GUIDESCOPE

September, 2008

-Regular Meeting-

Will be held on Wednesday, September 3 at 7 p.m. at the Carlisle Visitor's Center. Dave Lengyel will host a solar finder make-it-take-it.

-Board Meeting-

Will be held on Thursday, September 11 at Blue Sky Restaurant on Rt. 58 in Amherst. The meeting is always open to everyone.

-Nielson Observing Sessions-

Friday, September 27 from 9 p.m. to 11 p.m. - a look at Autumn constellations.

-Miscellaneous Events-

Saturday, September 6 - B.R.A.S. will host the O.T.A.A. star party at the Birmingham Methodist Church. Doors open at 4:30 p.m., dinner starts at 5:30 p.m., and door prizes will be given at 6:30 p.m. The admission is five dollars, and the prizes will be followed by a night of observing (weather permitting, of course). Bring a scope and a friend.
Sunday, September 28 from 1 p.m. to 4 p.m. - Safely view the sun at French Creek Metropark.

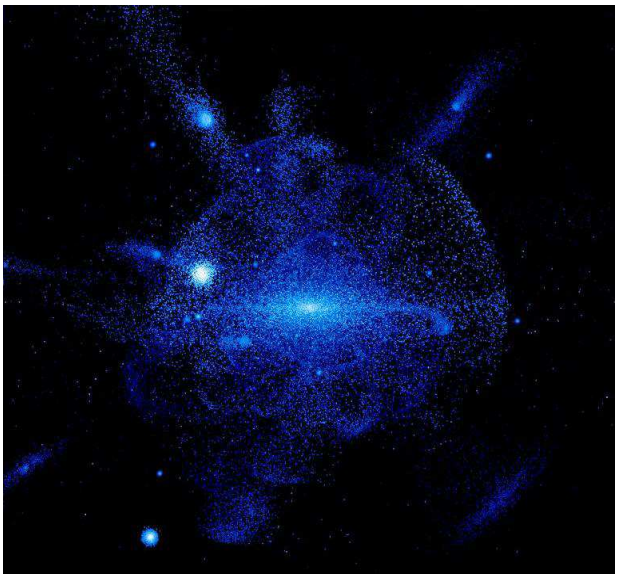
-Programs on the Way-

October, 2008 - Nielsen meeting.
November, 2008 - Telescopes 101 by Jim Cunningham.
December, 2008 - Holiday Dinner

-Selling Points-

For sale: Celestron CPC 1100 XLT GoTo Schmidt Cassegrain-
-Optical design: 11" Schmidt-Cassegrain
-Focal length: 2800mm, f/10
-Finder scope: 50mm, with quick-release bracket
-Mount: Altazimuth, dual fork arms
Contact: Piper Pasquale by phone at (216) 212-9901 or e-mail piperpasquale@yahoo.com.

Astro-News
September, 2008



Above - a model of the Milky Way's stellar halo based on Schlaufman's measurements (astronomy.com).

September 4 - Though it is our home, astronomers are far from fully understanding the Milky Way. Even now, a new picture of our galaxy may be emerging.

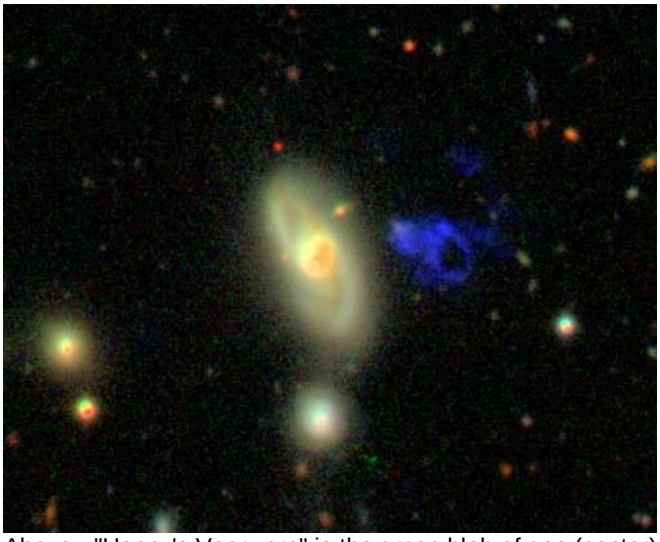
Kevin Schlaufman, a student at U.C. Santa Cruz, analyzed data from the Sloan Digital Sky Survey (SDSS-II) and used it to show that our galaxy is in fact crisscrossed by rivers of stars, many of which are likely to be the remnants of scattered dwarf companions. He reached his findings by measuring the velocities of almost 250,000 stars, trying to find groups of them moving together. His search turned up eleven previously undiscovered structures. These, however, were found just in a small part of the sky, indicating that the actual count could be much higher. Similarly, the survey discovered two more dwarf galaxies still in orbit, and there could be many more that are simply too faint to see. This new data seems possibly to confirm the standing theory of galactic evolution, which says that galaxies grow over time by devouring their companions.

August 30 - Planet or no? The debate about Pluto's status in the solar system rages on in astronomy clubs and classrooms worldwide, amongst amateurs and professionals alike. The International Astronomical Union's (IAU) controversial decision in 2006 to demote Pluto from planetary status still rings harshly in many an astronomer's ears, including those of Mark Sykes, who believes that to be a planet an object must be massive enough to take on a spherical shape. Sykes' definition is opposed to that of Neil deGrasse Tyson, who he will debate on the subject at the Great Planet Debate, a three day long conference being held at the Johns Hopkins Applied Physics Laboratory.

One of the sticking points in the IAU's decision is their criterion that a planet must clear its orbit around the Sun. The problem with this, says Sykes, is that the further an object is away from its host star, the more massive it must be to clear out its orbit. "If Pluto were half the mass of Uranus, it would still not be a planet," he said, adding, "And if the Earth traded places with Jupiter, Earth would not be a planet. It's like saying a fruit becomes a vegetable if you move it to the other side of the table." One result of adopting Sykes' definition of planet hood is an increase in the number of planets to thirteen, including: Ceres, Charon, Eris and the uniquely named Makemake, a recent discovery.

Schoolteacher discovers 'cosmic ghost'

Galaxyzoo.org team members believe the gaseous object is the "light echo" of a quasar.
Provided by the University of Oxford



Above - "Hanny's Voorwerp" is the green blob of gas (center) and is believed to be a "light echo" from the bright, stormy center of a distant galaxy that has now gone dim. *Dan Smith/Peter Herbert/Matt Jarvis/the ING*

August 7, 2008

A Dutch schoolteacher has discovered a mysterious and unique astronomical object through the Galaxy Zoo project, which enables members of the public to take part in astronomy research on-line.

Hanny van Arkel, a primary schoolteacher from the Netherlands, came across the image of a strange gaseous object with a hole in the center that has been described as a "cosmic ghost" while using the galaxyzoo.org web site to classify images of galaxies.

She posted about the image — which quickly became known as Hanny's "Voorwerp" after the Dutch word for "object" — on the Galaxy Zoo forum and the astronomers who run the site began to investigate. They soon realized the potential significance of what they think is a new class of astronomical object and will now use the Hubble Space Telescope to get a closer look at "Hanny's Voorwerp."

"At first we thought it was a distant galaxy," said Dr. Chris Lintott of Oxford University, a galaxyzoo.org team member, "but we realized there were no stars in it so that it must be a cloud of gas." What was particularly puzzling to astronomers was that the gas was so hot — more than 18,000° Fahrenheit (10,000° Celsius) — when there we re no stars in the vicinity to heat it up.

"We now think that what we're looking at is light from a quasar — the bright, stormy center of a distant galaxy powered by a supermassive black hole," said Dr. Lintott. "The quasar itself is no longer visible to us, but its light continues to travel through space and the Voorwerp is a massive 'light echo' produced as this light strikes the gas."

The black hole at the center of the galaxy, IC 2497, is now "turned off" — which is why the quasar has gone dim — but around 100,000 years ago the quasar was bright enough to have been visible from Earth through a small, inexpensive telescope.

Dr. Lintott added: "From the point of view of the Voorwerp, the galaxy looks as bright as it would have done before the black hole turned off — it's this light echo that has been 'frozen in time' for us to observe. It's rather like examining the scene of a crime where, although we can't see them, we know the culprit must be lurking somewhere nearby in the shadows."

"IC 2497 is so close that if the quasar was still shining today, on a good night you could probably see it with a small telescope," said galaxyzoo.org team member Kevin Schawinski of the Yale University who recently moved there from Oxford University. "The nearest active quasar, called 3C 273, is 1.7 billion light-years further away."

Smaller light echoes have been noted around supernovae before but never anything of the scale and shape of the Voorwerp. As yet nobody has a sensible explanation for the hole that runs through its center.

Hanny van Arkel, a Dutch primary schoolteacher, discovered a mysterious new astronomical object while on galaxyzoo.org. *Edd Edmondson*

"It's amazing to think that this object has been sitting in the archives for decades and that amateur volunteers can help by spotting things like this on-line," said van Arkel. "It was a fantastic present to find out on my 25th birthday that we will get observational time on the Hubble Space Telescope to follow-up this discovery."

"This discovery really shows how citizen science has come of age in the Internet world," commented Professor Bill Keel of the University of Alabama, a galaxyzoo.org team member. "Hanny's attentiveness alerted us not only to a peculiar object, but to a window into the cosmic past, which might have eluded us for a long time otherwise. Trying to understand the processes operating here has proven to be a fascinating challenge, involving a whole range of astrophysical techniques and instruments around the world and beyond. This has also been some of the most rewarding astronomy I've done in years!"

Dr. Dan Smith of Liverpool John Moores University and Peter Herbert of the University of Hertfordshire were observing using the Isaac Newton Group of telescopes in La Palma, Spain, when word of the discovery filtered through. "When we got the news about Hanny's Voorwerp we were intrigued to find out what it was, and, fortunately, we were able to slew the telescopes round and get some great images and spectra to study it," said Dr Smith. "It was only later that we heard the story about how it had been discovered; it's inspirational that Hanny picked out this object from Galaxy Zoo in her spare time and nobody had ever seen anything like it before.'

During the last year, 50 million classifications of galaxies have been submitted on one million objects at www.galaxyzoo.org by more than 150,000 armchair astronomers from all over the world.

The next stage of Galaxy Zoo will ask volunteers for more detailed classifications, making it easier to identify more unusual objects such as Hanny's Voorwerp.

OHIO TURNPIKE ASTRONOMERS' ASSOCIATION
hosted by
THE BLACK RIVER ASTRONOMICAL SOCIETY

SATURDAY, SEPTEMBER 6th 2008
27 YEARS OF B.R.A.S. OTAA MEETINGS

at the
BIRMINGHAM METHODIST CHURCH HALL
BIRMINGHAM, OHIO
RAIN OR SHINE

Doors Open 4:30 Dinner - 5:30 Door Prizes - 6:30 Star Party to Follow

DOOR PRIZES!

FLEA MARKET

Bring something to sell or trade or find that special item to fill your needs. Several tables will be provided.

STAR PARTY AT THE MEETING SITE

There is a large open field adjacent to the meeting hall. There are great horizons and the sky is dark. Bring your telescope and enjoy convenient dark-sky viewing, with access to the hall when you need to take a break.

POT LUCK DINNER

Bring a dish to pass, beverage and table setting.

DIRECTIONS:

Take the Ohio Turnpike and exit at 135 (Baumhart Rd.). (Alternately, take Rt. 2 to Baumhart Rd.) Go south on Baumhart to Rt. 113, then head west to Birmingham. Turn left (south) at the first street over the bridge as you enter Birmingham. Continue on South St. as it curves to the right, and the meeting hall will be on the left.