAC members who came out with 7 telescopes "to observe

and help others observe"!!!!

Those of you who are new to astronomy, or feel that you are just a beginner, please don't be intimidated by others who can tell you the names of 23 gazillion stars, and the locations of each of the Messier Objects and during which season it's best to see them. Helping out at a star party doesn't take very much knowledge. A quick look at a star chart is all it takes. The kids want to see the planets and very bright objects. Those kids just loved what they saw and the toughest question that I got was "How much did your telescope cost?" Helping out at a star party is loads of fun!!! I'm always extremely pleased with all the wonderful NOVAC members who are so eager to donate their time and energies to the club! Thanks to all who helped out on the 10th of October, have helped at other events, and those who are helping out in other ways throughout the year!!!!

-Brenda

## Dark Skies at Cabin John

(Continued from page 1)

River State Park, a few miles from the town of Mathias, sits a very comfortable log cabin, "Cabin John" named after its owner and dear friend John Cassidy whose interest in astronomy is as boundless as the universe itself.

John invited me and my 14.5" f/4.5 Dobsonian for an evening of viewing splendor with him and his grandsons last August 10. To my delight, when I arrived early that afternoon, a party of three had grown to eight! There was John, his son Ray, his two sons Benjamin and John and John's friend Jonathan Zeis, Stephen St. John and his son Jesse, and me. I knew right off a star party was in the offing and I was excited and really looking forward to it.

John and I took a quick survey of the premises to locate the best spot for the Dob, given the hilly terrain and nearby trees. We found it to be near Cabin John itself. A quick glance at the cloudy skies suggested it might all be in vain,

however. "Keep the faith" was our reaction to Mother Nature's display of thick cumulus clouds stretching from horizon to horizon with only an occasional patch of faint blue showing through.

As evening approached and John was firing up the grill for what turned out to be a sumptuous meal of galactic proportions, I was busy setting up the scope and getting it nicely collimated.

Soon it was getting dark and the skies began to clear. Empty lawn chairs were lined up in a row overlooking the western valley. Before long the chairs were full and the Perseid shower began. "Look at that one!", "Did you see that?" were words repeated many times while I was busy being confused by all the unfamiliar stars emerging from the darkening sky. My biggest challenge was to find the familiar outline of constellations that were being riddled by so many other stars. When the shower subsided, our focus shifted to the telescope and the globular cluster M13 followed by Jupiter and its four famous moons, a shot toward the center of our Galaxy in the constellation

Cygnus, and of course M57 the Ring Nebulae in Lyra. During the viewing, I imagined that I was surrounded by a group of aliens from outer space instead of a group of fine young boys and their fathers. To my delight, the only discernible utterances coming out of the darkness were "Oooh, Ahhhh, Woow!". I cannot begin to describe how great it felt to be a part of the Cabin John celestial experience.

It grew late and the young "aliens" began to seek out their bedding on the screened-in porch. Once they settled down, the rest of us turned the Dob toward the constellation Canes Venatici near Ursa Major for a last attempt at M51 the Whirlpool Galaxy. Much to my surprise it popped into view and gave us the final show for the evening.

Who would have ever imagined that such dark skies and so much fun could be found at Cabin John? It's true. There is an earthly place called Cabin John that features super dark skies and a galactic amount of viewing fun.

## Like Fire-flies Tangled in a Silver Braid - The Star Clusters

Brent Archinal

At the November 20 NOVAC general meeting I'll be presenting a talk about star clusters. Star clusters have always been of immense importance to astronomy. They define the structure of the Milky Way and the distance scale of the universe. And they have been revered as objects of immense beauty and symmetry through the ages. I plan to discuss the various types of star clusters and the history of the "discovery" of star clusters including the many attempts at catalogues and

categorizing them. Also covered will be some specific clusters, particularly as examples of the problems of modern star cluster cataloging and identification. Finally, some comments will be made on the magic and wonder of observing these "fire-flies" of the heavens.

I hope to see you at the meeting or at the dinner before the meeting (see article elsewhere in this issue).

- Brent Archinal

## Kalmbach Book Orders

It's time to order books from Kalmbach again! Orders can be placed from November 20 through December 5. Items ordered will be delivered at the following NOVAC meeting. All books in the Kalmbach catalog are discounted 20% and there is no shipping fee. If you have access to the web, you can

get an index of Kalmbach products and books at: <http://www.kalmbach.com/books/AstroBooks/Catalog.html>. To place an order, call Nicole Mastej at (703)476-1207 or send an e-mail message, including title and KPC#, to [Nicole\\_Mastej@smcompany.com](mailto:Nicole_Mastej@smcompany.com).

## Hidden Hollow '96

*(Continued from page 3)*

Lift to peer through the big scope, including NOVAC members Bill Jensen and Pete Johnson. Now NOVAC member Brent Archinal appeared and offered to spell me on the scope. This would allow me to visit the relief room and roam the telescope field a bit. After getting a cup of hot chocolate, I walked the field a bit. The line at Crazy Bob's 36-inch scope was pretty short, so in no time I was climbing up his 14-ft. ladder to view M-57, the Ring Nebula in Lyra. The power was low but the view was great. I thought that in moments of good seeing, the central star of the ring was seen.

Over by Bob's trailer that carries the Yard scope, were Dave Levy and his fiancée, Wendy. Dave was sitting in a chair using his 6-inch RFT reflector on a photo tripod to scan for comets. A close look at this telescope reveals two small brass plates that display the names and dates of the two comets that had been discovered with this scope. I spent at least 30 minutes talking to Dave and Wendy about many things. Of interest was that they were childhood friends separated at a young age, but had met up when Dave was traveling to Las Cruces, New Mexico to interview Clyde Tombaugh for the biography that Dave wrote about Clyde. Dave and Wendy quickly developed a friendship that grew into something more! Wendy is a retired school teacher. They have both sold their houses and have moved into a new house near Tucson, Az.

Closer to the 31-inch dome, I found Columbus Astronomical Society Member Vic Wolfe with a very interesting telescope, a huge 10-inch f/8 newtonian on a big pipe mount. This telescope had been made in the 1950's by then CAS member Frank Hudnull. Frank had had a hand in producing a number of similar 6-inch f/10 newtonians that had formed a core of telescopes that were used in public astronomy pro-

grams in Columbus for many years. Two of these scopes survive, one of which I had helped to restore in 1990. Vic had contacted Frank's family and had purchased the telescope from them and then restored it. Frank's homemade mirror was wonderful, the views were outstanding and the lead pipe mount surprisingly solid.

Once again I found the 31-inch dome empty as Brent had to leave to get some sleep for the drive home the next day. That wasn't a problem for me because I was staying an extra couple of days.

My next target is a favorite of mine in the 31-inch. NGC 891 is a pretty large, but somewhat faint edge on galaxy with a nice nuclear bulge and easy-to-see dark, or dust, lane splitting the galaxy in two. For this object, I used my new 20mm eyepiece to boost the power to about 280x. Now the galaxy stretched from one side of the field of view to the other side.

Soon, I bumped the telescope over about two fields to the area of Abell 347, a cluster of galaxies. Some scanning at 200x found a good spot and a 16mm eyepiece (340x) showed about a dozen galaxies in a single field of view. The next two hours were spent taking observers up to see the Abell cluster. A short line meant that each observer could spend several minutes at the eyepiece and move the scope around to see more galaxies. As each observer took their turn, I talked to the other observers on the Mit-E-Lift, or just sat on one of the lift's railings and looked for meteors through the dome's wide slit.

By then, the crowds were thinning and there was a request to point the big scope at M-42, the great nebula in Orion. It was very low in the east but by the time the scope was pointed to it, the famous nebula was just high enough. The eyepiece was so low that to reach it, it was necessary to raise the Mit-E-Lift. I put in a two-inch 40mm University Optics König eyepiece (140x). Observers took long looks, through both the big scope and through the

5-inch f/5 refractor that serves as a finder scope for the 31-inch. In the 31-inch, some color could be seen, but the seeing was too unstable to easily see the fainter stars within the nebula that can normally be seen.

As observers filed past the eyepiece, I noticed what at first appeared to be the light from a car headlight shining on the inside of the dome through the dome's slit. It took a minute to realize that there were only trees in the direction of the light and that it was the light of the rising crescent moon. As the sky brightened, the line of observers disappeared, and I started to close down the telescope and dome.

I lowered the slit (takes about five minutes), moved the scope into its home position, pointed straight up on the east side of the pier, rotated the dome to its home position with the slit facing east, put the cover on the big mirror, dragged the power cord over the Mit-E-Lift, plugged it in and set it to charge for 6 hours, turned off the computer that controls the telescope's drive systems, packed up the eyepieces, turned out the lights and closed and locked the door to the observatory.

A final walk about the field disclosed a number of operations. I watched Crazy Bob direct a crew of volunteers in covering the 36-inch up with a huge tarp and then wrap it with bungee cords. Dawn Jenkins of Cleveland was still observing M-42 with her homemade 6-inch f/10 newtonian. She's an old friend and we talked for some time. Nearby was a huge 6-inch refractor pointed to the moon. The lack of color in the image suggested an Astrophysics telescope. A walk to the front of the scope to look at the logo on the dew cap confirmed it.

Another walk showed lots of telescopes, covered and uncovered, all most likely wondering where all the observers had gone.

Hidden Hollow '96 was over. I walked to the Jeep, started the engine and drove back to the hotel for some sleep.

# Election Night '96

You must be present to vote! December 18, 1996 meeting starting at 7:30.

Vote for Officers and 2 Trustees.

Nominations as of 10/21/96:

For President: Brenda Jones

For Vice-President: Tilly Smith

For Secretary: Pete Johnson

For Treasurer: TBD

For Board Members:

Bill Burton

Nicole Mastej

Russell Duke

## Discovering a Hidden Hollow

Bill Jensen

Can driving 16 hours round trip in a cramped Saturn on your day off be worth it? Sure, if you are headed to the Hidden Hollow campground near Mansfield Ohio. The HH '96 Star Party, hosted by the Richland Astronomical Society, was held on October 4th and 5th. After seeing the list of speakers, including Brent and JoAnne Archinal, Steven Edburg of the Jet Propulsion Laboratory, Stephen O'Meara of Sky and Telescope and comet expert David Levy, I was interested in attending. As my own schedule seemed to permit a rare 3-day weekend, I decided to fire up my econobox for the day long drive. The trip itself was not bad, given the fall colors in the mountains of western Maryland, and West Virginia. Add to that the simplicity of the Amish driving horse drawn carriages along a country road and the trip was almost relaxing, even for a single driver.

Friday afternoon, after checking out the location, which I found even without directions or signs being posted, I was able to grab some grub and acquire a motel room. Wandering around prior to darkness, I was struck by Ohio ATM Ron Ravenburg's telescopes, an artistic group of twin-truss Dobsonians. Friday night was hazy, with high thin clouds that by midnight turned completely overcast. But seeing Bob Bunge and Cathy Mansperger being welcomed like returning royalty, I could see that the Ohio turnpike amateurs were a fun group. With Brent and Bob wielding the 31-inch reflector located inside the Warren Rupp observatory, and "Crazy Bob" Summerfield of Astronomy to Go showing off the fantastic 36-inch Tectron Yard Scope, I was hoping for a nice night on Saturday. Steve Edburg of the Jet Propulsion Laboratory presented a summary on the Galileo mission and pictures of Jupiter. He also gave a short, somewhat disappointing report on Comet Hale-Bopp's apparent leveling of brightness. Perhaps we will be seeing a nice, but not a grand display next spring, compared to Hyakutake.

Saturday morning was vendor mania in the Sky High Lodge. Several known outlets were represented, including Pocono Mountain Optics, and University Optics. Peter Smitka of Mag 1 Instruments from my home state of Wisconsin showed off his Portaball Telescopes. Lots of used equipment, T-shirts, art work, and celestial jewelry filled the remainder of the lower hall.

The afternoon was fantastic. A mixture of scientific talks by Brent (on clusters) and Steven Edburg (on the Cassini project-mission to Saturn) humorous by JoAnne, poetic by David Levy, and volcanic by Steven O'Meara of Sky and Telescope. Brent pointed out the room for discovery while explaining the types of clusters, and their often jumbled history of identification. He also gave credit to his parents, who were in attendance, for supporting his interest in astronomy at an early age. JoAnne's talk, "Reflections of a Secondary Observer" mixed the unique perspective of those married to us night-stalkers of the sky with her own pictures of Hyakutake. Perhaps one needs a sense of humor to be happily married around new moon time. Steve O'Meara described the wonder of being located on an active volcano in Hawaii and discovering the night sky and new earth all in one complete package. Steve Edburg described the process (both scientific and bureaucratic) of sending the Cassini spacecraft to Saturn next year, and the kind of experiments that it will conduct if successful. And David Levy wove stories of his father, his life of discovering comets, especially S-L 9, with poetry, music and slides of those erratic visitors from the Oort cloud. All this was topped off by door prizes awarded to seemingly everyone but me.

Saturday night, clear (but not very dark) skies, and lots of friendly people sharing their scopes highlighted the evening. I was able to spend some time viewing Hale-Bopp, and tried my hand at a number of the brighter Messier objects in my four-inch refractor. Saturn got better as the night progressed, and I was able to see some real dusty detail in M31 courtesy of a ride to the eyepiece of the 31-inch scope via its "cherry picker" perch with Brent at the helm. Pete Johnson had also made the trip there, so NOVAC was well represented. Tom Bemus from New York and Peter Smitka allowed me to drive their 12.5-inch Portaballs for a while, and now there is another scope on my list of "gee I wish I had enough money to buy that". But after only a few hours my body gave up, and altogether too soon I was driving early Sunday back to Virginia. But not without memories of a fun weekend in the quiet Ohio countryside and Hidden Hollow '96!

## Northern Virginia Astronomy Club Statement of Cash Received and Disbursed For the Period January 1 through September 30, 1996

### CASH RECEIVED:

Membership Dues:		
Renewals	\$1,854.00	
New Members	<u>1,512.00</u>	\$3,366.00
Bulletin Board Receipts		205.00
Interest Income		121.65
Hat Sales		70.00
Library Books & Stool		29.00
Kalmbach Books (Net)		8.75
Prior Year's Calendar Sale		<u>10.00</u>
<b>Total Cash Received</b>		<b>\$3,810.40</b>

### CASH DISBURSED:

Newsletter Printing & Postage		809.55
Meeting Supplies		7.50
Observing Site Expenses:		
Portable Toilet	135.86	
Locks	38.34	
Picnic Permit	<u>45.00</u>	219.20
Astronomical League Dues		400.25
Publicity (Printing)		26.91
Administrative:		
Liability Insurance	368.00	
Printing	94.28	
Postage	106.69	
Supplies	6.59	
State Registration Fee	25.00	
Personal Property Tax	29.71	
Bank Service Charge	<u>1.00</u>	631.27
<b>Total Cash Disbursed</b>		<b><u>2,094.68</u></b>

**EXCESS OF CASH RECEIVED OVER CASH DISBURSED** 1,715.72

Cash at beginning of period (restated) 6,271.08

CASH AT END OF PERIOD 7,986.80

Respectfully submitted,  
Kenneth A. Pettijohn,  
Treasurer

## NOVAC ALCor Looking for Great Observers for League Awards

Sandy Sanders, Jr., our new ALCor is looking for those who have observed at least 70 Messier objects for a certificate, or all 110 for a certificate and pin and other observing awards are available. Since NOVAC is a participating club in the Astronomical League, any NOVAC member who can in any reasonable way verify observations will be submitted for awards.

So get out those observing logs and lets get a bunch of pins and certificates!

For more information, please contact Sandy at 690-7000 or 590-8982 or e-mail at sandys@doubled.com.

Your humble ALCor, Sandy.

P.S. Look in your November REFLECTOR for my letter!

## Through Beginner's Eye

(Continued from page 2)

M20

This one fooled me. I saw what I thought was the Lagoon naked-eye and lined the scope up on it, only to see the close double star and discover that this was the Trifid Nebula rather than the Lagoon. Not a bad object, but not great. (Am I getting spoiled having just seen M8?) There is a fair amount of nebulosity, but much less than M8. I suspect a slightly larger scope would make a real difference. Like M8, there is a cluster in the same field though it is not as nice. Books claim I should be able to split the nebula into three parts with an 8". Maybe, I can certainly see two, but not sure I would claim three. So nice to finally see this one and M8 after all these years. Dark skies make all the difference, not only because things are brighter but objects are easier to locate. Degree of difficulty is way down.

96/9/20

M2

Globular in Aquarius just South of M15. Funny, but I have never tried for this one before even though it is pretty easy to find -- about two-thirds of the way from Enif in Pegasus to Beta Aquarius, and then a little to the West. It is in a much sparser field over here than in Sagittarius. Anyway, the cluster looks a lot like M15 -- perhaps a bit smaller. Hard to say really since the night is pretty bad. There's a first quarter moon up, plus lights from neighbors on all three sides. Heavy dew as well. Real battle conditions! Looking through the 26 mm showed a grey sky as a background. The 15mm darkened things a bit and several more stars popped out of the murk. (I guess Clark was on to something when he wrote about power improving the view.) Hard to believe I could see much at all, actually. Rather than try to find M72 and M73, I checked M15 which was visible in a significantly darker sky even though it is only 15 degrees or so north. Funny. Better start thinking about a shroud for my head.

96/10/3

M56

This globular cluster in Lyra should be easy to find. It is perhaps a third of the way from Alberio in Cygnus to Gamma Lyra. But it is not

easy to locate and attempts on several evenings before this one failed. Part of the problem is location: Lyra is directly overhead, so it is hard to move the Dob around. Second, this cluster is relatively faint -- 8.3 my book says -- and fairly good size. Furthermore, it is located in an area that has many stars, making star-hopping a bit tricky. Finally, all the neighbors seem to have their lights on tonight and there seems to be a fair amount of moisture in the air. Anyway, I finally found it this evening, picking it up as a very faint haze when I swept through its area. Having finally found it, I have little to say about it other than that it is very faint (from downtown Rockville), fairly uniform in brightness (perhaps I should say faintness), and therefore very close to the limit of my scope.

96/10/4

M52

I waited until 11 P.M. tonight so I could work a couple of new areas, Cassiopeia and Andromeda. Tall trees in my neighbors' yards mean I have to wait until well into the season to see some things. For example, Cassiopeia only begins to clear the trees around 11 this time of year and the same goes for Andromeda.

M52 is another instance where you have to know what you are looking for to be sure you are seeing it. Lots of reasons for this, but two off the top of my head are the cluster's location -- many stars in the neighborhood -- and Messier's decision, for some reason, to include on his list two of Cassiopeia's less noteworthy clusters including this one. Anyway, I found M52 largely by guesstimating the location, aiming the Telrad, and then confirming my find by comparing it with the finder charts in Dickman's Messier charts book. Not a bad little cluster this one -- a few bright stars, one in particular, resting in a haze of dimmer stars. I suspect this one would be much better from a dark sky site since the hazy background should be resolvable. This one reminded me of a poor man's M11.

M103

Another mystery Messier cluster. It is very easy to locate, maybe a little more than a degree away from Delta C. Pretty unremarkable handful of stars. To repeat, why Messier picked this one when NGC 663, a real splashy cluster perhaps three degrees away, is left off the list is beyond me. I am sure I would not have found

this one without Dickman's charts. There are so many stars in this area that even the drawing in *Turn Left at Orion* would probably not have been enough.

M31

I had a little trouble finding this because I decided to ignore the charts and look where I "knew" it was. Turned out I was looking near Theta A, rather than Upsilon. Oh well. Once found, it is unmistakable, a large hazy bright oval patch. People talk about how big a disappointment M31 is because it does not look like its picture. Maybe not, but it is still amazing when you think about what you are looking at. It is also a bit deceptive. Although all you can see at first is this hazy oval, moving the scope around makes you realize that a faint haze extends well beyond the eyepiece field. In my case, with my 26mm, that makes this over a degree. Not bad.

M32

Much smaller galaxy than M31 but jumped right out at me, probably because its 8th magnitude light is so concentrated. (My charts say it is 8' x 6'.) Fits in the same field as M31.

M110

Another companion of M31; this one I almost gave up trying to find. Although it supposedly is also 8th magnitude, it is perhaps twice the size of M32 with a pretty low surface brightness. Another problem: M31's nucleus does not seem to be at the center of the galaxy. The result is that I was looking in the wrong place, a real problem with a very dim object. After some searching -- hard to believe you can spend time searching for something that is at most a degree away -- I found the very faint haze that is M100. I then was able to confirm it thanks to Dickman's charts. This one, like M56, is really at the limit of my scope, even on a night when the neighbors have all turned out their lights. Or perhaps it is because the time is approaching midnight. Comment: once again the 15mm paid dividends. It seemed to turn the somewhat grey sky of the 26 mm to black, pulling out many more faint stars. All the better to see with, and to confirm your observation using background stars. Final comment: it is clear that for the really faint fuzzies I will have to get out of town. □

## SOUTH TO STELLAFANE

(Continued from page 4)

foot had been run over by a vehicle (fortunately with no permanent consequences). The simple but moving ceremony lasted about 20 minutes, and was a fitting end to Stellafane, where the inscription over the clubhouse door reads: "The Heavens Declare the Glory of God".

There was one other thing I had never done: visit the ATM museum in the basement of Hartness House, high on a tree-lined hill in Springfield. Around 10 A.M. I stuck out my thumb for a ride back down the hill and got picked up by erstwhile NOVAC member Bob Hamilton. After retrieving my vehicle, I drove over to the elegant mansion and went down-

stairs to look at the exhibits, which are largely devoted to the legacy of Russell Porter and the early years of Stellafane. The last room had a surprise: a small group of people standing around and talking to--who else?--John Dobson. Here, in a small room devoted to the memory of history's most influential amateur astronomer, was the opportunity for an intimate discourse with the person who was perhaps the second-most deserving of that title. At first we talked about astronomy and education, and Dobson regaled us with tales of his star parties in the national parks. John Stewart was there and got useful advice for his work with scout groups. After about 45 minutes, I had to take a breather (since Dobson showed no signs of slowing down) and looked at the rest of the

exhibits. Upon my return the talk turned to cosmology, and I was able to probe Dobson about the details of his anti-Big Bang views. In defending his views he displayed an impressive grasp of Einstein's special and general theories of relativity. For about another 45 minutes, we discussed esoteric topics such as the nature of time and gravity, until once again my brain began gasping for air and it was time to go.

Having endured a lengthy cosmological discussion with John Dobson, I finally felt worthy. I shook his hand and bade him well, leaving this man of remarkable mental and oral stamina to enlighten others.

Now that is really a fitting end to Stellafane!

# Minutes of the September and October General Meetings

Bill Jensen

## Minutes of the September 18, 1996 General Meeting of the Northern Virginia Astronomy Club.

The meeting was called to order at 7:30 P.M. by Club Vice President Doug Jackson. He welcomed over 50 members and guests to the meeting held at the Arlington Planetarium.

### Announcements

1. Doug Jackson announced that elections for officers and two directors would be held at the December meeting. Nominations for the open positions can be placed now by contacting the elections committee. Brenda Jones has been nominated to run for a second term as President.

2. Doug Jackson announced that the October meeting would be highlighted by a presentation from Dr. John Wood discussing the latest Hubble Space Telescope discoveries.

3. Doug Jackson reminded the members that the Northern Virginia Telescope Meet would be held at Crockett park on September 21, 1996. Volunteers for parking duty were requested to sign a roster circulated among the members present at the meeting. Craig Tupper was in charge of the event.

4. Brent Archinal announced that he would be one of the speakers at the upcoming Hidden Hollow Star Party in Mansfield, Ohio. Joining him would be his wife, formerly of the Smithsonian, David Levy, Steven O'Meara of Sky and Telescope, and Steven Edburg of JPL.

5. There was a request for authorization of an expenditure for cleanup of the Savage Farm Site. It was agreed that proposed contracts would be presented to the next Board of Directors meeting for review.

6. Jerry Wolczanski requested assistance in a star party for 80 sixth grade students at Camp Highroad on October 10, 1996.

### Show and Tell

Brent Archinal presented a photograph he took of globular cluster IC1257, only recently correctly identified as a globular cluster by an amateur astronomer.

### Officers Reports

Secretary Bill Jensen reviewed the monthly mail received.

### The Observing Report:

Doug Jackson gave the observing report for September.

### September Presentation

Vice President Doug Jackson introduced Dr. Paul Loman of the Goddard Space Flight Center who presented a lecture on the comparative planetology of the solar system. In his outline of the geological structure of the

inner planets, he noted that there were significant similarities in the complicated evolution of Venus and earth, with evidence in the structure of northern Ontario and the Venus. He showed several slides of the topography in the granite/green stone terrain in Canada, and compared that to the finding made by Soviet landers and radar maps of Venus.

The meeting was then adjourned at 9:00 P.M.

Respectfully submitted,

Bill Jensen

Secretary

## Minutes of the October 16, 1996 General Meeting of the Northern Virginia Astronomy Club.

The meeting was called to order at 7:30 P.M. by Club President Brenda Clements Jones. She welcomed 62 members and guests to the meeting held at the Arlington Planetarium.

### Announcements:

1. Brenda Jones announced that elections will be held at the December meeting, and nominations will held open until that time. Any NOVAC member is eligible to run for office. Interested members should contact Brenda or any of the trustees.

2. Brent Archinal announced that a conference concerning light pollution would be held at the University of Virginia in Charlottesville on November 2, 1996.

3. Nicole Mastej reminded members of the Kalmbach book discount program. Orders for this quarter must be placed by the end of October.

### Officers Reports:

Vice President Doug Jackson announced that the speaker for the November meeting would be NOVAC's own Brent Archinal of the U.S. Naval Observatory giving a presentation on Star Clusters. The December meeting would be highlighted by a presentation by Steve Smith of the Arlington Planetarium reviewing the proposed Northern Virginia Science Center and the planetarium's "Tis the Season" show.

Brenda Jones advised that members interested in the 1997 Space Calendar offered to members at up to a 40% discount should see Secretary Bill Jensen at the end of the meeting.

### The Observing Report:

Jeff Stetekluh gave the observing report for October, and Jon Stewart-Taylor conducted the monthly sky tour using the planetarium projector.

### October Presentation.

Vice President Doug Jackson introduced Dr. John Wood, Lead Optics Engineer at Goddard

Space Center for the Hubble Space Telescope servicing and repair mission. Dr. Wood delivered an educational and humorous look into the development of the Hubble telescope, giving insights into the problems that originated with Hubble's flawed optics, and how NASA, JPL and their contractors worked to repair the telescope in space. He noted that the telescope was 2.4 meters in aperture, being of a Cassegrain design with a focal ratio of f/24. The telescope uses both axial and radial instruments to measure spectral information and perform CCD imaging. Hubble orbits the earth inclined at 28 degrees relative to the earth's orbit.

The spherical aberration of the main mirror was caused by the use of a flawed null corrector during figuring, and the lack of independent testing by the contractor of the primary optics. Dr. Wood then showed a video which simulated the corrective optics installation that was successfully carried out by the shuttle crew nearly three years ago. The corrective optics package, called COSTAR, now allows use of instruments such as the wide field/planetary camera to achieve 0.065 arc second resolution. In a slide presentation, he showed contrasting images pre and post maintenance. Dr. Wood concluded with slides showing a tour of the visible universe; starting with Hubble pictures of the solar system, and moving from the Milky Way and the nearby galaxy clusters to deep space images of protogalaxies billions of years in the past. The audience enjoyed pictures of M42, M87, M100 and galaxy images affected by gravitational lensing. He gave pictures of the Eagle Nebula and Hubble Galaxy Gallery to the club members present.

The meeting was then adjourned at 9:40 P.M.

Respectfully submitted,

Respectfully submitted,

Bill Jensen

Secretary

## Membership Listing Corrections

Brent Archival's work phone number is 202-762-1564

Nicole Mastej e-mail address is nicole\_mastej@smcompany.com

## Dinner Before the Meetings Brent A. Archinal

Mark your calendars for the dates of November 20 and December 18! These are the evenings up the upcoming meetings of NOVAC, and - as you all should know by now - the evenings of dinner before the meetings. All are welcome to attend. Topics discussed will probably range from everything under and well beyond the Sun, including the leveling off of the brightness of Comet Hale-Bopp, September's NVTM'96 and October's HH'96 conventions, or perhaps even the much vaunted (at least by me?) talk on star clusters by yours truly at the November meeting.

The place for dinner continues to be the *Santa Fe Cafe* in Rosslyn. You should plan to arrive at 5:45-6 PM. This is a nice Mexican restaurant with reasonable prices, although credit cards are not accepted. Smoking is apparently allowed in one part of this (large) one room

restaurant, but so far NOVAC members have not been smoking and the few others dining at that time have rarely smoked. If you do arrive first, we would appreciate it if you'd try to sit in the front in the non-smoking section. There's also always plenty of space, so don't worry about finding room with us.

Directions: The *Santa Fe Cafe* is located at 1500 Wilson Blvd, in Rosslyn, with entrances off of both Wilson Blvd. and Clarendon Blvd. This restaurant is easily found, just west of downtown Rosslyn, on the southwest corner of Wilson Blvd. and N. Oak Street, where Wilson splits becoming Wilson one-way west and Clarendon one-way east. From I-66 east, take the Roslyn exit to Lee Highway, and turn right at the second light onto Fort Myer Dr. Go two blocks and turn right onto Wilson, and the restaurant will be one block ahead on your left

(on the corner across Oak/Clarendon from a big outdoor sculpture). On street parking is usually available in front of the restaurant, on the other side of the street up the hill, or around the long block (make two left turns) on Clarendon just before it ends by the restaurant. However be sure to feed any parking meter if you arrive before 6 PM. This location is also quite close to the Rosslyn metroraill station.

As before, reservations are not necessary, although it does help to know who's coming so we'll know how big a table to get. So if you know you're coming or if you need a ride to the meeting and back to the metro, or just for more information or directions please give me a call (evenings) at 703-448-7466 or e-mail me at [baa@casa.usno.navy.mil](mailto:baa@casa.usno.navy.mil).

See you at dinner!  
- Brent A. Archinal.

## Notices Notices Notices



## Notices Notices Notices

### NOVAC Notices and Benefits

#### Discounts on *Sky & Telescope*, *CCD Astronomy*, and *Astronomy*.

As a member of NOVAC you can get astronomy magazine subscriptions at a discount. To obtain *Sky & Telescope* for \$27.00 (instead of the standard \$36.00), make your check out to "Sky Publishing Co." for \$27. For *CCD Astronomy Magazine* at \$20 per year, make your check payable to "Sky Publishing Co.". You can subscribe to *Astronomy Magazine* for \$18.00 (one year) or \$36.00 (two-years). Make your check payable to "Kalmbach Publishing Company". In each case, note on the check: "new subscription" or "renewal." Send your check to Ken Pettijohn, 7916 Ivymount Terrace, Potomac, MD 20854.

You can also order any publication directly from Sky Publishing at a 10% discount. Just mention the Club Discount Plan and that you are a member of NOVAC.

There are no special 10% discounts offered on publications from Kalmbach Publishing, but read what follows.

#### Discount on Books

NOVAC is participating in the discount book sales program offered by Kalmbach Publishing. They will sell our members any astronomy related book for 20% off the list price when we send in a group order. Nicole Mastej is coordinating the sales. If you are interested, please see her at a meeting or call her at home (703) 476-1207 to place an order. Make your check payable to "NOVAC" for the price of the book minus the discount when you place the order. We anticipate doing this 3 - 4 times a year if demand warrants.

#### Club Telescopes Available for Use

NOVAC makes available two six-inch (f/5) Newtonian reflectors for club members to check out free of charge and use for a limited time.

One scope is a Celestron model SP-C6 on a Super Polaris German equatorial mount and wood tripod. It will readily fit disassembled in any car and is easily transported and can be set up quickly at remote observing sites. The scope comes with an Orion Ultrascopic 10mm and Meade MA 25mm eyepieces with 1.25-inch barrel sizes. The other scope is a home-made six-inch reflector on a Dobsonian mount and comes with a 25mm Kellner eyepiece. It is easy to transport to dark sky sites and easy to use. To borrow a scope you will need to show your NOVAC observing pass and leave a \$500 (for the Celestron) or \$250.00 (for the Dobson) security deposit. To borrow the Celestron, contact Doug Mistler at (703) 437-0513; for the Dobson, contact Bob L'Hommedieu at (703) 978-0946. Note: Checks must be made payable to "NOVAC". Checks used as security deposits on telescopes are not deposited and will be returned to the originator when the scope is returned in the same condition it was checked out. The scopes may be checked out for two to four weeks at a time, depending on demand.

#### NOVAC Library

NOVAC has established a library at the Arlington Planetarium for use by NOVAC members. Books may be checked out and returned only at the monthly meetings. Members may check out books for one month at a time. To borrow books, see NOVAC Librarian Marta Krause, or Deputy Librarian Steve Custerer at the monthly meeting. The NOVAC library seeks book donations to the library. If you have any astronomy books or materials you are thinking of discarding, please consider a donation to the NOVAC library. A complete list of all library holdings is available upon request.

#### NOVAC Observing Schedule for 1996

Observing at Savage Farm, C.M. Crockett Park and Nichlason site: see back cover of this newsletter.

Observing at Parsells Field: any evening.

#### General Membership Meetings

General Membership Meetings are held at the Arlington Planetarium, 1426 N. Quincy Street, Arlington, VA, on the third Wednesday of every month. To reach the Planetarium, take Interstate 66 to exit 71 West, North Fairfax Dr. (Rt. 237). Go east on Rt. 237 to the 5th stoplight, N. Quincy Street (about 0.8 miles). Turn left onto N. Quincy Street (at the funeral home). Go 6 blocks (about 0.5 miles). The planetarium will be the low white domed building on the left.

Trustee Meetings are held the Tuesday before the week of the General Membership Meeting. Non-Trustees interested in attending should contact a Club Officer or Board Member for further information.

#### NOVAC On-line

NOVAC maintains an e-mail mailing list. Messages sent to the list include reminders about scheduled observing sessions, announcements for unscheduled sessions, requests for quick observing session summaries, MIR observability predictions, etc.

For more information, send a message to [Chewning Toulmin, pct@his.com](mailto:Chewning.Toulmin.pct@his.com).

#### NOVAC Observing Site Rules

##### C. M. Crockett Park

Any night that NOVAC observes at Crockett Park, the observing session will be open to the public. The gate will be locked and will not be unlocked unless a NOVAC member enters the park, at which time the gate should remain unlocked until 10 o'clock (or some other prearranged time) when David Petty, Assistant Park Manager, will come out and ask members of the public to leave. The gate will then be locked and should remain locked through the rest of the evening. NOVAC members may remain until they are finished with their observing session. There is now a 2-week lead

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time requirement for permission to observe at Crockett Park on nights other than those listed on our schedule at the back of this newsletter. Gary Kwolek recommends that anyone interested in observing in that area on unscheduled nights drive out to the Crockett Park gate-house, turn left and drive down to the cul-de-sac where you can set up your telescope on the public road.

If any NOVAC member out observing at Crockett Park notices any member of the public violating Park policy, he or she is requested to notify David Petty, who lives in the house adjacent to the end of the parking lot.

During EDT, set up on the large field to the left. During EST, set up on the paved cul-de-sac 200 yds. past the gate. No loud radios, alcoholic beverages or loose pets. Do not leave trash or debris behind. We are guests of the park and park management may revoke our observing privileges at any time due to the carelessness of one person.

**Parsells Field:** In addition to scheduled nights, NOVAC members may observe at Parsells field ANY evening, with no prior notice. You must park and set up only in the parking area: do not go onto the field itself. Please park to the left near the entrance and set up to the right away from the entrance. The usual NOVAC observing site rules apply: no loud noises, alcohol, or loose dogs, and pick up after yourself. We are guests of the Dulles Little League, and could have our access to this site revoked at any time if it is abused.

**Savage Farm Site:** The Savage Farm site is reserved for NOVAC use on the same nights as Crockett Park plus all the major meteor showers. For non-scheduled observing sessions, call the park manager, Paul McCray, at (703) 729-0596 at least 24 hours in advance and leave a message with your phone number. You MAY use the site for that session UNLESS you receive a call from Mr. McCray stating otherwise. No loud radios, alcoholic beverages or loose pets. Pick up after yourself and do not leave any trash behind. Make sure the gate is locked whenever you are in the park, and when you leave. We are guests of the NVRP and could have our access to this site revoked at any time if it is abused.

**Nichlason Site:** The same rules apply as for the Savage Farm Site except that in seeking permission to use the site for non-scheduled observing call Smokey Jacobs (Northern Virginia Regional Park Authority) at 703-250-9124 and follow same procedure as with Savage Farm Site.

#### Directions to NOVAC Observing Sites

**C. M. Crockett Park:** From the Washington DC/Northern Virginia area, go west on I-66 to the 47-a exit. This is 234 South to Manassas. Continue on 234 for 2.8 miles then turn right on Godwin Drive at what was previously the *Po Folks* restaurant. Follow Godwin Dr. for 1.8 miles keeping to the right to merge with Rt. 28 West. Once on Route 28, continue driving for another 13.7 miles through the towns of Nokesville, Catlett, and Calverton until you turn right on Rt. 643 toward Warren-

ton. There is a small country store (*Mayhugh's*) on the corner of the intersection. Go on about a mile up Rt. 643 to the Park Entrance road. Look for a small sign for C.M. Crockett Park on your right directing you to turn left. Once on the park entrance road, go one-half mile to the park gate.

Alternate directions to avoid Manassas: Go west on I-66 (21.7 miles from I-495) to Exit 43A in Gainesville onto Rt. 29 South toward Warrenton. After 11.8 miles on Rt. 29, stay left (towards Culpeper), to bypass Warrenton (but still on Rt. 29 S.) Go about 1 mile to Rt. 643 exit, Meetze Road. At top of ramp, turn left to go East on Rt. 643. Go 7.5 miles on Rt. 643. Watch for the C.M. Crockett Park sign on your right, and turn right into the Park Entrance Road. Once on the park entrance road, go one-half mile to the park gate.

**Parsells Field:** From the Northern Virginia area go West on the Dulles Toll Road until you reach Route 28. Go North on Rt. 28 for 2.8 miles to Route 625, Waxpool Rd. (You may also take Route 7 West to 28, then go South to Waxpool). Turn West on Waxpool, and go 1.8 miles to the Waxpool/Farmwell intersection. Turn left on Route 625, Waxpool Rd. (!), and go 1.6 miles to the Waxpool/Ryan/Shelhorne intersection. Continue on Waxpool for about another 1.6 miles to the field. Turn left and follow the blue parking signs to the parking area.

**Savage Site:** Use some combination of Routes 7, 267 (Dulles toll road), and 28 to get to the Route 7 Leesburg bypass. Go around Leesburg on the bypass until you reach "regular" Route 7 again. From the intersection of the bypass and "regular" Route 7, continue on Route 7 west 18.5 miles to Route 601, at the top of Snicker's Gap.

Turn left onto Route 601 south and go 2.4 miles to the park entrance. The park entrance is past the driveway whose gatepost reads *Ben Lomand*. The park entrance is the next driveway on your left. There will be a sign on a tree saying *Wildlife Sanctuary*. If you come to gateposts on the left that say *Belle Allee* and *Ball Alley 1875*, you have gone too far.

You may also take I-66 west to Route 17 North. Stay on Route 17 North until it intersects with Route 50 at Ashby Gap. Turn left onto Route 50 and go 1.0 mile and turn right on Route 601. Continue on Route 601 (Blue Ridge Mountain Road) and go two miles past the main gate of the FEMA installation. Turn right at the park entrance after passing the gateposts with *Belle Allee* and *Ball Alley 1875* on your right.

The park entrance on Route 601 is marked by a small brown and white NOVAC sign. The neighbors periodically pull up the sign, so it may not be there. As you turn into the park, go straight ahead until you reach the gate, which is secured by both a keyed padlock and a combination lock. These locks are located to your left behind the gate as you face it from the outside. The combination is on your NOVAC observing pass. ALWAYS lock the gate behind you. The NOVAC lock MUST be locked to the keyed lock, not to the chain, to allow emer-

gency access by the fire department. Drive to the observing area (the stone patio next to the house). There is very limited parking at the observing area itself, so please park in the parking area on the right as you face the patio.

**Nichlason Site:** I-66 to Rt. 7100 (Fairfax County Parkway) south to Ox Road (Rt. 123) south to second right on Chapel Road to immediate left onto Wolf Run Shoals Road (Rt. 610). Continue on Wolf Run Shoals Road (watch signs carefully at twists and turns in the road) for 3.9 miles to the site. It is immediately after a yellow house with white picket fence on the right. Nichlason Site is on the left marked by "Wildlife Sanctuary" signs on utility poles. After third "Wildlife" sign there is a dirt/gravel lane into the site.

From Springfield/Burke area: go north on the Fairfax County Parkway (Rt. 7100) to left onto Burke Lake Road. Burke Lake Road becomes Clifton Road just after the intersection with Rt. 123. Continuing on Clifton Road, turn left at the Citgo station onto Wolf Run Shoals Road. Follow Wolf Run Shoals Road as above to site.

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Membership in the Northern Virginia Astronomy Club is \$18.00 per year and is open to anyone interested in astronomy or the sciences. Additional memberships at the same address are \$6.00 per person without additional copies of the newsletter. Contact Ken Pettijohn, Treasurer, 7916 Ivymount Terrace, Potomac, MD 20854, telephone 301 983-3199. All notices of change of address should be sent to Ken Pettijohn. Please include both old and new addresses.

NOVAC does not knowingly accept advertising for products of inferior quality nor does it accept the responsibility for the quality of advertised products.

NOVAC members are invited to contribute materials of interest for publication consideration in the NOVAC Newsletter. The editor reserves the right to edit all materials submitted.

Article submissions, in ASCII please, may be sent to Elliott Fein at edfein@cpcug.org, or to Elliott's address in Rockville, given above. Deadline for submissions is three weeks in advance of publication, e.g., Dec. 10 for the Jan./Feb. Newsletter

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# 1996-97 NOVAC Observing Dates (Subject to change)

## C.M. Crockett Park

November 1,2,8,9  
 December 6,7,13,14  
 January 3, 4 (Quadrantid meteor shower), 10, 11, 31  
 February 1, 7, 8, 28  
 March 1, 7, 8, 28, 29  
 April 4, 5, 25, 26  
 May 2, 3, 4 (Eta Aquarid meteor shower), 9, 10, 30, 31

June 6, 7, 27, 28  
 July 4, 5, 25, 26, 27 and 28 (Southern Delta Aquarid meteor shower)  
 August 1, 2, 8, 9, 11 and 12 (Perseid meteor shower), 29, 30  
 September 5, 6, 26, 27  
 October 3, 4, 21 (Orionid meteor shower), 24, 25, 31  
 November 1, 17 (Leonid meteor shower), 21, 22, 28, 29  
 December 13 (Geminid meteor shower), 19, 20, 22 (Ursid meteor shower), 26, 27

## Savage Farm

November 1,2,3,8,9,10  
 November 17 . . . . . Leonids  
 December 1,6,7,8,13,14  
 January 3, 4 (Quadrantid meteor shower),5, 10, 11,12, 31  
 February 1, 2, 7, 8, 9, 28  
 March 1, 2, 7, 8, 9, 28, 29, 30  
 April 4, 5, 6, 25, 26, 27

May 2, 3, 4 (Eta Aquarid meteor shower), 9, 10, 11, 30, 31  
 June 1, 6, 7, 8, 27, 28, 29  
 July 4, 5, 6, 25, 26, 27 and 28 (So. Delta Aquarid meteor shower)  
 August 1, 2, 3, 8, 9, 10, 11 and 12 (Perseid meteor shower), 29, 30, 31  
 September 5, 6, 7, 26, 27, 28  
 October 3, 4, 5, 21 (Orionid meteor shower), 24, 25, 26, 31  
 November 1, 2, 17 (Leonid meteor shower), 21, 22, 23, 28, 29, 30  
 December 13 (Geminid meteor shower), 19, 20, 21, 22 (Ursid meteor shower), 26, 27, 28

## Nichlason Site

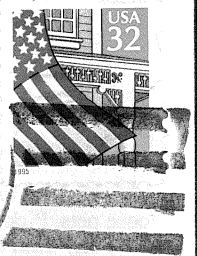
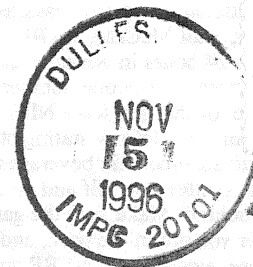
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