

Volume LVII, Issue VII

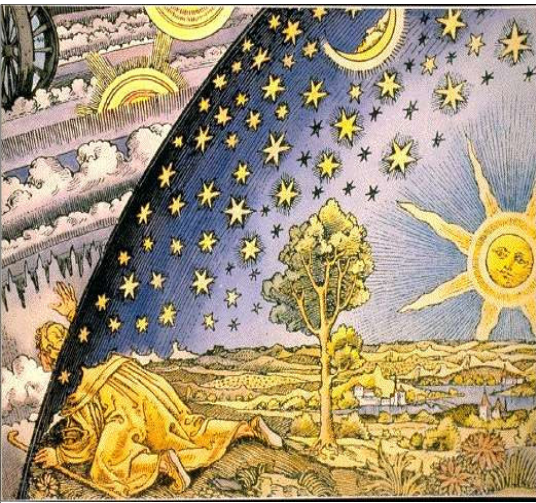
PAStimes

Monthly newsletter of the
Phoenix Astronomical Society
Founded 1948

PAStimes Internet Home Page: <http://PASAZ.org>

Join our Astronomy discussion group: <http://groups.yahoo.com/group/PASAZ>

PAS Email: phoenixastronomy@yahoo.com



PAS SURVEY

The Meeting of the Minds group is doing a survey. If you care about PAS, please do the survey and get your answers back to me any way you can by the deadline. Thank you so much for your time and for caring about PAS.***

MAD ABOUT THE MOON

by Kathy A. Svitil
from Discover Magazine, March 2005

With all the excitement surrounding the exploration of Saturn's mysterious moon Titan, people seem to have forgotten about Earth's moon. Yet our closest celestial neighbor has been very much on the minds of planetary scientists, entrepreneurs, archaeologists, and others these days. Some examples:

Moonquakes: That the moon shakes with small quakes has been known since Apollo astronauts deployed seismic stations on the lunar surface. Now a reanalysis of data on nearly 10,000 magnetic tapes from 1969 to 1977 has brought the nature of moonquakes into focus. During those eight years, some 6,000 moonquakes, including dozens not previously detected, rumbled deep within the satellite, say planetary scientists at the Scripps Institution of Oceanography in La Jolla, California. The quakes are believed to be caused by Earth's gravitational tugs; similar processes could be deforming other moons and planets, including Mercury.

Helium-3: Space entrepreneurs are eyeing the moon's vast reserve of helium-3, a heavy form of the gas that could fuel future fusion-power plants, market value: billions of dollars per ton. In December 2004, after an international conference in India on moon exploration, a group of North American scientists and businessmen claimed 75 percent of the mineral rights to the moon - including an estimated million tons of He-3. The group says it obtained the rights 25 years ago by filing a claim at the World Court. Experts on the 1979 United Nations moon treaty say no such legal rights exist.

Historic Site: When the Apollo astronauts stepped off the moon for the last time in December 1972, they left behind space suits, boots, cameras, antennas, hammers, and

scoops. One hundred and six artifacts have now been identified and cataloged by a group of American archaeologists financed by NASA. With growing international support, they want to make Tranquility Base a protected historic site, one that could be administered by the National Park Service or the U.N.***

ASTROSPEAK

by Bob Berman
from Astronomy Magazine (Feb. 2005)

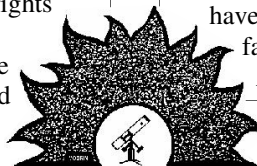
Every profession has its own language. That's why the word "draw" means different things to poker players, cartoonists, and gunslingers. Astronomers are no different. The jargon can be baffling to a spouse who gets dragged to a star party and is subjected to hours of Dobs, Barlows, Messier numbers, and the rest. It's our own vernacular — astrospeak. Where else can one encounter a "clock drive"? An outsider couldn't begin to guess what that might be. While much of astrospeak involves tech terms like CCD or focal length, some of it sounds like baby talk. White dwarf. Red Spot. Or seeing, as in "The seeing's so bad the rings are blurry." When a friend first heard that, he was amazed: "Astronomers speak of seeing? Not some technical term that rates the air's steadiness? You've got to be kidding. Seeing?" I don't care, I like the word. "Seeing" says it flat out. Who cares if it makes us sound like 6-year-olds? Rather than limiting our use of astrospeak, we should create more of it. Astrospeak has no term for staring into an overcast sky during a total eclipse. The thwarted observer's expression of disgust and disbelief deserves its own name, too. It's useful in many astro-situations, like when your friends cheer at a sudden fireball that you missed while searching for the most recently dropped eyepiece. We also need a term for the act of repeatedly nudging a telescope, as when the drive isn't working or you polar aligned it to, say, Virgo. When else in life do you move an object at 1-minute intervals? You'd have to be insane. As long as we're thinking of names for things that don't have them, let's rename a bunch of stuff. For instance, it's not fair the features on the Moon's farside have Russian labels. And, have you ever tried to utter Libra's two brightest stars,

KCH



"I'd give me pot of gold just for a look through this telescope."

See you at Rancho Solano or Phoenix Children's Hospital on March 17.



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Zubeneschamali and Zubenelgenubi? Forget it. Change them to Bill and Judy. Also, let's do away with the sillier deep-space names. Dumbbell Nebula? Black Eye Galaxy? What joker decided to name starbirth places after gym equipment or injuries? Orion. Andromeda. Those are names. We'll keep a few funny ones like Betelgeuse just for laughs. I think our spacecraft also deserve better or less-risky appellations. Challenger? Bad name. Who or what were we challenging up there? It's like naming a rocket "Titanic" or "I dare you." Endeavor is nice, so is Discovery. Atlantis — that's iffy. Personally, I would feel more comfortable in a shuttle named "Please-don't-hurt-me." But that's just me. Let's even rename some constellations. Half are fine. Maybe three-fourths. But nobody bothers looking for Camelopardalis even though it's circumpolar and thus, visible every minute of the year. Cancer's gotta go, that's obvious, along with Scutum, which sounds like sputum. Replacement names? There are a few ways we can go with this: 1. Kids love constellations but have few they can handle. So call the new ones Muffy, Tabby, and Spot. 2. The sky is loaded with archaic job descriptions like Ophiuchus the Serpent-bearer. Nobody carries snakes for a living anymore, so add actual occupations like Phoebe the Flight Attendant. 3. Retire the outdated tools in the sky like Antlia the Air Pump and replace them with names like Debby the Dobsonian. 4. If we run out of patterns, we'll switch to the Chinese sky-scheme of countless teeny-weeny ones. Orion gets cut into several new constellations. His belt turns into a frankfurter. His little triangular head becomes an airline terminal's luggage area. One problem is that the International Astronomical Union, the official organization that names things, is composed of the most staid and humorless people on Earth. Listen to how they insist NASA names the new objects the Cassini spacecraft is now finding on Saturn's moons: "Titan's features are to be named for ancient displaced cultures. Iapetus' will be people and places from Sayer's translation of Chanson de Roland. Dione: People and places from Virgil's Aeneid. Mimas: People and places from Malory's Le Morte D'Arthur (Baines Translation)." I'm not making this up. No characters from The Simpsons. Nothing whimsical at all. Touring the solar system will be like sitting through freshman English. The cosmos is serious business, and we have to wipe those silly grins off our faces. Right? Yes sir, you can say that again.***

DECEMBER 31, 2005

PAS is looking for a location to hold a major observing event. Yes, that will be New Year's Eve this year. Do you know of a dark location? The New Moon falls on that night and would be awesome for some serious deep sky observing. It will be cold that night so we would be looking for someplace that is dark and where we can go inside to warm up as needed. Maybe Dan, or Mike would like to host this event. Let me know and let's vote on its location at the next Meeting of the Minds.***

MEMBERSHIP DRIVE

Do you have a friend who would like to save a few dollars and also become a member of PAS? Then we have the membership drive for you. We will be holding this drive from the Sally Ride event on March 5 to the Astronomy Day event on May 21. The only catch is that your friend must come sign up as a PAS member during one of the events between

those dates. That means he/she can come to Sally Ride, Astronomy Day, any of the School events, the Anthem star party, or any other event, meeting, etc between March 5 and May 21. What do you get during this drive? Well, if you sign up during the drive, you may have \$5 off a one year membership or \$12 off signing up for 2 years membership in PAS. Current membership rate is \$30 for one year, and \$60 for 2 years. With the savings of \$12 for a two year membership, you will only be paying \$48. The idea is to get more PAS members. Also, remember, at the bottom of your order form, if you refer someone to PAS, get them to put your name on that form. If you have 5 people who say you referred them by the end of the year, we will give you a free membership to PAS. So, get the word out. We want members to join us today. Thank you for your time and efforts.***

PAS GARAGE SALE

We'd like to plan a Fund Raising Garage Sale to happen sometime before it gets too hot. Here is what we have in mind.... Donate your items to PAS to sell. This can be anything you no longer wish to have, or that isn't needed... anything you'd normally see in a garage sale. All proceeds will go to PAS. We will hold this garage sale on the west side of town, around 31st Ave. and Thunderbird Road. William's Mom will allow us to use her back yard. When you come to the garage sale, bring all your items for sale, and help out at the sale as much as you can. Help set up your items in a neat display - we will set them up in categories (i.e clothing, jewelry, shoes, dishes, etc..). Stay as long as you can to help watch over the sale. Everyone's help is requested. If you must leave, let me know, as I will be running the sale. We will do this on a Friday and Saturday of one weekend. We will put an ad in the paper to announce it, and anything that is left over Saturday afternoon, if it isn't sold, will be given away for free. I got this idea from a garage sale held up in Flagstaff by a church. Every year, 2 times a year, they hold a garage sale. They have it for all day Friday, all day Saturday and then they put in the paper, at 3pm (or what ever time we chose for this one) all items that are left, will be free for the taking. This cleans out the whole collection and no one has to store the items. I will run the sale, manage the money part of it, and donate some items. What I need is extra people to stand around and watch that stuff doesn't walk off. The back yard will be big enough to hold as much stuff as we can bring over. We will need tables and if you stay for a while, bring a chair. I'm asking that some folks help out when they bring their stuff. We will set up the night before, Thursday. Now, the question is, what date shall we do this? And what time do we close up for Saturday night? And those who want to rescue items they brought and would not like those left over items to be given away for free, can come pick them up 2 hours prior to the closing time. Example: If we announce that all items that are left are free after 5pm, then by 3pm, you should swing by and pick up those items that didn't sell that you don't want to just give away. This way you had the chance to sell it, and if it doesn't sell, you can retrieve it. The other idea I had was that it would be nice to get a receipt for the amount of money that was raised from your sale items. Thus, I will be keeping track of that too. And when the date is chosen, I will let you know how we will do it. What we've done in the past for large garage sales when we get a group of people together to do them is that each person has their initials on their stuff.



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Example: I would put TF and my price on the tag. Then when they come up to pay for it, I can mark down that I sold one of my items. This is more work for me, but in the long run, if you want to collect a receipt, I am willing to do that for you. If you can stay to help out, then plan to bring lunch, a chair, a hat as we are outside with very little shade, drinks, etc. This isn't my house we will be set up at, so I can't use it to be hospitable, however, it will be nice to have the use of the bathroom. So, gather those items and plan to bring them over on the Thursday we choose. And plan to be at the next Meeting of the Minds to discuss the date we will do this sale.***

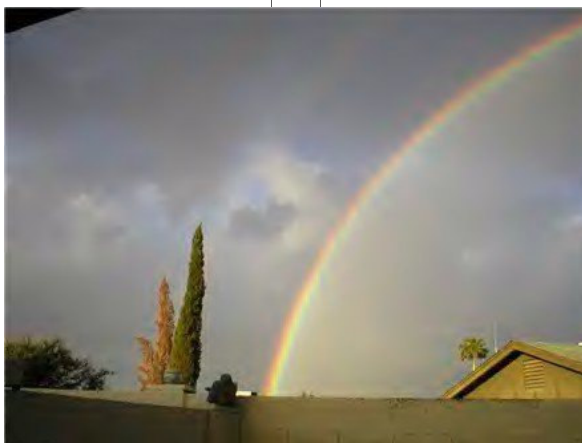
PAS MEMBERSHIP

If you haven't paid your Dues yet, you might consider getting that done for the 2005 year. It would be a shame not to be kept in the loop as to what events are coming up and when and where. Also, I'm putting together the Membership Roster, and you won't be on it and you won't receive one if you don't get those dues in. There are a few PAS Members who haven't paid up that we don't want to drop from the list. Get that money into me ASAP. Thanks.***

FEBRUARY MEETING OF THE MINDS REVIEW

It was an interesting meeting. We didn't have the turnout we expected, and we didn't have that many topics, but the topics we discussed from about 7:30 to 9 pm were well discussed. Now the problem will be to implement the suggestions. Here is a brief review of what we talked about. Jerry was setting up star parties. I had my sign up list of what star parties and other events PAS is involved in in the near future, which you will see at the next PAS Meeting and in this issue of the newsletter. I'm looking for volunteers, at minimum of 2 people at each event. If you can't make an event, skip putting your name on the list. And do check to be sure that the names on the list below - thus, if you didn't sign up to help at the Children's Hospital Star Party, and I have you on there, please tell me so I can update the list and so Jerry knows how many to expect. So, we got to talking about upcoming events. I found out that Jerry will try to be at the Science Center for Astronomy Day with his telescope for solar viewing outdoors. While discussing this, it was mentioned that Dennis should be invited to do a solar viewing as well that day, so an email has been sent off to him asking him to join us this year. In attendance at this meeting were Jerry, William, Terri, Mike and Matt. It was a small group. We had good discussion because of it. Mike suggested doing a survey to find out what people want from their astronomy club, so I will get that going for a future issue and maybe we can get some good responses and tailor PAS to fit the needs of its members. Watch for it and return it promptly. Matt remembers we had discussed (at a previous Meeting of the Minds) that we were supposed to be doing a PAS Garage Sale and so we need to find out how many people would be interested in doing that to raise funds for PAS. I'll get an article going to let you know what we propose, and then we need to find a

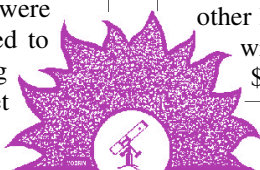
date to do it. And we need to put an ad in the paper to draw more people into this event. Let's toss this idea around some more and pin it down before the Heat of Summer hits us. Mike suggested a carpool situation. We seem to have lost some of our members because of our distance from downtown. He suggests that we get a carpool list going and find out who we can team up with whom to be picked up. For instance, Ed Garbero is in the area by Moon Valley, and could use a lift to our events. Thus, if someone is in that area or goes past it to get to the PAS Meeting, they should get Ed's number and swap with Ed for their number and set it up. The more people we bring to the meetings, the better. Besides, it doesn't look good for PAS to have a big name speaker and only 20 people show up for the presentation. Jerry wants to move the PAS Meetings. He says that having them way up north on Scottsdale Rd. isn't good. He thinks we should be more centrally located. And so



This lovely image was captured by Liz Anderson, a PAS Member, who, like the rest of us, has seen a lot of rain over the past month and has captured this striking image to share.

he is proposing we locate a new meeting location. There were only five of us at this meeting and we could have decided to vote on moving the meeting location to another place, but we haven't yet. If you want to be in on this discussion, be sure to be at the next Meeting of the Minds. This is the place where all the important decisions are made and voted on. Your attendance is important. I discussed with Mike about his star party, and we are considering his location or the park in Black Canyon City for the Dec 31 star party. It will be open to club members, SAC, and EVAC members as well. Jerry wanted me to let everyone know that the Messier Marathon isn't just for serious observers. Although they don't want any

white light at all, they are willing to show people what they are looking at between finds, if you are patient. Jerry says he goes down for the socializing part of it. And because there is an awesome swap meet prior to the event. He also recommends the book "What's Up Tonight" by Ken Graun. He says it is a MUST HAVE book for astronomy. Check it out and get on if you like it. We discussed getting a speaker for the May meeting. The purpose of that would be to star off with the speaker who will talk about 30 -45 min at the most. Then have our elections and then observing outside. I can do the lock up that night, so Dan can leave when he feels the need. Jerry also told us about the plans for the Gila Monster rocket for the weekend of the 26 and 27th of February. Yes, by the time you get this newsletter, that launch will have taken place, but I'm doing a review of what was discussed, so I have to have this in here. Jerry also mentioned that he thinks we should get a list of the past PAS members from the past 5 year, and after finding a new location for the meetings, send out a 2page newsletter announcing the new location and see if we can't get some of our members back. That's fine, once we find a new place. Some suggested new locations were ASU West, Bookmans, a college someplace, maybe a high school. We discussed doing a membership drive at the Sally Ride event, Astro Day and some other locations to get some people signed up with the club. So, I will be working to get a sign made up for that. I'm thinking \$10 off 2 year membership. At \$30/year, that would mean



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they'd pay \$50 for 2 years and we'd have them for that long. If you have any input on that, let me know prior to starting that this year. I think every event we got to from now to May 21 - Astro Day- ought to offer that. It was a good meeting for discussion, lots of input was shared, and we'd like to see more people at the next one on March 24th. The Denny's location may be under construction at that time, and we may have to move it but I will get the word out to those who wish to come next time. There will be a sign up sheet for it, so that I can inform you of the change if it occurs. See you there!***

WE NEED VOLUNTEERS

I have a collection of star parties and events coming up and for them, I'd like to have RSVP's for those who would like to assist. Some of them aren't for a few months, so if you think you can be available, please RSVP with me today, and you can always cancel if necessary. I've also included the names of those individuals who have confirmed they want to help, so if you want to help and you aren't on the list, please let me know. Also, if I put you on the wrong list, let me know that as well.

RSVP: Rancho Solano school wants us to do a star party on March 17 from 7-9pm. Yes, I know this is the date of the Children's Hospital star party as well. Some of you will go down there, and the rest of you come with me over to Rancho Solano at 56th Street and Greenway. Last time we were there they gave us drinks and they gave PAS a large check for our time (donation to club). It is worth it for the club, so if you can volunteer for this, please RSVP with Terri today. If you already committed to help Jerry at the Children's Hospital, please let me know so I can let Jerry know who won't be over there. Thanks so much. I look forward to having assistance. Last year we had Mike, Adam, Richard, myself and we had a great time. Photos are in a previous newsletter. It was an awesome site, and they took good care of us. Currently I have no one listed for this star party except me! *Terri*

RSVP: Astronomy Day at Arizona Science Center May 21st from 10am to 5pm with possible viewing in the evening (getting that confirmed). I'm looking for people, individuals or teams of 2, who would like to create a display, or bring something fascinating having to do with astronomy, and be set up inside the science center with the rest of us. I have the following people confirmed thus far. We can use a few more displays. *Bob Holmes* Meteorite display (separate table), *Mike Marron* Many topics display (separate location), *Dan Heim* Laser Display with *Roger's* help, *Barbara Hartman* (Telescope Display right there in same area as we are set up), *Adam* (Solar Telescope outside)

RSVP: James Bond - at the Arizona Science Center - for past PAS/ASC volunteers only. We are scheduled to go March 12 at 11am, but this is tentative and I'm awaiting reply from Christine that this is alright. So far on my list is: *Barbara & Scotty, William & Terri, Bruce, Ed, Bette, Mike, Kevin, Matt*

RSVP: Sally Ride Festival at ASU Tempe Campus March 5 from about 10am to 3pm. Set up will be 9am. They are feeding us lunch. We are bringing our own tables and we will need some canopy's to keep cool in the sun. If you can display your telescope for the day, please bring it along. And if you want to offer SOLAR viewing, then do that as well. We need people to talk to everyone and hand out stuff. I have the following people confirmed for this event so far: *Barbara, William & Terri, Matt Kohl, Bette, Ed, Bruce, Don Boyd,*

Kevin, Disa, Adam

RSVP: Children's Hospital March 17 6 - 9 pm. The children's Hospital is located near 20th street and Camelback. This is a very rewarding experience. Jerry wants as many scopes as he can get and you will be showing the MOON most of the night and giving out handouts of the moon to be colored by the children. Wear green that night as it is St. Patrick's Day. I have the following people confirmed for that event: *Jerry, Kevin, Leah*. I've misplaced my list so if you were supposed to be on this list, let me know. Thanks.

RSVP: Shadow Mountain High School Star party April 15 7-9pm 2902 E Shea. If you'd like to help out at this star party, please contact me very soon. Thanks so much. I currently have no one signed up for this one, yet.

RSVP: William T Machan Elementary School star party May 13 7-9pm located at 2140 E. Virginia St in phoenix They will be serving refreshments that night. They expect 30-40 attendees, but I told them to invite the whole school and parents. I have no one on this list thus far.

RSVP: Anthem Star Party at the Anthem Park on April 16 from 6-10pm. Scopes are needed, handout people are needed, bring everyone you know as this star party turns out to be one of our best. So far on the list I have: *Terri, Matt*

RSVP: Moon Marathon - open to all PAS Members - to be held up in Heimhenge (Dan's house in New River) on Mar 26 at 6pm. So far on the list I have: *Terri*

RSVP: 2 day Carefree Observing event at Mike's house. Open to all PAS Members on April 29-30. This event involves sleeping over, or coming up a second night to enjoy the dark skies. Bring sleepover needs and food for the evening, or cash in case it is decided to order out for pizza for dinner (split cost with Mike). If this event goes well, we might make it a yearly event. I have no one on the list so far.

RSVP: It isn't scheduled yet but I'm setting up for the Greyhawk star party. Anyone wanting to volunteer for that one, let me know. Volunteers get paid for this one and you have to be a PAS Member to be involved in a paid star party. Last year this event was in May. That appears to be it right now. Put in your RSVP's with me ASAP. I look forward to working with you at these events. ***

STAPLES - LEAH - UPS STORE

Now, that's a topic. Ok, let me tell you what I did. I got a gift card which I'm donating the cards' \$ amount to PAS in the form of copies for some upcoming events. But before I tell you that, let me let you know how great a deal Leah is for the club. Here is what we have... When Leah does the copies, she charges 1.5 cents per side, black and white, 8.5"X11" and she does not charge extra to staple or collate the copies (i.e.... the newsletter). Now, I just called Staples, and I know that Office Max is similar in pricing because that is why we quit going to Office Max years ago. Staples charges 5.7 cents a side if you order 100 copies of something (1 item). They charge 2 cents per staple, and they charge 7.5 cents per side if you want the document collated. Do you see how much of a savings Leah is to the club. Last month I did 25 copies of an 18 page newsletter, that's 450 copies. It had to be Stapled, and collated. I took it to my good friends at the UPS store because Leah wasn't available. They gave me a deal of a flat rate of 2 cents a side, so our fee from them worked out to be a great savings. 2



cents X 450 copies is \$9.00. Leah's rate is 1.5 cents X 450 copies which would be \$6.75. And if i had taken it to Staples to do, we'd be paying \$33.75 plus 2 cents per staple, so 25 X 2 = 50 cents more, bring the total to 45.25 and don't forget that Staples charges tax for this service, so that would be 8.1% more = \$48.91. Now, when the Treasury bothers me about copies that I make to advertise the club, I want them to note how much Leah is saving us, and how much I'm working to get better results from the pages I do have copied. And I want to thank Leah and the UPS store at 31 Ave and Peoria for their assistance in keeping our newsletter production to a minimum and saving the club some money. Now, what I'm donating to the club is \$10 worth of copies through Staples, and then I'm going to charge for anything I go over will be charged to the club, but the goal is not to go over by much. The rest of the copies will be done through Leah. We need new copies of who to contact in the club, our current meeting location, and upcoming events. Those are the three documents I will be making between now and the Sally Ride event for handing out at all upcoming events. We will need lots of copies of those items. If you know anyone who would like to donate copies, let me know. Everything will be black and white and most will be double sided. Thanks so much.***

NOTICE: COLLEGE STUDENTS

The NASA Institute for Advanced Concepts (NIAC) seeks to identify creative and innovative students who possess an extraordinary potential for developing advanced concepts in the fields of aeronautics, space and the sciences. Each Student Fellow will receive a total of \$9,000 for the Academic year 2005-2006. NIAC intends for these awards to benefit talented individuals who have shown extraordinary originality and dedication in their academic pursuits and a marked capacity for self-direction. The Fellowship seeks exceptional creativity, and the promise for important future advances based on a track record of significant accomplishment, and potential for the fellowship to facilitate subsequent creative work. Applicant must be in a U.S. institution of higher education Applicant must be a U.S. Person Applicant must apply no later than their junior year of college Please visit <http://niac.usra.edu/students/call.html> for more information. Proposals are due April 15, 2005.***

ASTRONOMY DAY AT ARIZONA SCIENCE CENTER

**Volunteers needed -
Sign up today**

Start thinking now....
Would you like to do a little demo or display of something astronomy related at the next Astronomy Day at the Arizona Science Center in May? If so, email me today with your idea. I

need to be sure we have the table room to include everyone. I decided I am not doing many displays and asking for volunteers this year. Instead, I'm asking that my volunteers bring a display of their own. It can be interactive, it can be fun, it can be just informational, or you can use a ton of excitement like MIKE Does and entice the kids with Meteorites, etc. I'd love to have Meteorite Man, Bob Holmes, with us again. And Dan did an awesome Laser Display last year that could be repeated. If you have an idea, please let me know so I can make the room to include you in our display. We need solar viewing telescopes out side. We need people to run a telescope display, on the same floor and right next to our main display this time. We can use handouts, and other informational packets. If you want to design one or contact a company and get some mailed to you, start now. May is only around the corner. And let me know by email, phone, what ever, that you want to be involved. I'm starting a list today and I hope to have at least 15 people involved with 15 different ideas. Now, if you helped last year and liked one of my displays and would like to run it again, let me know because I can bring it along. Although, I'd really like something new this year with the exception of Mike, Dan and Bob. They should come again, please. Thanks to everyone who participates.***

IMPORTANT SALLY RIDE INFO & SCHEDULE

For Saturday, we need to see you around 0930-1000 to get you all set-up, with kickoff around 1030-1100 (lots of kids tend to arrive at 1030 even though we officially start at 1100). We have a bit of a change in Street Fair timing, as we now need to hold two keynotes. Thus the Street Fair will run from 11.00-2.15pm. The day's timing is:

11:00am-2:30pm: Registration, eat lunch, enjoy the Street Fair

12:15-1:10pm: Keynote #1 Galvin Theatre

1:10-1:20pm: Break and first keynoters return to Street Fair

1:20-2:15pm: Keynote #2 Galvin Theatre

2:15-2:30pm: Break

2:30-3:15pm: First workshop

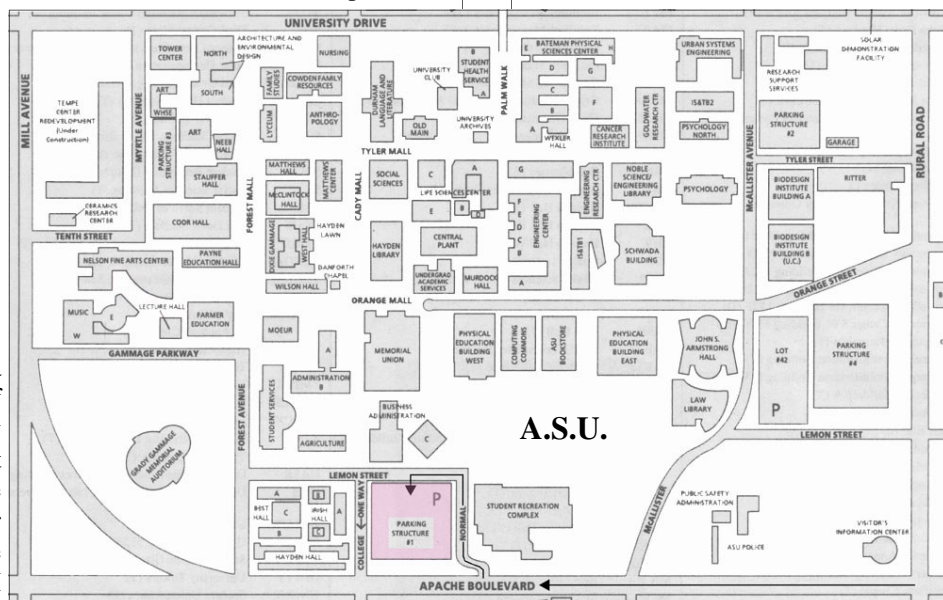
3:15-3:30pm: Break

3:30-4:15pm: Second Workshop

4:15-4:30pm: Drawing and close down.

This new timetable means that exhibitors will be able to pack up

and leave at one of two times: 2.30pm after Sally's keynotes; or 4.30pm at the end of the Festival. Please check-in at the Exhibitors' check-in table from 0930, just across the road northwest of Parking Structure #1 - please see directions as below (there will be volunteers, signs and balloons to help you find your way). You can unload any gear there - we'll have folks who can help you lug if need be - and then repark. The



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Street Fair is the same place as last year (pink on the map), between buildings Agriculture and Admin B. If it's raining around 0700 the morning of the Festival, the Street Fair will more than likely be cancelled, but not the Festival.***

ROUND-ROBIN STORY CONTEST

The Round-Robin Story Contest has come to an end. True, it is a month early, but Barbara wrapped it up so nicely. . . . And now the conclusion:

HOUSTON, WE HAVE A PROBLEM CHAPTER 6

by Barbara Hartman, based on an idea by Matt Kohl

We had Jerry cornered by the Hydroponics bay; he looked vicious, like a cornered animal, not the calm rational man we all knew. He was wild and unpredictable. "He must have contracted the virus when Dan bit him. Don't let him touch you," I cautioned. Suddenly he exploded in vicious furry bolting past us he disappeared into an open compartment. "Terri, go back to the bridge and locate his com signal so we know where he is," I yelled in the commotion. "Right!" she said and took off running for the bridge. She directed us to Jerry's location; we successfully tranquilized him and carefully put him in with Dan. I was relieved that Dan had calmed down and was apparently not going to harm Jerry as he slept off the sedative. He seemed strangely calm as a matter of fact. For how wild he had been the other day, I thought it odd, but didn't think too much more of it. There were other things to worry about. The blobs were back on the hull. There had been some left out there that Dan and Jerry had not collected. And they had multiplied enough to be noticeable. William rigged up and installed "sweepers" to keep them off of vital systems so we wouldn't lose sensors again. He has a unique problem solving intellect; I have found him to be a valuable member of my crew on more than a few occasions. William has named his three little robotic sweepers, Huey, Louie and Dewey. Thinking about them makes me chuckle, but they are working out very well. They keep the blobs away from vital external systems by acting like magnets; if the blob has a positive charge then the sweeper becomes positive and thus repels it, quite ingenious really. But my main concern was that they could begin to resonate again and tear the ship apart. Terri assured me that there weren't enough of them for ship wide damage to occur anyway, so I tried not to worry so much about them. It also had been a few days since anyone else had been infected. Terri's work was progressing and she said she should be ready to try something, a vaccine of sorts, possibly tomorrow. I turned in for the night. Some hours later the ship began to yaw and roll. It threw me from my bed which woke me up. It felt like we were in a dive as I raced, clawing my way up to the bridge. Only half awake and fully stunned I managed to make it there. When I did the bridge was in shambles, all torn apart and some of the consoles sparked; one flared up into flames 6 feet tall. I quickly grabbed the fire extinguisher and put it out. My heart was pounding so loud and the ship was so unstable I could barely stand. I staggered to the helm and grabbed at the attitude controls, I managed to stabilize her. I assessed the damage and it seemed hopeless. What happened?!? I couldn't even comprehend the scene before me. Now looking back I must have been in shock. All I could think was that somehow Dan and Jerry had gotten loose and trashed the

place. Not much wasn't smashed. The controls and gauges were useless. I ran down to the cargo bay and grabbed my tranquilizer rifle along the way. But Dan and Jerry were safely locked away in the cage and when they noticed me there they became enraged, making low guttural growls and shaking the bars. I stood there for a while and watched them thrash about. All sorts of things raced through my mind. One thought kept coming back and that was that either Terri or William had been infected and had regressed into one of these beasts thrashing before me. I reasoned that either Terri had been contaminated by a sample she had handled or that William had been bitten when we cornered Jerry. Either way one of them was in serious danger, and I had to find them both. With internal sensors knocked out, I devised a plan for a systematic search. As I approached the mess hall I could hear someone rifling through the food compartments. I readied my rifle and stepped unnoticed into the room. To my surprise both Terri and William were there ransacking the kitchen. They were so intent on satiating their hunger that they paid no notice to me. I shot one, the closer of the two to my position. I think it was William; as he went down that got the others attention and I shot her too as she lunged toward me. I was so shaken at having to tranquilize the last of my crew that I had to sit down for a while. My heart was pounding, my mind on fire, and I wondered if those were the first symptoms of the virus. I don't know how long I had been sitting there when I finally came to my senses. Terri and William at least were still out cold on the galley floor. I loaded them onto a large food delivery cart and wheeled them down to the cargo bay cage. My heart was heavy and I felt dull, numb really, kind of detached from it all. I don't know how many days have passed since this all started. I do know that I at least have fed my crew or what they had become and I must have turned on the feeding station for the blobs because it was just cracked and trickling ionized radiation out to them. I had tried looking over Terri's notes but I couldn't understand them, something about radiation breaking down the silicon matrix. I'm in deep despair and have been wondering how I can overload the engines and go out with a bang.

EPILOGUE

by Matt Kohl

And there you have it. If you don't believe me, well, that's just hunky-dory. If you think there's no life in the universe other than what's on Earth, fine. I, however, do know. I know because I'm the only person left on my ship who even seems remotely human! So, if you're being enslaved by some intergalactic invasion force, or you're naked on a cold, metal table getting a painful anal probe, don't say I didn't warn you! Sorry, sorry. Didn't mean to get so hostile. I just don't want to die out here all alone. So far away from my loved ones. I won't even have a chance to say goodbye. I just pray that -- Holy hull breaches, what is that thing?!***

DID YOU KNOW?

A space vehicle must move at a rate of 7 miles per second to escape the earth's atmosphere and gravitational pull.***



Q: What kind of bulbs should you plant on the moon?

A: Light bulbs!

FEBRUARY MEETING REVIEW

Jerry opened the meeting in Marks place. He told us Mark won't be at the next several meetings, no specific reason given. Jerry then had all the newbies stand up and talk about themselves. Dave Coleman and Frank Freeman talked about themselves for a moment. Frank is looking to purchase a Meade ETX, so if you have one for sale, let me know and I can get the two of you in touch with each other. Then Jerry forgot to have the Officer's stand up and do the same. So, next month, we must be sure to do that. Then Jerry went over the collection of upcoming events for the next 3 months for which we are very booked with astronomy events. Please see the upcoming list that will be printed and possibly included as a separate addition to this issue. If not, then pick it up at a future meeting. The Sally Ride event is on Mar 6, and Mar 11 you can see Mercury at sunset, in which it will be the highest all year and next to a crescent moon. Mar 11th & 12th is the Messier Marathon, the 16th and 17th Jupiter and Io will eclipse around 1am. The Children's Hospital is Mar 17th, St. Patrick's Day, wear green, bring pictures for kids to color of what you are showing them. This is a very rewarding experience. The Moon Marathon is at Dan's on Mar 26th at 6pm. BYO Snacks. The New moon is April 8 and there is a Partial solar eclipse on that date - 10%. Sentinel is a proposed dark sky site for our April 9th Deep Sky Star Party. That is still in the planning. Anthem is April 16th, and Apr 29-30 is a special 2 day campout star party at Mike's place in Carefree. Astronomy day falls on May 21 at the Science center this year. Volunteers are needed. And the last announcement Jerry made was the prize. Next month he will be bringing a puzzle, a constellation, for which you must identify an object and the winner gets a prize that he will bring. We did this once before and it was a fun time. You have to be at the meeting to get the clues and to receive your prize. Don't miss next meeting. We then had Disa introduce the speaker. Disa did a superb job of the introduction and from there Jack did a fantastic presentation. Jack is known for having more machinery around Mars than anyone. His topic covered "Why Explore Mars?" He took us on a splendid tour of Mars with examples why there may or may not be life on it. And he showed us all about the Mars Rover and what its instrumentation is and what isn't capabilities are. Did you know Mars has Hematite, which is a mineral we have here on Earth that can only be formed by the presence of water? When Jack was done, we all ate a little more of the snacks, and then departed. It was an awesome meeting. Hope you can make it to the next one.***



Here we have a new person at the February meeting. Dave Coleman came to PAS, checked us out and joined during the February Meeting. We'd like to welcome him to PAS. And we hope to see a lot more of him over the years.



Frank Freeman came to the meeting as a newbie. He seemed to enjoy our meeting and our speaker. Hope to see more of him in the future.



Here is an awesome photo of our speaker. Jack Farmer did a splendid talk. It was very interesting and enlightening and we all enjoyed it.



Disa, our life saver for this meeting. Disa found Jack Farmer for our February PAS meeting. During the meeting announcements, we had Disa introduce the speaker. Thank you Disa for finding such a wonderful speaker. Jack was great!



Frank Insana attended the meeting. We started the meeting later than anticipated. Dan was putting up a curtain to block the outside light. Jack was getting his stuff ready, and the food was being brought in. Thanks to everyone who brought food to this meeting. It was requested and those who did, are appreciated.



Our speaker, Jack Farmer.



This is the opening slide, announcing who our speaker is and what his talk is about. I thought it was very impressive so I included it in with the batch of photos from the February meeting.

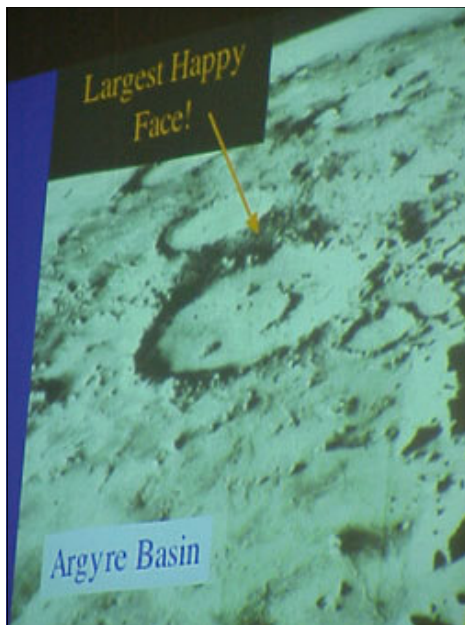
We had many PAS members in attendance that night. Here we have Don, Barbara (in pink), Mike, Dan and Disa.



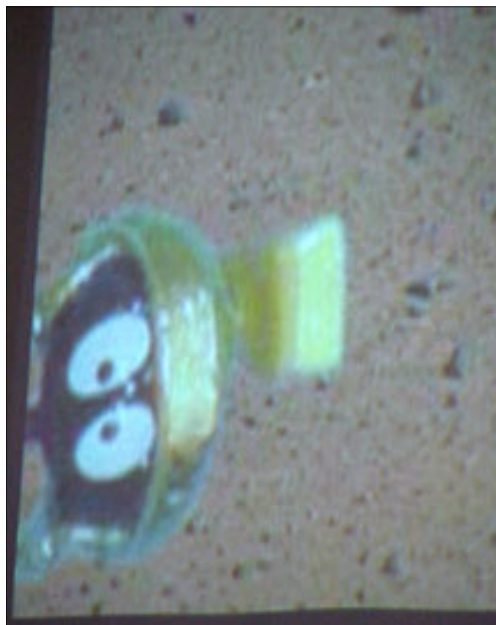
Q: Why did the moon go to the bank?
A: To change quarters.

Q: How do you know when the moon isn't hungry?
A: When it's full!

Feb. Meeting Pictures continued on p. 8



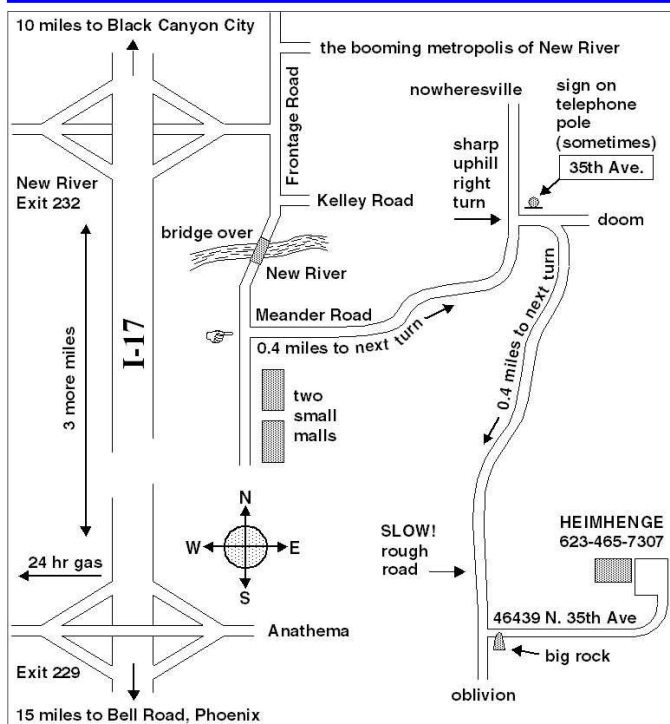
During his talk, Jack told us of the Largest Happy Face in the Solar System. Here is a photo of it.



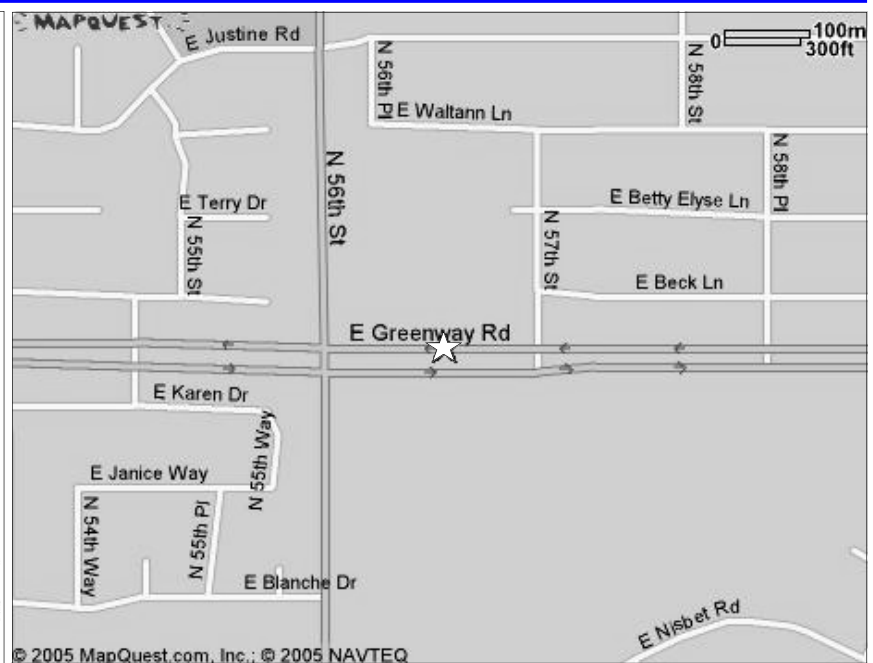
Here we see "Life on Mars."



Jack was telling us about scouting for life here on Earth. This is the gear he would use for that project.



Moon Marathon @ Heimhenge, March 26.



Rancho Solano Star Party, 5656 E Greenway Rd.
March 17

FROZEN BACTERIUM HAS IMPLICATIONS FOR MARS-NASA

by Deborah Zabarenko

A newly discovered life form that froze on Earth some 30,000 years ago was apparently alive all that time and started swimming as soon as it thawed, a NASA scientist reported, in a finding he said has implications for possible contemporary life on Mars. The organism -- a bacterium dubbed *Carnobacterium pleistocenium* -- probably flourished in the Pleistocene Age, along with woolly mammoths and saber-tooth tigers, said Richard Hoover of NASA's Marshall Space Flight Center in Alabama. Hoover discovered the

bacterium near the town of Fox, Alaska, in a tunnel drilled through permafrost -- a mix of permanently frozen ice, soil and rock -- that is kept at a constant temperature of 24.8 degrees F (minus 4 degrees C). "When they cut into the Fox tunnel, they actually cut through Pleistocene ice wedges, which are similar to structures that we see on Mars," Hoover said in a telephone interview. These ice wedges contained a golden-brown layer about a half-yard (half-meter) thick, and this layer contained a group of microscopic brownish bacteria, Hoover said. When he looked at a small sample of this bacteria-laden ice under a microscope, Hoover said, "These

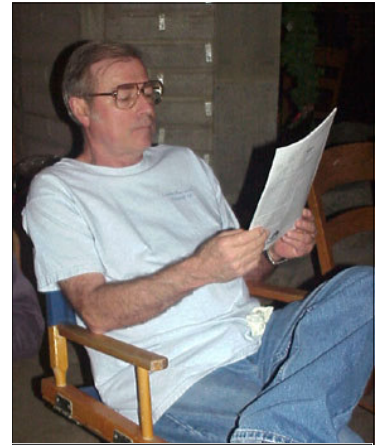
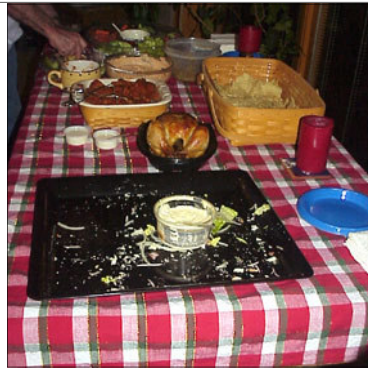
See MARS, p. 11

Heimhenge Holiday Social 2005

Mike is seen doing one of his favorite things at the Social. He has three things he likes to do: Talk, Eat and in this picture, Drink Pepsi. In attendance at this year's Social were Bette, Ed and Bruce Wurst, William and Terri Finch, Amanda Sallas, Elaine (Dan's Mom), Matt Kohl, Roger, Dan and Sandi Heim, Barbara and Scott Hartman, Sam and Vera Insana, Jerry Belcher, Georg Koester, Kevin Harcey, Disa Holly and Mike Marron. We had a great time. We hope to see more next year. While eating and socializing, we had an on going Dart Game, which then ended due to time. We did the Big Screen movie: A Disney movie about Mars, for which I forgot to write its name down. That lasted for only a short while and then we had the White Dwarf Gift Exchange, the door prizes, and then the special presentation for those who wanted to stay longer, from Dan, about his trip to the Panama Canal. That was very interesting. Several of us stuck around for that show.



Here we have the food table. There were some really good foods brought to the Social this year. I wish to thank everyone who brought something to eat. Here are the items I recall seeing brought in. There may be some that I missed so if you weren't named or your item wasn't mentioned, I'm sorry. Mike brought the chicken. Yummy! I always love it when he does that because it is something I can eat. We had William and his hot dip with chips, Bette, Ed and Bruce brought the veggie tray. Sam & Vera brought the Sandwich ring, which in this photo would be on the black tray. Notice it is mostly gone at this point. It was very good. Kevin brought cupcakes, Disa brought chips (and she brought ones I can eat). The apples with Caramel and some of the pop was brought by Barbara and Scotty, Jerry brought the hot wings. Matt brought some pop. I believe we had quite a variety and we had a great time.



Jerry is seen enjoying his copy of the Feb/Mar Issue of the newsletter. At the Social, Matt and I got the copies and passed them out to those who attended. Then, those who didn't make it to the Social, could pick their copies up at the Feb meeting. That left only 6 copies I had to mail out. It worked out great for the PAS Treasury.



Here we have Bette enjoying many items from the food table. We always have a splendid time up at Heimhenge for the Social. I wish to thank Dan and Sandi Heim for hosting the Social this year.

In one corner, over by Dan's big screen TV, there was a lovely light tree set up with stockings on the wall. It was a very festive evening. The Panama Canal Transit of December 18, 2004 presented by Dan, and was Dan and Sandi's 25th wedding anniversary celebration, was a very good presentation which started at 11:45pm. Those of us who stayed really enjoyed it. It lasted about 40 minutes.



Matt is seen enjoying some of the foods. He was sitting over near the dart board game. I wasn't the only one with a camera this year. Georg, Dan and Disa also had cameras. Some of their photos will be on this page as well. If you missed this year's Social with the tons of laughing, tons of fun with the White Dwarf Exchange, the great movie, great Panama Canal presentation, the food and socializing as well as the wonderful gifts.... you will have to make it to the next one, January 2006. See you there! We had a splendid time and wish you could be there.



Here we have our awesome Host for the evening. Dan opens up his home for the PAS Social, each year. I didn't get any good pictures of Sandi, but I do wish to make sure she knows she was appreciated. The photos I got of her, she wouldn't want me to put in the newsletter. Dan is sitting near his telescope on the right, and behind him is a 3-d image of the Mars landscape.

Here we have the Dart game underway. Bette takes her shot. I took lots of pictures of the Dart game, but none of them came out as clear and bright as this one. So, Bette gets to steel the stage on this photo as she is shooting darts. It was a great game. The ending scores were as follows (Highest score wins): Bette 2, Ed 8, Bruce 7, Dan 11, William 2, Terri 3, Amanda 2, Roger 7, Sam 3, Georg 3, Disa 2, and Mike 5.



Mike brought a puzzle with him and here we have William, Kevin, Barbara and Scotty working on the puzzle over by the big screen TV. There was a lot of socializing and fun stuff happening this time.



Here is the puzzle, up close, that Mike brought to keep everyone entertained. It looked like fun. I didn't hear if anyone actually finished it.

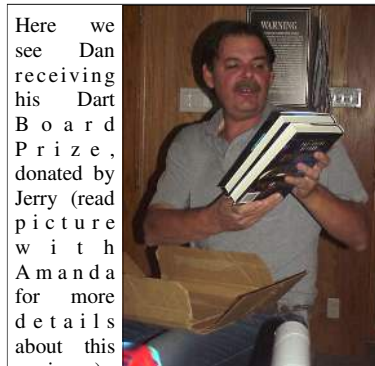
Social Pictures continued on p. 10



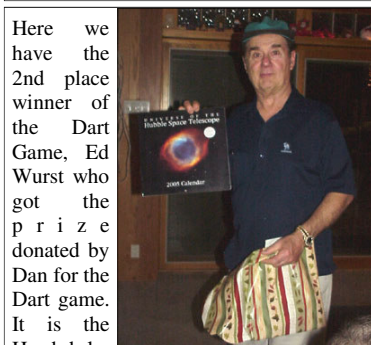
Here we have Amanda (with the braid), Ed, Sam all sitting in front of the telescope and Bette in the back. Everyone is intently watching the Dart game progress.



Here we see Scotty, Barbara and Kevin working on that puzzle. The neat thing about this puzzle, besides that it was fun, is that Mike brought something everyone can work on, between the dart game, and while socializing, where you can leave and return as needed for food, and other stuff. This was a fantastic idea to add to the Social. Thank you Mike.



Here we see Dan receiving his Dart Board Prize, donated by Jerry (read picture with Amanda for more details about this prize). Jerry donated "Out of This World" and "The Great Beyond" for the Dart Board Prize this year.

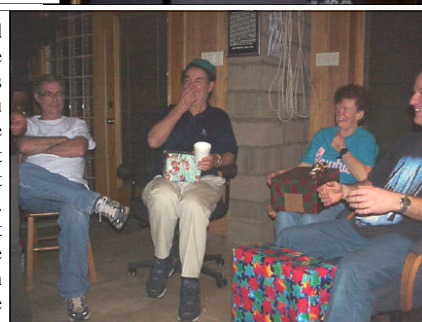


Here we have the 2nd place winner of the Dart Game, Ed Wurst who got the prize donated by Dan for the Dart game. It is the Hubble Space Telescope Calendar. Ed gave Dan a run for his money. We had Dan, Bruce and Ed competing at the very last moment for top score. It was a very good game. After the dart board prize was given out, we started with the White Dwarf Gift Exchange. After that we gave away the Door Prizes. One prize was donated by Kevin for which Bruce won that one. There was a Special prize donated by Jerry that everyone was in on. The rule for this prize was that you have to donate \$25 to PAS to have the prize. after you pay, you open the prize. If you don't like it you can sell it off. It was worth \$150. Kevin won it, paid, kept it. It was a complete model rocket.

Here we have Amanda. Amanda and Bruce were running the Dart game this year. They did a great job. The Dart game prize was donated by Dan. Since Dan won the game, Jerry anticipated this turn of events and brought a secondary prize, incase the winner was Dan. It was Dan, so Dan took 1st place and won 2 books Jerry brought along for him to win. And Ed won second prize and took the Calendar that Dan donated for this purpose. It was excellent to have so many prizes available so that if Dan won, which he usually does each year, he'd have a prize and could allow a second place winner. Thank you Dan for your prize donation, and thank you Jerry for yours. And thanks to everyone who played in the game this year.



Here we see Jerry, Ed, Bette and Bruce laughing hysterically over the White Elephant Gift Exchange. This year was tremendously funny. You missed a great time. We had the stealing of gifts like you wouldn't believe and everyone was just laughing their heads off to no end. And it was the same 3 boxes that everyone was fighting for. The biggest box, seen in front of Bruce in this photo, was brought by Jerry. He had an awesome idea. Everyone fought for that prize. And it was a good one, besides. And then there was these 2 shiny prizes that everyone tried to get. So, next year, make your gift shiny, very bright colors or very heavy or very large. I'd like to see all gifts fought over throughout the game. We were all laughing so much it was great. And that's how the White Dwarf Gift Exchange should be. Here are the gifts received. Barbara got "Welcome to the Moon" book, Sam got Hitchhikers Guide to the Galaxy DVD, Jerry got a "Welcome to the Moon" book, Ed got a Cosmic Dome. Bette got a really cool gift. She received a box of foods that were all astronomy related like Sun chips, Eclipse gum, etc. That was a very clever gift. Bruce got a sundial, Terri got the Solar System and stickers, Amanda got a really awesome Sun clock, Disa got an alien mask, a poster, and some other really weird stuff all stuffed in a box. William got a star journal with lithographs, Matt got a floating pen, Kevin got something having to do with star gazing. Dan got a couple old sci fi books. Elaine got Magnetic stars, Mike got Celestron users guide, celestria and space simulations. Goerg got 10 videos of 25 years of NASA Original Film. Vera got a puzzle, Barbara (for Scotty) got a Star Voyage Glow in the Dark puzzle.



If A is success in life,
then $A = X + Y + Z$
Where X is Work, Y
is Play and Z is
keeping your mouth
shut -

Albert Einstein

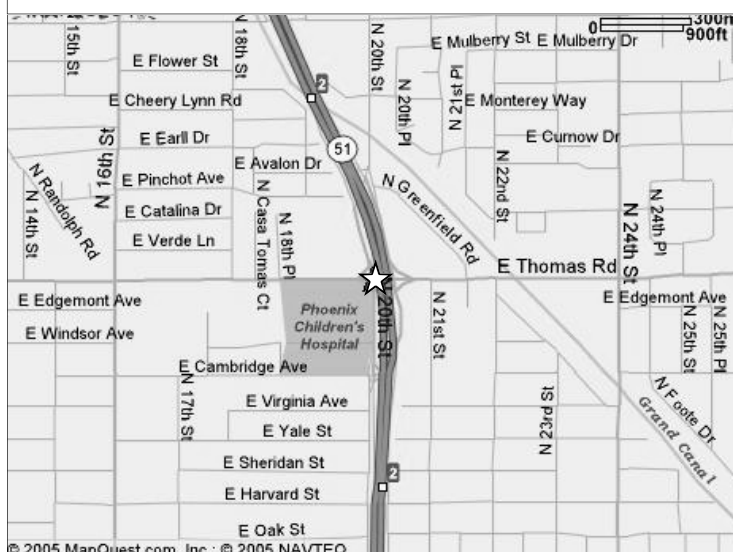


NASA CALLS IT THE EYE OF GOD

received from Fred Hayes

Can you imagine looking through a telescope into space and God is looking back in the other end of the telescope? This is a picture NASA took with the Hubble Telescope. It is simply called "THE EYE OF GOD." ***

Phoenix Children's Hospital, 20th St. & Thomas March 17



bacteria that had just thawed out of the ice ... were swimming around. The instant the ice melted, they started swimming. They were alive ... but they had been frozen for over 30,000 years." This discovery, coupled with research released by the European Space Agency, makes it more likely that life could be found on Mars, Hoover said.

LIFE ON MARS?

Scientists have focused on Mars as the most likely spot in our solar system for Earth-like life, but none has so far been confirmed. What has been found is ample evidence that water once flowed on this currently cold and frost-locked planet. This is significant because liquid water -- not ice -- has been seen as a prerequisite for life as it is known on Earth. Images made by the European Mars Express space probe indicate a giant frozen sea near the Martian equator, the first time scientists have detected evidence of ice beyond Mars' polar caps. This vast sea is covered by a layer of dust, which might be heated by the sun and could conduct heat down to create sub-surface layers of water from time to time, Hoover said. "Those layers would be ideal regions for microbiological activity and so that means that the presence of this frozen sea, if that turns out to be precisely what's going on, it greatly enhances the possibility that there may be life existing on Mars today," he said. The discovery of the living bacteria in Alaska's permafrost raises another possibility, Hoover said. "The other thing that's exciting: Just like we found in the Fox tunnel of Alaska, frozen biology in the form of unicellular bacteria might even have remained alive, frozen in the Martian sea," he said. Hoover found the bacterium in 2000, but it took five years to confirm that it was in fact a new form of life; the finding was published in January in the *International Journal of Systematic and Evolutionary Microbiology*, the official journal of record for such matters. ***

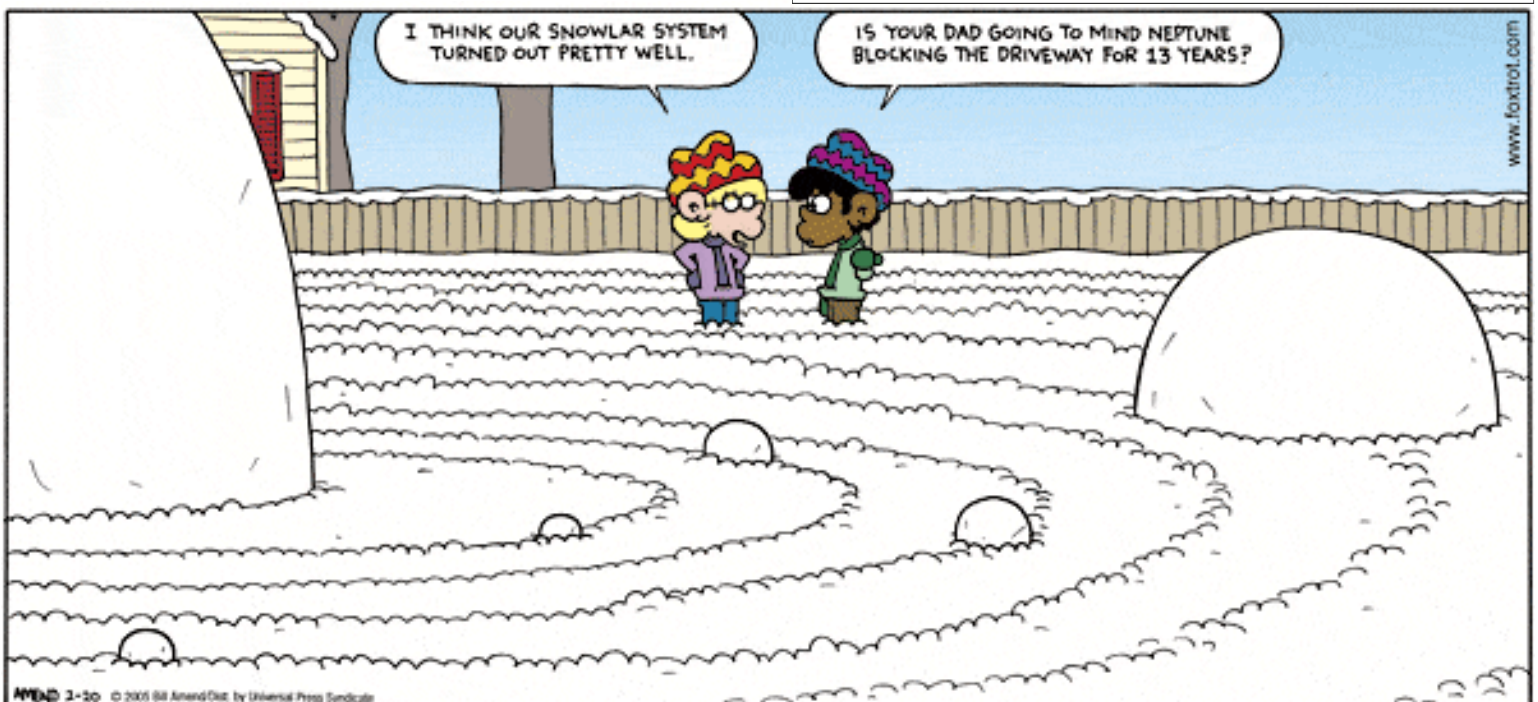
Pick up your free copies of Sky & Telescope published magazines at the next meeting. (S & T, Skywatch '05, Night Sky and Beautiful Universe)

ORPHAN PLANETS: IT'S A HARD KNOCK LIFE

by Seth Shostak

Try to imagine this, a scene unwitnessed by any thinking being, although it could play out every few weeks somewhere in the Milky Way: You are on the curdled, hot surface of a new-born world; an unknown cousin of Earth only a few millions of years old. The landscape is a sweltering, fulminating jumble of soft rock, as sterile as space itself. If anyone could gaze at the night sky, they would see a dark bowl riddled with hard, bright dots. The dots are sibling worlds - new planets in various stages of gestation, careening through the viscous disk of gas and lumpy dust that has given them substance and form. Suddenly, and by chance, a not-so-improbable encounter takes place. The trajectory of another object, a litter mate, crosses nearby. For several days, the second planet sails large across the sky: silent and dangerous. There is no actual collision; no cataclysmic shattering of nascent worlds. But gravitational interaction during this brief encounter changes the motion of both objects; speeding up one, and slowing the other. And now a dispiriting event unfolds, although this world has no eyes to see it. Ejected by chance from the solar system of its birth, the planet sideslips into deep space. Every hour, the sun that had promised to warm its surface for billions of years recedes by another fifty thousand miles. In a mere decade, the home star shrinks to a point of light, eventually indistinguishable from other stars of the sky. The planet's surface cools, its atmosphere condenses, falls, and piles up in frozen drifts. This is an orphan world, wandering without destination in the numbing, frigid desert of deep space. Although it was kicked from the litter by accident, this planet's involuntary exile may be a frequent fate for newborn worlds. Doug Lin, an astronomer at the University of California at Santa Cruz, says, "My sense is that orphan planets could be numerous. There's already indirect evidence that Jupiter-sized worlds have been ejected from some of the extrasolar planetary systems we've discovered in the last decade. The clue is that large planets in these systems often have highly elliptical orbits." Giant

See ORPHAN, p. 12



worlds in egg-shaped orbits are, presumably, the objects that were left behind when a planetary fender-bender took place. "You don't have that situation in our solar system. We're lucky because Jupiter - which had a low-eccentricity orbit to begin with - has nudged the other planets into similar near-circular orbits, where they don't get in one another's way," notes Lin. But imagine a system in which no Jupiter-sized planet forms, simply because of a shortage of raw material. Even in this case, there still might be sufficient resources to construct Earth-size and smaller worlds. Some of these will inevitably form at distances between 0.5 to 1 billion miles from the star (the range of orbits staked out by Jupiter and Saturn in our own solar system). At those distances, the orbital velocities are roughly 10 miles per second. That's slow enough that a gravitational encounter can easily add the 4 additional miles per second that would firmly evict a relatively heavy object from the star system. (For the numerically minded, escape velocities are 41% higher than orbital velocities.) How often does this happen? "I don't know what fraction of planets will be tossed out," Lin admits. "But I would imagine the fraction is probably pretty high; in fact I wouldn't be surprised if it were 50%." If that's the case, then orphan planets could be more numerous than stars! In our own galaxy alone, there would be hundreds of billions of these wandering worlds. That's a lot of errant real estate, and so the question naturally arises whether there could be life on these Bedouin bodies, given that they might constitute a large fraction of all planetary acreage. At first glance, you might assume there's not much hope. In deep space, precious little energy is available to either warm an ocean or provide the calories required for metabolism. On Earth, sunlight ultimately fuels most life. Nearly a kilowatt of power impinges on each square yard of the landscape on a sunny day. In interstellar space, where the stars are distant and faint, the energy flux is a billion times less. Facts are, any surface oceans on an orphan planet will freeze harder than a granite countertop, and photosynthesis will be a non-starter. But bear in mind that life on Earth may have originated from - and certainly still exists in - the superheated waters of deep ocean vents. The muddy water that spews from these sizzling fissures is brought to a boil by heat from the interior - heat that is mostly left over from Earth's birth. After more than four billion years, our planet is still warm inside. Mars, a smaller world, has largely cooled. There are no moving plates or active volcanoes on the Red Planet. It's chilled out. But clearly, for the bulkier orphan planets - those that might be Earth-sized or larger - underground energy for supporting life would last for billions of years. So you can well imagine that while the surface of any oceans on these worlds would be solid ice, biology might still thrive in liquid water below. And after all, you don't need a lot of warmth. Magma's not required, merely hot water. As Lin comments, "Melting rocks takes a lot of heat. But for life, all you need do is boil water." Life on orphan worlds is possible, in other words. But could complex, or even intelligent life arise there? That's clearly more of a long shot. Frankly, it seems unlikely that life dependent on leakage heat from a planet's interior would ever become elaborate enough to understand the universe. Nonetheless, this is a type of habitat that, while possibly quite common, is very alien to our own experience. We cannot say for certain that intelligent life is impossible on these worlds. If such an extravagant development occurs, it would be interesting to know what the inhabitants think about the possibility of life on a planet orbiting a star. Indeed, from their point of view, our home could seem thoroughly unattractive. They might doubt the desirability of living

desperately close to a roiling ball of incandescent gas, one that routinely spouts deadly radiation from its stormy countenance. Maybe it's better to be safely ensconced on a world where the sun never shines.***

EUROPEAN SCIENTISTS BELIEVE IN LIFE ON MARS

by Marcel Michelson

European Space Agency scientists think that there was and could even still be life on Mars and want a new European mission to the red planet to take samples. "Mars is the most Earth-like planet in our solar system," said Agustin Chicarro, ESA Mars Express Project Scientist at the end of a one-week conference during which scientists from around the world discussed ESA's Mars mission findings so far. They found a large ice sea near Mars' equator that was formed less than 5 million years ago and believe volcanic activity is still continuing on the North Pole. The findings on Mars, one year after a European launch started an orbit around the planet, also serve as a stark warning to earthlings -- Mars has no protective ozone layer and the surface is blasted by solar storms and ultraviolet light. Water vapor destroyed ozone on Mars and a recent increase of water vapor in Earth's stratosphere could be a potential threat to this planet's protective ozone layer that is probably linked to global warming, said scientist Jean-Loup Bertaux. "Hints of life on Mars are getting stronger," said Vittorio Formisano whose team found methane and formaldehyde on Mars. He said there was so much methane produced on Mars that there was reason to believe this had an organic origin. "Life is probably the only source that can produce so much methane." Everett Gibson, from NASA's Johnson Space Center, said he had held a poll among the 250 scientists at the conference. On the question whether they thought there had been life on Mars, 75 percent replied in the affirmative. Asked whether they believed there to be life now, 25 percent said "yes." Asked what kind of life, Gibson said "bacterial."

ICE WATER

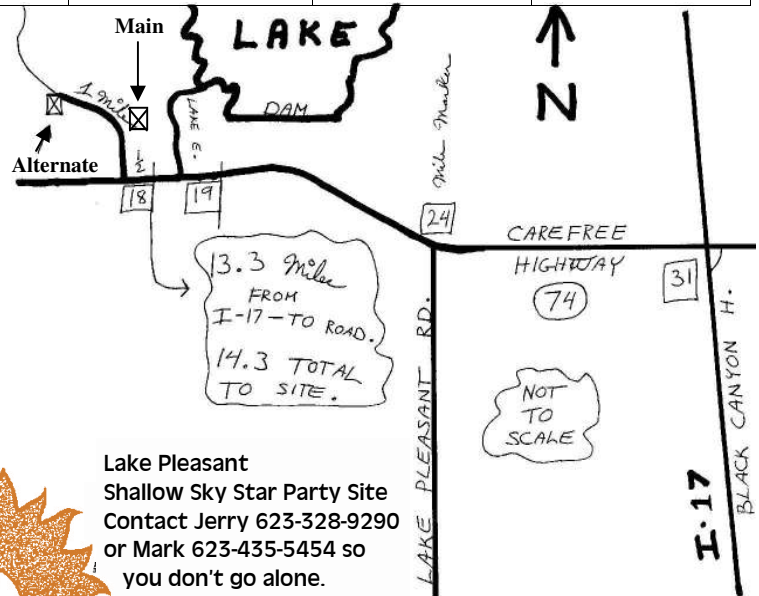
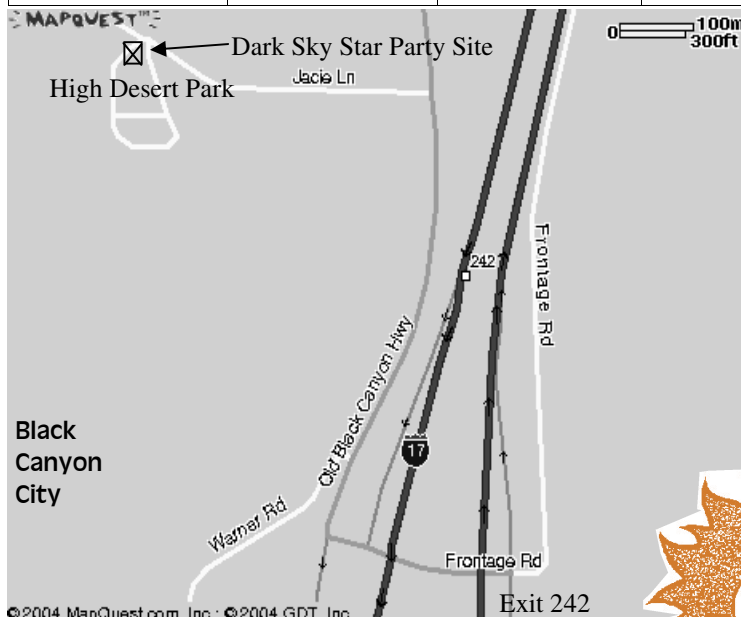
Jean-Pierre Bibring led a team looking for traces of water. "We found water, but not in the form we envisioned." There is no evidence of permanent oceans or lakes during the past three billion years and no extended areas with carbonates, and water on Mars today is present as ice. Gerhard Neukum, of the High Resolution Stereo Camera team, showed several pictures of the "Frozen Sea" near the equator. The area is some 800 by 900 kilometers and the original depth was some 50 meters with ice rafts of up to 30 kilometers in size. Mars remains a very hostile environment -- a fierce solar wind is blowing away planetary materials and penetrates deep down the dayside atmosphere while during polar night, the atmosphere is minus 130 to minus 143 degrees Celsius. But David Southwood, ESA Director of Science, said Europe should return to Mars and needs to find money for a second mission to probe deeper into its mysteries.***

DAN HEIM IS MARCH'S SPEAKER

"Astronomical Multimedia on the Internet." This presentation will include video, audio, and still images downloaded from various cool sites on the internet. Each will be accompanied by an explanation of their content with plenty of time for questions and discussion. This is your opportunity to "Ask the Physicist" about any of the latest developments in astrophysics. A handout providing URL's from all the sources will be distributed.***

UPCOMING EVENTS

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
MAR. 6 Mars 5° N of Moon	7 Neptune 5° N of Moon; Moon at perigee	8	9	10 New Moon 4:10 A.M. EST	11 Mercury 3° N of Moon	12 High Desert Park Deep Sky Star Party - potluck: bring food to share - \$5 per car for park rent - late as you want; Mercury at greatest eastern elongation (18°)
13	14	15 Deadline for submissions to May Newsletter	16	17 St. Patrick's Day Children's Hospital Star Party - Volunteers needed (wear green); Rancho Solano Star Party - Volunteers needed; First Quarter Moon 2:19	18	19 Solar Weekend at Arizona Science Center (Sat. & Sun.); Mercury stationary; Saturn 5° S of Moon; Moon at apogee
20 Vernal equinox 7:33 A.M. EST	21 Ceres stationary; Saturn stationary	22	23 Asteroid Pallas visible in Virgo at 7.1 mag.	24	25 Full Moon 3:58 P.M. EST	26 Moon Marathon @ Heimhenge , 6pm; Jupiter 1° N of Moon, occultation
27 Pluto stationary	28	29 Mercury in inferior conjunction	30 Venus in superior conjunction; Antares 0.7° S of Moon, occultation	31 Meeting of the Minds 7pm Denny's I-17 & Dunlap	1 APR. Adult Night Out at Arizona Science Center - Topic: What Matters: The Maturing of Greater Phoenix - Volunteers Needed; Last Quarter Moon 7:50 P.M. EST	2 Lake Pleasant Shallow Sky Star Party
3 Daylight Savings Time begins; Jupiter at opposition; Mars 4° N of Moon	4 Neptune 5° N of Moon; Moon at perigee	5 Uranus 3° N of Moon	6	7 PAS Meeting 7pm Foothills Academy, Speaker - Mike Marron; Mercury 3° N of Moon	8 New Moon - annular-total eclipse 4:32 P.M. EDT	9 Deep Sky Star Party , location TBA



Lake Pleasant
Shallow Sky Star Party Site
Contact Jerry 623-328-9290
or Mark 623-435-5454 so
you don't go alone.

APRIL 2005

PAStimes

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PHOENIX ASTRONOMICAL SOCIETY

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PAStimes
April 2005 Issue

STAMP

BRING A FRIEND

Next Meeting: April 7, 2005
Speaker: Mike Marron
Topic: Physics of the Sun

TO:

MAILING LABEL

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May 5, 2005, 7 pm

MEETING OF THE MINDS 2004/2005

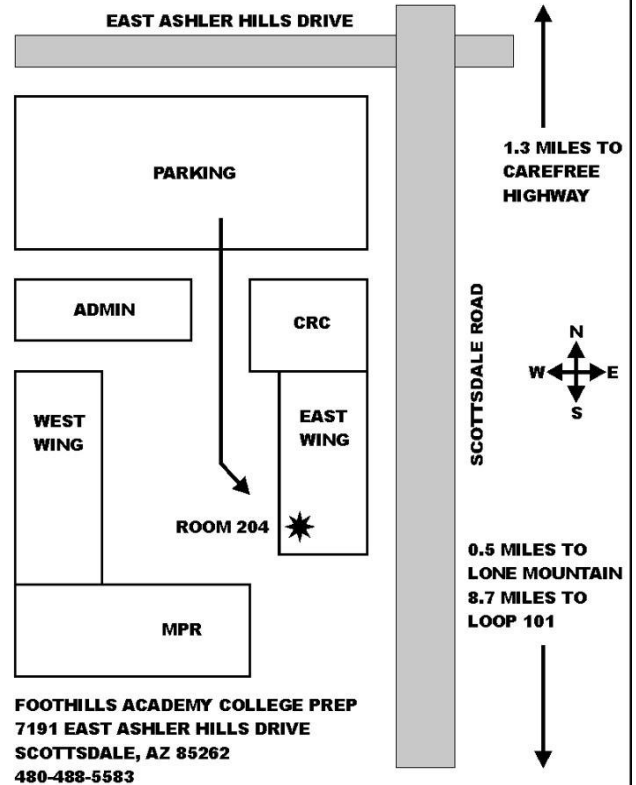
Mar. 31, 2005, 7 pm
Apr. 28, 2005, 7 pm

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