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NOVAC
THE NEWSLETTER OF
THE NORTHERN VIRGINIA
ASTRONOMY CLUB
JUNE 2013

Astronomy Day 2013 by David Werth

What's it like planning and coordinating one of NOVAC's big public events you ask? Well, there's two months of concentrated activity in advance of the event; renting the big tent, planning the program and signing up speakers, arranging publicity, gathering volunteers, endless emails, etc. Then maybe 13 hours on the field and zoom, it's over…

But it's those 13 hours on the field that are where all the fun is.

Ignore the logistics for a moment and consider the human aspect of the Astronomy Day event. There are images embedded in my memory that I will carry for a long time such as:

- the lady who brought her son all the way from Pennsylvania with his first telescope and to whom John Deriso and Phil Wherry gave so much attention
- the little girl who won the "Universe" book in Astronomy Bingo and couldn't stop hugging it
- Bob Traube who ran about 25 minutes long (but no one got up and left because he was so darn good!)
- Alan Goldberg showing us that it isn't a giant robot named Gort that we have to worry about
- Dr. Tim Livengood in apron and chef's toque creating his own comet in the kitchen (Oooh, that really hurts!)
- Barbara Whitehead (the shyest person in NOVAC) getting up and "glowing like the sun" as Tim "orbited" her
- Yvette Johnson's terrible/wonderful karaoke
- three of us in the club tent when the big storm hit and me holding on to the metal braces to keep it from flying away and

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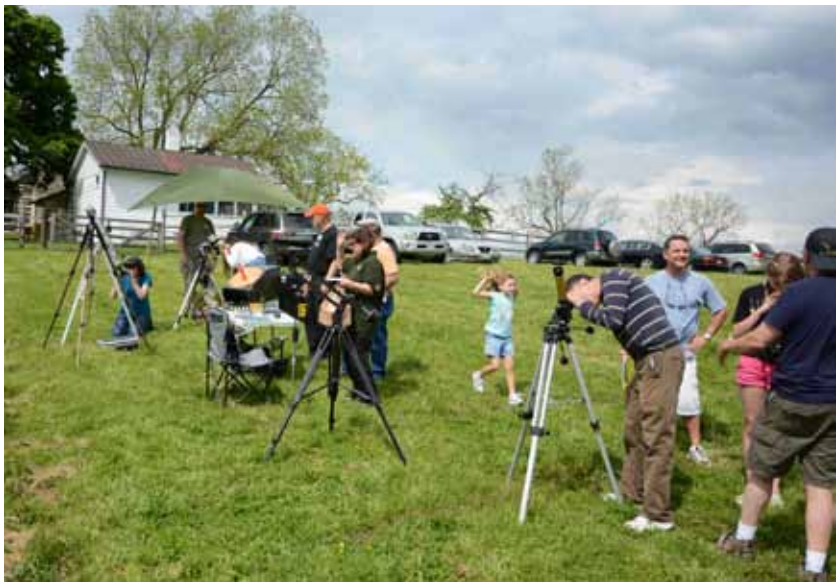

Solar observing at Astronomy Day 2013

The *NOVAC Newsletter* is the official publication of the Northern Virginia Astronomy Club and is published quarterly. The NOVAC Newsletter is available to members of NOVAC as a regular membership benefit.

Membership

Membership in the Northern Virginia Astronomy Club is $25.00 per year and is open to anyone interested in astronomy or the sciences. Additional memberships at the same address without additional copies of the newsletter are $5.00 per person. Membership in the Astronomical League is included with NOVAC membership and includes the *Reflector* magazine plus access to their Observing Awards.

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Submissions to the newsletter

NOVAC members are invited to submit articles for publication in the *NOVAC Newsletter*. The editor reserves the right to edit all materials submitted. Send article submissions to the Editor, Chris Lee, at newsletters@novac.com.

A Conversation With…
Long-time NOVAC member and avid observer Donna Blosser

By David Werth

Two Eyes

David: Donna, you are well known within NOVAC as a person with a great knowledge of the night sky. When did you first get interested in astronomy and how did you learn to find objects so quickly?

Donna: I grew up with astronomy. But it didn't begin with star charts or a telescope. I was fortunate to have a grandfather who had a tremendous love of earth and sky and was a fantastic observer of the world around him. From the time I was very small he would point out where the sun rose along the horizon in summer then show me its different location in winter. He didn't really know why this happened, just that it did. He talked to me about the changing seasons. He wondered about the phases of the moon and he told me about seeing Halley's Comet.

David: Early memories, ambitions?

Donna: I guess if kids have bucket lists, I had just started mine and Halley's Comet was item number one. The fact that I was school age in the 1950s and grew up in the space age also meant there was an interest in science and especially astronomy in school. In 4th grade our class assignment was to draw the solar system. I drew, the teacher critiqued, and my paper came back with marks indicating I had put the planets in the wrong order! If I had to pinpoint the start of astronomy as my hobby and way of life, I'd have to say it started with the research that followed that assignment.

Two Eyes and Binoculars

Donna: It was also around 4th grade that my dad and I acquired a pair of 8 X 40 binoculars. They would be my primary observing tool for the next 35 years! Yes, I still have them! And here's where the answer to the second question begins. How do I find things so quickly?

It was with those binoculars, a planisphere, and books of star charts that I started to learn constellation patterns, discovered the moons of Jupiter, saw the Orion Nebula and learned my way around the sky.

My search for faint-fuzzies, those deep sky objects that we like to show off at public nights, didn't really begin until I had my first scope in the early 1990s. Because I don't use a GOTO scope, I rely first on a combination of knowing the sky well and being able to match what's overhead with a star chart. Once I've located the area of sky where the faint fuzzy is, I make triangles. I find two stars nearby that I can see then put my Telrad on the point where the star chart tells me the faint fuzzy is located. This method works pretty well for me. If the object isn't already in the eyepiece, it usually only takes a short search to find it. Objects I go to frequently I usually can find quickly. That comes with practice. Lots of practice! But contrary to what many of you think, I don't always find objects quickly. Fortunately for me, the hunt is as much fun as finding stuff. And if it takes me several years to track something down—yes, it sometimes takes me that long—I've learned a lot in the process.

Two Eyes, Binoculars and a Telescope

David: After your childhood, how did things mature with your interest in astronomy?

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A Conversation With…
Donna Blosser

Continued from p. 2

Donna: By middle school my dad and I ground and had coated a beautiful 6 in. mirror, but our limited construction skills left us without a functional scope. Fortunately, by the 1980s commercial scopes were available and I wanted one!

When I finally went shopping for my first scope, I had a list of requirements. I had to be able to handle it solo and I wanted quick set up and take down. It had to fit in my car and I wanted the eyepiece at a level that didn't require a step ladder.

That all came together in the Dobsonian design. I started with an 8 in. and later the 10 in. By the time GOTOs became popular, I was happily observing with my push to. I've never been bitten by the technology bug and only somewhat by aperture fever. If I can ever have a permanent set up, I might consider going up to 12 in. Bottom line, I still have to be able to handle the scope and have fun finding things.

Note: With that 8 in. Dob I finally got my first view of the rings of Saturn.

David: What about your grown-up bucket list?

Donna: I've actually completed a good bit of it. Seeing a total solar eclipse was high on the list and I checked that off in 1970. Of course I'm on the countdown now to 2017.

And both Venus transits got a check mark.

But still to do: I want to see the Hale Telescope, I'd love to see a really good display of the auroras and I want to observe in the southern sky. Let's see how fast I find stuff there! And see that 2017 solar eclipse.

As for Halley's Comet, my first bucket list item. My dad and I did see it — in binoculars, ironically from a field not far from Crockett Park. It turned out to be our last observing adventure together ending 35 years of observing with our 8 X 40 binoculars. The next chapter for me was NOVAC. ✶

2013 Astronomy Events

August 10
Turner Mountain Public Night
Turner Mountain, The Plains, VA

Sept. 6 – 10
Almost Heaven Star Party (AHSP)
The Mountain Institute (TMI), WV

October 5
Star Gaze
Crockett Park
Catlett, VA

Upcoming Meetings

June 9
Speaker: Will Marchant
Topic: The NuSTAR Mission

July 14
Speaker: Kirk Borne
Topic: Big Data

August 11
TBA

Monthly meetings are normally held at 7 p.m. on the second Sunday of each month in Room 163 of the Research Building on the campus of George Mason University.

Find more info at www.NOVAC.com

Reflection and Emission By Phil Plait, Bad Astronomy

Near the top of the constellation Orion lies a star that you might easily pass over scanning the heavens. It's just barely visible to the naked eye on a dark night, another white spark among thousands.

But this star, called HD 34989 (among other alphanumeric designations) is special. For one thing, it's massive, probably 10 times the mass of our Sun. It's also incredibly luminous, shining 15,000 times brighter than the Sun. Put that in the center of our solar system, and the global warming we're experiencing now would seem like the deep freeze. Happily, it's over a thousand light years away.

But in that location, it sits in the middle of a fairly large cloud of gas and dust, too. Because the star is so bright, it profoundly affects that nebula, as you can see for yourself in this exquisite photograph by Adam Block:

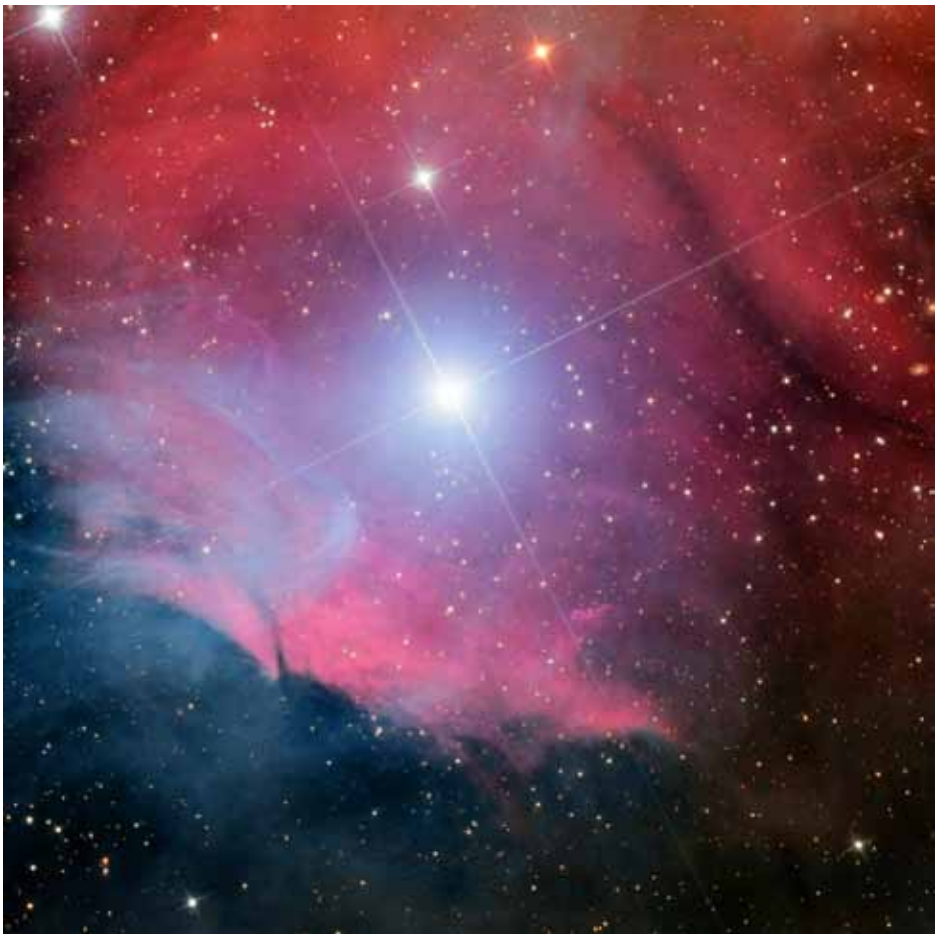

Photo of the nebula Sharpless 2-236.
Image credit: Adam Block/Mount Lemmon SkyCenter/University of Arizona

Adam took this picture with the 0.8 meter (32 in.) Schulman Telescope (RCOS) on Mt. Lemmon in Arizona. HD 34989 is pretty obvious; it's the intensely bright star in the middle. The gas and dust are obvious, too…but what's the deal with those colors? Why is some of the gas red, and some blue?

I'm glad you asked. Let us reflect on this question.

There are two ways for an object to be visible. One is if it reflects light from a nearby source (which is how we see the vast majority of objects around us), and the other is if it is intrinsically giving off, or emitting, light.

The star HD 34989 is emitting light, and that light is very blue. In fact, it gives off a lot of ultraviolet light. The gas cloud has a lot of hydrogen in it, which loves to absorb that UV light. When an atom of hydrogen gets zapped with UV, the electron gets blown off the atom. But then the remaining atom (really just a proton) has a positive charge, and attracts any electron around it. If one meets up with it, they combine once again to form a neutral atom. Due to complicated quantum mechanic effects, the electron jumps down a series of discrete energy levels, a bit like a ball rolling down a staircase. Every time it does that, it gives off a little bit of light.

As it happens, one of those energy level jumps is very popular among the excited hydrogen atoms. When an electron makes that drop, it emits a photon (a particle of light) in the red part of the spectrum.

This emission is called hydrogen-alpha, or H-alpha for short (or even Hα if you want to get all fancy and Greek). It's very common in warm gas clouds where some bright star is nearby.

So in this case the gas is energized by the star, and responds by emitting that glorious red color. There is a special Hα filter astronomers use to specifically observe that light, which Adam used in this picture to enhance the glowing hydrogen. In this case, the cloud is called an emission nebula.

So where does the blue come from then? That one's easier. It's just the blue light

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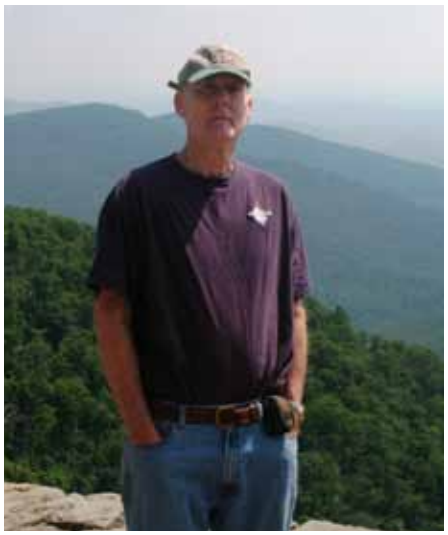
Celebrating the Life and Achievements of Byron Bergert by Tom Kennedy

On April 27, 2013, Byron Bergert, age 67, died at home with his wife Susan and his son David and daughter Beverly at his side. Byron was a devoted member of The Northern Virginia Astronomy Club. His contributions to the hobby of astronomy and astrophotography were numerous. Most important were his contributions to individuals attempting astrophotography for the first time. He had a true joy for the hobby and the patience to share it with anyone who asked.

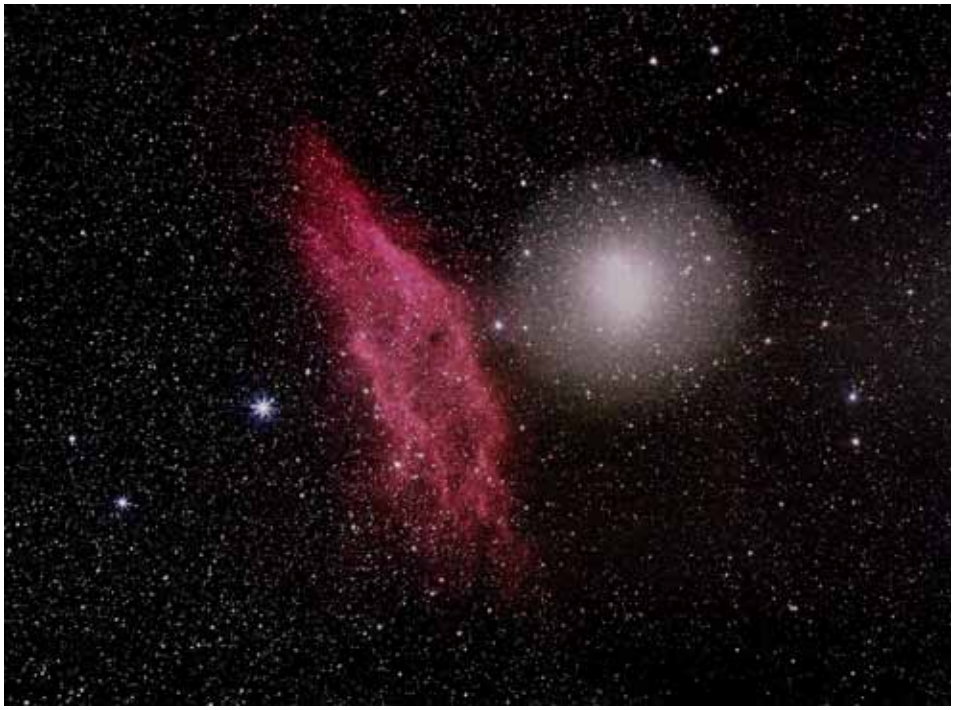
As his *Washington Post* obituary stated, "Byron led a life of curiosity, intellectualism and had a love of science and technology that despite his reserved nature, he successfully passed on to his family and friends". We at NOVAC were blessed to be included amongst his friends. Every year Byron participated in the Almost Heaven Star Party (AHSP), not only attending, but presenting his latest efforts in astrophotography, including the latest imaging tools and post processing tools he was utilizing. After his presentations he would stay around to answer any additional questions, which were many.

He could also be found imaging at NOVAC sites around the Northern Virginia area including Crockett, Great Meadow, Savage and so many other sites. He often spent more time there helping others with their equipment and answering questions than working his own gear.

Byron retired from Lockheed Martin in 2009 and a short time later moved to Gainesville, Florida. He quickly joined the Alachua County Astronomy Club and began imaging from the nearby Chiefland, Florida site. His move to Florida did not diminish his commitment to NOVAC. He kept in touch with the members, posting on the NOVAC listserv and providing advice on all aspects of the hobby. He also continued to attend and present at the AHSP including the 2010 and 2011 events. His illness prevented him from attending in 2012.



Byron Bergert



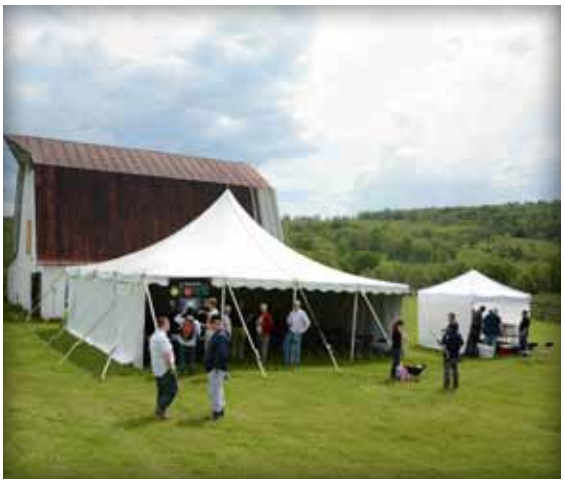
For many years, Byron had often joined other members of NOVAC on the long drive to the yearly Winter Star Party held in Key West, Florida. After his move to Gainesville, he often made his home available as a way station for the NOVAC snow birds, inviting them to spend a night or two. He would then join them on the second half of the trip to the Florida Keys and the WSP. A wonderful time was had by all during these yearly winter interludes.

If you were blessed to join Byron on a 22 hour drive to the WSP, then you would have had the chance for Byron to share with you his heart felt belief that each of us is made up of the remnants of stars and that we are truly star dust. When you stare into that dark sky through your telescope or camera and enjoy the spectacular views of that incredible Universe, in some small way Byron is smiling back. ✶

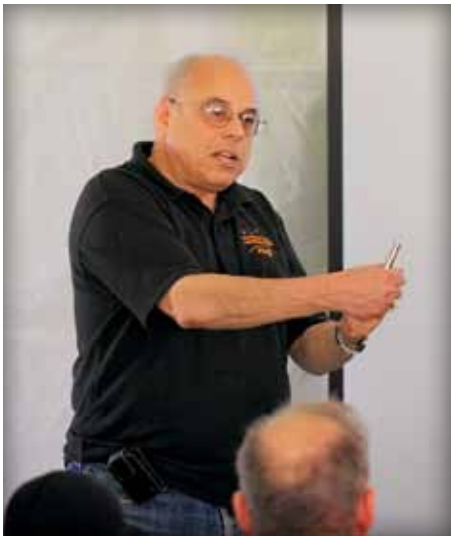
Astronomy Day 2013 *continued from p. 1*

then thinking as the lightning flashed that this may not be such a great idea

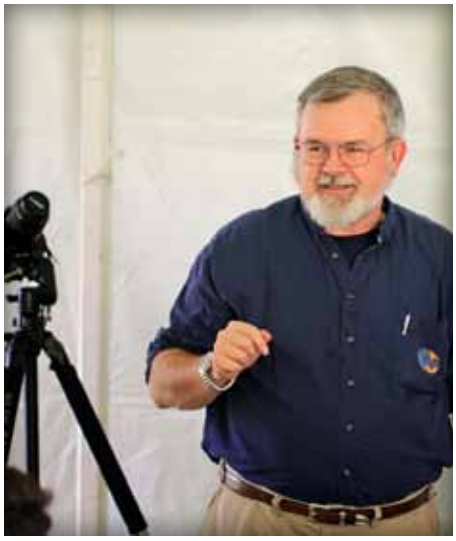
- a beautiful double rainbow
- the poor man who disassembled an eye piece and to whom Terry Cabell gave so much time
- speaking of Terry, there he was out on the field gamely giving his "Your Place in Space" demonstration to just a man and his two kids



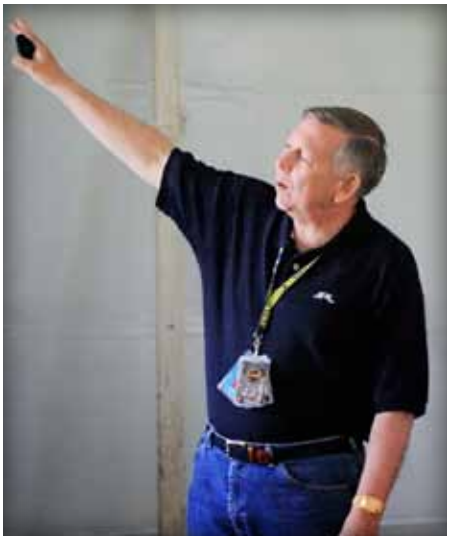
The guests who come out to our public outreach events are invariably polite and curious. They enjoy looking through solar scopes and doing nighttime observing, but they also enjoy conversing about telescopes and the universe. It's also a great chance to see other club members that you don't get a chance to talk to as often as you'd like, and to meet new members. If you believe in extended families, and I do, NOVAC public events give us a chance to spend quality time with some really great people. So, rain or shine, cloudy or clear, Astronomy Day and our other public outreach events are the reward. Astronomy Day budget: $2,000; the memories… priceless! ✶



Alan Goldberg presented "The Real Alien Visitors to Earth: Meteors, Meteorites, Asteroids and Comets in the Neighborhood." Photo credit: Alex Rogge



Bob Traube presented "Just Do It: Getting Started in Astrophotography." Photo credit: Alex Rogge



Woody Davis, JPL ambassador. Photo credit: Alex Rogge

Terry Cabell (holding Jupiter) and "Your Place in Space."

Solar observing. Photo credit: Alex Rogge

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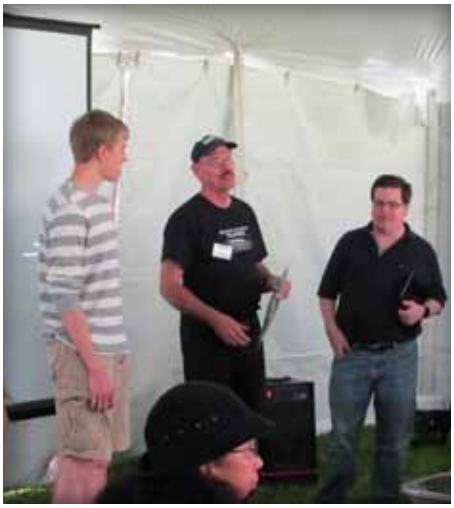
Astronomy Day 2013 *continued from p. 6*

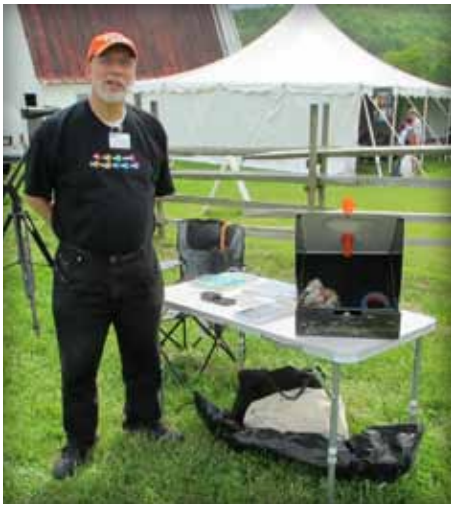
A double rainbow after a downpour.

Richard Graul's canine dressed for the occasion.



David Werth (center) and NOVAC President, Phil Wherry (right), presented outgoing Night Sky Network Coordinator, Henry Bishop, with an award.

Yvette Johnson (left) organized outstanding comestibles in the club tent and found time for karaoke. Photo credit: Alex Rogge



Cal Powel provided an opportunity to see the sun.

Dr. Timothy Livengood cooked up a comet. Photo credit: Alex Rogge

Book Review

Death By Black Hole and Other Cosmic Quandries, by Neil deGrasse Tyson

Reviewer: Richard Grauel, NOVAC Member

I got the 10 CD audio book set of *Death By Black Hole* by Neil deGrasse Tyson for Christmas. I immediately started listening whenever I was on the road for any time. I found it so fascinating that I would even listen to a CD twice to make sure I hadn't missed anything.

Tyson, an astrophysicist and director of the Hayden Planetarium in New York City, has written eight other books on astronomy and cosmology and presented a PBS TV series. This book provides a tour of the universe that is thoroughly enjoyable. Tyson has a sense of humor that one can see by the title of this book. His wit makes the subject even more interesting. This is one place to come for lots of explanations that use unique comparisons to help understand Lagrange Points, antimatter, pulsars, star formation, and more. He also covers chapters on life in the universe, science and culture, and science and God.

My favorite chapter is "When The Universe Turns Bad—All the ways the cosmos wants to kill us." I smile every time I think of this title. He explains black holes and tidal forces in terms of a person approaching the event horizon. It's nice to know that, if the black hole is small enough in diameter, the tidal forces will rip your body apart atom by atom. Otherwise, expect to die by being burnt to a crisp at the event horizon. Personally, neither choice sounds particularly attractive.

I hope I have given you some of the flavor of this wonderful book. Tyson is the Carl Sagan of this generation. Those who do not remember Sagan's Cosmos PBS TV series can explore our knowledge of the universe and what it means with Tyson. Those who do remember Sagan can read this book for a wonderful update.

Death By Black Hole is widely available. Your library should have a copy. It's also available from www.barnesandnoble.com, and www.abebooks.com sells used copies for $2. Amazon.com sells the CD set for $22 new and $16 used. It is also available at the NOVAC library.

Reflection and Emission Continued from p. 4

of the star reflected! In this case, the culprit isn't gas, it's dust—thick clumps of complex molecules created when stars are born, and when they die. It's strewn throughout the galaxy, especially where you see big gas clouds.

That dust acts a bit like a mirror. When the light from the star hits it, that light gets scattered every which way, and some of it heads toward us. The star is blue, so it makes the dust look blue. That's called a reflection nebula.

Many times where you see a blue reflection nebula you also see red emission gas as well. Not always, but that's clearly the case here; in fact they have two different names: vdB38 for the reflection nebula and Sharpless 2-236 for the emission nebula. On Flickr I found a nice set of images showing how the reflected and emitted light can be combined to make a single image like Adam's. You can see why astronomers use these filters; it helps distinguish what's physically happening in the nebula.

Interestingly, not all the dust in that cloud is scattering the star's light. See that sharp ridge of red at the bottom left of the nebula, right where we start to see blue light? That's probably the edge of a large, dense cloud of dust called a molecular cloud (those are common in that part of space). The edge of it is being lit by the star, making it look brighter. This is very similar to what lights up the Orion Nebula and other famous (and gorgeous) objects.

It's hard to believe all that is lit by a single star, but it is. Mind you, that whole glowing gas cloud is something like five light year across—50 trillion kilometers (30 trillion miles)! But HD 34989 is a monster. Only one star in a thousand is as massive, hot, and bright as it is. Which is something you should be thankful for; you don't want to be too close to something like that…especially since, in a few million years or so, it'll explode as a supernova. For something like that, it's always best to be sitting at a safe distance. A thousand light years will do me just fine. ✶

This content distributed by the AAVSO Writer's Bureau

Phil Plait, the creator of Bad Astronomy, is an astronomer, lecturer, and author. After ten years working on Hubble Space Telescope and six more working on astronomy education, he struck out on his own as a writer. He has written two books, Death from the Skies *and* Bad Astronomy, *dozens of magazine articles, and 12 bazillion blog articles. He is a skeptic, and fights misuses of science as well as praising the wonder of real science.*

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Blast from the past—*This article originally appeared in the March/April 1993 issue of the NOVAC Newsletter.*

The Recreational Astronomer #1

What is a Recreational Astronomer?

By Jon Stewart-Taylor

Probably everyone knows what an amateur astronomer is, but what's a Recreational Astronomer? In my opinion, it's someone who looks at the night sky for the simple enjoyment of it. Recreational Astronomers don't work too hard. Spending hours in the cold guiding an astrophoto can be very rewarding, but it isn't Recreational Astronomy. This doesn't mean that there aren't things to learn about celestial objects, observing techniques, and equipment. All these things will enhance your enjoyment of your observing sessions.

This is the first article of a regular column that will appear in the *NOVAC Newsletter*. It is based on my own observing experiences (I observe from my townhouse neighborhood every clear night with my eyes, and three to five times per month with binoculars). The column will focus on beginning and intermediate astronomers, but I hope it will be of interest to everyone who loves the beauty of the night sky.

You Can See More Than You think!

One of the things that discourages potential astronomers most is a feeling of inadequacy: *I don't have enough time, I don't have a dark enough sky, I can't find anything interesting, I don't have a telescope*, and so on. But whatever your conditions, whatever your equipment, you can see more than you think. With a little practice, learning a few techniques and making the most of the sites you have available, you can see more, and increase your enjoyment of the sky.

One of the most important things is simply to observe often, with whatever you've got. It takes about 20 minutes for most people's eyes to adapt fully to the dark, but even before full dark adaptation there's lots to see. Whenever you have 20 minutes or more free, you have an observing session. Use a telescope, a pair of binoculars, or just go out and use your eyes. Observing with the naked eye is the easiest type of observing to fit your schedule. Whenever you've got a few minutes outside, you can look at the sky, such as at the end of the workday before going home. Most spouses think it's romantic to go out and look at the stars together, and it can be some quality time spent with children.

Another point is to choose your site carefully. Even if you're in a neighborhood full of streetlights, some areas are darker than others. Careful positioning of trees and houses can make a big difference, and sometimes neighbors will be willing to turn off lights. Particular locations may allow views of different parts of the sky better than others. Be careful, however, to temper your lust for darkness with a consciousness of safety (especially in urban areas). Don't go wandering around in other peoples' yards without their permission. Do look at the sites you're considering in daylight for potential hazards. Do make sure that you're not in a place where someone is likely to damage your equipment or injure you.

Less-than-perfect sky conditions shouldn't scare you off; in patchy clouds there are often windows of perfectly good viewing if you're willing to wait a little while, or shift to a different part of the sky. The moon and planets will shine through thin clouds, and a bright moon can be a subject itself. In addition, while a full moon will wash out most of the sky, even 75% gibbous moons don't totally obscure everything. There are usually windows before they rise or after they set, and objects located more than 30 to 40 degrees away are often still observable.

One thing, which is often overlooked, is the importance of writing it all down. Techniques you learn, objects you see, and other things will be forgotten if you don't write them down. Even just a few abbreviations can often jog the memory, and you'll remember techniques which help you see more. It will also give you a sense of accomplishment as the log grows and you see the increasing number and variety of objects you've observed. I carry a little 9 x 13 cm notebook with me everywhere. I keep my observing log in it, and it also has enough pages that I can scribble all sorts of notes about sites, conditions, objects, and so on.

What You Can See With What You've Got

There are lots of things to see with just your unaided eyes. Some of the most spectacular are meteors, practically the only noticeable moving subjects in astronomy. The moon is a good subject, since it's easy to find when it's visible during the night, and shows about as much detail as you'll see on any of the planets through good telescopes. Five of the nine planets can be detected, and their motion with respect to the background constellations observed.

The stars are a fertile subject for naked-eye study. Learning the locations and member stars of the constellations is fun, and an important step for locating other things you want to see. There are a few naked-eye double and variable stars, and even "deep-sky" objects aren't out of reach. Star clusters like the Pleiades appear similar to what you'll see through small telescopes. A few globular clusters are detectable as hazy patches under good conditions, and three galaxies are visible from the Northern Hemisphere (counting our own Milky Way, flowing in streams and eddies through the sky).

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"To observe, and to help others observe"

NOVAC is a non-profit, all-volunteer organization chartered to advance amateur astronomy in Northern Virginia. Member benefits:

Access to dark sky observing sites

NOVAC maintains agreements that provide club members with year-round access to observing sites away from city lights. **www.novac.com/wp/observing/**

Monthly meetings

Monthly meetings are normally held at 7 p.m. on the second Sunday of each month in Room 163 of the Research Building on the campus of George Mason University. Each meeting features a lecture on an interesting topic by a local expert. See the meeting web page or future newsletters for a schedule of speakers.
www.novac.com/wp/outreach/meetings/

Quarterly newsletter

The NOVAC newsletter provides information specifically for NOVAC members, as well as general interest articles on such topics as observing reports, equipment reviews, upcoming events, amateur telescope making (ATM) projects, and more.
www.novac.com/wp/members/newsletter/

High-quality telescopes to borrow

NOVAC members may borrow one of the club's several loaner telescopes at no charge. Members may choose from among three 6 in. reflectors, two 10 in. f/6 reflectors, an 8 in. SCT, and a hydrogen-alpha solar scope. Binoculars are also available for loan.
www.novac.com/wp/members/loaner-scope/

Club website

Up to date information about club events and activities is maintained on the club website at **www.novac.com**.

Large club library

NOVAC maintains a well stocked library from which members may borrow by contacting John Deriso (**librarian@novac.com**). A full list of titles is available on the club website.
www.novac.com/wp/members/library

Private email listserv

Members keep up with current club information by subscribing to the NOVAC email list, without fear of flame wars or spam emails.

Public outreach opportunities

Several times each year volunteers from NOVAC present astronomy programs to schools, churches, Scout troops and other public groups. Contact **outreach@novac.com** or fill out the outreach form on the NOVAC website to request a program or help supporting an event.
www.novac.com/wp/outreach/outreach-form/

Membership in the Astronomical League

Through NOVAC's membership in the Astronomical League (AL), NOVAC members gain access to the AL's newsletter, services and observing programs**. www.astroleague.org**

Discounts on astronomy magazines

Subscriptions to *Sky & Telescope* and *Astronomy* magazines are offered to club members at a considerable discount. Contact Kent Allingham: **membership@novac.com**

Mentor Program

Young or old, new or experienced, this program is for everybody. If you would like to meet with a mentor, think you would like to be a mentor, or have any questions about the program, contact: **mentor@novac.com**.

See your Membership Guide for more details about member benefits.
http://www.novac.com/wp/members/

Blast from the Past

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If you have a pair of binoculars, your reach is extended quite a bit. They'll take you about halfway between the unaided eye and modest-sized telescopes. The moon shows a lot of detail through binoculars, and the Galilean satellites of Jupiter are often visible. You'll be able to find objects as faint as 8th magnitude even under bad conditions. About half of the Messier catalog of deep-sky objects is detectable with a pair of binoculars. Small telescopes, even department-store refractors, can give respectable views of the moon, if one doesn't use too high a magnification. Nearly all Messier objects can be detected, and many more double stars can be split.

For More Information

If you'd like more information, you may wish to look into the following sources:

Backyard Astronomy, available from Sky Publishing. Contains a set of reprints from the "Backyard Astronomy" column of *Sky and Telescope*. I highly recommend it.

The forum sci.astro (https://groups.google.com/forum/?fromgroups#!forum/sci.astro.amateur) "Purchasing Amateur Telescopes FAQ" is a compilation of the wisdom of dozens of contributors. It contains a wealth of information about many different aspects of Astronomy (including buying telescopes!). Chapters include:

- What is The Single Most Important Thing I Should Know Before I Buy a Telescope?
- What Will I Be Able To See?
- Why Should I Start With Binoculars?
- What Books and Star Charts Are Recommended?

Two books worth mentioning are *The Sky*, by H.A. Rey (yes the *Curious George* author), and *Peterson's Field Guide to the Stars and Planets*.

That's it for this time: go out and do some observing! ✶