



NEWSLETTER

RITTENHOUSE ASTRONOMICAL SOCIETY

Founded 1888 WWW.RITTENHOUSEASTRONOMICALSOCIETY.ORG

May 2011

OPEN TO PUBLIC AND STUDENTS
Upcoming **Meeting on May 11th**
7:15 PM
The Franklin
20th Street and Benjamin Franklin Parkway

Visible Planets 05/11/2011

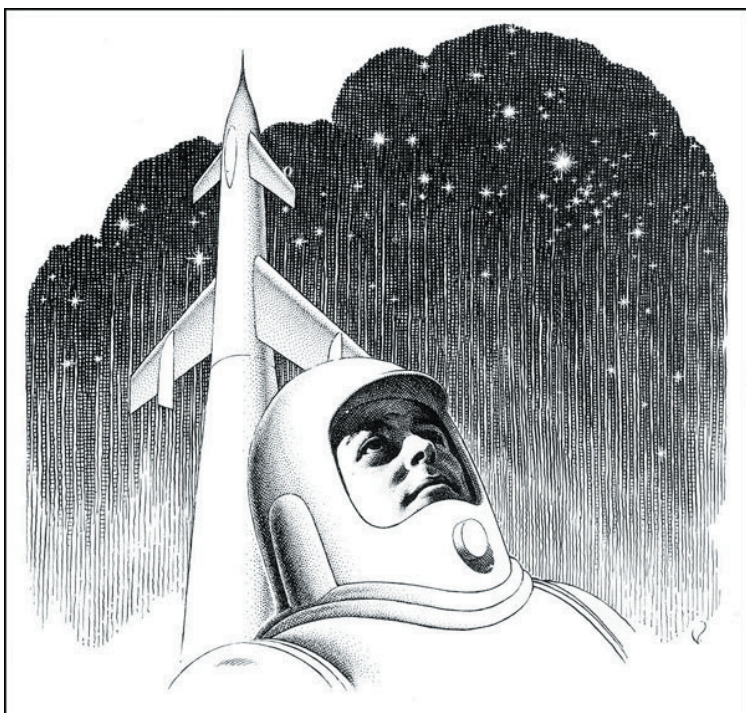
	Rises	Transit	Sets
Mercury	04:55 am	11:20 am	05:45 pm
Venus	04:48 am	11:18 am	05:49 pm
Mars	04:57 am	11:37 am	06:18 pm
Jupiter	04:46 am	11:17 am	05:49 pm
Saturn	04:32 pm	10:28 pm	04:23 am

May's Meeting

Dave Walker

Space Cadets to Space Station Our Progress in Space Travel

David Walker, long time Rittenhouse Member-at-Large as Liaison to the Franklin Institute and Planetarium Navigator/Operator/Lecturer will lead us in a commemoration of the 50th anniversary of human space travel the audience will receive an overview of the history of space flight from the fantastic dreams of writers to the ubiquity of space in our daily lives. Included will be the historic roots, triumphs and tragedies, and some of the often overlooked challenges to making space flight real.



June's Meeting

*Multiple Topics for our Year end WRAP-UP
Meeting Open to the Public*

Venus Transit Preparing for the optimum view	Drew Maser
Weekly Challenge Review	Ted Williams
Google Astronomy KLH layers	Mike Mountjoy
Hubble Review	Brian Paton
Mars Rover Review	Dr. Ken Kremer
Fly Me to the Moon	Shawn Rush
Understanding R.A. and Dec.	Luke Brown
Your Name Here (Members are invited to present, contact us)	
Your Name Here (Members are invited to present, contact us)	
Observatory - Weather Permitting,	Dr. Carol Ludolph Dave Walker

Meeting Agenda

5:15 - Business Dinner at Pete's
7:15 - Welcome
7:20 - What's Up
7:30 Lesson "How the Universe Works"
7:50 - President's Message
8:00 - Coming Attractions
8:05 - Guest Presenter
8:50 - Q&A on Topic
9:00 Q&A Mixer in Observatory



Ras Member Winston Wright with Derrick Pitts showing the Apple iPad with Astronomy software to view the sky ~Dave Walker

Philadelphia Science Festival

A Rittenhouse Review Festival on the Parkway

Rittenhouse Astronomical Society was asked to assist The Franklin Institute with sharing our love of Astronomy with citizens and visitors of Philadelphia. The first event we were asked to assist with was the Science Festival on the Benjamin Franklin Parkway. We were scheduled to set up telescopes and explain how telescopes work and have visitors look at points of interest through the telescope, such as The Art Museum, and other venues of interest.

Unfortunately, the day of the festival arrived and the sky was filled with threats of rain. Initially the arrangement was to cancel our participation in the chance of rain, as telescopes and damp weather are not good friends. However, at the last minute Derrick Pitts informed us to leave the scopes at home, but that he had found a spot for us in a tent to at least interact with visitors and talk about astronomy. We chose to bring out the Celestial Sphere that is on display on the front table at our meetings to help explain and show where some visible objects are in our current sky. The three we highlighted were the Whirlpool Galaxy, an open cluster and a globular cluster.



Ted Williams explaining to RAS volunteers how to demo the Celestial sphere to RAS volunteers ~Dave Walker

We also showed off many more modern tools for locating what is in the skies above us, EVEN in the daytime. There are many “free” applications that can be downloaded onto smart phones and Apple’s iPad that show you what is above you in the sky. By simply holding the device over you and reading the screen, it uses your current location on Earth with GPS technology and viola! The sky above is identified and clearly labeled for your viewing pleasure.

Despite the onset of rain, the Festival on the Parkway was enjoyed by all and there was lots of interest and discovery!



Astronomy Night

The other event that Rittenhouse was asked to help with was the scheduled Astronomy Night. Although there were several public observatories open that evening for visitors to come and view the night sky through a telescope, such as Drexel University, Widener University and University of Pennsylvania, to name a few, but there was a desire to reach deeper in the neighborhoods of Philadelphia. Several RAS members volunteered to bring their scopes into local neighborhoods and assist anyone who stops by to look at the sky through their telescopes. Here are some accounts of a few these locations.

LEAP School

Derrick Pitts

Last night, just after I’d rolled up to the LEAP school and took my 8” Celestron out of the car, another car rolled up behind me. A little concern on my part, but more along the lines of how I’m going to be able to help with directions for this guy since I’m not from Camden. Lo and behold, it’s Joe Stieber! - with a 12” Dob and a 100mw laser pointer. As if that weren’t enough, five minutes later, Bill Lee rolls up with his 12” Lightbridge!! They were nothing short of amazing. They got right to work. Set up their scopes, worked with a small but appreciative crowd of families with kids who have probably never had this experience before and opened whole new worlds for some very inquisitive kids (and parents)! The school principal was there with his family and could not say enough about how much he appreciated Joe and Bill coming to their school. I had to dash off to take my scope to another location but I knew I was leaving the school with good astronomers and leaving the astronomers with a good school set up. They were the best. I’m sure they’ll tell you about their experience.



Philadelphia Center for Arts and Technology

Al Ryan

(A letter to Derrick Pitts)

Last night, Barb and I took our telescope to the Philadelphia Center for Arts and Technology (PCAT) for the Science Festival's Citywide Telescope Night event. PCAT is an inner city site in West Oak Lane. Fortunately, we had a power source from the building. Unfortunately, even with a 50 foot extension cord, our view of Polaris was blocked by the building. Nonetheless, we were able to guesstimate the apparent position well enough that objects in the eyepiece stayed within the field of view for 2-3 minutes before needing to be re-centered. That was enough for 2 or 3 people to view objects before having to re-center.

The turnout was amazing. We were first approached by Yara Simon, a reporter for WHYY's Newsworx, who stayed and took photos of the people and interviews. We hope to see her report on WHYY's blog. PCAT was described to us as an after-school facility. It looks like a marvelous facility with plenty of rooms for computers, teaching, recreation and dining. When we arrived, we saw Joseph McGregory who helped us with the power setup, and we saw a few kids in the dining area and a couple at computer stations. Later, we were amazed at the number of people that came out.

From the school, kids poured out to take a look. There was a family that drove in from Wyncote and at least one lady from the neighborhood who related how she had bought a room version of a planetarium for her children when they were younger.

There must have been 20 or so people lined up and they were all very polite, very patient and very inquisitive. As Barb noted, it is nice to see that "Aha" moment when Saturn is first glimpsed through a telescope. All of the kids and adults took a look at Saturn through an equatorially mounted F/10 Celestron 9.25 Schmidt-Cassegrain telescope. At first we viewed at 66 power with a 35mm wide field Televue Panoptic eyepiece. Then everyone came back around for a view through the 17mm Televue Nagler eyepiece at 135 power.

The sky was exceptionally clear for Philadelphia and I think everyone was amazed that you could see the planet, its rings and the space between the planet and the rings, plus two or three of Saturn's moons! We moved on to Mizar after Barb explained to the kids what the term double star meant. Again, the crowd was very pleased. "Like diamonds" was one expression, "like headlights" was another. The kids were clearly impressed and asked all sorts of questions

about novae and planets. A short lively interplay went on about Pluto as a dwarf planet. We showed several of the kids how the hand controller worked so they were able to re-center the objects themselves—getting a hands-on feel for how telescopes work.

About this time, the crowd began to thin and we turned the scope to M44, the Beehive Cluster. This was pretty nice in the 35mm eyepiece. Lastly, we turned the scope back to Saturn for some late arrivals and PCAT staff. This time we used the 11mm Nagler (210 power) because the atmosphere had really seemed to become steady by then. I was amazed myself. The planet filled the eyepiece, a huge space separated the planet from the rings and 5 moons stood out prominently. By 9:30, all of the kids and neighbors were done so we packed up, thanked the PCAT staff and took off. We never had a moment to open the thermos of coffee we had brought, or to sit in the chairs we had brought.

I want to thank everyone responsible for arranging this opportunity, and the PCAT staff for their help. I also want to thank especially Barbara who kept the crowd engaged with star lore, kept things moving, engaged the youngsters and oldsters and most importantly, kept me from packing up because I couldn't get perfect alignment!

Norris Square

Ted Williams

At the end of the post I made on our members site describing the evening at Norris Square for the City Wide Telescope Event, I closed with the statement that thinking back, I'd do it again in a heartbeat.

Now, some might know that Norris square was once nicknamed "Needle Park" due to the blight and clientele that visited the park nightly. That might have been quite a long time ago since our night in Norris Square was one of discovery and joy.

In retrospect, I did not put in that on-line post what I felt the highlight of the evening was. I explained it to Ruth who was with us that evening and wondered why I would do it again 'in a heartbeat. When I shared why, she asked if I'd submit it for our newsletter.

We were finally all set up, scope successfully tracking Saturn and had a flurry of 15 or so people at one time around us. Some were using the Apple i-pad to find the constellation that Saturn was in. We used the green lasers and let folks trace out the Winter Triangle, and the head of Leo. Instructed all about turning them off when planes and choppers were nearby. A few were in line to view Saturn through the scope.

I noticed coming across the field (Norris square is rather

big in size) a mother struggling while pushing a wheel chair of sorts, electronic, but not really working, toward us. The grass was high in spots, barren in others but it was obvious the square had not had its first cutting as of our night event. In our rush to get the scope set up to see Saturn, we had put it far from the paved paths of the square.

The girl in the chair looked as if her body was caving in on itself as they bounced through the grass, possibly she had MS (only my opinion), but she was bright eyed, looked enthusiastically not at me, but at the telescope. I turned to assist a few currently at the scope as they asked about Saturn's moon Titan. As I talked of the moons some of the men inquired if all of the planets had moons, to which we replied most, and quite a few as we get further out.

When I noticed the girl in the wheelchair again, her mother had tried to move the chair closer to the scope so her daughter could hear my conversation. The stepstool I had provided we both looked at with a useless glance between us. I knew it would offer no assistance getting her daughter to the telescope. I looked at Mom and asked if it were O.K if I would help her lift her girl to the scope to look into the eyepiece. Mom more understood my gesturing move than my English and thankfully agreed and picked up the child. The girl leaned into my chest to steady herself as she found the eyepiece. I asked a few times and repeated if she could see Saturn or the ring, only to hear absolute quiet, from her. A shaking of her head and finally a sad whisper of no were all I could get from her.

I tried a few times (there was not that large a crowd) struggling a bit with her weight between us, when I noticed that the girl tried to look from the side of her eye at the lens. I moved her head to the side with my thumb on her chin. I could see a bit of Saturn's light as it reached her eye, not a definite image at all, just a light spot. When it reached the edge of her pupil she froze in our arms, smile brimming wide and finally whispers excitedly "I can see its rings!" I knew the second those photons registered with her by the immediate change in her expression to that of discovery and joy. No whisper was really necessary.

I've touched hundreds talking in some of the biggest planetariums of our time. I've felt an entire audience of light bulbs go on in the dark. But that night, Saturn's light resulted in such a jubilant reaction to that girl in the wheel chair, I knew I'd do volunteer night under the stars, in "Needle Park" mind you, again in a heart beat.

I shared a little a bit about the conditions of our arrival at the square and some of the colorful characters we encountered with our members on our on-line Members Network.

President's Message

Dr. Milton Friedman

You might need to buy a hybrid automobile for our extended trips. Fill the car with fuel and drive nonstop on our imaginary highway. Head for the sun at 60 mph and, of course, turn on the air-conditioner. It will take you 177 years of continuous driving to get to the sun.

If you read the map wrong or your GPS takes you off course, you might end up on a journey to the former planet, Pluto. A trip in the car at 60 mph would get you to Pluto in 5,700 years so plan to take along family from many generations because you'll be spending many birthdays behind the wheel until you're too old to drive.

Think about Voyager 1 the spacecraft launched in 1977 that, after traveling for more than 30 years, is just at the edge of the solar system. With luck, Voyager 1 will pass its first star in 77,000 years. And, like the title of Richard and Karen Carpenter's signature song of 1970, "We've Only Just Begun."

Even with the most efficient fuel: matter and antimatter, the trip is too long, the spacecraft must escape meteoroid damage and there are unresolved problems such as how to make a spaceship large enough to carry tons of fuel, the high cost of the fuel, how to avoid radiation damage and the psychological difficulties of making a one-way trip away from Earth to a distant planet.

The only way around the problems of sending humans beyond the solar system is to use our telescopes and other equipment to search for signs of life on distant planets. We would want to discover Earth-like planets with desirable temperatures, water and oxygen. Once we find them, we could focus on sending and receiving signals. If we discover different political viewpoints out there, we might turn off the telescopes and put our cars in reverse.

For those people who like to keep travel records, at 60 mph you travel 1,440 miles a day which adds up to 43,200 miles a month of 30 days and 44,640 miles in a 31 day month. A year of 365 days will have you drive 525,600 miles a year. You could drive to our moon in 5 and one-half months or the star Gliese 581 which has at least six planets orbiting it, one of which, according to some astronomers, has an Earth sized planet orbiting the red dwarf star. Of course you'll need your passport and lots of sandwiches to drive the 20 light-years to get there. For those long trips, fill up the car before it costs \$5 a gallon!

Rittenhouse Astronomical Society

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