



A S T R O N O M Y

Rochester Skies

Member's Images * Crossword Puzzle * Book Review * Outreach

Rochester Astronomy Club Newsletter

Issue #5 Q1 '07



Come Experience the Universe

2007

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Happy New Year! I sense that 2007 will be a great year for the Rochester Astronomy club. We enjoy a healthy membership and some new talent in the officer pool. Club projects continue to make progress. Several club members are testing prototypes for the club's web site, calendar and new discussion forum. By the end of the year, most of our club information will be distributed through these tools.

From a business standpoint, we are making progress towards not-for-profit status. We received our letter of incorporation from the State of Minnesota in late January. We plan to finalize our bylaws and submit our 501(c)(3) request to the IRS and wait for their response. Special thanks go out to William Oehlers, a Rochester attorney, for assisting us in this process.

As mentioned in our December planning minutes, this year we'll have plenty of public outreach programs to participate in along with some new events. Augmenting our outings, Saturn returns as our 'big hitter' in the eyepiece, which reached opposition on February 10th, 2007, followed by Jupiter which reaches opposition in early June. Hopefully, club members can find more weekends to get together down at Eagle Bluff.

Let the clear skies begin!

RAC President Randy Hemann



WASHINGTON ELEMENTARY OUTREACH FEBRUARY 22, 2007 BY RANDY HEMANN

On the afternoon of February 22nd, the Rochester Astronomy Club presented a short program on the Sun and Moon to a group of children who are part of the Washington Elementary School Age Child Care (SACC) program. The SACC program here in Rochester

provides an after-school environment for students in Kindergarten through 5th grade.

Kirk Severson and I hosted an indoor/outdoor event from 4:30 to 6 pm for these kids from both Washington and St. Pius schools. We started with about a dozen children out in the school's east parking lot to take a look at the sun before it descended in the west behind the school's buildings. Kirk also had his Schmitt-Cassegrain focused on the daytime Moon.

Unfortunately there were no sunspots to observe in my re-



fractor. However, there were several huge solar flares that displayed nicely in the Coronado sunscope! As we marched the telescopes eastward in the parking lot to keep the sun in view, we accumulated about 30 additional kids and parents who happened to be leaving the school from other after-hours activities.

We then gave the SACC children an indoor presentation regarding interesting facts about the Moon including its phases and libration. Upon returning to the parking lot to finish with more lunar observing, the children correctly identified the Moon's current phase as 'waxing crescent' —and the first lad who looked in the reflector promptly pointed out that the view in the eyepiece was showing a 'waning crescent'! We were impressed!



How I Became Interested in Astronomy

by Alan Cameron

In February 2001 I was at a medical meeting on the Big Island of Hawaii. My wife and I were staying at a lovely hotel just above the beach. I knew nothing about astronomy, just that there was “our” Moon that astronauts had landed on, and some planets and a bunch of stars in the sky. I also knew there were some famous observatories at the summit of Mauna Kea, over 13,000 feet higher on the island.

One evening our hotel invited guests to sign up to see some

astronomy, for a small charge. A young man, I think he was

Surely the outreach efforts of club members in Rochester will bring many similar converts to the fun of studying the universe and the night sky.

a PhD astronomy student, brought an 11-inch scope in his car and mounted it on the hotel deck after dinner. The hotel lights remained on, but the sky was dark otherwise.

A dozen or so guests lined up to see each object he found. I don't know if he used Go-To or not. He often had to re-focus as some guests would grab the eyepiece to get a better view. But in turn, we all saw a lot. I was astonished to see the rings of Saturn and the moons of Jupiter. I didn't previously know that it had its own moons. We also saw quite a few other things, probably clusters and nebulae and galaxies, but I forget what they were.

This motivated me to buy a Meade ETX 105 scope. Also I read from cover-to-cover the RCTC course books, “Voyages to the Stars” and “Voyages to the Planets,” which I found very informative regarding the fundamentals of astronomy and related physics. I subscribed to Sky and Telescope. Then, after retiring later in 2001, I had time to learn about the fascinating realm of both observational and hard science astronomy.

Surely, the outreach efforts of Club members in Rochester will bring many similar converts to the fun of studying the universe and the night sky.

RAC



The Transit of Mercury

DEAN
JOHNSON

Astronomy, as glorious as it is, gives us moments of drama only in its own sweet time. These can be completely unexpected as when we witness meteors, meteor showers, comets, or aurora borealis. These phenomena can pass in a split second or last for hours, days or weeks and are dependent on interaction with streams of cosmic debris from icy interlopers or the solar wind.

Other dynamic interludes come when we do expect them. Astronomers can predict eclipses of the Moon and the Sun; occultations of planets by Earth's companion Luna; shadow transits of Jupiter's moons across its high, banded cloud tops; and the very rare transits of the inferior planets, Mercury and Venus across the face of the sun. These alignments of the celestial bodies in our solar system give us a true feeling of the vast distances involved in what Johannes Kepler called "the music of the spheres".

When we refer to Mercury and Venus as 'inferior planets', it means simply that they occupy an inside track, orbiting the Sun inside Earth's orbit. We never see their discs fully illuminated and they are the only two planets that cross the disk of the Sun from our perspective. Mercury orbits the Sun in only 88 Earth days and if it traveled in the same plane of the ecliptic as the Earth, we would see many more transits than we do. However, Mercury's orbit is inclined to the ecliptic at a steep angle of seven degrees (second only to Pluto's seventeen degrees) and thus we see a transit of Mercury, on average, 12 times a century.

Last November 8th, 2006, was a very nice warm day in Spring Grove. It was breezy, but still warm enough to wear just a T-shirt and jeans outside. I had contacted Superintendent James Busta of the Spring Grove Public Schools and set up a time to show the 4th, 5th and 6th grade classes the transit.



I had set up my equipment at 12:20 p.m. in the playground and had time to check everything, including some last minute cleaning of the glass on my 8" Celestron Schmidt-Cassegrain and the oculars that I would use. I also used the time to get my journal ready and draw a diagram of the Sun's surface. There were a few clouds in the sky, including a fairly heavy bank to the south. Since the wind was from the NW they were of no consequence, at least for the first part of the transit.

*I heard plenty of
"Oh yea!", "Sweet!",
"That's so cool!"
and tons of
"Awesome!"*

The Sun had two tiny sunspots on the western limb and one huge complex on the southeastern limb that must have come into view only in the previous few days. This later turned out to be what became known as Sunspot 0923. Duane Deal gave us a good look at it during the RAC meeting of November 14th and it turned out that the darkest part of the sunspot, the umbra, could have held three Earths. The interior

part of the Sun looked clean.

First contact came at 1:12:35 p.m. CST. What a thrill to see the tiny interloping disc of Mercury against the massive Sun! I had planned on timing the first to second contact of Mercury (from when it first touches to when its trailing limb can be fully seen) but heard some noise about halfway through (it would have taken about two minutes) and looked up to see a long line of young eager faces looking at me. No shouting, no horse-play, they were just lined up patiently and they wanted to see Mercury!

So I stepped back, told them where to look and described what they would be seeing. Most of them had no problem adjusting to the telescope. The Orion SkyView Pro mount that Duane was kind enough to sell me worked beautifully, tracking the path of the Sun across the sky. I had plenty of chances to peek at Mercury, especially when a few of the kids couldn't quite grasp what they were looking at.

"O.K., see the big yellow thing in there? See the big sunspot toward the edge? The sunspot is not completely round and has some gray area around the dark. Now see the little round black circle? That's Mercury."

I heard plenty of “*Oh yeah!*” “*Sweet!*” “*That’s so cool!*” and tons of “*Awe-some!*” You have to love that youthful enthusiasm.

The teachers had to get their looks in too, and kept the kids busy making a scale model of the solar system with an eight inch yellow plate and 3 x 5 cards on the chain link fence of the playground. With every inch representing 100,000 miles, they made it to the orbit of Mars before they ran out of room. Earth was 77 feet away from the Sun on the fence.

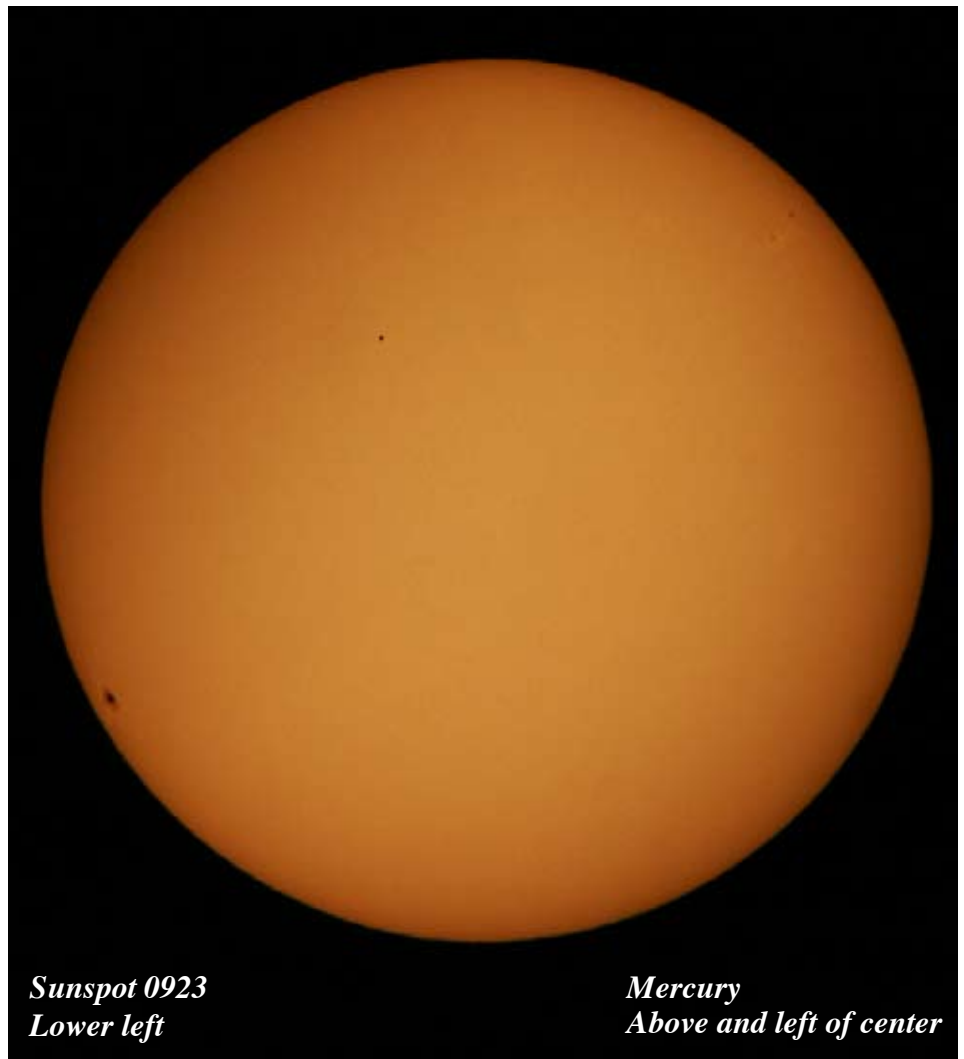
I had a busy couple of hours because when one class would get done, another would show up. Every class had a few kids that would hang around the telescope as long as they could to get as many looks as possible of the transit and they kept me busy with all kinds of questions. The ones that hung around got to see the transit at different magnifications.

Karen Fried from the school administration came out and got us all lined up for pictures, both class-by-class and some informal shots of the kids looking through the telescope.

Toward 3 p.m. the kids were all in school getting ready for the final bell. I used this time to catch up on my journal, record the magnifications I used and had some adult visitors. A couple from La Crosse cruised up on a Harley-Davidson and asked to take a look because they had heard about the transit on the radio.

Glen Hines, the husband of the sixth grade teacher and a biologist by trade, came by for a long look. We had an extremely pleasant time looking at the passage of Mercury, talking science and speculating on the size of the gigantic sunspot complex on the limb of the Sun.

Finally, as the students and teachers of Spring Grove Public School drifted away at 3:30 that afternoon, the clouds



*Sunspot 0923
Lower left*

*Mercury
Above and left of center*

moved in. This time they meant business, so I reluctantly packed up my stuff and vowed to make every effort to take in the upcoming transits of Venus in June of 2012 and Mercury in May of

2016. There are not many times I can say, “It was a glorious day for astronomy,” but this was indeed one of them.

RAC



Persistent Astronomy

DUANE
DEAL

Prior to Mercury's transit in November, Venus took a trip across the Sun in 2004. I remember it well, but not because it was spectacular. The sky was filled with clouds, just one of many disappointments I've had since I started observing the heavens. My collection of cloud photos is growing—clouds which blocked *once-in-a-lifetime* events. But with the patience of a fisherman, I persist. As you know, there are plenty of *once-in-a-lifetime* events in astronomy.

At Rochester Community and Technical College (RCTC), several RAC members gathered to look up at the fluffy-white venomous vapors, which choked our view of the Sun and the Mercury transit. Nobody gave up. We were there, well-equipped and people waited anxiously.

At times the clouds were thin, allowing larger aperture scopes to penetrate the veneer. These scopes had white light filters, showing off the sunspots and, of course, the impressive silhouette of Mercury. Occasionally we'd get an incredible peek between clouds, especially with Randy Hemann's Coronado PST. The Coronado has a built in hydrogen alpha filter, allowing us to also see the Sun's solar prominences (flares) and corpuscles (bumpy granules).

Then persistence paid off. The edge of the cloud neared, but only as the Sun threatened to duck behind the building. We moved farther from the building and a race ensued—telescopes vs. *the shadow*. At long last, the clouds peeled away revealing an incredibly bright Sun touting four spots: a huge sunspot that was eye-grabbing, a pair of smaller spots visible to those who looked closely, and just off center a perfectly round little planet on wondrous display.

After a futile attempt to capture an image with my inoperable web cam, I grabbed my Canon Digital SLR camera. Persistence would get this event recorded. With none of my equipment to couple the camera to the scope, I resorted to eyepiece projection. This is done by holding the camera up to the eyepiece, praying, and clicking the button; and it worked (see photo, page 5).

Like some horror show, the building's shadow incessantly overtook Dave Bailey, Kirk Severson and myself. Onlookers must have thought it humorous to see us lift our scopes and waddling 25 feet to settle down again and again. People kept coming and they wanted to see the event. One security officer came out numerous times only to find a clouded sky. She came out again as we were getting done. Her persistence paid off as Dave paused from packing up to give her a view of the spectacle.

As Minnesota skies often do, clouds moved in and covered everything with deep snow the very next day, but victory was ours.

It was a memorable event, in a good way. Thank you John Tacinelli who spread the news and brought his "Sunspotter" Keplerian sun-viewer, Rebecca Bomgaars who brought so many things we would likely forget (especially delicious sandwiches and cookies), and everyone who attended. Without you, it might as well have been cloudy. I look forward to seeing you in 2012 for an even grander event: the transit of Venus, viewable in its entirety right here in Rochester—depending on clouds... and our persistence.

RAC



Astro-Review *by Scott Regener*

SEEING *IN THE* DARK

Most astronomy books—or science books in general—seek to answer the “what” questions: What steps do I take to find M13? What is the chemical composition of a star? What makes a globular cluster old? Few books seek to answer the “why” questions. The biggest one on the mind of every non-astronomer is this: Why do otherwise reasonably sane people spend hours of their nights outside looking at the sky?

Author Timothy Ferris is, to put it bluntly, one of “us.” We’re the astronomers, the ones who spend the night-time out there looking up while the rest of the world is glued to the television. Rather than write another book for “us,” Timothy Ferris has written a book about “us” that not only can entertain and interest “us,” but also appeals to those who haven’t yet joined our elite club.

Starting with his own journey from child stargazer to adult, Timothy Ferris’ prose captures the imagination with the excitement of discovery. Then, working from the planets out to the known reaches of the universe, he lays out the fundamental workings of the universe. He doesn’t bog down in details or scientific jargon, sticking instead to easy-to-grasp analogies and relating things to a scale the mind can comprehend. Wedged in between chapters are brief introductions to some of the biggest personalities in the astronomy world, often from first-hand encounters.

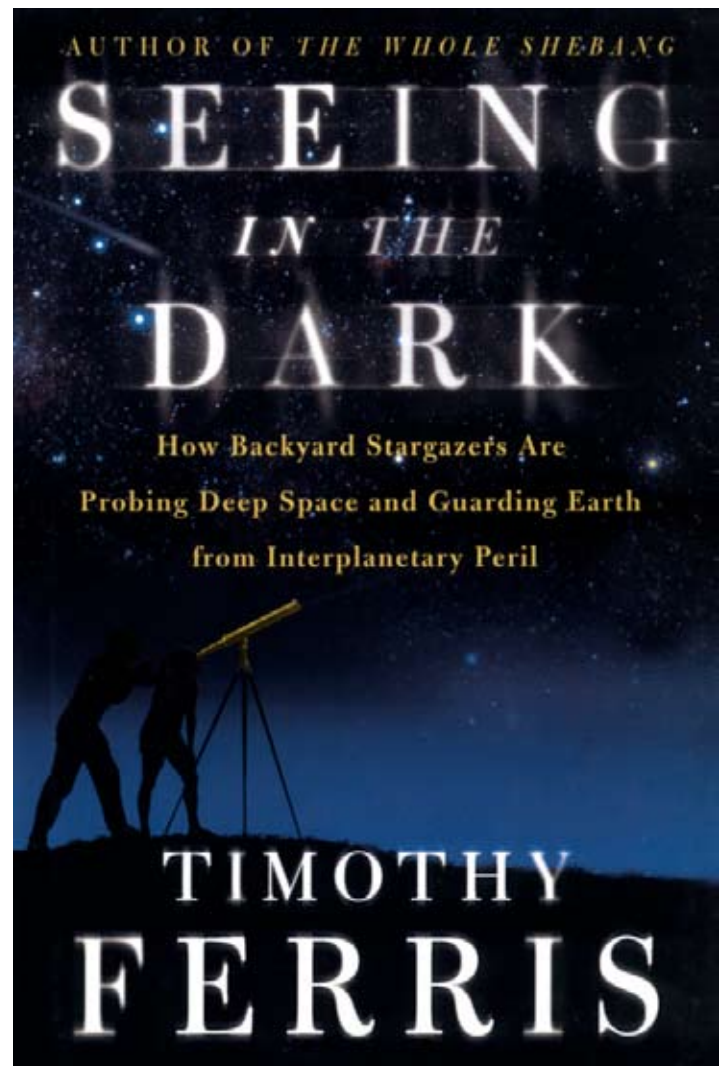
Ferris could have stopped there, simply laying out the facts for all to examine, yet this book goes much further, celebrating the amateur astronomers of history and their contributions. Time after time, the professionals were proven wrong by the amateurs. For instance, when visual observers determined that Venus appeared to rotate every four days, the scientific community refused to publish their findings, calling it impossible. Years later when Mariner 10 passed by Venus, it discovered that while the rotation period of the planet was 243 days, the atmosphere itself rotated every four days.

By the end of the book, it is impossible to believe that only the professional astronomer can conduct useful

research, even in this era of computers, orbiting telescopes, and massive observatories. Much remains to be discovered, and many things are not yet understood. If a dust storm arises on Mars, amateurs will be first to see it, since professionals and their telescopes would not be “wasted” on observing Mars. Many discoveries await, and not all require the best telescopes or the best skies but merely a willingness to study, observe, and learn.

The non-astronomers among us may not walk away converts, but after reading this book, few would be able to say they don’t understand the allure of this grand adventure, this hobby, this passion for Seeing in the Dark.

RAC



Phases of the



When you went outside and looked at the Moon, did you ever wonder what the Earth would look like from the Moon? The Earth's phases would compliment the Moon's phases. In addition, the Earth's apparent size

would be four times wider than the Moon (*The Moon is $\frac{1}{2}^\circ$ in Earth's sky, the Earth is 4° in the Moon's sky*). If there was a *waxing gibbous* Moon out, an observer on the Moon would see a *waning crescent* Earth four times wider.

NEW MOON - Courtesy Photo of the March 29 2006 Total Solar Eclipse



- Shape: Circular
- Out all day, and usually in the vicinity of the Sun
- Peak Times: Late Spring/Early Summer
- The best time to observe a New Moon is during a Total Solar Eclipse!

WAXING CRESCENT MOON - Also Known as a Young Moon



- Shape: Concave on one side and Round on the other side
- Out most of the day and some of the night (late mornings/afternoons/evenings)
- Peak Times: Spring

FULL MOON - Emerging from a Penumbral Lunar Eclipse



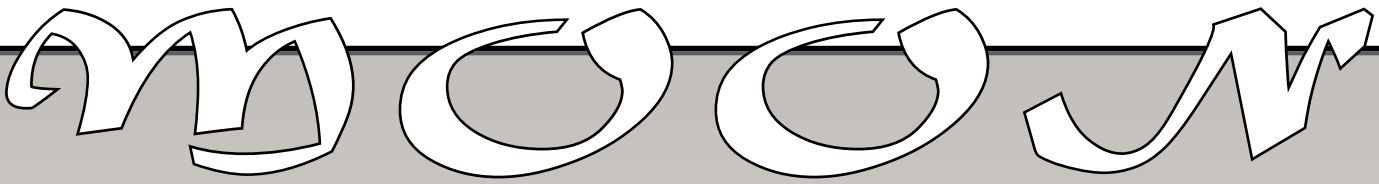
- Shape: Round
- Out all night, and usually around opposition of the Sun
- Peak Times: Late Fall/Early Winter

WANING GIBBOUS MOON



- Shape: Round on one side and Convex on the other side
- Out most of the night and some of the day (late evenings/mornings)
- Peak Times: Fall

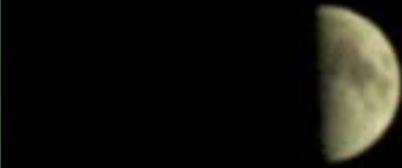
Randy Shekeruk



These two pages show pictures of each phase of the Moon. Read the description to learn more about each Moon phase. Included are the shape of each phase, what time of the day it is out, and the peak times of the year when it is the highest

in the sky and out the longest. There may be other comments as well. You just may get an idea of what the Earth would look like from the Moon during a particular phase.

FIRST QUARTER MOON



- Shape: Flat on one side and Round on the other side
- Out last half of the day and first half of the night (afternoons/evenings)
- Peak Times: Late Winter/Early Spring

WAXING GIBBOUS MOON



- Shape: Convex on one side and Round on the other side
- Out some of the day and most of the night (afternoons/evenings/early mornings)
- Peak Times: Winter
- Here, an observer on the Moon would see a Crescent Earth and we would be inside that crescent!

LAST QUARTER MOON



- Shape: Round on one side and Flat on the other side
- Out last half of the night and first half of the day (mornings)
- Peak Times: Late Summer/Early Fall

WANING CRESCENT MOON - Also known as an Old Moon



- Shape: Round on one side and Concave on the other side
- Out some of the night and most of the day (mornings/early afternoons)
- Peak Times: Summer

After 29.5 days, the phases of the Moon repeat. So when you glance up at the Moon sometime, perhaps you may recall some of the details from this article. So, if it's during the morning, afternoon, evening, or at night, you may

enjoy what the Moon has to offer! Remember, that the Earth's phases would be compliment to the Moon's phases, and the Earth would also appear four times wider than the Moon!

Magic Planet

LARRY
MASCOTTI

After viewing the demonstration of the Magic Planet digital video globe that is being considered for the planetarium as part of the renovation project, some thoughts about the importance of this great educational tool came to mind. I believed I could intellectually think on a global scale but the demonstration showed how inadequate my attempts had been. Its appeal to both the intellectual and affective sides of one's being is of the quality that can only be described as the *rare* feeling, of hair rising on the back of one's neck.

As I think more about this tool, I find a greater urgency about its importance. I grew up during that marvelous period of time when the dream of human footprints on the Moon became reality. Others have said that the environmental awareness movement was rooted deeper in our collective consciousness by the pictures of earth seen from afar against the black velvet of space.

Generations before us had to rely on the cloudless and unimaginably bland views of our planet portrayed by artists of their day. Isolation and fragility balanced by a sense of being of one race, the human race, accompanied those gorgeous photographic views

of our home. Spaceship Earth was the unspoken message translated both to the minds and hearts by the glorious images recorded by those lunar foreground-framed photos. We were all there — Asian, African, Eskimo... together, in those views from space. The blueness and wispy white airwaves, our environmental life support system, was on full display as well. The lessons of it all were so plain.

Another generation is searching for the inspiration and the teachable moment that the lunar lenses provided. I see my generation as tribal elders telling our youth a stale and uninspired message, *Be Young, Have Fun, Drink Pepsi*. Our children seem to be journeying through life without a compass. But we, the grown-ups, know that we do not have a choice in the matter. We have to be grown-ups and accept the responsibility of our environmental recklessness and our obligation to teach and inspire our children.



Don Schlosnagle, Randy Hemann and Kirk Severson attend a demonstration of the Magic Planet at Mayo High School



NASA

I see no tool more important than this product for recreating in the human mind and spirit that first moment of seeing the reality of Earth from space. This tool will help us reinvent the global response that is needed for us and our children to survive. It is the first step on the journey of our call to action. As Chief Seattle so well reminds us,

"We have not inherited the Earth from our fathers; we are borrowing it from our children."

ACROSS SPACE & TIME

By Rebecca Bomgaars

Q1 '07

ACROSS

3.(1930-) American radio astronomer who in 1961 formulated the equation named for him to estimate the possible number of intelligent civilizations in our galaxy.

8.(1642-1727) English mathematician and physicist who invented calculus and formulated the three laws of motion. Refracting telescope (objective mirror instead of lens) named for him.

9.(1934-1996) American astronomer who pioneered the field of exobiology. Popular PBS Nova host.

11.(1855-1916) American astronomer founded observatory in Flagstaff AZ. Did extensive studies of Mars.

12.(1798-1844) Scottish, first to measure the distance to our nearest star system, Alpha Centauri.

13.(1943-) She constructed and used her own radio telescope, meticulously combed 400 feet of paper every four days, until 1967 when, in half an inch area of one chart, discovered the existence of pulsars.

14.(1879-1955) Famous German physicist who fled Nazi Germany, whose formula describes how mass can be converted into energy.

17.(1629-1695) Dutch physicist and astronomer who developed new methods for grinding and polishing lenses. Discovered Titan, largest moon of Saturn. Invented the pendulum clock.

23.(1873-1967) American astronomer found relationship between star's temperature (color) and its brightness (later called the H-R diagram with Danish astronomer, Hertzsprung)

24.(1638-1675) Scottish mathematician who described the first reflecting telescope (1663).

25.(1473-1543) Amateur Polish astronomer developed a model of the solar system where all planets orbit the Sun.

26.(1656-1742) English astronomer predicted the return in 1758 of spectacular comet now named for him.

27.(1750-1848) First woman to discover a comet, also discovered clusters, nebulae and 7 other comets. She aided her brother (15 down).

29.(1905-1973) Dutch-American astronomer who predicted the existence of the _____ belt in 1951, later proven in 1992 to exist, 20 years after his death.

33.(1730-1817) French astronomer who in his search for comets, catalogued a list of 103 objects in space.

34.(1824-1910) Amateur English astronomer was first person to use spectroscopy to determine the composition of celestial objects; found sun and stars to be mostly composed of Hydrogen.

35.(370-415) Greek mathematician, astronomer, teacher. Head of the Platonist school of Alexandria. Lunar crater named for her.

36.(1889-1953) American astronomer first to measure distance to Andromeda Nebula. Galaxies recede at a rate proportional to their distance - _____'s Law. Space telescope named for him.

DOWN

1.(1571-1630) First name of German mathematician who established the three laws of planetary motion.

2.(384-322 BC) Although not an astronomer, this Greek philosopher thought the world was round.

4.(1942 -) British physicist and cosmologist. Hypothesized that black holes emit subatomic particles until they evaporate.

5.(276-194 BC) Brilliant Greek all-around scholar who first determined the circumference of the Earth and measured the tilt of the Earth's axis.

6.(1546-1601) Danish astronomer observed a supernova that bears his name. Made extensive calculation of orbits of the planets upon which Kepler made his orbital formulas.

7.(1791-1865) German who discovered the division in Saturn's A ring.

10.(1905-1949) American engineer who pioneered radio astronomy. Detected the first radio waves from a cosmic source (1932).

13.(1564-1617) German astronomer named stars by constellation and decreasing brightness using Greek letters (alpha, beta, gamma, etc).

15.(1738-1822) British astronomer who built an improved telescope and used it to discover Uranus (1781).

16.(1625-1712) Italian who discovered four of Saturn's moons and the dark division in Saturn's ring. Current Saturn space probe named for him.

17.(1868-1938) American astronomer who founded the Yerkes (1892), Mt. Wilson (1904) and Palomar Observatories. Invented the spectroheliograph.

18.(1882-1945) American physicist and inventor known as the father of modern rocketry.

19.(1814-1874) Swede discovered hydrogen in the solar spectrum. Source of the wavelength unit of measurement named for him.

20.(1900-1992) Dutch astronomer who calculated the distance to the center of the Milky Way Galaxy. Cloud of rocks and dust surrounding our solar system named for him.

21."Backwards" first name of 14 Across

22.(87-150) Greek astronomer and mathematician who believed all celestial bodies revolved around the Earth.

28.(1701-1744) Swedish professor of astronomy who devised the thermometric scale named for him.

30.(1848-1915) First name of the wife of 34 across. A self-taught astronomer who studied the Orion nebula. Together they found that some nebula were comprised of not just stars, but also gasses.

31.(1906-1997) first name of American astronomer who discovered Pluto.

32.(1801-1892) director of the Greenwich Observatory who worked to define the zero degree meridian of the Earth. Has a crater on Mars named for him.



TOP: Scott Regener captured comet McNaught just as it was setting on January 9th, 2007 Canon EOS D60 ISO 400 1/30 second, F/8.0 at 230mm.

BELOW: Scott also Imaged Venus over Elton Hills Elementary School. Canon EOS D60 ISO 100 1/30 second, F/1.8 at 50mm.

LEFT MIDDLE: Duane Deal shot the Pleiades with a DFK 21AF04AS Camera attached to a 100mm lens.

LEFT BOTTOM: Duane Imaged Saturn with the DFK Camera mounted on 8" LX200GPS. ~1000 images & stacked the best ~100.



RAC Christmas Party

The 2006 Christmas party was an un-miss-able festivity. RAC elections had more candidates than ever, the food was wonderful and everybody was engaged in interesting and jovial conversations; or were they interstellar and Jovian conversations? If there is one thing to know about the RAC, everything just keeps getting better. If you didn't make it to the 2006 party, you won't want to miss 2007. See you there!

Elected Officials

President: Randy Hemann

Vice President: Kirk Severson

Treasurer: Rebecca Bomgaars

Secretary: Amanda Lee

Selected Officials

ALCOR: Mark Callahan

Webmaster: Dave Bailey

Web Team: Dustin Ebert, Kirk Severson, Duane Deal

Newsletter Team: Duane Deal, Scott Regener, Dean Johnson

Community Education Program: Mark Callahan, Don Schlosnagle

Location Officials

Eagle Bluff Contact: Jeff Boland

Eagle Bluff Event Organizer: Dean Johnson

RCTC Contact: John Tacinelli

Autumn Ridge Church Contact: Michael Currie

Mayo High School Contact: Larry Mascotti

This year's festivities were followed up by door prizes, donated by several supporting businesses and organizations. This year's winners were:

Amanda Lee, *T-Shirt from Anacortes Telescope & Wild Bird*

Jay McLaren, *2007 Space Desk Calendar*

Alan Cameron, *Patterns in the Sky book from Sky & Telescope*

Daniel Stuntz, *10mm Eyepiece from Anacortes Telescope & Wild Bird*

Don Schlosnagle, *Pocket Sky Atlas from Sky & Telescope*

Dave Bailey, *Sweatshirt from Anacortes Telescope & Wild Bird*

Scott Regener, *10mm Eyepiece from Anacortes Telescope & Wild Bird*

Mike Currie, *Poster from Astrographics*

Noel Taylor, *1 year subscription to Astronomy Magazine*

Grand Prize:

Noel Taylor, *Starry Night Pro 6 from Imaginova (Orion Telescopes)*

Thanks to all the businesses who donated prizes and to Astronomy Magazine who sent enough November issues for everybody.



Special thanks to our contributors:

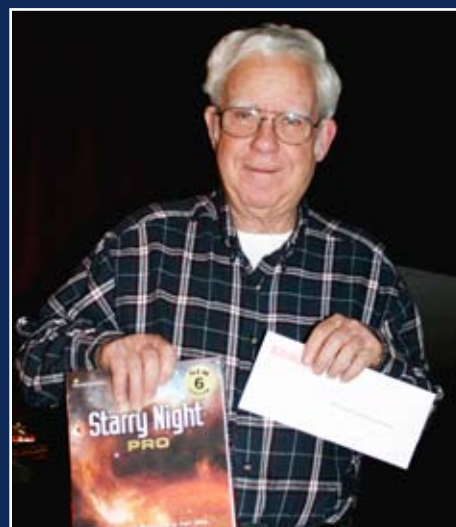
**Anacortes
Telescope & Wild Bird**

Imaginova

Astronomy Magazine

Sky & Telescope Magazine

Astrographics



Noel Taylor, our grand prize winner!

STAR-BQ Help Needed

...and you won't want to miss this one!



Spring Grove is having its decennial homecoming this June. Every decade, on years ending in '7', Spring Grove throws its biggest party of the decade. If you have a connection to Spring Grove, you're supposed to show up. We usually have ten thousand people in town for the whole weekend.

This year's homecoming attendees will be treated to a star party on Friday June 22nd. The Spring Grove Homecoming committee is supporting it with Spring Grove pop, transportation to and from the observing site, and port-a-potties (in case you drink too much Spring Grove pop).

This favorite local stargazing observing site is in a hay field five miles south of Spring Grove. It has an unobstructed view to the horizon in a 360° radius—the nearest horizon being three miles away!

Volunteers are needed. Friday June 22nd is the 1st quarter moon of June. The Moon with its outstanding 1st quarter terminator, Venus, Saturn, Jupiter and Mars will all be available to show, along with all the other cosmic delights.

Folks from the RAC, the La Crosse Area Astronomical Society (LCAAS), and local Spring Grove astronomers are called to help. It will be a very fun and well-attended event. The telescope crowd will be treated to a mouth-watering "Star-BQ" and provided with showers and daytime sleeping arrangements.

Everybody is welcome!

Dean Johnson

Contact Dean at: [marcellus @ springgrove.coop](mailto:marcellus@springgrove.coop)

It's a Little Known
Fact

If the Sun were a golf ball, the Earth would be a miniscule speck 5 feet away, our solar system would be $\frac{1}{5}$ of a mile wide, and the Milky Way galaxy would be 6 million miles across.



The miniscule spec (in bright ray from sun) on this image is Earth from 3.7 billion miles away, dubbed by Carl Sagan, "Pale Blue Dot". Voyager 1, NASA

On the Shoulders of Giants, Out of the Mouths of Babes

Krissy Gillard, a therapist at Stanley Jones and Associates, took her son, Noel, to see the movie, "Terabithia." This just happened to be on Saturday March 3rd, during a lunar eclipse. Noel spotted the Moon, appearing as a crescent, and began to recite "Goodnight, Moon", a popular children's story.

After the movie, they exited the theater. Noel, seeing the Moon in its fullness, pointed and exclaimed, "*Look Mommy, another Moon!*"

Down

- 1 Johannes
- 2 Aristotle
- 4 Hawking
- 5 Eratosthenes
- 6 Brahe
- 7 Encke
- 10 Jansky
- 13 Bayer
- 15 Herschel
- 16 Cassini
- 17 Hale
- 18 Goddard
- 19 Angstrom
- 20 Oort
- 21 Trebla
- 22 Ptolemy
- 28 Celsius
- 30 Margaret
- 31 Clyde
- 32 Airy

Across

- 3 Drake
- 8 Newton
- 9 Sagan
- 11 Lowell
- 12 Henderson
- 13 Bell
- 14 Einstein
- 17 Huygens
- 23 Russell
- 24 Gregory
- 25 Copernicus
- 26 Halley
- 27 Herschel
- 28 Kuiper
- 33 Messier
- 34 Huggins
- 35 Hypatia
- 36 Hubble

Final Note

The RAC had a great year, full of successful meetings, star parties, extremely fantastic outreaches and multiple projects. What is the key to that success? Many hands make light work! Members attended, participated and made it fun for everybody.

Check out our updated web site. Watch for a COLOR PDF version of the newsletter, member contact information, latest information about events and much more!

www.rochesterskies.org

The Club Forum is up and running and everybody is invited to drop in and say "HI!" Just click on FORUM from our web site or type:

www.rochesterskies.org/forums

Astronomy Day is fast approaching and the RAC will be planning an outreach to rival last year's. All help is appreciated. Contact Randy Hemann

Dean Johnson is holding a Star-BQ during the Spring Grove homecoming. Any RAC member who can lend a hand is welcome.

If you have an image, article, cute story or other information for a future newsletter, please send it to [macastronomer @ mac.com](mailto:macastronomer@mac.com)

Thanks so much!

Duane Deal

Rochester

Skies

Newsletter of the Rochester
Astronomy Club

Upcoming Events

Messier Marathon	March	16/17 *
<i>Eagle Bluff, Come help us view all the Messier objects in one night!</i>		
Club Meeting Topic: High Power Rocketry—Dr. Andrew Limper	April	10
Star Party at Eagle Bluff	April	20 *
ASTRONOMY DAY!	April	21 *
Club Meeting	May	8
Star Party at Eagle Bluff	May	18 *
Club Meeting Scope Night!	June	12 *
Star Party at Eagle Bluff	June	15 *
Spring Grove Star-BQ	June	22

*Certain Events subject to change due to weather or may occur on Saturday. Please check up-to-date resources for details.

Rochester Astronomy Club
C/O R Bomgaars, Treasurer
820 10^{1/2} St SW
Rochester, MN 55902

