

Southern Skies

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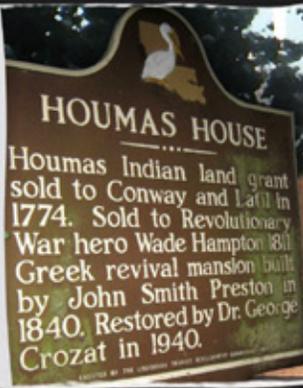


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April Whitt
Jim Cherry Memorial Planetarium
Atlanta, GA

It has been a privilege and a pleasure to serve SEPA as president these past two years. I give a shout-out to the Council – Jon Elvert, Patsy Wilson, John Hare and David Dundee– for their leadership in working to make SEPA a better organization for

all members. We've attended some incredible conferences, watched Venus transit the Sun, survived seven minutes of terror as Curiosity landed on Mars, kept up with each other on-line and through the latest news in this journal, and even raised the occasional Woodchuck.

I'd encourage each of us to keep SEPA in mind throughout the year. Submit an article to *Southern Skies*. Editor James Sullivan needs support from all of us. Send your news to your state chair. Share a resource. Offer to host a conference – there are guidelines posted at www.sepadomes.org and there are others ready to help. Read any good books lately? Write a review. Present a paper at the next conference in Jacksonville. Take a minute to thank someone who's given you a new idea. Thank the vendors who support SEPA. With the internet and e-mail, it only takes a minute.

More than ever, what we do is important. Just as it only takes a minute to send a thank-you by e-mail, it only takes half that long for misinformation to pop up on-line. Check out this posting from Phil Plait's Bad Astronomy web site: <http://blogs.discovermagazine.com/badastronomy/2012/10/06/the-us-congress-anti-science-committee/>

Schools are faced with increasing class sizes, shrinking budgets, stressed-out teachers who may have trouble fitting science into the standardized-test-driven curriculum, and students who aren't challenged to think critically. The general public worries. What about the end of the world this month? Is the Moon really moving farther from the Earth? What if the Sun explodes? What good is the space program? The planetarium is the ideal venue for answering their questions, correctly and courteously. Don't have a lot of whiz-bang special effects or the latest full-dome technology? The biggest, "Ohhh!" we still hear is from city dwellers seeing the stars in a clear dark night sky.

Comet 2012 S1 (ISON) has the potential to make

(Continued on page 13)

IPS REPORT

John Hare
ASH Enterprises
Bradenton, FL

Over 700 delegates, including over 40 SEPA members, attended the largest planetarium conference ever held! Jon Elvert and the staff of the Pennington Planetarium at the Louisiana Art and Science Museum in Baton Rouge staged an IPS conference to be remembered. From the opening reception on Sunday, July 22 to the elegant banquet held at Houmas House Plantation and Gardens on Thursday, there was a full slate of daily activities from breakfast to late into the evenings. Several field trips on Tuesday afternoon were followed by evening activities that ran past midnight.

Vendor participation and monetary support was evidenced by almost 40 booths in the main convention center arena and 21 domes in the adjacent Dome Village. The domes ranged in size from 5-meters to

a gargantuan 12-meter dome. Delegates were organized into three different groups in order to attend all the activities at the various venues.

Plans for the next IPS conference were discussed at the IPS business meeting. Dr. Jin Zhu presented an overview of the event to be held at the Beijing Planetarium, June 23-27, 2014.

Three sites are competing for the 2016 IPS conference:

- Edmonton, Canada
- Toulouse, France
- Warsaw, Poland

All three sites made presentations at the business

(Continued on page 13)

Rates and submission formats for advertising space in SEPA's quarterly journal *Southern Skies* are:

Rates	Dimensions
\$100.	Full-page 7" wide x 10" high
\$50.	Half-page 7" wide x 4.5" high
\$25.	Quarter-page 3" wide x 4" high

These rates are per issue and in B&W copy. The back cover, inside back cover or inside front cover of our journal is also available either in B&W for \$125, or in color for \$150. A 10% discount to any size ad can be offered only with a year's (four issues) commitment of advertising. Ads accepted on a space available basis. Ads must be camera ready and conform to dimensions listed. Payment must accompany advertisement order, made payable to the Southeastern Planetarium Association (send payment to Secretary/Treasurer Patsy Wilson). The underlying mission of our advertisements is to promote resources, products, and services related to the planetarium profession. SEPA reserves the right to refuse advertisements.

Paul Campbell Fellowship Award Nomination Form

Nominees must have been a member of SEPA for at least ten years, and they must display qualities in each of five areas, as represented by the five-pointed star shaped award: integrity, friendship, service, knowledge, and vision. Please submit this form to any SEPA Council member.

Nominee's Name: _____

Qualifications: _____

Editor's Message

James Sullivan
Buehler Planetarium & Observatory
Davie, FL

We can receive electronic files in most any format.
 Also, graphics can be received electronically or in
(Continued on page 13)

In the last issue, we asked:

*Question: How much cider would a SEPiAn sip,
 If a SEPiAn would sip cider?*

After reviewing the submittals, the editorial WE
 have decided that the most accurate answer was
 from Brett Jacobs of the Bryan Gooding Planetar-
 ium in Jacksonville, FL.

Answer: NONE! SEPiAns DON'T SIP!

'Nuff said.



SEPA Membership Form

Please send your check to SEPA, c/o Patsy Wilson, Margaret C. Woodson
 Planetarium, 1636 Parkview Circle, Salisbury, NC 28144.

____ One Year, \$25 (\$15 outside SEPA geographical region)

____ Two Years, \$40

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Contribution to Scholarship Award Account: \$ _____

Small Talk

Elizabeth Wasiluk
Berkeley County Planetarium
Hedgesville, WV

***PLEASE NOTE – Just a note to let you know
 that I do not know what happened last issue. I
 thought that I had sent a brand new column to
 James, but it seems that only the pictures seemed
 to get through. I apologize if it was my fault, and
 hope it did not cause too much confusion.

Hello everyone. How has your time gone after the
 conference at Baton Rouge? Were you unable to go
 because of limited finances or just too busy? It was
 quite the conference with so much cool stuff that
 it made my head spin. How is a little traditional plan-
 etarium director with no budget to cope? One day
 during lunch at the conference, I sat next to Mark-
 Bennett from Miami and he was showing me plans
 to refurbish the planetarium there on his i-phone.
 I made the comment to people eating lunch at my
 table, that I am applying to IPS to become a "Plan-
 etarium World Heritage Site." Yes, you can visit my
 planetarium facility and see the way people experi-
 enced planetaria back in the seventies and eight-
 ies. Look at this, this little plastic item was a slide.
 It dropped into a little projector that showed light
 through it and showed it up on the dome. Amazing
 how it used gravity to work. How positively primi-
 tive. And check this out, this is a laser disk, think
 of them as DVD's on steroids and see how it shows
 movies up on the dome. You can put thousands of
 images on that baby. Modern planetaria will donate
 money to keep me open. After a day at the "Plan-
 etarium of the Eighties" everyone will want to flock
 to see full dome 3D in other facilities, so domes
 will want to keep me open as a marketing device.
 People from around the world will wish to visit my
 facility. I can just hear the ooh's and ahhh's now.
 "Wow, that's 1D and look how flat the screen is!"
 "Hey, look how under-utilized the dome is! I don't
 have to crane my neck or see the program several
 times and sit in different seats to take in the whole

show." "My, so this is what people saw in the Eight-
 ies!" "I am glad I went. It was like a walk back in
 time." "We need to preserve this, no one else does
 programs like this." I can dream, can't I?



*We were welcomed in several different lan-
 guages on video screens in the city square*

It was a rocky trip to Baton Rouge. A long, long
 line in security from the airport at Dulles. Don't
 know why I flew out of Dulles. Oh, now I remem-
 ber. I didn't want to rent a car, so I flew on United
 to Baton Rouge instead of New Orleans. There was
 a brief layover in Houston and then I ended up at
 Baton Rouge where there was very little luggage
 and no one to ask where it was. I went up to the
 main ticket desk with fifty or so of my new found
 friends who also did not find their luggage, or only
 part of it on the luggage carousel. It seemed there
 was quite a storm and flights were delayed and to
 lessen the load, there was luggage taken off and
 will come on the next two flights coming in either
 a half hour or hour later. When I asked about my
 luggage, she said she had no record of it at all. Not
 a good sign. The man behind me said something
 about Houston being the worst place in the world to



(Continued on page 15)

Archeo-astronomy

Stopping the Moon at Chimney Rock

Woodrow W. Grizzle III
Elizabeth City State University Planetarium
Elizabeth City, NC



Moonrise during the major lunar standstill as observed from Chimney Rock kiva, Colorado. Image credit: Helen Richardson. 2004.

President Obama recently proclaimed that Chimney Rock, a natural, 535 Myr-old, stone outcropping in southwestern Colorado, be established as a National Monument. The Pueblo built significantly there, with the site being home to some 2,000 individuals between A.D. 925 and 1125, despite its being some 55 miles from their main settlement of Chaco Canyon in northern New Mexico. Why? The answer lies, as such answers often do, in the heavens.

Though there are many natural features in this world known as “chimney rocks,” not all have astronomical significance. Colorado’s chimney rock is a pair of stone pillars that, when viewed from a certain

angle, frame the Moon during an event called the major lunar standstill. The Pueblo built an extensive ceremonial roundhouse, or kiva, along with several dependencies, at the site: proving once again¹ that pre-Columbian societies, like their ancient counterparts in the Old World, had strong understanding of astronomical events and their application in time-keeping. But, what is so special about this lunar standstill? To answer that, let us discuss the Moon’s orbit in terms of modern understanding.



Line of sight from Chimney Rock kiva. Image credit: Chimney Rock Archaeology. 2012.

First of all, do not mistake a lunar standstill for a time in which the Moon actually stops moving. (I would expect most planetarians to be aware of such, but I mention this fact for clarity’s sake.) What stops, or stands still, during a lunar standstill is change in the Moon’s declination. Much as there are two solstices for each Terran orbit (times when the Sun’s declination reaches its maximum and minimum values), there are two lunar standstills for each lunar orbit. Since it takes approximately one month for the Moon to orbit Earth, the Moon’s maximum and minimum declination are separated by about a fortnight. However, these greatest and least values are generally only for one specific orbit. Because the Moon’s orbital plane is

¹For more on archaeoastronomy at Chaco Canyon, see: Grizzle, Woodrow W. III “Intentionality in Stone: Chaco Canyon’s Fajada Butte and Colorado’s Pathfinder Rock.” *Southern Skies: Journal of the Southeastern Planetarium Association*. 29.4 (2009): 8-10. Print.

inclined by about 5° to that of Earth about Sol, the Earth’s axial tilt of 23.5° goes from supporting to opposing the increase and decrease of the Moon’s declination as the Earth-Moon system orbits Sol. So, the Moon’s maximum declination ranges from a value of $(23.5 - 5) = 18.5$ to $(23.5 + 5) = 28.5$, and its minimum declination ranges from $(-23.5 + 5) = -18.5$ to $(-23.5 - 5) = -28.5$. For a given lunar orbit, the maxima and minima are paired per orbit, so if the maximum declination for a given orbit is 18.5°, then the minimum declination will be -18.5°. Additionally, this particular case is characteristic of the minor lunar standstill. During this month, an observer would not notice a huge change in the Moon’s position. However, during the major lunar standstill, when the lunar declination ranges from -28.5° to 28.5°, a huge difference in the Moon’s position can be observed over the course of a fortnight: a 57° shift is hard to miss, even for the layperson. This whole cycle is gradual, with a period of 18.6 years.

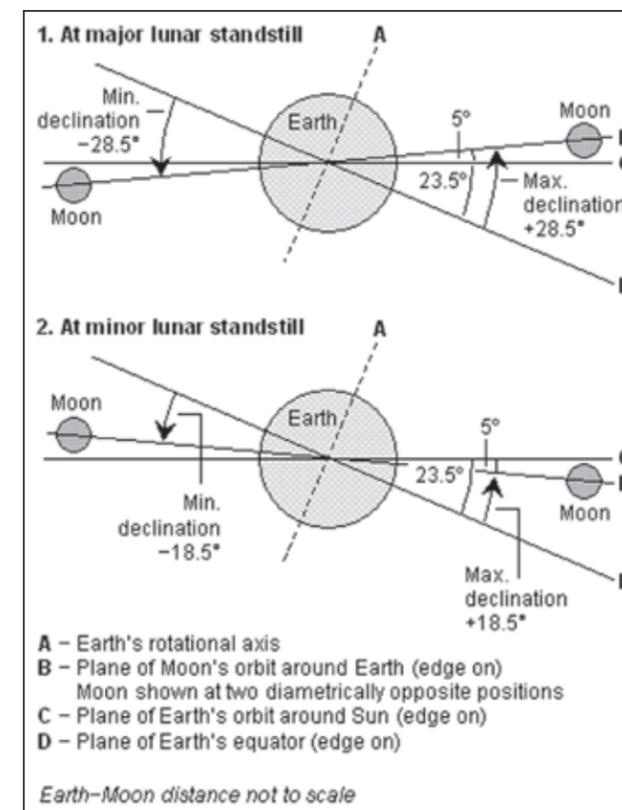


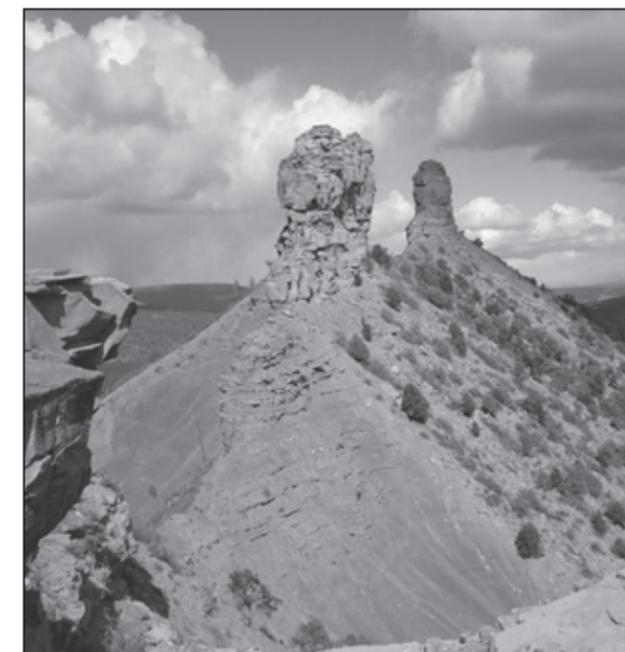
Diagram showing geometry of major and minor lunar standstills. Image source: Wikimedia Commons (public domain). 08 Feb 2011.



Ruins of Pueblo kiva (roundhouse) at Chimney Rock archaeological dig site, Colorado. Image credit: Chimney Rock Archaeology, 2012.

It is upon the major lunar standstill that the Pueblo kiva, Chimney Rock, and Luna align. At moonrise on the evening of the lunar standstill, the Moon appears to rise directly between the two stone pillars. The Pueblo were not alone in observing these events. It was an important component of calendar building and checking for Bronze Age and pre-Columbian societies: and for good reason. The lunar standstill cycle occurs over a timespan (18.6 years) that

(Continued on page 12)



Chimney Rock, twin megalithic spires in southwest Colorado. Image credit: U.S. Senator Michael Bennet, D-CO. 2012.

SEPA Paper

It's the End of the World—in 1957?

Dave Hostetter
Planetarium, Lafayette Science Museum
Lafayette, LA

I arrived in Lafayette in 1980 and soon began hearing senior visitors asking about a bright meteor they had seen in their youth. No one could quite remember the date—or even the decade—but it was back in the '50s or early '60s, and it had left a memory lasting a lifetime.

I had no idea what they were talking about since, as they often pointed out, I'm not from around here. I hadn't seen it, even if it happened after I was born, which wasn't a sure thing.

Whatever had happened, it had left such an impression that I got several questions a year about it, almost at the rate of once a month. It must have been quite spectacular, since it had hit in New Orleans...no, wait, in the Mississippi River...no wait, just outside Lafayette...no, wait...well, you



A bright meteor. Source: unknown

get the picture.

I was intrigued by it all, but with no real, concrete information, I couldn't find anything about the event.

Then, I got a break at one of our weekly telescope nights. A young woman told me about the incredible meteor her Dad frequently mentioned. She didn't know when it happened, either, but promised to ask him and get back to me. A few days later, she did just that. Turns out her father was a doctor who always associated the bright meteor with a particular patient he was treating at the time, and lo and behold, he still had his records from the '50s! It had happened sometime in March, 1957.

I headed over to the Lafayette public library to look at the microfilms of the local newspaper, and within about 15 minutes I had it—the meteor had made headlines after being seen on the evening of March 15, 1957.

The more I looked into it, the more spectacular it got. It had been seen all over Louisiana and much of the southeast, and even into Texas and Oklahoma, and as far away as Memphis. As usual, everybody thought it hit near them.

I found eyewitness descriptions from many parts of southern Louisiana. "The whole island shook" (Marsh Island game warden, Baton Rouge Morning Advocate, March 16, 1957). "It got white outside" (Opelousas observer, New Orleans Times-Picayune, March 16, 1957). It was "the end of the world," "la fin du monde," "an atomic bomb dropped on Baton Rouge," "an airplane on fire" (various quotes from the Lafayette Daily Advertiser, March 17, 1957). I've also gotten verbal descriptions of the awe (and even fear) observers remember to this day.

What a reaction! But think about 1957. The Korean War was over and the Vietnam War had not yet started, but there were lots of world tensions. Egypt and Israel were disengaging from a war the previous year. The civil rights movement was gaining momentum. Eisenhower was President and Khrushchev was rising to power in the Soviet Union. The United States had the bomb. The Soviet Union had the bomb. Actually, they both had lots



The new meteorite exhibit at the Lafayette Science Museum

of bombs. Things were getting tense, and the possibility of a sudden all-out war or even the end of the world didn't seem crazy.

At least now I had some information to tell people when they asked about the meteor. In the '90s, I got some of it in print when one of the editors of the Daily Iberian, the newspaper in New Iberia where I live, got a question about it from a local history teacher and passed it on to his readers.

Those of you who attended the SEPA conference in Lafayette in 2008 may remember we had a little meteorite exhibit outside the planetarium. About that time we made plans to expand and improve the



A dog and a giant meteorite, courtesy of Bonnie Boudreaux

exhibit, and I decided that was an ideal opportunity to fill out the story of what I had begun to think of as the Great Meteor of 1957, and get the information out where visitors could see it.

I started visiting area libraries and found articles from towns all over the area. A friend had

a picture of the resulting meteorite in Audubon Park in New Orleans—except it was a meteorite wrong, just a hunk of slag from the New Orleans World's Industrial and Cotton Centennial Exhibition in 1884.

The newspaper articles referenced sightings from Mississippi and Alabama, and of course everybody indeed thought it hit near them! I visited some libraries in other states on my way to and from SEPA meetings. Ultimately, I ended up with plenty of information for a 4 foot by 6 foot panel in the new meteorite exhibit.



1957 meteor map in the new exhibit

The cool thing was that this panel had not been up for even 2 hours when an older gentleman and his wife looked at it and he exclaimed, "Hey, I remember that!" Over the last year since the exhibit went up, we've gotten that reaction a lot.

Based on the articles I found, I produced this map of the meteor sightings. The dots represent sightings and the "X" marks represent claims of impacts.

(Continued on page 13)

is quite compatible with typical human lifespans, and, like the equinoxes and solstices, it deals with a celestial object that appears to be big and bright, and whose motions are easy to track with simple tools. For these reasons, other megalithic sites, both natural and artificial, exist for similar purposes in Ohio, Britain, and Ireland.

Over the ages of human history, time and again, the oracle of the sky has offered tremendous wisdom to those who know how to seek and interpret it. But, she speaks softly. Our ancestors heard her voice, but the cacophony of modernity has rendered us too deaf to hear it. Fortunately, she also speaks with her works, and we chosen few can read her signs. Planetarians are the haruspices of our age. It is our sacred duty to interpret the nature of the sky, passing that knowledge on so that future generations do not add blindness to their plight.

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Obama, Barack, President of the United States. Establishment of the Chimney Rock National Monument by the President of the United States, A Proclamation. The White House, Washington, D.C. 21 September 2012.

a spectacular appearance in Northern Hemisphere skies late next year. Comet expert John Bortle has compared it to the Great Comet of 1680, noting that records from that time state that the comet caused the people of New York’s Manhattan Island to be “overcome with terror at a sight in the heavens such as has seldom greeted human eyes...” Of course in 1680, the people living on Manhattan Island could still see the night sky. Wouldn’t it be great if we had the opportunity to share that with our audiences? Keep looking up!

And down here on the ground, welcome to Ken Brandt, newest Council member and SEPA Vice President (check it out – the By Laws call the office “Vice president” – and here I thought I’d was President-Elect a few years ago) I’m shaking the sand out of the official SEPA President’s Woodchuck Lawn Chair, ready to hand it over to Dave Dundee. Thank you to all of you for your good wishes and support. I’m looking forward to the next adventure!

Again, everyone thought it hit near them, particularly in Louisiana where it might have been getting fairly low—I’ve gotten reports of both sonic booms after the sighting and electrophonic sounds during the sighting. On the other hand, I also found a report of a sighting from Galveston, Texas, that clearly places the meteor out over the Gulf. If anything made it to the ground, it was probably a splashdown. Certainly, despite all the claims of fragments coming down, no meteorite from the event has ever been found.

However, there aren’t reports from east of Alabama. That’s because there were frontal systems draped across much of the southeast that night, and the sky was probably cloudy. This is based on a weather map I found in a newspaper in Chattanooga.

Part of the point of all this is that this bright meteor was seen from Louisiana, Mississippi, Alabama, and some other states—in other words, from much of the SEPA region. There are probably articles about it in your hometown newspapers around March 15, 1957. If you have gotten questions about it from Senior Citizens, that’s the date to research for local information, and it might be worthwhile for you to make a small display about it. It would be a good connection between your local area and the rest of the universe. And if you discover local sightings and are from outside the Louisiana, Mississippi, Alabama, and Tennessee area, I wouldn’t mind if you sent me a copy!

meeting. The selection will be determined by IPS Council at their summer 2013 meeting. That meeting incidentally will be held August 9-10 in South Tyrol, Italy. More information concerning the 2016 bids will be furnished in a future issue of *Southern Skies*.

On a more somber note, almost 50 planetarians who passed away over the past 4 years were recognized in a memorial presentation at the conclusion of the business meeting.

As always, I urge you to join and actively participate in IPS.

Dues are \$65 for a 1-year membership and \$100 for 2-years.

You can obtain membership forms from IPS Treasurer, Shawn Laatsch slaatsch@imiloahawaii.org or myself at johnhare@earthlink.net.

hardcopy, including slides or photos, and will be converted to digital with sufficient resolution.

Submission deadlines: January 1 (Winter), April 1 (Spring), July 1 (Summer), October 1 (Fall).

Thanks to Broward College and its wonderful printing department for assistance.

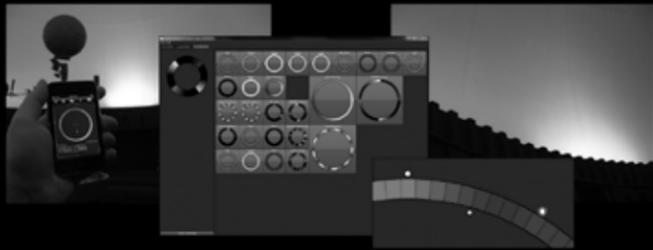
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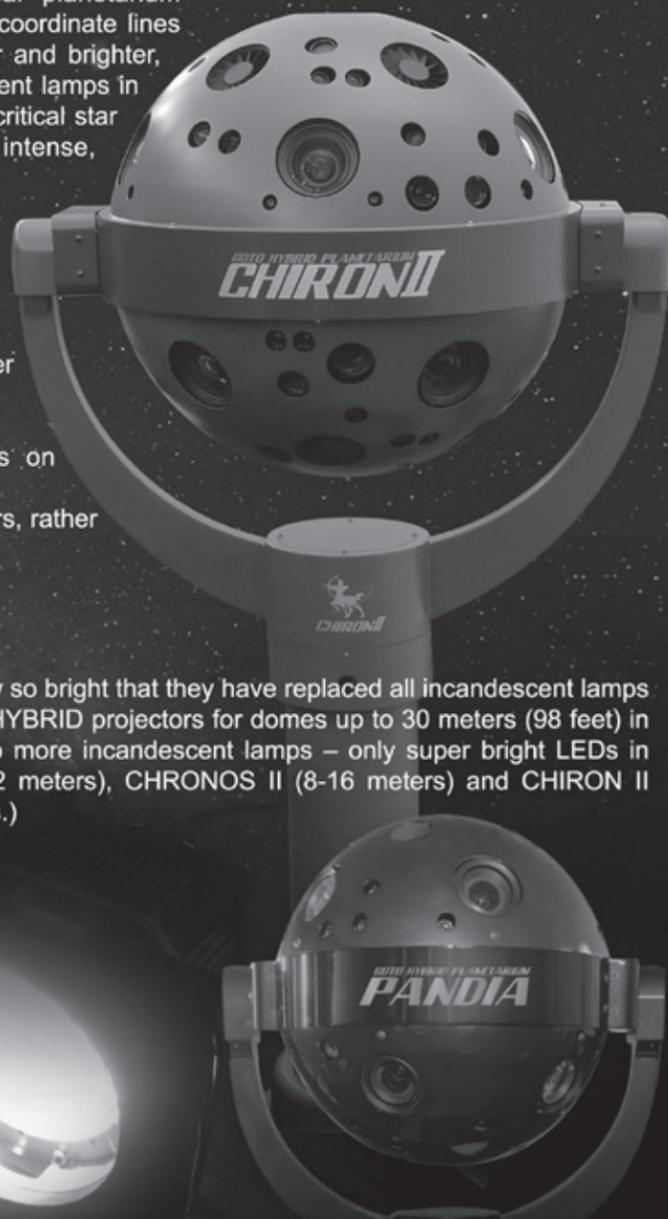
GOTO and the LED Planetarium Projector

In 2002, GOTO INC became the first opto-mechanical planetarium manufacturer to utilize LEDs to illuminate images such as coordinate lines and constellation figures. Then, as LEDs became brighter and brighter, they replaced the expensive, hot, energy-gulping incandescent lamps in our sun, moon, and planet projectors. And now finally, the critical star lamps themselves have been replaced with amazingly intense, modern LEDs.

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Small Talk (Continued from page 7)

get your luggage out of, that they were constantly losing luggage, and that he has flown from the Philippines and never lost luggage until he flew out of Houston. Meanwhile I suggested that maybe my luggage came in on an earlier plane, since I had a two hour layover in Houston, maybe she should check in the back. So she asked me the color of my luggage, wandered back and for her trouble, there appeared my bag. I called about the shuttle to the hotel and waited out in the rain. Just when the shuttle appeared, there appeared a lovely blonde lady who spoke next to no English. It was Irina from a Planetarium in the Ukraine. The van driver of the shuttle kept telling us that he wanted to become a planetarium director since he thought planetarium people were the nicest in the world. (Well we are.)

I was sharing a room with Jeannie Bishop from the Planetarium in Westlake, Ohio and Francine Jackson from Brown University and April Whitt from the Fernbank Science Center in Atlanta, but April could not come due to having to reapply for her job. When I got there, Jeannie had gone out somewhere, but her bags were there, so I watched television, and zoned out. I must have been really tired. This was a time to relax and relax I did.

Jeanne came in after having dinner downstairs and Francine would be there in the morning. We dropped off to sleep pretty much that first night. The next day, Jeannie had to go to a council meeting and Francine came in around 10:00 a.m. and I swam all morning and almost never wanted to come out of the pool.

That evening everything began with a brief reception at the same hotel that we held the SEPA meeting in the last time we were in Baton Rouge. Evening ended early for a SEPA meeting, with no Woodchuck in site, I might add. Thanks to Dave Manness from the Sharp Planetarium in Memphis and Patrick McQuillan from IRIS in Washington, DC for walking me back to my hotel. We ended up in the Kingfisher bar with a bunch of other IPS folk who were contemplating trying the rather expensive "Starry Night" a drink designed for the conference by the bar staff. Some brave soul who tried one, said that it was very sweet.

The next day I got lost going to find a church to attend early mass, but made it back in time to have breakfast at the hotel and enjoy the paper sessions. They were all outstanding. Not a poor paper in the

(Continued on page 18)



The View from the balcony of the museum overlooking the entryway during the opening IPS reception.

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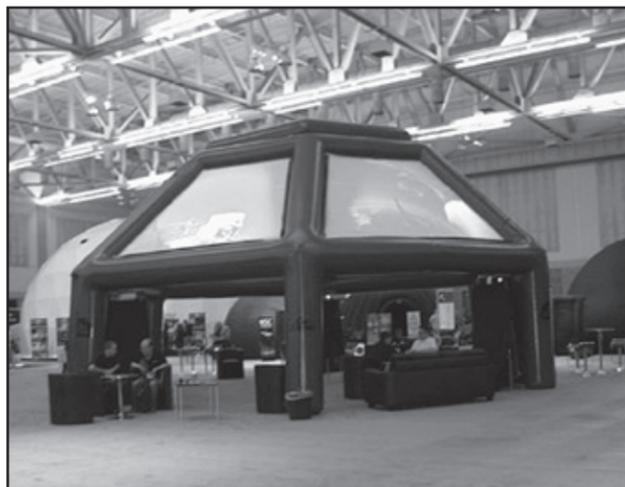
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bunch. I was also impressed at all the out of region planetarium people hearing about the SEPA meeting and coming to check it out. Here is hoping that for those who were unable to attend, we get to see many of those papers in the pages of *Southern Skies*.

Time for IPS. I must admit that I really enjoyed meeting with not only planetarium people from around the country, but also from around the world. Over the course of the days, I got to chat with people from all around the world, people running planetaria in Canada, the Czeck Republic, Denmark, Great Britain, Sudan and Nigeria.

Speakers for the meeting were chosen for the latest topics on astronomy, Dr. Rolf Landau on “Explor-



An inflatable cupola

ing the Early Universe: the LHC at CERN,” Dr. Michael S. Turner, “The Big Mysteries of Cosmology” and Dr. Natalie Batalha on “Kepler’s Search for Potentially Habitable Planets.”

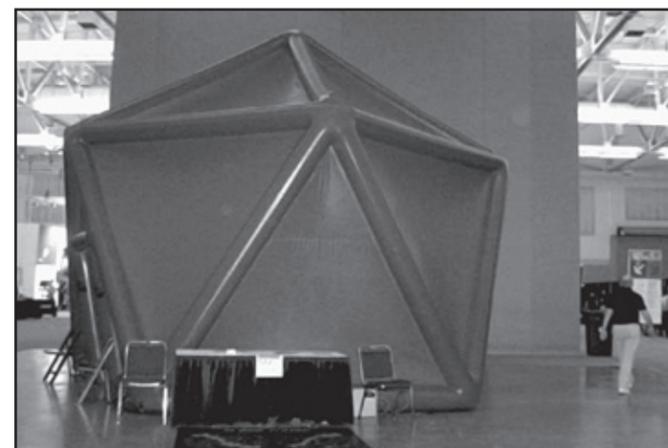
I enjoyed seeing old friends from out of the SEPA region, including Todd Ullery from the planetarium in York, Pennsylvania where he volunteers as well as Dr. Tom Balonek from the planetarium at Colgate University in Hamilton, NY who I would observe with when I lived in Norwich, NY as well as folk who live nearby like Patty Seaton from the planetarium at the Owen Science Center in Greenbelt,

MD and Wendy Ackerman, from the planetarium at the Maryland Science Center in Baltimore, MD.

The Dome village was very impressive. Portables came in all shapes and sizes and I enjoyed lounging in the “Cupola” made to look like the very same unit in the International Space Station. Watching the shows play on the cupola was really great, however I am sure the astronauts on the real International Space Station have a much better view. I also enjoyed playing with the “Discover Dome” and “Go-Dome” and their software for the full dome sky using a reverse Newtonian mirror. Maybe it’s a lower cost planetarium facility alternative to a full dome projection system. I wish I could have seen more of the portable domes. (Continued on page 20)

Images From IPS

Thanks to John Hare (p. 18).
See also *Small Talk*.



In the “Dome Village” portable domes came in all shapes, sizes and colors.



The back of i-Walt’s jacket during his performance with Jon Serrie.

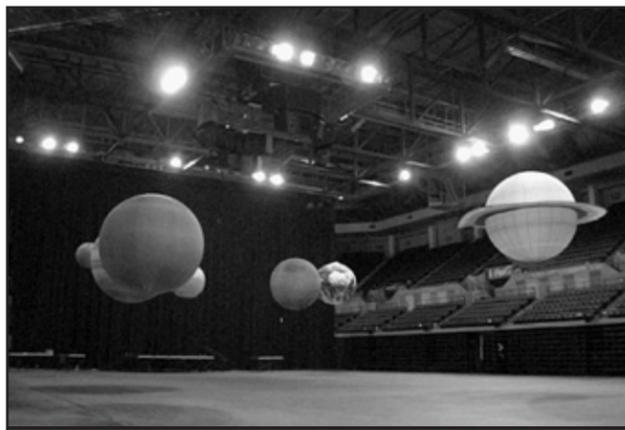


Jon Serrie awaits i-Walt’s cue to begin the performance.



We checked out this historic telescope at Landolt Observatory at LSU.

I enjoyed the tour I took to the Louisiana Immersive Technologies Enterprise facility, but I enjoyed hearing about the Laser Interferometer Gravitational Wave Observatory in Livingston, LA. I had been there when SEPA was last in Baton Rouge, but I had wanted to see their new hands-on exhibit hall,



We had the awards luncheon in the "arena" under these inflatable planets from Go Domes.

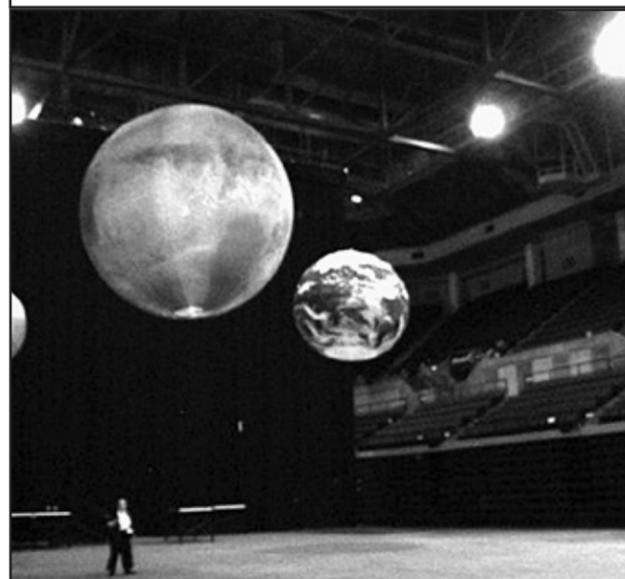
which Wendy Ackerman showed me pictures of on her i-phone.

Thanks also to Wendy, Todd Ullery and I made the "Saving Hubble" movie which was great, and the Landoll Astronomical Observatory and also the I-Walt and Jon Serrie live concert, which was pretty cool. Wendy also stopped off to look at planets through the amateur telescopes set up outside the River Center for the Performing Arts.

(Continued on page 22)



Jupiter rivaled a fly-by by Voyager or Galileo.



To give you a sense of size that is a diminutive Jeanne Bishop under the planets.

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Paper sessions were wonderful. Hard to single out one or two great ones, since all the ones I heard were good. Dining experiences were nice, with both Cajun music and Jazz to listen to.

The special awards luncheon was lovely, decorated with such lifelike planets from Go-Domes. After

the luncheon and the tables were moved out, Jeanne Bishop and I went back to get pictures of them. Not only did we get nice little lens cloths from Zeiss velvet, our own past SEPA president, April Whitt, got a service award along with Sharon Shanks, from Youngstown, OH's planetarium and the editor of The Planetarian. Great to see the ladies honored, but sad to see April unable to pick up the award in person.

The finale was like being at a palace! We were welcomed to the lovely estate of Houmas House, with



The final banquet was held at historic Houmas House.



Being welcomed to Houmas House was like stepping backward in time.



The grounds of Houmas House were very beautiful.



Good times and intense conversation at the final banquet.



Patrick McQuillan moonlighted as wine steward, keeping our glasses filled.



The best part of any conference is meeting people and sharing.

history going back to the 1700's. Dinner was lively, with a singer to entertain, a nice meal and Patrick Mc Quillan serving as a wine steward and keeping our glasses full. Making our way to the busses, we were treated to a final fireworks display.



In the vendor's area the Zeiss people had a ZKP projector on loan from Modesto Community College in California as a hands-on exhibit.

So what were your experiences at IPS? Can you share them with us? At our SEPA meeting, we have a new president elect, Ken Brandt from what he calls the "mother dome" in Lumberton, NC. Also, we are headed to Sanford, Florida for the 2014 SEPA conference. Twice in Florida. Hmmm, could be some fun times. Your thoughts are always welcome here no matter how you define your planetarium as small. Is it



What is the vendor's area without a laser demo or two or three?

small size wise, budget wise, small staff size? Call, write, fax, or e-mail me your thoughts so that this remains a dialog, rather than a monolog.



Several sessions were held in the historic State Capital Building.

Gotta love those Rocket Shaped Trash Cans at the planetarium in Baton Rouge



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News From SEPA Region

GEORGIA

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Cartersville, GA
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**Fernbank Science Center Planetarium
Atlanta, GA**

April Whitt reports: The good news is we're still open. The other news is that our budget was cut by 40%, a dozen staff members are gone (including one of the three remaining astronomers), and the school district is not paying for field trip buses this year. Individual schools must fund any trips to Fernbank Science Center. Star Lab programs to schools are popular once more!

It's an exciting opportunity to try new programming under the dome. Parent Cafe members, part of NASA's Science, Engineering, Mathematics and Aerospace Academy (SEMAA) used audience participation "clickers" in an overview of what their students will study this fall. We've booked the amazing Jonn Serrie for an "Upon a Solstice Midnight Clear" concert in December. And about that full-dome projection system...

Planetarium programming for the public opened after Labor Day this year, following the annual "closed for maintenance" session. Cowboy Astronomer plays for the grown-ups, and our own 'Roo Stars takes family audiences to the southern hemisphere for a look at the stars and wildlife of Australia.

The telescope mirror is clean. The local college and university students have begun their fall migration to the observatory. We're working with another high school student-as-intern and looking forward to a rewarding fall semester.

FLORIDA

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**Buehler Planetarium
Broward College
Davie, FL**

Susan J. Barnett reports: The Buehler Planetarium & Observatory is running public shows four days a week. The weekend shows and monthly specials include *Solar System Odyssey*, *Earth, Moon & Sun*, *MoonWitch*, *Apocalypse How? Mayan Mayhem...* *Maybe* and *Through the Eyes of Hubble*.

We continue to rotate shows on Wednesdays, and these shows include *The People*, *The Mars Show*, *The Voyager Encounters*, *Dawn of Astronomy*, *A Dozen Universes* and *Astrology: Fact or Fiction?*.

The Buehler Observatory has viewing four times a week. It has free public observing Wednesday, Friday, and Saturday evenings. In addition, we observe the Sun on Wednesday afternoons. We usually have one telescope set up to view sunspots, and watch flares through a Hydrogen-Alpha filter on another.

Planetarium
Tellus NW GA Science Museum
Cartersville, GA

David Dundee reports: We have had a great summer, 2012 looks like it will be our best attendance year ever for the Museum and Planetarium. We are already over 75,000 in the planetarium this year. We are midway through our capital campaign which among other things will fund an upgrade to our current planetarium projector.

We hosted MUG (MediaGlobe Users Group) which was a great success with 20 participants. We had an intense 3 days with sessions on Java, Blender and After Effects. Plus a day spent on shooting and processing panorama.

We have been running SpacePark 360, Black Holes and Enchanted Reef this summer and will open "Wildest Weather in the Solar System" this fall. We are going to try our first laser show for the week around Halloween.

We are also continuing to open the observatory more often to the public, we have had almost 5,000 visitors through the observatory this year.

Our school groups are booking heavily again this year with over 30,000 booked so far this year. We are hoping to top the 50,000 we had last year. That's all from Cartersville.

Mark Smith Planetarium
Museum of Arts and Sciences
Macon, GA

Jim Greenhouse reports: Since the Mark Smith Planetarium reopened from its renovation in March, visitors have given many comments about how much they enjoy the latest digital video and sound systems under the new dome. The first two shows to be presented were "Stars" and "Earth, Moon & Sun." "Dinosaur Prophecy" was shown during a robotic dinosaur exhibit this summer, and "Maya Skies" and "The Little Star That Could" are now playing and will run to the end of the year.

In October, Jim Greenhouse, who has supervised

the planetarium off and on since 1992, moved to the Settlemyre Planetarium in York Co., SC. This planetarium has also just been renovated and reopened on October 13.

KENTUCKY
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East Kentucky Planetarium
Prestonsburg, KY
srusso0002@kctcs.edu



Golden Pond Planetarium
Land Between the Lakes Nat'l Recreation Area
Golden Pond, KY

Ross Workman reports: We had a really good summer season here at Golden Pond Planetarium. Our new Mediaglobe II system has been well received. The Laser Lights & Summer Nights program was a popular event. The Golden Pond Observatory was a popular attraction as well.

The fall schedule is now underway. Our laser shows have proven popular enough to continue through to December. Planning for Christmas is well underway.

We are beginning to receive inquiries concerning the 2017 total solar eclipse. The Planetarium and Observatory is located 25 miles from the point of greatest eclipse. Plans for that exciting day are starting to be penciled on the planning board. It's definitely going to be an exciting time for us!

East Kentucky Science Center & Planetarium
Big Sandy Community and Technical College
Prestonsburg, KY

Steve Russo reports: This was a good year here at the EKSC. Overall attendance was up 12% for the year (July 2011 – June 2012). New exhibits and expanded lessons, more media coverage, the start of a Facebook page, and our one year old Sci Dome

HD, have contributed to this increase in attendance. Director Steve Russo received the Middle Atlantic Planetarium Society "Exceptional Service Award" for "outstanding service" to MAPS. In September, Steve was part of a group of 30 museum and science center educators who attended a Museum Educators Workshop at NASA Goddard. All expenses were paid by NASA and the EKSC will get a stipend to create lessons using the information from the workshop with emphasis on STEM content. During the next several months, new exhibits and school programs will be added as will new planetarium shows. Evening planetarium and laser shows will also return to the science center as will the East Kentucky Regional Science Fair.



Steven LJ Russo, Director, East Kentucky Science Center and Planetarium, Prestonsburg, KY

Dr. Amber Straughn, Research Astrophysicist in the Observational Cosmology Laboratory, NASA's Goddard Space Flight Center in Greenbelt, Md. Serves as the Deputy Project Scientist for James Webb Space Telescope Education and Public Outreach.

Dustin Angell, Museum of Science and Technology, Syracuse, NY

Megan EN Dominguez, Education and Planetarium Manager, miSci, formerly Schenectady Museum, Schenectady, NY.

NORTH CAROLINA
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Morehead Planetarium
Morehead Planetarium and Science Center
Chapel Hill, NC

Amy Sayle reports: Morehead Planetarium and Science Center has collaborated on a new full-dome production with Paperhand Puppet Intervention.

Opening in November 2012, "The Longest Night: A Winter's Tale" is a classic fable, set in a snowy village. A young girl from the village leaves on a simple quest that tests her courage and sparks her generous spirit. The production of "The Longest Night" became a quest of its own, as Paperhand and Morehead professionals experimented with new techniques.

For Paperhand, the collaboration represented an opportunity to see how its elaborate puppets and sets, traditionally seen in live, three-dimensional performances, would translate to a 360-degree projection dome.

For Morehead, "The Longest Night" required a



Image from "The Longest Night"

steep learning curve with new skills using green-screen and other technologies that aren't regularly used in fulldome production.

The collaboration was led by PPI's Donovan Zimmerman and Jan Burger and Morehead's Jay Heinz, Peter Althoff and Jim Kachelries, with a cast and crew comprising dozens of puppeteers and production professionals

**Planetarium
Elizabeth City State University
Elizabeth City, NC**

Woodrow Grizzle reports: The fall 2012 semester is off to a great start. Start may not be the best term, because it is already time for midterms. My, how time flies! Here at the Planetarium, the semester is proceeding according to plan.

August and September are slow times for us, as few schools take field trips at the beginning of the academic year. Thus, it is perfect timing for us to undergo annual maintenance. We spent two weeks in mid-September cleaning, lubricating and aligning slide and special effects projectors. I will be glad once we are finally ready to box up the Elmos and Ektagaphic IIIs for sharing with another facility. That time is coming relatively soon.

During that same time, we had technicians come to perform preventive maintenance on the automation system and the star projector. Our 23-year old Spitz 512 works just like new thanks to regular maintenance each year since installation. There is nothing like a 512 or A3-P with a fresh star lamp.

Back to removing slide projectors... We currently use a mix of slides and video. The video comes from DVDs. Each show has three screens of video, meaning three DVD players and three DVDs that need to be produced for each show. As many of you know, the DVD authoring and burning process can be quite time consuming, especially given the fact that multiple versions often have to be produced before the final one. To alleviate this, we chose to move away from physical media altogether and instead play video files directly from a computer on the dome.

To accomplish this feat, we had to purchase a few pieces of equipment. A new iMac desktop computer connected to a Promise Pegasus Thunderbolt™ RAID will function as a video server. It will connect wirelessly to three AppleTV media players, which will each be physically connected to a digital projector.

Since multiple Apple TVs can pull from one iTunes library on one host computer, this configuration proved to be the most cost-effective solution for us to get completely away from physical media. If you already have a computer and projectors, it would be \$300 for three Apple TVs and about \$50 for three HDMI cables and shipping. If a computer is needed, it can be Mac or Windows, but be sure it has plenty of RAM to handle divvying out three video files simultaneously. Our new iMac is maxed out at 16GB of RAM. Also, iTunes is required if using Apple TVs.

The other big thing coming up for us is our fall calendar, which features many seasonal favorites. Our local audience looks forward each year to our specials for Halloween, Thanksgiving, and Christmas. We offer a spooky laser show, ghoulish tours of the night sky, and a special showing of the 1968 classic *Night of the Living Dead* on October 26 and 28, while we have a less scary night for the kiddies planned for October 30. The Tuesday before Thanksgiving brings back *The Mouse on the Mayflower*, as well as a new feature this year, the *Thank Your Lucky Stars* astrology-debunking hour. For Christmas, we will be offering laser shows, night sky tours, and a special talk about the Christmas Star phenomenon. Plus, I will be busy clearing our calendar of anything after December 21. Cheers

**Robeson Planetarium and Science Center
Public Schools of Robeson County
Lumberton, NC**

Ken Brandt reports: The Robeson Planetarium celebrates the world NOT ending with our public shows, using videos and data pasted together from Phil Plait to Carl Sagan-along with a healthy dose of humor. This replaces our usual holiday patter, and runs from thanksgiving weekend up to the

MLK holiday.

As for me, on December 21 my toes will be in the sands aside Tulum-Mayan ruins that will host the crew of the 'Not the End of the World Cruise' on 21 & 22 December! We are also preparing programming and viewing opportunities for the two great comets of 2013.

**Margaret C. Woodson Planetarium
Horizons Unlimited, Rowan-Salisbury Schools
Salisbury, NC**

Patsy Wilson reports: We have a busy fall planned. At our public opening in October, we will show, *The Truth Behind 2012*, a Science 360 program from the Morehead Planetarium and Science Center. This program, funded through a National Science Foundation grant, looks at a number of the myths surrounding December 21st, 2012.

We received a NASA Summer of Innovation mini-grant for middle school teachers. Our workshop entitled SAIL (Science & Astronomy through Inquiry Learning) will meet on four Tuesdays in October. Each week a different topic will be explored from the Earth, Sun, Moon system to a Solar System Overview, to specific work on the seasons, tides, phases and eclipses. Participants will receive a wealth of NASA publications for their classrooms as well as basic materials for doing all the hands-on activities with their students.

Recently our school system held a STEM Matters event for the community at Horizons Unlimited and neighboring Knox Middle School. Teachers demonstrated specific STEM activities that they use in their classrooms. Over 1100 people (and that's a big crowd for Salisbury!) attended with about 350 of them visiting the planetarium. We had four shows scheduled and with about 70 seats available, you can easily calculate that we were over peak capacity! The planetarium show was an edited version of the AVI SkyLase show called *How Lasers Work*. We added images and called it *Fun With Lasers*.



**DuPont Planetarium
Ruth Patrick Science Ed. Ctr. , USC
Aiken, SC**

Gary J. Senn reports: The DuPont Planetarium at the Ruth Patrick Science Education Center (RPSEC) on the campus of the University of South Carolina Aiken (USCA) participated in the Carolina Association of Planetarium Educators (CAPE) conference August 27 & 28. Planetarians from North and South Carolina converged on the Roper Mountain Science Center in Greenville, SC where they had a great time of networking and exploring opportunities for education in planetariums. Details about CAPE can be found at <http://rpsec.usca.edu/Planetarium/CAPE/>

We had a successful International Observe the Moon Night on September 22. Members from the Astronomy Club of Augusta set up telescopes on the lawn for our visitors to view the moon. Of course, the club members did not limit viewing to the moon, so the patrons were able to see a number of other objects in the sky. The 16" Meade LX-200 Bechtel Telescope was available in the RPSEC Observatory.

In September, the planetarium presented a local production, Mission to Mars. Mission to Mars begins with a live night sky presentation followed by a taped show that is a follow-up dialogue between a "member of the audience" and the show presenter. The show explores past missions to mars and discusses future human visits to the Red Planet.

In October, the *Solar System Adventure Tour* from the Great Lakes Planetarium Association was the featured presentation for the public and school visits. November will feature *In My Backyard* from the Calgaya Science Centre and *More Than Meets*

the Eye from Lochness Productions.

With the arrival of school groups, football and cooler weather, we are looking forward to our Christmas season. Once again, we will feature our Christmas favorite, 'Tis the Season from Lochness productions and the Taylor Planetarium.

**Planetarium
South Carolina State Museum
Columbia, SC**

Tom Falvey reports: The South Carolina State Museum has started initial construction work on its \$23 million Windows to New Worlds expansion, which will feature a planetarium, Simex/Iwerks 4D theater, observatory, and antique telescope gallery. The project will add 22,000 ft² of new space and will renovate about 48,000 ft² of existing space.

The planetarium will house an Evans & Sutherland D3 system, which was purchased in 2008 with grant funds from NASA. The 55' dome is a 180° Spitz NanoSeam projection screen. The museum also purchased an AVI Skylase projection system as part of the new 145 seat theater.

The observatory will house a 1926 12-3/8" Alvan Clark refractor that was originally installed at the Rutherford Observatory at Columbia University. New motors will allow GOTO control using Software Bisque. Images and video captured from the instrument will be made available to educators and students statewide, and be distributed to both large and small screens throughout the museum.

The telescope gallery will feature an amazing collection of instruments, ranging from the early 18th century to the middle 1900s. The collection includes the finest assortment of American-made refractors in the world, including 24 by the best names in lens making, including Henry Fitz, Alvan Clark, and John Brashear. This world-class collection also features more than 15 Zeiss instruments, including the extremely rare 130mm double telescope, ca. 1920.

Look here http://www.scmuseum.org/plan_visit/future_expansion.aspx

for more information on the project. The University of South Carolina has helped create an excellent telescope website for the Robert B. Ariail Collection of Historical Astronomy here <http://library.sc.edu/ariaail/>. Watch for future postings on our construction schedule as we finalize our last bits of design.

TENNESSEE

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**Bays Mountain Planetarium
Kingsport, TN**

Adam Thanz reports: October will see the release of our latest in-house full-dome production, "Under the Milky Way." We are nearing completion of this show as I write this. It will be a tour of our galaxy along with understanding its structure. Written by Jason Dorfman, it will be a really nice program to run this fall.

Our secondary show shown at 2 p.m. on the weekends, is currently finishing up with "Appalachian Skies - Fall." It is a live format program, that tours the fall skies and also includes detailed, interesting information about some of those objects. The next secondary show, which runs this Nov. & Dec., will be "The Case of the Disappearing Planet." Our in-house full-dome production that looks at what happened to Pluto and what we call a planet. This fun show is now available for distribution to your theater.

We're also gearing up for our annual StarFest event held in Oct. This one is our 29th! We have a great lineup of speakers, meals, activities, etc. StarFest is a three-day event for regional amateur astronomers (and planetarians, too). It's lots of fun. If you want to receive e-mail notices about future StarFests, please let me know and I'll add you to our list.

**Sharpe Planetarium
Memphis, TN**

Dave Maness reports: As I write this, we are gearing up for our annual Pink Palace Crafts Fair.

This is the 40th year for this wonderful fundraising tradition managed by a civic group called The Friends of the Pink Palace. We will be consolidating all Pink Palace exhibits and displays into one single tent for a change. This will save me the trouble of setting up my red and blue pavilion.



School group visitation through September has been light. This is not unusual for this time of year. Bookings seem to build up toward November when (we expect) nearly every spot will be taken.

For the public we are presenting *Bad Astronomy: Myths and Misconceptions* (from the Detroit Science Center). In fact I have a Rhodes College group booked to see it late this afternoon. On Saturdays we also offer a Sharpe Planetarium produced seasonal program called *Autumn Nights*. For all our programs we include a live guided view of the current night sky. I am also working on a project to

translate our *Wonders of a Winter Night* into Spanish to run on a separate track. This will be accessed by Hispanic visitors on a closed circuit system similar to the one we provide for hearing impaired. I am hoping to have it ready by December.

Word has come from our Development Department that a major donor has been found for our planetarium renovation project. If all goes well, The Sharpe Planetarium should look very different from this...



and we should be opening as a Full Dome Digital theater by winter of 2014.

It was good to see many of you at the IPS conference in Baton Rouge. If you didn't attend, you missed a great opportunity to share knowledge and experience with other planetarium professionals.

I wonder if the number of domes in the "Dome Village" part of the Vendor Exhibit Hall would qualify as a Guinness World Record?! Congratulations to Jon Elvert and his staff for a fine experience. The next IPS meeting will be approximately two years later and in China.



VIRGINIA

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Newport News, VA
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Chesapeake Planetarium Chesapeake Municipal Center Chesapeake, VA

Dr. Robert Hitt reports: The Chesapeake Planetarium is now entering its 50th year of operation. I have been Director for more than 43 years now. We are planning a complete renovation of our facility but do not know any details as of this date. The entire City of Chesapeake will celebrate its 50th anniversary in 2013.

Abbitt Planetarium Virginia Living Museum Newport News, VA

Kelly Herbst reports: Well, summer was brutal on us here at the Abbitt Planetarium, and the Virginia Living Museum in general. May brought extremely heavy rains, and a flash flood sent our lake directly into the lower levels of both buildings. Fortunately, that time, the damage was minor. We were able to reopen both buildings within 2 days and the most difficult part was the task of raising \$50,000 on short notice to cover the deductible from our insurance.

Sadly, that was not the end of it. The weekend before Labor Day brought another intense burst of thunderstorms overnight, and once again, the lake overran its bounds. In 20 years at the museum I've never seen anything like it. The floodwaters crashed over our floodgates, forcing open doors and flooding both buildings again, but far more severely. Our main exhibition building took on a foot of water, while the education center where the planetarium is located took on three feet of water. Fortunately, the planetarium was spared any damage, and no staff members or animals were harmed. However, as I write this, the lower level of the museum is entirely closed (exhibits as well as staff and animal support areas), with hopes that we will be back up and run-

ning properly by mid-November. And yes, we have to pay the deductible again...and the damage from this flood nearly reached our insurance cap. You can check out more images from the flood on the Virginia Living Museum's Facebook page or at www.thevlm.org.

Since the lower level of the museum remains closed, we have reduced our general admission price and made all planetarium shows included in admission until such time as we can reopen the whole museum. Since normally we're closed in September for maintenance, it's a bit strange to be doing shows at this time! But folks seem to be enjoying them, although, when the shows are free, people treat them very, very differently. We've decided to run limited showings of *"Solar System Odyssey"* - a full dome show kindly provided to us by NASA Langley and produced by the Morehead Planetarium with a strong environmental message. Also on the line up daily is our home-grown *"2012: The End of the World? NOT!"* which continues to be very well received. On the weekends, when attendance is much higher, we round out our shows with our live program *"Virginia Skies."* We've gone back to our post-summer schedule of being closed on Mondays and Tuesdays to allow us some time to work on maintenance issues. Plus the Fall tends to be our quietest time of year anyway.

Those days off give us time to work on our annual Halloween event, Night of the Living Museum. We're planning on a piratical theme in the planetarium this year, so hopefully next time around I'll have images of the theater "dressed up" like a pirate



Image by Rick Lentz

ship to share. On the dome, it will be the Halloween laser extravaganza *"Fright Light."* It never fails to sell out for us.

Soon enough, holiday programming will begin, with our two perennial favorites *"Star of Wonder: Mystery of the Christmas Star"* and *"Laser Holidays."* "2012" will keep running through the period as well, with an "End of the World" party scheduled for the night of December 21st, complete with countdown to midnight and the welcoming of December 22nd. It should be quite a blast!

Enjoy the clear skies and cooling temperatures, and of course, the coming apocalypse (NOT!).

Pretlow Planetarium Old Dominion University Norfolk, VA

Declan De Paor reports: We have a new show this Fall - "Black Holes" The details are here: <http://www.odu.edu/planetarium>. Attendees benefit from our brand new carpet and surround sound system!

Note from Kelly Herbst: Due to issues with my computer, I was unable to provide news from Virginia last time around. Declan asked to share this link to ODU's wonderfully successful Venus transit event. <http://ww2.odu.edu/ao/ia/insideodu/20120607/feature2.html>

Enjoy the fantastic photographs!

Ethyl IMAX Dome and Planetarium Science Museum of Virginia Richmond, VA

Leslie Bochenski reports for SMV: The theater is currently undergoing a complete renovation of the cove light system, replacing an almost 30 year-old incandescent system with LED's. The old Digistar system will also be removed within the next year, but they have not made a final decision on which system will replace it.

Planetarium

Thomas Jefferson High School Richmond, VA

Leslie Bochenski reports: Another school year is off and running. The Virginia Board of Education has revised the Standards of Learning (SOL's) for all grades, including more Astronomy-related topics in the 4th and 6th grades, but reduced the number of topics in the 9th grade Earth Science curriculum. As a result, I've seen a marked increase in program requests from the elementary level, so I'll be kept busy all year.

Planetarium

WEST VIRGINIA

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West Virginia Wesleyan College Buckhannon, WV

Tracey DeLaney reports: In October, we will celebrate our two-year anniversary of offering public shows two weekends a month in our 40-seat planetarium. Our old Spitz A3P prime projector is still working fine and still leaves children in awe. While we would love to offer free shows, the Physics Department budget cannot cover the cost of replacing the arc lamp (over \$1100), so we charge \$3 for adults with free admission for anyone under 18. So far in 2012, we've had 176 adults and 114 children attend our regular shows. One of the best parts of the show for kids is when we give away posters at the end. We are able to get posters for free from NASA's Chandra X-ray Observatory EPO office and we hope that this service will remain free.

We had a special event for the Venus Transit and, even though we were clouded out, we had 50 friends celebrate the transit with us while viewing internet feeds from NASA.

We also had a wonderful time with the annual Summer Gifted Program for adolescents. In addition to the sky show, we opened up the consoles to view the workings of the planetarium and took the 13.5-inch telescope out for a spectacular view of Saturn after the show.

On September 14th we took a green laser pointer and performed a “live” planetarium show under a beautifully clear sky at Watoga State Park in southern West Virginia. This show was for the annual Becoming an Outdoors-Woman program.

**Tomchin Planetarium and Observatory
West Virginia University
Morgantown, WV**

Tracey DeLaney reports: With the move of the Physics Department to the newly-renovated White Hall, the old planetarium has been deconstructed and replaced with a new digital full-dome projection system. There are now 60 theater-like seats, doubling the capacity of the old planetarium. Free public shows are offered twice a month. The shows this fall are “Tales of the Maya Skies” and “Ultimate Universe.”



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