

# The Guide Star Gallery #1: Jerry Zhu

Celestial Images Taken by AAAP Members



Stars Around Polaris. 2000/4/29. Greene County, Pittsburgh. Olympus OM-1, 50mm lens at f2.8. Kodak Max 400 film. 31 minutes exposure on a tripod.



Aurora at Wagman Observatory. 2000/8/12. Olympus OM-1 camera, 35mm or 50mm lens, f/2.8, Fuji 800 negative film, and about 30 second exposure.



Milkyway. 2000/4/30. Greene county, Pittsburgh. Olympus OM-1, 50mm lens at f1.8. Kodak Max 400 film.



Rainbow. 2002/8/22. Alaska. Nikon Coolpix 995 + polarizer filter.



Sundog of the subsun. 2003/2/13. Atlanta. Nikon coolpix 995 digital camera.

**Jerry Zhu's Guide Star Gallery  
Images  
continued on page 10**



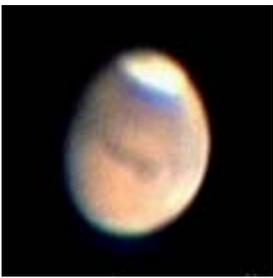
Jupiter. 2003/3/14. Pittsburgh. Sony camcorder (hand held to the eyepiece), 8"/f6 Dob, 9mm eyepiece. 400 frames stacked with Registax.



Moon occults Saturn. 2001/11/30. Pittsburgh. Handheld camcorder, 8"/f6 dob, 25mm eyepiece.



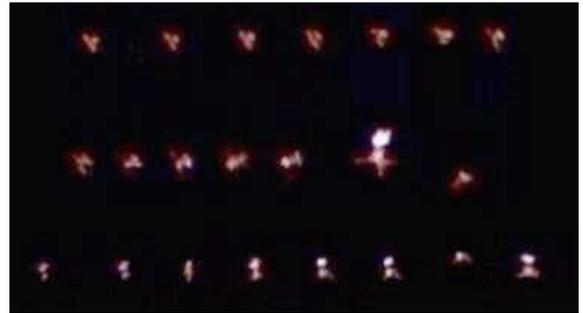
22 degree halo around the Sun. 2002/3/28. Pittsburgh. Nikon Coolpix 995 digital camera. 1/2000s, F7.5, f8.2mm, ISO 100.



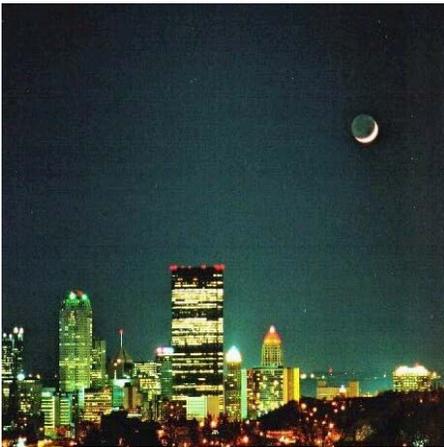
Mars. 2003/6/24. Pittsburgh. 8"/f6 Dob + 9mm eyepiece + handheld camcorder, Registax.



Venus inferior conjunction at noon. 2001/3/28. Pittsburgh. 8"/f6 dob + 9mm eyepiece afocal. Hand held camera to eyepiece. 35mm/f16, 1/250 second, Fuji 800 negative film.



International Space Station and shuttle Atlantis. 2002/4/16. Pittsburgh. 8"/f6 Dob + webcam.



Moon over Pittsburgh. 2001/4/25. Pittsburgh. SLR camera, 135mm /f2.8, Fuji 800 negative film, 5 seconds.



Colorful sundog. 2002/3/16. Pittsburgh. Nikon Coolpix 995. Shutter 1/837, F10.3, exp -1.3, focal length f31.0mm.



Sun pillar. 2003/1/17. Pittsburgh. Nikon coolpix 995 digital camera.



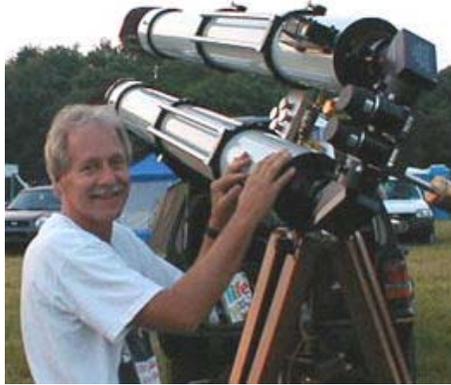
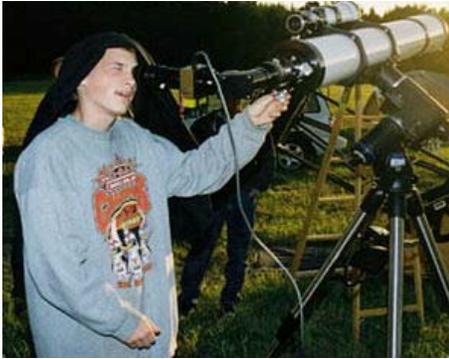
Circumzenith arc. 2003/7/5. Pittsburgh. Nikon coolpix 995 digital camera.

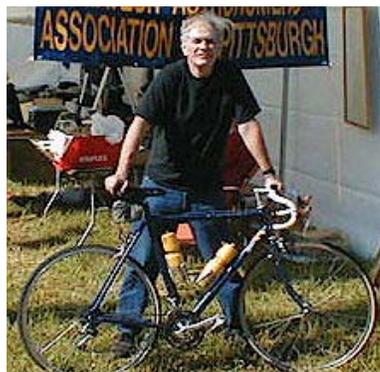
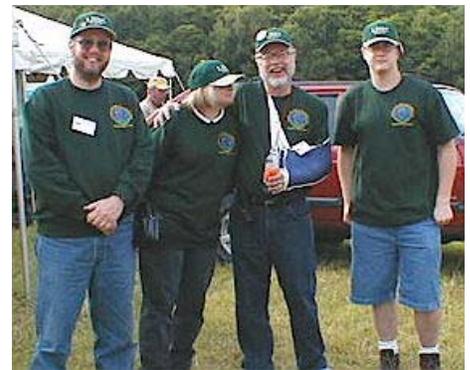


Sunspot. 2003/6/8. Pittsburgh. 8"/f6 Dob, Baader Astrosolar filter, Scopetronix 18mm eyepiece/adapter, Nikon Coolpix 995 camera.

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# Star Cruise 2003 Photo Journal





LHSC photos by Dave Smith,  
 Larry McHenry, Jeff Ball,  
 Charlie Pritt, Sean Brown.

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## LHSC: Observing with Children (Aged 12)

by Ann Norman

*(Editor's note: This is the full version of the article written by Ann for this month's printed Guide Star.)*

After some trial and error I have learned how to do Star Cruise with children. My kids Paris and Chris, twins aged twelve, attended with me and, both during and after the trip, thanked me for bringing them. The recipe for success is don't push them too hard towards astronomy-maybe they will catch the astronomy bug on their own, from a virus in the Star Cruise atmosphere--and sprinkle in some fun extracurricular activities.

I did require them to attend one lecture-the Hubble Update. I knew that would draw them in and it did. They were very impressed and collected a lot of 8 by 10s of galaxies and nebula to bring home. For that night, from 10:00 to 11:00, I was

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assigned the volunteer task of "Observing with Children," which I understood to mean standing by a telescope with some other people and helping children observe. It was completely clouded over and I thought I was off the hook, when George Gusik came hurrying over and asked if I was ready to give my talk on "Observing with Children." I explained that I had no talk prepared, and he said, "No problem, it can be something short."

My heart pounding and my mind racing I hurried to the speaker's tent, which was full of children. As I headed down the aisle someone stepped onto the stage and announced that tonight's movie was "Rocket Man," and they started up the projector. Yeah, I was saved! I would not have to go on stage and make an impromptu photoless presentation on the heels of wildly popular Hubble Update. And the kids loved the movie, which by the way is a great movie. It is like "Dumb and Dumber" in space. Maybe even better!

That night when it cleared around 1:30 am I tried to rouse my kids to see the Milky Way. I only succeed in coaxing one of my

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## Ann Norman's Kids' Perspectives

*(continued from page 12)*

two out of a warm sleeping bag and out into the cold. Chris staggered out zombie-like only half awake and looked up and gasped at the stars. He wasn't impressed by anything we showed him in the telescope. "Its too blurry" he moaned and quickly headed back to bed. But the next morning I did hear him exclaim to his brother "You should have seen it! When I stepped outside the tent, there were so many stars and they were so bright! It was like in Final Fantasy V!" So an actual dark sky compares favorably with virtual reality!

Late afternoon my kids divided their time between playing catch, reading Harry Potter, and hanging out on the air-conditioned NASA space bus, full of lounge chairs and wide screen TV that continuously played shows about NASA and its missions. By evening they were quizzing me on space trivia they had learned by osmosis.

Around 8:30 my son Paris pulled up a camp chair and announced he would watch the sun set "because I've never seen it before." Minutes later he had accomplished this, remarking on how fast it went, and both Paris and Chris began begging me to get out the telescope so they could wait for the stars. Though it was way too early for stars I let them use the telescope and they played for an hour, discovering they could use it to read the license plates off of cars parked across the field. As the first stars appeared, so did the clouds, which made the star search all the more exciting as they had to aim and look before the star was covered up. We got a quick glance at Jupiter and, then, fortuitously, a fireworks show began, sending up smoke in the vicinity of a hopelessly clouded over Sagittarius.

On the way home we stopped (in Scottsdale?) for some go-cart racing! And we hit a bucket of golf balls. Now THAT'S how you do "Observing with Children"!

## Holy Cow! Mars Really Is Going to Be Close This Time!

*By John Holtz (from AAAP Listserver)*

After hearing for the umpteenth time that "Mars is going to be closer in August than anytime in the last 60,000 years", I began to wonder how much of that statement is truth versus hype. Yes, it's true that due to the large eccentricity of Mars orbit, some oppositions are close and others are exceedingly far. But the question in my mind was this: For how many days this year is Mars closer to the Earth than during other closest approaches?

To find out the answer, I used my Moon Clock program ( <A HREF="http://members.aol.com/jwholtz/moonclck/moon.htm"> Moon Clock Page</A> ) to get a quick and approximate answer. The 2003 Observer's Handbook (page 188) shows the orbits of Mars and Earth and lists seven oppositions from 1997 through 2010. These cover the complete range of oppositions fairly well. The June 2003 Sky & Telescope (page 93) also points out that really close oppositions occur every 15 to 17 years. The previous really close oppositions were in August 1971 and September 1988 (one that I remember). From these dates, I calculated the following table.

Thus, Mars is closer to us for 2 to 2.5 months this year than in the previous opposition in 2001 and the next opposition in 2005. Mars is closer for an entire MONTH compared to the favorable opposition of 1988! Holy cow, the hype is correct: we have reason to celebrate the Mars mania!

Date of Closest Approach	Distance Million miles	Dates in 2003 when as close		Num. of days when as close
August 11, 1971	34.9	8/21	9/02	12
September 21, 1988	36.5	8/11	9/13	33
March 21, 1997	61.3	6/15	11/06	144
May 01, 1999	53.8	6/28	10/24	118
June 21, 2001	41.9	7/24	10/01	69
August 27, 2003	34.7	-	-	-
October 29, 2005	43.2	7/21	10/04	75
December 18, 2007	54.8	6/27	10/26	121
January 27, 2010	61.7	6/15	11/06	144