



**COLUMBUS
ASTRONOMICAL
SOCIETY**

Prime Focus

Volume 58 Number 2 February 2009
The Columbus Astronomical Society Newsletter

Contents

From the President.....	pg 1
Wired for Astronomy.....	pg 1
What's Up.....	pg 2
Ron Ravneberg.....	pg 3
Studying the moon,	pg 4
CAS Honors Ron Ravneberg.....	pg 5
Nasa Space Place.....	pg 6
CAS Calendar.....	pg 7



Wired for Astronomy

Since Venus is so bright, it is not surprising that many people will ask about "the bright light in the west." Here are some sites that help explain both the brightness and the changes of Venus:

http://stargazing.suite101.com/article.cfm/the_bright_star_in_the_west has a simple, concise explanation of the bright light in the west. Apparently it is a popular site, with comments left by readers.

<http://www.msnbc.msn.com/id/26459084> tells the reader what to expect as the planet Venus comes closer to the Sun.

The question of Venus's brightness is also answered here, with a little math added:

<http://www.romesg.com/?p=174>

<http://gegenschein.wordpress.com/2009/01/12/venus-begins-2009-brilliantly/> adds little to the explanation, but is a good read regardless.

Some facts about Venus: <http://www.aerospaceguide.net/planet/planetvenus.html>

<http://www.aerospaceguide.net/planet/planetvenus.html>

Mythology of Venus: Start with Wiki:

<http://www.aerospaceguide.net/planet/planetvenus.html>

Enjoy!

From the President

Greetings fellow stargazers:

I sat down to write this letter knowing how difficult it would be to address the recent passing of beloved CAS member, Ron Ravneberg. He touched so many lives throughout his life with his passion for amateur astronomy that a few paragraphs in this letter wouldn't do his memory justice.

I received a few letters from members who feel that a CAS award should be created to honor Ron's contributions to our society. The officers and trustees will discuss an award at our February meeting before the regular CAS meeting. We'll meet at 18:30 in the kiddie room behind the library. All members are welcome to attend and participate in this discussion.

The WE*R*NUTS Star Party will be held at Old Man's Cave lodge on February 21st. The parking lot lights will be off, and the lodge will be open. It's a great time with nice, dark skies. Bring your cold weather observing gear if you plan to observe until dawn. We'll gather around the "Telescope Campfire" and remember Ron. I'm sure he's at least a few light years beyond Pluto by now: God Speed, Mr. Ravneberg.

The February meeting will feature CAS member, Kelly Carroll, who will describe the work he has done in Antarctica including information about the neutrino telescope. I'm sure Kelly can tell us what real cold weather observing is like.

Thank you,
Tom Beck
President, CAS

What's Up Brad Hoehne

What's Up By Brad Hoehne

What's Near

Keep your fingers crossed for clear weather on the nights of February 24th and 25th, as there are three great events taking place that weekend. First, of course, is our Wintertime Experimental (Reschedulable) Night Under the Stars (WERNUTS), in parking lot of the Hocking Hills Lodge. Second is the closest approach of a bright new comet flying across the Zodiac. And, third, asteroid 1 Ceres is will make its closest pass to Earth in a long while.

Get up early (or stay up very late) put on warm clothes, brave the cold, go out and try to spot bright comet **Lulin**. This comet was discovered by 19 year old student Quanzhi Ye on a photograph taken with the automated "sky patrol" observatory in Lulin University in Taiwan.

As of this writing, comet Lulin is just beyond reach of naked eye observers in the constellation Libra. Many observers report it being easy to spot in binoculars and small telescopes- even from suburban skies. Those with larger telescopes are reporting seeing the faint, greenish tinge that photographs of it make so clear. Under dark, clear skies, some observers have seen Lulin's tail and distinct *anti-tail*- the tail of dusty material that has drifted ahead of it in its orbit.

In a short time, it may become bright enough to see, without optical aid, drifting through Virgo and Leo. Or, given comets' notorious unpredictability, it could fail to impress. Interesting, however, is this comet's hyperbolic orbit, which suggests that this visit to the inner solar system may be its first. If this is the case, it is thought, there may be a great deal of fresh ice on its surface waiting to sublimate away and produce a bright tail. Are we in for a spectacular show? Who knows?

Over the coming month, Comet Lulin will pass several distinct celestial landmarks. First, on the morning of February 16th, it will glide 3 degrees from bright star **Spica**, in Virgo. Then, on the morning of February 24th, the night before our WERNUTS event, Lulin will be about 3 degrees southwest of **Saturn**- near the hind leg of Leo. At that time it will be making its closest pass to Earth and will probably be at its brightest. On the evening of February 28th, the comet will be in the same low power field of view as bright **Regulus**. Then, on March 5th and 6th, the comet will join M44, the **Beehive Cluster**, in the heart of Cancer.

Excellent, detailed, finder charts can be found at:
<http://www.astrodrayer.com/lulin>

Also, just a touch too dim to see with the naked eye, is asteroid **1 Ceres**- currently lolling around over the back of Leo in the morning sky. The "1" in the name indicates that Ceres was the first asteroid to be discovered. (After that, comes 2 Pallas, 3 Juno, 4 Vesta, and so on through asteroids 10029

Hiramperkins, 10042 Budstewart, 10483 Tomburns, all the way to 202882 2008UA316, entered into the latest published list a few short months ago.) Ceres reaches opposition on February 25th. Though, even in the largest scopes, the round *dwarf planet*, appears as nothing but a point, over the course of an hour or so, the motion of this world should be obvious. A good finder chart can be found at:
<http://www.skyandtelescope.com/observing/objects/asteroids/35387769.html>

The most distinct "star" in the evening sky right now, 17 times brighter than Sirius, is **Venus**. Over the last month, Venus has gone from gibbous, to half, to a bit crescent, and it has increased in size as it overtakes Earth on its inside track around the sun. Small scopes will reveal its crescent getting thinner and thinner as it the planet itself looms larger and larger. By the end of February, the crescent will appear 45 arcseconds across- roughly 1/40th the apparent diameter of the moon or almost exactly the same apparent width as the rings of Saturn.

The first person to notice the changing phases of Venus was, of course, Galileo. In September of 1610 began observing Venus, which we now know to have been, at that time, over on the other side of the sun. Early on, he suspected that it would come to have phases like the moon- but he hadn't yet seen this. In December of that year, though suspecting that he was seeing a *waning* Venus, he was not quite ready to publish his suspicion- *Venus goes around the sun*- until he was absolutely sure of what he was seeing. Adding to his caution was the fact that his instruments, afflicted with chromatic aberration and horrible diffraction, made viewing the nascent phases quite difficult, and he struggled to come up with an improved model.

Despite taking the time to cobble together an improved telescope, and waiting for Venus to reveal more of its changing phases, Galileo wanted to get credit for his observations. Even then, priority was important. Rather than risking the embarrassment of publishing incorrect findings prematurely, he coded his observation in an anagram: *Haec Immatura a me iam frustra luguntur o y*. That way, when the time came to reveal his findings, he could choose whether or not to publicly unscramble the anagram, proving that he had made his observations earlier than any potential rivals for priority: *Cynthiae figuram aemulatur mater amorum*. Translation: The Mother of Love [Venus] emulates the figure Cynthia [a mythological name for the Moon]. In other words, Venus does what the moon does.

Galileo did eventually decide to reveal his observations, publishing his findings in 1611. (Apparently, the anagram did successfully establish his priority.) He made careful, oblique, claims that his observations further bolstered the Copernican model of the solar system. Others, however, still disagreed. The observations, they said, also fit with the Tycho model of the solar system, in which the sun goes around the Earth, and all the planets go about the sun. In other words, the Earth didn't have to move for his observations to make sense. His observations were also said to be compatible with another, hybrid, model that suggested that all the planets, as well as the

sun and moon, went about the Earth *except for Venus and Mercury*. So, Galileo had to look for still other ways of demonstrating that the Earth was not fixed at the center of the Cosmos.

What's Far

A year earlier, during the winter of 1609 and 1610, Galileo had turned his telescope towards the "fixed stars." Pointing his telescope towards the constellation of **Orion**, high in the winter evening sky, he was overwhelmed by the multitudes of stars that he saw. In his *Sidereus Nuncius*, he wrote:

"... I had decided to depict the entire constellation of Orion, but, overwhelmed by the enormous magnitude of stars and a lack of time, I put off this assault until another occasion. For there are more than five hundred around the old ones spread over a space of 1 or 2 degrees..." Translation: Albert Van Helden 1989

Elsewhere in the constellation, he paid particular attention to a "nebulous" region that Ptolemy had mentioned- the so-called "**head**" of **Orion**. He found it to be made up of stars. Seeing that Praesepe (The "Beehive" or **M44**) was also made up of stars, and having examined the nebulous looking **Pleiades**, he came to the premature conclusion that all the so-called nebulous regions of the sky, were simply masses of innumerable stars to faint to be made out individually. Note that he did not, in the *Sidereus Nuncius*, make any mention of the well known nebulous patch in the *Sword* of Orion, which we now call **M42** (The great Orion Nebula.) Some surmise that Galileo didn't want to undermine his idea with a counterexample. Galileo probably assumed that the Orion Nebula would eventually prove to be made up of countless individual stars, but that his instrument wasn't up to the task. Of course, it never would be.

Even so, the idea that the nebulous patches in the sky were *all* made up of individual stars held sway until the late of the 19th century. Great deep-sky observers such as Charles Messier and William Herschel frequently reported in their notes that they were on the verge of resolving some object then under their intense scrutiny. In many cases, we now know this to have been wishful thinking. There are objects in space that are truly nebulous, and for which no amount of clarity or magnification will serve to resolve them into stars.

Sometimes it's informative to put yourself in the mind of someone who hasn't had the benefit of centuries of observation guiding his or her visual impressions. If you saw M42 or M78 or M31 without knowing their "true" nature, what would you think they were?

Ronald L. Ravneberg

RAVNEBERG Ronald L. Ravneberg, 60, died at home Saturday, January 31, of pancreatic cancer. Born in Lewiston, Idaho, on March 25, 1948, Ron attended Case Institute of Technology in Cleveland, Ohio, and graduated from the University of Idaho in Moscow, Idaho, with bachelor's and master's degrees in psychology. He worked in the behavioral health industry for more than 30 years in Seattle, Washington, D.C., and Columbus, Ohio. For the past 15 years he was a management consultant and most recently was a principal in Health Systems Consulting and TURN LLC.

Ron had a lifelong interest in amateur astronomy. Since receiving his first telescope at age 9, he pursued his passion for star gazing, building and refurbishing telescopes, and forging friendships with fellow amateur astronomers. He was a long-time member and past president of the Columbus Astronomical Society. He spent countless evenings at Perkins Observatory in Delaware, Ohio, where he enjoyed spending time with friends and helping members of the public discover the wonders of the universe. He also developed close connections with astronomers throughout the world.

Ron was an avid reader and book collector and worked closely with The Aldus Society, a Columbus-based organization for lovers of books and the printed arts. He was a board member, past president and newsletter editor for the group. Additionally, he was a board member for both the Friends of the OSU Libraries and The Fellowship of American Bibliophilic Societies (FABS). Over the years he built his own collection of antiquarian books, maps and prints, with a particular emphasis on works associated with 18th-century explorer Capt. James Cook.

Funeral services were held Wednesday morning, 11 a.m., at BETHEL UNITED METHODIST CHURCH, 1220 Bethel Road. In lieu of flowers, donations may be made to two organizations close to Ron's heart: Perkins Observatory Endowment Fund, P.O. Box 449, Delaware, OH, 43015 or The Aldus Society, c/o Dave Reiff, 5688 Pauley Ct., Columbus, OH, 43235.

Several members of the CAS were present, and Brad Hoehne gave an eulogy that was very touching..

Ron will always be remembered for his gentle manners, his caring, and his eagerness to help others. His skills as a telescope maker will be missed, but most of all we will miss his friendship and camaraderie.

Note:

Obituary was in our Yahoo Groups discussion group courtesy of Michael Packer.

Column 5 of 6 on Studying the Moon Good-Good, Good Librations Michael Packer

Whether we observe a full moon or a crescent moon with earthshine we can only see 50% of the moon's surface at one time. However three principle (one might say good) orbital motions of the moon and earth allow observers to glimpse about 59% of the Moon's surface over time. In other words these motions, called librations, allow us to see surface detail on the far side of the moon. Such features include the eastern mountain crests or concentric ripples of the Eastern Impact Basin (Orientale), and views of polar craters we now know contain water ice.

1) Longitudinal Libration: The synchronous rotation that keeps the same face of the moon turned toward the earth is only true on average because the moon's orbit is not circular but eccentric. Hence the moon's rotation sometimes leads and sometimes lags its orbital position. When the moon is at its perigee, its rotation is slower than its orbital motion, and this allows us to see up to 8° of longitude of its eastern (right) far side. Conversely, when the moon reaches its apogee, its rotation is faster than its orbital motion and this reveals 8° of longitude of its western (left) far side.

2) Libration in latitude is a consequence of the moon's axis of rotation being slightly inclined to the normal to the plane of its orbit around earth. This tilt (about 6.5°) allows an observer to see a little more of the north polar region, and half a month later, see a little more of the southern polar region.

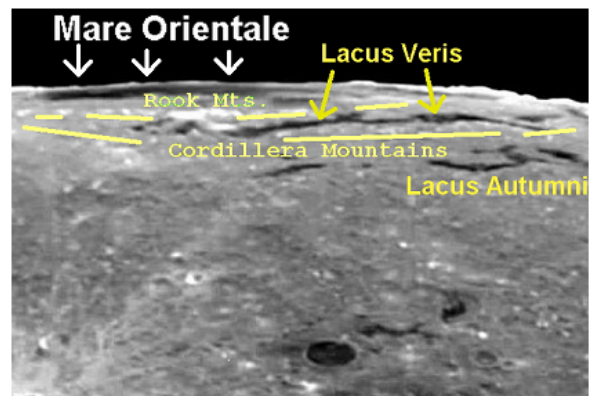
3) Diurnal libration: An observer at the equator who observes the moon throughout the night moves laterally by one earth diameter. This gives rise to a diurnal libration, which allows the person to view about an additional 1° worth of lunar longitude. Similarly, observers sharing data at both poles of the earth would be able to see about 1° of libration in latitude.

Eking out the extra 9% surface edge detail from the above effects is not easy. For some limb objects like Orientale, the planetary equivalent might be trying to positively identify clouds at the edge of Mars. Be careful of fooling yourself into believing your seeing something your not. Nevertheless, beginner lunar observers who check out limb detail on consecutive nights and at their favorite phases quickly discover these librations and readily appreciate them. After all, one of the best rewards of amateur astronomy is discovery at the eyepiece. Excellent objects to watch on consecutive nights - as the moon waxes from 1st quarter to full from

March to May - are Mare Humboldtianum (1 o'clock) and Mare Marginis with Mare Smythii (2:30-3:00 o'clock). The latter are southeast of Mare Crisium.

In VLA, one can see the point of maximum libration for a given night by checking the box found in the Display tab of the Configuration menu. Doing this displays a red arrow at some point around the moon. Then, as one clicks forward the hour > or day >> buttons under the Ephemeris tab, one can see this libration pointer move around the moon and change in size to indicate the location and magnitude of libration. Try this for the limb objects just described and you'll see why March to May (through August actually) are good times to be watching them. This is also a good time to look northward for craters around the pole. If you recall in Column 2, the end of last year was a good time to view around the south pole for crater Newton.

Located at the antipode (diametric opposite) of Mare Marginis is Mare Orientale at the center of Orientale Basin. Mare Orientale is an elongated patch of dark mare material on the extreme western edge of the Moon. Nearby are two other elongated patches of dark material, Autumni and Veris, and two mountain ranges Cordillera and Rook.



The Lunar Orbiter image shows what William K. Hartmann projected in the 1960's: That Orientale is in fact a large and relatively fresh impact basin. It's surface ripples well preserved or frozen as concentric mountain rings around a central sea of lava. The diameter of this basin out to the Cordillera Mountains is 930 kilometers. The impact is believed to be post Imbrian (about 3.2 billion years ago) making it likely the youngest basin on the moon.



Lunar Orbiter IV image of Mare Orientale

The best time to view the basin is before sunrise (or night before) as indicated in the table below. High sun angle around full moon gives the best contrast of the mare regions with the surrounding highlands while grazing angles (and here you want to observe right before sunrise) gives the best relief of Montes Cordillera and Rook. So set your alarm clock, good observing and I will be out there with you.

Favorable Viewing of Mare Oriental and Basin

Date	Time UT	Sun Angle		Librations	
		Altitude	Azimuth	Long.	Lat.
4/20/2009	10:49:59	50.4108	298.063	-5.202	-2.201
5/19/2009	10:14:59	55.5932	304.053	-6.708	-4.329
5/20/2009	10:14:59	45.4537	293.218	-6.749	-5.150
5/21/2009	10:14:59	34.5783	285.869	-6.336	-5.670
6/15/2009	10:04:59	69.5245	6.588	-6.927	-4.332
6/16/2009	10:04:59	67.4611	333.288	-7.377	-5.213
6/17/2009	10:04:59	60.2568	310.539	-7.419	-5.818
6/18/2009	10:04:59	50.6415	297.063	-7.007	-6.088
6/19/2009	10:04:59	39.9934	288.423	-6.132	-5.972
7/12/2009	10:14:59	52.8046	61.778	-6.355	-4.327
7/13/2009	10:14:59	62.2448	47.187	-7.070	-5.264
7/14/2009	10:19:59	68.9568	21.963	-7.491	-5.950
7/15/2009	10:19:59	69.9014	346.792	-7.530	-6.316
7/16/2009	10:19:59	64.4547	318.119	-7.162	-6.323
8/11/2009	10:39:59	58.7863	55.756	-6.991	-6.387
8/12/2009	10:44:59	67.1762	35.808	-6.976	-6.487
9/7/2009	11:09:59	32.8690	78.315	-6.086	-6.302
9/8/2009	11:09:59	43.9832	71.925	-6.122	-6.449

Another telescope for sale:

Edmund Astroscan
Includes Original Accessories, Two original never used eyepieces manuals, box. And a 1X red dot style finderscope.

New Price, Asking \$125 or best offer.

I should be at the next meeting 2/14
email at, n7xgr@excite.com <mailto:n7xgr%40excite.com>

Bruce

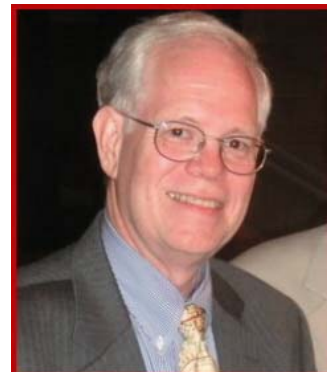
CAS honors Ron Ravneberg
Jay Elkes

At our January meeting, CAS presented the Jane Gann Lifetime Achievement Award to one of our distinguished members and past presidents, Ron Ravneberg. The award recognizes a lifetime of service to amateur astronomy and was created in memory of Jane Gann in 1996. Gann was a founding member of the club in 1947 and stayed active until her death almost fifty years later.

In 1980, CAS was facing a crisis. The club had divided into two feuding camps -- three if you count those who didn't take sides. The treasurer resigned in May, followed by the president and vice president during a single meeting in July. The trustees considered disbanding the club which had about twenty members at the time. Instead, they decided to see if the club could be saved and asked Ron Ravneberg to serve as interim president. Ron had only recently moved to Columbus but was known through his participation in star parties from before that. His partial term as interim president led to a full term in 1981. This gave time for tempers to cool so the club could benefit from explosive growth in the years that followed.

As an observer, Ron has always been an advocate of grab and go astronomy. He has long owned a Questar which has seen a lot of use and miles. For a trip to Australia in 1991, he designed and built a short focus 8" Newtonian to travel as carry-on luggage. What had been envisioned as a once in a lifetime trip became five trips over several years, cementing a sister club relationship between CAS and the Astronomical Society of New South Wales. As a travelling expert, Ron became a speaker at numerous star parties. His notes on Alice at <http://www.atmsite.org/contrib/Ravneberg/alice/> have served as the starting point for many similar telescopes around the world.

Ron has also combined his interest in old books with that of astronomy, and to share both with friends. More than one person was told that they could keep a book for as long as they liked, return it, or pass it on to someone else as long as it was never sold. In recognition of this interest, the Perkins Observatory Library has also been named in his honor.



Severe Space Weather

by Dr. Tony Phillips

Did you know a solar flare can make your toilet stop working?

That's the surprising conclusion of a NASA-funded study by the National Academy of Sciences entitled *Severe Space Weather Events—Understanding Societal and Economic Impacts*. In the 132-page report, experts detailed what might happen to our modern, high-tech society in the event of a “super solar flare” followed by an extreme geomagnetic storm. They found that almost nothing is immune from space weather—not even the water in your bathroom.

The problem begins with the electric power grid. Ground currents induced during an extreme geomagnetic storm can melt the copper windings of huge, multi-ton transformers at the heart of power distribution systems. Because modern power grids are interconnected, a cascade of failures could sweep across the country, rapidly cutting power to tens or even hundreds of millions of people. According to the report, this loss of electricity would have a ripple effect with “water distribution affected within several hours; perishable foods and medications lost in 12-24 hours; loss of heating/air conditioning, sewage disposal, phone service, fuel re-supply and so on.”

“The concept of interdependency,” the report notes, “is evident in the unavailability of water due to long-term outage of electric power—and the inability to restart an electric generator without water on site.”

It takes a very strong geomagnetic storm to cause problems on this scale—the type of storm that comes along only every century or so. A point of reference is the “Carrington Event” of August-September 1859, named after British amateur astronomer Richard Carrington who witnessed the instigating solar flare with his unaided eye while he was projecting an image of the Sun on a white screen. Geomagnetic storms triggered by the flare electrified telegraph lines, shocking technicians and setting their telegraph papers on fire; Northern Lights spread as far south as Cuba and Hawaii; auroras over the Rocky Mountains were so bright, the glow woke campers who began preparing breakfast because they thought it was morning!

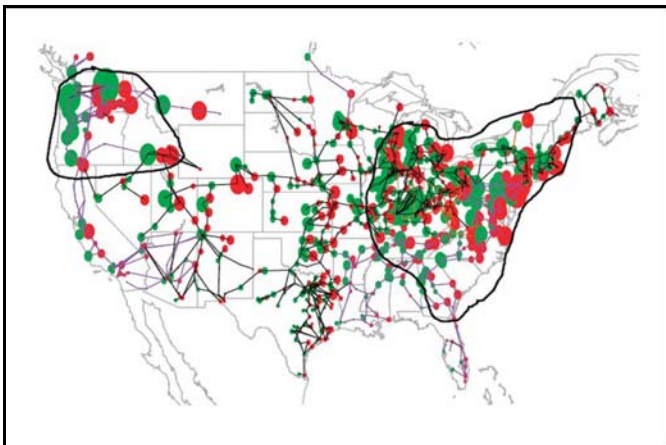
“A contemporary repetition of the Carrington Event would cause ... extensive social and economic disruptions,” the report warns. Widespread failures could include telecommunications, GPS navigation, banking and finance, and transportation. The total economic impact in the first year alone could reach \$2 trillion (some 20 times greater than the costs of Hurricane Katrina).

The report concluded with a call for infrastructure designed to better withstand geomagnetic disturbances and improvements in space weather forecasting. Indeed, no one knows when the next super solar storm will erupt. It could be 100 years away or just 100 days. It's something to think about ... the next time you flush.

One of the jobs of the Geostationary Operational Environmental Satellites (GOES) and the Polar-orbiting Operational Environmental Satellites (POES) operated by NOAA is to keep an eye on space weather and provide early warning of solar events that could cause trouble for Earth.

You can keep an eye on space weather yourself at the National Weather Service's Space Weather Prediction Center, www.swpc.noaa.gov. And for young people, space weather is explained and illustrated simply and clearly at the SciJinks Weather Laboratory, scijinks.gov/weather/howwhy/spaceweather.





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



Power grid map shows areas of particular vulnerability to the destructive effects of a severe solar storm.





February 2009

Columbus Astronomical Society Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 	3	4	5	6	7 Moon at perigee
8	9  Penumbral eclipse	10	11	12 Neptune at conjunction Perkins New Vistas	13	14 CAS Meeting 8 PM
15	16 	17	18	19 Moon at apogee	20	21
22	23	24	25  PF Articles deadline	26	27	28

March 2009

Columbus Astronomical Society Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4 	5	6	7 Moon at perigee
8 Daylight Savings Time Saturn at opposition	9	10 	11	12	13 Uranus at conjunction	14 CAS Meeting 8 PM
15	16	17	18 	19 Moon at apogee Perkins New Vistas	20 Vernal equinox	21
22	23	24	25 PF Articles deadline	26 	27 Venus at inferior conjunction	28
29	30	31 Mercury at superior conjunction				

Columbus Astronomical Society
PO Box 163004
Columbus, Oh 43216-3004

The Prime Focus is the monthly newsletter of the Columbus Astronomical Society, a not for profit group of amateur astronomers interested in the night sky. Information can be obtained by writing to the address below. Society members build telescopes, observe the splendors of the universe, contribute to scientific research and educate the public at public programs around the city and at Perkins Observatory.
 CAS web site - <http://www.the-CAS.org/>.
 For Advertising info contact the editor.

President: : Tom Beck
 stargrokker@yahoo.com
 Vice president: Jason Hisson
 jhisson1@columbus.rr.com
 Secretary: Byron Winchell 937-981-7046
 Bwinch@yahoo.com
 Treasurer: Jim Schoultz
 Jschoultz@att.net 614-267-9009
 jhisson1@columbus.rr.com
 Prime Focus Editor: Joanne Konst 614-276-2911
 jfkonst@columbus.rr.com

Mail to: **Columbus Astronomical Society**
P.O. Box 163004
Columbus, Ohio 43216

*Must be a club member to qualify for discount magazine subscription rates. If you are renewing a magazine subscription please send your magazine renewal notice from the publisher along with this form and your check to ensure proper credit toward your subscription.

Columbus Astronomical Society
Membership Application/Renewal Form

Please indicate whether a new member membership renewal magazine subscription magazine subscription renewal.

I have checked the class of membership and magazine/s subscription/s desired and enclosed a check made payable to the Columbus Astronomical Society for:

Annual Regular Membership Fee: \$20 _____

Annual Student Membership Fee: (under 18) \$10 _____

Annual Family Membership Fee: \$25 _____

Annual Patron Membership Fee: \$50 _____

Annual Corporate Membership Fee: \$150 _____

Astronomy Magazine: \$34.00/1 year * _____

Sky & Telescope: \$32.95/1 year * _____

Trial - 3 issues of PRIME FOCUS while I decide: \$2 _____

Tax Deductible Donation: _____

Send the Newsletter via USPS instead of e-mail (\$5.00) _____

Total: _____

Please Print

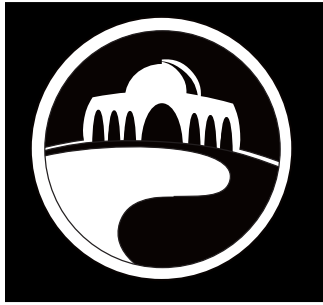
Name _____

Address _____

City _____ State _____ Zip _____

Phone _____ (E-Mail) _____

Today's Date _____



NIGHTTIMES

The Newsletter of Perkins Observatory Feb. 2009

Saturn, Finally!

As winter turns to spring (we sincerely hope you can never tell these days), ya'll still have the opportunity to see the stars of the winter sky. Now is the time to schedule a trip to the "O" before the Great Nebula in Orion sinks below the horizon in the evening until next year. Also, Saturn (rings, no extra charge) has finally migrated to the evening sky.

So come on up to one of our Friday-night public programs and have a look. Members of the Friends of Perkins are especially and most cordially invited to take advantage of your season-pass badges to explore the wonders of the sky (and the wonders of our 85-year-old observatory, as well).

For starters, we're featuring one of the great showpieces of the sky, M42, The Great Nebula in Orion. By evening's end, we'll show you the lovely planet Saturn (rings, no extra charge) in our large collection of telescopes, including fabulous views through the second largest telescope in Ohio, the Schottland Reflector. In the meantime, smaller telescopes on the front lawn will feature gorgeous views of some of the sky's greatest open clusters, including the world-famous Double Cluster and the even-more famous Seven Sisters. Add a binary star or two, like brilliant and beautiful Castor in Gemini, and you have yourself a night to remember!

In other words, there's plenty to see. And even if it's cloudy, we promise to keep you entertained and educated by providing tours of the Observatory and a bit of instruction about some of the things you can see in binoculars or a small telescope from your own back yard.

Join Friends of Perkins Observatory

Or renew your membership! Members of the Friends of Perkins receive a badge that entitles them to free admission to all our Friday and Saturday night Guest Nights, a free subscription to this newsletter, and occasional special programs for members.

The following people joined or renewed recently:

Bill Music and family of Dublin, \$90

family membership.

Blake Getson and family, \$200 family sponsorship.

Hugh and Elizabeth Allen of Westerville, \$90 family membership.

Steven Robeano of Galena, \$50 individual membership.

David Evans of Columbus, \$50 individual membership as a gift from Mr. Robeano, above.

Birder extraordinaire Richard Tuttle of Delaware, \$50 individual membership.

The following fine folks participated in our "2,000 Points of Light" program:

An anonymous donor, honoring Ralph Heberling, \$200.

Jack and Tawni Craig of C&M Appraisal Pro, \$200.

Westerville's Jeffrey S. Sams, MD, \$200,

meeting Carl Wenning's OSU alumni challenge. Alums, you too can double your gift by participating in 2KPL.

Kind contributions to the Perkins Endowment Fund:

P. C. Boeshaar of Winters, CA, \$100.

Diana Morawetz of Columbus, \$25 (plus \$25 to our operating fund).

Phil Key, CAS volunteer and all-around nice guy, \$50.

Ted Saker, Jr., ditto above, \$75,

Delaware's Richard Tuttle, who takes care of our bluebird boxes, \$50.

And thanks, as always, to the magnificent Jim Pace, longtime member of the Columbus Astronomical Society, who gave his usual monthly gift of \$40 to the Endowment and \$40 to the operating fund.

(over please)

Taurus, the Bulletin Board

Note to CAS members: Please bring your telescopes to clear, weekend programs!

- ★February 6 (Friday) 8 P.M. Guest Night. Some tickets available.
- ★February 7 (Saturday) 10 A.M. CAS Amateur Telescope Making group.
- ★February 11 (Wednesday) 7:00 P.M. Delaware Farm Bureau.
- ★February 12 (Thursday) 8 P.M. New Vistas in Astronomy, featuring OSU's David Weinberg who will offer a warm "Welcome to the Multiverse."
- ★February 13 (Friday) 8 P.M. Guest Night. Tickets available.
- ★February 14 (Saturday) 10 A.M. CAS Amateur Telescope Making group.
- ★February 14 (Saturday) 8 P.M. Columbus Astronomical Society meeting.
- ★February 16 (Monday) 7:30 P.M. Todd Kraus's OWU astronomy class.
- ★February 20 (Friday) 8 P.M. Guest Night. Plenty tickets Available.
- ★February 21 (Saturday) 8 P.M. Tentative: Cub scout group.
- ★February 21 (Saturday) 10 A.M. CAS Amateur Telescope Making group.
- ★February 24 (Tuesday) 7 P.M. At Cedarville Community Library.
- ★February 26 (Thursday) 9:30 A.M. Village Academy 2nd graders.
- ★February 27 (Friday) 8 P.M. Special Guest Night. Central Ohio Symphony Orchestra. Tickets Available.
- ★February 28 (Saturday) 10 A.M. CAS Amateur Telescope Making group.
- ★March 6 (Friday) 8 P.M. Guest Night. Plenty of tickets available.
- ★March 7 (Saturday) 10 A.M. CAS Amateur Telescope Making group.
- ★March 13 (Friday) 8 P.M. Guest Night. Cub scouts and plenty of them. Sold out!
- ★March 14 (Saturday) 10 A.M. CAS Amateur Telescope Making group.
- ★March 14 (Saturday) 8 P.M. Regular meeting of the Columbus Astronomical Society.
- ★March 19 (Thursday) 8 P.M. New Vistas in Astronomy, featuring OSU's Gregory Mack presenting "A History of Dark Matter and its Present Properties."
- ★March 20 (Friday) 8 P.M. Guest Night. Some tickets available.
- ★March 21 (Saturday) 10 A.M. CAS Amateur Telescope Making group.
- ★March 25 (Wednesday) 9 P.M. Todd Kraus's OWU astronomy class.
- ★March 27 (Friday) 8 P.M. Guest Night. Tickets available.
- ★March 28 (Saturday) 10 A.M. CAS Amateur Telescope Making group.
- ★March 24 (Saturday) 8 P.M. Guest Night. Plenty of tickets available.

We would also like to thank Kathie Martin of Ashley for a very special gift: \$200 to the Perkins Endowment in memory of Geoff Wyant.

Cold-Weather Programs

During winter, we do our best to run the programs even if the weather is unsuitable for observing. Remember, even when it's cold and cloudy, we can always tell you about all the wonderful things you WOULD have seen in the telescope had the skies been clear. Also, you'd be surprised at how many folks express disappointment on clear nights that we don't have the time to tell our (we hope) not-very-scary-but-ever-so-slightly-inspirational ghost story. For the record: We are honored to tell the story if the skies are cloudy and therefore unsuitable for stargazing or telescoping. Yes, dear friends. Cloudy nights do have their recompense here at the "O."

However, we do sometimes cancel a program during winter, so it's always a good idea to call before you leave, especially if you

are a member of the Friends of Perkins and we aren't expecting you.

Typically, we might cancel a program for three reasons:

1. No one signs up in advance. You can prevent that rare occurrence by calling and signing up in advance, of course. In any case, that type of cancellation is rare, we are deeply relieved to say.

2. A snow emergency. For the most part, we will run a program even if it's snowing a bit. You'd be surprised at how many people brave the weather to be at a program, even if the weather is remarkably bad. However, in the case of those snows officially declared "Level-Three Snow Emergencies," cars are banned from the streets with good reason.

Besides, there's nothing quite like the sound of the big, old dome creaking and moaning in pitiful agony as it tries to turn with several hundred tons of snow and ice on it. The sound of breaking ice and snow is a sound that sends terror into our hearts.

Call to make sure, of course, but you can bet that if everybody else is canceling evening activities because of an official snow

emergency, we will do the same.

3. Bitterly cold weather. Frankly, cold nights in winter sometimes produce the best skies, but below 10 degrees F. or so, the dome simply doesn't open and close properly. We thus risk serious damage to our 135,000 pound, spinning roof, and without it we aren't an observatory anymore.

In addition, no experience matches cranking the two 12,000-pound dome doors shut by hand. Your intrepid director and the former Building Super, Jim Sheets, had to do it thrice during the 1990's. It's 3 1/2 hours of bone-grinding, frigid cranking (on tip toes atop a tall, rickety ladder, no less).

Ah, memories. Thus, we will indeed cancel a program if the temperature threatens to sink into single digits. Call us!

Lots of Ways to Reach Us

Phone: (740) 363-1257

Mail: P. O. Box 449

Delaware, OH 43015

Email: [tlburns@owu.edu](mailto:tburns@owu.edu)

Web site: www.perkins-observatory.org/

Fax: (740) 363-1258

1. Yes, I want to make a donation to the Perkins Endowment. Amount enclosed: _____
2. Yes, I want to be a member of the Friends of Perkins Observatory. Enroll me at the level of sponsorship checked below:
 Individual (\$50) Sponsor (\$100) Family (\$90) Family Sponsor (\$200) Corporate (\$300)

Name _____

Names of family members (for family memberships only) _____

Address _____ Phone _____

City _____ State _____ Zip Code _____

Please check here if you are currently a member of the Friends of Perkins Observatory.

(Please mail to Perkins Observatory, P. O. Box 449, Delaware, OH 43015. Make checks available to "Perkins Observatory.")

2,000 Points of Light

On any given night of the year from a dark, rural location, 2,000 stars light up the sky. If 2,000 people, 2,000 Points of Light, will contribute \$200 each, we can continue our mission unimpaired.

Half of your gift will go into the Perkins Endowment, the interest on which will keep us open for decades to come. The other \$100 will be used to make building repairs build new exhibits and displays, and help with ongoing costs.

To show our gratitude, we will associate your name (or the name of any honoree you pick) with one of the over 2,000 stars on our large publicly-displayed star map. (Sorry, we get to pick the star).

Yes, I want to be a Point of Light (@ \$200 per "Point"). Amount enclosed: _____

Name _____

Honoree(s) for "2,000 Points of Light" _____

Address _____

City _____ State _____ Zip Code _____ Phone: _____

(Please mail to Perkins Observatory, P. O. Box 449, Delaware, OH 43015. Make checks payable to "Perkins Memorial Observatory.")