



NEWSLETTER

# RITTENHOUSE ASTRONOMICAL SOCIETY

Founded 1888 [WWW.RITTENHOUSEASTRONOMICALSOCIETY.ORG](http://WWW.RITTENHOUSEASTRONOMICALSOCIETY.ORG)

February 2007

OPEN TO PUBLIC AND STUDENTS  
Upcoming Meeting on February 14th at  
7:30 PM  
Fels Planetarium  
The Franklin Institute  
20th Street and Benjamin Franklin Parkway

## February's Meeting:

*Mars, Saturn, Comets and Beyond (IN 3-D)*  
**Dr. Ken Kremer - NASA /JPL Ambassador**

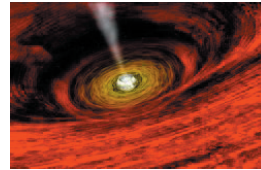


Dr. Ken Kremer from the Amateur Astronomers Association of Princeton will lead us on a fascinating tour of some planets in our solar system and how they appear using stereoscopic images (3-D). Last year he toured us across the surface of Mars. He has been a guest presenter for us previously, and is also a favorite presenter for Astronomy events at the Franklin Institute.

## Student Lesson: *The Milky Way - Part II*

At our January meeting, we used the constellations of the winter sky to find the Milky Way Galaxy. Assisted with the view of the sky provided in the Fels planetarium, we toured four open clusters. The constellations allowed us to follow a path that most have not seen from within the city, the apparent milky-white haze of light sent by the rest of the stars in our galaxy. To gain a better understanding of our galaxy we classified what we were observing into components or structures of the Milky Way. With the assistance of a software program developed at Philadelphia University we explored the components which included open clusters, globular clusters and nebulae. At our

February meeting, we will continue our exploration of the Milky Way will include dust bands, (harboring a hole) and then around the structures. These the spiral arms, the galactic core massive black we will have look galactic halo. We will be meeting in **Musser** theater. (check for changes)



~Ted Williams

## January's Meeting: *From Earth to the Moon(s)*

Dr. Chris Sommer introduced us to "Rambo Viruses" that may survive the extreme conditions of space. His talk centered on the structures that certain viruses and bacteria have developed for survival of extreme conditions here on earth. He then linked the conditions found on Earth to similar conditions we have found on various moons of our solar system. Providing evidence of past impacts, and how pieces of Earth's crust have been ejected into space was discussed as a method as to how viable microorganisms may have been transported to other celestial bodies.

An interesting idea proposed during his talk asked us to consider that the first alien life we may discover, could be life that originated on Earth itself.

A color enhanced micrograph of the red-pigmented *D. radiodurans* cell, highlighting the ring-like morphology of the cell genome.

~ Courtesy S. Levin-Zaidman



## 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	

### Visible Planets 02/14/2007

	Rises	Transit	Sets
Mercury	07:22 am	01:06 pm	06:49 pm
Venus	08:07 am	01:55 pm	07:43 pm
Mars	5:14 am	09:56 am	02:38 pm
Jupiter	02:36 am	07:20 am	12:03 pm
Saturn	05:01 pm	11:57 pm	06:53 am

## Special Event: *Telescope Training*

At our October monthly meeting, and through our website, a call was put out to our membership, specifically to those interested in learning more about telescopes, and/or assisting in the operation of the rooftop observatory. Anyone interested was to contact Derrick Pitts for training. Those who met the training requirements would be included on the list of volunteer operators for the Bloom Observatory. The result was a team of observatory operators which includes members of our society. One need not be a member of Rittenhouse to be an operator; all who were interested in astronomy and members of local astronomy clubs are welcome to participate.

I was very excited this past Friday night driving to the Institute since the sky was finally clear. Venus was shining brightly. Although I have been to the observatory many times since it has been refurbished, they have all been on rainy or cloudy evenings. So tonight, the luck of the weather was with us.

I arrived to find many of the camp-in counselors volunteering their time for training on operation of the telescope and how to assist visitors awaiting their turn. Many were enthused, many were young (under 25) and all were very cold. The first thing any operator needs to be aware of is the weather. Derrick suggested observatory operators need to dress smartly with layers to ensure a comfortable night of rooftop observing. Many shivered as they wholeheartedly agreed.

All trainees were quite impressed with the scope, its operation and the serious responsibility of manning the priceless telescope. There are only a few 10" Zeiss refractors still in operation that have the same craftsmanship as the one in the Joel N. Bloom observatory.

The software and computer drive system was an especially interesting part of the training. The computer assisted guidance can afford the operator a hands-off approach to observing. One need not physically touch the telescope at all, since all motion is controlled by the computer programming. You only need to know a few good sights to pick out on the computer screen, a point and a click, and the telescope flawlessly places the sight almost dead center of the field of view.

The challenge facing the telescope operators will be to identify a few good sights to view. A little background about the constellations you are observing will help meet the need. This experience need not necessarily be first hand, as a quick peek at any astronomy software (such as Starry Night) would enable anyone who is interested to learn the names of a few navigational stars that will be visible that evening. Throw in a few bright Messier objects or any bright planets which may be visible and one will be well prepared.

On the evening of training I was amazed when Derrick picked Uranus and the Great Orion Nebula out of the haze of the Philadelphia night sky with the Zeiss telescope. He explained how this was previously impossible since the finder scope does not collect enough light to give the contrast needed to pick out these objects. With the computer

guidance system activated, you do not need to use the finder scope to find anything. After the scope is properly aligned, it will find the needed object for you.

The lens and superb optics in the Zeiss can collect enough light so that you can see these objects from the institute rooftop. O.K...it was not a pristine view as seen from a dark sky, but a view that was exciting nonetheless. It was almost breath taking that I could see the Orion Nebula, surrounding the Trapezium. This will be amazing to any who have never looked before. I was impressed even though I have seen this same sight in the darkest of skies.

As Derrick pointed out, many of the visitors to the observatory have never looked through a telescope. The thrill of actually seeing a planet or a star formation region for these new observers is genuine. They do not know how much better it would look away from the city lights. Maybe, this first glimpse will



Telescope Training - Proper Park Position

also spark on future interest.

Fellow operators, need to keep this in mind, devaluing what the new observer sees by stating how much better it may look in the country should be avoided entirely. We should be celebrating the fact that we have found the object with our visiting observers, since for many, it may be the very first time they are seeing the rings of Saturn, or the polar cap on Mars. The view for any first observer through the Zeiss can be breathtaking, if they understand what they are seeing.

If there is interest, I would like to implement a top 5 list of deep sky sights on our Joel N. Bloom observatory websight. That way, anyone who is operating the scope will have a quick reference of what is visible from center city. That means we need to take into account the height of some of the surrounding buildings, and the time a celestial object is high enough to be visible over the light glare from the city. For example: as an operator you need to take into account that a new high rise going up in center city on the south-east side of the observatory will block a thin swath of the view from the horizon up to almost 50 degrees of altitude.

~ Ted Williams

## Special Meeting: *Mark your Calendar* *Guy J. Consolmagno S.J.*

At our May 9<sup>th</sup> meeting Guy J. Consolmagno S.J. who serves as curator of the Vatican Meteorite collection, one



of the largest in the world, will be our guest speaker. His research explores the connections between meteorites and asteroids, and the origin and evolution of small bodies in the solar system. For his contributions to the study of meteorites and asteroids, Consolmagno has been honored by the naming of an asteroid after him.

He has coauthored four astronomy books: a popular telescope guide, *Turn Left at Orion* (with Dan M. Davis; Cambridge University Press, 1995); a planetary sciences textbook, *Worlds Apart* (with Martha W. Schaefer; Prentice Hall, 1993); a book describing modern physics for a church-going layperson, *The Way to the Dwelling of Light* (U of Notre Dame Press, 1998); and *Brother Astronomer, Adventures of a Vatican Scientist* (McGraw Hill, 2000).

## Earth News: *Global Warming*

Well the word is finally out and needs to be taken very seriously! On Friday, February 2, 2007, the UN's Intergovernmental Panel on Climate Control announced to the world that it is "very likely" that the human race is to blame for global warming. Studies are showing that global warming is occurring more rapidly than originally predicted and we are predominately to blame. The report was written by about 600 climate experts and 2500 scientists and government officials agreed that it is no longer an arguable issue, but fact!



Indications are that sea levels are rising more rapidly than originally predicted. One of the results of this change is that Polar Bears in the Arctic have been added to the endangered species list. They are now having to swim vast distances to get to another land mass or ice floes in the Arctic swimming 30, 40 or more miles. Studies show that a significant number are drowning, as they get fatigued with the long swim.

Stronger storms such as Katrina will become more common and other "odd" changes in our climates can be expected as well. Here we are in February and my daffodils are over 6 inches out of the ground. Florida was just hit by massive tornados not common to their climate killing many. Everyone needs to realize that we all need to burn fewer fossil fuels and do our part to help save our planet.

Trees and vegetation help with reducing the destructive CO<sub>2</sub> levels causing the increase in greenhouse gases, which contribute to global warming. Changing to energy friendly light bulbs is a start, but planting new trees will help to cleanse the air we breathe and reduce greenhouse gases. If you can't plant a tree where you live, consider planting one as a gift.

Check out the following web site to give a tree to someone as a living gift or in memorian and at the same time help to save our planet Earth.

<http://www.treegivers.com/?AID=319313&PID=1315157&SID=give+a+tree>

~Ruth List

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