

# The Focal Point

The Atlanta Astronomy Club  
Established 1947  
February 2009

Vol. 21 No. 9\*

Editor: Tom Faber

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## February General Meeting

by Keith Burns, AAC President

The February meeting of the Atlanta Astronomy Club will be held on Friday, February 6th. Meeting starts at 8PM. Location is White Hall on the Emory University Campus. Room 207. Directions to White Hall are at the bottom of this article. The meeting will start with a few announcements. There may be a short program or two for good measure. After that, we move on to our featured speaker of the night - Dr. Susanna L Widicus Weaver of Emory University.

### The Program

The title of this talk is “Testing the Limits of Astrochemistry: Integrative Studies in Laboratory Spectroscopy, Observational Astronomy, and Chemical Modeling.” Here's a description of Dr. Weaver's talk.

“It is now thought that meteorite and comet impacts delivered water and biological material to the early Earth, seeding the formation of life. Fundamental biological molecules such as amino acids and sugars have been discovered in meteorites, but none of these species have yet been detected in the interstellar medium (ISM). The mechanisms and environments leading to the formation of biologically relevant molecules remain unclear.

While both the number of detected interstellar molecules and their chemical complexity continue to increase, our understanding of the processes leading to their formation is severely lacking. Only interdisciplinary studies with contributions from laboratory spectroscopy, observational astronomy, and chemical modeling will enable us to elucidate the dominant chemical mechanisms in space. In this talk, I will discuss my plans for a research program that fully integrates these three fields of study.

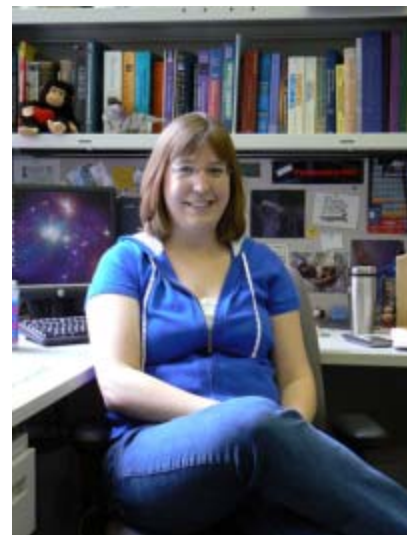
In the laboratory, we are developing new high-sensitivity spectral techniques for the tera-hertz (THz) frequency range. We are combining these techniques with novel production mechanisms to study transient molecules that are key to pre-biotic chemical pathways in the ISM. We will use the spectroscopic results as a guide to search for these molecules

in space. From these astronomical observations, we can determine the abundance, temperature, and spatial distribution of these species in interstellar clouds.

We will then incorporate this information into interstellar chemical models and test the influence of varying physical conditions. The revised models can be used to predict other important chemical pathways, guiding future laboratory and observational studies. Such studies will enable us to pinpoint the interstellar chemical pathways leading to biological molecules and offer clues to the processes leading to the formation of life.”

### Speaker Biography

Susanna Widicus Weaver is the Assistant Professor of Chemistry, Emory University. Susanna received her B.S. in Chemistry from Illinois Wesleyan University in 2000 and her Ph.D. in Chemistry from the California Institute of Technology in 2005. She was then a postdoctoral scholar in the departments of Chemistry and Astronomy at the University of Illinois at Urbana-Champaign. Susanna's research is in the field of pre-biotic Astro-chemistry and includes laboratory spectroscopy, observational astronomy, and astrochemical modeling. Through these integrative studies she examines the mechanisms driving interstellar chemistry and the pathways for the formation of biological molecules in space. Her laboratory research also involves the development of new techniques for tera-hertz spectroscopy.



### Directions to White Hall and Parking

Emory University is in the process of making improvements to the parking and roads. So for the next year, we will have to endure road construction plus the closing of some of our favorite parking spots. For now, the best places to park are the Peavine Parking Deck and the Fishburne Parking Deck. Fishburne Parking Deck is located on Fishburne Drive. When driving on North Decatur Rd, turn onto Dowman Drive (Dowman is now a one-way road into the campus now from North Decatur Road. Exit either by Oxford Road or Fishburne Drive) and then right on Fishburne Drive. You can also access Fishburne Drive from Clifton Road southbound on right before the N. Decatur Rd intersection. Note the Fishburne Parking deck is actually accessible from Fishburne

*Continued on next page*

Lane. When driving on Fishburne Drive, watch for the parking lot signs. The parking deck is located behind the Rich Building.

The Peavine parking deck is accessible from North Decatur Road. Take N. Decatur Rd to Oxford Road. Oxford is accessible from N. Decatur Road at two spots. If you are traveling east on North Decatur, then turn right onto Oxford. If traveling west, turn left onto Oxford. Take Oxford Road to the back entrance of Emory and turn onto Eagle Row. Take that to the Peavine parking deck. Note Peavine is across the street from the running track. You can also access Peavine from Clifton Road. Take Clifton south from Briarcliff Road. Turn right onto Asbury Circle. Asbury Circle changes names to Eagle Row. Parking deck will be on right side of road.

Directions to White Hall are on page 7. See the Emory web site for more details: [www.emory.edu](http://www.emory.edu)

## Upcoming Meetings

March 13th - Speaker and Topic TBA. April 3rd -100 Hours of Astronomy program to take place at Bradley Observatory. Joint AAC and Agnes Scott College special night and program. May 8th - Speaker and Topic TBA.

## January Meeting Minutes

by Tom Faber filling in for Richard Jakiel

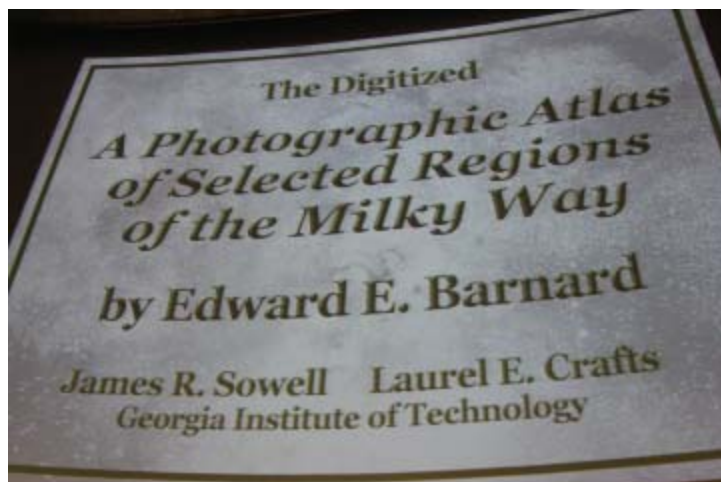
Meeting photos by Tom Faber

The January General Meeting of the AAC was held on January 16 and started at about 8:10 PM, with president Keith Burns presiding. Approximately 40 members and guests were present. Keith covered the main aspects of the business portion of the meeting, focusing mostly on upcoming events.

Keith then introduced our main speaker for the night - Dr. James Sowell (photo right) of the Georgia Institute of Technology's School of Physics who presented a very informative talk about Edward Emerson Barnard, his career, and his "*A Photographic Atlas of Selected Regions of the Milky Way*" (photo below). Through the efforts of Dr. Sowell, the Georgia Tech library acquired a copy of the Atlas from Dr. Rick Willamon of Emory University, scanned it, and placed the images online at the Georgia Tech library web site, along with tools to search for which images contain a particular object or area of the sky. The talk was followed by a Q&A session.

Then guest Jim Combs gave a short presentation of an activity he is the founder of called "City Skies". City Skies promotes live space music and dark skies and the reduction of light pollution in urban areas, and has a live program every 2nd Saturday at Kavarna near Agnes Scott College and a multi-day festival in May.

Keith then adjourned the meeting and about a dozen members went to the "meeting after the meeting" at Everybody's Pizza.



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## Bradley Open House Series 2008-2009 "Astronomy Before Galileo"

Humans have been gazing at the stars since they could look up, and have kept written records about motions in the heavens for millenia. This year, we will explore the rich history of astronomy and astronomical thought that predates Galileo. Our speakers will come from a variety of ancient disciplines including astronomy, architecture, classical studies, history and theology. All talks at 8PM unless noted. See <http://bradley.agnesscott.edu/> for more information.

### Spring 2009

February 13 - Megan Drinkwater (Agnes Scott College) - "Greeks, Romans, and the Stars"

March 20 - W. A. Calder Spring Equinox Concert & Open House

April 3 - "100 Hours of Astronomy" Celebration

May 8 - Bill Brown (Columbia Theological Seminary) - "The Heavens are Telling the Glory of God": The Cosmos According to Ancient Israel



## Charlie Elliot Chapter Meeting Minutes

by Ken Poshedly, CEWMA Chapter Recording Secretary

(Minutes have been edited for space constraints.)

The meeting was called to order at 3 p.m. on December 27 by CE Chapter Director Theo Ramakers with 30 members and guests present. Following welcoming remarks by Theo was his PowerPoint presentation of a look back at the previous year of events and activities where members of the AAC's CEWMA chapter participated, including great images of the February lunar eclipse, the launch of the Space Shuttle Endeavour and the great time experienced by those who helped with the High Tower Elementary School Space Camp, plus much more. The presentation was left running during the pot-luck dinner.

Afterwards, Theo announced that:

\* This year has been designated the International Year of Astronomy, with a "100 Hours of Astronomy" event planned for April 2-5. From the IYA website: "The 100 Hours of Astronomy Cornerstone Project is a world-wide event consisting of a wide range of public outreach activities, live science center, research observatory webcasts and sidewalk astronomy events. One of the key goals of 100 Hours of Astronomy is to have as many people as possible look through a telescope as Galileo did for the first time 400 years ago. 100 Hours of Astronomy will take place when the Moon goes from first quarter to gibbous, good phases for early evening observing. Saturn will be the other highlight of early evening observing events."

\* The January 24 CEWMA program will feature Dr. Chip West, meteorologist in charge, Atlanta Center Weather Service Unit, Atlanta Air Route Traffic Control Center in Hampton, Ga, and his program is called "Meteorological factors affecting visibility".

The featured speaker for this evening, Rich Jakiel, covered "The First 2 Billion Years", the beginnings of the Earth, the formation of the Moon, our atmosphere, the oceans and so on to possibly the first microbial life. Jon Wood's "Observing 101" PowerPoint segment included upcoming rise/transit/set times for celestial objects in the coming weeks and was compiled using the software program Stellarium. The meeting was adjourned at approximately 5:30 p.m.



Photo by Theo Ramakers.

## Charlie Elliott Future Meetings

The Meeting dates for the Charlie Elliott Chapter have now been set for 2009. All meetings are on Saturdays: Feb 21, Mar 28, Apr 25, May 16 (JAKES Day), June 20, July 18, Aug 22, Sept 19, Oct 17, Nov 14, Dec 19. Please note that the March, June, September and December Meetings are our Pot Luck Dinner Meetings. For meeting updates and other information please check the CE chapter website: <http://www.CEastronomy.org>

Thanks and Clear Skies, Theo Ramakers.

## June 22, 2008 AAC Board Meeting

By Richard Jakiel, AAC Recording Secretary

The June 2008 BoD meeting started at 5 PM, at the Bradford Map Store. There were 7 BoD plus 3 AAC members in attendance.

**President's Message** - by Keith Burns. The newly elected president gave a short presentation that focused on these points:

- \* Communication
- \* Advertisement/promotion of events
- \* Standing committees
- \* Observing Events
- \* Website Support
- \* The PSSG

**New AAC BoD chair** was elected, with Don Hall beating out Tom Faber by a 4 to 3 vote, with 2 members abstaining.

**Old Business** - approved by 7-0 votes.

### New Business

**1) AL Books:** Art Zorka - Proposed the motion of the purchase of AL books to complete the club's library. Motion 2 - Follow-up with the AAC membership to find which books they have and that could be added to the club library. Motion carries: 7 -0

### Phase II - DAV Build out (Larry Wallace)

- \* Insulation and AC/heating of the "Bear Cave"
- \* Bunk area - 6 spaces, need donations for cots - etc.
- \* Pad + doghouse for the 24-inch scope, pad to be 24ft in diameter.

Tabled for Next BoD: Water for Bear Cave (Instead of getting it from the DAV office) - Hose vs. PVC pipe, it could start above ground and then be buried.

**PSSG 2008** - by Peter Macumber: Vendor letters - complete. Mickey's (food) - located near clubhouse. Jon Serrie - Friday night special entertainment. Speakers - are "set". Tent - 30 x 60ft (vs. 20 x 40 last year), to be purchased rather than rented. Additional outlets (30 Amp) requested - for the RVs.

**Treasurer's Report** - Sharon Carruthers: PSSG - ~ 3500 dollars left for the "dark site", other details in the full report (on BoD list). Motion to accept treasurer's report carries: vote 7-0.

### Observing Report - Dave Lumpkin:

- \* Presented a schedule of DSOs and other events.
- \* Proposed certain events "close to town" - to draw new members
- \* Increase number of events at VR to bi-monthly

### Tellus Museum:

- \* Opening early in 2009
- \* Observatory equipped with 20-inch scope + CCD
- \* AAC should try to a working relationship

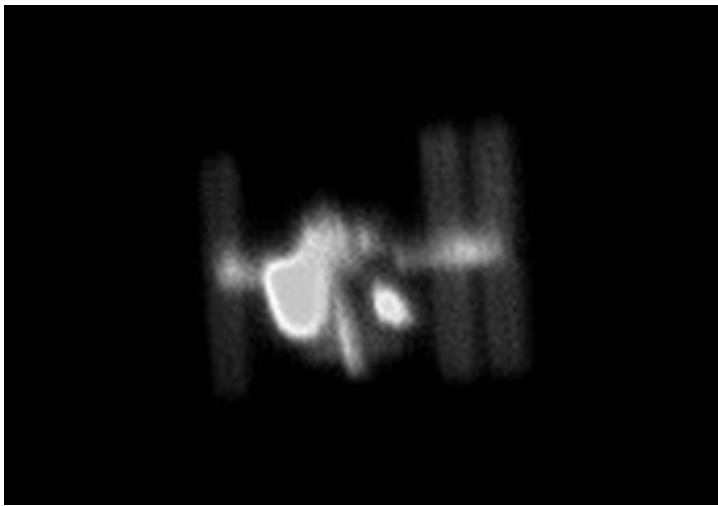
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## The Next AAC Board Meeting

by Don Hall, AAC Board Chair

The next Board Meeting of the Atlanta Astronomy Club is scheduled for Sunday, March 15th from 3PM to 5PM. The meeting will take place at the Emory Science and Math building (across the street from White Hall) in room N301. The club still needs to fill the position of Program Chair. Those interested in this position should contact Keith Burns or Don Hall.



## Shuttle/ISS Image

by Theo Ramakers

This image above shows the Space Shuttle Endeavour on mission STS126 when it was docked on the ISS on November 20th, which is the 10th anniversary date of the start of ISS construction. In addition, when the image was made, an EVA was in progress and spacewalkers Heide Stefanyshyn-Piper and Shane Kimbrough were working on the starboard solar alpha rotary joint. The image is made with my CPC925, a Williams Optics 2x barlow cell positioned for a focal ratio of f/13, and a DMK21AU04-AS camera. Exposure was 1/1000 second per frame, 31 Frames stacked in Registax.

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## Upper Tangent Arc and Parry Arc

by Tom Faber

On the morning of December 5th I noticed that there was a lot of cirrus in the sky so I kept an eye out for halo phenomena. The 22-degree halo and some weak sun dogs were visible on and off for several hours. I also saw a faint section of the parhelic circle about 120 degrees from the sun at around 1PM. Just before 2PM, I was passing a window and saw a very bright sundog to the right of the sun. I grabbed my digital camera and went outside. By the time I got outside the sundog had faded quite a bit but then I looked higher in the sky and saw this very bright Upper Tangent Arc and what I later identified as a suncave Parry arc. When I first saw them only the right portion of the arcs were visible but over the course about one minute they completely formed. I took 8 photos over a 2-minute period, one of which is shown to the right. At the time the sun was about 30 degrees above the horizon. I've seen Upper Tangent Arcs a few times before but never this bright! The Upper Tangent Arc is so named because it is above the sun and tangent to the 22-degree halo. The rarer Parry arc is named for polar explorer William Edward Parry who first described it in 1820. Both of these halos are produced by six-sided column-shaped ice crystals with their long axis oriented nearly horizontally, however the light paths through the crystals are different for the two types of halos.

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## Horsehead and Flame Nebulae

by Daniel Llewellyn

This is a single 90 second exposure taken from the Deerlick Astronomy Village of the Horsehead and Flame nebulae in Orion. The exposure happened to catch a meteor on the left.

## Nearly Edge-On Saturn

by Richard Jakiel

The image below was made on January 22 at 10:24UT from Douglasville, GA using a 12-inch LX200 at f/20 and a DMK21AF04.AS camera with R, G and B filters +UV/IR block. Other data: D=19.1", Dec=-1.1, I=95.5, II=16.2, III=279.4. Seeing=fair 4(10), Transparency 8(10).



## 'Bonestell' Panorama from Spirit

This 360-degree panorama shows the vista from the location where NASA's Mars Exploration Rover Spirit has spent its third Martian southern-hemisphere winter inside Mars' Gusev Crater. The rover's overwintering location is on the northern edge of a low plateau informally called "Home Plate," which is about 80 meters or 260 feet in diameter.

This view combines 246 different exposures taken with Spirit's panoramic camera (Pancam)—82 pointings, with three filters at each pointing. Spirit took the first of these frames during the mission's 1,477th Martian day, or sol, (February 28, 2008) two weeks after the rover made its last move to reach the location where it would stop driving for the winter. Solar energy at Gusev Crater is so limited during the Martian winter that Spirit does not generate enough electricity to drive, nor even enough to take many images per day. The last frame for this mosaic was taken on Sol 1691 (October 5, 2008). Spirit began moving again on Sol 1709 (October 23, 2008), inching uphill to adjust the angle of its solar panels for the last portion of the winter.

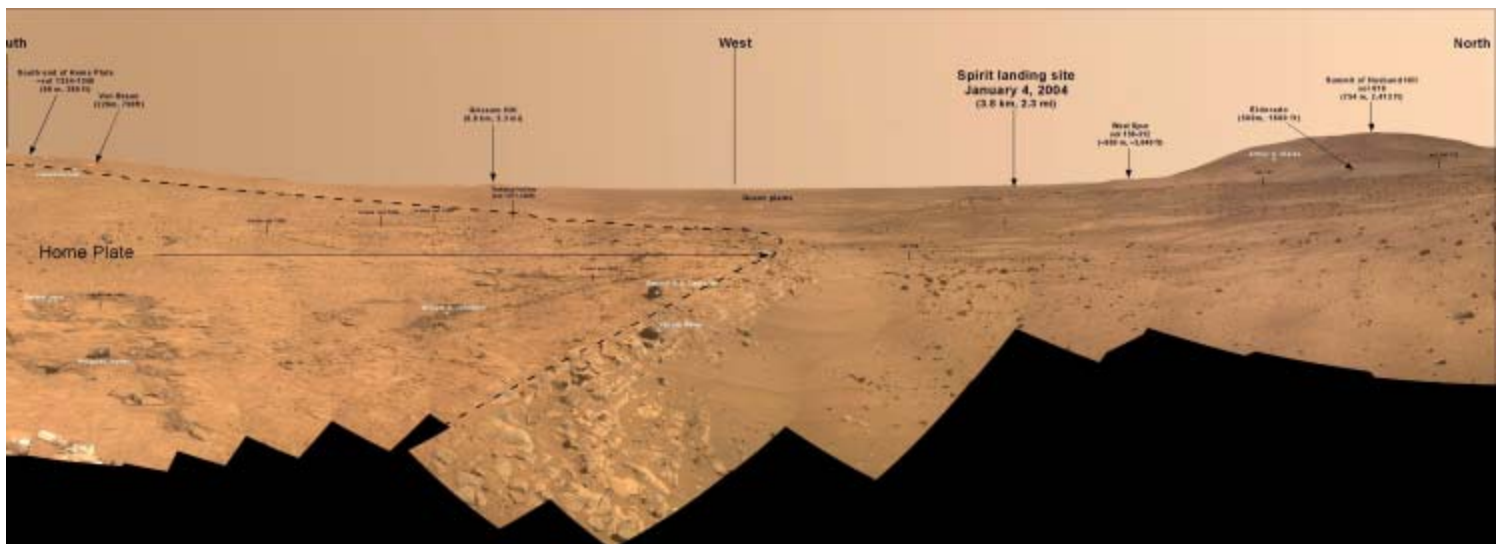
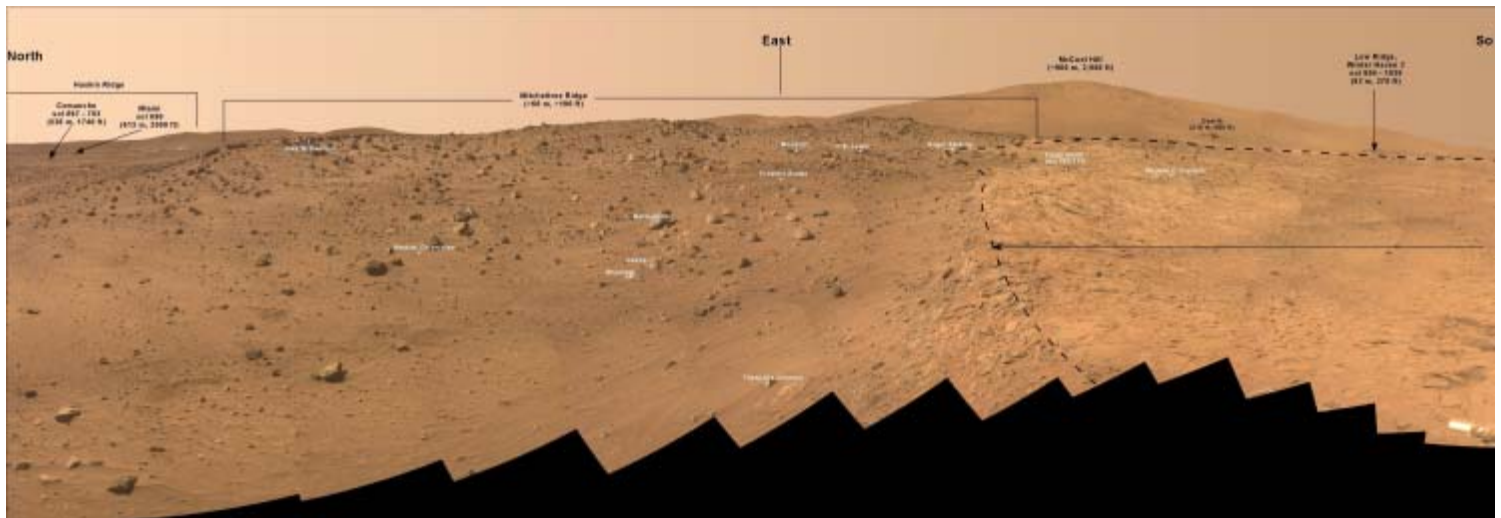
The hill on the horizon at far right is Husband Hill, to the north. Spirit acquired a 360-degree panorama (see PIA03610) from the summit of Husband Hill during August 2005). The hill dominating the left portion of the image is McCool Hill. Husband and McCool hills are two of the seven principal hills in the Columbia Hills range within Gusev Crater. Home Plate is in the inner basin of the range.

The northwestern edge of Home Plate is visible in the right foreground. The blockier, more sharply shadowed texture there is layered sandstone whose layering is tilted inward toward the edge of the Home Plate platform. The northeastern edge of Home Plate is visible in the left foreground. Spirit first climbed onto Home Plate on that region, in early 2006.

Rover tracks from driving by Spirit are visible on Home Plate in the center and right of the image. These were made during Spirit's second exploration on top of the plateau, which began when Spirit climbed onto the southern edge of Home Plate in September 2007.

In the center foreground, the turret of tools at the end of Spirit's robotic arm appears in duplicate because the arm was repositioned between the days when the images making up that part of the mosaic were taken. On the horizon above the turret, to the south, is a small hill capped with a light-toned outcrop. This hill is called "Von Braun," and it is a possible destination for Spirit during the upcoming Martian southern-hemisphere summer. The flat horizon in the right-hand portion of the panorama is the basaltic plain onto which Spirit landed on January 4, 2004 (Universal Time; January 3, 2004, Pacific Standard Time).

This is an approximate true-color, red-green-blue composite panorama generated from images taken through the Pancam's 600-nanometer, 530-nanometer and 480-nanometer filters. This "natural color" view is the rover team's best estimate of what the scene would look like if we were there and able to see it with our own eyes.



# Transit Search Finds Super-Neptune

Center for Astrophysics Press Release: Friday, January 16, 2009

Cambridge, MA - Astronomers at the Harvard-Smithsonian Center for Astrophysics have discovered a planet somewhat larger and more massive than Neptune orbiting a star 120 light-years from Earth. While Neptune has a diameter 3.8 times that of Earth and a mass 17 times Earth's, the new world (named HAT-P-11b) is 4.7 times the size of Earth and has 25 Earth masses.

HAT-P-11b was discovered because it passes directly in front of (transits) its parent star, thereby blocking about 0.4 percent of the star's light. This periodic dimming was detected by a network of small, automated telescopes known as "HATNet," which is operated by the Center in Arizona and Hawaii. HAT-P-11b is the 11th extrasolar planet found by HATNet, and the smallest yet discovered by any of the several transit search projects underway around the world.

Transit detections are particularly useful because the amount of dimming tells the astronomers how big the planet must be. By combining transit data with measurements of the star's "wobble" (radial velocity) made by large telescopes like Keck, astronomers can determine the mass of the planet.

A number of Neptune-like planets have been found recently by radial velocity searches, but HAT-P-11b is only the second Neptune-like planet found to transit its star, thus permitting the precise determination of its mass and radius.



*This artist's conception reveals the newly discovered Super-Neptune planet orbiting a star 120 light years away from Earth. Normally blue in color, its red hue is caused by the illumination from the nearby Red Dwarf star.  
Credit: David A. Aguilar (CfA).*

The newfound world orbits very close to its star, revolving once every 4.88 days. As a result, it is baked to a temperature of around 1100 degrees F. The star itself is about three-fourths the size of our Sun and somewhat cooler.

There are signs of a second planet in the HAT-P-11 system, but more radial velocity data are needed to confirm that and determine its properties.

Another team has located one other transiting super-Neptune, known as GJ436b, around a different star. It was discovered by a radial velocity search and later found to have transits.

"Having two such objects to compare helps astronomers to test theories of planetary structure and formation," said Harvard astronomer Gaspar Bakos, who led the discovery team.

HAT-P-11 is in the constellation Cygnus, which puts it in the field of view of NASA's upcoming Kepler spacecraft. Kepler will search for extrasolar planets using the same transit technique pioneered by ground-based telescopes. This mission potentially could detect the first Earth-like world orbiting a distant star. "In addition, however, we expect Kepler to measure the detailed properties of HAT-P-11 with the extraordinary precision possible only from space," said Robert Noyes, another member of the discovery team.

Headquartered in Cambridge, Mass., the Harvard-Smithsonian Center for Astrophysics (CfA) is a joint collaboration between the Smithsonian Astrophysical Observatory and the Harvard College Observatory. CfA scientists, organized into six research divisions, study the origin, evolution and ultimate fate of the universe.

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## AAC Members Help at Local Schools

On the evening of January 22 members of the Atlanta Astronomy Club set up telescopes as part of science night at two local schools. Daniel Herron, Kat Sarbell, Tom Faber, and Keith Burns set up three telescopes for the students and parents at Montgomery Elementary School in the Dunwoody area (photo below, by Tom Faber). We showed a large crowd Venus, the Pleiades, M42, and pointed out several constellations.

Meanwhile, at Huntley Hills Elementary School in Chamblee, Phil Johnson, Tim Geib, and Alton Leonard were showing the same objects to the students and parents attending the event at that school.

Thanks to all the AAC members who helped with these events!



## March is Membership Renewal Month

**MEMBERSHIP RENEWALS:** The AAC has moved to a “one-date-for-all” membership renewal. ALL CLUB MEMBERS, with some exceptions, should submit their \$30 (\$35 if you receive the mailed *Focal Point*) dues for 2009 by March 20th - The Vernal Equinox. (There will be an R1 in the upper right corner of your *Focal Point* label. If you receive the *Focal Point* online you will receive an email - be sure we have your current email address). New members and those who have not yet paid their pro-rated dues, will receive a notice in their *Focal Point* stating the amount you owe to bring you in line with the March date. (There will be either an xxx or an RF on your label). If you have questions or concerns, please let the Treasurer know.

## Georgia Astronomy in State Parks

The following GASP events are currently scheduled:

**March 21** - Unicoi State Park.

**August 15** - Buck Shoals State Park.

**November 14** - Red Top Mountain State Park.

For more information about these events, contact Keith

Burns at 770-427-1475 or Keith\_B@bellsouth.net.



*The GASP volunteers at FDR State Park on Labor Day weekend 2004 - From left to right: Joanne Cirincione, Keith Burns, Harold and Claudia Champ with Ginger, Peter Macumber, Sharon Carruthers, Tom Faber, Kat Sarbell, and Holly and John Ritger. Photo by Holly Ritger.*

## Atlanta Astronomy Club Website

While this newsletter is the official information source for the Atlanta Astronomy Club, it is only up to date the day it is printed. So if you want more up to date information, go to our club's website. The website contains pictures, directions, membership applications, events updates (when available) and other information. <http://www.atlantaastronomy.org>

The **Atlanta Astronomy Club, Inc.**, the South's largest and oldest astronomical society, meets at **8:00 P.M.** on the third Friday of each month at Emory University's White Hall or occasionally at other locations or times. Membership is open to all. Membership fees are **\$30 (\$35)** for a family or single person membership. College Students membership fee is **\$15 (\$20)**. These fees are for a one year membership (\$5 per year extra charge to receive the *Focal Point* mailed).

Magazine subscriptions to *Sky & Telescope* or *Astronomy* can be purchased through the club for a reduced rate. The fees are **\$33** for *Sky & Telescope* and **\$34** for *Astronomy*. Renewal forms will be sent to you by the magazines. Send the renewal form along with your check to the Atlanta Astronomy Club treasurer.

**The Club address:** Atlanta Astronomy Club, Inc., P.O. Box 76155, Atlanta, GA 30358-1155.

AAC Web Page: <http://www.AtlantaAstronomy.Org>. Send suggestions, comments, or ideas about the website to [webmaster@AtlantaAstronomy.org](mailto:webmaster@AtlantaAstronomy.org). Also send information on upcoming observing events, meetings, and other events to the webmaster.

## AAC Officers and Contacts

**President:** Keith Burns 770-427-1475 Keith\_B@bellsouth.net

**Program Chair:** Position Open - [programs@atlantaastronomy.org](mailto:programs@atlantaastronomy.org)

**Observing Chair:** Dave Lumpkin [observing@atlantaastronomy.org](mailto:observing@atlantaastronomy.org)

**Corresponding Secretary:** Tom Faber 770-642-4865  
[focalpoint@atlantaastronomy.org](mailto:focalpoint@atlantaastronomy.org)

**Treasurer:** Sharon Carruthers [Treasurer@AtlantaAstronomy.org](mailto:Treasurer@AtlantaAstronomy.org)

**Recording Secretary:** Rich Jakiel  
[secretary@atlantaastronomy.org](mailto:secretary@atlantaastronomy.org)

**Board Chair:** Don Hall - [donrhall@bellsouth.net](mailto:donrhall@bellsouth.net)

**Board:** Mark Banks - Contact Info TBA

**Board:** William Brannet - Contact Info TBA

**Board:** Marie Lott 770-496-5774 [mtlott@comcast.net](mailto:mtlott@comcast.net)

**Board:** Daniel Herron - Contact Info TBA

**ALCOR:** Art Zorka 404-633-8822 (H) 404-824-7106 (C)  
[star.myth@juno.com](mailto:star.myth@juno.com)

**Elliott Ch. Director:** Theo Ramakers 770-464-3777  
[ramakers@bellsouth.net](mailto:ramakers@bellsouth.net)

**Elliott Observing Supervisor:** Jonathan Wood 404-374-8750  
[observing@ceastronomy.org](mailto:observing@ceastronomy.org)

**Elliott Recording Secretary:** Ken Poshedly 678-516-1366  
[poshedly@bellsouth.net](mailto:poshedly@bellsouth.net)

**Elliott Coordinator:** Alesia Rast [Alesia\\_Rast@mail.dnr.state.ga.us](mailto:Alesia_Rast@mail.dnr.state.ga.us)

**Elliott Webmaster:** Larry Owens 678-234-5399  
[webmaster@CEastronomy.org](mailto:webmaster@CEastronomy.org)

**Georgia Astronomy in State Parks:** Keith Burns 770-427-1475  
Keith\_B@bellsouth.net

**Light Trespass:** Open - Contact Keith Burns if you would like to volunteer.

**PSSG Chairman:** Peter Macumber [pmacumber@nightsky.org](mailto:pmacumber@nightsky.org)

**Co-Chair:** Joanne Cirincione [starrynights@AtlantaAstronomy.org](mailto:starrynights@AtlantaAstronomy.org)

**Sidewalk Astronomy:** Brad Isley  
[sidewalkastronomy@atlantaastronomy.com](mailto:sidewalkastronomy@atlantaastronomy.com)

**Woodruff Observ. Coordinator:** Sharon Carruthers  
[Treasurer@AtlantaAstronomy.org](mailto:Treasurer@AtlantaAstronomy.org)

**Webmaster Atlanta Astronomy:** Peter Macumber 770-941-4640  
[pmacumber@nightsky.org](mailto:pmacumber@nightsky.org)

## Directions to White Hall at Emory

Our meetings are generally held in a classroom in White Hall. To get to White Hall, turn onto Dowman Drive from North Decatur Road at the five way intersection (across from Everybody's Pizza). White Hall is located across from the new Science & Math building. Parking is available along Dowman Drive on both sides of the road. **The parking lot on the left behind the Admissions Building is closed.** Additional parking is available in two parking decks near White Hall. For maps to the decks see <http://map.emory.edu>. For more detailed directions to Emory University, visit [www.atlantaastronomy.org](http://www.atlantaastronomy.org) or go to the Emory web site.

## Calendar by Tom Faber (Times EST/EDT unless noted)

- February 2nd, Monday: Moon First Quarter.  
February 3rd, Tuesday: Moon passes through M45 (Pleiades).  
February 6th, Friday: **AAC Meeting at White Hall, 8PM, Emory University.**  
February 9th, Monday: Full Moon.  
February 13th, Friday: Bradley Observatory Open House, 8PM. See pg 3 for details.  
February 14th, Saturday: **Open House at Villa Rica Observatory - Contact David Lupkin.**  
February 16th, Monday: Moon Last Quarter.  
February 17th, Tuesday: Mars near Jupiter.  
February 19th, Thursday: Venus Greatest Brilliancey.  
February 20th, Friday: **March Focal Point Deadline.**  
February 21st, Saturday: **CEC Meeting - See pg 3 for details.**  
February 23rd, Monday: Grouping of thin crescent Moon, Mercury, Mars, & Jupiter.  
February 24th, Tuesday: New Moon.  
February 27th, Friday: Moon near Venus.  
March 4th, Wednesday: Moon First Quarter.  
March 8th, Sunday: Saturn Opposition. Daylight Saving Time begins 2AM.  
March 10th, Tuesday: Full Moon.  
March 13th, Friday: **AAC Meeting at White Hall, 8PM, Emory University.**  
March 15th, Sunday: **AAC BoD Meeting, 3PM, Emory University - See pg 2.**  
March 18th, Wednesday: Moon Last Quarter.  
March 19th, Thursday: **April Focal Point Deadline.**  
March 20th, Friday: Equinox at 7:45AM. Equinox Concert at Bradley - See pg 3 for details.  
March 21st, Saturday: **GASP at Unicoi State Park - See pg 7 for details.**  
March 26th, Thursday: New Moon.  
March 27th, Friday: Venus Inferior Conjunction.  
March 27th-29th: **Zombie Party at DAV - Contact David Lupkin for details.**

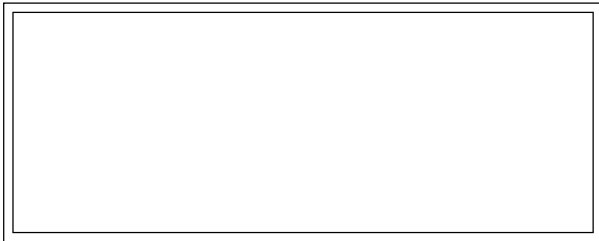
## Atlanta Astronomy Club Listserv

Subscribe to the Atlanta Astronomy Club Mailing List: The name of the list is: AstroAtlanta. The address for messages is: AstroAtlanta@yahoogroups.com . To add a subscription, send a message to: AstroAtlanta-subscribe@yahoogroups.com . This list is owned by Lenny Abbey.

## Focal Point Deadline and Submission Information

Please send articles, pictures, and drawings in electronic format on anything astronomy related to Tom Faber at focalpoint@atlantaastronomy.org. Please send images separate from articles, not embedded in them. Articles are preferred as plain text files but Word documents are okay. You can submit articles anytime up to and including the deadline date. **The March deadline is Friday, February 20th at 4:00 PM. Submissions will not be accepted after the deadline.**

## FIRST CLASS



Newsletter of The Atlanta Astronomy Club, Inc.



*The Focal Point*

FROM:

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