



# The Guide Star

Newsletter of the Amateur Astronomers Association of Pittsburgh Inc.

A Section of the Academy of Science & Art of Pittsburgh

Founded June 9, 1929 by Chester B. Roe and Leo J. Scanlon

Web Site: [www.3ap.org](http://www.3ap.org)



**Mingo Creek Park  
Observatory**



**Nicholas E.  
Wagman  
Observatory**

## Launching Star Party Season 2005 at Wagman Observatory

Shine up your scopes and organize your star charts! Pull out the folding chairs and crimson-filmed flashlights! *Star Party Season 2005* is drawing near!

The first Star Parties of the year are scheduled at Wagman Observatory for Friday, April 15<sup>th</sup> and Saturday, April 16<sup>th</sup> (and quite fittingly, coincide with National Astronomy Weekend and National Astronomy Day).

**The Star Party on the 15<sup>th</sup> will begin at 8:00 p.m.**  
**The Star Party on the 16<sup>th</sup> will begin at 6:00 p.m.**

To celebrate National Astronomy Day on the 16th, we will offer a solar observing session to the public.

All AAAP members are invited to come and participate. Scopes are encouraged, but not required! If you have one, bring it along and set it up. If you don't, your attendance will still be greatly appreciated...we are always looking for volunteers to help with parking cars, answering questions, and helping visitors set up their scopes.

Come join us to kick off *Star Party Season 2005*, and share in the astronomical conversations, the stellar camaraderie—and yes, hopefully—the clear skies for this first event of the year.

## First Annual Scout Camporee at Mingo Observatory

On April 15<sup>th</sup> and 16<sup>th</sup>, the AAAP will be hosting the First Annual *Mon Valley District Spring Camporee*. We will be offering our facilities and our services to a group of scouts on this weekend, assisting them with the requirements for their astronomy and weather merit badges.

The scouts will be at the observatory from 7:00 p.m. to midnight on Friday, and from noon to midnight on Saturday. Activities will include lectures on astronomical topics like constellations and planetary motion, demonstrations on computer and audio-visual equipment, and—weather permitting—hands-on observing with telescopes. At noon on Saturday, there will also be a solar observing session.

This is one of the first major events to be held at MCPO, and will be a great learning experience for the scouts and AAAP members alike. Although speakers for the lectures are already established, we still need a classroom display on light pollution. We will also need members present to answer questions, direct discussions, man the astronomy displays, usher scouts around the observatory, and handle whatever other tasks crop up! If you can come and assist for a few hours, please do.

## APRIL & MAY EVENTS: Members Wanted...

In the next few months, we have a variety of events planned at both Mingo and Wagman Observatories. The vitality of the AAAP depends largely on the continued participation, support, and commitment of its members...and offering the use of your equipment, your expertise, and your time is one of the most valuable contributions you can make to the club! Please check out the event schedule below to see if you'll be able to attend.

|               |                                       |                            |
|---------------|---------------------------------------|----------------------------|
| April 15 & 16 | Wagman: Public Star Parties           | Mingo: Scout Camporee      |
| April 18      | Wagman: Private Star Party, 8:00 p.m. |                            |
| May 6 & 7     | Wagman: Member Star Parties           |                            |
| May 13 & 14   | Wagman: Public Star Parties           | Mingo: Public Star Parties |
| May 21        | Wagman: Private Star Party            |                            |

**REMINDER:** The weekends closest to the New Moon are reserved for AAAP members and their guests.

**NOTE:** On these dates, there will be events occurring simultaneously at both Wagman and Mingo Observatories. We'll be dividing our forces, so member participation will be especially important.

## April AAAP Meeting Features Truman Kohman as Guest Speaker

Even if you haven't made it to all the meetings this winter, this month's meeting, on April 22<sup>nd</sup>, 7:30 p.m. at the Carnegie Science Center, will be a great one to attend. Not only is it the next-to-last meeting before summer break, but it also features AAAP member Truman Kohman as our guest speaker. Truman has a long and distinguished career, both as an amateur astronomer and a professional chemist, and his lecture is one you won't want to miss!

Currently a professor of Chemistry at Carnegie Mellon University, Truman specializes in nuclear chemistry. He worked with Glenn Seaborg on the Manhattan Project at the University of Chicago, where he conducted research on the chemistry of plutonium.

Truman has been an amateur astronomer since his introduction to astronomy at the age of 13, and has managed to successfully integrate his love of the field into his professional and academic work. His current observational interest is in asteroids, and his research involves the analysis of lunar samples and meteorites—specifically, the study of cosmic ray induced radioactivity in meteorites.

As a member of the AAAP since the mid-1970s, Truman has generously shared his knowledge and expertise with other members. For the last three years, he has compiled and distributed monthly prediction and calculation charts for the Asteroid & Comet SIG...and at the meeting this month, he will give a lecture on "Visual Star Colors from Instrumental Photometry." We're looking forward to hearing it, and hope to see you there!

## Wagman Telescope Training

All AAAP members who are in good standing and have been members for at least one year are eligible to be trained at Wagman Observatory.

The next Wagman training session is scheduled tentatively for May 7<sup>th</sup> at 3:00 p.m. In the event of rain, it will be rescheduled for the following day, May 8<sup>th</sup> at 3:00 p.m. The session should take from 1 to 1½ hours, depending on the number of trainees present.

Among other things, the training consists of the procedures for: opening and locking the grounds and building; opening, operating, and closing the telescopes; and responding to emergencies. At the conclusion of training, members will receive an observatory key and full access to the facilities.

This benefit is available to all eligible members, but please remember that trainees must be willing to accept the responsibility for the security of the observatory building and equipment. Please consider carefully before deciding to undertake the training.

If you have any questions or would like to sign up for the training, please contact Flacc Stifel at flaccs@nauticom.net

## Proposed Change in By-Laws from George Guzik, AAAP President

There is a strong possibility that the AAAP may soon separate from the Academy of Science and Art of Pittsburgh. In January, the Academy voted to end its long-running travelogue series, thus ceasing its main activity and leaving open the option that the Academy could dissolve altogether. The Council of the Academy requested that its two sections, the Astronomy Section (aka the AAAP) and the Photographic Section make a proposal for moving forward. Following a number of discussions, the AAAP Executive Committee and the Photographic Section's officers agreed to a proposal that will have the Photographic Section take over the operation of the Academy, have the Academy provide a donation to the AAAP, and have the AAAP separate from the Academy. The Academy will continue as an organization devoted primarily to photography but it will still maintain the long history of the Academy. The AAAP will continue as a stand-alone organization.

The AAAP and the Photographic Section presented the proposal to the Academy's Council which will consider it at a meeting in mid-April. In preparation for approval of the proposal, AAAP members are asked to consider these changes to our By-Laws which currently contain language describing our relationship with the Academy.

### *The current By-Laws read as follows:*

#### **Article III: Organization**

Section 1, Incorporation: - The AAAP is a not-for-profit corporation, organized under the laws of the Commonwealth of Pennsylvania.

Section 2, Affiliation: - The AAAP is a Section of the Academy of Science and Art of Pittsburgh. If for any reason the AAAP should become disassociated from the Academy, the AAAP shall continue as a separate and independent corporation.

Section 3, Location: - The place of business of the AAAP shall be Allegheny County, Pennsylvania, but neither the AAAP nor its membership shall be limited to Allegheny County.

Following separation of the AAAP from the Society of Arts and Sciences of Pittsburgh, the By-Laws of the AAAP should be amended to remove Article III Section 2 in its entirety and to renumber the existing Article III Section 3 to become Section 2.

### *The revised By-Laws would read as follows:*

#### **Article III: Organization**

Section 1, Incorporation: - The AAAP is a not-for-profit corporation, organized under the laws of the Commonwealth of Pennsylvania.

Section 2, Location: - The place of business of the AAAP shall be Allegheny County, Pennsylvania, but neither the AAAP nor its membership shall be limited to Allegheny County.

Please consider these suggested changes to the By-Laws. If the Academy votes to approve the proposal then we will take a vote on the By-Laws change at our May Business Meeting.

## Astronomy Weekend: Thanks! from George Guzik, AAAP President

The weather on April 2 and 3 was anything but enjoyable. However, rain and lots of sloppy wet, frozen beverage-consistency snow didn't stop us from having a good Astronomy Weekend at the Carnegie Science Center. I thank everyone who gave so much of their time to our Astronomy Weekend event at the CSC! The CSC hosted about 4400 visitors during the weekend giving us a great opportunity to promote astronomy, the CSC, and the AAAP.



Dan Malerbo and the CSC staff put forth a tremendous effort to build this year's event, which featured Saturn and the Cassini mission. The CSC joined a partnership with Astronomy magazine to promote and support the event.

Astronomy is also partnering with over 20 other institutions to promote National Astronomy Day. In addition, Meade joined the partnership and contributed an ETX-90EC telescope that was given away at the end of our event. The ETX will soon be heading to Wisconsin to be united with its new owner. Meade will make similar ETX contributions to each of the other participating institutions. They also contributed a grand prize, a 10-inch LX200GPS telescope, to be given to a most fortunate individual whose name appears on the lucky ticket drawn from the combined entries gathered at all of the participating institutions.

Reinforcing the Cassini theme, Dan Malerbo arranged for a "teleconference" presentation by Scott Edgington of NASA/JPL to discuss the Cassini mission. Held in the Buhl Planetarium, Edgington in Pasadena spoke via telephone while his PowerPoint presentation was run locally.

Months ago, Ann Norman wrote to David Grinspoon, author of "Lonely Planets," to discuss his book. That contact resulted in David visiting Pittsburgh. Dan Malerbo worked out the arrangements and David made an informative and entertaining presentation in the Buhl Planetarium on Saturday.

Art Glaser delved into his knowledge of the history of Allegheny Observatory and spoke to the Planetarium audience on the Observatory's role in the study of Saturn.



George Renaldi greeted our visitors at the AAAP Information Desk located by the front doors of the CSC. As in years past, we distributed information on star parties, gave away new and used astronomy magazines, gave away literature provided by Astronomy magazine, and encouraged visitors to join our organization.

Fred Klein had his scope aimed through the CSC windows at the Hilton Hotel sign and also had an assortment of his beautiful astrophotos. Larry McHenry brought his usual huge display of astronomy information and video presentations. Bob Kalan set up his telescope, computer, and web cam to give visitors a view of captured astronomical images and live images of downtown landmarks. Ed Moss gave demonstrations of computer-assisted tracking with scope.

Diane, Bill, and Devon Yorkshire brought their popular Cosmic Face Painting activity to the CSC on Saturday and Sunday and they were busy with the crowd of children that gathered at their tables.

During Saturday's events, Mark and Judy Schomer became telescope makers to the delight of many young astronomers. The CSC furnished small telescope kits and Mark and Judy did the assembly honors. Mark and Judy also made "Star Clocks." The Moody family took over this task on Sunday and completed many more scopes with help from Shirley Caseman.

The Amateur Telescope Makers contingent was well represented by Bob Novack. I brought my own Dob and the 4.25" mirror that I started grinding at a previous year's Astronomy Weekend.



Richard McLaughlin set up displays on Project Moonwatch and the solar system. Dave Smith and Bill Moutz brought their scopes and gave tours of earthly objects.

Jean Philpott made "comets" using dry ice, water, and soil while other CSC staffers were giving guests a chance to see moon rocks and meteorites up close.

Frank Pastin, Les Johnson, Tim Manka, and Mark Orsatti helped us in numerous ways.

Mary Jean Kancel, Bob Novack, and John Diller went out of their way to ensure that we had a plentiful supply of Astronomy and Sky & Telescope magazines to give away at our information tables. The guests appreciated the generosity! Only a few magazines remained at the end of the weekend.

Astronomy Weekend wouldn't be complete without rockets! Steve Foster and John Brohm from Pittsburgh Space Command attended for the weekend and brought lots of exquisite rockets for display.

Putting on an event like Astronomy Weekend takes much planning and a lot of work. Astronomy Weekend is a great opportunity for us to provide information to several thousand people in just 2 days. Again, I thank the AAAP members and the CSC staff who gave so generously to make this event possible.

## Mingo Update: by Dan McKeel and Al Paslow

Well, everyone, it's April now and we are heading into much warmer weather. Dan and I as the rest of the MCPO Committee are just itching to get things moving along. Observatory director Larry McHenry, Becky Nichols and Al Paslow traveled to California University to meet with several to plan the first event of 2005.

On Friday April 15 and Saturday April 16 Mingo Creek Observatory will host what now appears to be approximately 80 Boy Scouts. The event will be sponsored by the AAAP and is designed to help the scouts achieve one of the most demanding objectives: The Astronomy Merit Badge!

We were given a list of ten requirements with sub-categories to fulfill. The items include: know the proper dress for warmth; explain light pollution, telescope types and purposes; identify 10 constellations and 8 conspicuous stars of 1<sup>st</sup> magnitude or brighter; and sketch the Big Dipper and Polaris at various times. They will also need to list 5 visible planets, make charts of their movements, identify and sketch various lunar features, phases and give explanations, etc. The sun will also be involved: define its composition, its spots, and the effects of solar radiation. They will also plan and participate in a three-hour observing session (under the stars), and list various career opportunities in astronomy!

Larry has called a meeting of the Mingo Education Committee and we have worked out programs that consist of the use of our planetarium, classroom displays, and actual observing time at telescopes, both those within the building and that will be brought by AAAP members. Larry also intends to show the scouts the sun via the telescope and a hydrogen alpha filter, on Saturday afternoon. This sounds pretty exciting to us!!

Observing and participation in the planned activities by the Education Committee should make this first event of 2005 a winner for all! If you can head on up or contact Larry, Ed or Mike for more details.

Now let's take a look at what else is happening at Mingo so far this year. The Planetarium has been adjusted, cleaned and worked on by a repairman who specializes in this service. The 5 major planets have been set to their correct positions in the sky. The sun works and planetary motions have been established. We still need to work on the moon but that will come at a later time.

Ed Moss and Mike Meteney have worked on the telescope room, positioning studs and epoxying them in place. This will secure the pier of the telescope mounting. A rather large 7/8-inch drill bit was used to drill the concrete. Good job!

There is still much to do at the observatory we hope to work on the road, parking, landscaping, and the building of permanent rest room facilities. A port-o-john has recently been set up for use, so no more running down that big hill!

Lastly, we encourage all members to become active in Mingo Creek Observatory. You can join one of the various committees, help run the Planetarium, or simply come and observe in the evening with your telescope. If you need more information, just contact us.

## Mingo Telescope Purchase Completed

As noted in the last issue of the Guide Star, the Executive Committee passed a motion to use the PA DCED grant that the AAAP received last year to purchase equipment for the Mingo Observatory. The proposed purchases have been completed, and are as follows:

⊕ A 24-inch RC optical tube assembly and accessories from Optical Guidance Systems for \$75,200.

⊕ An HD300 GTO mount and pier from Parallax Instruments (with delivery and installation of the mount by Parallax) for \$21,950.

⊕ A set of 16" tube rings from Parallax for \$550.

## Mingo Preparations Underway

At Mingo Observatory, much of the last weeks has been spent in preparation for spring events. At present, the team of Mingo volunteers have completed the following tasks:

### **Reflector Room:**

Refurbished the club's 17" Dobsonian

Adjusted the wheels on the roll-off roofs

Completed measurements for the roof chain/crank systems

### **\*\*Planetarium/Classroom:**

Completed wiring the electrical power and overhead lighting

Set up and organized the various AV equipment, computer systems, and astronomical displays

Arranged maintenance call on the planetarium projector

### **\*\*Members' Room:**

Cut and installed the interior T-11 panel siding

Installed bulletin boards and white boards

Framed, insulated, and paneled the inside block wall

Finished the drywall seams along the interior walls and ceiling

Applied the primer coat and finish paint

## Light Pollution Display Needed

We are in search of one more staff member for the *Mon Valley District Spring Camporee* on April 15<sup>th</sup> and 16<sup>th</sup>... If anyone is interested in creating a display on light pollution for the classroom, please contact Larry McHenry. The display would need to be completed by April 15<sup>th</sup>.

## Additional Funding

The AAAP has been officially approved for a \$25,000. DECD grant for the handicapped rest-room facilities.

Also, thanks to our chief fundraiser Dick Haddad, we have also received a donation of \$25,000.

## April 2005: ASTRO EVENTS

by Al Paslow

Venus returns in the evening sky, but is a difficult object for the month of April. Mercury is visible late in the month in the morning sky for an unfavorable greatest elongation for observers in the northern hemisphere. The planet does not climb very high for this event.

Mars moves from Capricornus into Aquarius late in April, slowly brightening in the morning sky. Jupiter blazes at  $-2.5$  in the evening skies, having reached opposition April 3rd.

Saturn still puts on a grand show in Gemini. The planet's prominent shadow on the rings warrants particular attention. Uranus & Neptune are not well placed this month, being low in the morning sky before sunrise in late April.

Comet Machholtz will continue to fade. It is now only 7th magnitude or less and travels toward Ursa Major. Look for any short tails that may become visible. The comet passes west of NGC 4236, a 9<sup>th</sup> magnitude galaxy mid-month.

### SELECTED DATES FOR MAY

May 1: Moon is last quarter and passes 5 degrees south of Neptune.

May 2: Moon is 3 degrees south of Mars.

May 3: Moon is 3 degrees south of Uranus.

May 5-6: Eta Aquarid meteor shower

May 6 : Moon 3 degrees North of Mercury.

May 8: New moon.

## Eric Fischer Home Again!

Great news! Recently-retired Guide Star editor Eric Fischer returned home from the hospital on Friday, March 25<sup>th</sup>, and is doing well. With plenty of rest and relaxation, he is expected to be back at his accustomed activities in record time.

Members will be happy to know that they will still be hearing Eric's voice in the Guide Star. He intends to remain involved, and even though he has returned so recently from the hospital, has already offered invaluable advice, guidance, and support during this time of editorial transition.

Our thoughts and good wishes have been with you, Eric. And thank you, Joyce, for keeping us so well-informed throughout. We're looking forward to seeing you both at AAAP events this season. Until then, wishing you a rapid recovery and clear skies!

## Welcome to the AAAP!

At the March 25<sup>th</sup> meeting, eleven new members were voted into the AAAP! We extend a warm welcome to:

Meg Bracken    Robert Murray    Jeanne Romanus  
Jim Romanus    John Shearer    Lisa R. Weet  
Linda Wheeler    Alon Wolf    Yaniv Wolf  
Nicole Zelinsky    Barabara Zelinsky

### SELECTED DATES FOR APRIL

April 1: Moon at last quarter.

April 7: Moon 3 degrees south of Mercury.

April 8: Moon is new tonight!

April 11: Moon is 1 degree south of the Pleiades (M-45). Mercury is stationary.

April 12-13: Neptune 1.2 degrees north of Mars.

April 14: Jupiter at aphelion.

April 15-16: Mingo Observatory hosts Boy Scouts for their Astronomy Merit Badges this weekend.

April 16: First quarter moon. Moon 5 degrees north of Saturn.

April 20: Titan due north of Saturn this evening.

April 22: Lyrid meteor shower peak. However, moon will interfere. Moon passes  $\frac{1}{2}$  degree south of Jupiter. Occults the planet but not for us.

April 24: The Full "Seed" Moon tonight. Minimum lunar libration of 5.4 degrees at 00 hrs. Also Penumbral eclipse of the Moon occurs which is not very noticeable due to the fact there is no distinct shadow (umbra) observable on the moon. For observers in western North America, the moon passes through the extremely faint outer edge of the earth's shadow in the early morning hours. The event will not be visible for us in Pennsylvania.

April 26: Mercury reaches greatest elongation today, but is only 4 degrees high, during its worst apparition of the year. By the very end of the month it will dim but rise to about 10 degrees. Look for it in the morning sky. Moon 1 degree south of Jupiter.

April 30: Uranus 1.4 degrees SW of Lambda Aquarii.

## AAAP Anniversaries

Thanks and congratulations to all these members who are celebrating their AAAP anniversaries in the next quarter:

|                  |                    | <u>Member Since</u> |
|------------------|--------------------|---------------------|
| <b>50 Years!</b> | Willis F. Gaefke   | June 1955           |
| <b>40 Years</b>  | Arthur E. Mikoleit | May 1965            |
| <b>30 Years</b>  | Jean Reiland       | April 1975          |
| <b>20 Years</b>  | Lawrence Bentz     | May 1985            |
|                  | Don A. Gilmore     | May 1985            |
|                  | Joseph L. Lenkey   | May 1985            |
| <b>15 Years</b>  | Edward M. Potosky  | April 1990          |
| <b>10 Years</b>  | Dennis A. Simpson  | May 1995            |
|                  | Vincent C. Aluise  | June 1995           |
|                  | James Tunney       | June 1995           |
| <b>5 Years</b>   | John L. Kane       | May 2000            |
|                  | Brent Samay        | May 2000            |
|                  | Cynthia Van Horn   | June 2000           |
|                  | Grant Van Horn     | June 2000           |

## Have Telescope, Will Travel: Chris & Jeff's NC Messier Marathon

From an account by Chris Genovese  
Edited by Ann Norman

Unable to tolerate the clouding out of yet another month's moonless nights Jeff Kearns and I hit the road in reach of premium dark-sky observing. It couldn't have worked out much better. We selected Pettigrew State Park in Creswell, North Carolina for the site of our 2005 Messier Marathon based on an analysis of Clear Sky Clock data and the web testimonials of other amateur astronomers.

Bottom line: two clear Messier Marathon nights (separated by a clouded night) 105 Messier objects for Jeff; 109 for me-DONE.

### Highlights:

- \* Wife, Marsha, suggests the adventure. What a woman!
- \* Park ranger points out observing spots and agrees to turn off all extra park lights!
- \* Observing spot selected--a boat launch on Lake Phelps-Holy Crap! What great horizons!
- \* An annoying bright triangle of light reaching to the Pleiades--never mind, it's the Zodiacal light!
- \* Milky Way, with amazing structure through the north of Orion, Monoceros, and Pups.
- \* Jupiter rises over the trees, its light reflected on the lake, leaving a rippling streak across the water, as if it were the moon. A beautiful sight.
- \* Omega Centauri: Huge. Spectacular. Overwhelming.
- \* Thickening clouds--no wait--the Milky Way as I had never seen it except in pictures--incredibly bright, wide, and mottled with structure.
- \* I got all the Messiers except M72 and M73.

Next day son, Nathan, climbs rocks, explores shore, and interacts with stingrays at the local aquarium.

That night clouded out--should have been sleeping, but Jeff and family stayed up talking till midnight. One more chance for clear skies.

Next day skies grey and ominous, back to the aquarium, a storm hits that temporarily knocks out power, temperatures plummet to the 30s, torrential rains and wind.

By 5:30 skies clear as Clear Sky Clock had predicted.

Skies looked even better than on Sunday night, if that were possible, but winds continue.

Winds knock out power to local communities. (Oh right, that's a bad thing.)

Herschel 400 list completed! Yay!

No time to celebrate, need to get ready for M72 and M73.

Done. Phew. I start to relax.

But I had forgotten M2. Strangled noises came from my throat.

Back down to the ground ripping up the knees on my pants. From the northern wing of Aquila two wing lengths down and a little over under the Dolphin's tail . . . bam. There it was unmistakably. Done. 109.

I noticed then that the wind had started to fade. After ten hours of sustained gusts, the silence had a strange effect. I wandered about in a daze for a minute. Jeff was still at work, looking for M 75 in the brightening sky.

It's great to have someone who shares your passion for a hobby. It's great to have someone who will join you on crazy--#&\$ adventures all over tarnation. It's great having a buddy. Thanks Jeff!

## Bizarre Weather Conditions Perplex Local Astronomers

During the last week of March, a series of strange meteorological conditions caused perplexity and confusion among amateur astronomers in the Pittsburgh area.

*Posted to the AAAP listserver*

**DATE:** 29 Mar 2005 20:19:08 EST by Tom Reiland

**SUBJECT:** What the heck was that in the sky?

What was that bright orb in the sky today and where did all those smaller bright dots come from that I see tonight? Are they usually there? That bright one that I saw this afternoon blinded me. I'm not used to that much light. One group of stars looks like an upside down plow and the group in the SSW looks like a large hourglass. Let me know if you can figure out what they are. Thank you.

**DATE:** 30 Mar 2005 07:40:05 EST by Wayne Meyers

**SUBJECT:** Re: What the heck was that in the sky?

My nephew is here from Colorado. He says he sees it all the time. I think he said it was the sun, whatever that is.

This hypothesis has been neither confirmed nor disproved, and there has been widespread consternation among the amateur astronomers in this area. Worse, it has become apparent that glowing object in the sky has an adverse effect on some types of astronomy aids. AAAP member Chris Genovese gave a disturbing account of "singing telescopes." Several days later, Rowen Pool reported malfunctions in his Clear Sky Clock, noting with bewilderment that it was "all blue."

Unfortunately, the bizarre conditions were too fleeting to permit further analysis. We can only hope that they will return, so that we can conduct a more thorough investigation into their nature.

# Books and Games



## **Black Holes: A Review** by Fred Klein

Review of **Black Holes** by Jean-Pierre Luminet, Cambridge University Press, (1987 in French, 1992 in English) \$29.00.

I have read several books and articles that talk about black holes, even a couple by Hawking. I thought I had some basic understanding of the phenomenon, and I did up to a point, but reading this book has made my understanding deeper and richer. The book doesn't hurry over the hard parts, although I admit that some points were past me. A technical education is helpful background for this book. (Not that the book is written in a complicated way--there are no equations and a lot of good charts and graphs--but because the subject is difficult.) Still there is also a lot here for the educated general reader.

Luminet takes 120 pages to get to the black hole, giving a gentle introduction to special and general relativity, and curved space-time, and covering stars, supernovae, and neutron stars. When he arrives at black holes, he gives a thorough description of them. He thoroughly describes black hole behavior in many ways, talking about large and small black holes, rotating black holes, charged and magnetic black holes, and a lot of other things I had not imagined.

A good part of the book discusses the many observable characteristic behaviors of the black hole. It is here that we see time has advanced past the book--not that any material is wrong; it's just that newer observations are missing.

It took me months to finish this book because there is a lot to absorb. I found it to be enjoyable and fulfilling. I can now understand more behind the new reports about X-Ray stars, gamma ray bursters, . . .

## **Online Game is Addictive** by Jerry Zhu

This is an amazing satellite game:

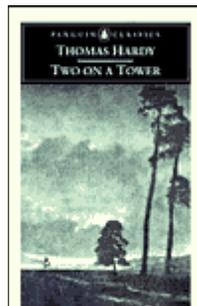
<http://www.colorado.edu/physics/2000/applets/satellites.html>  
See what kind of orbit you can put your satellites in. I had one orbiting the moon, and another one switching between earth and moon before crashing (or shall we call it "landing.") ☺ !

There are many more excellent little physics games at  
<http://www.colorado.edu/physics/2000>

Have fun!

## **An Astronomical Novel: A Review** by John Cheng

Review of **Two on a Tower** by Thomas Hardy (1882, paperback reprint 1992)  
Various prices from \$5.00 to \$10.00.



Having read all of his well-known things many years ago, this small novel came as a surprise to me.

It's the story of the intimate relationship between a woman of some social standing, whose husband has deserted her, and a young astronomer of great promise, very handsome, nine years her junior and from a lower stratum of society.

Her initial expression of affection for the young man, who is busily working on an original idea having to do with variable stars, is to finance the building of an observatory on her property complete with a nine-inch equatorially mounted refractor and a dome. (Now that's a girlfriend!)

I hadn't known Hardy was interested in astronomy, but he was serious enough to be able to use the coming Venus transit of 1882 as a plot device, work in a reference to 61 Cygni and have the heroine come upon her beloved as he was collimating the refractor because he had noticed that the diffraction rings were not concentric.

There are visits to famous observatories, a trip to observe the then neglected southern skies, and late night observing sessions shared by the lovers.

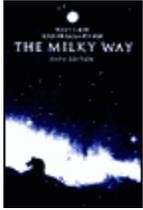
However, I found the most interesting thing to be Hardy's response to the night sky - not awe, not aesthetic enjoyment, but fear and dread:

*"There is a size at which dignity begins, further on there is a size at which grandeur begins, further...a size at which solemnity begins, further...a size at which awefulness begins, further on, a size at which ghastliness begins....that size faintly approaches the size of the stellar universe...."*

I thought this unique--that a major writer and poet should feel oppressed and overwhelmed by the vast indifference that confronts us when we stare at the sky.

There are multiple strands in the novel-- youthful versus mature love, domestic life versus a vocation, religion versus science.

But perhaps, Hardy's main idea is to oppose the immense backdrop of the cosmos to the "small" concerns of two "star-crossed" lovers in very conventional Victorian England.



## The Milky Way: A Review by Fred Klein

**The Milky Way** – Bart Jan Bok and Priscilla F. Bok Harvard University Press; 5th edition (1981) \$53.00

OK, this book is somewhat dated. But I've learned more from this book, about almost everything I can see through my scope, than from any other book.

Bok and his wife wrote and updated this book through 5 editions and still kept it alive with their personal attitudes and observations. The book systematically works its way through the topics of the Milky Way. It covers the sun's Neighborhood, the spiral structure, stellar motion, open and globular clusters, the nucleus, dark nebula, gas clouds and more.

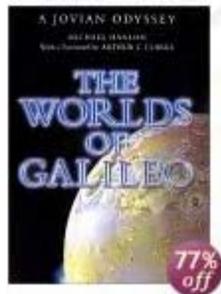
All this is covered in a very understandable way with lots of history and information about the development of the ideas.

The most interesting to me was all the information derived from star motions. It uncovered the rotation of the galaxy, but also has much to offer about the suns near neighbors and open clusters.

Recommended.

## Mission to Jupiter: A Book Review by Fred Klein

**The Worlds of Galileo: The Inside Story of NASA's Mission to Jupiter** by Michael Hanlon, (2001) On sale for \$6.99 on Amazon!



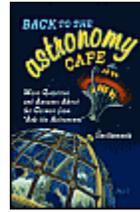
This is a beautiful book that tells a wonderful story. It describes the journey of the Galileo spacecraft to and its exploration of Jupiter and its moons.

The book is printed on slick paper and has many color pictures. The book includes a good description of the development of the spacecraft, the delay in its launch, and the problems with its high-gain antenna.

Much of the book covers the discoveries at Jupiter and its moons. It gives a lot of information that I had not seen before. I did not see any real "inside" information and it was a little light on the technical side (but I am an engineer and expect more of this than is usually given.)

The book was written before the very end of the mission, but is well worth reading.

## Back to the Astronomy Café: A Review by Mark Schomer



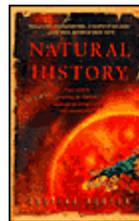
**Back to the Astronomy Café: More Questions and Answers about the Cosmos from "Ask the Astronomer"** by Sten Oldenwald (2003) \$15.95.

Having never read "The Astronomy Cafe", the previous offering by this author, I didn't know what to expect. It's not written like most books. Each chapter has a brief one or two-page preface followed by questions with answers from the author, who happens to be an astronomer. He covers seemingly everything you would ever want to know about astronomy, cosmology, astrophysics, and quantum mechanics.

I started reading the book and literally could not put it down. Does Mercury rotate? How can planets be around pulsars, which are exploded stars? Does gravity produce gravity? Read and find out. The author answers questions in such a way that anyone can make sense of them. And he does not shy away from the tough questions. He even answered a question about how much money he made as a professional astronomer.

I highly recommend this book for everyone. It is an easy read and very informative. It answered many questions that I would've never thought to ask.

## A Sci-Fi Recommendation by Charlotte Tunney



**Natural History** by Justina Robson (2004) \$13.00.

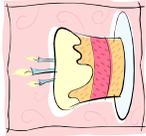
For anyone who likes sci-fi, I just read a very good sci-fi story: Natural History by Justina Robson. Interesting, far-out characters, some future-applies-to-history philosophy, an attempt to grapple with M-theory, and a tight suspenseful plot make it an absorbing read. Robson is a relatively new writer but her vocabulary and mindset are wonderfully suited to take the reader along to a place where no one has ever been. Think female Asimov--cold as Asimov.

I took it out of the library, but I'm going to buy it and read it again.

**If you have a review you would like to share, or other feature, please send in to me, Ann Norman at [redmarsmom@aol.com](mailto:redmarsmom@aol.com), with Guide Star in the heading--or post it online and let me find it. If I don't see your previously posted feature or book review in this issue, resubmit and you will see it next month!**

# Fridge Calendar *by Cathy Rivi*

April 2005

| Sunday  | Monday    | Tuesday   | Wednesday  | Thursday   | Friday   | Saturday   |
|---|-----------|---|--|--|--|--|
| <p>Astronomy is a very dangerous occupation: hundreds of tons of moving metal, high voltages, total darkness, and people who haven't slept much - not a good combination. - Nigel</p>   |           |   |  |   | <br>April Fools Day | <p><b>Astronomy Weekend April 2-3</b></p>  |
| <p>3<br/>Daylight Savings Time Begins<br/><b>Astronomy Weekend April 2-3</b></p>  | <p>4</p>  | <p>5<br/>...we measure shadows...we search among ghostly errors of measurement.<br/><b>Edwin Hubble</b></p> | <p>6<br/> </p> | <p>7</p>   | <p>8<br/> </p>      | <p>9</p>   |
| <p>10<br/>The explorations of space end on a note of uncertainty...</p>   | <p>11</p> | <p>12</p>   | <p>13</p>  | <p>14</p>  | <p>15<br/>Star Party NEWO<br/><b>AO Public Lecture</b><br/>See Below</p>                             | <p>16<br/>Star Party NEWO<br/> </p> |
| <p>17<br/> </p>   | <p>18</p> | <p>19</p>   | <p>20</p>  | <p>21<br/>Look for Moon near Jupiter - dusk<br/>Apr. 21 and 22</p>   | <p>22<br/>AAAP Meeting 7:30 PM<br/>Carnegie Science Center<br/>Earth Day</p>                         | <p>23</p>  |
| <p>24<br/> </p>  | <p>25</p> | <p>26</p>   | <p>27</p>  | <p>28</p>  | <p>29<br/> </p>   | <p>30<br/> <b>Birthdays, AAAP Co-Founder Leo Scanlon 1903</b></p>  |
| <p><b>Also this month: Apr.15 Lecture: Looking for Little Bangs: The Search for Supernovae in the Local Universe.</b> Allegheny Observatory. Free. RSVP required. 7:30 PM. Univ. of Pittsburgh (412)-321-2400.<br/>NEWO = Nicholas E. Wagman Observatory<br/><b>Looking ahead: Star Parties May 13, 14 at NEWO and MCPO (Mingo Creek)</b></p> |           |   |  | <p><u>AAAP Long-Range Meeting Schedule</u><br/>May 20, 2005<br/>Summer Break<br/>Moon phases are based on Eastern Standard Time.</p> |  |  |

## Classifieds

**FOR SALE:** 8" Celestron in mint condition. Contact Jay at: 412-788-6171.

**FOR SALE:** 4" f-10 Celestron refractor with CG-5 mount, R.A. clock drive, full aperture sun filter, 1.25" diagonal, 2" diagonal, tripod AND 4" diameter pier, 1.25" Orion V-block and Orion 2" V-block filters, finder scope and 3 -1.25" eyepieces. Over \$800.00 invested, will sell all for \$250.00. This scope is in mint condition and easily splits the "double-double" in Lyra. Will not ship. Prefer local pickup in the Leechburg area or I can deliver within 25 miles of my home. If interested, my phone number is 724-842-8202 or email: rayajko@comcast.net

**\* Amateur Astronomers Association of Pittsburgh, Inc. \***

A section of the Academy of Science and Art of Pittsburgh  
*Founded June 9, 1929 by Chester B. Roe and Leo J. Scanlon*

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