

SIDEREAL TIMES

*The Official Publication of the
Amateur Astronomers Association of Princeton*

Director:
Rex Parker

Treasurer:
Ron Mittlestaedt

Program Chairman:
Michele Novatski

Assistant Director:
John Miller

Secretary:
Mark Jaworsky

Editor:
Victor Belanger

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From the Director

Members with interests in astronomical imaging technology and charge-coupled device (CCD) design and application should prioritize our next meeting in Peyton Hall (8:00 PM on Dec 14). Program Chair Michele Novatski has invited the highly acclaimed CCD and opto-electronics expert, **Michael Carr of Princeton University Astrophysics Dept.** Michael may be best known in local circles for his key role in the design, fabrication, and assembly of the **SDSS Imaging Camera**. But he has contributed to many other major scientific projects in the design and manufacture of opto-electronic devices, including the original **Hale Telescope "4-Shooter"** multi-CCD array made famous in Richard Preston's fascinating insider portrayal in his book, "First Light". For more information please see Michele's article elsewhere in this issue, and visit the AAAP website (www.princetonastronomy.org) with links to Michael Carr's site.

A Splendid Visit to the Star Hill Inn, New Mexico In November I was fortunate to visit, with my wife Carol, one of the southwest's premier astronomy retreats, the Star Hill Inn north of Las Vegas, NM. This observer's paradise sits on the edge of the Jemez Mountains at 7200 ft elevation about 60 miles east of Santa Fe. The proprietor, Phil Mahon, has developed a wonderful site to observe and has provided telescopes and everything else needed, save a spirit of adventure (and a well-padded checkbook). I



A Visit to The Star Hill Inn, near Las Vegas, NM

spent four nights observing under transparent skies which, when cloud free (one of four nights was pristine while the other three were clear about half the night), revealed magnitude 6.5 stars

and, for example, M33 as a naked eye object! The picture below shows the observing deck with a 16 inch Meade LX-200, and in the background the observatory dome housing a 24 inch fast



16" LX-200 & 24" R-C dome at Star Hill

Ritchie-Chretien reflector for serious imaging. During my stay I visually sampled the deep sky using a 22 inch Starsplitter Dob, a classic orange tube C11, and a Meade 12 inch LX200. My notes for the week include NGC891 with a very apparent dust lane (invisible here in NJ), remarkable splendor in open clusters M36, 37, and 38, visible spiral structure

in M31, and high contrast in the Flame Nebula NGC2024 near Zeta Orionis. The huge Rosette Nebula NGC-2237 was clearly seen, while galaxies as faint as NGC1175 mag 12.8 were visible in the 12 inch! Unfortunately some encroaching light pollution from nearby Las Vegas has hurt the southern horizon view, but

overall the experience was memorable. How about planning a club field trip to Star Hill or to one of the other astronomy retreats located in the high deserts of NM or AZ? Any interest?

Local Light Pollution Update Regarding recent discussions on local light pollution efforts... the petition circulated for AAAP member signatures in Sept requesting mitigation of Merrill-Lynch recreation facility lights (within a couple miles of the AAAP observatory) off Scotch Road in Hopewell Township has been received by M-L and is under review. Meanwhile, the Hopewell Township municipal athletic complex lighting (also less than two miles from our observatory)

has been approved and funded for an upgrade to state-of-the-art shielded stadium lighting. These efforts should not go unnoticed by AAAP members. The reduction of light pollution is a win-win proposition, and its value to dark skies and energy efficiency is

Simpson Observatory (609) 737-2575

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proving to be a persuasive argument to local governments and to businesses wherever feasible changes can be implemented. Grass-roots efforts by astronomers can make a difference in the long run.

Happy Holiday Season to all AAAP members as we spin on towards Winter Solstice!

Dark Skies! -- Rex

Minutes of the AAAP General Membership Meeting November 9th, 2004

Assistant Director John Miller called the meeting to order at 8:00 PM. 61 club members, guests and general public were in attendance, 22 of who stayed for the club activities/business meeting. John's club highlights were: 1) mention that 2004-2005 dues are PAST DUE. John asked that dues be sent to Jane Lanahan as soon as possible. John reminded the club that the dues structure is \$40 per annum payable in October; 2) John thanked Michelle Novatski and Gene Ramsey for organizing the recent club picnic which was a resounding success; 3) John also announced that Keyholder training has resumed and that Mike Mitriano, Joe McNeil, Joe Colosi and Ryan Corrigan are participating. John also thanked Ron Mittlestaedt for leading the training session that occurred on November 6th. Brian Van Liew reported that the next session will occur on November 20th; 4) John thanked members Ron Mittlestaedt, Brian Van Liew, Larry Kane, Pavel Studentkov, Jane Lanahan, Saul Moroz, Keith Jennings and Bryan Hubbard for participating in the fall work day at the observatory. The tasks accomplished were scraping and repainting the inside walls general cleaning, repair of the Losmandy mount right ascension drive motor and installation of protective covers, reinstallation of software onto the computer and finishing the installation of the gutters including the downspouts.

John then introduced member Ken Kremer who gave a 10 minute talk outlining the "Exploring Mars Saturn and Beyond" program that he is hosting at the Lawrence Library on Saturday November 13th between 11:30 AM and 3:00 PM. Ken's presentation included a brief overview of the talks and activities that will happen at the library outlining the search for evidence of water and prebiotic molecules, ingredients necessary for life, on Mars, Titan and Europa. He also gave a brief tease into the very latest results from the Mars exploration Rovers and Cassini missions. For full details you must attend the presentation at the library. Ken's presentation was well received.

Program Chair Michelle Novatski introduced the evening's keynote speaker, Professor Michael Strauss of Princeton University's Department of Astrophysics. Prof. Strauss presented a talk entitled "Teenage Universe: Extremely Distant Quasars from the Sloan Digital Sky Survey". Prof Strauss' talk included; a) a brief overview of the Sloan Digital Sky Survey; b) a discussion on how it finds quasars; c) the nature of quasars at the highest redshifts; and d) probing the state of the teenage (~1 billion year old) universe. Probably the most startling conjecture of the data from the highest redshift quasars, which formed approximately 900 million years after the big bang, is that they appear to reside in mature galaxies, but yet it appears that they exist before the time

of reionization of the universe, which occurred after the formation of the first stars. This is a seeming contradiction of the Wilkinson Microwave Anisotropy Probe results that indicate the first stars formed and reionization occurred about 200 million years after the big bang. The talk was very well received.

After a brief break the business meeting resumed at 9:47 PM

Officer and Committee Reports:

Membership Chair Jane Lanahan reported that 10 new members joined in the past month and that the current membership stands at 135.

Treasurer Ron Mittlestaedt reported that the treasury balance is at \$XXXX.

Sidereal Times Editor Vic Belanger said the deadline for the December issue of *Sidereal Times* would be November 26th. Vic also reported that there might be an issue putting the January issue together. Vic said he would be away from mid December to mid January. Vic stated that unless he has access to a high-speed internet connection on his trip, there would be a very short January issue put together prior to his departure.

Program Chair Michelle Novatski announced that she is still searching for a speaker for the January meeting. Michelle also announced that she is working on a tandem presentation of exobiology and planet formation. Michelle also announced that the April speaker would be Dr. Charles Liu of the American Museum of Natural History Department of Astrophysics. Michelle also announced that she is starting to work on a StarQuest slate. John Miller asked club members to send Michelle ideas for future speakers and suggested Dr. Mary Lou West of Montclair State College.

On Observatory matters, as Co-Chair Gene Ramsey did not stay for the business meeting, John Church reported in his stead that the Hastings focuser will be modified to allow it to rack in more so certain eyepieces will come to focus with a diagonal in place. John Miller reported that the reinstallation of the software onto the observatory computer improved operation of the Paramount ME including the retention of the scope's park position. John also reported that he would purchase and install 128 Megs of Ram to improve software performance. Observatory Co-chair Brian Van Liew reported that a friend of member Ludy D'Angelo has access to a backhoe to dig a trench in the driveway for installation of a drainage culvert. Brian also reported that Gene is in contact with the park administration to supply them with drawings of the planned trench and culvert and obtain permission to proceed with the work.

Public Outreach Chair Brian Van Liew reported that member Mark Jaworsky has an outreach opportunity. Mark reported he submitted a Letter to the Editor of the *Sidereal Times* announcing that his first Project Astro Nova Partner Lynn Barberi, now principal of Mill Lake Elementary School in Monroe Township, is organizing an Astronomy Night at the school for about 175 second graders between 6:00 and 8:00 PM on November 18th and that any member help would be appreciated. Mark reported that at the moment himself and three members from S*T*A*R were volunteering. John Miller also offered to help. John Miller also announced that he is having a Project Astro Nova session at the Riverside School in Princeton on November 19th and a solar observing session the

(Minutes continued on page 3)

Cold Weather Observing

Winter is upon us, the warm, muggy-buggy nights of summer are gone. The atmosphere has less haze which makes the sky much clearer to sight constellations and star-hop. You say it's too cold to venture out with your telescope. You can observe as often in the winter as in the summer if you are dressed right and have the right equipment. Who wants to miss the Orion Nebula, the Crab Nebula and the many open clusters the winter sky has to offer.

I can handle the cold, but it's the wind that makes my toes and finger start to numb. The wind makes it hard to stand still looking into an eyepiece for any length of time. My only suggestion is, try to refrain from observing on windy nights because body heat is lost quickly, and it makes the telescope shake on it's mounts where it is difficult to use high magnification. This is the case at Jenny Jump because it resides on top of a mountain and in a saddle point where wind speed is intensified.

The calm, clear, some-what cold nights can be enjoyed comfortably by wearing several layers of clothing. I start with insulated underwear, then a flannel shirt and jeans. I then wear an insulated vest, scarf, and a heavy coat. My gloves are actually mittens that can be folded back to expose my fingers to handle delicate eyepieces, focus knobs, or my sketching pencil. Most of the time my hands are exposed and are kept warm by sticking them in my pockets where each has a solid fuel heater. These heaters can be purchased from K-Mart or Wal-Mart for about four dollars each. I light the solid fuel sticks at each end for maximum heat and where they tend to stay warm for about three hours.

On my feet I find a thin pair of cotton followed by a pair of wool socks works best. Your feet may tend to sweat with the just the wool socks. The cotton is there to absorb the perspiration which cause your feet to loose heat, wet insulation is ineffective. My boots have 1000 grams of "Thinsulate" not so bulky that I can't drive with them on. Lastly wear a hat, most of your body heat is lost through your head (makes you wonder if there's anything up there to stop it). I prefer to wear the insulated baseball caps that sport ear flaps. I also have an Air Force fur hat where the ear flaps can be snapped together with a chin strap. My coat also has a detachable hood which I use when the temperatures really go down.

Take your observing equipment outside before you don the articles mentioned above and let your optical tube stabilize for about fifteen minutes. I sometimes observe with bare fingers and find that if I insulate the bare metal items on my telescope my fingers won't numb so fast. I do this by wrapping rubber bands around the top metal portion of the eyepiece. Another item is my observing chair. When I obtained my Tele-Vue Air Chair, Ralph already had his. His wife, Betty, made a nice cloth cushion to cover the cold "Nauga-hide" cover. I also bought a heatable pad to fit this chair. The pad can be reheated in a microwave oven and lasts for about three hours, more than enough time for a decent observing session in the winter months.

When observing in the summer, I have found that it takes up to an hour for the 11-inch primary mirror on my Schmidt Cassagrain to reach ambient temperature and the images to become stable. Another quicker way to bring in dry warm air in to the enclosed tube in the summer was found looking on the Astromart website.

I found a company, Lymax (www.lymax.com) that sells a product call the "SCT Cooler." The principal is that a tube fits into the visual back through the baffle tube with a fan on the outside end. This blows in outside air and directs it on the primary mirror. I found the price a bit steep at \$130. A trip to Radio Shack and the local hardware store found that such a product could be made for about \$20. I bought the fan at Radio Shack for \$8 and the balance spent on PVC tubing and adapters. Air Conditioner filter material at the exit end of the fan allows only clean air to enter my scope tube. After observing in cold temperatures and the scope is brought indoors, I also install this unit for about one hour which is more than enough time to allow the mirror to reach room temperature. This allows warm dry air to blow on the primary mirror thus condensation build up is eliminated.

Ron Mittelstaedt

From the Treasurer

The treasury balance is \$XXXX. The club's insurance payment is due in December. John Miller and John Church are checking with other insurance providers to see if we can obtain the same coverage at a lower price.

Ron Mittelstaedt

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following week. John said that he would send a broadcast email asking fore assistance.

Secretary Mark Jaworsky reported that the minutes of the September 9th Board Meeting and September 14th General Membership meeting were published in the October *Sidereal Times* and that the minutes of the October 12th meeting were published in the November *Sidereal Times*. As there were no corrections or additions to the minutes Ron Mittlestaedt moved that they be accepted as published. The motion passed.

Librarian Larry Kane reported that he is bringing interesting articles for display and distribution at the Library exhibit at the meetings and he also distributed a list of interesting websites to the membership.

Publicity Chair Louisa Lockette reported that she will send announcements of June 2005's StarQuest event to various magazines in December.

Member Ludy D'Angelo suggested that phone tree be established for interested members to contact each other on an ad hoc basis for spur of the moment observing opportunities.

The meeting was adjourned at 10:20 PM.

Respectfully submitted,
Markian S. Jaworsky, Secretary

Deadline for the
January 2005 Issue of the
Sidereal Times
Monday, December 27, 2004

From the Program Chairman

December's Lecture Topic will be CCD Imaging Hardware

Many thanks to those who have attended our last three pre meeting dinners! We have had a record number of attendees come out to support our speakers, and this reflects well on our club. I hope to see all of the "regulars" and many new faces in attendance for the December dinner where we will have an opportunity to meet Michael A. Carr, President of Sci-In Tech, and an esteemed member of the Princeton University Physics Department Technical staff.

Michael A. Carr has an extensive resume in the design and construction of innovative and analytical scientific instrumentation. He was responsible for the design, assembly and testing of the Palomar Planet Finder Sleuth Camera, a dedicated telescope in the search for transiting extra solar planets. His further credits in design include the Astrophysical Research Consortium (ARC) 3.5m telescope, double imaging spectrograph at the Apache Point Observatory in New Mexico, the Sloan Digital Sky Survey (SDSS) imaging camera, the Keck Low Resolution Imaging Spectrograph, as well as the Norris Spectrograph at Palomar. Join us on the evening of Tuesday, December 14th for Mr. Carr's presentation on CCD Imaging Hardware.

As a reminder, the dinner begins promptly at 6:00pm at the Annex Restaurant in Princeton. Those wishing to attend should email me at ken.kremer@princeton.edu by Monday, December 13. I look forward to seeing you there!

Michele Novatski

Lawrence Library Event

Lawrence Public Library Program: "Exploring Mars, Saturn and Beyond" by Ken Kremer of the Planetary Society and AAAP held on Nov 13, 2004.

Over 100 kids and adults of all ages enjoyed the presentation. Even the Sun cooperated. There was not a cloud in the sky by Saturday morning, after an absolute deluge the day and night before. So, everyone got a glorious view of our beautiful sun through solar telescopes set up by the many AAAP friends who helped out !!!

The program inside included displays about Mars, Saturn, Europa, the Hubble Space Telescope, the Sun (photos and video courtesy of Barlow Bob), Comets, the Planetary Society and AAAP, and much more. There were lots of creative arts and free handouts, magazines and hands-on activities.

A special 3D display on Mars and Saturn included pictures autographed by JPL mission scientist Dr. Matt Golembek.

Kids had a great time driving the fleet of toy Sojourner rover models over the simulated "Martian Rock Garden" and playing with the "Spirit" rover Lego model. Other display models included the Hubble, Space Station, Mars Lander and a model rocket on the launch pad.

Extra Special thanks to Mark Jaworsky for doing the quite entertaining and humorous Comet Making shows. A true highlight for all !!!

My talks included "Birth of a Martian Robot", "Martian Robot Movies" and "Highlights from the current robotic Missions to Mars and Saturn"

Special Thank You to all AAAP club members who helped out and to the Lawrence Library and staff.

**** Another presentation of "Mars, Saturn and Beyond"

At the invitation of AAAP club member Manick Rajendran, I will do a version of this presentation at the event listed below:

The Plainsboro Preserve, Winter Weekend Festival

80 Scotts Corner Road Cranbury, NJ 08512 Phone: (609) 897-9400

Days: Fri Dec 3, 6 PM to 9 PM, Sat Dec 4, 11 AM to 7 PM
Sun Dec 5 Noon to 4 PM Entrance fee to benefit the Plainsboro Preserve is \$7 and the event is open to the public. It is located just a few miles north of Princeton.

Telescope viewing to be provided by AAAP members.

web link <http://www.njaudubon.org/Centers/Plainsboro/Index.html>

Ken Kremer

Barlow Bob's Corner

Celestial symbols Use a planisphere to create the sky, as it would appear at 8:00 PM, on December 25th. The large upright image of the Northern Cross, in Cygnus, appears on the western horizon. The M44 star cluster, in Cancer, appears on the eastern horizon. M44 is also called Praesepe, a Latin word meaning manger.

In the northeast to eastern horizon, the following stars, of the winter hexagon: Capella, Pollux, Procyon, Sirius, Rigel and Aldebaran, could be connected, to form the points of the Star of David. If a crescent Moon appears in the sky at this time, you would have celestial symbols of, the Christian, Jewish and Muslim religions.

On May first, around Easter and Passover, the Northern Cross, in Cygnus, rises on the northern horizon. The M44 star cluster, in Cancer and the stars of the winter hexagon, set on the western horizon.

Try these ideas What do you observe on a snowy holiday season? Observe colored Christmas lights through any nebula filter. You will notice that certain color lights disappear, when viewed through a nebula filter. These types of filters only allow certain waves of light to pass through, blocking other waves. You can also observe the orange Hanukah Menorah lights

Hold a holographic diffraction grating in back of the nebula filter and you will see the spectrum of the incandescent colored lights, a sodium / mercury street light or fluorescent light. You will notice that certain spectrum emission lines disappear.

If you impress Santa, he may leave the TV 102.

North Pole Road Signs

Look for the union label, United Elf Union.
Support the vertically challenged; hire an elf.
Be naughty, save Santa a trip.

Barlow Bob

The Call of the Wild;

or

Observing at Silver Mine Lake

On Saturday evening November 13th I had the opportunity to observe at an impromptu star party with some members of the e-group NJ Night Sky and the Amateur Astronomers Association of New York City at the AAA's dark skies observing location at Silver Mine Lake near Bear Mountain, New York. Silver Mine Lake is located in Harriman State Park near the northern terminus of Seven Lakes Drive and is just south of the United States Military Academy at West Point. It is about 85 miles from my house and took me about an hour and a half to drive there.

Early in November, Mark Bednarczyk, one of the members of NJ Night Sky and AAA, floated a proposal on the NJ Night Sky discussion forum to have a star party at Silver Mine Lake. It only took me a second, maybe two at most, to decide to go. Between work and the less than optimal weather this past summer I did much less observing than I would have liked and I figured that this would be a way to fill in some of the photon deficit. After a brief discussion, a consensus was reached to have it on Saturday evening November 13th. While contacting the NY State Park Service to arrange for a permit that would allow us to observe, Mark learned that Frank Schmidt of AAA of NYC had already contacted them to do so. A check of the AAA club's website showed that there was a possibility of having a "late-in-the-season" star party for the AAA of NYC at Silver Mine Lake on November 13th for those frustrated astronomers who wanted another session to make up for all the cloud-outs which occurred over the course of the year. Great! Things seemed to be arranging themselves and the only questions that remained was the weather going to cooperate and would my family obligations allow me to go.

After a brief discussion with my wife (read: begging, pleading and groveling) she said that I could go. One down and only the weather to go. The very early long range forecast wasn't that promising and clouds and rain were forecast. As the week progressed the storm which was forecast to come through that weekend was forecast to come earlier and earlier until the final forecast was for it to rain heavily on Friday and Friday night followed by gradual clearing on Saturday with clear skies forecast on Saturday night. However, it was also forecast to be one of the coldest nights of the fall season with the temperatures anticipated to dip to the low 20's with a fresh breeze.

As forecast, the Friday before the Star Party was cold and very rainy. Overnight the temperatures dipped into the high 20's so the rain wound up freezing on the surfaces. Saturday morning broke crystal clear and cold, but the departing storm and building Canadian high set up quite a pressure gradient and it became quite windy. Now cold-weather observing in a howling wind isn't one of the most pleasant ways I could think of spending an evening but the very sparse observing opportunities we had this fall and the forecast of crystal clear skies and great transparency convinced me to still go.

I spent the day on Saturday helping out at AAAP Member Ken Kremer's Planetary Society sponsored presentation at the Lawrence Library. As forecast the day was clear but very windy and by the time the event was over the flags outside the library looked like they were mounted on yardarms to hold them stiffly out. I went home to dress for the night and pack up my telescope

but was not expecting to take it out in the howling wind.

I left my house at about 4:00 PM and stopped at a WaWa on US 202 outside of Three Bridges, NJ to buy a sandwich for dinner and to fill my thermos with hot coffee. From there I got on I-287 North to the NY Thruway north. After passing the Sloatsburg service area on the Thruway, the ground became snow covered. Apparently the upper atmosphere became cold enough overnight to support a bit of snow. It looked like about an inch or so fell and didn't melt over the course of the sunny day so that should give you an idea of how cold it was. Also the wind was blowing and trying to push my high-profile SUV about.

I got off the Thruway at exit 16 in Harriman and followed the signs for US 6 East. US 6 immediately began a climb over a 1000-foot pass into Harriman State Park. By now it started to get quite dark, and after driving along flats for about 5 or 6 miles and passing between a few lakes, the road descended to a circle that allowed you to continue on US 6, get onto the Palisades Interstate Parkway or get onto Seven Lakes Drive. I took Seven Lakes Drive south for about a mile and pulled into the Silver Mine Lake parking area on the left at about 5:30 PM. After pulling in I saw telescopes at the bottom of the parking area so assuming that was the crowd I turned off my headlights and drove down.

Everyone was setting up their scopes on the gravel of the parking area between a picnic pavilion on one side and another building on the other. After hopping out and introducing myself I started to set up my scope. Most of the folks here were from the NJ Night Sky group and I got to meet Jim Mills who had his 10" Meade LX200 GPS, Tom Westlake with his Hardin 8" f/4 on a Meade LXD 55 mount, Craig with another 10" Meade LX200 GPS and an ETX piggybacked on top that he was using as a guide scope, Ken Hundemann with an 8" f/6 Orion Atlas 8 EQ, Russ Tashbaev from the AAA with a TMB-175, 7" APO refractor on a Parallax HD200 mount, Mark Bednarczyk with his 10" Meade LX200 "Classic" and Anthony from AAA with his ETX-125. Arriving a little later were Rich Rosenberg from AAA with an 8" Celestron NextStar, another lady from AAA with an 8" Celestron NextStar, David from AAA with his daughter Ashley and their Televue TV-102, and Frank Schmidt from AAA with a carload of other AAAers.

We all set up our scopes on the edge of the gravel parking lot as all the grassy surfaces were buried under an inch or two of snow. The night was crystal clear and with good transparency and decent seeing. It was quite cold and the temperature eventually dipped down to about 21° but fortunately there was no wind. Either it had died down or the hills surrounding the observing area were sheltering us from it. Whatever the reason, the lack of wind made the temperature bearable – that and a kerosene heater that Tom brought along with chemical hand warmers. Also the picnic pavilion featured heated restrooms that we made frequent use of.

The horizons at the site are decent down to about 20° from horizontal as it sits in a bowl surrounded by hills but other than that is wide open. It does suffer a bit from light pollution due its proximity to New York City and I would rate it almost but not quite equal to my house in terms of darkness. The Milky Way was visible at zenith, but the Andromeda Galaxy and Double Cluster were not, although they are (barely) visible at my home on a night of equal clarity and transparency.

(Silver Mine Lake, continued on page 6)

(Silver Mine Lake, continued from page 5)

After I set up my scope and collimated it and then doing a two-star alignment of my Sky Commander on Polaris and Alpheratz, I call up the first object, M31, and it tells me I have to move about 240 degrees in azimuth and about 70 degrees down in altitude. That obviously wasn't right. So I realigned on the same two stars and it then said I had to move about 60 degrees in azimuth which is about right and about 95 degrees down in altitude. Hmm...something was really screwy. Troubleshooting both encoder axes I found that the altitude axis was not registering and this turned out to be caused by a broken RJ45 connector to the encoder, which caused the cable to fall out. Placing it back in and securing it as best I could and confirming that the axis was now registering, I realigned with no improvement in performance. Although the altitude axis was now working right the azimuth axis was intermittently registering. Quickly conferring the manual most likely revealed the cause to be a loose encoder axis and the recommended fix was to tighten the setscrew. This made sense as both encoders worked spot on in the warmer summer and the cold weather probably caused the encoder azimuth axis to contract slightly causing its slipping. Unfortunately the setscrew wasn't easily accessible especially in the dark so I decided to forego this fix and not use the DSCs.

Therefore I had to resort to finding things the old fashioned way – by star hopping, and I had a great time doing so. The first object I found was the globular cluster M15, in a direct line from Bahan, (θ Pegasi) the star at the top of the horse's head, through Enif, the horse's nose. In the 18" M15 was resolved almost all the way to the core and had a small condensation in the core.

Next I found The Ring Nebula, M57, a beautiful planetary nebula in Lyra about 3/5 of the way between γ and β Lyrae. In the 18" and a 9 mm Nagler it was spectacular and showed its veil of nebulosity in the center of the ring. Although I was not expecting it, I did not see any hint of a central star. The central star of the Ring is listed at magnitude 15.7, which is just beyond the theoretical light gathering limit of the mirror (mag 15.6).

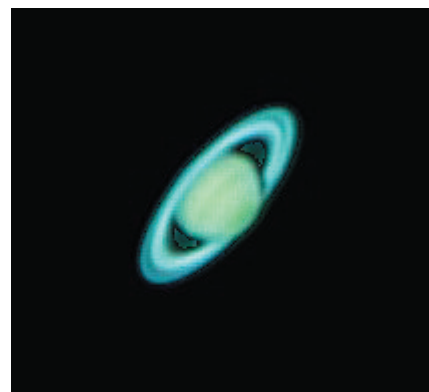
Next I found the Double Cluster in Perseus, which was spectacular in my 24 mm Panoptic showing both components in the same field of view. Moving on to Auriga, I found the open clusters M36, M38 and M37 each of which was wonderful. In my 10" SCT, M37 had always reminded me of a lunar crater as it has a ring of stars surrounding a distinct brighter orange star. In my imagination, the orange star represents a central peak and the ring was the crater rim. In the 18" it had little of this kind of impression on me as the ring was filled in with dimmer stars all the way to the orange star. My impressions of M36 and 38 were also different as more stars were visible in these clusters also. In my 10", M38 gave me the impression of an oblique cross, while the brightest members of M36 made it look like an "X". Also when I was trying to find M36 in the center of Auriga's pentagon I stumbled across a small open cluster NGC 1907.

Moving onto Andromeda I found M31, M32 and M110. I could trace out the Andromeda Galaxy's spiral arm glow for about two-eyepiece field of views on either side of the core, and, I'm sure it was my imagination, hints of dust lanes tracing out spiral arms. M32 looked like a very tiny condensed globular (it is an small elliptical satellite galaxy of M31) and M110 was a larger diffused mass. Try as I may, one object that I failed to find that evening was M33 in Triangulum.

Switching to Orion, the Great Nebula M42, was spectacular with its Gull's wings and curtains of nebulosity extending down from the brighter portions of the wings. The detached portion of the nebula, M43, looked like a comma surrounding the star ν Orionis. I even detected hints of the 'Running Man' nebulosity around the open cluster NGC 1973. I then found the open cluster M35 and its more distant neighbor NGC 2158 in Gemini, right off of Castor's foot near the stars η and 1 Geminorum.

About this time the bowl of the big dipper cleared the hills to the north so I tried to find the galaxy pair M81 and M82. Using the line defined by the stars in the corners of the bowl, Phecda (γ Ursae Majoris) and Dhube (α Ursae Majoris), the northern pointer, as a guide. Sweeping along I came upon a small spiral galaxy. Assuming this to be M81, I swept around but could not locate M82, which should not have been more than one eyepiece field of view away. Going back to Phecda and Dhube I re-found this galaxy but no M82. Realizing that this probably was not M81 and moving on about two fields later I found M81 and M82. M81 and M82 were visible at the edges of the field of view in my 24 mm Panoptic. M81 was a definitive spiral and I saw hints of its spiral arms. M82 appeared as a bar with an evident dust cloud bisecting the core of this edge-on spiral. I later learned that the small galaxy was NGC 3077 an Sd class spiral galaxy. I finished up the night with the open cluster M44, The Praesepe, in Cancer.

In addition to observing and showing everyone the views in my scope, I walked around chatting and seeing what everyone was up to. Jim showed me my first views of comet C/2004 Q2 Macholz that should have a decent apparition this winter-spring. Although on this night it was about as far south in declination (-30°) as it was going to get – it barely cleared the hills to our south and was severely affected by the New York sky glow. Craig was taking various images with his set up, as was Ken. Ken captured a really nice image of Saturn with his 8" Orion and a ToUcam Pro 840 web cam attached to a Tele Vue 5X Power Mate Barlow. The raw .avi was 1500 frames processed with Registax, aligned at a high quality rate that netted 35 frames, which were then stacked and wavelet processed. The final processing was accomplished with PhotoShop 7. This final image appears on the right.



However the image of the night went to Russ Tashbaev from the AAA. Over the course of the evening I was occasionally watching him capture a gorgeous wide field image of M42, M43 and the Running Man through his 7" APO. He did a three-hour exposure (3 x 15 min on each of LRGB) using a Trifid 6302LE CCD camera. This image appears below

In addition to the above image, Russ treated me to about the best views of Saturn that I have ever had through his 7" TMB refractor with a monocentric eyepiece. Although the field of view of this eyepiece was quite narrow and the edge was not sharp but

(Silver Mine Lake, continued on page 7)



vignetted, the view of Saturn especially the rings was spectacular, even the Encke Division was visible in my imagination.

Many folks left about midnight but the hardy core (Craig, Ken, Russ, Mark, Anthoni and myself) stuck around 2:00 AM before succumbing to the cold. I think the quote of the night came from Russ, "It was lots of fun 'till I got frozen almost to death. The best thing I remember - warm restroom on premises". After packing up, I left at about 2:30 AM and arrived home a bit after 4:00 AM. It was a great night of observing and pleasure meeting many new friends.

Mark Jaworsky

From the Editor

In preparation for my travels next month, I have been getting my laptop set up with all the software I use in preparing the Sidereal Times each month. This issue is the first, but probably not the last, issue to be produced on this Dell Inspiron, which I have had for about a year. It's certainly powerful enough to get the job done but will take some getting used to. Up to now I have been working with a 19 inch, high resolution monitor but now, and whenever I'm on the road in my trailer, I'll have to survive with a small 15 inch flat screen; not the optimum for page layout work.

I'm looking forward to my one month road trip with my trailer. I'll be heading west to California with stops on the way. My son will be back from his cruise with the Navy and the family will be getting together with my in-laws in Ventura for the Christmas holidays. I expect to return in late January so I'll miss the January meeting.

My main challenge while on the road will be getting access to the Internet for picking up your newsletter contributions. This most likely will not be at my convenience so I'm asking those contributing, to meet the deadline of December 27, without reminders from me as I may not be able to send them. Also, please notice the deadline is early and on a Monday. I will need everyone's cooperation if I am to get out the January issue while I'm traveling. Thanks for your help.

Vic

Review of John Church Book

It is not often that one gets to review a book written by a person that you know. This was the case for this reviewer. For those who do not know him, John is a AAAP member who helped build not only the organization, but also the observatory at Washington Crossing Park

John's story as set out in his book From Eve and Morning, Recollections of a Sometime Chemist is one of a scientist coming of age in mid twentieth century America. Set out in a series of observations, the chapters have titles such as "Smolderings," "The Masque of the Black Death," "Hot Stuff," "Cats," and "Materialism." Each provides Dr. Church's perspective on the maturation of friends, colleagues and projects in industrial chemistry.

The reader is given scenarios from those that can only be truly appreciated by another chemist to elegant descriptions of the hold on one exercised by a pet cat. One will even find pictures of the construction of the W/C observatory in the book. In the final chapter, John provides his reader with a scene involving the end of his days as the custodian prepares for the next occupant of his space/time.

At the end, you will be left with a story of a man who is at once, a chemist, a philosopher, an astronomer, a father, a grandfather, a member of the AAAP and a human being worth knowing.

The book is, or will soon be, available from our library to AAAP members.

Larry Kane
Librarian/Archivist

Editor's Note

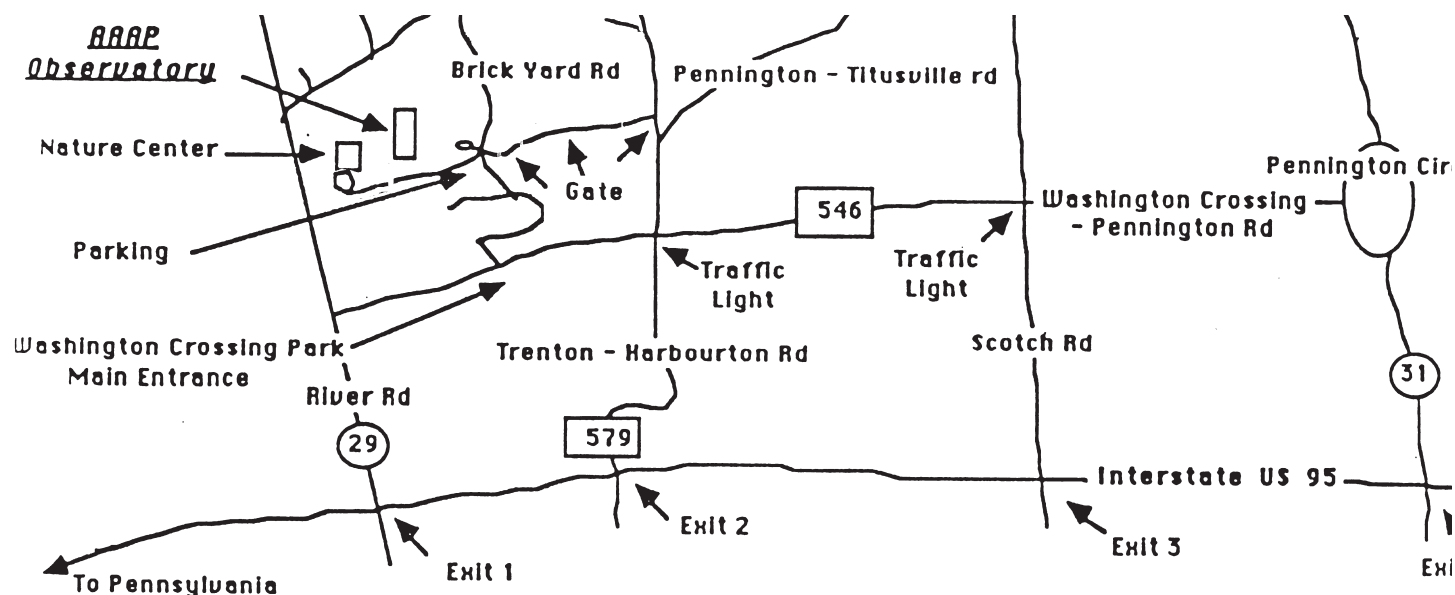
It is great that someone else has read and commented on John's book.

Some may recall that I also read this fine monograph and commented on it in the October 2003 issue of the Times. So I thought it appropriate to republish my remarks from that time to encourage more members to borrow the book and get to know one of our longest standing active members a little better.

"From Eve and Morning; Recollections of a Sometime Chemist," the memoirs of our long time member John Church, was unveiled at the end of our September business meeting. I was rather busy at work after that meeting so I didn't get around to opening his book until Sunday morning whereupon I didn't put it down until I finished it on the following Tuesday. I thought I'd known John for a long time but now that quiet gentleman in the back of the room has become a very familiar friend that I wish I had known a lot longer. I thoroughly enjoyed reading John's book and highly recommend that it be checked out from the AAAP library and read by all. Literary kudos to John.

To borrow the book, contact our Librarian/Archivist, Larry Kane and have him bring one to the next meeting. I believe there are two copies in the Library for your reading pleasure.

Vic



The best way to get to the observatory is to take Interstate 95 South towards Pennsylvania. Then take Scotch road at Exit 3 and proceed north (this amounts to right). Then, at the third traffic light take a left onto the Washington Crossing-Pennington road (County Route 546). Take this road to the first traffic light and take a right onto Trenton-Harbourton road (County Route 579). Take this road to the first driveway on the left, this is the Phillips Farm/Soccer Field entrance to the park. There is a series of three gates with club combination locks. If the gates are not open, you will need the lock combination to open the gate or be accompanied by a Keyholder member.

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Amateur Astronomers'
 Association of Princeton
 PO Box 2017
 Princeton, NJ 08543