



NHAC General Meeting January 23, 2009

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Proud member of:



<u>Novice Program</u>	<u>Advanced Program</u>
<p>“What and Where: Basics of Winter Sky Observing” By Bill Christian 6:30PM—7:15 PM Held in the Cosmic Forum. CLA 221</p>	<p>“To Be Deter- mined” 6:30 PM—7:15 PM Held in the Physics Lab. CLA 225</p>

Main Presentation

“Carbon Stars”

By Alicia Tristan FBAC

7:30 PM

Held in the

Lonestar College—Kingwood Teaching Theater

Come Join Us

Letter from the Editor

It has been over a year since the last Northstar Newsletter was put out. I would like to say that I am thrilled to be the newsletter editor this year and even more excited to have the newsletter back. Though I have never attempted to take on a task such as this before I have had some help in getting started. I would particularly like to thank David Cochran, the newsletter editor for the San Antonio Astronomical Association

for answering some of my questions and giving me some tips. If you ever have a chance to read one of his newsletters, you will really be impressed.

With that said, I would like to remind everyone that this is your newsletter, not mine. Please feel free to send me articles and news items that you would like to see here. I want to also encourage feedback, either good or bad.

If there is something you would like to see or don't want to see let me know.

In closing, I hope you enjoy this months edition. I have tried to include information that will interest everyone and maybe someone could learn a tidbit or two. I'll see you next month.

Joe Wagner
newsletter@astronomyclub.org

The Deadline for submissions for the March newsletter is February 15, 2009

Elected Officers

President: Lorrie Patel
president@astronomyclub.org
Vice President: Bruce Pollard
Vice president@astronomyclub.org
Secretary: Bill Leach
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 Chairperson: Dave Clark
observation@astronomyclub.org

Membership Committee Chairperson: Stuart Davenport
membership@astronomyclub.org
Program Committee Chairperson: Juan Carlos Reina
program@astronomyclub.org

" An expert at anything was once a beginner"
H. Jackson Brown, Jr.



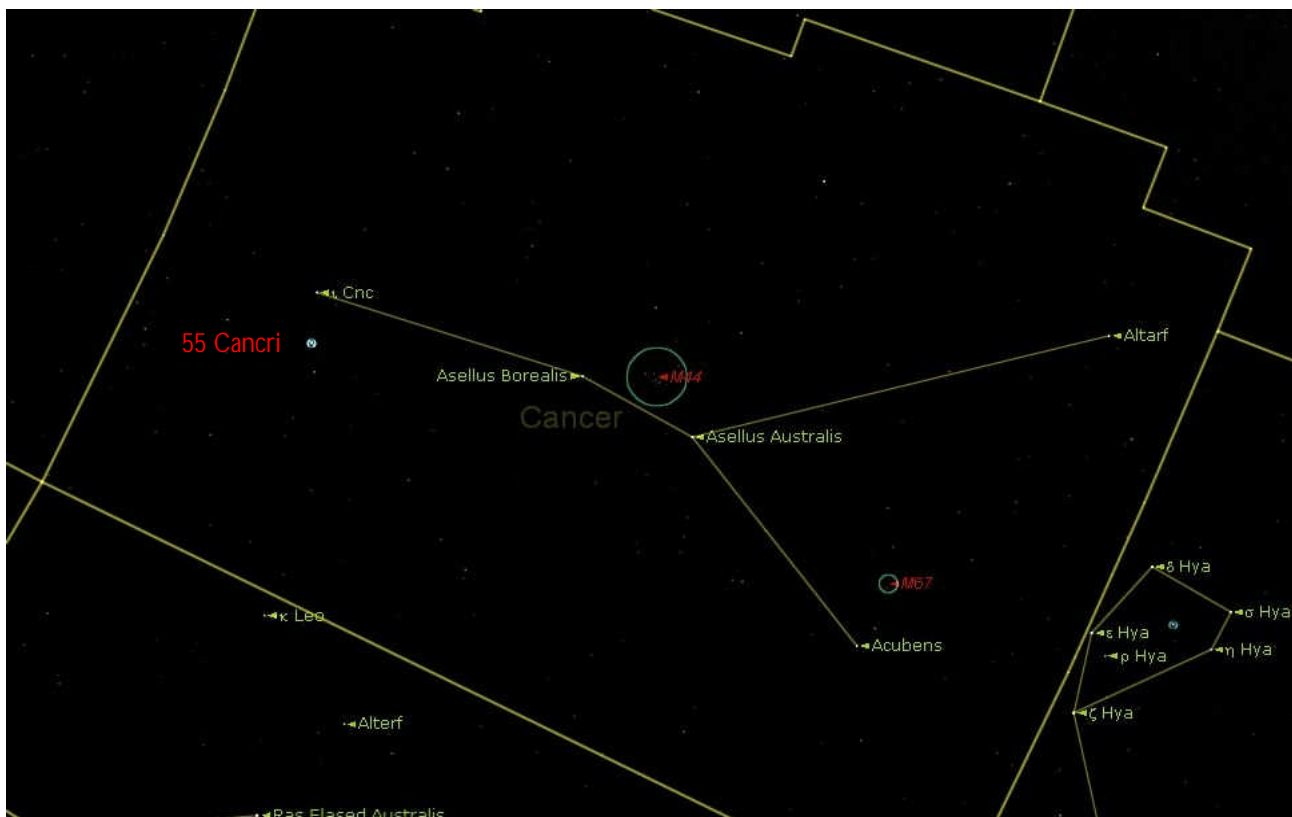
The International Year of Astronomy (IYA2009) will be a global celebration of astronomy and its contributions to society and culture, highlighted by the 400th anniversary of the first use of an astronomical telescope by Galileo Galilei. The aim of the Year is to stimulate worldwide interest, especially among young people, in astronomy and science under

the central theme "The Universe, Yours to Discover". IYA2009 events and activities will promote a greater appreciation of the inspirational aspects of astronomy that embody an invaluable shared resource for all nations.

The IYA2009 activities will take place at the global and regional levels, and especially

at the national and local levels. National Nodes in each country have been formed to prepare activities for 2009. These Nodes establish collaborations between professional and amateur astronomers, science centers, educators, and science communicators.

Observe - Learn - Share



The Constellation Cancer

By Joseph Wagner

With few stars barely reaching above the 4th magnitude, Cancer seems to be one of the least stunning of the 12 zodiac constellations in the northern skies. Although, to the general public it is probably known more for its astrological associations, Cancer does have a number of astronomical treasures if you know where to look.

Throughout recorded history Cancer has been associated with various creatures. Ancient Egyptian records from 2000 B.C. describe the constellation as a scarab and the Babylonians thought of it as a tortoise. An astronomical manuscript from the 12th century shows it as a water beetle and others have used the constellation to represent a crayfish and a lobster. In modern times Cancer has come to represent the pinchers of a crab.

Bordered by Gemini to the west and Leo to the east, the constellation Cancer is made up of five main stars which happen to be multiple stars. From north to south there is Iota Cancri at 4.0m, Asellus Borealis at 4.65m, Asellus Australis at 3.93m, Acubens at 4.25m, and the brightest star Altarf at 3.50m. East of Iota Cancri within the boundaries of the constellation lies Rho1 Cancri or 55 Cancri A. 55 Cancri A is a yellow dwarf star that has been found to have 5 extra solar planets in its orbit. Four of the planets are thought to be Jovian planets similar to Jupiter and the innermost planet is believed to be a terrestrial “super-Earth”.

(Continued)

Observe - Learn - Share

The Constellation Cancer (Continued)

By Joseph Wagner



M44-The Beehive Cluster



M67-King Cobra

The Constellation Cancer is probably best known for the two open cluster Messier objects it holds, M44 also known as the Beehive Cluster and M67 aka the King Cobra. At an approximate apparent magnitude of 4.0 the Beehive Cluster is the more famous of the two and was also one of the first objects Galileo studied with his telescope in 1609. M44 is believed to be 520-610 light years from earth and is approximately 600 million years old. The beehive Cluster is best observed when high in the sky with a pair of binoculars or a telescope with a low power eyepiece. M67 was discovered by German astronomer Johann Gottfried Koehler in 1779, has a tighter cluster of stars than M44. At around 5 billion years old M67 is one of the older open clusters known to man. With an apparent magnitude of 7.5 and some stars as dim as 12th m, the King Cobra can be viewed with a pair of binoculars or a moderate sized telescope to catch a glimpse of some of the dimmer stars of the cluster.

Though Cancer is one of the more dimmer constellations in the night sky, it still has a lot to offer with its stars, extra solar planets and Messier objects. There is plenty for everyone from the budding astronomy enthusiast to the professional astronomer.

Mars Rovers near Five Years of Science and Discovery



PASADENA, Calif. -- NASA rovers Spirit and Opportunity may still have big achievements ahead as they approach the fifth anniversaries of their memorable landings on Mars. Of the hundreds of engineers and scientists who cheered at NASA's Jet Propulsion Laboratory in Pasadena, Calif., on Jan. 3, 2004, when Spirit landed safely, and 21 days later when Opportunity followed suit, none predicted the team would still be operating both rovers in 2009.

"The American taxpayer was told three months for each rover was the prime mission plan," said Ed Weiler, associate administrator for NASA's Science Mission Directorate at NASA Headquarters in Washington. "The twins have worked almost 20 times that long. That's an extraordinary return of investment in these challenging budgetary times."

The rovers have made important discoveries about wet and violent environments on ancient Mars. They also have returned a quarter-million images, driven more than 21 kilometers (13 miles), climbed a mountain, descended into craters, struggled with sand traps and aging hardware, survived dust storms, and relayed more than 36 gigabytes of data via NASA's Mars Odyssey orbiter. To date, the rovers remain operational for new campaigns the team has planned for them.

"These rovers are incredibly resilient considering the extreme environment the hardware experiences every day," said John Callas, JPL project manager for Spirit and Opportunity. "We realize that a major rover component on either vehicle could fail at any time and end a mission with no advance notice, but on the other hand, we could accomplish the equivalent duration of four more prime missions on each rover in the year ahead."

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Mars Rovers near Five Years of Science and Discovery (Continued)

Occasional cleaning of dust from the rovers' solar panels by Martian wind has provided unanticipated aid to the vehicles' longevity. However, it is unreliable aid. Spirit has not had a good cleaning for more than 18 months. Dust-coated solar panels barely provided enough power for Spirit to survive its third southern-hemisphere winter, which ended in December.

"This last winter was a squeaker for Spirit," Callas said. "We just made it through."

With Spirit's energy rising for spring and summer, the team plans to drive the rover to a pair of destinations about 183 meters (200 yards) south of the site where Spirit spent most of 2008. One is a mound that might yield support for an interpretation that a plateau Spirit has studied since 2006, called Home Plate, is a remnant of a once more-extensive sheet of explosive volcanic material. The other destination is a house-size pit called Goddard.

"Goddard doesn't look like an impact crater," said Steve Squyres of Cornell University, in Ithaca, N.Y. Squyres is principal investigator for the rover science instruments. "We suspect it might be a volcanic explosion crater, and that's something we haven't seen before."

A light-toned ring around the inside of the pit might add information about a nearby patch of bright, silica-rich soil that Squyres counts as Spirit's most important discovery so far. Spirit churned up the silica in mid-2007 with an immobile wheel that the rover has dragged like an anchor since it quit working in 2006. The silica was likely produced in an environment of hot springs or steam vents.

For Opportunity, the next major destination is Endeavour Crater. It is approximately 22 kilometers (14 miles) in diameter, more than 20 times larger than another impact crater, Victoria, where Opportunity spent most of the past two years. Although Endeavour is about 12 kilometers (7 miles) from Victoria, it is considerably farther as the rover drives on a route evading major obstacles.

Since climbing out of Victoria four months ago, Opportunity has driven more than a mile of its route toward Endeavour and stopped to inspect the first of several loose rocks the team plans to examine along the way. High-resolution images from NASA's Mars Reconnaissance Orbiter, which reached Mars in 2006, are helping the team plot routes around potential sand traps that were not previously discernable from orbit.

"We keep setting the bar higher for what these rovers can do," said Frank Hartman, a JPL rover driver. "Once it seemed like a crazy idea to go to Endeavour, but now we're doing it."

Squyres said, "The journeys have been motivated by science, but have led to something else important. This has turned into humanity's first overland expedition on another planet. When people look back on this period of Mars exploration decades from now, Spirit and Opportunity may be considered most significant not for the science they accomplished, but for the first time we truly went exploring across the surface of Mars."

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Guy Webster 818-354-6278
Jet Propulsion Laboratory, Pasadena, Calif.

Dwayne Brown 202-358-1726
NASA Headquarters, Washington

<http://marsrovers.jpl.nasa.gov/newsroom/pressreleases/20081229a.html>

February 2009

Sun	Mon	Tue	Wed	Thu	Fri	Sat
<i>1</i> Space Shuttle Columbia Tragedy, 2003	<i>2</i> First Quarter Moon	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i> Moon at Perigee
<i>8</i>	<i>9</i> Full Moon	<i>10</i>	<i>11</i>	<i>12</i> Lincoln's Birthday	<i>13</i>	<i>14</i> Valentines Day
<i>15</i> Galileo born, 1564	<i>16</i> Presidents Day Last Quarter Moon	<i>17</i>	<i>18</i> Clyde Tom- baugh dis- covers Pluto, 1930	<i>19</i> Moon at Apogee. Copernicus born, 1473	<i>20</i>	<i>21</i>
<i>22</i> Washing- ton's Birth- day	<i>23</i>	<i>24</i> New Moon	<i>25</i> Ash Wednes- day Ceres at op- position.	<i>26</i>	<i>27</i> NHAC Public Meeting	<i>28</i>

North Houston Astronomy Club

North Houston Astronomy Club
c/o Bill Leach
Physics Dept.
Lone Star College—Kingwood
20000 Kingwood Dr.
Kingwood, TX. 77339

www.astronomyclub.org

www.nhac.info

Observe—Learn—Share



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.

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