SIRIUS ASTRONOMER

www.ocastronomers.org

The Newsletter of the Orange County Astronomers

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Jim Benet and Craig Bobchin created this image of a popular object not usually affected by light pollution through a Celestron C11 from Costa Mesa on September 23rd.

OCA CLUB MEETING

The free and open club meeting will be held Friday, October 12th at 7:30 PM in the Irvine Lecture Hall of the Hashinger Science Center at Chapman University in Orange. The scheduled speaker is yet to be announced as of press time so be sure to check the website!

Next General Meeting: November 9th

STAR PARTIES

The Anza site will be open this month on October 6th and October 13th. The Black Star Canyon site will be open again on November 3rd. Members are encouraged to check the website calendar, for the latest updates on star parties and other events.

Please check the website calendar for the outreach events this month! Volunteers are always welcome!

You are also reminded to check the web site frequently for updates to the calendar of events and other club news.

COMING UP

The next session of the Beginners Class will be held on Friday, October 5th (and next month on November 2nd) at the Centennial Heritage Museum at 3101 West Harvard Street in Santa Ana.
GOTO SIG: TBA (contact coordinator for details)
Astrophysics SIG: Oct. 19th, Nov. 16th
Astro-Imagers SIG: Oct. 16th, Nov. 20th
EOA SIG: Oct. 24th, Nov. 28th
Dark Sky SIG: TBA (contact coordinator for details)

President's Message

By Barbara Toy

Starting with a bit of business – remember that we'll start taking nominations for the 2008 Board of Trustees a month earlier than in the past, at the October general meeting. If you want to run for a Trustee or officer position, you can be nominated at the October or November general meeting, or you can email Bob Buchheim (rbuchheim@earthlink.net) or me (btoy@cox.net) and we will be happy to nominate you.

To run for Trustee or for Secretary or Treasurer, you need to be a member in good standing for at least a year. To run for President or Vice President, you also need to have served on the Board for at least a year at some point, not necessarily the year before you decide to run. There are a lot of you out there who have these qualifications and would do an excellent job for the club – do get your name on the ballot!

Changing Lock Combinations At Anza

Every so often we have to change the combinations on the locks that allow access to the facilities at Anza for security reasons. We expect to do this in late October, after the work on the Observatory roof is finished. We will try to notify those people who are known to use the site regularly with the new combination, but please check with Charlie Oostdyk, Don Lynn or with me for the number if you go out to the site from late October on and have not been notified of the new combination. When you get the new number, please remember that it's important to keep this confidential, and to be sure that it is not given to anyone who is not a current member in good standing in the club.

While we're on the subject of locks, please make it a practice to put the keys back where they belong immediately after you use them, so they don't get lost, and, when you lock any of the combination locks, please set all of the numbers to zero to make it more difficult for an outsider to figure out the combination. After you use the key to Anza House, please replace the key and lock the lock box immediately after opening the door, as there is no need for it to remain open and locking it immediately will ensure that it's locked when the property is closed up. Unfortunately, often the last person to leave Anza House doesn't think to check that lock on the way out – if it's left unlocked, sometimes it could be a couple weeks or more before someone goes out there and can lock it.

Thank you for your cooperation and understanding as we go through the combination-changing process, and please feel free to contact me if you have any questions concerning it.

Changes For the AstroImage Group – And Many Thanks to Bill Patterson

Our AstroImage group has been one of our largest and most active special interest groups for the last decade or more. During most of that time, Bill Patterson has chaired the group. He shared that position with Leon Aslan for a while, but has been the sole chair for a long time now. While he was with Source Engineering, he arranged for the AI group to meet in the company's conference room, and after he retired he oversaw the move to the group's current meeting location at Gibson, Dunn & Crutcher in Irvine, which we have courtesy of Joe Busch. During the years he has been the chairman, he has worked hard and with a lot of creativity to keep the meetings interesting and relevant to the members, to involve more members in making presentations and in the other activities the group is involved with, and to keep the group moving in interesting directions.

Much to our regret, Bill has decided it is time for him to relinquish the position – after his years of hard work and being the main guy moderating the meetings, keeping them moving, and coming up with activities for future meetings, he wants to sit back and enjoy the meetings and other activities as a participant for a while. He announced this at the September meeting, and has set the October AI meeting as the time when the new chairperson will be selected.

If you have any interest in the AstroImage group, even if you haven't been to a meeting in a while, the October meeting is obviously an important meeting to attend, as whatever decision is made there about the leadership of the group will have a great impact on its activities and its future. So please be sure to note it on your calendar and plan to come – October 16, 7:00 p.m. at Gibson, Dunn & Crutcher's new offices at 3161 Michelson Dr., 11th floor, Irvine.

Bill had done a wonderful job leading the AI group – we all owe him a lot of thanks for the time, energy and imagination he has brought to the job. He is leaving it a well-organized and vital group for his successor. Even though he may be a hard act to follow, I hope that won't discourage any of you who have an interest in seeing the AI group continue to flourish from stepping forward to fill this position. The AI group is a great bunch of people, the meetings get people together to socialize and learn from each other as well and also provide a lot of good information to imagers at all experience levels from the various featured

presentations, and these are particularly exciting times for the group – with the plans for an enhanced AI website, the ongoing hands-on workshops in Photoshop, plans for another intensive beginners class, work on another AI calendar featuring images from the group, and so on – leading the group will be exciting, interesting and fun for whoever takes on that position! If you have any interest in being that person, please contact Tom Kucharski (Nominations Chair, TomRigel@aol.com), Bill Patterson (bill@laastro.com) or me.

Star Party Reminiscences – Anza…

Dark, dark skies, with the light domes blotted out, so you could see the Milky Way from horizon to horizon, dry, with rock-steady seeing – I'm told these were the conditions at Anza on the Friday night before the September star party, while many of us who went to that star party were enjoying the animated and well-illustrated account of the trip made by Gernot Meiser and Pascale Demy overland from Germany to the southern part of Africa to see a full solar eclipse from Zambia. Fortunately, even though those who were at Anza on Friday kept saying that it was a lot better than on Saturday, conditions were good for the star party on Saturday, as well.

In particular, the clouds kept the western light domes down more than usual, and, for some reason, the light domes from San Diego in the south and the domes to the northeast of us seemed to be much smaller than usual or nonexistent even though there were no visible clouds or fog in those directions. As a result, the eastern and southern sky in particular was very dark most of the night and viewing was good. We had a number of new people who were making their first trip to Anza that weekend, and at least three "old-timers" who hadn't been able to make it to Anza for quite some time – Russ and Stephanie Tanton, and Jeff Gortatowsky. Although some of the regulars were away on vacations, many who were out of town at various times over the summer were back. It was a great time for catching up with people as well as viewing or imaging, and a great welcome to the fall viewing season.

…And Black Star Canyon

It's been a while since I've been able to make it to the Black Star Canyon star party, but Steve Short tells me that they had a lot of people at the September party, and everyone had a good time. The people he works with at the Irvine Co. regarding the site have been showing a lot if interest in what we are doing out there, and he had at least one attend the star party as a guest. They are now interested in bringing some small groups out on occasion, which is great because it helps them see our use of the site as something positive that they should encourage. We are hoping that at some point we may be allowed more access to the site than once a month, on terms closer to those we had while we were using the Silverado site, and building closer ties like this can only help that effort.

Although Steve took on the position of Black Star Canyon Coordinator in part because of the convenience of having an observing site reasonably close to his home, he has not had a chance to do much observing himself out there for the last couple years. This is mainly because of activities he has taken on as our informal ambassador to the Nature Conservancy when they were managing the site and now to the Irvine Co. personnel who have taken over for them, and because he has been doing a lot with beginners who attend the star parties. Some of these are people who come out to Black Star Canyon as guests of the club because they are attending the Beginners Class, others are new club members or other guests who are new to our hobby.

He usually starts with a sky tour, and spends a lot of time with new people and visitors over the course of the evening to ensure that they have a good experience. Quite a few of these people become members, and even those that don't leave with a better understanding of the sky and of our hobby than they had before. We owe him many thanks for all he does to keep Black Star Canyon going strong, and for his efforts to inform people outside the club of what we do and of the benefits of astronomy as a hobby.

Beginners Class

As I write this, we just finished our September Beginners Class. This was a week later than usual; it is usually held the first Friday of each month, but because we had to move the general meeting to the first Friday in September, it was moved to the second Friday. In spite of this, we were delighted to have a large turnout – 39 people – which filled our current classroom on the ground floor of the Coach House/administration building at the Centennial Heritage Museum. I was pleased to see a group of people who have come to some of our general meetings and who joined the club's September trip to Mount Wilson. They had a wonderful time at Mount Wilson – I understand that conditions were particularly good that night – and the grand finale of the show was looking at the Great Orion Nebula in the 60-inch. The field of view for that telescope is quite small, so I believe they were looking at the area immediately around the Trapezium, not the broader expanse of nebulosity, but whichever part they saw, they said it was stunning.

(continued on page 8)

AstroSpace Update

October 2007
Gathered by Don Lynn from NASA and other sources

Spitzer (infrared space telescope) has verified that 9 faint galaxies found in the Hubble Space Telescope Ultra Deep Field image are very low mass galaxies (100 to 1000 times smaller than our Milky Way) that formed in the first billion years after the Big Bang. They contain only young stars, no old ones, so were only a few million years old when the light left them that we see now. They are the building blocks predicted in current theories of galaxy evolution, which later coalesced into larger galaxies. 3 of them appear to be slightly disrupted, that is stretched into tadpole-like shapes by interactions with neighboring galaxies.

Spitzer has also detected for the first time **water vapor** pouring down onto a dusty disk around a young star where planets are thought to form. The water detected amounted to 5 times that in Earth's oceans. It is believed that water is coming from ice that formed in the outer reaches of the cloud about the forming star, and is falling in toward the disk, vaporizing as it warms nearer the star. The Spitzer study examined 30 young stars, and found large amounts of water vapor at only one of them. The scientists theorized that the migration of water lasted only a short time (astronomically) and that seeing it required a certain orientation, so that is why it was not seen in the other 29 stars.

Asteroid impacts – A team of researchers has studied the Baptistina asteroid family and determined that they formed when 2 asteroids collided roughly 160 million years ago, producing many fragments, the largest of which is the asteroid Baptistina. Computer simulations of the orbits of the fragments shows that about 20% of them ended up crossing the Earth's orbit, and a fraction of those struck the Earth or Moon. Previous studies of craters on the Earth and Moon showed that there was an increase in impacts over the past 100 to 150 million years. This new study implies that the Baptistina family formation collision caused that increase in impacts on the Earth and Moon. The impacts peaked about 100 million years ago, but many asteroids of the Baptistina family continue to orbit near the Earth. The new computer simulations showed that there is a 90% chance that the impact that created the Chicxulub crater (which may have wiped out the dinosaurs) was from a Baptistina fragment, and a 70% chance that the impact that created the Tycho crater on the Moon was a Baptistina fragment.

Cassini (Saturn mission) flew by Iapetus for the only planned very close encounter (1000 miles altitude) with that moon. Iapetus is a strange place: there is a ridge of very high mountains (more than twice the height of Mt. Everest) around the equator, giving it a kind of walnut shell shape; about half the moon is white as snow, the rest black as tar. The dark side resembles dark material found in smaller quantities on the moon Hyperion. During the flyby, observations were taken with the imager, spectrometer (to determine surface composition, look for gas plumes, etc.), temperature sensor, and even the radar imager. The only other moon that has been flown by close enough to use the radar is Titan. There the surface is hidden by thick clouds. But at Iapetus, the areas radared were also imaged in visible light. Comparison of these will help interpret the radar images of Titan. The first close-up Iapetus images have been released, and they are spectacular. At the transition between bright and dark, the images show blobs of dark stuff sitting on top of the higher points of the icy areas. The moon is heavily cratered, including the equatorial mountains, showing that the surface, including those mountains, is quite old. During transmission of Iapetus data to Earth, Cassini suffered a safe mode, where operations are shut down, due to a cosmic ray hit. Controllers got the spacecraft back in operation quickly, and restarted the sending of data, so none was lost. Cassini had not had a safe mode for years.

Adaptive optics – A number of observatories have developed systems, called adaptive optics, that bend and move mirrors many times per second under computer control to counteract the distortions in the Earth's atmosphere and so produce sharper images. All the successful systems work in infrared light, and all attempts in visible light have been unsuccessful until now. A new prototype system tested on the Palomar 200-inch (5 meter) telescope has produced images more than 40 times sharper than good atmospheric seeing normally allows, which is twice as good as the Hubble telescope produces from outside our atmosphere. It works by shooting video using visible light through the infrared adaptive optics system. Then a computer determines which video frames are fuzzy, and throws them away. The remaining frames are stacked into a time exposure that is extremely sharp. In fact the images were the sharpest astronomical images ever made in visible light. The tests reached the resolution limit of the 5-meter mirror, so the researchers are wondering if they can get results twice as sharp using a telescope twice as big, such as the Keck Telescopes. They expect to have a fully working camera by 2010.

Relativity – Using 2 X-ray satellites, XMM Newton and Suzaku, astronomers have seen distortion of space-time around 3 neutron stars caused by their intense gravity, as predicted by General Relativity. The distortion affects the shape of lines in the X-ray spectra of material falling into the neutron stars. This technique has been used on black holes before, but this is the first time on neutron stars. The material falling in was found to be moving at 40% the speed of light as it neared the surface of the neutron star. From the speed, scientists were able to calculate an upper limit of about 19 miles for the diameter of the neutron star, an important check on the theory.

Mars rovers – The dust storms on Mars have continued to clear, and the rovers have resumed exploration and full communication. Dust has continued to fall on the solar panels, so electricity production is not fully restored. Wind has occasionally helped blow some of the dust off. Opportunity made a test run of a few feet into Victoria Crater, then backed out to prove it could. After a minor problem with slippage, the slip control software was adjusted, and the rover plunged fully into the crater. Victoria is the largest and deepest crater visited by either rover, and so may have exposed the oldest rocks. The highest priority target, of many, is a bright

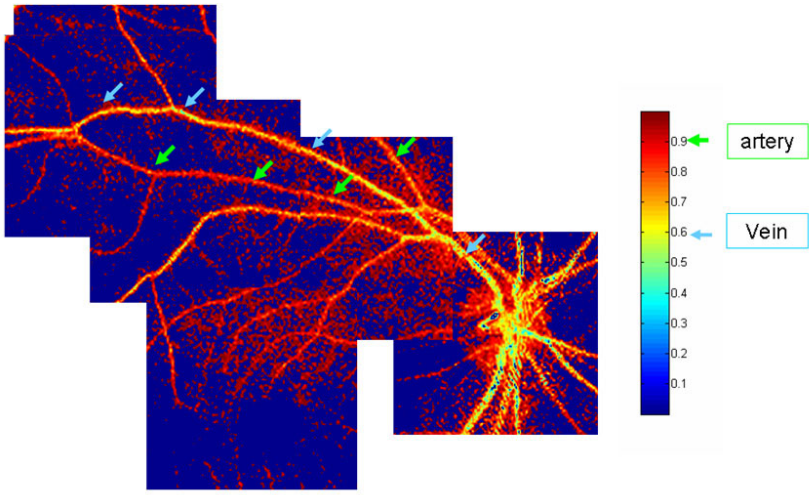
(continued on page 6)

A Missile in Your Eye

by Patrick L. Barry

Satellite technology designed to catch ballistic missile launches may soon help doctors monitor the health of people's eyes.

For the last 15 years, Greg Bearman and his colleagues at JPL have been working on a novel design for a spectrometer, a special kind of camera often used on satellites and spacecraft. Rather than snapping a simple picture, spectrometers measure the spectrum of wavelengths in the light coming from a scene. From that information, scientists can learn things about the physical properties of objects in the photo, be they stars or distant planets or vegetation on Earth's surface.



This three-color composite image from the computed tomographic imaging spectrometer shows the oxygenation of the blood in the arteries and veins of a human retina. (Arteries appear red, veins appear yellow.)

In this case, however, the challenge was to capture snapshots of short-lived events—like missile launches! The team of JPL scientists designed the new spectrometer, called a computed tomographic imaging spectrometer (CTIS), in collaboration with the Ballistic Missile Defense Organization as a way to detect missiles by the spectral signatures of their exhaust. But now the scientists are pointing CTIS at another fast-moving scene: the retina of an eye.

Blood flowing through the retina has a different spectral signature when it is rich in oxygen than when it is oxygen deprived. So eye doctors can use a spectrometer to look for low oxygen in the retina—an indicator of disease. However, because the eye is constantly moving, images produced by conventional spectrometers would have motion blurring that is difficult to correct.

The spectrometer that Bearman helped to develop is different: It can capture the whole retina and its spectral information in a single snapshot as quick as 3 milliseconds. "We needed something fast," says Bearman, and this spectrometer is "missile-quick."

CTIS is even relatively cheap to build, consisting of standard camera lenses and a custom, etched, transparent sheet called a grating. "With the exception of the grating, we bought everything on Amazon," he says.

The grating was custom-designed at JPL. It has a pattern of microscopic steps on its surface that split incoming light into 25 separate images arranged in a 5 by 5 grid. The center image in the grid shows the scene undistorted, but colors in the surrounding images are slightly "smeared" apart, as if the light had passed through a prism. This separation of colors reveals the light's spectrum for each pixel in the image.

"We're conducting clinical trials now," says Bearman. If all goes well, anti-missile technology may soon be catching eye problems before they have a chance to get off the ground.

Information about other NASA-developed technologies with spin-off applications can be found at http://www.sti.nasa.gov/tto .

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

(continued from page 4)
layer of rock in the crater wall a short distance down. Spirit drove onto Home Plate, a rock plateau that it will now explore. The area shows signs of lava and water having mixed explosively there.

Earth-like planets – Spectra taken by the Keck Telescope in Hawaii of a white dwarf star appear to show that asteroid dust has polluted the star. 17 elements were found that are typical of asteroids, many of which have never been detected in a white dwarf before. It is also possible that the pollution came from a collision of planets. The pollution is similar in composition to the Earth and moon. This probably indicates that Earth-like (rocky) planets formed there long ago, perhaps indicating such are common. The star is located in Hercules, about 150 light-years away.

Non-planet – Astronomers using the Swift gamma-ray burst and Rossi X-ray satellites have discovered an object with the mass of a planet (7 times Jupiter's mass or perhaps somewhat more), but it isn't a planet. It is a white dwarf star whose companion star is so close that it has ripped material away until only the helium core of the star is left. The companion star is a rapidly rotating (182 times per second) pulsar (neutron star that emits pulses like a lighthouse). Normally the spin rate of pulsars slows down as they age, but gas spiraling onto a neutron star from its companion can increase the rate of spin. This is only the 8th rapidly spinning neutron star known to be accreting matter from its companion. The 2 stars are separated by about our distance from our Moon, and they orbit every 55 minutes. The 2 objects are so close to each other that the neutron star's gravity produces a tidal bulge on its companion, pulling off gas that flows into a disk surrounding the neutron star. The flow periodically becomes unstable and dumps large quantities of gas onto the neutron star, causing an outburst like the one in June that resulted in the objects' discovery. The system is estimated to be 25,000 light-years away. It is too faint to be detected between outbursts.

Mars Reconnaissance Orbiter (MRO) – Diagnostic tests and months of stable operation have allayed concerns raised early this year about the cameras on MRO. During the first 3 months of science, researchers saw an increase in noise and pixel dropouts in half of the 14 detectors. But the noise stopped getting worse the next month, and there was no detectable degradation in the next 5 months. Also a procedure was developed to warm electronics before each image, which reduces noise in the problem detectors.

Near-Earth asteroid – Analysis was completed on data taken at Haleakala Hawaii on the asteroid 2000 NY40 during its quite close approach to Earth during August 2002. Images show it is roughly triangular. It cast shadows on parts of itself, indicating concave areas, possibly craters. The asteroid rotates around 2 axes, one in 20 hours, the other in 18.5 hours. The longest dimension is about 1/2 mile, much larger than estimates made before the close approach. Spectra were taken, indicating it is a Q class asteroid, an uncommon type of near-Earth asteroid that is generally chondritic. The spectra varied little over time, so the surface is probably fairly homogeneous.

Meteors – Astronomers using the Subaru Telescope in Hawaii were able to calculate the width of the tracks of meteors from the rate of producing photons from the air excited by the meteoroid passage. It is only a few millimeters. However, light from oxygen atoms spread out over hundreds of meters due to the delay that oxygen shows in emitting light after it is excited. The meteors (13 of them) were accidentally imaged while observing the Andromeda galaxy. The meteors can be distinguished from satellite streaks because the meteors are so close (about 75 miles) that they are considerably out of focus.

AKARI (Japanese infrared space telescope) has found that active star formation is taking place in the outer regions of galaxy M101 instead of near the core where it would be expected. It also detected gas falling into the galaxy, and it is suspected that this gas is triggering star formation. The gas was probably dragged out of the galaxy by a past tidal interaction with a companion galaxy, and is now falling back.

Instant AstroSpace Updates

Spitzer (infrared space telescope) has mapped the structure of the 6-light-year wide **Helix nebula**. In the inner regions around the dead star that produced the nebula, Spitzer has found what appears to be a system of planets that survived the star's chaotic death.

Spitzer has detected for the first time **dust** mingling with hot gas surrounding an elliptical galaxy. It is suspected the dust plays a role in heating the gas with energy from the central black hole, thereby preventing the gas from cooling enough to form more stars.

Spitzer completed its **4th year** in space. The liquid helium system was designed to last 2.5 years, but is now predicted to last 5.5 years. Plans are being made for warm operation, with limited capabilities, when the helium runs out.

Using archived data from the now defunct ROSAT X-ray satellite, and new observations from Swift, astronomers found what appears to be a neutron star that shines only in X-rays, not other forms of light. It is probably the **nearest neutron star** to Earth.

An astronomer has proposed that the initial black hole seed for **supermassive black holes**, which are known to exist at the centers of most galaxies, formed by direct collapse of the galaxy-forming material, not by collapsing stars.

Plans were unveiled for a **spaceport** in New Mexico to accommodate Virgin Galactic's plans to launch passengers into space. Construction will begin next year on the hangar, terminal and other buildings, which will be very energy efficient.

Observations with the Spitzer space telescope have found that **PAHs**, those hydrocarbons being found all over the Universe, survive the million degree gas of a supernova expanding shell much better than predicted.

The high resolution camera on Mars Reconnaissance Orbiter has imaged one of the "caves" found on Mars recently, and found that it appears to be a **volcanic pit crater**, similar to some found on Earth.

An extensive NASA **safety review** of recent allegations that astronauts have flown drunk found no evidence for that, and concluded it was improbable to have ever occurred, given the number of people who observe astronauts during the days before launches.

Google, the computing company, has offered a prize of up to $25 million to any private company that can land a **rover on the Moon** by 2014, rove at least 500 meters, and send video and other data back to Earth. The X Prize Foundation, which awarded the $10 million prize for the 1st private piloted space vehicle, will run the competition. ■

We Need Volunteers For The Observatory Roof Replacement!

By Barbara Toy

The replacement of the club observatory roof is definitely happening this October. Per Dave Radosevich, most of the preparation work has now been finished, and they brought over one of the trusses for the new roof and set it in place before the September star party so they could be sure it would fit. It did fit very well, and is now lying next to the observatory, waiting for the final assembly work.

Dave set a schedule for the work, but, as of this writing, that had to be moved out a week because of problems with delivery of some key parts for the new roof. Please check the website for any further adjustments to the schedule; as of now, the expected schedule for the work is:

***Friday, October 19th*:** Begin preparations – staging the materials – dumpster delivered.

***Saturday, October 20th*:** Open old roof for the last time. Dismantling of the old roof can start. Loading of removed materials into the dumpster.

***Sunday, October 21st*:** Start the framing of the new roof over the observing area, after removing the two LX200s and putting protection over the Kuhn. Continue dismantling old roof. (The observatory will be closed for any observing activities from this point until Friday, October 26th)

***Monday, October 22nd*:** Framing and sheeting of new roof. Continue dismantling of old roof.

***Tuesday, October 23rd*:** Sheeting of new roof and fabrication of south wall door/flap.

***Wednesday, October 24th*:** South door/flap fabrication continued.

***Thursday, October 25th*:** Extra day

***Friday, October 26th*:** Re-open observatory for use.

One addition to the originally planned work is that the test with the roof truss showed that the metal heat shield on the west and south sides of the observatory will need to be removed for the roof installation and then replaced, as well.

The current plan is to assemble the new roof over the observing area, and have the old roof opened as fully as possible while this is going on, and disassembled from the open position. This will minimize the chance that debris from the demolition process will fall into any equipment in the observing area. We have two star parties in October, and, if the weather cooperates, I'm hoping we can strip the asphalt shingles off the old roof at the second star party, which will make it much easier to take the rest of it apart. Even without the shingles, the roof should protect the Kuhn until assembly of the new roof begins later that week.

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(continued from page 3)

Dave Pearson is the current instructor for the Beginners Class, and Steve Short and I generally help out, as well. For those who may not be familiar with the class, it is a series of six sessions, one each month. The first session covers general astronomy topics – what's up there, what it looks like, why it won't look like a Hubble shot through even the best amateur equipment, and so on. The second session is on telescope optics, the third on mounts and other equipment, the fourth on how to find what's up there, the fifth is our hands-on "bring your telescope" class, and the last session is now on the basics of astrophotography. The sessions are independent of each other so you can attend them in any order, or you can attend just the classes that interest you at a particular time.

There are materials for many of the sessions that can be downloaded from our website, which were drafted by Antonio Miro, the prior instructor. Although Dave doesn't follow these these materials exactly, they do provide a good general background on the various topics covered. All of the classes are free and open to the public, and we invite the people who attend to come to one of our star parties as guests of our club, so they can get a more direct experience with observational astronomy and the types of equipment that we use. Naturally, we hope that they will join the club, and many of them do.

If you would like to come to any of these classes, you would be more than welcome. If you would like to help out with the class, please contact David Pearson (astrodwp@dslextreme.com), Steve Short (NightSkyTours@hotmail.com) or me.

Conclusion

We have a new year coming up, with new hopes and challenges, and we need new people to join the leadership of the club to help give us the energy and flexibility that keeps our club strong. Running for the Board is one way to do this, but that isn't the only way to contribute. Volunteers can help us out in a lot of areas – keep your eyes open for opportunities that meet your interests, and you'll be surprised how many there are. And don't forget that contributing articles and pictures to the Sirius Astronomer is a great way to help us out, too! ■

Magazine Subscriptions

Subscriptions to the Astronomy magazines are now due for renewal, if you subscribed for one year or would like to subscribe at the club rate. You may also extend an existing subscription that does not end in December for one year at the club rate. Bring your check made out to the OCA to the meeting or mail it to:

Charlie Oostdyk, Orange County Astronomers, PO Box 1762, Costa Mesa, CA 92628.

Checks made out to the magazine publishers cannot be processed and will be returned to you. If you already subscribe, please provide the mailing label or the billing invoice with your check. One-year rates are as follows:

	Club Rate	Regular Rate
Sky & Telescope*.....	**$33.00**	$42.95
ASTRONOMY	**$34.00**	$42.95

The **DEADLINE** for subscribing at the club rates will be the **October monthly meeting, October 12th.**

***Sky & Telescope subscribers please note: due to a change by the publisher, renewals of current subscriptions must now be made through Sky and Telescope! New subscriptions at the club rate must still be made through Orange County Astronomers and then renewed through the publisher.**

What have you been doing in the Dark?

Have you been doing a project that other OCA members would be interested in learning about? Have you participated in an astronomical activity that would entertain the other OCA'ers? For example, perhaps you have:

- Taken an astronomically-oriented expedition (stargazing at Lake Titicaca?)
- Made a telescope or an optical instrument (a handicap-friendly telescope?)
- Conducted a research project or astronomical investigation (photometry? double-stars? spectroscopy?)
- Exposed the stars at a unique "outreach" venue
- Made an unusual observation (anyone discover a supernova or asteroid?)
- Participated in a special activity by one of our Special Interest Groups (visited a major observatory? Used a remotely-operated telescope?)

If you have, then it's time to start thinking about your presentation for the "Member's Night" December OCA Meeting. Don't keep it to yourself: Inquiring minds will want to know what you've been doing in the dark!

The OCA is filled with inventive people doing new, intriguing, and wonderful things. We'd be delighted if you would present a 10-15 minute description of one of your astronomical activities at the December OCA meeting. To add your name to the presenter's list, please contact Craig Bobchin by e-mail at ETX_Astro_Boy@sbcglobal.net

NOTICE: All submissions, including ads, to the Sirius Astronomer should now be submitted to stevecondrey@verizon.net. To avoid unnecessary delays or unfortunate but well-meaning efforts by the editor's spam killer, please include the notation [SA] in the subject line of all messages regarding the newsletter.

FOR SALE: 8 inch Celestron NexStar. Brand new - never used. $900.00 Contact: Ken Duvall (714) 240-2993

WANTED: I am interested in buying an observatory with a warming hut at Anza. If you are interested in selling yours, please email me. Thanks, Ray Stann

Contact: r_stann@yahoo.com

2-inch new (not used) eyepieces from Surplus Shed. One is 10 mm focal length for $40; the other is 38 mm focal length fo $60; these only fit 2 inch focusers. Also selling 2 different new (in box) green laser pointers, one with constant on switch (just like a flashlight) for $135, the other with a momentary switch (release and it goes off) for $80. These are both 4 times as bright as the pointers commonly seen. Ph: 909-861-6461 or email scopeguy20@gmail.com

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FOR SALE: Celestron CR 150hd Dual Axis Drive CG5 Mount. New motors and hand controller; roll-about hard case. Nice condition. $750.00
Meade LXD55 8 inch Schmidt Newtonion. Recent complete service by Meade, new Autostar, etc. Roll-about hard case. Nice condition. $800.00
Contact Steve Bird 562 234-2157

FOR SALE: Meade 8-inch LX200 GPS w/all factory accessories; aluminum channel tripod w/pneumatic tires. Contact Bob Krause at 949-248-3111

Observing with the 23-inch Clark Refractor at Charles Daniel Observatory, South Carolina

by John Sanford

We only got to look at a few objects with the 23". Specifically, Jupiter, M57, M15, and Epsilon Lyrae. I think there was also a double star in Bootes, which turned out not to be double, at least nobody looking could see a companion. I think they had it pointed at the wrong star...

Jupiter was a fuzzball at about 250x as you might imagine due to its low altitude. You could tell it had bands but that was about it. Not enough power to see any disks on the moons.

M57 was pretty good, with the 12th mag star on the edge held steadily. Central star not visible. The sky there is pretty badly light polluted, since Roper Mountain is sort of a park in the large suburban area surrounding Greenville, and there are shopping centers no more than about 3/4 mile away.

M15 looked quite good, resolved down to the core, and could have stood quite a lot more power. You could tell the resolution was there even if not expressly seen. They had some b&w video of the Moon on what must have been a night of nearly perfect seeing, and the detail was outstanding. The Straight Wall was almost the whole length of the 32" monitor!.

Epsilon Lyrae was a good double double, and we could compare it in the 23", its 6" Mogey finder, and a 4" f/15 Cooke refractor outside. Frankly it looked best in the 4", which had outstanding optics. The Moon with it was sharp and contrasty even at the low altitude it was at on Sunday night. (pic enclosed).

Probably the best day was Monday when we drove to Columbia and looked at much of Bob Airial's (Artists in Optics - the Clark book) collection that he has mostly given the S.C. State Museum. They have many Clarks from 3 to 12 inches in aperture on display, along with many others of his collection that are not Clarks. It has to be a collection which overall is about the best telescope collection in the world, bar none.

2008 Antique Telescope Society Workshop

courtesy John Sanford

Official announcement has been made of the upcoming ATS thematic workshop "The Vintage Observatory: Thriving in the 21stC," to be held May 2-4, 2008 at the Cincinnati Observatory in Ohio (yes, the beautiful venue for the 2005 ATS convention). Thanks to webmeister Barry Malpas, the first announcement is now also accessible from the ATS website by clicking on http:// www.oldscope .org/in2008ws. htm . In addition to the introductory page, you can download the three-page PDF, including the call for papers (abstracts due January 7).

The workshop will have some regular historical papers as at the regular annual ATS convention, but its focus will be on offering hands-on operational help to museums, colleges, astronomy clubs, or other institutions (or individuals) charged with the care of vintage or antique telescopes or observatories figure out how to think through integrating their history and optics into a viable and sustained future. It will also focus on providing info to people who may not already know about the wealth of resources available to them within the ATS.

Although this first announcement implies that the meeting might be primarily on Saturday, events since July now indicate that sessions may indeed be held on Friday and Sunday as well. Every attempt is being made to keep costs as reasonable as possible to encourage the attendance of people even from small institutions with modest budgets. There will be a more detailed second announcement later in the fall.

Any questions, please feel free to contact any of the workshop's organizers:

Local organizers:

Cincinnati Observatory Center
3489 Observatory Place
Cincinnati, OH 45208

Craig Niemi, Executive Director, (513) 321-5186 ext. 1
observatory@ fuse.net
John E. Ventre, Historian, (513) 321-5186 ext. 4
jeventre@ix. netcom.com

Papers co-chairs:

Trudy E. Bell, M.A., (216) 221-5008
t.e.bell@ieee. org
Craig B. Waff, Ph.D., (937)-255-5095
cbwaff@sbcglobal. net

Travel/logistics/ accommodations coordinator:

Valerie Niemi, Prestige Travel
valerie@prestige- travel.com

To receive subsequent announcements and further information, please contact Trudy E. Bell at t.e.bell@ieee. org .

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The Newsletter of the Orange County Astronomers

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