NORTH HOUSTON ASTRONOMY CLUB

North Star Newsletter

December 2011 Volume XI No. 12

NHAC General Meeting

November 18, 2011

Novice Program

"*Observing Stars: Double Stars, Carbon Stars, Open Clusters, Globular Clusters*"
by Dr. Aaron Clevenson
6:30 - 7:15 in the Cosmic Forum, upstairs in the CLA building

Main Presentation

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

- NHAC news and announcements
- "*What's Up Doc?*" by Aaron Clevenson

Featured Speaker

Ed Knapton
NHAC
"*Telescope Optics*""

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The Deadline for submissions for the January 2012 newsletter is December 10, 2011.

Thank You!

Dave Clark delivered a highly informative and interesting presentation on Occultations. He shared his personal experiences with occultation seeking, preparation, recording, and showed some great video footage of lunar and asteroid occultations. He described different types of occultations and mentioned some extremely helpful websites and software that predict occultations, and help people figure out where they need to be to have the best chance of catching one. Thank you Dave!!

2012 Board Elections

NOMINATING COMMITTEE WANTS CANDIDATES!

Folks, I know what it is to keep a seat warm out there in the audience. I was there for several years, thinking that only members with a superior knowledge of astronomy would qualify for the NHAC executive board service.

Turns out that is just not the case. There are a lot of opportunities for both advanced and novice members. All you need is a bit of curiousity about what you might do to help out. Take that curiousity and talk with committee members (or board members) about your interests and how you could fit in. Let us do some of the background work. Then decide if you want to be a candidate.

Some positions are open, some incumbents are flexible, and co-positions are a possibility. This means there is likely an opportunity that will fit your pistol.

Don't put it off. Think Positively. Stake out a position now.

George Marsden

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

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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

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.

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

http://www.facebook.com/NorthHoustonAstronomyClub

http://www.twitter.com/NHAC_Info

From the Treasurer

Welcome Our New Members from August, September, and October!

New student members are:

- Vanessa Archer
- Brett Meinecke
- Oscar Villalobos
- Isabel Castro
- Rusty Hill
- George Sonnier

New members:

- Roy Willis
- Allan Hall
- James Jr and James III Billings
- George, Barbara and Mario Sarkis

Current dues for regular members will expire at the end of December. You may pay 2012 dues beginning any time now. They be deliquent at the end of January and if you haven't renewed by the end of February, you will be dropped from the roster. Dues for next year remain the same, $25.00 for an Individual and $30.00 for a family.

Student memberships are $5.00 and are valid for one year from the date joined.

If you have any questions about your current status, please see Mary Moore before or after any meeting or email her at Treasurer@astronomyclub.org.

The 2012 calendars are in and spectacular! They are $10.00 each and you can purchase them at any meeting!

Big Month for Outreach at NHAC...

This has been a busy month for outreach for the North Houston Astronomy Club. We had lots of events, and lots of excited participants. We hope you will join us for upcoming events. Watch Netslyder for announcements. No experience or specific expertise required...

Outreach in Houston

Our first event was at the Harvard Elementary in the Houston Heights. We have done this event for many years and bring a telescope and operate an activity table of activities from the Night Sky Network. We estimate that we had about 200 visitors. Normally we have other local astronomers participate with their telescopes, but this year we were the only astronomers there. Our table was next to NASA's table and they were launching paper rockets (in the cafeteria)...

The next event was at the John Cooper School in The Woodlands. Once again we had telescopes and an activity table. This was an event at their lower school (Elementary School). We saw about 100 people over the course of a few hours.

Our last event was a combined effort with the Houston Astronomical Society (HAS). We had about 7 telescopes set up at the Robinson Elementary in Houston. We had about 200 participants. While the other astronomers showed the celestial sights, I was in the cafeteria giving short presentations on the planets and the objects that were visible that night.

This has been a busier month than normal, but we are doing these activities all the time. For more information and opportunities, please contact me: Aaron Clevenson at aaron@clevenson.org or at a club event.

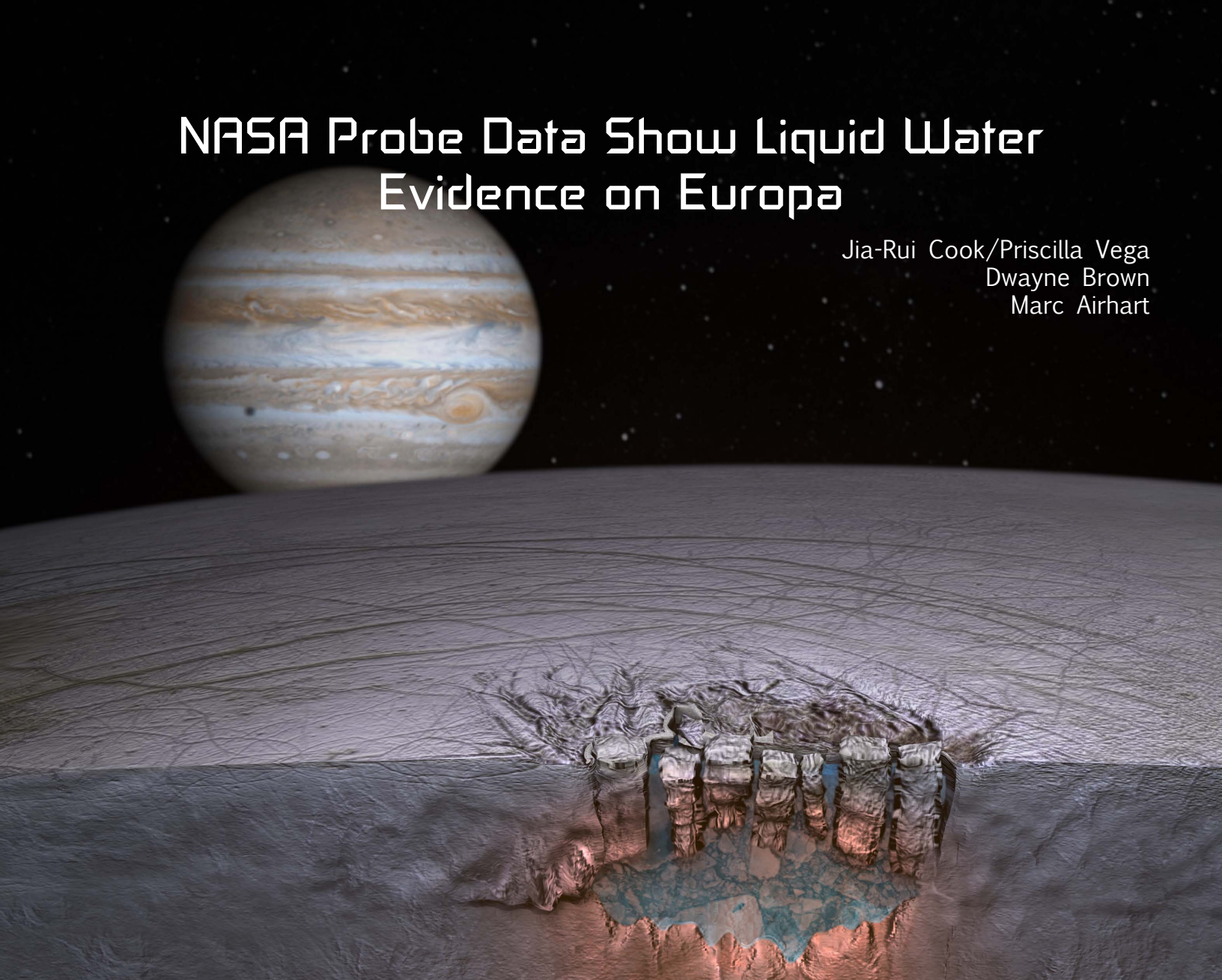
Outreach in Montgomery

The Montgomery Public Library asked NHAC to come back and do another public viewing at the facility in NE Montgomery. This was the clubs fourth event at the library in the last three years. Under a clear sky with less than average transparency we gave participants a chance to observe the Moon, Jupiter, Comet Garradd and a few DSOs.

Representing NHAC were several event regulars - Steve Sartor, Laura Higgenbotham, Mike Kramer and participating in her first public event, Jamie Martin. Thanks to those folks for helping to make the event happen.

NASA Probe Data Show Liquid Water Evidence on Europa

Jia-Rui Cook/Priscilla Vega
Dwayne Brown
Marc Airhart



Data from a NASA planetary mission have provided scientists evidence of what appears to be a body of liquid water, equal in volume to the North American Great Lakes, beneath the icy surface of Jupiter's moon, Europa.

The data suggest there is significant exchange between Europa's icy shell and the ocean beneath. This information could bolster arguments that Europa's global subsurface ocean represents a potential habitat for life elsewhere in our solar system. The findings are published in the scientific journal Nature.

"The data open up some compelling possibilities," said Mary Voytek, director of NASA's Astrobiology Program at agency headquarters in Washington. "However, scientists worldwide will want to take a close look at this analysis and review the data before we can fully appreciate the implication of these results."

NASA's Galileo spacecraft, launched by the space shuttle Atlantis in 1989 to Jupiter, produced numerous discoveries and provided scientists decades of data to analyze. Galileo studied Jupiter, which is the most massive planet in our solar system, and some of its many moons.

One of the most significant discoveries was the inference of a global saltwater ocean below the surface of Europa. This ocean is deep enough to cover the whole surface of Europa and contains more liquid water than all of Earth's oceans combined. However, being far from the sun, the ocean surface is completely frozen. Most scientists think this ice crust is tens of miles thick.

"One opinion in the scientific community has been if the ice shell is thick, that's bad for biology. That might mean the surface isn't communicating with the underlying ocean," said Britney Schmidt, lead author of the paper and postdoctoral fellow at the Institute for Geophysics, University of Texas at Austin. "Now, we see evidence that it's a thick ice shell that can mix vigorously and new evidence for giant shallow lakes. That could make Europa and its ocean more habitable."

Schmidt and her team focused on Galileo images of two roughly circular, bumpy features on Europa's surface called chaos terrains. Based on similar processes seen on Earth -- on ice shelves and under glaciers overlying volcanoes -- they developed a four-step model to explain how the features form. The model resolves several conflicting observations. Some seemed to suggest the ice shell is thick. Others suggest it is thin.

This recent analysis shows the chaos features on Europa's surface may be formed by mechanisms that involve significant exchange between the icy shell and the underlying lake. This provides a mechanism or model for transferring nutrients and energy between the surface and the vast global ocean already inferred to exist below the thick ice shell. This is thought to increase the potential for life there.

The study authors have good reason to believe their model is correct, based on observations of Europa from Galileo and of Earth. Still, because the inferred lakes are several miles below the surface, the only true confirmation of their presence would come from a future spacecraft mission designed to probe the ice shell. Such a mission was rated as the second highest priority flagship mission by the National Research Council's recent Planetary Science Decadal Survey and is being studied by NASA.

"This new understanding of processes on Europa would not have been possible without the foundation of the last 20 years of observations over Earth's ice sheets and floating ice shelves," said Don Blankenship, a co-author and senior research scientist at the Institute for Geophysics, where he leads airborne radar studies of the planet's ice sheets.

Galileo was the first spacecraft to directly measure Jupiter's atmosphere with a probe and conduct long-term observations of the Jovian system. The probe was the first to fly by an asteroid and discover the moon of an asteroid. NASA extended the mission three times to take advantage of Galileo's unique science capabilities, and the spacecraft was put on a collision course into Jupiter's atmosphere in September 2003 to eliminate any chance of impacting Europa.

The Galileo mission was managed by NASA's Jet Propulsion Laboratory in Pasadena, Calif., for the agency's Science Mission Directorate.

Observation Sites

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* (you must already be a member of the Netslyder mailing list)
- 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*

Observation Sites

White Eagle Lodge (WEL) 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):

November 26, 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*

December 2, 2011 @ 5:30 p.m.

**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: Availabile immediately

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

Satisfaction: Priceless

Contact *board@astronomyclub.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

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