The ASTERISM

as' ter ism ~ a recognizable pattern of stars
con stel la' tion ~ an internationally designated area of the sky

Volume XXIV No. 9 **May 2013**

What's Inside…

Note: Use bookmark panel in Adobe Reader.

Experience Astronomy Day on Saturday May 18th, 2013

at Trailside Nature & Science Center,
Watchung Reservation
452 New Providence Road
Mountainside, NJ 07092

Give your children a start in astronomy

Hosted by
Union County board of Chosen Freeholders
and
Amateur Astronomers, Inc. of Cranford, NJ

Solar Observing from 1 to 2pm
Children's' Activities and free Door Prizes from 2 to 4pm

Evening presentations begin at 8pm
Outdoor Star Party from 8 to 10pm (weather permitting)

NOTE: pre –registration is suggested.
Sign up in person at the
Trailside Nature Center or by phone 908-789-3670

For more information & directions, please visit www.ucnj.org/trailside

A Service of the Union County Board of Chosen Freeholders — Union County — We're Connected to You!

AAI'S ANNUAL MEMBERSHIP MEETING MAY 17, 2013

MAIN LECTURE HALL - UCC CAMPUS 8:00 p.m.

AAI reserves this month's meeting for speakers from among our membership who would like to share their research, astro-imaging, telescope-making, and other activities.

Speakers will include Clif Ashcraft, Tony Sharfman, Anthony Espinoza, and Al Witzgall.

The election of officers will also take place. The following persons have been nominated to the respective offices.

President Joseph Ascione
Vice President Mary Ducca
Treasurer Marcus Valdez
Recording Secretary Alan Witzgall
Corresponding Secretary David Satkowski
Trustees Brian McGuinness
Elaine Scala
John Sichel

PLEASE JOIN US!!!

SOLAR OBSERVING AT TRAILSIDE EVERY SATURDAY, AT 1P.M. WEATHER PERMITTING
Member attendance is welcome and appreciated, if you would like to assist this program please Contact, Bob Ruggerio, or any officer or trustee at our Friday meeting.

If the weather is inclement a cancellation notice will appear on the AAI website by noon. Thank you.

New Member

Amateur Astronomers, Inc. welcomes the following new members to our club during the month of May:

Ms. Katiria Mendez of New Brunswick NJ

We hope you enjoy using Sperry Observatory and all the opportunities available to you as a member such as seminars, lectures, training, observing, and research. Our Qualified Observer course is a great place to start. It is equivalent to a college-level introduction to Astronomy, and it includes hands-on training on our 24-inch reflecting telescope. For this and other opportunities, check the **Club Activities** section of the website.

Again, welcome to AAI!

Irene Greenstein, Membership Chair

STAR PARTY
SPERRY OBSERVATORY
FRIDAY JUNE 7
FRIDAY JULY 5
FRIDAY AUGUST 2
FRIDAY SEPTEMBER 6
at 7:30 p.m.

MEMBER ONLY STAR PARTY
JENNY JUMP STATE PARK
HOPE, NJ
SATURDAY JUNE 11, 7:30PM
SATURDAY JULY 13, 7:30PM
SATURDAY AUGUST 10, 7:30PM
SAT. SEPTEMBER 14, 7:30PM

Stewart's Skybox

by Stewart Meyers

In honor of last month's video and Skype presentation, this column will discuss astronomy and the so-called new media.

Almost In the Beginning

Back in the early days of popular computer communication were entities known as computer bulletin boards (or BBSs). These were essentially discussion forums and some were devoted to astronomy. And it was good. Eventually, the Internet came along and the BBSs pretty much faded away. In their place was something known as Usenet (user networks). This too was essentially a series of discussion groups. While this worked well for a time, things eventually got out of hand and Usenet pretty much fell by the wayside, replaced by discussion groups on services such as Yahoo. But, this isn't the whole story of astronomy and the Internet.

Magazines (Not the Kind that Hold Rounds)

As the Internet grew and became the World Wide Web, the major astronomy magazines (Sky & Telescope and Astronomy) got involved. At first, their sites were rather simple and offered an alternate to calling hotline numbers for updated astronomy information. Eventually, as magazines published BASIC program listings for users to type in, those simple early astronomy programs also wound up on the magazine sites for download. Over the years, as the Web and computers became more advanced, so did the magazine sites and now they offer updated news, podcasts, videos, and even astronomical applications.

Amateur Hour

Astronomy is one of the few fields of human endeavor where amateurs can be just as talented and innovative as professionals. And this is also the case online. Almost as soon as it became possible, some amateurs were creating their own websites. Those sites covered a wide range, with some exhibiting astroimages, some offering tips and how to information, and others promoting clubs. Some used their sites to distribute news. That is how Universe Today got started. Initially, it was one man, Frasier Cain, who would post news and commentary to his site. Now it has grown into an operation that has a number of writers.

Inspired by the success of amateurs who ran news sites, and later astronomical blogs, some professional organizations set up space news sites, such as Space Daily (operated by Agence French Presse and UPI) and Space.com (a company started by Lou Dobbs). Even in this field, some specialization arose. Space Weather, for example, covers events such as meteors, auroras, and solar activity.

NASA

Contrary to what Al Gore is said to have claimed, the Internet was actually invented by the U.S. Government, the Defense Advanced Research Projects Agency (DARPA) to be precise. Therefore, it is entirely natural that NASA should be involved with the online world. In the early days, in addition to electronic communications between the various facilities and the engineers and scientists, NASA also posted information about their various projects. At first, it used very simple web pages, eventually supplanted by websites devoted to specific missions, NASA projects, and NASA facilities. But the Web would have an effect on one of NASA's works, and not in the way they thought (and still think).

Success or Marginalization?

Back in the early 1980s, NASA set up a system where scientists and engineers among the various NASA centers could get a visual idea of what was going on in the agency. That was the genesis of NASA TV. Some years later, it morphed into the entity we know it as today. As I have stated in at least one previous column, the folks at NASA may be brilliant at designing and launching spacecraft and training astronauts but they are not very competent when it comes to doing television. Because of its many shortcomings, NASA TV is only carried on two satellite services and maybe a few cable systems - - even though the channel is offered for free.

The folks at NASA later learned that they could stream the programming online. While online streaming allows more people to access NASA TV programming, it also seemed to create a NASA attitude that streaming was good enough; that there was no need to improve NASA TV. Hence, in June of 2012, NASA TV covered the transit of Venus only through streaming internet video coverage; depriving anyone without access to a fast computer and broadband of a chance to an event of rarity and magnitude.

Imagine what would happen if that attitude was applied to broadcasting the Super Bowl.

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Stewart's Skybox

by Stewart Meyers

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An emphasis on online streaming can limit the audience. The only folks who will watch the streaming video are those who have a fast connection, know about the content and know where to find it. Someone who only has a casual interest in NASA and space science probably wouldn't know about the streaming programs or where to find them. The same could also be said of other web-only astronomy and space news sources.

This "electronic ghetto" argument should not be construed as meaning that astronomy outreach efforts should abandon the Web. Far from it. Despite appearances, not everyone in the United States has full access to the Internet. Therefore, online presence and the efforts to get space information into the media mainstream should both be pursued. The two approaches can and should complement one another.

The Efforts of Crowds

One major successful use of the Internet for astronomical purposes is the use of interested members of the public to search through vast volumes of astronomical data.

The first of these projects was SETI@home (http://www.setiathome.org). Founded in 1995 at the University of California Berkeley, the project gave members of the public a screen saver program that would analyze packets of data generated by the SETI Institute's search for alien radio signals. This was the first major example of what is now known as distributed computing where the power of many small computers is used on projects that would otherwise bog down a single large dedicated computer system. This system proved so successful that it spawned two other distributed computing projects.

In 2005, the University of Wisconsin Milwaukee and the Albert Einstein Institute at the Max Planck Institute created Einstein@home (http://einstein.phys.uwm.edu), which uses distributed computing to analyze data from the LIGO gravity wave detectors as well as radio pulsar data from Arecibo. The other project is Milky Way@home (http://milkyway.cs.rpi.edu/milkyway) founded in 2008 by the Rensselaer Polytechnic Institute to study the three-dimensional structure of streams of stars orbiting our galaxy.

However, astronomers wondered if the power of the human mind to spot patterns could be harnessed to solve some knotty problems. One project was classifying the vast number of galaxies found in automated surveys like the Sloan Digital Sky Survey. Earlier automated analysis efforts turned out to be rather ineffective. This prompted the creation of the Galaxy Zoo project by Chris Lintott in 2007. This was not a screen saver like Seti@home, but it had people look at images of galaxies and decide what category they fit into. Each galaxy was inspected by a number of people to damp out any potential errors. Galaxy Zoo was a great success and even resulted in the discovery of what turned out to be a cloud of dust and gas reflecting the light of an active episode of a now-dormant galactic nucleus. Another discovery was of a new class of galaxy in the early universe known as "green pea galaxies" due to their appearance on the survey images.

Nothing inspires sequels like success and another "Zoo" project emerged. The Lunar Reconnaissance Orbiter (LRO) generated (and still continues to generate) a large number of high-resolution images of the lunar surface. Again, the sheer volume of the data defied automated analysis as well as the old professional technique of using grad students. To solve this problem, Lintott created the Moon Zoo in 2010, a project where interested people would classify the appearance of lunar craters and their immediate surroundings. This is done in an effort to estimate the thickness of the lunar regolith (the layer of pulverized rock that covers the lunar surface). Knowledge of areas where the regolith is thin and where it is thick is of importance to efforts to return humans to the Moon.

Skype or Hype?

Last month, AAI had its first experience with an online presentation for a monthly general membership meeting. Following the presentation of a lecture on stellar evolution leading to the development of planetary nebulae (which had previously been uploaded to YouTube), Dr. Orsola DeMarco, a professor at Macquarie University, in Sydney, Australiia appeared via SKYPE to address member questions. While the new format allowed the club access to a speaker from continents away, there were a few minor shortcomings. For instance, it was difficult for people anywhere except the front row to make their questions heard clearly. Then there was the fact that Dr. DeMarco was sitting in front of a window on a sunny day, creating some backlighting problems.

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Stewart's Skybox

by Stewart Meyers

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Perhaps a way to remedy the audio problem is to handle the Q&A session for future online presentations the way Creation Entertainment handles their celebrity Q&A sessions at conventions. Set on the floor near each side of the stage is a microphone on a stand. People who want to ask questions line up at a microphone. I can personally attest that this works. If it is good enough for an outfit like Creation, it should be good enough for AAI.

[Editor's note: Creation Entertainment is a for-profit operator of large sci-fi and other genre fan conventions, which charges between $25-$85 for admission to its productions.
AAI, is an all-volunteer, non-profit organization, which offers its programs to the public for free.]

The Unknown Future

As the computers and the Internet continue to evolve, who knows what impact they will have on astronomy? Only time will tell where the online future leads.

☆☆☆

In May, Joe Arcaro taught Caring Kids all about the solar system. Image credit Natalie M. Hiott-Levine.

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MEMBERSHIP DUES

Regular Membership:	$21
Sustaining Membership:	$31
Sponsoring Membership:	$46
Family Membership:	$5
First Time Application Fee:	$3
Sky & Telescope:	$32.95
Astronomy subscription:	$34

(Subscription renewals to *S&T* can be done directly. See "Membership-Dues" on web-site for details.)

AAI Dues can be paid in person to our Membership Chair, or by mail to: AAI, PO Box 111, Garwood, NJ 07027-0111

DOME DUTY

May	17	Team C
May	24	Team D
May	31	Team E
June	7	Team A
June	14	Team B

FRIDAYS AT SPERRY

May 24, 2013
Our Little Drop of the Ocean: What's In the Sun's Backyard
John Sichel

May 31, 2013
Update on New Horizons Mission - Helder Jacinto

June 7, 2013
What's Up? A Down to Earth Sky Guide Kathy Vaccari
Space Missions Briefing
Bill Whitehead

June 14, 2013
Check the website.

Check our website for July, Aug & Sept. speakers

All schedules above were accurate at time of publication. Please check www.asterism.org for latest information (click on "Club Activities")

☆☆☆

The next **General Membership Meeting** is the third **Friday,** in September. **The Asterism**, will **not** be published in June, July and August.

ENJOY YOUR SUMMER

Theater in the Sky

by Ron Ruemmler

June 2013 starts off with **Mercury**, **Venus**, and **Jupiter** in a line to the upper left of the sunset point. By the end of the month, **Venus** has only Pollux and Castor for company.

Mercury continues to put on the performance of a lifetime as it hovers above **Venus** for a full 26 days, from May 23 through June 17. Any time after the 12th, telescope users get a chance to see a crescent **Mercury**! This is when the little planet starts to show us its dark side as it begins to pass between the **Earth** and the **Sun**. Binoculars will not be enough, as magnification of 100x or more is recommended.

Jupiter starts the month to the lower right of **Mercury** and **Venus** but rapidly exits the evening sky. The giant planet actually passes behind the disk of the **Sun** on the 19th, an event which happens roughly every six years.

After being a nearly invisible evening object since the beginning of the year, **Mars** tries to sneak into the morning sky. If you want to be among the first to catch it, try on the 7th when it is near a sliver of a Moon, just 31 hours before New Moon.

Saturn is at its maximum altitude in the southern sky around 9:30 PM and doesn't set until nearly 3:00 AM. **Uranus** and **Neptune** both rise around midnight.

June (times are PM unless noted)

1 Sat 9:00	**Mercury**-**Venus**-**Jupiter** in evenly spaced straight line, top to bottom
7 Fri 5:00 AM	**Mars** upper left of extremely thin crescent **Moon** (binoculars)
8 Sat 11:56 AM	New **Moon**
9 Sun 8:50	Very thin crescent **Moon** directly below **Venus** (binoculars)
10 Mon 9:20	Thin crescent **Moon** directly left of **Venus**
12 Wed 1:00	**Mercury** at maximum elongation from the **Sun**
12 Wed 9:00	Highest visible evening **Mercury** of the year
14 Fri 5:23 AM	Earliest sunrise of the year
16 Sun 1:24	First Quarter **Moon**
18 Tue 9:30	Crescent **Mercury** directly left of **Venus**
18 Tue 10:30	**Moon** lower right of **Saturn** and left of Spica
19 Wed Noon	**Jupiter** passes directly behind the **Sun**; enters morning sky
19 Wed 10:30	**Moon** lower left of **Saturn**
20 Thu 9:30	Crescent **Mercury** 2 degrees lower left of **Venus** (closest)
21 Fri 1:04 AM	Summer Solstice; shortest night of the year
23 Sun 7:00 AM	Closest **Moon** of the year (221,824 miles)
23 Sun 7:32 AM	Full **Moon**; half-hour after perigee; expect extreme tides
25 Tue 9:30	**Venus**-Pollux-Castor in horizontal line, left to right
27 Thu 8:32	Latest sunset of the year
30 Sun 12:54 AM	Last Quarter **Moon**