



# North Star Newsletter

January 2011

Volume XI No. 1

## **NHAC General Meeting December 17, 2010**

### **Novice Program**

**“December Skies; Orion Rules Again!”**

**By: Mr. Bruce Pollard**

**6:30-7:15PM - CLA 225, Cosmic Forum**

### **Main Presentation**

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

**Featuring NHAC news and announcements**

**“What’s Up Doc?” by Aaron Clevenson**

**Professor Comet Report by Justin McCollum**

### **Our Featured Speaker**

# **“Open Forum Night”**

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# Thank You

A Very special thank you to Ed Knapton for the main presentation “Astronomy, the Internet, and You” and to all those who attended.

The Deadline for submissions for the next newsletter is December 5, 2010

## Elected Officers

**President: Lorrie Patel**

president@astronomyclub.org

**Vice President:: Bruce Pollard**

Vice presi-  
dent@astronomyclub.org

**Secretary: Alan Wilson**

secretary@astronomyclub.org

**Treasurer: George Marsden**

treasurer@astronomyclub.org

**Editor: Joe Wagner**

newsletter@astronomyclub.org

**Webmaster: Ed Knapton**

webmaster@astronomyclub.org

**ALCOR: Aaron Clevenson**

alcor@astronomyclub.org

**Observation Committee Chair-  
person: Dave Clark**

observation@astronomyclub.org

**Membership Committee Chair-  
person: Bill Leach/Stuart Dav-  
enport**

membership@astronomyclub.org

**Program Committee Chairper-  
son: Tom Rice**

program@astronomyclub.org

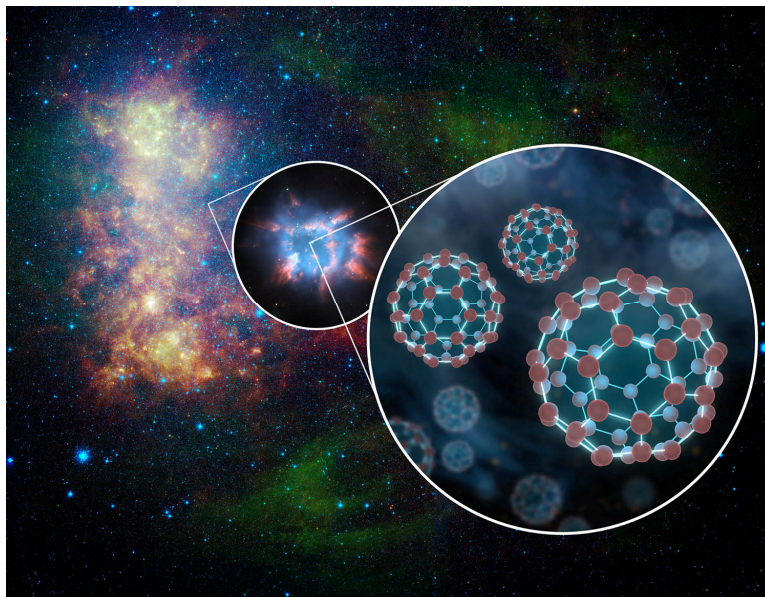
“ It is the chiefest point of happiness that a man is willing to be what he is .”  
*Desiderius Erasmus (1466—1536)*

### Proud member of:



## Astronomers Stumble onto Huge Space Molecules

By Trudy E. Bell and Dr. Tony Phillips



*Superimposed on a Spitzer infrared photo of the Small Magellanic Cloud is an artist's illustration depicting a magnified view of a planetary nebula and an even further magnified view of buckyballs, which consist of 60 carbon atoms arranged like soccer balls.*

Deep in interstellar space, in the swirling gaseous envelope of a planetary nebula, hosts of carbon atoms have joined together to form large three-dimensional molecules of a special type previously seen only on Earth. Astronomers discovered them almost accidentally using NASA's Spitzer Space Telescope.

“They are the largest molecules known in space,” declared Jan Cami of the University of Western Ontario, lead author of a paper with three colleagues published in *Science* online on July 22, 2010, and in print on September 3.

Not only are the molecules big: they are of a special class of carbon molecules known as “fullerenes” because their structure resembles the geodesic domes popularized by architect Buckminster Fuller. Spitzer found evidence of two types of fullerenes. The smaller type, nicknamed the “buckyball,” is chemical formula  $C_{60}$ , made of 60 carbon atoms joined in a series of hexagons and pentagons to form a spherical closed cage exactly like a black-and-white soccer ball. Spitzer also found a larger fullerene, chemical formula  $C_{70}$ , consisting of 70 carbon atoms in an elongated closed cage more resembling an oval rugby ball.

Neither type of fullerene is rigid; instead, their carbon atoms vibrate in and out, rather like the surface of a large soap bubble changes shape as it floats through the air. “Those vibrations correspond to wavelengths of infrared light emitted or absorbed—and that infrared emission is what Spitzer recorded,” Cami explained.

Although fullerenes have been sought in space for the last 25 years, ever since they were first identified in the laboratory, the astronomers practically stumbled into the discovery. Co-author Jeronimo Bernard-Salas of Cornell University, an expert in gas and dust in planetary nebulae, was doing routine research with Spitzer's infrared observations of planetary nebulae with its spectroscopy instrument. When he studied the spectrum (infrared signature) of a dim planetary nebula called Tc 1 in the southern-hemisphere constellation of Ara, he noticed several clear peaks he had not seen before in the spectra of other planetary nebulae.

## Astronomers Stumble onto Huge Space Molecules

Continued

By Trudy E. Bell and Dr. Tony Phillips

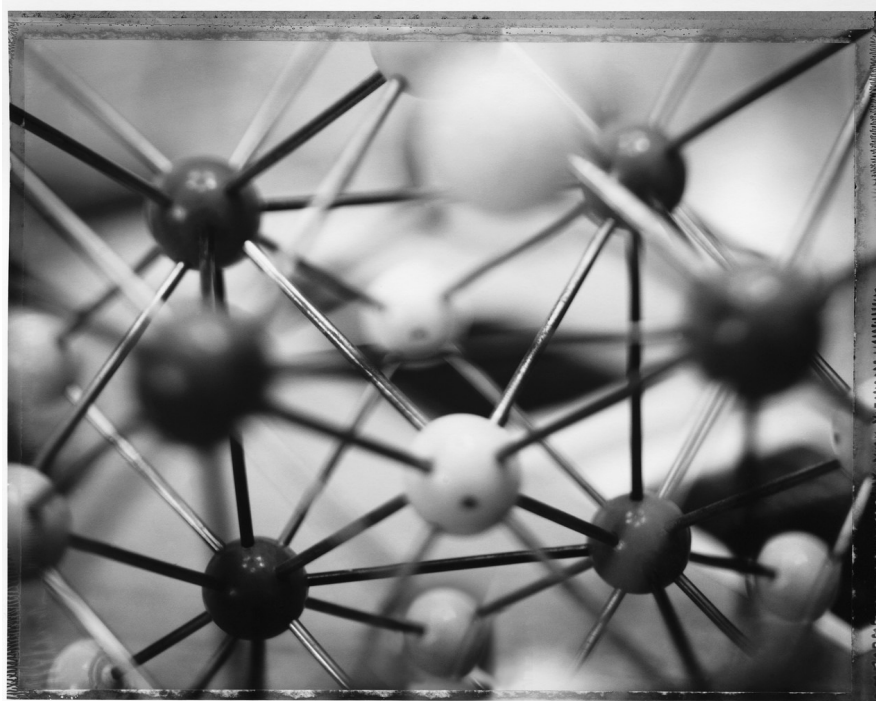
“When he came to me,” recounted Cami, an astrophysicist who specializes in molecular chemistry, “I immediately and intuitively knew it I was looking at buckyballs in space. I've never been that excited!” The authors confirmed his hunch by carefully comparing the Tc 1 spectrum to laboratory experiments described in the literature.

“This discovery shows that it is possible—even easy—for complex carbonaceous molecules to form spontaneously in space,” Cami said. “Now that we know fullerenes are out there, we can figure out their roles in the physics and chemistry of deep space. Who knows what other complex chemical compounds exist—maybe even some relevant to the formation of life in the universe!”

Stay tuned!

Learn more about this discovery at <http://www.spitzer.caltech.edu>. For kids, there are lots of beautiful Spitzer images to match up in the Spitzer Concentration game at <http://spaceplace.nasa.gov/en/kids/spitzer/concentration>.

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*



## The Administaff Observatory at Humble ISD



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

### Upcoming Public Nights at the Observatory \*

**January 14, 2011 @ 5:45 pm**

**February 11, 2011 @ 6:15 pm**

**March 11, 2011 @ 6:30 pm**

**April 8, 2011 @ 7:45 pm**

**May 13, 2011 @ 8:15 pm**

**June 10, 2011 @ 8:30 pm**

### TOTAL LUNAR ECLIPSE !

**December 21, 2010** There will be a total lunar eclipse of the moon. The observatory will be open to the public starting at midnight on the morning of December 21 and will be open until dawn. All lunar eclipses can be seen anywhere on Earth that you can see the moon at that time. This one is perfect for North America. The last total eclipse was on February 21, 2008 and was also observable from the observatory. Neither of the lunar eclipses in 2011 will be visible from the greater Houston area. We hope you can join us.

**\* Dates and times are subject to change.**

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# News and Tidbits

## Notes from the Treasurer

As most know by now, during 2010, NHAC membership expirations changed from mid year to end of year (EOY).

For those members whose membership is expiring EOY 2010, it's time to talk with the Treasurer. Bring a check or some cash to back up your intention. You may use PayPal, but be fast, as this opportunity will terminate at the end of this year.

If you received your NHAC membership card at the last meeting, check the expiration date. If in doubt, stop by the Treasurer's "office" at Friday's meeting. (Some folks got cards without an expiration date which indicates need to re-enlist for 2011.)

And, if you did not get a personalized member card, ask.

## 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 (or cash) to the NHAC for \$34 (or \$60 for 2 years). The Treasurer then validates your membership by writing a club check of the same amount to the magazine, sending along your address particulars. Renewals must also be processed through the club. Save your renewal documents for this process.

For SKY & TEL, 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. N.B.: SKY & TEL club rate renewals are processed directly by the subscriber.

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

## Upcoming Star Parties

The Texas Star Party will be held May 29-June 5, 2011 at the Prude Ranch near Fort Davis, Texas. For more information and registration go to their website at: [www.texasstarparty.org](http://www.texasstarparty.org)

The 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: <http://www.texasstarparty.org/eldorado.html>

The Okie-Tex Star Party will be held October 2-10, 2010 at Camp Billy Joe in the Black Mesa Area of Oklahoma. For information and registration go to their website at:  
<http://www.okie-tex.com/index.php>

## We Are Now on Facebook

North Houston Astronomy Club is now on Facebook at <http://www.facebook.com/?sk=welcome#!/pages/North-Houston-Astronomy-Club/121350204546031>

Stop by and Give a shout out

## 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**

January 8, 2011

February 5, 2011

March 4, 2011

April 2, 2011

April 30, 2011

May 7, 2011

June 4, 2011

July 2, 2011

July 30, 2011

August 27, 2011

September 24, 2011

October 22, 2011

November 26, 2011

December 17, 2011

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

Rules and Directions are available online at [www.astronomyclub.org](http://www.astronomyclub.org)





## NHAC December Monthly Meeting

Dear Members,

This is your invitation to the next meeting of NHAC, December 17, 2010 at 7:30 PM in the Teaching Theatre at Lone Star College-KW. Check out our website [www.astronomyclub.org](http://www.astronomyclub.org) for more info about the Novice Program and General Meeting.

This meeting is an important meeting and our final meeting for 2010. Please come join in the Celebration of NHAC thru the years. We will be serving Mexican Food and most important is your opportunity to vote for the next Board of NHAC. There are still open positions; as you will see below. However, all positions are open to nomination. If you have ever thought of running or know/think someone would be interested get your/their nomination in asap.

**Our nominating committee is:**

Jim and Julie Barbasso at [alpha238@gmail.com](mailto:alpha238@gmail.com)

Or

Chris Pavlick at [pavchris@aol.com](mailto:pavchris@aol.com)

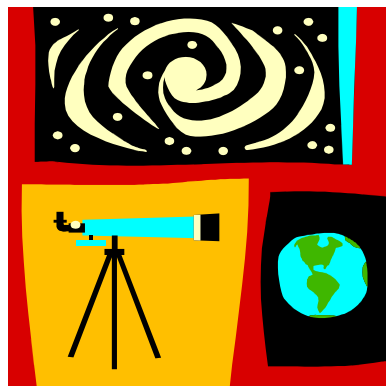
Or shoot me an email [president@astronomyclub.org](mailto:president@astronomyclub.org)

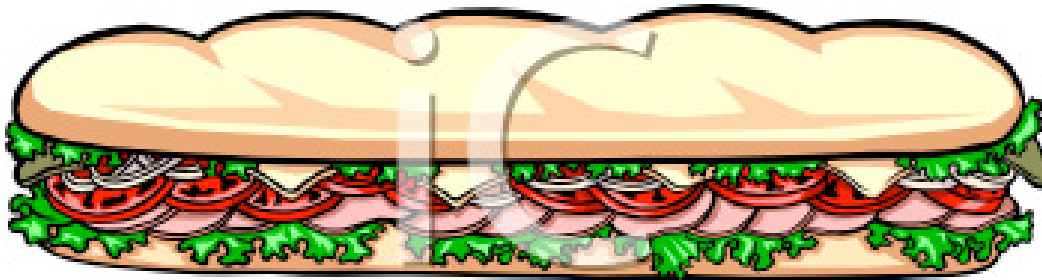
**Board Positions are:**

President-Open, Vice President-Bruce Pollard, Secretary-Open, Treasurer-George Marsden, Webmaster-Ed Knapton, Editor-Open, ALCOR-Aaron Clevenson, Program Chairman-Open, Observation Chairman-Open, Membership Chairman-Stuart Davenport

**Don't Miss the FUN!! And if you have any photos of the Club through the years; please forward them to me!**

***Lorrie Patel*** [president@astronomyclub.org](mailto:president@astronomyclub.org)





### ***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 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 bodyguardsJ

Position: Available immediately

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

Satisfaction: Priceless

***Contact [board@astronomyclub.org](mailto: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

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[www.astronomyclub.org](http://www.astronomyclub.org)

[www.nhac.info](http://www.nhac.info)

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## North Houston Astronomy Club

North Houston Astronomy Club  
c/o Bill Leach  
Physics Dept.  
Lone Star College—Kingwood  
20,000 Kingwood Dr.

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# Observe—Learn—Share

