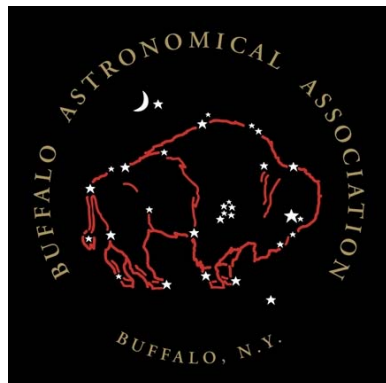


# *The Spectrum*

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Lake Effect Edition

November/December 2008



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*From the Editor's Desk...*

This issue is packed with great articles. Thanks to all those writers. And welcome to lake effect season. As we all know, this is the time of year when the air gets cold but Lake Erie is still relatively warm. You know what that means! Clouds, clouds and more clouds. Take any opportunity to get out in the next couple of months. There are some good constellations this time of year like Taurus and Auriga. The Pleiades is one of my favorite objects. I think I will always remember the first time I noticed it. I remember back in the 1980's, when I first got serious about astronomy, I kept seeing this sparkly group of stars rising in the east. It reminded me of the Little Dipper, but I knew it was the wrong spot in the sky. I finally looked it up and when I saw it's name, I wondered how to pronounce it.

Soon the holiday season will be upon us. Yes, it's time for that again. Did anyone ask Santa for a new telescope? Let's hope he doesn't stop by Wal-Mart to get one of those cheap scopes that we all dislike. On behalf of all the editorial staff, we wish everyone a happy and safe holiday season.

Rick Fusani

**Light's Out!**

By Derek G. Bill

As many of you are well aware, it is becoming increasingly more difficult to see the stars at night almost anywhere you go now. Even in what we now call the suburbs, the light pollution from the encroaching sprawl has blotted out all but the brightest stars from our view. When I first bought my home in Tonawanda, I remember seeing quite a few stars and constellations. In ten short years the sky in my back yard has become almost completely washed out. Even at our observatory at Beaver Meadow, everything to the west is fading into the glow of Buffalo, and more evident, the glow of Rochester as started to become a factor to the northeast! Businesses now have security lights on all night. I remember when the malls and shopping centers used to turn off the lights in the parking lots, now they blaze all through the night. Businesses aren't the only culprits either, my neighbor sees fit to keep a mercury vapor lamp burning at all times and if I move on my deck at all, my other neighbor has a motion

*Continued on page 2*

## BAA Officials

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### **Location/Time of Meetings:**

BAA meetings are held on the **2<sup>nd</sup> Friday of the month** from **September to June** in the **Science Building on Buffalo State College Campus** (Except the March Dinner Mtg). Meetings start at **7:30 P.M.**, in the first floor auditorium near the entrance. See above web site for a map of the location. **Non-members are encouraged to attend.**

**Spectrum Deadline:**  
Articles for the next Spectrum are due by:  
**December 21st**

**BAA Webmaster**  
Mike O'Connor

**BAA Yahoo E Group**  
**Coordinators**  
Dennis Hohman  
Mike O'Connor

## Light's Out (cont.)

detector that sets off a triplet of flood lights that illuminate their entire property, and mine! Around the corner from the BMO, a person moved in that keeps flood lights burning all night! Here's a real kicker. Anyone that drives route 77 on the way to the observatory knows, there's a property on the hill near Perry Road that burns 20-30 flood lamps all night, lighting up acres of land and the sky above it and that land is leased by none other than NYSERDA (New York State Energy Research Development Authority). They feel it's necessary to light up their parking lots all night. This is supposed to be a green operation, you know, they are responsible for all the windmills being erected in Wyoming county. Are we doomed to having our stars fade to nothing?

Maybe not...

On the front cover of the November National Geographic, there is an article highlighting the problem in startling detail, well startling to some, not to us. Included in the article is the all too familiar light pollution map of the world, how depressing! We live in one of the worst areas on the planet for light pollution; the only place that's worse is Japan. (Thank goodness we live near one of the darkest spots east of the Mississippi, Cherry Springs State Park.) The article also delves into the biological effect that the lack of darkness is having on humans and wildlife. Thankfully, after depressing us with the gloomy facts, proactively, the article also explores what is being done to help such as new forms of down-lighting. Hundreds of communities throughout the US and Canada have light ordinances in place that require covered fixtures and virtually ban all up-lighting. We can only hope that this is a trend rather than a fad.

My opinion is that humans are creatures of comfort. We flee from that which we don't understand. The majority of people fear the darkness, not for what it is, but for what it might hide. From the days of dwelling in caves, humans have gone in mortal terror of the darkness, hence fire was harnessed. Be brave...turn out the light.

## President's Message

### A 3 million dollar overhead projector and other thoughts

By the time you read this, the election will be over and the \$3 million overhead projector will be a forgotten blip on the radar of politics. I missed it completely during the first debate. This reference to a very expensive piece of office equipment was the example cited by John McCain of a billion dollars worth of “pork barrel earmark projects” voted for by his competitor Barack Obama. The candidate went on to add, “My friends, do we need to spend that kind of money?”

This example was not random or misspoken – it was cited a second time in the next debate and generated a sea of response, both critical and favorable. A statement was posted by the Adler Planetarium in Chicago, owner of the projector (an aging Zeiss Mark VI Planetarium projector and second instrument in its 78 years of operation) that is no longer supported in parts or service by its manufacturer. They go on to explain that the campaign to secure funding for a replacement was a bi-partisan effort of Illinois elected officials ... and it was not approved. Personally, I would be OK with this type of expenditure. There are many things that my tax dollars go to fund that I would veto if given the chance. Providing some much needed TLC to a historic planetarium that provides science learning experience to tens of thousands of kids each year is not on my top 10 list of wasteful pork. A line from the Adler statement released the day after the first debate:

*“Science literacy is an urgent issue in the United States. To remain competitive and ensure national security, it is vital that we educate and inspire the next generation of explorers to pursue careers in science, technology, engineering and math.”*

While I think many would agree with this statement, we might have a harder time achieving consensus on how to pay for it. One person's daily bread is another person's pork, and free change to pay for either is going to be tight for a long time to come.

This issue has hit a nerve with me. Because of my involvement with our own public science resource, the Buffalo Museum of Science, I have sat at a table with administrators trying to argue that when an observatory dome is a museum's signature, logotype and an icon in the city skyline, that dome really ought to work and be open to visitors. There are no sides to the argument, no debate or opposition... just a short supply of cash and a long list of worthy holes in need of patching.

So recently I had another thought. On the eve of the election, Barack Obama has raised a little more than half a billion dollars in cash from individual contributions. That's about \$1.78 for each inhabitant of the country, though I would guess some chose not to contribute and some put in a little more.

When we are up on the roof of the Museum, you don't need a poll to know that public opinion of those looking through our telescopes is overwhelmingly favorable. What if we were to appeal directly to the people with a grass roots campaign? There are almost a million residents in Erie County. If each contributed a dollar, we could get the mount humming without a gift from the city, the county or private foundations. Half the funds would be enough to renovate the Kellogg Observatory – a new or restored roof, a modern computerized mount for the vintage refractor. We could use the other half to establish an endowment fund for the return of regular public nights. Wouldn't this be a great grassroots campaign to launch on the eve of the International Year of Astronomy?

Now some of you might be reminded of a famous quote from Senator Lloyd Bentsen during the 1988 vice-presidential debates, and say, *get real, Mr. Friedman – you are no Barack Obama*. Very true, but I do have a telescope, and Saturn is rising in the East!

Alan Friedman

## **This Wonderful Hobby of Ours**

by Mike Israel

I wanted to share with all of you something on a personal level that shows the value of our passion for amateur astronomy and the impact it can have on children. Our son is a college freshman this year. I was going through some boxes in the basement a few months ago that contained his school work from elementary and middle school (our “empty nest” isn’t so empty, as my wife keeps everything, and, in this case, I’m glad she did). In one of the boxes, I found a small black and white composition book from our son’s sixth-grade English class, entitled “Journal,” and dated 2001-2002,. As I leafed through it, I became engrossed in what he had written. The journal covered such a significant matter as the 9/11 terrorist attacks, “America Attacked,” as well as a typical 11-year old’s interests, for example: the start of the Bills’ season, “Fandamonium Football”; a visit to a local firehall; and a sleepover at a friend’s house.

His journal entry for November 18, 2001, however, is what really caught my attention and left me smiling and humbled. The entry is captioned, “Astronomy,” and I quote it verbatim here (with the author’s permission, of course):

My dad is nuts about astronomy. At first he only had one telescope that was small with mediocre magnification. Then he got a huge telescope which we call “The Big Gun” because it is so big.

Dad goes outside when it is not cloudy and usually when there is no moon (moon light can block the stars) at night. I rarely go with him because it usually is quite nippy and there is so much preparation with clothes, chairs, telescope and telescope assembly, and gear. When I am outside and my eyes adjust to the dark though, it’s really quite cool.

I know a little about things thanks to my dad. My favorite double star (two stars in a telescope/one to the naked eye) is Albireo, which is in the constellation Cygnus (the Swan). One of the stars is gold and the other blue in the telescope (now you can see why I like this star so much). Hydra (the snake) is my favorite constellation.

This morning at 3:15 my dad woke me up. I got up and put on heavy warm clothes. Dad and I sat outside with lounge chairs and hot choa-choa and started to watch the scheduled meteor shower which started at 2:00. Mom later joined. The meteors were supposed to come from Leo (the lion), a constellation in the east. We saw some really bright ones and some really long ones with tails. Dad said these are things ranging from a grain of sand to a grain rice in size hitting the atmosphere and burning up. They are debris from a comet. We saw a fireball too which was the coolest thing of the night. Later, we all went in to have hot choa-choa and had a chat. We all went to bed at 6:00 and woke up around 11:30.

After reading the journal entry, I thought back to that amazing Leonid meteor shower seven years ago, and how much I enjoyed sharing that experience with my family. I also chuckled over my son’s comments about my scopes and gear. What I never realized until I read the journal entry, however, was just how closely he had been listening to what I had said when we talked about astronomy and the impact sharing nights under the stars had made on him. As our son grew older, his interest in astronomy waned and he developed his own interests, but he still recalls, in addition to the 2001 Leonids, going to a nearby hill with me on a clear evening in May 2002 to see the beautiful alignment of the five naked-eye planets in the western evening sky. He also still talks about a trip he made with me to BMO during the summer of 2003 to view the great close apparition of Mars. He loved climbing the ladder to use the Observatory’s 20” Obsession telescope and the outstanding views we shared with several Club members that night of Mar’s south polar ice cap, the haze of the north polar hood and the great detail we saw on the face of the planet. Such memories as the Leonid meteor shower and the views of Mars will undoubtedly last a lifetime. Who knows, but maybe such experiences will motivate him to renew an interest in astronomy and to someday share it with his own children.

## **The Summer Roofing Party at Beaver Meadow Observatory**

by Jeff Gardner

Summer is all about having fun at the beach, picnics, parties, water sports and enjoying Astronomy. Unfortunately, work and various chores have to be taken care of between all the fun and activities. A new roof on the observatory was one of those work related tasks that needed to be completed before winter.

The summer went by quickly, but we managed to find time to assemble work crews to install a desperately needed new roof on the observatory. The agreement between the BAA and the Buffalo Audubon Society was that the BAA provided the labor and the Audubon Society pay for the materials. By default I was elected to be the job coordinator for both work sessions. The planning stages, a list of materials, and a hunt for volunteers went into motion.

The first work party (is it really a party?) on June 28, 2008 was to replace the roofing on the roll off roof with new 3 tab shingles. The game plan was to remove all the old roofing and replace it with new shingles in one day, wishful thinking on our part. The Weather forecast was calling for hot and humid weather with rain, but we decided to proceed. After one side of the roof was stripped, around 11:30am it rained like crazy! We took a lunch break and the rain stopped. Back to work we went, half the crew worked to install the new roofing on the side that was stripped while the rest of the crew started to tear off the other side. Everything went well the rest of the day, but we were short a few pieces of metal trim. Dan and Pat returned a few days later to finish the remaining few rows of roofing, metal edging and ridge cap. The finished job was top notch and the crew was exhausted by the end of the day.

The second work party on Saturday October 11, 2008 was to replace the flat roof section of the building, replace rotted plywood, install new fascia board, and new soffit. The weather for this work session was perfect. Sunny skies, temperatures in the mid 60's, and a light breeze provided us pleasant working conditions. Mike Anzalone bought out his new Coronado Solar scope and a charcoal grill to entertain us with. Janice sent out a plate of munchies to feed the troops. The crew went to work removing the old rolled roofing material, rotted plywood, and rotted fascia boards along the Eastern overhang. Progress was going good until we realized the overlapping roll off roof would have to be moved beyond its normal distance of travel to access a section of the roof we were working on. This required disconnecting the motor and manually pushing the roof off the end of the track by a few feet. We were concerned of possible trouble getting the roof back in position but all worked out well with a little creative thinking! After all the rotted wood was replaced and the metal edging was installed, the fun began! The roofing product we choose to use was a self stick rolled roofing. Imagine a 3' wide 33' long roll of contact paper with pebbles on one side. Well, it wasn't as hard as installing shelf contact paper and the roof turned out great!

The Observatory looks great with the new fascia, new soffit and the new roof will keep us water tight for many years. The volunteers worked their tails off and made a great team. Just for the record, we are not for hire anytime soon.

A special thanks goes out to the workers who donated their time and tools to complete the job. The names were taken from the observatory log book. If anyone was forgotten, I do apologize.

**June 28<sup>th</sup> Working Party:** Jeff Gardner, Dan Marcus, Pat Lannon, Mike Israel, Derek Bill, Ted Bistany, Rick Fusani and Steve Smith

**October 21<sup>st</sup> Working Party:** Jeff Gardner, Dan Marcus, Pat Lannon, Mike Anzalone, Derek Bill, Tom Hever, Mark Morgis, Ted Bistany, Rick Pason, Malena Villarreal and Jack Empson (former member who is renewing his membership)

## BAA ANNALS

5 YEARS AGO - Marilou Bebak presented a talk on the Mars Exploration Rovers, Spirit and Opportunity, at the BAA's November 2003 meeting. Marilou was a contributing member of the rover team, and later received a BAA College of Fellows Award for that effort. Edith Geiger was the star of the December meeting with her annual candid camera spoof. President Joe Orzechowski thanked the many members who contributed to the club's activities during the year, and Observatory Director Bill Aquino thanked the summer volunteers for public nights, as well as those who painted the observatory.

Larry Carlino wrote an equipment review of the Orion 80mm refractor, an instrument that gained his approval. Mike O'Connor reported that he and Bill Aquino measured with high accuracy the geographic location of the several instruments at BMO, and explained the devices used to make these measurements. There is too much information to present here, but the observatory is approximately located at latitude  $42^{\circ} 40'$  and longitude  $78^{\circ} 23'$ . We had bad news: Mark Reville, former *Spectrum* editor, died following surgery.

10 YEARS AGO - In November 1998 Larry Carlino and Joe Orzechowski spoke on "Choosing and Using a Telescope". Of course, December was devoted to Edith Geiger and the Christmas party. Joe, our Membership Chairman, reported we had 140 members.

There was some mathematics in this *Spectrum* as Steve Kramer, Fred Price and Rowland Rupp attempted to calculate how much of the Sun's disc was obscured during various phases of a solar eclipse. Each approached the problem differently, but when their results were compared they were essentially identical. Bill Smith gave guidance in "Finding Messier 101 in 10 Seconds." He added aids in finding other deep-sky objects. Frank Chalupka, Bill Aquino and Dan Marcus reported on their observations of type IA supernova DH1998 (mag. 11.7) in NGC 7641 in Pisces. Their CCD image accompanying the report shows the star very vividly. Halina Biernacki wrote a reflective article on ancient astronomy, noting that our Christmas traditions originated in the fourth century, replacing what had been a fertility rite.

15 YEARS AGO - Here's what the *Spectrum* said about forthcoming meetings: "NOV 12<sup>th</sup>: The Moon: Short topics; lunar eclipse preparation", "DEC 10<sup>th</sup>: Universe slides, Candid camera and holiday party." We were planning for the first time to hold our "May Dinner Meeting" in March, where it has occurred ever since. Dan and Melissa Marcus were the organizers. President Bill Smith noted that the new 20-inch Obsession telescope was on hand and would soon be housed in the almost completed addition to the observatory. He outlined the history of the project and thanked those who contributed to its various stages.

Leslie Martin wrote an article on the "Origin of the Nebular Theory of Planetary Formation." Bill Smith reported on a star party at BMO that started early in the morning when a group of volunteers put a roof on the building, and ended that evening with extensive observations. Edith Geiger wrote a profile of our club secretary Luann Szucs.

25 YEARS AGO - "Globular Cluster Systems in Galaxies" was Dr. William E. Harris's topic when he spoke to us in November 1983. Dr. Harris was from McMaster University in Hamilton, Ontario. For December, Beverly Botto, Darwin Christy and Carl Milazzo reported on their trip to Stellafane. Edith and the party followed. President Rowland Rupp commented on our upcoming vote to retain our membership in the Astronomical League or to discontinue it. Complacency ultimately led to our dropping it. Observatory Director John Riggs announced that the 12.5 inch mirror and the diagonal were being sent off to be re-aluminized.

Michael Idem wrote on "Methods of Improving Deep-Sky Observations" Another article, "Looking Back", dealt with the principle that whenever one views an astronomical object one is looking back to the time when the light left it - a little over a second for the moon, billions of years for the most distant galaxies. The author was anonymous. Steve Kramer was the subject of Edith Geiger's on-going profiles of BAA members. Observation reports were made by Darwin Christy, Carl Milazzo and Michael Idem.

35 YEARS AGO - At the November meeting, BAA members Larry Hazel and Vernon Siegel reported on their observation of the solar eclipse of June 30, 1973. Larry viewed it from Kenya; Vern saw it from a ship off the west coast of Africa. A cookie sale was held that evening to benefit the newly planned observatory. Ed and Olga Lindberg spoke in December - topic unknown. Edith entertained us with one of her annual photo shows. We didn't have Christmas parties then; we just had ordinary refreshments. The Observing and Study Section was scheduled to meet at Newstead Observatory.

Warren Steinberg reported on a meeting of the Instrument Section that addressed some of the issues concerning the new observatory planned for Beaver Meadow. Dr. Fred West reported on the recent meeting of the American Association of Variable Star Observers, and Ernst Both wrote about the coming apparition of Comet Kohoutek including its ephemeris. Unfortunately, Kohoutek was something of a big bust for most of us.

Rowland A. Rupp

## Observing Asteroids

I'm always looking for ways to put my small refractor to good use while observing from my back yard in light polluted Snyder. I have managed to observe one or two bright planetary nebulae and a few open clusters from my yard but, in general, viewing deep sky objects is out of the question for me at home. The Moon and planets are nice but the fascination does wane after a while. These objects are usually visible early (if they're above the horizon) so they're a good way to start off the night but then what. Was there anything else for me to go after?

I came upon the idea of observing asteroids while playing around with TheSky6, a feature-packed astronomy program that I use to find out what's up tonight or to determine what it was I observed the night before. (Sorry for sounding like an advertisement but it really is a nice piece of software.) One feature that intrigued me from the beginning was the Data Wizard function which lets you go through all of the program's many databases and select items based on a wide variety of criteria. Just to give you some quick examples, (a) you can identify all of the Messier objects that are more than 25 degrees above the horizon at a particular date/time and have a magnitude less than 10 or (b) you can get a list of all the NGC galaxies in the constellation Pegasus. I created a Data Wizard query that listed all the minor planets that were more than 20 degrees above my horizon at a reasonable observing time and with a magnitude of 12 or less and when I ran this query I got a number of hits. The larger and more well known asteroids, like Ceres, Pallas and Vesta, can appear as bright as mag 7 or brighter but I decided to find out if I could find some of the tinier denizens of the asteroid belt as well.

With finder chart in hand, I made my first attempt on August 19<sup>th</sup>. My target was 17 Thetis which was a challenging mag 11. At least it's challenging with a 4" refractor from a neighborhood full of people who are absolutely terrified of the dark. To make matters even worse, Thetis was in the constellation Sagittarius where an 11<sup>th</sup> mag asteroid can easily get lost among the myriad other points of light in that part of the sky. Jupiter was a little more than 4 degrees east and south of Thetis so I started there. Then using my Sky Atlas and the finder chart from TheSky6 I used my lowest power eyepiece to slowly work my way over to where Thetis should be. I found the spot but could not see the asteroid. I remembered reading something about higher power attenuating some of the background sky glow and giving better contrast views so I moved up from 40x to 70x and there it was. (Some of that stuff you read really does work!) It was a very faint speck but it was exactly where it should have been!

Since many asteroids, including Thetis, move in orbits that are just beyond the orbit of Mars, they experience the same fluctuations in brightness that Mars does as they move from conjunction to opposition and back to conjunction again. Typical distances for a main belt asteroid are 1.5 AU from Earth at opposition and about 3.5 AU from Earth at conjunction. In the case of Thetis, opposition was back in July when it was about 1.1 AU from Earth and shone at about mag 9.5. This is about 8 times brighter than the mag 11 speck I saw just one month later when it was 1.4 AU away.

For those who are interested in the facts and figures, Thetis is a main belt asteroid about 90 km across. It is an S-type asteroid which means that it has a relatively high albedo of 0.17. By comparison, our Moon's albedo is 0.12. It was discovered by German astronomer Karl Theodor Robert Luther on April 17, 1852.

Two days later I tackled 3 Juno, a much larger object than Thetis. Juno was discovered by German astronomer Karl Ludwig Harding on September 1, 1804. It is not a spherical object having dimensions of 290 x 240 x 190 km. While it was the third asteroid discovered it is only tenth in size ranking. Its early discovery is an indication of its relatively high albedo of 0.24 which is twice the reflectivity of our Moon. Juno was shining at mag 10.8 when I picked it up among the stars of the constellation Ophiuchus. At that time Juno was 2.8 AU from Earth, more than twice as far away as Thetis yet it still appeared slightly brighter. Juno has an orbit that is more eccentric than Pluto's (eccentricity of 0.258) and can get as bright as mag 7.5 at a good opposition.

On Saturday night of Labor Day weekend I tackled two more objects, 11 Parthenope and 43 Ariadne. Both were very close to opposition at the time. In the case of Parthenope it was just three weeks after a very favorable perihelic opposition when it was as bright as mag 8.8. On August 30<sup>th</sup> TheSky6 said that I would see it as a mag 9.5 object. And see it I did in the constellation Capricorn between Jupiter and Neptune. Parthenope is a 150 km diameter S-type asteroid that was discovered on May 11, 1850. It was the second of nine asteroids discovered by the Italian astronomer Annibale de Gasparis.

### Observing Asteroids (cont.)

That same night I also tracked down 43 Ariadne in southwestern Pisces. Ariadne is a very elongated object with dimensions of 95x60x50 km. At the time I observed it, the asteroid was 1 AU from Earth and shining at about mag 9.9. Ariadne was discovered by the English astronomer Norman Robert Pogson on April 15, 1857. Pogson's most notable contribution to astronomy was the standardized magnitude scale. He was the one who defined the magnitude scale such that a change of 5 magnitudes equates to a factor of 100 change in brightness. This Pogson ratio (equal to the fifth root of 100 or about 2.512) is the change in brightness equivalent to a change of 1 magnitude.

While I was in the neighborhood I did hunt down Neptune and later Uranus. Both were quite easy after searching for the much fainter Parthenope and Ariadne and both planets were clearly nonstellar. Uranus even showed a hint of its bluish green color.

I'd recommend hunting down at least one asteroid to anyone who enjoys a good star hop or would like to improve his/her star hopping skills. Just remember that the asteroid will look like any other star in the field of view; there is no faint fuzzy to sweep up once you get the scope pointed in the right direction. Even those of you with computer controlled mounts will still need a good finder chart to identify the asteroid. What works best for me is having two finder charts. The first is at a scale large enough to include one or two "easy" (mag 6 or brighter) stars. The second finder chart is at a scale comparable to the field of view of my low power eyepiece. I add a circle the size of my eyepiece's field of view on this chart. Since the views in my telescope are reversed by a star diagonal, I make the second finder chart a mirror image of the true sky view. This makes it easier to match the chart to what I see in the eyepiece. Good luck!

Joe Orzechowski

### THE DATE OF CHRISTMAS

The date of Christ's birth was never recorded. The first reference to December 25 as the date is found in a Roman document from the fourth century. The rationale for choosing this date, which was probably done well before the fourth century, was that it coincided with the important pagan Roman festival *Sol Invictus*, which marked the return of the sun. The shortest day of the year had passed, the days were growing longer, the sun was returning from the south. What better reasons to have a celebration?

Pagan December 25 was a day when work was suspended. Homes were decorated with evergreens that symbolized that winter had failed to destroy all the green in nature. Traditionally, gifts were exchanged during this celebration, as well. The Christian choice of December 25 was a ploy to tack Christianity on to this firmly established, popular holiday.

Why was the birth of Jesus determined to be a couple of years before the start of the Christian era, not at its beginning? It stems from a big mistake perpetrated by a well-meaning Christian monk early in the sixth century. He chose for himself the name Dionysius Exiguus, translated as Dennis the Little, as a sign of his humility, so it is said. He set out to fix the date of Christ's birth by counting the reigns of Roman emperors backward to the time of the birth. He decided that since Christ's birth had been established as December 25, and the new year started on January 1, he would make December 25, 1 BC, the date of birth, and the start of the Christian era a week later, January 1, 1 AD. But he made two mistakes.

First, he omitted the year zero. As one droll author (Kidger) noted: it was a Y0K problem! The other error was that Emperor Augustus had changed his name from Octavius, his given name, after the first four years of his reign. Dionysius failed to account for those four years. Hence the birth of Jesus, instead of falling in the year zero, wound up in the year 5 BC. Even that year is debated by many, but the real date is believed to be somewhere around there. All agree it was several years before the start of the Christian era.

It took over a thousand years after Dionysius made his counting error before it became known. Errors are common! You may have noticed that earlier I said Dionysius set to work "early in the sixth century." That's because the two authorities I used disagreed about when Dionysius did his computation. One (Kidger) said 525 AD, the other (Molnar) claimed 533 AD. If modern authors can't get dates right, why should we fault Dionysius?

Leslie Martin

#### REFERENCES:

- Mark Kidger, *The Star of Bethlehem*, 1999, 43-45, 57-60.  
Michael Molnar, *The Star of Bethlehem*, 1999, 55-57.

## Buffalo Astronomical Association Members Astronomy Websites

Compiled by Tom Bakowski

- Tom Bakowski -- [www.tomeyeonthesky.com](http://www.tomeyeonthesky.com)  
-- Wide Angle images of the sky thru the seasons, from dark skies of PA, using a dslr camera and lens.
- Thom Bemus -- [www.upstateastro.org/stars/index.html](http://www.upstateastro.org/stars/index.html)  
-- Astronomy resource site.
- Anthony Davoli -- [www.astro.premcom.com/ADM/index.htm](http://www.astro.premcom.com/ADM/index.htm) -- [www.admaccessories.com](http://www.admaccessories.com)  
-- Images of deep sky objects using a Takahashi FSQ-106 and a dslr camera.
- Tristan Dilapo and Mike O'Connor -- [www.orbitjetobservatory.com](http://www.orbitjetobservatory.com)  
-- Images of deep sky objects and transient events.  
-- Tristan uses a fully robotic Meade 12" LX200 and CCD.  
-- Mike uses a fully robotic Celestron 9.25", Takahashi TOA-130 and CCD.
- Alan Friedman -- [www.avertedimagination.com](http://www.avertedimagination.com)  
-- Highest resolution images of the solar system using a Astro-Physics 10"- 6,5,4" refractors.
- Mike Israel -- <http://poochpa.myalbum.net/>  
-- Images of solar system and deep sky objects using a TeleVue NP101 and Meade 8" LX200GPS with a webcam or DSLR camera.
- Dr. Jack Mack -- <http://facstaff.buffalostate.edu/mackje/>  
-- Astronomy resource page.
- Mark Percy -- [www.williamsvillek12.org/planetarium](http://www.williamsvillek12.org/planetarium)  
-- Williamsville Planetarium schedule.
- Peter Proulx -- [www.gotastronomy.com](http://www.gotastronomy.com) -- [www.ip4ap.com](http://www.ip4ap.com)  
-- Images of deep sky objects using a Meade 10" RCX and CCD camera.
- Derrick Bill -- <http://homepages.roadrunner.com/astropics/>
- If you're a BAA member, and not on the club's message board, then you're missing out on communication and current events. This message archive, started in 1999, has 134 members and had over 12,130 messages!  
-- [http://groups.yahoo.com/group/buffalo\\_astro\\_assoc/](http://groups.yahoo.com/group/buffalo_astro_assoc/)

### Annual BAA Holiday Party

By Janice Gardner

As Sagittarius slowly disappears from our view, Pleiades and Orion are making their annual appearance.

This can only mean one thing.... It's time for our annual BAA Holiday party! Yes, you are right the holiday season is quickly approaching.

This year I am glad to announce that our party will be co-hosted by me and Melissa Marcus. Just as we come full cycle with our seasons, so has the hosting of our BAA Holiday party. In years past Melissa hosted the party each year until she was no longer able to when Dan went to work on the evening shift. That's when I took over and after many years it has come full circle and we are now hosting the party together. It was really wonderful last year when so many members brought dishes to share. This year we are hoping you all will do the same.

This year our party will be held on Friday December 12<sup>th</sup>, 2008 at Buff State. The evening will start at 7:30pm with "A year in review", a photo montage by Mike Anzalone. He is following in the footsteps of Edith Geiger; he has big shoes to fill. It is also possible that the BAA band will make an appearance once again this year to serenade us with holiday songs to complete the evening.

Please feel free to contact either Melissa or myself if you would like to bring something to share. I can be reached at [JanGardner@roadrunner.com](mailto:JanGardner@roadrunner.com) or at 639-0866. Melissa can be reached at [dma3141551@msa.com](mailto:dma3141551@msa.com) or 773-5015.

Here's to a great party and hoping to see you all there.

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