



NEWSLETTER

RITTENHOUSE
ASTRONOMICAL
SOCIETY

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September 2007

OPEN TO PUBLIC AND STUDENTS
Upcoming Meeting on September 26th at
7:30 PM
Fels Planetarium
The Franklin Institute
20th Street and Benjamin Franklin Parkway

September's Meeting:
Astronomy Picture of the Day
Robert Nemiroff



Come join us for an eventful evening with Robert Nemiroff, creator, lead writer and editor of the Astronomy Picture of the Day website. Every day a new and creative picture is highlighted on the site along with information regarding the origin and science of the image itself. We look forward to having such an exciting presenter to start off our new year.

September Lesson:
In the Beginning

Probably the hardest concept for most of those beginning astronomy enthusiasts is to grasp that of the Big Bang. The idea of the entire universe starting from some single point or singularity and expanding to what we observe today seems laughable to some. The observation of our ever expanding universe is what pointed to the idea of the Big Bang. Observations of the cosmic background radiation and its small fluctuations give us a view of conditions shortly after the big bang occurred. Today's debate centers on whether the rapid expansion we refer to as inflation happened after what we now refer to as the Big Bang, or just before.

To help wrap our minds around the concept of the Big Bang, NASA released a graphic chart to help visualize with a timeline what appears to have occurred. Confusing to most at first, we will break down the graphic to reveal it in a few stages to help us understand what the state of the Universe was, and what it might be in the future. A deep topic to start off with, but we put it first in our series of lessons since seems an appropriate place to start off our new academic year.

Message from the President:

Welcome back. The RAS is beginning another season of monthly meetings with speakers talking on various astronomical subjects that are of interest to the novice and the expert.

We look forward to seeing Venus at its greatest brilliancy on the morning of the first day of autumn, September 23. Meteor showers will provide celestial fireworks: the Orionids October 21, Leonids November 18 and the Geminids December 14. Jupiter is bright in the south in the early evenings of September. Mars makes a close path toward Earth on December 19.

The September-October window of launch of NASA's Dawn probe will send a spacecraft to orbit asteroids Ceres and Vesta. The Messenger spacecraft that sent back pictures of Venus as it flew by the planet will arrive at Mercury next January to set up orbiting Mercury in 2011. Cassini is out at Saturn while Mars is home to two rovers exploring the surface and a craft Phoenix is on its way to a Martian polar landing where it will dig up ice samples.

We look forward to having you attend our meetings where we will discuss the marvelous happenings going on high above us. Get your answers about observing, photography and the gadgets used in astronomy.

~Dr. Milton Friedman

Meeting Agenda

Student Check In	7:15 - 7:30 pm
Astronomy Lesson	7:30 - 7:50 pm
Call to Order: Dr. Milton Friedman	
Sky Tonight: Alan Daroff	
Guest Speaker	
Rooftop Observing: Weather Permitting	

Membership Dues:

Remember to submit your dues for this year for continued membership in the Rittenhouse Astronomical Society.

Adult	\$20.00
Student	\$15.00
Premium Members	\$35.00

If you have a subscription to Sky and Telescope, the magazine has notified us that you can directly renew your membership as long as you are listed as a member of RAS in their data base. Please be sure to keep your dues up to date so that I can verify you are a member in good standing. You can also continue to send in a copy of your certificate with your subscription renewal.

~Ruth M List

Summer Sun Observing:

This summer I took the opportunity offered by the Franklin Institute to volunteer operating the 10" Zeiss refractor for Sun observing. It turned out to be a much different experience than I ever expected.

I attended two training sessions (only one is really necessary) to get the basic understanding of how to open and close the Bloom Observatory and how to set up the Zeiss refractor to use it to observe the sun. Derrick Pitts conducts the training throughout the year. He also instructs volunteers how to operate the Meade telescopes (8") for star viewing. Although I would have preferred to assist in the evenings, my schedule did not permit this and so I figured that although observing the Sun would not be as interesting, and I would gain the experience of operating the observatory. I was wrong.

It turned out to be quite an interesting summer. I was all prepared to share facts about prominences, flares, and sunspots which I started explaining to each visitor. I found the conversation would quickly turn to astronomy questions in general. Many were fearful to look into the telescope hearing the good advice that one never should look through a telescope unless it is properly filtered. That is usually interpreted as do not look at the sun with a telescope. After assuring visitors that the mylar filter in place would protect their eyes, the challenge was to get them to see some solar activity.

If you have been observing the Sun this summer you are already aware that there were fewer sunspots than expected and that the Sun seems to be especially calm. Many days there were no spots to observe and the prominences this

Visible Planets 09/26/2007

	Rises	Transit	Sets
Mercury	09:06 am	02:23 pm	07:40 pm
Venus	03:35 am	10:12 am	04:50 pm
Mars	11:06 pm	06:34 am	02:01 pm
Jupiter	12:45 pm	05:28 pm	10:11 pm
Saturn	04:19 am	11:01 am	05:43 pm

summer tended to be minimal in their activity. Finding those one to few spots was a challenge.

Looking at the surface of the Sun with the Hydrogen Alpha filter yielded some descriptive comments from visiting observers. They commented that the Sun appeared as if it was "sponge painted, mottled, granulated, antiqued, covered with spider webs, splotched, orange-red granite, marbled, stringy, and blotchy." The descriptions were as interesting as the view itself.

With the success of the Tut exhibit, people were drawn from all over the U.S. I found that most of the visitors to the observatory were from other states. They would talk of the Science Museum near their home, they would also talk of their impressions of Philadelphia (One critique in common was the total confusion by the traffic signs and chaotic highway directions) but all seemed very enchanted with the history of the city and the buildings that tell the story of our nation. Not only did I get to tell them the history of the Bloom Observatory, I quickly learned how to become a quick impromptu guide to getting to the major highways and what sights I might recommend around town.

I only recall one irate visitor who questioned my intelligence since I could not identify all the buildings of the skyline around the museum. He told me I was as "bad as most New Yorkers that don't know any of the buildings they walk past daily." He was visiting from New York. When I told him to take advantage of the Hayden Planetarium at the American Living History Museum, he was unaware of the unique building or the facility but gratefully thanked me for the tip.

So here is the pitch. If you are the type of amateur astronomer that wants a different experience than the amazing solitude of observing by ones self, if you want to share your knowledge of astronomy with others, if you ever envisioned yourself a tour guide and like to talk with visitors from around the globe, consider getting involved. You will get quite a lot of time to observe the Sun. A property of the Sun that I was always aware of but never really personally experienced or observed is that the Sun is truly dynamic. It changes from moment to moment. Smaller prominences can change in appearance rather quickly and all Sun spots do not all look alike. Yes, I teach these facts in class, but due to observing mostly pictures, or observing the Sun with a 30 second peek through the scope I did not see those changes myself. I never really challenged myself to look long enough. Spend a few hours of solar observing, and look close, view the dynamic changes of our star with your own eyes.

~Ted Williams

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