Southern Skies

Volume 30, Number 1 Journal of the Southeastern Planetarium Association WInter 2010

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Images from SEPA 2010. Credit: Adam Thanz

Southern Skies is the quarterly journal of the Southeastern Planetarium Association published for the purpose of communicating association news, reports, reviews, and resources to its members.

President's Message

Jon Elvert
Irene W Pennington Planetarium
Baton Rouge, LA

I recently returned from a STEM Summit meeting highlighting President Obama's commitment to a globally competitive education system and how informal science learning centers play an important role in the 21st century technology-based economy. This got me thinking, of course, on just how astronomy and planetariums are used to both introduce and knit together the disciplines of STEM (science-technology-engineering-mathematics). As a whole, planetarians do a good job of integrating mathematics and technology into their astronomy science offerings. Many of us are able (some of us required) to evaluate student learning - demonstrating program impact, student engagement and outcomes, but I think it's becoming increasingly more important for us to elevate and promote "science" in our curriculums by making connections to the STEM initiative, or by establishing partnerships with local or state science-related resources, whether it's a state research facility, an observatory, or your university's astronomy/physics department. Above and beyond teaching astronomy curriculum to grades K-16, we must also nourish a desire to learn more about how the world works; to ignite an interest in related subjects (like STEM) and how important these subjects will be to students later in life. Both the planetarium environment and the subject of astronomy, especially now with so much science related fulldome video content, allow for making these connections easier and more appealing.

The main event for SEPA in 2010 will be our conference at Bays Mountain Park in June. Our host, Adam Thanz, summarized the conference events in the last issue of *Southern Skies*, but you can also go on-line (www.sepadomes.org) to get updated information. Please plan on attending this conference, especially because membership (you) will be electing a new slate of officers. All positions for Council are up for election. The spring issue of *Southern*

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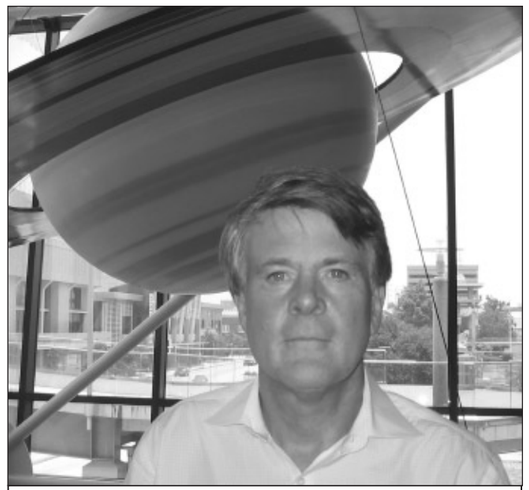

SEPA President Jon Elvert

IPS Report

John Hare
ASH Enterprises
Bradenton, FL

IPS 2010 will be held in Alexandria, Egypt June 26-30. The Conference Website is www.bibalex.org/IPS2010/home/home.aspx, and gives detailed information about the Conference, registration for the conference, pre and post-conference trips, and other useful data.

You will need some patience in navigating the Site as certain information can only be uncovered in indirect ways. If you go to "Online Registration" under "Registration", the first thing you are asked is to agree to the terms and conditions, which are yet to be stipulated! I kept looking. I found an obscure link to download the form that also contained a ton of information.

You should be able to glean all the necessary conference information form the various documents. There is a link to contact them if you wish. Please note the deadlines…

Early Bird at $400 is April 1, regular at $425 is April 30, and goes to $450 until advance registration closes on May 31.

Add $100 to all categories for non-IPS members. See you in Alexandria!

Baton Rouge will host the 2012 IPS conference. The dates are July 22 - 26.

Preliminary conference invitations have been received for the 2014 site. So far Rio de Janeiro, Brazil, Toulouse, France, and Athens, Greece have indicated they will submit formal bids. The deadline for receiving site bids is June 25, 2010. If your site is interested in submitting an invitation please contact me for bidding details.

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

I'd like to thank Robin Byrne of Northeast State Community Collge, Blountville, TN for her submittal of the review of the book *The Immortal Fire Within: The Life and Work of Edward Emerson Barnard* by William Sheehan for *Bookends*. Her reviews are always well-received. Also, thanks to Duke Johnson of Clarke Planetarium, Salt Lake City, UT (or, for us old folks, the planetarium formerly known as Hansen) for his article on *Place-Based Astrophotography*. Hopefully, some of us will find the reconnection he suggests. I am sure that many of us will find the information useful.

I'd like to ask other people to also consider contributing. If you have read a book, or viewed a video that you believe is appropriate and interesting to your fellow planetarians, please consider sharing your thoughts by writing a review. Other things that we would gladly accept reviews of are websites that might be of use to either our audiences or our professional community, or even videos games or computer programs that you have found useful. And don't forget the possibility of writing about new products or new equipment that you have tried.

I encourage other folks who have tried a new technique or an old technique, please share your thoughts about it with us. Write a article that introduces it to your fellow planetarians, or that warns us away.

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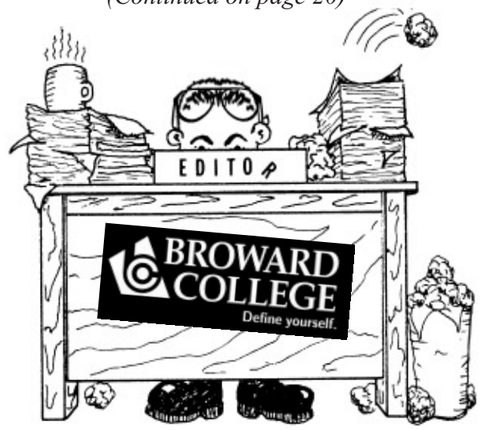


SEPA Membership Form

Please send your check to SEPA, c/o Mickey Jo Sorrell, Morehead Planetarium & Science Center, CB#3480 UNC-CH, Chapel Hill, NC 27599.

_____One Year, $25 ($15 outside SEPA geographical region)
_____Two Years, $40
Name _____
Organization _____
Planetarium _____
Address _____
City _____
State / Zip Code _____
Voice Phone _____
Fax Phone _____
Email Address _____
Staff Position _____
IPS Member? Yes _____ No _____
Contribution to Scholarship Award Account: $_____

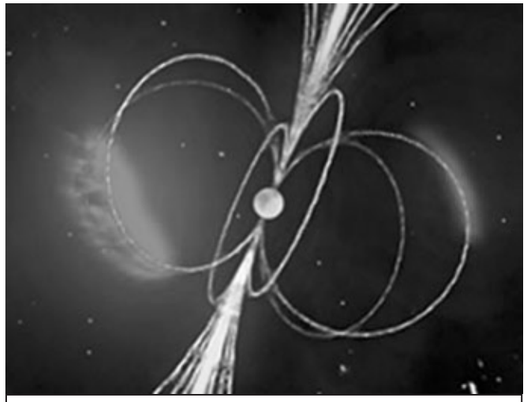
Small Talk

Elizabeth Wasiluk
Hedgesville High School Planetarium
Hedgesville, WV

Hey everyone, International Year of Astronomy is almost over as I write this. I did a planetarium program for a contest I ran last week. With 1750 students within our school and a planetarium that only seats 25 in the 20 foot dome; this is the only fair way I have of getting kids who are not in astronomy class to come to the planetarium. I could do programs all year and not get the whole school inside. This way I run a contest with five different questions, one a day for a week and the students who answer correctly win a pass to the planetarium program during 4th period, the only period where the whole student body is here and not away at a remote location such as the Vocational Technical School next door or ROTC. I usually get kids who are interested to win passes and visit the planetarium. I usually center my programs on something happening in the sky that kids can go out and look at. I plan these things at the end of the school year in May or June by looking at the upcoming year and see what is going on.

This school year I didn't have a lot to choose from, so I picked the topic of "Saying Good-Bye to the International Year of Astronomy." I did a live December sky program as well as show part of "400 Years of Astronomy," the PBS video narrated by Neal DeGrasse Tyson.

Winners this year included Clara Beth and her boyfriend Kalob. Clara Beth went to the National Radio Astronomy Observatory as an eighth grader as part of a special summer program to get students interested in science. They visit the National Radio



An artist visualization of gamma rays and radio rays being emitted.

Astronomy Observatory in Green Bank, West Virginia. Since then Clara Beth has been active in the pulsar search collaboratory where students search for pulsars through over 30 terabytes of data gathered by the Robert C. Byrd Radio Telescope located there. She even got her boyfriend to participate in both my astronomy class and the pulsar program.

As I find myself reflecting upon International Year of Astronomy as it draws to a close, I can't particularly claim that tremendous changes have taken place in the public awareness of astronomy, at least as how it effects my humble planetarium in Hedgesville, West Virginia.

I did not do anything out of the ordinary. Sure I did public planetarium programs, but I always do several a year. Yes, I partnered with my local astronomy clubs to host star parties, but I do that every year.

Outreach coordinator, Mike Sager, of the Tri State Astronomers mention that had no one declared it

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Small Talk (Continued from page 6)

to be International Year of Astronomy, perhaps the weather would be more cooperative.)

One of the best things to happen to the little planetarium in West Virginia was my joining NASA's "Museum Alliance" and obtain the two "Great Observatory" images to hang outside the planetarium to tell people about astronomy, long after "International Year of Astronomy" fades from our memories.

The Flying Saucer Restaurant in Niagara Falls, Ontario, Canada

Fun with Aliens at the Flying Saucer Restaurant

There are still people who believe the universe is much smaller than astronomers have proved it to be and believe that intelligent life is out there and that someday we will be contacted by them. There are many who believe that we already have been contacted by life beyond Earth and don't care about the lack of evidence.

People continue to be enthralled by the search for extra-terrestrial planets. I rearranged my astronomy curriculum to explain how we continue to search for these planets and how we are finding them with modern equipment to my astronomy class at Hedgesville High School.

Learning about the discovery of pulsar planets, my students continue to search the database of the previously mentioned Robert C. Byrd Radio Telescope.

It gratified me to see so many people in the planetarium field at the Star Party on the White House Lawn. The first young man to discover a pulsar in the program I have talked about was also there, showing that discoveries can be made.

What awaits me as the New Year dawns? Besides the usual exams, teaching and wrap up of the first semester and the beginning of the new one and numerous planetarium program, I promised myself, I will begin to explore ways to revamp the aging tiny planetarium I work at and make it more viable to educate people in astronomy in the 21st century. There are things I need to repair such as cove lights and replacing a dead computer, so I can once again have internet in the planetarium and be able to project it up on the dome. I hope to be contacting vendors in 2010 and hopefully they can have ideas to help me achieve that goal. The biggest problem, as always, is money, finding and using it wisely. It would make more sense to build a completely new facility than to patch the aging one, but as I am told, the school is just lucky to have what it has. So onward I persevere. What will 2010 bring you? Are you planning anything for 2010 and the 60th anniversary of the discovery of the laser? Will you be participating in Laserfest? In what way?

How are you dealing with the public perception of 2012?

Do you have stories to share? Regardless of your definition of the concept of "small planetaria," I would love to hear from you. Send me your comments and concerns, plus any stories to share.

Archeo-astronomy

Living by the Moon: Ancient Traditions of Lunar Observation in Agriculture

Part I: A Description of the Moon Sign Calendar and its Supposed Effects

Woodrow W. Grizzle III
Jonesville, VA

Moon, Western Near Side. NASA, Galileo Spacecraft. February 08, 1996.

I recently sat in my office poring over calendar pages from the Old Farmer's Almanac, as I am wont to do, when I noticed that there was to be a blue moon on the 31st of December, New Year's Eve. Cognition of this azure disk got me thinking about all things lunar. Probably because I was reading an agricultural almanac, my mind gravitated toward the old lunar astrology I learned as a farm boy growing up in Virginia.

My father and grandfather, and all the old farmers back home used a method of tending crops and livestock that stemmed from practices most ancient, if not a bit arcane. In use since pre-historic times, this lunar agricultural calendar served as a guide for farmers, whose entire livelihood depended solely upon successful crops and livestock husbandry. Its use, in some form or another, is spread throughout the many cultures of the world, in both the Western and Eastern hemispheres. The system in use today dates back to the time of Hippocrates, the Father of Medicine, who used it for medical practice in the 4th century, B.C.

Many people now tend gardens as a way in which to reduce their grocery bills and their dependence upon others. National Geographic reported in 2003 that many of these new gardeners are turning to the Moon for guidance in producing bounty. Many people have heard of planting by the Moon, but few understand the rime and reason behind this antique process. I grew up watching the Moon slide through the sky and hearing old farmers talk about planting tobacco, mending fences, and even weaning and castrating young beasts, all according to "the signs."

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Archeoastronomy (Continued from page 8)

The signs of which they spoke were the Moon signs, times dictated by the Moon's appearance among the zodiac constellations during the course of its orbit. As all planetarians know, as the Moon orbits Earth, it passes through the twelve signs of the zodiac (plus Ophiuchus and Sextans). This lunar astrological model asserts that the Moon pulls energy through the bodies of all living things, animal or vegetal, from the head to the feet, or from the buds to the roots in the case of plants, in a cycle beginning when the Moon is in Aries and ending when it is in Pisces. Each Moon sign rules a different part of the body, and, when the Moon is passing through each part of the zodiac, the corresponding body part ruled by that sign becomes sensitive. The body parts associated with each of these signs are as listed below.

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Zodiac Man. Calendar Pages of Tres Riches of Jean Duc de Berry, a Book of Hours. A.D. 15th Century. France. Free Use Image

Aries - Head

Taurus - Neck

Gemini - Arms and lungs

Cancer - Breast and stomach

Leo - Heart

Virgo - Stomach and bowels

Libra - Reins (kidneys)

Scorpius - Secrets (genitals)

Sagittarius - Thighs

Capricornus - Knees and bones

Aquarius - Lower legs

Pisces - Feet

Bookends

Robin Byrne
Bays Mountain Planetarium
Kingsport, TN

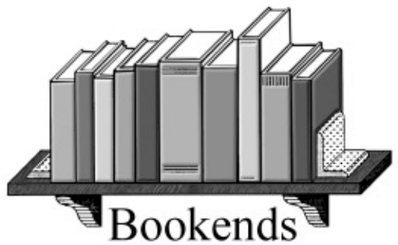
The Immortal Fire Within: The Life and Work of Edward Emerson Barnard by William Sheehan

It's time for another book review. "The Immortal Fire Within: The Life and Work of Edward Emerson Barnard" by William Sheehan chronicles the life of Barnard from birth to death. For anyone with an interest in the personalities from astronomy history, this will be an enlightening read.

The book begins with Barnard's early, impoverished life in Nashville, Tennessee. In a fatherless home (his father died 3 months before his birth) and a frail mother, Barnard left school and went to work in a photography studio at an early age. It was during this time that Barnard was first introduced to astronomy and received his first telescope. In this phase of his life we see some of the traits he will carry throughout his career: patience, skill, and the obsessive desire to observe through his telescope during any clear nighttime hour.

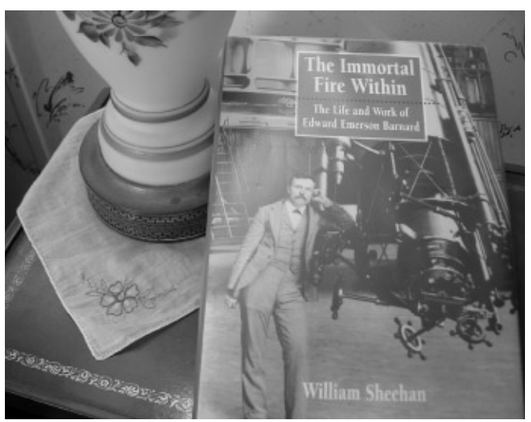
The book takes us through an era in Barnard's life when he makes a name for himself by discovering comets. His comet-hunting was beneficial both financially (through the Warner prize) and professionally (with a position at Vanderbilt University). Despite his growing fame and success, Barnard is shown to still feel very inferior to the professional astronomers with whom he corresponds. Barnard never could forget his humble, uneducated beginnings.

We see Barnard given the opportunity to move to California and work at the, not yet complete, Lick Observatory. The director would be Edward Holden, and he would be Barnard's nemesis during



his entire tenure at Lick. The book goes into great detail during this era of Barnard's life, and shows us an intimate glimpse of the petty backbiting and fragile egos involved. Citing written records from Lick Observatory, we see two men who, time and again, felt wronged by the other. Having the local newspaper editorials consistently siding with Barnard (and calling for Holden's removal) could not have helped matters.

The story ends with Barnard moving on to Yerkes Observatory at the end of the 19th century. By this time astronomy was changing. An astronomer sketching his view through a telescope was rapidly being replaced by photographic images. Barnard's early years in photography served him well, and he took some of the best, early images of comets, and more notably, of the Milky Way. However, an even more important change was the ascendance of astrophysics as the wave of the future. With his lack of education, and especially weak mathematical skills, Barnard was finding himself falling further and further behind. Yet, despite this, he continued to make important discoveries and contributions until his final years.



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Bookends (Continued from page 10)

The story of Edward Emerson Barnard is a fascinating tale of triumph over seemingly insurmountable odds. William Sheehan has clearly devoted a tremendous amount of time and effort putting together the pieces of Barnard's life, with documented evidence for every twist and turn. Sheehan's research efforts pay off in a rich tapestry that gives insights into Barnard as a man, as an astronomer, his discoveries, and into the world of astronomy in the late 19th/early 20th century.

The Immortal Fire Within: The Life and Work of Edward Emerson Barnard by William Sheehan; Published by Cambridge University Press; 1995

Archeoastronomy (Continued from page 9)

Each zodiac constellation or moon sign is also said to have certain associated traits. Each moon sign is either masculine or feminine and each is associated with one of the four classical elements: Earth, Water, Air, and Fire.

Earth signs are said to be earthly and feminine, like unto a fertile mother, giving rise to all living things. The very word earth comes from the Old English eorthe, meaning "mother." The Earth signs are Capricornus, Taurus, and Virgo.

Water signs are also feminine. These signs are (quite naturally) considered to be wet and nutritive, giving rise to fruitful bounty. The Water signs are Cancer, Scorpius, and Pisces.

Air signs are masculine and atmospheric. Air signs represent cleanliness and lightness. The Air signs are Libra, Aquarius, and Gemini. It may seem odd that Aquarius is an air sign rather than a water sign, but ancient humans associated Aquarius with the brining of rain, which came from the atmosphere, and was therefore a part of the air.

Fire signs are also masculine. These signs are represent things hot, dry, and barren: quite the opposite of the Earth and Water signs. The Fire signs are Aries, Leo, and Sagittarius.

In addition to the Moon's position, its phase also affects biological processes according to this tradition. As the Moon grows to full, waxing brighter with each successive night, its pull on the blood and other bodily fluids grows ever stronger. These are times when such things as castration are to be avoided as prolonged bleeding increases the chance of infection. Alternately, the Moon's effect on body fluids reduces as the Moon's light diminishes. A waning Moon is a favorable time to castrate because the fluids are pulled less by the Moon, decreasing both healing time and chances of infection.

Taking into account all of the various aspects of the Moon's position within the zodiac, and its phase, the system dictates that chores related to specific parts of the body or to certain aspects of the elemental signs should be done in the correct sign to maximize effect. Doing so during an opposing sign would compound any possible negative effect.

In the example of castration, Moon signs indicate that the best time to castrate a young animal would be during a time when the Moon's affect on the blood is low, when the sign is favorable to cleanliness, and when the Moon is moving away from a sign of the genitalia. For castration, one would desire an old waning crescent moon that is passing through Aquarius, because the waning moon has the least effect on bodily fluids and the sign of Aquarius is both below the genitals and is an Air sign, which represents cleanliness.

For plants, the effects of the Moon's sign and phase are similar to those on animals. As you might expect, crops should be planted and transplanted during signs of fertility and nutrition, such as the Earth and Water signs. Crops should never be planted during a Fire sign, such as Aries, Leo, or Sagittarius, because they represent barren, miserable times. According to Moon sign philosophy, the Moon pulls most strongly on both the water table and a plant's sap during the waxing phases (light of the Moon). Because of the boost in vitality imparted by these effects, it is during these

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SEPA 2010 Conference

Bringing You "The Art of Storytelling" - June 8-12, 2010

Adam Thanz
Bays Mountain Planetarium
Kingsport, TN

Mark your calendars, book your flights, gas up the car, and pack your bags now! You will not want to miss this year's most incredible planetarium conference ever! Bays Mountain Planetarium in Kingsport, TN will be the center of space and time for all planetarians on June 8-12, 2010. Our theme is "The Art of Storytelling" and we have such a great slate of activities, events, and vendors scheduled for you, you'll want to register twice just to double the fun! OK, register only once, but you'll be glad you did.

East Tennessee is in the heart of the gorgeous Appalachian Mountains. Early June's temperatures and humidity are quite modest. The highs are in the 80's and the lows are in the 60's. It is also a great place to bring your family. Why, you may want to arrive early or stay later to enjoy more of the region on your own. Our region is served by the Tri-Cities Airport (TRI) and includes carriers like Delta Connection, US Airways Express, and Allegiant Air. Two main interstates, I-26 and I-81, intersect just south of Kingsport to provide very easy automobile access. Once you arrive, you're going to have a great time. For those that have never attended a SEPA conference (or even if you have), let me tell you some details about what's in store.

Tuesday afternoon, June 8, will start with a hearty welcome from the very professional staff of the Marriott MeadowView Conference Center and Resort when you check in for your four-star hotel room. Bays Mountain staff will also be there to continue that welcome and provide you with a special collection of registration materials (some of which are top secret and will only be revealed to you in person) and to assist you with any of your needs.

Luxurious surroundings await you at the Marriott MeadowView Conference Center and Resort

That evening will commence with a shuttle to Bays Mountain Park where we'll have a very nice reception with yummy treats before we enter the newly renovated planetarium theater. You'll be witness to the second Carl Zeiss planetarium installation of its kind in the Western Hemisphere, the first in the SEPA region! But, there is no complete theater like this in the world! It includes a Carl Zeiss ZKP-4 optical star projector, Spacegate Quinto full dome projection, 40' Astro-Tec Ultimate Seam dome, ECCS Advanced Pleiades LED cove lighting, unique 6.1 surround-sound audio system (one at the zenith), comfy seats by Greystone Int., and a fabulous design complete with metal sculptures.

After an introduction by local officials, we'll enter uncharted territory with the first-ever "Mini Black Holes!" It's your way to express your skills with

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bad taste! Yes, you are allowed to make the worst short presentation ever. It has to be no more than five minutes, be original (not created from the web), and be in either rectangular or full-dome video format. The technical quality can be poor and so can the grace. But, it's gotta be funny. Format details and deadlines are found via sepadomes.org. Following that will be a flock of planetarium shows for our continued enjoyment. We'll try to not to go too late as we understand the need for free time and rest time.

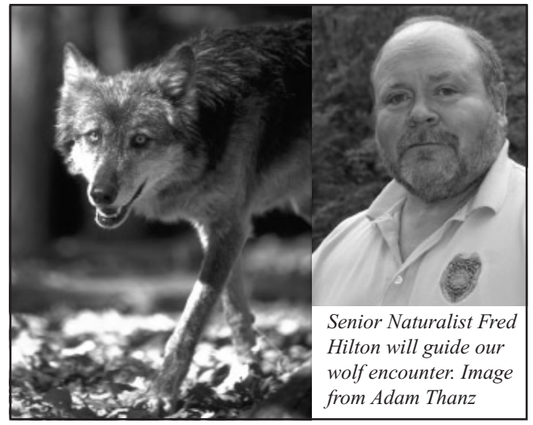
Wednesday will start at MeadowView with a breaking of the fast. The day's first activity will be an incredible opportunity to learn the art of storytelling by receiving professional storytelling instruction in a workshop hosted by the East Tennessee State University Storytelling Institute. Two amazing storytellers will be a part of the Storytelling Institute, Lynn Moroney and Fran Stallings. I know we will all have much to learn.

LEFT: Lynn Moroney will be gracing our planetarium with her Native American sky lore. Image from http://www.lynnmoroney.com/meet_lynn_moroney.html

RIGHT: Fran Stallings will be working with Lynn Moroney in our storytelling workshop on Wednesday. Image from http://www.franstallings.com/

Throughout the conference while at MeadowView, the vendor hall will be open. Make time to visit our visiting vendors and thank them for their support of our conference. This is a valuable time to talk in person with representatives of companies that specifically serve our planetarium community. Wednesday morning will also be the start of the silent auction display. I wanted to make sure all delegates had plenty of time to peruse the tables and to start bidding early. The proceeds go directly to the SEPA Scholarship Fund to provide financial support for conference attendance. Those wishing to donate to the auction should contact Dave Maness at the Sharpe Planetarium in Memphis, TN. I am hoping we can have the greatest turnout ever, but only you can make it so.

Following a savory lunch will be the SEPA pre-business meeting. This meeting is important as we will have Council elections this year. Please attend to discern who you want to be your next Council officers. The first plenary session for presentations follows. Start working on your presentation now as space will be limited.



Senior Naturalist Fred Hilton will guide our wolf encounter. Image from Adam Thanz

The late afternoon will proceed with a small ramble down the winding country road to the Park where we will embrace the local wildlife, well, almost. You'll be face-to-face with our wild, and most beautiful, gray wolves. Learn from our Senior Naturalist, Fred Hilton, about their lives and what makes them so majestic. You'll then saunter up to our Farmstead Museum of 19th century farm and home where we'll have a scrumptious meal. It will be followed with a performance by renowned singer/songwriter/storyteller Chuck Brodsky. You may have already heard his song, "Radio," at the end of the 2003 movie of the same name. Based on a real story, it starred Cuba Gooding Jr. and Ed Harris and includes a cameo by Chuck in the last scene.

You'll really take pleasure in Chuck Brodsky's music on Wednesday. Image from Adam Thanz

We'll continue in the planetarium with a very special storytelling under the stars with none-other than Lynn Moroney as she will grace us with some

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Native American star lore stories. Following that will be the infamous "Constellation Shoot-Out." Jon Bell will host this annual favorite where you will compete in pointing out constellations, asterisms, stars with names, and deep sky objects with Messier numbers or names. You'll go round-robin until there's only one left. Even if you don't participate, I highly recommend attending as you'll learn so much about the night sky.

The last event for Wednesday is the Hospitality Suite. If you've never attended a SEPA conference, this is where a lot of meeting and greeting occurs and is always lots of fun and a great way to unwind. You may even witness a sighting of the Great Woodchuck! I sure hope our Woodchuck patch is the most sincere.

Thursday starts at the Park with really cool vendor demonstrations. This is your chance to see the latest and greatest in the planetarium market. All delegates should attend this event as nothing can beat seeing a product in action.

The afternoon starts our wonderful day of field trips! What can be finer than a delicious box lunch on a short bus ride to a destination that is 4 to 7 million years in the past! We'll get a private tour of the Gray Fossil Site which boasts one of a kind discoveries and is possibly the largest Miocene site in the world. Part of what you'll experience is not only viewing many of their discoveries, but also seeing the dig sites themselves and how they are used.

Fossil of a Red Panda. Image from http://www.grayfossilmuseum.com

Go back to the 18th century at Rocky Mount. Image from http://www.rockymountmuseum.com/

Late afternoon then finds us taking another magical bus ride, but we'll stop at the 18th century to visit the Rocky Mount Living History Museum. It boasts original structures and implements of the time, but with first person interpretation. So, you'll get to experience what daily life was like all those years ago. It is also the home of the William Cobb. This is where the Governor of the Southwest Territory, William Blount, held residence. This made Rocky

Heather Forest's unique minstrel style of storytelling blends original music, folk guitar, poetry, prose and the sung and spoken word. Image from http://www.heatherforest.com/disc.htm

Mount the US Territorial Capital from 1790-1792. We'll then enjoy the early evening with Heather Forest. She is part of the International Storytelling Institute's Storyteller in Residence Series and will be a real treat. The group photo follows and then a delightful meal. After that, the hospitality suite of course!

Friday is a hefty day full of presentations, workshops, and continuing to visit the vendor hall. The SEPA Business meeting is slated for right after lunch to make it easy for all delegates to attend. All full members should be there as some voting will take place. Remember, SEPA is an organization for its members. It is important that its members participate in its governance. More presentations and workshops will commence until the late afternoon. By 4 p.m., all activities will cease to allow time to rest and get ready for the gala banquet. I am making it the highest priority to provide this free time.

The next event is the culmination of the conference. It is a time where we can all get gussied up and mingle with our fellow planetarians. It all starts with a cash bar and the last chance to make bids on the silent auction. Remember, this money goes directly to the SEPA Scholarship Fund. Then, we'll all make our gentle way to the banquet hall where a sublime meal awaits. But, it doesn't end at the dessert. There will be a short time to possibly honor a fellow SEPA member and other official business. Last, but definitely not least, is the keynote speaker. Dava Sobel will continue our storytelling theme as she will speak on her work and how storytelling is

Dava Sobel will provide our keynote address on Friday night. I know you will not want to miss her presentation.

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SEPA 2010 (Continued from page 14)

such an integral part of it. If you are not familiar with her, she is an internationally known author. She has written many scientific articles for the general public, but she is best known for her books. *Longitude*, *Galileo's Daughter*, and *The Planets* have all garnered acclaim. *Longitude*, though, has even been made into a TV mini series starring Jeremy Irons and Michael Gambon. My wife and I have this series and it is quite excellent. I am very excited to meet such an important person in the field of science literacy. I know you will be, too. The closing event for Friday is, unfortunately, the last Hospitality Suite. What a great way to end a great day!

Saturday is bittersweet. It is a last chance to gather with our longtime friends over a hearty buffet breakfast. The final official activity is the door prize drawings. If you would like to donate something for the drawings, contact me. It will definitely be appreciated by a fellow delegate. If you would like to win a door prize, then you must be present. Upon the drawing's conclusion, it is time for a fond farewell, until next year. If you choose to stay in the area a little bit longer, you will be able to attend a public presentation by Dava Sobel at Northeast State Community College that is near the airport in Blountville. It is free to the public and starts at 2 p.m. in their brand new auditorium.

Those with families can enjoy much more of the area. There is an endless list of wonderful activities and places of interest available, but let me list just a few. Nature: Bays Mountain has 25 miles of trails, a barge ride, many animal habitats, and mountain bike

Take some time to enjoy our Park. These falls are only two minutes away from our Nature Center. Image from Adam Thanz

trails for those with registered, proper bikes (only $2/bike). The Great Smoky Mountains National Park is a treasure trove of trails and history. There are a number of large caves in the region and even some very close like Bristol Caverns. Whitewater rafting on the Nolichucky River is also available for those with a more adventurous spirit. For a longer outdoor excursion, the famous Appalachian Trail passes nearby. History: Kingsport has the Exchange Place and The Netherland Inn House Museum and Boatyard Complex. Nearby historic Greeneville, TN includes the Andrew Johnson National Historical Site. Even closer is Jonesborough, TN, the oldest town in Tennessee and the home to the International Storytelling Institute.

I would like to say at this time that major funding for this conference will be provided by our supporting vendors. Please thank them for their generosity. If a company is not sure about attending, please urge them to do so. The exposure to their wares is very important to both the vendor and the potential customer.

It is our honor to host this conference for SEPA and its members. We will do everything we can to make this the greatest planetarium event of the year. One of our goals is to make sure that everything you would need is taken care of once you arrive. We plan on all meals and transportation to be included with registration which is estimated to be about $250/person. The hotel rate is $109/night up to quadruple occupancy. By the time you read this, the official registration forms will be available via the sepadomes.org website. It will include the actual registration costs along with all meal details and more. We also plan on a student rate for those working in your facilities that may not be able to afford the full fare. They are our future, so let's get them involved! I recommend letting other active planetarians, especially new ones in the field, know about this event. They will benefit the most as they will find out that we have this great, big family in the planetarium community and that they are welcome in it. See you in June!

BAYS MOUNTAIN PARK & PLANETARIUM

SEPA 2010

President's Message (Continued from page 3)

Skies will have the biographical sketches of those candidates running for office. You should receive the spring issue a couple of weeks prior to our conference, so please review the candidates' statements and cast your vote during our conference business meeting. Although a search committee has been formed to recruit candidates, it's not too late to nominate someone, or even nominate yourself for any of the three positions (President-elect, secretary/treasurer, IPS representative) and do so as late as the SEPA pre-business meeting. Newly elected Officers will start their positions on 1 January, 2011. Please contact any of the Officers if you have questions regarding responsibilities or requirements for a Council position.

As John Hare reported in our autumn journal, Baton Rouge will host the IPS2012 conference in July of that year, which may complicate where SEPA will be meeting that summer. In order to help Council resolve this dilemma, you should have received either an email or snail mail questionnaire from our secretary Mickey Jo Sorrell in late December on whether you would prefer a totally separate SEPA conference prior to the IPS meeting or an abbreviated SEPA meeting during the IPS conference. There is precedent for both: In 1988 SEPA met at the Richmond IPS conference and in 1994 a separate SEPA conference was held in Charlotte a few weeks before IPS in Cocoa. As of this writing, Council has not received sufficient member feedback to determine the best solution for a SEPA 2012 meeting. Whether SEPA meets prior to IPS2012 or in Baton Rouge, vendor participation and their conference support may be considerable less than what we normally expect. A search committee has been formed to recruit a potential host conference site for 2012 and a vote on selecting the site will be held in Bays Mountain Park.

In closing, I want to thank Drew Foster for an incredible job in keeping SEPA's web site current and updating its design. If you haven't visited the web site recently, check it out. Good job Drew!

Place-Based Astrophotography

Duke Johnson
Clarke Planetarium
Salt Lake City, UT

Many of us engaged in the business of inspiring people about space and astronomy find that it can easily take far more time than we can legitimately invest. That extra time often comes at the expense of something else that we love doing or just need to do. For me, this resulted in my not being out in the field observing as much as I'd like…which often stretched into "not at all." What I needed was a new and compelling reason to get me outside and enjoying observing again. If you haven't been out under a "real" starry sky as much as you'd like lately, perhaps the realization that you can take amazing photos that are very unique will give you some incentive too. While you can print images at traditional sizes like 8" x 10", today's digital equipment can let even the near novice capture and print single photos at 24" x 36" or larger. Noise isn't the problem it once was with digital cameras and thanks to LCD viewfinders, you can instantly see if you are close to getting a correct exposure.

GETTING STARTED

One of the first questions you're liable to have is, "Where can I find a compelling subject?" I recommend your back yard, so to speak. Near most of us, there are Local, City, State, and National Parks. They make a great backdrop for this style of photography. You might even get a shot of your institution with a planetary alignment or capture the stars over beautiful landscapes while on vacation. I've noticed that after enjoying the entire vacation day (which is usually about 10 am to 5 pm for most people), nearly all of them go home or to their hotel either just at or well before dark…when they should really be getting out to enjoy the night sky. How odd! (I bet you've never done that, have you?) Every time I go out to do astrophotos, I watch the exodus as people line up to see how fast they can get out of the park. Something about getting food, cleaning up and getting sleep-who needs that??? People only think that they need sleep…most of us gave that up years ago.

With the technology available today, great astrophotography, while certainly not simple, is a lot easier than in the past. If you can't see yourself buying an SBIG for the back of your scope along with other expensive astrophotography equipment, why not try it with your DSLR? While stacks of tracked telescopic images can easily be integrated and processed by using a number of quality software packages, single images of the sky over locally important or iconic features can really provide a unique view of familiar objects. These images can help people to connect with their surroundings in a special way. It may even encourage them to try and experience it for themselves.

Since the sky moves against the ground, you can't stack multiple shots unless you crop out the foreground-but then you don't need too. So far, everything I've shot with my DSLR is a single exposure or multiple exposures of sky and landscapes stitched together to form a larger photo (which actually works quite well).

EQUIPMENT

There is a lot of great equipment and software out there. There are also other ways to approach this subject. The following are simply the ones I've used in my pursuits.

The June 2007 issue of Sky and Telescope Magazine contains good plans, parts lists, and vendors for use in building a high-accuracy, reliable, very portable motorized barn door mount. Powered by just one 9V battery, it seems to run forever. This is one VERY key component in your bid to capture those stunning pictures. Before you build it, how-

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Astrophotography (Continued from page 17)

ever, there are seven important notes I need to make with regard to its design and assembly. After more than a year's worth of decently heavy use, these are my chief recommendations:

1) You need to build it reversed 180 degrees (thanks to Al *** for showing me his) so that the platform lowers instead of raises. In stark contrast to raising, the force required to lower the platform stays quite constant even with changes in camera, lens or the position of either.

2) Even if you buy a piano hinge, you will likely need to lay it on a block of wood and gently use a hammer and punch to compress the individual hinge segments so that the assembly is utterly tight; without any slop at all (even if you can't really feel it) will result in making the stars interesting shapes.

3) I recommend using ¾" plywood over the ½" specified as it gives all the screws more to bite into (this is especially important for the hinge as I found out the hard way). You can use a router to trim down the area by the motor and gear so that everything still fits as specified.

4) Take the extra time and build a wedge for it. It really helps. Just make the wedge for the latitude at which it will be used most. No need to be exact as I'll explain later.

5) Put a 9x50 finder scope on it, which makes alignment quick and easy and really improves accuracy. You should be able to pick them up for 50% of new cost by checking eBay.

6) I have taken to using a thin bungee cord looped over the end of the platform to provide a smooth nearly uniform pressure as the platform lowers. In this way, you keep everything tight and eliminate any "flopping" of your barn door.

7) I recommend about a 7" long 3/8" diameter bolt installed (at the same angle as your wedge so that the bolt is vertical at your chosen latitude) on the top of the barn door mount to which a ball head has been screwed (unless your head takes a ¼" bolt). This gives you the freedom of motion needed to shoot from almost any angle. Just cut 2" circles out of plywood, sandwich them together and glue. When you have a stack the right height, just cut off one end at the same angle as your wedge. I tried a piece of PVC, but wood that is more compressible and wider greatly improves the stability. Buy a second ball head with the ability to pan left and right and you can take panoramas and still stay compact. Just attach it to the first and you can level the arrangement in seconds. This arrangement works even in moderate wind (up to 15 - 20 mph). Even though this setup doesn't allow for the alignment of the nodal point of the lens, it hasn't made a difference for me yet. The software is good enough that this is a non-issue. Remember, if you don't track the sky, you're limited to about a 30 second exposure, a 5x7 print, and some elongated stars.

Once assembled, your tripod, camera and tracking platform can be aligned and up and running in several minutes. A sturdy ball head on a medium to large photo tripod allows you to tweak in your polar alignment in a matter of a few seconds. That way, there is no need to level the tripod itself! Simply tilt the head to the correct orientation (hinge and finder toward the North Star) and then to the left or right (in Z) to ensure that there is a downward pressure over the bolt. It's really that easy! (Did I mention that aligning can take less than a minute? Ok, I hope I've made my point.)

A good sturdy tripod, tracking platform, digital SLR, high quality/low f-stop/prime-focus lens (1.4 or so), cable release (time-programmable preferred), memory, red headlamp for work, bright white headlamp for hiking, star filter, duct tape, 2-million candlepower spot light, diffuser (circular cutout from a fluorescent light diffuser), Mag Light, and someone to carry everything is all that's necessary. (A large hiking backpack works very well. Yes, about as large as you can buy from a hiking store. Think of 5,500 cubic cm or larger as you'll want to wrap padding around the components.) Of course, a partner that shares your astronomy and photography interests helps, too, since you can share the carrying duties! If you have great landscapes accessible near the road, you can just grab everything out of the trunk.

I've used a Canon Digital Rebel, Canon 5D and a 5D Mark II (the Digital Rebel was not so good).

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Astrophotography (Continued from page 18)

While the Mark II has smaller pixels and therefore more noise, it is possible to process most of it out. Using the Mark II lets us print very low noise pictures up to 24" x 36" simply using the native resolution of the camera (~21 mega pixels) for single exposures and stitched panoramas up to 30" tall by 60" long. (They can go as long as you like, if you can find someone to print them.) After significant testing of the Mark II and the two lenses mentioned below, I was also able to determine that there was no appreciable noise difference between 1600 ISO and 2500 ISO after the final image was processed. The 5D tops out at 1600 ISO. Given the light gathering characteristics, I now opt for the 5D Mark II every time. While I know that others shoot above these ISOs at 3200 and 6400, my personal opinion is that the extra light amplification (gain) significantly degrades the images, making them unusable in larger sizes.

The best luck I've had with lenses is a 24mm L series and a 35mm L series Canon lens. Running these stopped down from f 2.0 to f2.5 works very well for me. Once you have some quality equipment, and a plan, you should be able to get a high enough resolution image to put up as a mural outside your dome (should you want one). Also, keep your camera cold. The colder the better. Minimize run time. Before important shots, turn it completely off for a few minutes. Shoot when ambient temperatures are as cold as possible. All of this makes a very noticeable impact on the inherent noise of the final image.

TECHNIQUES

Tracking times I generally use range from 25 to 41 seconds. Testing is recommended prior to each unique location's shot and will vary due to ambient light and closeness of foreground objects. I've found that a dwell (non-tracking) time of about 7 seconds at the beginning and the end is usually a good compromise for getting a sharp landscape and round stars when using a 24 mm lens and full-frame digital SLR. With a 35 mm lens, this drops to about 4-5 seconds beginning and ending. Using moonlight or other available ambient light will cause this to be touchier, depending on its intensity. While using moonlight in single shots can really help illuminate the foreground, you don't want too much. It can also really add complications to stitching large pans. Think of using a crescent moon (either one) for either the last 1.5 hours before it intersects the horizon or the first 1.5 hours after rising.

If you plan to illuminate the landscape yourself, realize that it is extremely difficult for one person to do this alone while simultaneously running the tracking platform and the camera. Drag a friend out with you. They'll thank you for it…well, maybe not after a long hike…

A note for Nikon users: Beware the "Star Eater." This is the term given to certain Nikon cameras that have been tried for astrophotography. Nikon makes great equipment but their wonderful noise and dust reduction algorithm treats many of the stars as "dust" for certain models. For these, night skies turn out dark, with very few of those annoying stars to muck up the view. It's worth doing a little research in an online camera forum before committing. The right Nikon equipment will work very well for your purposes.

Processing utilizes 4 different software packages in a particular order (some used more than once). Since images and lighting conditions vary, sometimes the processing has to change as well. As with most things, specific situations are unique-especially where getting rid of noise is concerned. Noise is the enemy and needs to be treated as such. Taking time to test and developing a written workflow can provide a great guide for most situations. Without it, one tends to forget…and doing things in a certain order really does change the final product.

There are high quality alternatives to each package listed, these are just the ones I use. My choices have been Canon Digital Photo Professional, Noise Ninja, Images +, and Photoshop. Keep in mind that while average daylight images may require 10 minutes to 2 hours of work, night shots will likely consume 2-20 hours or more for large panoramas, depending on how meticulous you are and how good your tracking and timings were. That may seem like a lot of time, but you're likely to have incredible images when you're done. What's a day's work for something you'll be able to admire on your wall for many years to come?

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Astrophotography (Continued from page 19)

WHAT PHOTOGRAPHS WELL?

Images that prominently feature the Milky Way with the galactic core are my favorites. The Milky Way with the Summer Triangle also works well. Constellations in and around the Winter Circle also provide great recognizable shots and it goes almost without saying that getting bright planets in some shots is a must. I'm sure that you have your own favorites as well. There is certainly enough change in the sky to keep you busy all year long. All that is required is a little pre-planning with your astronomy software and a calendar and you'll be on your way to creating a lasting work of which you can be proud. If you're searching for ideas, some examples of our work can be found at www.desertskiesphotography.com. They should at least give you an idea of what is possible. If you elect to reconnect with the night sky in the ways I have described, I think it will prove very rewarding. If you start down this road and want to email me with specific questions, I can be reached at the Clark Planetarium in Salt Lake City, UT at djjohnson@slco.org (that's djjohnson (2 j's) at SLCO.org). Good Luck!

Editor's Message (Continued from page 5)

Folks, when you write an article, and we hope you do, please consider sending one or more pictures along. It makes for easier reading if the text is broken up with visuals. Please remember to send it in high enough resolution - for print, we prefer 300 dpi.

We can receive electronic files in most any format. Also, graphics can be received electronically or in 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.

Archeoastronomy (Continued from page 11)

times that one should plant crops that mature above the ground. During the waning phases, the Moon's pull on plant sap is less, allowing it to remain in a plant's roots. Planting of root crops, bulbs, and perennials, which need strong roots, should be done during the waning phases (dark of the Moon).

Using what may seem to us as a fairly complicated system, generations of farmers organized their toil according to these astral decrees. Science was never the goal in these observations, and it is doubtful that many cared about why it worked. They only cared that it worked and that, by following this system, they seemed to suffer less crop failure and livestock death.

Interestingly, if not ironically, the early observations that led to the Moon sign calendar are the genesis of astronomy as a science: the beginnings of what would one day become a great awakening through the pens of Galileo and Copernicus. But, is there any scientific truth to be found in the Moon sign calendar? Is it possible to pick this philosophy apart and to develop a theory that could explain a genuine natural mechanism at work within it? It is something to think about until next time, when we will look at the Moon's orbit with a scientific eye and use experimental examples from a real vegetable garden, to try to validate, or debunk, this ancient archaeoastronomical practice.

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News From SEPA States

FLORIDA

contact: George Fleenor
GeoGraphics Imaging and
Consulting, Bradenton, FL
Jetson1959@aol.com

Florida Planetarium Association (FLORPLAN)

Contact George Fleenor for details.

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 *The Explorers, Teddy's Quest, New Cosmos, African Skylore,* and *Women Hold Up Half The Sky.*

We continue to rotate shows on Wednesdays, and these shows include *The People*, *Dawn of Astrology, 2061: Secrets of Mars, To Worlds Unknown,* and *A Dozen Universes.*

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.

Astronaut Memorial Planetarium
and Observatory
Brevard Community College
Cocoa, FL

Mark Howard reports: February is a busy month for us. Our lecture series continues February 12 with "Running Rings Around Saturn: The Cassini Mission" featuring Josh Colwell, Assistant Professor of Physics, University of Central Florida. Our Astronomy Lecture Series is hosted by Dr. Fiorella Terenzi in the planetarium theater the 2nd Friday of each month during the academic year. We will be hosting a college wide Black History Month awareness event on Feb 4th and will be running Adler Planetarium's "Sky Watchers of Africa" through the month. If NASA's shuttle launch schedule remains on track, we'll be hosting a February 6th reception for the family of Shuttle Pilot Terry Virts prior to the launch of STS-130 on the February 7th. And on February 20th, we will host the Southeast Regional Middle School Science Bowl competition.

Alexander Brest Planetarium
Jacksonville Museum of Science and History
Jacksonville, Fl

Brett Jacobs reports: 2010 is looking like the year we make upgrades! The Alexander Brest Planetarium is planning to go fulldome, install new seats and carpet, lighting system, dome cleaning and painting, new entrance way, exhibit space and a partridge in a pear tree! Hopefully this will be finished by October. Along with other renovations going on at MOSH with new classrooms and office space. To say I am going to be busy might be a major understatement!

Space Place Planetarium
Booker T. Washington High School
Miami, FL

The editor reports: The school district decided to eliminate the dedicated planetarium staff. Arnold Pearlstein has been transfered to a different school as an earth science teacher. The school will run the planetarium with science teachers and students.

We wish everyone good luck with their new ventures.

GEORGIA

contact: David Dundee
Tellus Museum
Cartersville, GA
DavidD@tellusmuseum.org

Fernback Science Center Planetarium
Atlanta, GA

April Whitt reports: For the general public, a version of the IPS program "Two Small Pieces of Glass" ran in honor of the International Year of Astronomy, followed by the in-house production of "Galileo's Universe: Part 2." "Holiday Traditions Around the World" was the December offering, and attendance was high for all three.

Families with young children were treated to our productions of "Night and Day" and "Winter Star."

A full complement of school programs ran for DeKalb County students. All school programming is developed in alignment with Georgia Performance Standards, and teachers can check our web site (fernbank.edu) for program descriptions, vocabulary lists and pre- and post-visit activities.

This year, we are experimenting with offering different school programs each semester, so a class can visit in the fall and again in the spring, for a different lesson each time.

The observatory hosted several thousand visitors during the fall months. Some work on the dome, including a new coat of paint this summer, has made a better environment for stargazing.

Star Lab traveled to schools in the county, with programs we've developed for kindergarten, second and fourth grades.

Brownie Girl Scouts filled the theater and classrooms for an activity day December 10th, learning constellations, studying ant colonies and constructing worm bins to take home.

Science Night Out, taught by high school students to raise money for their robotics competitions, followed the IYA theme, with participants assembling (and disassembling) Galileoscopes and observing the Moon. The "teachers" and their "students" fill classrooms and the planetarium one Friday each month.

And we're wondering: Before the world ends in 2012, would you prefer a separate SEPA conference somewhere in the region, or an "add-on" in Baton Rouge to the IPS conference July 22-26 of that year? Let Mickey Jo Sorrell know soon, if you haven't already.

Planetarium
Tellus NW GA Science Museum
Cartersville, GA

David Dundee reports: We wound up the year with nearly 110,000 people through our planetarium. We are booked solid through May with school groups for all our morning programs and afternoons are filling (afternoon slots are harder to sell for groups that have to travel far). The museum ended its inaugural year with over 200,000 visitors. We had an excellent response for our first Christmas show "Mystery of the Christmas Show." We opened 2010 with "Big" and we are hoping 2010 will be another good year. An 11 meter dish has been erected near the observatory and will be used for as the new Tellus radio telescope. Another 5 meter dish will go up soon to bring NASA programming into the museum. We have started to put live images from the optical observatory into the museum. Solar prominences and sunspots plus images of the Moon and planets will be featured in our theater.

Georgia Southern Planetarium
Georgia Southern University
Statesboro, GA

Becky Lowder reports: The Georgia Southern Planetarium will start the new year with a fascinating look at ancient astronomy on Jan 29 by Dr. Anand Balaraman, Professor of Physics. We'll also be teaching astronomy labs and the planetarium internship to university students daily. We've been looking into digital full dome total immersion to upgrade our teaching possibilities. Regional schools, home schools, and visitors will also be visiting daily for free planetarium shows which assists our interns with their learning skills for the planetarium. On February 19, Dr. James Higdon, Professor of Physics, will discuss his research on colliding galaxies. March 27 will bring our annual Astronomy and Space Day at the planetarium with exhibits, activities, NASA moon rocks, and much more! We'll end the semester with another public evening on April 23 by our planetarium interns. High school teacher astronomy workshops will be ongoing in the summer of 2010 with the GEARS (Georgians Experience Astronomy Research in Schools) project, a NASA funded grant. We're hoping to also receive funding to bring our planetarium into the digital age in 2010!

Rollins Planetarium
Young Harris College
Young Harris, GA

Steve Morgan reports: Our 2010 public schedule opens with the full-dome show "Ice Worlds." Very appropriate show title, for as I type this the college is closed due to wintry weather here in the north Georgia mountains! In addition to public and school groups, a number of faculty in other disciplines such as biology, meteorology, ecology, etc. have expressed interest in using the program with their classes as a springboard for study and discussion.

We recently had a successful one-night special event with two performances of "BELLA GAIA: A Poetic Vision of Earth from Space." Spectacular full-dome images of Earth from space were accompanied by live music by composer, director and violinist Kenji Williams. I had seen a preview of BELLA GAIA at the last IPS meeting in Chicago on a flat screen. Kenji has enhanced the visual content since that time, and the images look great in the full-dome format. Combining science, music, art and culture, the event drew a lot of new faces-- students, faculty, staff and public-- to our planetarium.

In other news, we are working on upgrades to the sound system in our theater, and we just installed an Academy workstation from Sky-Skan for our DigitalSky system, which will be great for offline production and encoding.

MISSISSIPPI

contact: James Hill
Rainwater Observatory & Planetarium
French Camp, MS
jhill@rainwaterobservatory.org

Rainwater Observatory & Planetarium
French Camp, MS

James Hill reports: We have had NASA Space Grant funded Galileoscope workshops for 170 teachers and many programs for scouts and the public. We've also done "away" presentations for community colleges and area museums. More of the same is planned for the winter.

We have sent off the optics for our .65m research telescope to be recoated and our .8m scope is getting a new go-to system installed. We have acquired 2 Celestron CPC telescopes for use with our "away" programs at schools and other venues.

We have added Edwin Faughn to our staff as assistant director. Edwin was art director at the Pink Palace Planetarium in Memphis for many years and has added a new dimension to our offerings.

NORTH CAROLINA

contact: Patsy Wilson
Woodson Planetarium, Salisbury, NC
wilsonpk@rss.k12.nc.us

Morehead Planetarium and Science Center
Chapel Hill, NC

Patsy Wilson reports: The ever-popular *Star of Bethlehem* has been running during the holiday season as well as *Carolina Skies, Solar System Journey* and *Magic Tree House Space Mission*. In the NASA Digital Theater, the following programs have been available: *Science LIVE!, Science 360: The Developing Brain* and *Bring the Universe to Light.* The main theater is closing for maintenance and upgrades over the next several months.

Planetarium
Elizabeth City State University
Elizabeth City, NC

Patsy Wilson reports: During the month of January, a Martin Luther King, Jr. Memorial will be shown as well as *More Than Meets The Eye*, and *The Night Sky*. They offer a wide variety of entertaining (*American Pride, Laser Laughs, Children's Favorites*, etc.) and educational (*A Brief Mystery of Time, Great Space Chase*, etc.) laser options.

James H. Lynn Planetarium
Schiele Museum
Gastonia, NC

Patsy Wilson reports: They are showing *Winter Sky Show*, a look at news of current space exploration plus a classic night sky presentation through February. Also showing are: *Worlds In Motion* - a program that addresses Ptolemy versus Copernicus, Newton's First Law of Motion, and celestial mechanics and *Nightwatch: The Universe From Your Backyard* - a program that teaches how to explore backyard skies with binoculars and small telescopes and compares astronomical camera and spacecraft views of the cosmos.

Millholland Planetarium
Catawba Science Center
Hickory, NC

Patsy Wilson reports: This facility is taking full advantage of its fulldome technology by offering the following: *Extreme Planets, Two Small Pieces of Glass, The Little Star That Could*. A new attraction coming soon is *Force 5: Nature Unleased*. In January the feature laser presentation is: *Laser Guitar Hero.*

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

Patsy Wilson reports: The planetarium is doing a full schedule of school shows as well as public presentations one Saturday each month. They are going "green" with the addition of new solar, wind and LED technology.

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

Patsy Wilson reports: Winter brings the arrival of kindergarten and first grade students to the planetarium with a sprinkling of various senior citizen groups and the local college earth science class. Over the next several months, we will be hosting and coordinating the local and regional science fairs in our facility. Unfortunately, our premier showing of *Laser Metallica* was "snowed" out in December, but we will be doing *Pink Floyd's Dark Side of the Moon* in February.

Ingram Planetarium
Sunset Beach, NC

Patsy Wilson reports: Laser shows are offered the third weekend of every month. They are currently showing *Oasis in Space* - visitors voyage through

the solar system and deep into the universe searching for water; *Seven Wonders* - looking at the seven wonders of the ancient world and seven cosmic wonders in ways never seen before; *Zulu Patrol: Under the Weather* and *Legends of the Night Sky: Orion.*

Planetarium
SciWorks
Winston-Salem, NC

Patsy Wilson reports: The Forsyth County Astronomical Society will host a "New Telescope Owners Workshop" at SciWorks in January. They are currently showing: S*ecret of the Cardboard Rocket, Planet Patrol, To Space and Beyond, WSKY: Radio Station of the Stars* and the local winter sky tour.

SOUTH CAROLINA

contact: Gary Senn
DuPont Planetarium, Aiken, SC
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DuPont Planetarium
Ruth Patrick Science Ed. Ctr. , USC
Aiken, SC

Gary Senn reports: The DuPont Planetarium at the Ruth Patrick Science Education Center (RPSEC) on the campus of the University of South Carolina Aiken (USCA) looks forward to a new year with a new observatory telescope. Our 16" Meade LX200 was damaged in a lightning storm last June. We have finally gone through the necessary channels to secure a new telescope and hope to have it very soon. In the meantime, we have an 8" LX200 in place of our observatory telescope. It looks a little strange sitting aboard a pier designed for a much larger scope, but it is providing people in our area with some viewing time.

As part of the International Year of Astronomy, the planetarium participated in the unveiling of the large-format images taken by NASA's Great Observatories. Aiken Mayor Fred Cavanaugh and USCA Chancellor Tom Hallman unveiled these stunning photographs of the central region of our Galaxy on November 10, 2009.

The planetarium enjoyed a very successful Christmas season as it ended the International Year of Astronomy with its seasonal favorite, *'Tis the Season. 'Tis the Season (Season of Light)* from Lochness Productions continues to be one of our favorite planetarium shows. Many visitors in the area return to see this as an annual component of their Christmas celebrations.

In the Fall of 2009, the DuPont Planetarium welcomed its newest employee. Kelly Gooden. Kelly most recently joined us from the University of Delaware, Kent County Cooperative Extension. She has become a great asset to the planetarium and the science education center in her short time with us.

In January, the planetarium presented *Mission to Mars* and *Digistar "Laser" Fantasy*, two of our locally produced shows, for the general public. Visiting school groups could choose to see *Mission to Mars* or *Journey Into the Living Cell* from the Carnegie Science Center and Buhl Planetarium. In February we will show our enhanced version of *Follow the Drinking Gourd* based on the program by the New Jersey State Museum Planetarium and the Raritan Valley Community College Planetarium. We provide some additional information to make people aware of some of the concerns that have been raised regarding the history of the show. Also in February, the planetarium will present *The Explorers of Mauna Kea* produced by the Bishop Planetarium in Hawaii.

TENNESSEE

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Bays Mountain Planetarium
Kingsport, TN

Adam Thanz reports: This past autumn and early winter has been an interesting time. As usual, it has been busy with public and school programming. As I write this, we are just finishing our public offering of our double feature, "Two Small Pieces of Glass" & "Galileo's Skies." The audience finds the history of astronomy quite interesting. But, the live presentation of "Galileo's Skies" brings it home. Using our optical projector to recreate the early 17th century skies of Galileo is a lot of fun. Plus, we are completely mobile with our PDA control, laser arrow pointer, and wireless mic. Being able to walk amongst the audience up and down the aisle, ask questions of them, and quite literally, sit with them when it is a small group, has made an incredible difference in audience enjoyment. It truly makes our shows interactive. When I was earning my Master of Education degree, one technique I learned (among many) was "proximity." This means putting yourself close to your students and sometimes close to a specific student. It is a great way to be interactive by being a moving, nearby, focal point as opposed to a still, distant one. It's also a great way to let a disruptive student know that you want them to stop talking without having to publicly shame them.

We will be showing our first full-dome production, "Connections," again for the slow, winter months of January and February. It is a special way to let our local public be able to see the show again. Many have already done so when we first provided the program. It is also a way to let those that have not seen the program to see what all the hubbub was about. We had somewhere around 50,000 people see the show during the first round. But, we have heard from many locals that they haven't even seen the show, nor even the new theater!

In conjunction with the new release, we have had a large number of the soundtrack scores pressed onto CD. Complete with printed inserts and shrink wrapped to boot! We had sold a number of in-house burnt CDs during our first run of the show, but only in the last five weeks. We were so busy, we couldn't get the CD mastered until that late time. They continued to sell months later, even when the show wasn't being offered! The reason it is doing so well is that it is not made of background sounds, but complete songs that tell the other half of the story. In addition to our gift shop, the soundtrack will be offered via public web stores and in iTunes. It will be quite interesting to see how this pans out. Much kudos goes to Jason Dorfman for his composition and performance of this work.

Heather Fries (pronounced: freeze), our intern, succeeded in creating a very nice planetarium show alternative to our fall public star party observing if it is cloudy. It covers the major constellations of the fall season, some of their lore, and an intimate look at some of the deep sky objects within. She has just completed a spring version and it is just as exciting.

You'll be able to meet Heather very soon during the SEPA 2010 conference being hosted here at Bays Mountain! The theme is "The Art of Storytelling." We are very excited to have all of you visit, enjoy the beautiful Appalachians, and learn a lot about storytelling and the world of planetaria. Please see

the detailed article elsewhere in this journal. And, go to www.sepadomes.org and follow the links to the 2010 conference.

One part of our interesting time this winter has been the result of very high winds at our Park. A large tree was blown down across both of the tall fences that enclose our eight gray wolves. They are wild, but have been bred and raised in captivity. As such, they responded to this situation in a variety of ways. Two of the eight stayed in the inclosure. Three of the other six were lured back in the enclosure very quickly. One of the last three was returned about two weeks later. The other two have been out being elusive until January 26th when one was recaptured. Our naturalists know the last one is close by, but the wolf has been wary due to its new surroundings. We are confident that the last one will be safely returned very soon. Different to what people may think, humans are not in danger with this situation. Wolves will naturally avoid contact. That's what makes them so elusive. The danger is greater to the wolves themselves. Accidents, hunters, starvation, etc. are the real threats. When you visit us for the 2010 conference, you'll be able to see all eight of the wolves up close. They will be only a few feet away, but behind two tall fences. You'll see how remarkable they are and you'll be treated to a special nature program about the wolves, their society, and their adventure.

My last bit of news relates to the staff itself. Our Park Director, Tom Bowman, retired after over forty years at Bays Mountain at the end of December, 2009. A number of you either know him or met him during SAPS (Southern Appalachian Planetarium Social) back in March, 2007. He was the Park Director for almost all of those forty years. He has done a very good job. I always appreciated how he would be a calming effect with the staff and possessed great understanding of the staff personalities. He was instrumental in allowing me to create and guide the new planetarium design and implementation. I thank him for that.

With change, brings change. In conjunction with Tom's retirement, there has been a shifting of staff to new positions. An extremely rare event. So, I continue to work under the new Park Manager, but have been promoted and have a new title. I am now the Bays Mountain Astronomy & Space Sciences Program Coordinator - Planetarium Director. The part before the hyphen is what the City officially calls me, but the second part is what us planetarians would describe what I do. Jason Dorfman has also earned a shift upwards and is now the Bays Mountain Astronomy & Space Sciences Program Adminstrator - Planetarium Educator. We thank the city for this, but it represents the very hard work we already do (just like all of you know) on a daily basis. It is a very special job we all have. We get to educate, play with really cool toys, and produce programs that inspire.

We'll see you in June 2010 for the SEPA Conference!

Sharpe Planetarium
Memphis, Tennessee

Dave Maness reports: Fall attendance held up fairly well through December. After some rare time off, I am now getting back into the school programming mode. As I write this the Pink Palace Museum is installing the traveling exhibit called "Chocolate" and another exhibit called "Bagels and Barbeque" that highlights the long history of Jewish settlement in Memphis.

In December we had the unveiling of the great prints from the Chandra, Spitzer, and Hubble Telescopes. Most of you, who participated, did your unveilings in November, but we already had a big event scheduled for an exhibit opening, so we decided to hold our unveiling a little later and give an extra treat to the crowds that would be here.

A few days later I helped out at a public observing session set up by the Memphis Astronomical Society. We set up our telescopes in a large field at the end of the Shelby Farms seasonal drive-through exhibit called Starry Nights. Unlike some, this light show was tastefully done completely in environmentally friendly LED lights. Several carloads of people stopped by the gift shop tent and looked through our telescopes at double stars, star clusters, and nebulae. At the end of the scheduled viewing we also caught sight of Mars rising in the east, a preview of its approaching opposition.

After the Holidays I was to be shut down for some ADA required work to add more wheelchair spaces. In the middle of the shut down period a different set of inspectors said we were good to go without any change. Unfortunately I still needed that planned shut down time to complete installation of 9 (8) Planets and Counting. Also running is our traditional Wonders of a Winter Night. In the springtime we will be running Bear Tales and Other Grizzly Stories. Every program we present includes a live component, usually at the end. There I feature any prominent constellations, planets, or special astronomical events that can be observed from the Memphis area and beyond.

VIRGINIA

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Abbitt Planetarium
Virginia Living Museum
Newport News, VA

Kelly Herbst reports: Winter is here, and the holidays have come and gone. We had fun presenting *Star of Wonder: Mystery of the Christmas Star* and especially *Laser Holidays* (few things are more adorable than a crowd of people of all ages singing Rudolph the Red-Nosed Reindeer with added commentary between the lines of the song!), but we're also glad to settle back into our regular routine. All the extra shows ran us ragged! Thanks to my colleague John Wright and some eager young space cadets from the Education Department here (Jim Drummond, Susan Summers and Lisa Wright), I got to take my first full Christmas Break with my family in over 10 years. Heaven.

The giant sharks will soon be leaving our changing exhibit gallery, which will then lie fallow for a little while. That gives us an excellent opportunity to showcase *Astronaut*, which is one of our favorite programs. Our beloved stroller brigade will be happy to see the return of *The Friendly Stars* as well. By late February, the changing exhibit gallery will be hosting a Charlie Harper art exhibition entitled Beguiled by the Wild…so we thought we'd get a little artistic and display the art of the universe in a home-grown production we're calling *The Art of Hubble*. Assuming I can finish it in time!

Although the International Year of Astronomy is now behind us, our monthly Star Parties and Laser Light Nights have been so popular that we've decided to extend them indefinitely. So if you ever happen to find yourself in southeastern Virginia on the second Saturday of the month…well…you know where to spend your evening!

Kelly Herbst reports: News from Patrick McQuillan, Incorporated Research Institutions for Seismology,Washington D.C.

If you looking for a speaker for a special event at your facility or if you want to create an event around a speaker, the Incorporated Research Institutions for Seismology has a Distinguished Lectureship program that provides free (yes FREE) speakers. This year's speaker's topics include:

Predicting Earthquakes and Volcanoes
Seismology CSI: Nuclear Test Monitoring, We Know What You Did!

All speakers are chosen for their ability to present an engaging talk to general public audiences on an area of current cutting edge science research in the earth science field. IRIS pays all speaker travel fees. Host institutions need to advertise the event as open to the public and must have the ability to accommodate audiences of at least 200 or more.

For more information visit the IRIS website at www.iris.edu and look under *For Public*.

Thomas Jefferson HS Planetarium
Richmond, VA

Leslie Bochenski reports: I'm just returning from a restful Winter Solstice break, and ready to resume moon phase programs for third grade students. I'm also working on a new program. "3-2-1 Blastoff!!" covering the history of space exploration from Sputnik to the Apollo Program.

Remember your State Coordinator!

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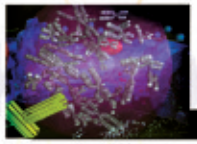

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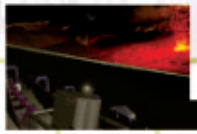
40' Domed Theater



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