

North Star Newsletter

August 2011

Volume XI No. 8

NHAC General Meeting

July 22, 2011

NOVICE PROGRAM

“Observing the Moon”

By Aaron Clevenson

6:30 - 7:15 in CLA 221, The Cosmic Forum

MAIN PRESENTATION

Beginning at 7:30 in CLA Teaching Theater, featuring:

- NHAC news and announcements
- *“What’s Up Doc?”* by Aaron Clevenson

FEATURED SPEAKER

Dr. David Haviland

“The Barringer Meteor Crater”



Inside This Issue

Upcoming Meeting Reminder	1
Table of Contents	2
June's Featured Speaker	3
Save the Date!!	3
NHAC Officers and Affiliations	4
News and Tidbits	5
O'Brien Observing Site	6
Trick Your Eyes to See More <i>by Sue Wheatley</i>	7
NASA Dawn Spacecraft Returns Close-Up Image of Vesta	8 - 9
NHAC Monthly Star Parties	10
Insperty Observatory Public Nights	11
Refreshment Committee Chair Needed	12
About NHAC	13

The Deadline for submissions for the
September 2011 newsletter
is August 15, 2011.

THANK YOU!

Astronomers Learn of Dark Energy and Dark Matter



John Wakefield drew upon his training in Applied Physics/Astrophysics from the University of Houston to discuss Dark Energy, Dark Matter, critical density, and the accelerating universe at the June General Meeting.

Delving into both the mysteries and the known physics of recent discoveries, Wakefield explained research results from various observatories and university studies to explain the current thinking about the makeup of the universe.

SAVE THE DATE!!
SATURDAY, OCTOBER 1, 2011
NHAC MEMBERSHIP DRIVE
BBQ AND OBSERVING

*Check the September and October Northstar Newsletters
for more details.*

Remember to check out the North Houston Astronomy Club
Facebook and Twitter pages:



<http://www.facebook.com/NorthHoustonAstronomyClub>



http://www.twitter.com/NHAC_Info



2011 NHAC OFFICERS



2011 Elected Officers

PRESIDENT

Bruce Pollard

president@astronomyclub.org

VICE PRESIDENT

Aaron Clevenson

vicepresident@astronomyclub.org

SECRETARY

Susan Pollard

secretary@astronomyclub.org

TREASURER

Mary Moore

treasurer@astronomyclub.org

EDITOR

Jamie Martin

newsletter@astronomyclub.org

WEBMASTER

Ed Knapton

webmaster@astronomyclub.org

ALCOR

Jim Barbasso

alcor@astronomyclub.org

OBSERVATION COMMITTEE CHAIRPERSON

open

observation@astronomyclub.org

MEMBERSHIP COMMITTEE CHAIRPERSON

Bruce Pollard/Stuart Davenport

membership@astronomyclub.org

PROGRAM COMMITTEE CHAIRPERSON

George Marsden

program@astronomyclub.org

"It is the chiefest point of happiness that a man is willing to be what he is."

Desiderius Erasmus (1466 - 1536)

NHAC is a proud member of:



News and Tidbits

NHAC Secretary: Best Wishes to Alan Wilson; Welcome Susan Pollard!

We bid farewell to our club Secretary, Alan Wilson, as his family has relocated to England. He will surely be missed, and we wish him good luck and clear skies. Susan Pollard has been voted in by the board to take over Secretarial duties for the remainder of the year. We are excited to have Susan onboard!

Welcome New Members!

- ★ RENE, RAY AND EVAN GEDALY
- ★ PAM, DANNY, HATHLEEN, RACHAEL & MELINDA MILLER
- ★ NESTOR, MARILOU & MATHEW MIRABAL

NGC-1 Has a New Home

On Tuesday, July 19th, our club storage container, NGC-1, will be moved to its new location at the O'Brien dark site. We extend our gratitude to Tim and Wanda O'Brien for graciously providing a wonderful new home for NGC-1.

Upcoming Star Parties

The **Okie-Tex Star Party** will be held September 24 - October 2, 2011 at Camp Billy Joe in the Black Mesa Area of Oklahoma. For more informaton and registration go to their website at: www.okie-tex.com/index.php

The 28th Annual **Eldorado Star Party** will be held October 24 - 30, 2011 at the X Bar Ranch Nature Retreat in Eldorado, Texas. For more information and registration go to their website at www.texasstarparty.org/eldorado.html

Got a Favorite Piece of Equipment?

If you have a favorite piece of equipment, a novel way of solving a problem, or a shortcut for making observing easier, bring it to the monthly meeting for the **"Show-And-Tell"** segment. Each presentation should take about 3 - 5 minutes and all ideas are welcome. Please submit your idea to Program Committee Chair, George Marsden at program@astronomyclub.org before the next meeting so that he can reserve a spot for your presentation.

Special Club Rate Magazine Subscriptions

Club rates for personal subscriptions to ASTRONOMY and SKY & TELESCOPE magazines save about 25% over the normal subscription costs. Each magazine has its own procedure to subscribe based upon initiating the order through the club treasurer.

For ASTRONOMY magazine, write your check to NHAC (or pay in cash) for \$34 (or \$60 for 2 years). The Treasurer then validates your membership by writing a club check for the same amount to the magazine and sending them your address. Renewals must also be processed through the club. Please save your renewal documents for this process.

For SKY & TELESCOPE, pay the club \$33 (or \$32.95 if by check). As above, we write a club check to validate your membership and start your subscription. SKY & TELESCOPE renewals are processed directly by the subscriber.

Be sure to include a clearly printed name and address sheet for any new subscriptions.

O'Brien Observing Site

Have you been to O'Brien site yet? This is a new location that is available to NHAC members. It has open fields with a treed horizon in all directions at 5 degrees and is located in Montgomery, Texas (heading west on Highway 105)

If you would like to use this site in the future, please read the use policy on the NHAC web page (click on the "Star Party!" link from the Home page), and please follow this process:

- Tim and Wanda O'Brien and their family are our hosts. They are on Netslyder, the email list server.
- To request use of the site, send an email out on Netslyder to:
NHAC@mail.netslyder.net
- Requests must be made more than 24 hours in advance.
- Wanda or Tim will reply on Netslyder to let you know it is ok.
- Other members are welcome to also attend that night. Once approved, another request is not necessary at that point.
- The site is open to members and their guests (only when the member is present).

If you have any questions, please contact Aaron Clevenson, directly, at aaron@clevenson.org



Trick Your Eyes To See More

by Sue Wheatley

An observer is only as good as his eyes. Luckily you can improve your eye perception with some tricks used by the Air Force.

- Trick #1. Wear gray-toned, dark sunglasses and a hat with a brim during the day. Avoid the beach on days before an observing session. Stay inside in a slightly dark room. Two or three hours of bright sunlight exposure has been shown to delay the onset of dark adaptation by 10 minutes or more, and to decrease the final threshold, so that full night vision sensitivity could not be reached for hours. After 10 consecutive days of sunlight exposure, the losses in night vision were reported to cause a 50% loss in visual acuity, visibility range, and contrast discrimination.*
- Trick #2. Observe when the sky is not yet dark. Rods in the eye function at night. Cones do not function below the intensity of moonlight, but in the twilight or at dusk, both rods and cones are actively contributing to vision...neither at peak efficiency, but both are working. This is a great time to observe carbon stars, clusters with various colored stars, or globulars with colored stars in their outer areas.
- Trick #3. After dark, as many as 100 rods or more may stimulate a single nerve fiber in the retina, which increases sensitivity. Since this mechanism occurs instantaneously, if you can hold your head perfectly still while looking at an object, many rods in that area of your retina will be feeding impulses to that one nerve (area) of the retina, which makes it easier for the brain to "see" that area.
- Trick #4. Put your target off-center in your eyepiece. To best detect small targets with the rods, look approximately 15-20 degrees to one side, above, or below an object to place the object on the part of the retina that possesses the highest density of rods. Fixate to one side of the object to avoid your central blind spot and then slowly scan in a circle around the object, staying 15 degrees above, left, right, and below the object to utilize the most sensitive parts of the retina.*
- Trick #5. The cones are more sensitive to yellow and red light. The rods are more sensitive to blue-green. Use this information to check out those carbon stars at dusk and the planetary nebulas after dark.

*Excerpts from "Night Vision Manual for the Flight Surgeon", Robert E. Miller II, Col, USAF, (RET) and Thomas J. Tredici, Col, USAF, (RET).

NASA Dawn Spacecraft Returns Close-Up Image of Vesta

by Priscilla Vega and Dwyne C. Brown

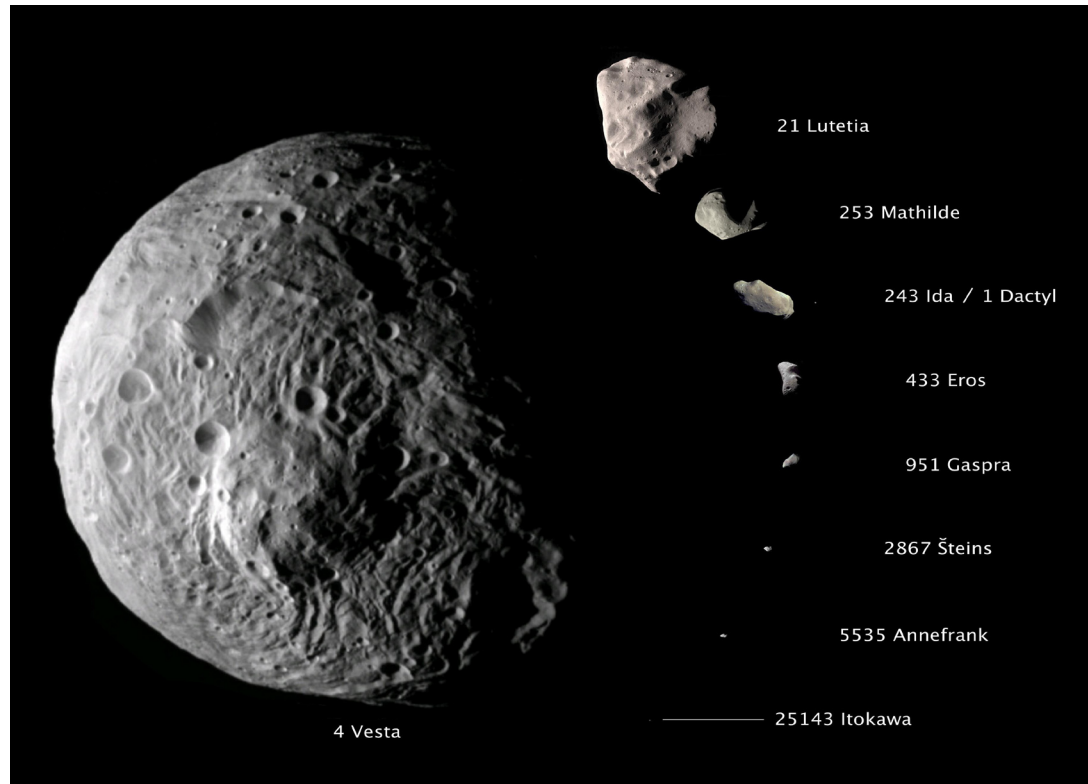


Image Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

PASADENA, Calif. -- NASA's Dawn spacecraft has returned the first close-up image after beginning its orbit around the giant asteroid Vesta. On Friday, July 15, Dawn became the first probe to enter orbit around an object in the main asteroid belt between Mars and Jupiter.

The image taken for navigation purposes shows Vesta in greater detail than ever before. When Vesta captured Dawn into its orbit, there were approximately 9,900 miles (16,000 kilometers) between the spacecraft and asteroid. Engineers estimate the orbit capture took place at 10 p.m. PDT Friday, July 15 (1 a.m. EDT Saturday, July 16).

Vesta is 330 miles (530 kilometers) in diameter and the second most massive object in the asteroid belt. Ground- and space-based telescopes have obtained images of Vesta for about two centuries, but they have not been able to see much detail on its surface.

"We are beginning the study of arguably the oldest extant primordial surface in the solar system," said Dawn principal investigator Christopher Russell from the University of California, Los Angeles. "This region of space has been ignored for far too long. So far, the images received to date reveal a complex surface that seems to have preserved some of the earliest events in Vesta's history, as well as logging the onslaught that Vesta has suffered in the intervening eons."

Vesta is thought to be the source of a large number of meteorites that fall to Earth. Vesta and its new NASA neighbor, Dawn, are currently approximately 117 million miles (188 million kilometers) away from Earth. The Dawn team will begin gathering science data in August. Observations will provide unprecedented data to help scientists understand the earliest chapter of our solar system. The data also will help pave the way for future human space missions.

After traveling nearly four years and 1.7 billion miles (2.8 billion kilometers), Dawn also accomplished the largest propulsive acceleration of any spacecraft, with a change in velocity of more than 4.2 miles per second (6.7 kilometers per second), due to its ion engines. The engines expel ions to create thrust and provide higher spacecraft speeds than any other technology currently available.

"Dawn slipped gently into orbit with the same grace it has displayed during its years of ion thrusting through interplanetary space," said Marc Rayman, Dawn chief engineer and mission manager at NASA's Jet Propulsion Laboratory in Pasadena, Calif. "It is fantastically exciting that we will begin providing humankind its first detailed views of one of the last unexplored worlds in the inner solar system."

Although orbit capture is complete, the approach phase will continue for about three weeks. During approach, the Dawn team will continue a search for possible moons around the asteroid; obtain more images for navigation; observe Vesta's physical properties; and obtain calibration data.



Image Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

In addition, navigators will measure the strength of Vesta's gravitational tug on the spacecraft to compute the asteroid's mass with much greater accuracy than has been previously available. That will allow them to refine the time of orbit insertion.

Dawn will spend one year orbiting Vesta, then travel to a second destination, the dwarf planet Ceres, arriving in February 2015. The mission to Vesta and Ceres is managed by JPL for the agency's Science Mission Directorate in Washington. Dawn is a project of the directorate's Discovery Program, which is managed by NASA's Marshall Space Flight Center in Huntsville, Ala.

NHAC Monthly Star Parties

Come on out for Socializing and Stargazing!

Mark these dates on your calendar for future NHAC Star Parties at The White Eagle Lodge (WEL):

July 30, 2011

October 22, 2011

August 27, 2011

November 26, 2011

September 24, 2011

December 17, 2011

**These dates are tentative and subject to change.*

Rules and Directions are available online at www.astronomyclub.org



The Insperity Observatory at Humble ISD



The Insperity Observatory at Humble ISD, 2505 S. Houston Ave., Humble, TX 77396 281-641-STAR

Upcoming Public Nights at the Observatory*

August 12, 2011 @ 8:00 pm

September 9, 2011 @ 7:30 pm

October 14, 2011 @ 7:00 pm

November 11, 2011 @ 5:28 am

**Dates and times are subject to change.*

Refreshment Committee Chairman Needed

Your hungry club members need YOU! Yes, YOU!!

Have you been thinking about getting more involved with the club, but weren't quite sure what to do? Well, this would be a great way to help out! We are looking for someone to be in charge of the meeting refreshments each month.

Your job would be to see that the refreshments are ordered, picked up and delivered to the meeting each month. They would need to be set up prior to the meeting and taken down after the meeting. You would also need to see that all of the necessary utensils were kept on hand.

As Chairman, you may choose to delegate this monthly, or handle it yourself with a few bodyguards. :)



Position: Available immediately

Salary: We will pay you on Tuesday for the hamburger today

Satisfaction: Priceless

Contact board@astronomy.club.org

**We need YOU!!
Step on up!!**

About NHAC

The North Houston Astronomy Club (NHAC), was formed for educational and scientific purposes, for people of all races, creeds, ethnic backgrounds and sex, for the primary purpose of developing and implementing programs designed to increase the awareness and knowledge of astronomy, especially for those living near the north side of Houston Texas.

NHAC is a non-profit organization dedicated to providing the opportunity for all individuals to pursue the science of astronomy, by observing in a dark-sky site, learning the latest technology, and sharing their knowledge and experience. Thus, our "Observe-Learn-Share" motto.

North Houston Astronomy Club is Sponsored by:



Membership Benefits

- Loaner telescopes
- Borrow from the NHAC "Library"
- Observe from Dark Sky Observing Sites
- Learn from experienced amateur astronomers
- Share your knowledge at club hosted picnics and star parties
- Discount magazine subscriptions (contact our Treasurer)
- Includes membership in the Astronomical League
- The quarterly Astronomical League magazine "Reflector"
- Eligibility for NHAC Executive Board

www.astronomyclub.org
www.nhac.info

North Houston Astronomy Club

www.astronomyclub.org

www.nhac.info

Observe - Learn - Share

