

Southern Skies

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Autumn 2011

In Memory

Mike Sandras
1963-2011

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President's Message

April Whitt

Jim Cherry Memorial Planetarium
Atlanta, GA

Is it my imagination, or did I miss all the anxious phone calls about seeing Mars as big as the full moon this year? Has the unfortunate press release from 2003 finally gone to rest? Or are you getting more questions about the end of the world (various dates in 2012) or about satellites raining debris over some part of our planet (and are you allowed to sell any pieces you find on eBay) or what is that bright light in the night sky?

The public and the media look to us for information.

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

Rates	Dimensions
\$100. high	Full-page 7" wide x 10" high
\$50. high	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 entire back 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.

Sometimes for opinion, sometimes for conjecture, often for corroboration of a theory or something they "read on the internet." All of us are challenged to keep quality programming going at facilities with shrinking budgets and staff. Perhaps with less-than-supportive administrations or boards.

That's one reason I would encourage everyone to consider recharging those professional batteries at our next meeting in Baton Rouge. It's an election year, and we need a quorum of members to select the next round of leaders. SEPA is meeting just before the International Planetarium Society's gathering in the Pelican State (isn't there a Pelican Nebula somewhere?). If you have the time and the funds, IPS meetings are a chance to widen horizons, make new friends with similar interests and new insights, and visit a wide variety of vendors from around the globe.

It's not too early to begin thinking about sharing a presentation. Have you offered a new class or camp? Worked with a new group? Write a column or feature for a local publication? Found a useful resource or website? Mounted a new exhibition? Located equipment or dealers that might be helpful? Perhaps you've met someone new to the profession or have students or volunteers that would benefit from meeting other planetarians. Come share what you're doing.

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SEPA President April Whitt

IPS Report

John Hare
ASH Enterprises
Bradenton, FL

IPS 2012, which promises to be the largest planetarium conference in history, is quickly approaching. The dates are July 22-26. SEPA members will have the added opportunity of combining the annual SEPA conference with an IPS conference. SEPA will hold a 1-day meeting on July 21 with a banquet that evening. The 1-day meeting and banquet are FREE. The *international* aspect of IPS means that, since there are over 20 Regional affiliates, any given affiliate worldwide will rarely host an IPS conference, and thus the opportunities next summer are relatively unique.

If you've previously attended an IPS conference you already know the benefits. You will have the opportunity to see cutting edge technology, talk to the professionals who produce the content you depend on, present and hear papers on a wide range of topics of interest to planetarians, and expand

your abilities within the profession.

Here are more benefits of membership regardless of whether or not you attend the conference:

- Resource guide and membership directory. This compendium will be updated in the fall of 2011 and will contain the very latest information.
- *The Planetarian* publication. A full-color quarterly publication that contains a plethora of information.
- Website resource pages with links

Full dome
Education
Jobs
Video
more

- Access to committees
- Access to special publications
- Distribution of programs and documentaries in flat screen and full-dome versions

Membership dues in IPS is \$65 for 1-year and \$100 for 2-years. Application forms and more information are available at <www.ips-planetarium.org>

I hope you can join upwards of 500 of your fellow planetarians in Baton Rouge. As always, don't hesitate to contact me about anything regarding IPS.

Editor's Message

James Sullivan
Buehler Planetarium & Observatory
Davie, FL

In looking back through some issues of *Southern Skies* from 10, 20 and 30 years ago, I found some interesting things that made me feel that some things never go away, they just recycle. In other ways, it made me realize how much things have changed.

In the 1981 vol 1 issue 4, it's interesting to me that in an article it mentioned that people were measuring the worth of planetariums by the size of their dome, or by how long the shows were. People were already divided by "do you run canned shows?" or "No, nothing but live." Although the dome size has to do with ego, the other discussion is more philosophical. Both are still going on in the hospitality suites of today. In that same issue of 20 years ago, there is a great article by Jon Bell that warms the

ADA compliant cockles of my heart in developing a planetarium show for the hearing impaired. His solution is as viable today as it was then, and I found myself making mental notes of how I was going to adjust the way that we have been doing it. There is an article worth looking at by Jack Fletcher on sound effects libraries and their usage rights. There is also a great article about 60 cycle hum by Mike Ryan. Although we don't use magnetic tape anymore, 60 cycle hum is still something that we deal with.

In the 1991 vol 11 issue 4, there is an article by Robert Tate calling for a national planetarium organization. He presents a simple low-cost organization, formed by the IPS representatives of each regional organization. He feels that the poor economy will lead to the closing of planetariums. "Administrators often find it difficult, in light of current economic stress, to spend the money needed to renovate an old planetarium. The decision to close a planetarium as a money-saving move is a real threat to our institutions." These two sentences feel very familiar to all of us right now. In the same issue, Richard McColman in Small Talk speaks to "Why is astronomy boring?" He was addressing the popularization of science versus just talking about the numbers. He

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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: _____

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

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: \$ _____

Mike Sandras

**Philip Groce
Helping Planetariums Succeed
Macon, GA**

It is with great regret, that I inform the Southeastern Planetarium Association members of the death of Michael D. Sandras. Michael died Saturday, September 10th of complications from his nearly life-long fight with diabetes. He is survived by his wife Connie and young daughter Arianna Celeste. He was 47 years old.



Michael is the former Curator of the Freeport McMoRan Science Center / Planetarium / Observatory / Space Station in Kenner Louisiana and later the Louis Roussell Planetarium. He also worked as the Observatory Operator for the University of New Orleans, and until the time of his death, the Manager of the Gretna Observatory. He was an active member in several astronomical and planetarium organizations, and served as President of the Southeastern Planetarium Association in 2002 and 2003. He had a life-long interest in astronomy and space science, and often appeared on New Orleans television and radio stations commenting on astronomical events. For his many accomplishments, Michael has an asteroid named in his honor: 18434 Mikesandras (1994 EW7) is a main-belt asteroid discovered on March 12, 1994 by C. S. Shoemaker and D. H. Levy at Palomar.

Michael's wake and funeral were on September 13th/14th and they were very well attended with more than 200 mourners, many of whom were amateur and professional astronomers. The Southeastern

Planetarium Association was well represented by Heidi Ransom, Gary Meibaum, Jason Talley, Philip Groce and George Fleenor. George and I spoke at the funeral service. It was an interesting wake. Right next to Mike's coffin were flowers and his favorite Takahashi refractor. He was an avid observer, even to the end. It would have made every planetarian smile.

Michael made a lot of us smile and laugh at SEPA conferences. He was the "Rodney Dangerfield" of planetarians, always "getting no respect".



Yet, nothing could be further from the truth. Mike's self-deprecating humor always had us in stitches. He reminded us constantly, that even though we may control the universe from our consoles, we are never really in control of anything. Mike's humor was often bawdy, but never mean. Personally, I can't think of a single Mike Sandras joke I can say in mixed company or have printed in a SEPA journal. But I do know he often made me laugh until I was in tears and he made certain that I never had a chance to take myself too seriously. I think he did that same service for everyone he met. As his wife Connie asked me through her tears when I saw her at the funeral, "Phil, who's going to make me laugh now?"

Michael Sandras was a respected, kind, and good representative of our profession. He will be sorely missed.

If you wish to send a personal note to Michael's wife Connie and daughter Arianna, their address is: Connie & Arianna Sandras 1325 Avenue E Marro, LA 70072-3735

Submitted in Sadness,
Philip Groce

Mike Sandras (Continued from page 6)



Mike at his new planetarium in Kenner

The Three Monkeys - George, Mike, Dave

Mike introduces his friend David Levy

Pictures and captions are from Michael's dear friends, George Fleenor, Gary Meibaum, and John Hare.

Small Talk

Elizabeth Wasiluk
Berkeley County Planetarium
Hedgesville, WV

I start this column on a sad note with the passing of Mike Sandras. I have such fond memories of Mike from his years of involvement in SEPA. For members who did not know him, you missed a real gem of a guy, actively involved in astronomy as well as the planetarium field. I remember him engaged in all that SEPA was involved in. I remember him trying to outbid Kris McCall in the tweens active starry set that I had donated to the silent auction, and then splitting the set with her. That's just the kind of guy he was, insisting to call me "Elizabeth." One time, I remember travelling to Charlotte, NC to visit the planetarium that the late Sue Griswold ran at that time, and sitting in the planetarium with Mike and Mark Trotter and Gary Meibaum and Dave Hostetter and trying hard not to laugh so hard that I would get thrown out. I remember him telling us about the sad tale of Kenner, LA and the planetarium that never was yet, with the walk through International Space Station model. I still have these great space postcards that I bought there. What else can you say about a planetarium guy who loved the real sky as much as the artificial sky? Except I was terribly impressed and envious when he received the certificate from the International Astronomical Union that mentioned that there was now an asteroid named after him, by David Levy, no less, at the SEPA conference in Baton Rouge, LA. We will be returning there, this summer, and I will miss Mike not being there. Having him not around is truly sad for all of us.

Summer was pleasant and busy. I attended



a wonderful workshop run by Christine Shulpa of the Lunar and Planetary Institute held with John Hopkins Applied Physics Lab, at their campus in Laurel, MD and NASA's Lunar Science Institute on the Lunar Reconnaissance Orbiter, called, "The Unknown Moon". What a fun time to go and see the clean room at the John Hopkins Applied Physics Lab and the Goddard Observatory, which I had never knew existed before. This is where we watched the observatory staff, laser range satellites. They told us they laser ranged the Lunar Reconnaissance Orbiter as well as the Mars Reconnaissance Orbiter! It was amazing to hear their explanations on how they did it. We also got a binder of all sorts of activities to do with students. If you want to learn more about the workshop, there is a wonderful page set up by Christine with many links to the activities and pictures from the workshop. Go here: <http://www.lpi.usra.edu/education/workshops/unknown-moon/agenda.html>.

There was a group of teachers from all over the county attending, and I learned a lot from them as well. One of the highlights of the workshop was having lunch with some of the scientists who worked at the Applied Physics Laboratory and being able to ask them questions. All in all great fun and I hear they will be holding workshops next summer as well. Go here to keep track: <http://www.lpi.usra.edu/education/workshops/workshops.shtml>. I highly recommend an LPI workshop if you can get to one.



Here I am with fellow teachers from the "Unknown Moon" workshop at The Applied Physics Lab at John Hopkins.

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Small Talk (Continued from page 8)

Another workshop I attended was the "Suborbital Microgravity Experiment Workshop" sponsored by "Teachers in Space" an organization that is committed to fly upwards of 200 teachers on commercial suborbital flights. Go here for details: <http://www.teachersinspace.org/>



Me and Rachel Mazur, a district science coach in the Suffield, Connecticut School District, one of the Pathfinders, selected to fly on one of the commercial space flight missions in the future.

This workshop was held in Palmdale, CA. I have cousins who live near Palmdale, CA and that was part of the reason I was interested in applying for the workshop. I also was convinced to stop off and visit friend and colleague, Conrad Jung at Chabot Observatory in Oakland, CA. The last time I was at Chabot, it was a giant hole in the ground, as it was being built, so this would give me a chance to perhaps look through the telescopes. The workshop was cosponsored by NASA and they would pay our entire hotel bill up to \$14.00 a day as well as give us a stipend to cover part of our travel.



That's me at the Mohave Space Port.

I got there really late and missed the initial get together dinner and woke my roommate, Jennifer, who taught Chemistry and Biology at both the high school and college level. Turns out that was not a big deal. The highlights of the workshop were a trip to the Mohave Space Port to see all of the commercial space experimenters working and the giant airplane graveyard where dozens of airplanes are parked. We also visited the Blackbird Aeronautical Park to see SR-71's parked as well as many other planes. Go here to learn more about the airpark: <http://www.cityofpalmdale.org/airpark/about.html>. Another trip included visiting Valquez Rocks, where many movies were filmed, such as Blazing Saddles, The Flintstones and an episode of the old Star Trek series.

Another high point of the workshop was meeting all of the teachers from all over the country and Puerto Rico. They were amazing and made the



Above: This is one of the planes at Blackbird Park in Palmdale, CA

Below: (Left to Right) My Cousin Brian Drost, a Former Pilot of the SR-71 Blackbirds who gave us a detailed tour of the airpark, and me.



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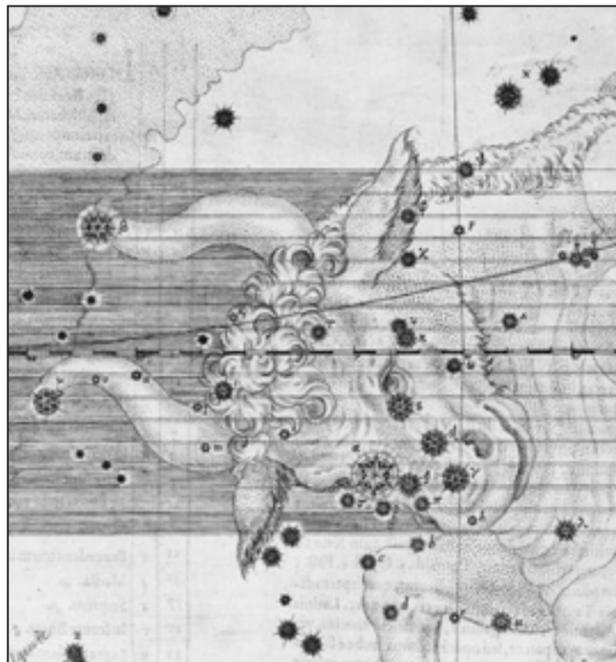
Archeo- astronomy

Reflections on the Bull of Heaven

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

I will sing the song of the man of battle, the man of battle. I will sing the song of lord Gilgamesh, the man of battle and of great Gugalanna, the Bull of Heaven, whose pasture is on the horizon ...

-The Epic of Gilgamesh, segment A, B.



Bayer, Johannes. Uranometria. "Taurus."
Ink on vellum. A.D. 1603.
United States Naval Observatory.



For as far as I can remember, my favorite constellation has been Taurus, the bull. I have always loved cattle: no beast can be so gentle, timid, or ferocious as

a cow. They are the lords of the pasture, keeping watch of the fields as they pick and chew their cud. Cattle are as constant as the northern star, always watching, always coming at the sound of a rattling gate. They are curious creatures, with minds like children. No one has ever accused a cow of being a rocket scientist. Yet, above it all, I have always found something strikingly beautiful about the form of cattle, especially a prize bull. The great aurochs is my favorite animal. Long gone from the world today, the aurochs was the progenitor to today's cattle and one of the first species to be domesticated. They exist now only in cave paintings, the imagination, and the stars. The great aurochs in the sky calls to mind my favorite story, the Epic of Gilgamesh.

Our friend Taurus is no mere bull, but a ferocious aurochs known to the Mesopotamians as Gugalanna, the Bull of Heaven. In the Epic of Gilgamesh, humankind's oldest recorded story, the great goddess, Inana, persuaded her father, An, to unleash the Bull to kill Gilgamesh, the legendary warrior-king of Uruk. Gilgamesh engendered the divine hatred for spurning the affections of Ishtar, goddess of love, war, and sex.

It will muddy the waters, and will leave gigantic cowpats -- but let my father give me the Bull of Heaven, so I can kill the lord, so I can kill the lord, so I can kill the lord, lord Gilgamesh!

Inana unleashed the Bull, and it wreaked havoc upon the landscape near the place known as Unug.

Holy Inana brought the Bull of Heaven down. At Unug, the Bull devoured the pasture, and drank the water of the river in great slurps.

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Archeoastronomy (Continued from page 10)

With each slurp it used up one mile of the river, but its thirst was not satisfied.



Gilgamesh and Enkidu Battling the Bull of Heaven. Imprint from an agate seal cylinder. c. 7th century B.C. Schoyen collection. Used under creative commons permissions.

Gilgamesh and his friend, Enkidu, the wild man, met the Bull in battle near Unug. The fighting was ferocious.

Gilgamesh himself smote its skull with his axe weighing seven talents.

The Bull reared up so high, so high that it overbalanced.

It spattered like rain, it spread itself out like the harvested crop.

And they were victorious. Enkidu, the wild man, who was Gilgamesh's dearest friend, was condemned by the gods for his part in killing the Bull of Heaven. He then was stricken by a devastating illness and died. Gilgamesh mourned.

Unto me hearken, O Elders, to me, aye, me [shall ye listen],

'Tis that I weep for my [comrade] Enkidu, bitterly crying.

Me, I hath sorrow assailed, and cast me down in affliction.

The battle with Gugalanna and the death of Enkidu were pivotal moments in Gilgamesh's life. He could not bear to bury Enkidu's body until decomposition was highly advanced. His friend's death resolved Gilgamesh to seek eternal life, a tale that makes up the remainder of the Epic.

Each year, the great Bull of Heaven rises high in

the night sky in fall and winter. We call him Taurus, rather than Gugalanna. He rises when the world dies: crops are harvested, trees slumber, rivers and lakes freeze. The Bull reigns in the night sky until the Sun returns in spring. In Mesopotamian myth, the Sun



Heck cattle male. Foto Walter Frisch, VFA (Verein zur Förderung des Aurochsenszucht). 15 December 2006. Used with permission. Heck cattle were first bred in Germany in around 1920 as an attempt to resurrect the aurochs, a type of wild bovine extinct since A.D. 1627.

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Digital Cosmos

Simple Scheduling for Your Theater

Adam Thanz
Berkeley County Planetarium
Hedgesville, WV

This is for all of you who might want to take advantage of a free service we've been using at Bays Mountain for a number of years now. It is Google Calendar. Most of you may know about this calendar, but you may not know that you can design it to be a calendar your whole work place can use as a team. To not be confused, this regular calendar feature that is available to anybody is different from the business class version that Google has available for a cost. This is the regular, free version I am discussing. To make the calendar effective, there are a few things to set up first.

First, we set up a Google account that is not specific to a certain person. Once you have that Google account, you can set up your calendar. But, in order to keep things organized, we have a special sub-calendar for each of our main categories (or types of programs) that we would schedule. These sub-calendars are within the Google main calendar interface. So, we have many sub-calendars, 11 to be



exact. One is for planetarium programs, one is for nature programs, one is for staff official use (for sick leave and vacation), and so on. The ben-

efit of multiple calendars is to keep the programming organized. You can toggle them on and off to reduce clutter on your monitor, and you can also set the sub-calendar color different so you can easily see which one's are which. An entry within a particular sub-calendar may be a show, set to the time it is to take place with its time length. The sub-calendar has a special color, so it says what type of program it is. An entry will also include notes as to the school group, number for attendance, grade level, etc. There is another place for detailed notes like phone numbers and such.

There are a variety of ways you can view the calendars. Daily, multi-days, weekly, monthly, multi-monthly, daily agenda list, etc. When viewing a complex day on a monitor with lots of entries, the entries will overlap. But, when printing the day, the entries do not overlap. We have a printed page each day at the front desk so we can all see it without having to go to our offices.

Our old scheduling method for our Park was used since 1971: a three-ring binder with two page sides for each day. We had four columns: planetarium, nature, volunteers, and other. It was all penciled in, sometimes haphazardly, and was rarely at its appointed place so you could never find the notebook. Imagine 15 people trying to find the book, schedule programs and write them in, and others just wanting to looking at it so they knew what the day's events were! If it was busy and if there were corrections, the pages became a mess. The book was fine in the past, but not now. When we're busy, our calendar can have 30+ entries. Just today, as I finalize this article on September 30, 2011, we have 27 entries. This is a mildly busy day for us.

So how does this benefit more than just you? You can share each calendar with others at work and also control if they only see the calendar or if they can modify it (add, move, remove events) as well. We even have some student interns that can see the calendars so they know what's going on. One of our sub-calendars is for planetarium staff. There is only two of us full time and a student intern. Only the three of us see this calendar, but we can see who is scheduled to work which days and for how many hours. Very useful! If you need to, you can remove a person from seeing the calendar as well. If you

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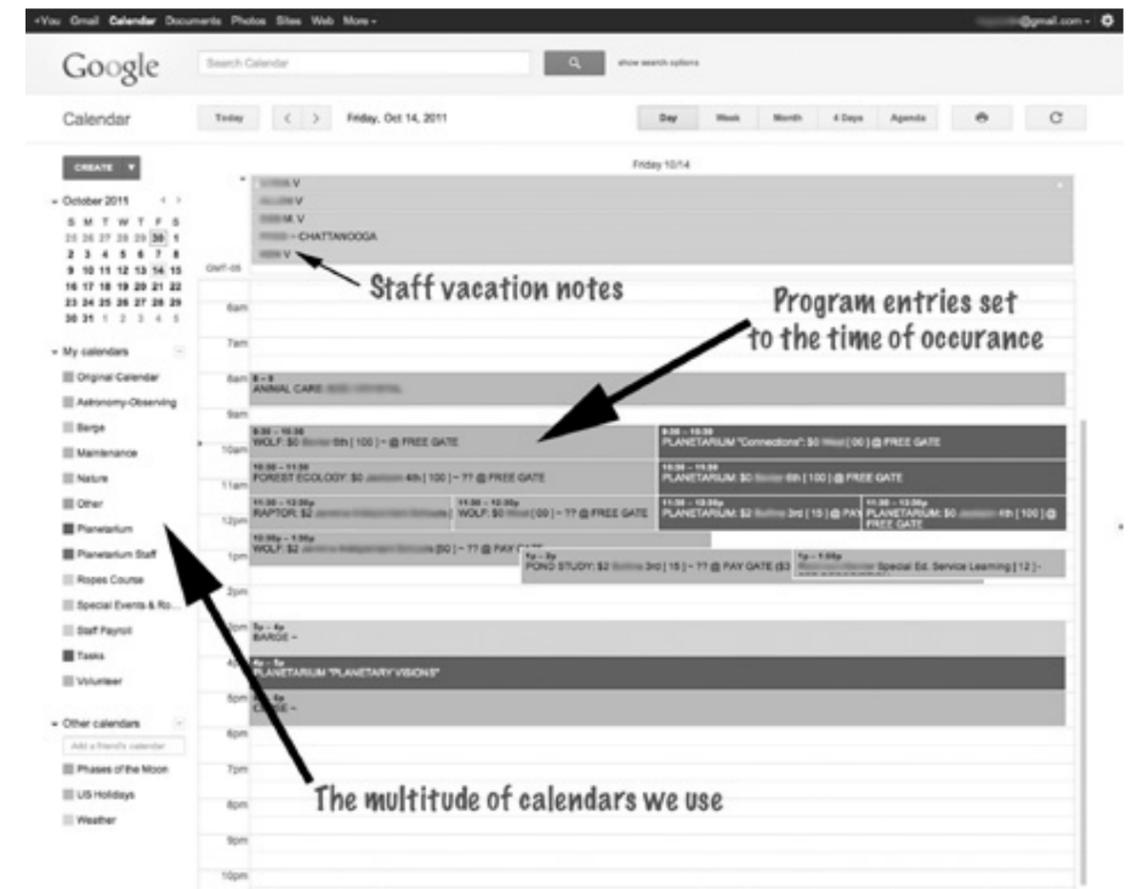
Digital Cosmos (Continued from page 12)

want, you can even have specific sub-calendars show up on your public website. Another viewing opportunity is via your phone. You can even sync the calendars with other calendar programs like iCal, Outlook, or Sunbird. I recommend that only a small amount of folks be allowed to modify the calendars. Too many hands can mess things up. The only thing required is that the others that you will be sharing with also need a Google account. They don't, nor you, need to have Google Mail for the calendar to work. For ease of daily use, I have the link to my main Google calendar web page set up to open upon booting up my computer so I can see it all day.

The benefits are many. It is free. There doesn't seem to be a limit on the sub-calendars. It can be shared

with any number of other people. You can see it from any type of computer anywhere in the world. You only need internet access and a web browser. You can see it on your cell phone. You can back up the files anytime (which I recommend doing occasionally). It does not require a computer server for your facility. You can add or remove entire calendars if you need, whenever you need.

Give the Google calendar a try if you like. If you don't like it, you can remove it without any risk. At Bays Mountain we've been using the service since September 2008 and have 21 people accessing all the sub-calendars with different levels of control every day with almost no problems. If you have any questions, please don't hesitate to contact me at thanz@kingsporttn.gov. Thanks!



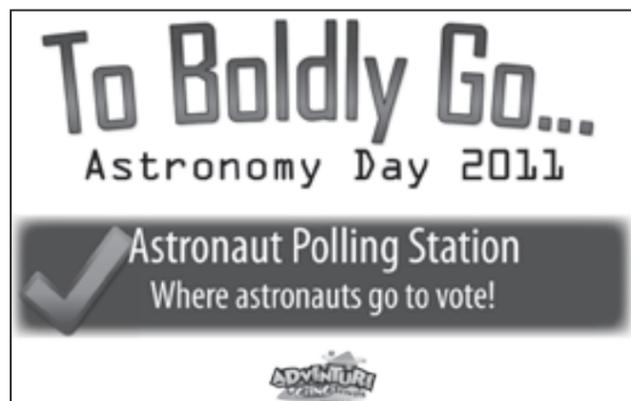
The main calendar interface. On the left are all the calendars a person is subscribed to that have been shared. All the events are in their correct time slots along with pertinent information. All-day entries are on the top. Any sensitive names have been blurred out for this article.

To Boldly Go ...

Astronomy Day 2011 At Adventure Science Center

Kris McCall
Adventure Science Center
Nashville, TN

On Saturday, April 9, 2011, from 11 am to 4 pm, Adventure Science Center celebrated Astronomy Day, but maybe we should have called it Astronaut Day because this year we focused on the requirements and challenges of human spaceflight. Demonstrations included Suited for Success, Living in Space, Spacecraft on Parade, and the Astronaut Polling Station. Special thanks to Celestron and Astronomy Magazine for providing door prizes.



For those wondering WHY we don't have Astronomy Day on the official International Astronomy Day, we have to avoid "competing" with major local happenings such as the Music City Marathon or the Iroquois Steeplechase. Easter and other Science Center events affect the selection of dates as well.

Regardless of when we have the event, Astronomy Day activities would not be possible without the help of volunteers from the Barnard-Seyfert Astronomical Society, Austin-Peay State University Physics Club, and Middle Tennessee Chapter of the National Space Society.

Suited for Success

description: Explore the design essentials of space-suits. See what every astronaut needs to work outside his/her spacecraft in the harsh environment of space.

details: Using a small vacuum chamber and a marshmallow (with a face drawn on it), the presenter demonstrated what would happen to an astronaut should s/he step outside without a spacesuit. Running cool water through a thin plastic tube wrapped around one's forearm illustrated the effectiveness of the liquid cooling garment astronauts wear under their suits. Then, we "suit up" someone with a headset and a "snoopy cap" for communications. Strap the HUT (hard upper torso) on their chest to house food, water, and other essentials. Lastly, don't forget the MAG (maximum absorption garment) should the astronaut experience a biological necessity while on an eight hour EVA. A Depends with a NASA sticker on the front makes the point.

Living in Space

description: Discover how living in space differs from living on Earth. Interactive stations will allow visitors to learn how astronauts work, eat, sleep, wash up, and the number one most often asked question: how they go to the bathroom!

details: Interacting with guests, the presenter can show how barbells are not very effective for exercising in a microgravity environment. We made a barbell from a wooden dowel with styrofoam disks slid onto each end. Spray with silver paint, and ask an unsuspecting person to lift it. That's why astronauts use resistance bands in addition to the treadmill or bicycle.

If you have a spinning stool, you can simulate physiological confusion regarding motion. Glitter suspended in oil, shaken in a glass jar, shows

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To Boldly Go... (Continued from page 16)

otoliths floating within the inner ear. We also have a bone model where one side looks like the inside of a healthy bone. Flip it over to see the hollowed, spongy structure resulting from osteoporosis, which is similar to what happens to astronauts on long duration missions in weightlessness.

Young (future) astronauts might want to try on a child-sized astronaut costume or climb into a space sleeping bag, complete with Velcro restraints.

Since we don't expect NASA to give away any space toilet mockups, our facilities staff has created several mockup toilets for visitors. Most people enjoy the humor and appreciate the challenges of going to the bathroom in space.



Spacecraft on Parade

description: Study and compare models of past, present, and future spacecraft to see how traveling to and from space has changed over the years.

details: Chuck Schlemm from the Middle Tennessee Chapter of the National Space Society has provided spacecraft displays and solar system

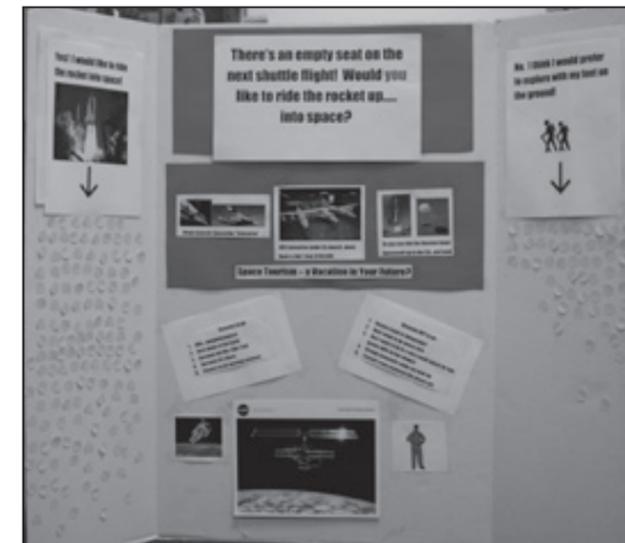


demonstrations for many years. His laid-back, yet engaging, conversational style inspires and educates visitors of all ages. Chuck has a terrific collection of models and a wealth of knowledge to match.

Go or No Go? Astronaut Polling Station

description: Lots of people want to go into space. Lots of people don't. If there was an empty seat on the Space Shuttle right now, and you were asked to join the crew, would you go into space?

Visitors love to vote, especially when they can see how others have voted. Sometimes the results are surprising. Sometimes not. We like to set this up in a polling booth, complete with curtains and poll workers.



In 2012, our astronomy day will be on June 2, so we can get people excited and prepared for the transit of Venus on June 5. I am hoping we can collaborate with universities and astronomy clubs throughout the area to educate people and inform them where to go to observe the transit.

A great image begins with a great lens!

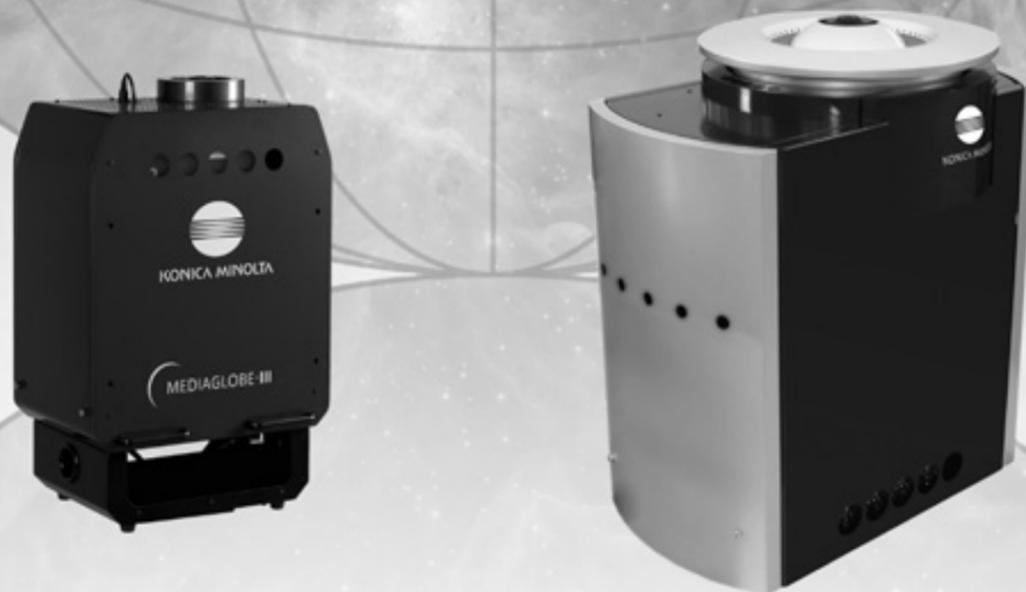
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Patsy Wilson
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Salisbury, NC

Greetings from your SEPA Secretary/Treasurer!

\$ Thanks to everyone for their timely responses to my reminders about payment of dues. If you hear of anyone who is not currently receiving the *Southern Skies*, please notify me. It's possible that their dues have lapsed or that a mistake has been made regarding the status of their membership.

\$ How much are SEPA dues? It depends on where you live and what you do. If you live in the SEPA region and are engaged in administrative, professional, educational or technical activities in a planetarium, then your dues are \$25/year or \$40 for two years. If you live outside the region, you pay \$15/year with no two-year option. If you support SEPA conference as a business, a benefactor, or an institution in the amount of \$100 or more, you qualify as a Supporting Member and do not need to pay additional dues.

\$ It is very helpful when you move to a new facility or change jobs within your facility that you notify me so that I can keep an accurate membership database. Don't forget to encourage any new staff at your planetarium to join SEPA.

\$ Please email me if you have questions regarding your membership, especially if you can't remember when your dues expire. I'd be happy to help you with that and any other concerns.

Small Talk (Continued from page 9)



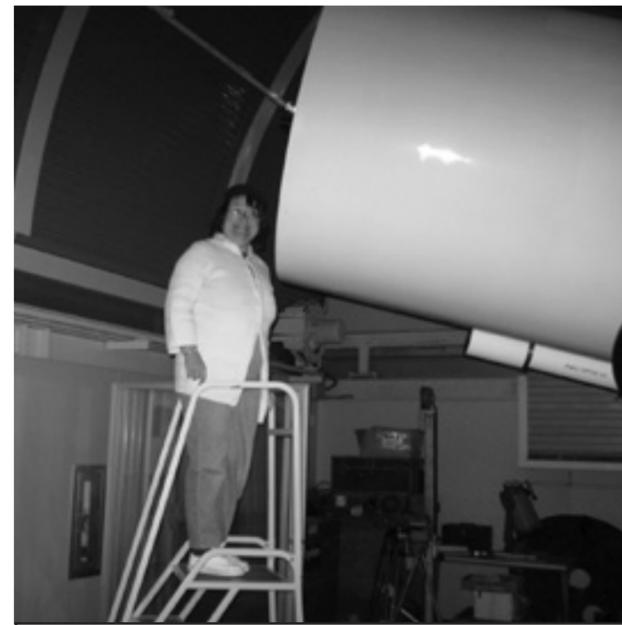
That's me at Valquez Rocks.

workshop really worthwhile. I learned a great deal from them. Many were planetarium folks in their respective schools. One guy had actually built his school's planetarium himself.

The low point was the actual workshop itself where we were taught by use of YouTube video about the use of a program called "Arduino" and we got LEDs to blink and turn on and off. We also worked on putting together experiments to fly on these so-called commercial suborbital rockets that have no set date to fly. We later heard that the organizer of the workshop, Ed Wright, was a guy who organized the whole "Teachers in Space" Program. Ed was a former Microsoft Engineer who made lots of money and we heard was actually fronting the cost of the first seven teacher's flight on commercial suborbital rockets. However, there is no indication that these flights will ever go up and if they do, when. They were telling us that total time in microgravity might only be 26 seconds. Basically, I was not very impressed and the workshop seemed very disorganized. I even had to beg for my stipend! There were highlights, however, such as the talk by Bobby Russell, who told of flying balloons with remote control cameras with his students to take pictures of the last space shuttle in orbit. See more at <http://questforstars.com/> Also we learned about NASA Neon, sort of a Facebook for Educators designed by NASA. You can find out more about it by going to: <http://neon.intronetworks.com/#>. Once I joined,

(Continued on page 21)

Small Talk (Continued from page 20)



That's me peering into the 36 telescope at Chabot Observatory in Oakland, CA.

one of the science teacher coordinators from West Virginia found me!

Finally, I wanted to mention that I originally signed up for this workshop, because I heard so much about the commercial space program going to be space's future. Maybe it is because the economy tanked and there is not much money out there to be obtained from entrepreneurs, but what I saw was not very impressive. I have a tendency to agree with one of the scientists I met at the LRO workshop at the Applied Physics Lab at John Hopkins, "Suborbital? NASA did that in the sixties. How will that help NASA now? They (the commercial space-ships) can't even get a craft to orbit the Earth."

I did get to meet with my cousins while in Palm-dale, which was a great consolation when the workshop, did not live up to my expectations.

I also got to visit Conrad Jung at Chabot Observatory, in Oakland, CA, however; both times I was out there, the weather did not cooperate and I got to only look at telescopes, not through them. Oh well, I was most impressed at the facility and it was great to see it in person.

The new school year is in full swing and the new astronomy class, tiny as it is, is meeting in the planetarium. I would prefer a real class room to teach

in. I used to always have both. Teaching in the planetarium sometimes seems very difficult. I am having trouble utilizing its capabilities, to the best of my abilities and teaching at the same time. Currently, students sprawl all over the floor to work, since balancing books and binders and laptops are a complete disaster. Also teaching second period cuts into the time when school groups can come to visit the planetarium.

Anyway, I am working with my students on the Cassini/Saturn "Scientist for a Day" essay contest, which I gave to them as an assignment, despite the fact that one student said to me, "I don't want to do this. I don't want to talk to JPL scientists." OK. If my astronomy students are not interested in this, who will be? If you wish more information about the program, go here: <http://saturn.jpl.nasa.gov/education/scientistforaday10thedition/>

The pulsar search students manned a booth at the school's club fair and picked up several members who showed up at different times after school. We're in a team rebuilding mode, after our former team leader and other members graduated last year. Former team leader, April Liska settled in to West Virginia University quite nicely and e-mailed that she joined the astronomy club and became secretary by default and attended a pulsar international conference held at WVU this summer and met all sorts of cool people.

Finally, I am writing this as the UARS satellite came crashing to Earth this morning. Did you see the video taken by an amateur astronomer, days before it fell? Go here to see it: <http://www.space.com/13022-amateur-photographs-doomed-satellite.html>

And did you catch the supernova in M101 before it got too low in the sky? A great BBC video explained it. I will leave that with you: <http://www.npr.org/blogs/thetwo-way/2011/09/08/140285854/look-up-its-a-star-in-the-midst-of-a-violent-bright-death>

Don't forget to share with me anything of interest to small planetaria. This column is supposed to be a dialog, not a monologue. Stay in touch!

is Gilgamesh, and when he meets the mighty Bull of Heaven, spring begins and life is renewed. (The vernal equinox, which now occurs when the Sun is in Aries, occurred when the Sun was in Taurus in Gilgamesh's time of around 3,000 B.C.)

Gilgamesh, Enkidu, Gugalanna, Ianna... ancient players in a play as old as history itself. I am reminded of each of them when I see the bull rising in the east. I think of Ianna's rage, and of the struggle with the Bull of Heaven. I shout joyously with Enkidu in their victory. I weep with Gilgamesh. These characters, though separated from us by over three millenia, share something with each of us today: human qualities, emotions that resonate over the eons. Invariably, I think of how humankind has evolved over those three millenia, how far we have come since then, and how far yet we must go before we find our way.

References:

George, Andrew, trans. **The Epic of Gilgamesh**. New York, New York. Penguin Group, USA. 2003. Tablets 1-8, segments A,B,C.

"Verein zur Förderung des "Auerochsen". VFA. 25 September 2011. 29 September 2011. < <http://www.aueroxen.de/> >.

points out that "Billions and billions' has a more intriguing quality than '1.564 X 10¹¹.'"

In the 2001 vol 21 issue 4, several people were commenting about the tragic events of September 11th. Also, we have a great article called "It's not just a job – it's an adventure" by Kelly Quinn. She gets into the fact that a planetarian does the whole juggling act, and must be a jack-of-all-trades. The other article I found entertaining was called "Speedy Santa" by Rebecca Finley, which discusses exactly how fast Santa would have to move to get to everyone's homes. She concludes that it is about 1000 miles per second. She speculates that air friction may be one of the reasons for Rudolph's red nose.

Reading these old issues provided me some laughs, some insights, and definitely some good ideas. It also made me feel incredibly old. For those of you who don't have the back issues on your shelf, this resource is available at the sepa website. Happy reading.

By the way, send stuff in. You know the drill.

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.

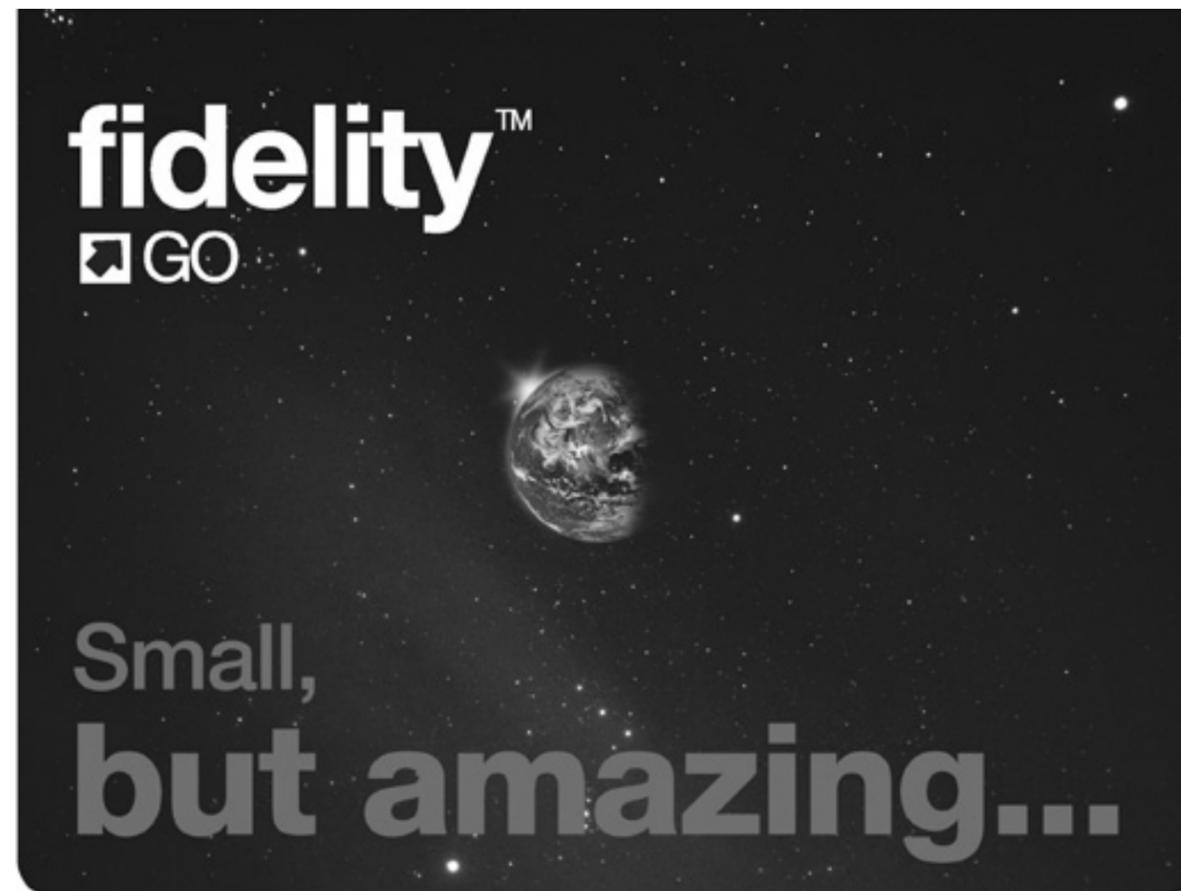
Submission deadlines: January 1 (Winter), April 1 (Spring), July 1 (Summer), October 1 (Fall).

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



President's Message (Continued from page 3)

And as the year draws to a close, keep in mind changes in our profession as well. Phil Groce has contributed a fine article celebrating the life of Mike Sandras. In September, the observatory here at Fernbank was named in honor of Dr. Ralph Buice, a chemist and mentor/teacher extraordinaire, who loved exploring and sharing the sky. We have been blessed with wonderful role models.



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News From SEPA Region

FLORIDA

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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 *Max's Flying Saucer*, *The Explorers*, *Moon Witch*, *Comets are Coming*, 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*, *Dozen Universes*, *Dawn of Astronomy* 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.

The Bryan-Gooding Planetarium / Alexander Brest Planetarium Jacksonville Museum of Science and History Jacksonville, FL

Thomas Webber reports: This summer was a time of change and growth at the Bryan-Gooding Planetarium. We adjusted our schedule to six public shows a day (10 on Friday if you include our evening Cosmic Concerts), including a matinee laser show for the family. We also doubled-up on our feature program, "Sea Monsters," which complemented the museum's hosting of the traveling exhibit *Savage Ancient Seas*. It was a very successful season and we are now looking forward to returning our attention to field trips from schools and colleges as well as serving the community.

Our next big release will be "Dynamic Earth" in January. Accompanying its premier will be a partnership with one of the local TV stations to have a weather station set up in the museum and do occasional reports from the planetarium. For the future we are considering the programs "Natural Selection" and "Attack of the Space Pirates." And, of course, we are very much looking forward to seeing the new dinosaur show by Mirage IIID in a few years!

We did have a very exciting time when the news of Kelper 16b was announced. As soon as word of the discovery about a planet orbiting a binary system was released, and that it was already being called "Tatooine," we went into warp drive mode (if you will excuse the hypocrisy of using a "Star Trek" reference!). What was interesting, and what we played upon, was that the announcement of Kepler 16b came right before the Blu-ray release of the "Star Wars" saga and the planetarium's test-market premier of "Stars," narrated by Mark Hamill, who of course played Luke Skywalker, who was from Tatooine.

An opportunity and coincidence like this only occurs once in a career, and we took advantage of it!

In less than a day we put together a program about Kepler and the discovery, including scenes of the double-suns over Tatooine from "Star Wars, Epi-

(Continued on page 25)

News from SEPA Region (Continued from page 24)

sode IV;" got authentic Stormtroopers, Imperial Guards and Pilots from the local 501st Star Wars Club; and the presentation was given using a light saber instead of a laser pointer (opening slide: "Two days ago, in a galaxy very, very near..."). We also had tables set up and staffed by volunteers, giving away posters and information not just on Kepler, but on Juno and IBEX as well. People had a great time and learned a lot in the process.

In other news, we are excited to be hosting SEPA2013 and are organizing and brainstorming ideas weekly. We have been promised a great deal of support from Jacksonville Tourism and I sincerely think this will not only be an educational conference but a fun one as well.

As the Bryan-Gooding Planetarium approaches the end of its fiscal year, which is actually only 11 months of programming since reopening in November of 2010, we had an attendance of roughly 79,500. We are very proud of this accomplishment and are hoping to improve and grow in the year ahead.

From all of us here in Jacksonville – Brett, Heather, Lena and myself – we wish you all good luck as we begin another academic year.

NASA JPL Solar System Educator Program Loxahatchee, FL

Erich Landstrom reports: **What's Next for NASA? SpaceX Marks the Spot** On July 7th, U.S. Senator Marco Rubio spoke (<http://rubio.senate.gov/public/index.cfm/press-releases?ID=abc35649-ed3f-4eca-bf92-0fb33ebf79fa>) regarding the future of America's space program: "when this final shuttle mission draws to a close, many Americans will be startled by the realization that we don't have an answer to the question: What's next for NASA?... We know that our commercial space partners are working to fill some of the gap in our human space flight capabilities, and that is a promising development that we should encourage. But we need NASA to lead."

I follow one of those commercial space partners, [Space Exploration Technologies (SpaceX)] (<http://www.spacex.com/>) on Facebook. Less than 3 weeks

after the senator asked what's next, SpaceX posted on its account a status update that shows the gap is closing more rapidly than Rubio or I were aware.

To put human spaceflight in historical perspective, bear in mind that the Apollo missions to the Moon were 40 years ago, and shuttle fleet just retired in July, after 30 years of service. By contrast, the first flight of SpaceX's Falcon 9 launch vehicle was only last year (June 2010).

But this past spring (April 2011), NASA awarded SpaceX \$75 million to develop the escape system essential to enable the company's Dragon spacecraft to carry astronaut crews. And crucially, NASA and SpaceX have technically agreed to examine how to combine two COTS missions into one. It's a move I find reminiscent of the "all-up" test of Apollo 4, and it's proof positive of the maturing in the systems and the designs.

Protocols for C3-PO Commercial Orbital Transportation Services (COTS) are public-private partnerships to help develop and demonstrate the vehicles, systems, and operations for commercial space transportation. COTS missions are managed by NASA's [Commercial Crew and Cargo Program (C3-PO)] (<http://www.nasa.gov/offices/c3po/partners/index.html>), whose agreements with U.S. industry total \$500 million for reaching and resupplying the International Space Station and other future exploration needs to and from low-Earth orbit.

Thus, a tweet about one fewer Falcon rocket launch by SpaceX in November means to me that NASA is looking to save time and money. William Gerstenmaier, NASA's Associate Administrator for space operations, is quoted as saying he wants the cargo delivery to the ISS in the fastest manner possible. Although formal approval is still pending, SpaceX is taking all the necessary steps to merge the COTS 2 and COTS 3 missions. This would reduce the need for a repetitious rendezvous with a dry-run of the Dragon spaceship demonstrating that it can safely come within 10 kilometers of the ISS but not berth. Instead of a flyby on its next flight, nine days after liftoff the Dragon could be allowed to dock directly at the space station in December.

(Continued on page 26)

Let's do the math: SpaceX self-reports an average price of \$54 million for a Falcon 9 flight, and \$133 million (including inflation) to the ISS for a full-up NASA Dragon cargo mission. So somewhere between \$54 and \$133 is being saved by squeezing COTS together. And let us presume that the money is turned around and redirected into modifying the Dragon for manned spaceflight, matching the \$75 million NASA approved in April for developing the Dragon's escape systems. SpaceX CEO Elon Musk, [predicts] (<http://www.spacex.com/press.php?page=20110419>) "With NASA's support, SpaceX will be ready to fly its first manned mission in 2014." Rubio is right: this IS a promising development that we should encourage.

By coincidence, December is also when Orbital Science Corporation, another of NASA's C3PO partners, should have its first [Taurus II] <http://www.orbital.com/TaurusII/> launch. In the last three months, virtually all the hardware for two Taurus II test flight vehicles have been delivered to Virginia. When assembly and testing is complete, and the launch pad is constructed and certified, COTS demonstrations and commercial resupply missions on a Cygnus cargo-carrying spacecraft by Orbital could begin in 2012.

What's next for NASA? By New Year's, we may still not have an answer, but we may have a lead.

THE "HOLY GRAIL?" EXPLORING SPACE "ESSENTIAL" TO WORLD LEADERSHIP As a NASA JPL Solar System Educator and the coach of my school's engineering club, I have helped students launched a lot of model rockets. And I've gotten to see a few real rocket launches live from the Kennedy Space Center. NASA has invited me to be their guest for the liftoff of two moon-bound spacecraft aboard a Delta II rocket from Cape Canaveral Air Force Station in September.

The twin Gravity Recovery and Interior Laboratory, or GRAIL, spacecraft will fly in tandem orbits around the moon for several months to provide in-depth data for scientists to analyze in order to better understand the moon's gravitational characteristics, structure, thermal evolution and history of being hit by asteroids. I'm excited that GRAIL can provide a better understanding of how Earth and other rocky

worlds in our solar system formed. A moonquake isn't an earthquake. The structure of the lunar interior, from crust to core, is different. And the thermal evolution of the moon, like how molten its mantle is, has long been a mystery. In Earth science, we can study the world's layers by how seismic waves travel. What makes GRAIL a great mission is that it can study layers without ever landing. As one satellite passes through an area of greater gravity due to moon mass concentration, the distance between the two will shrink slightly, and these measurements will be beamed to Earth.

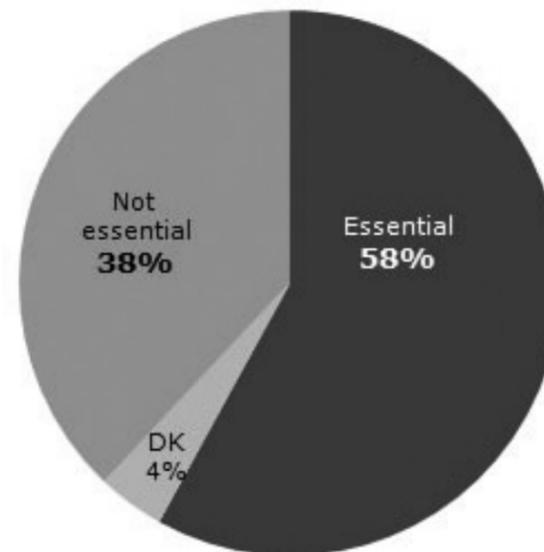
Also aboard the spacecraft will be a camera assembly for the benefit of students that will be used to capture images and video of the moon's surface. "MoonKAM" stands for Moon Knowledge Acquired by Middle school students. Students can request that special cameras on the satellites take photos of specific areas of the lunar surface.

2011 is one of the busiest ever in planetary exploration: GRAIL's liftoff is the third of four space missions launching this year under the management of NASA's Jet Propulsion Laboratory in Pasadena, Calif. Aquarius launched June 10 to study ocean salinity, Juno launched Aug. 5 to study the origins and interior of Jupiter, and the Mars Science Laboratory/Curiosity rover heads to the red planet no earlier than Nov. 25.

Studies show the American public supports such ambitions. In a June 2011 survey reported by the Pew Research Center, nearly six in 10 Americans, or 58 percent, said it is essential that the United States continue to be a world leader in space exploration. Two-thirds of Republicans (67 percent) said the nation must continue to play an international leadership role in space exploration, while smaller majorities of Democrats (54 percent) and independents (57 percent) said this. Large majorities (39 percent) of the 1,500 people polled said space exploration has contributed greatly in encouraging interest in science, and 35 percent said it has contributed some. Nearly as many (38 percent) said the space program has contributed significantly to scientific advances that all Americans can use, while 34 percent think it has had a major impact on feelings of pride and patriotism. A vibrant space exploration program engages the public, encourages students

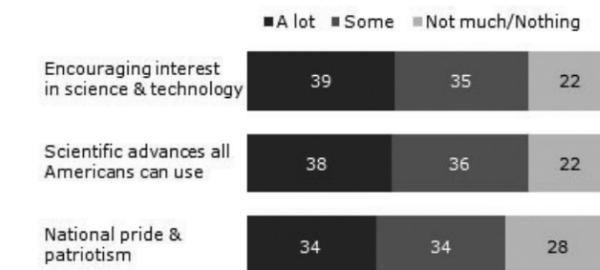
(Continued on page 27)

U.S. Continuing to be World Leader in Space Exploration Is ...



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PEW RESEARCH CENTER June 15-19, 2011. Q17.

and helps develop the high-tech workforce that will be required to address the challenges of tomorrow. GRAIL promises to play a significant role in those efforts.

GRAIL's mapping, along with high-resolution pictures of the moon's surface sent back by the Lunar Reconnaissance Orbiter, represents an important step in planning the next push outwards of human space exploration. Of particular importance will be GRAIL's discoveries about potential sites for lunar colonies at the polar regions. The aim is to map the moon's gravity field so completely that future moon vehicles can safely navigate anywhere on the moon's surface. For more information about GRAIL, visit: <http://solarsystem.nasa.gov/grail> and <http://moon.mit.edu/>.

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

**Fernbank Science Center Planetarium
Atlanta, GA**

April Whitt reports: Summer programs were many and varied: several weeks of Lockheed camp, summer SEMAA programs, Summer of Innovation projects, Star Lab programs at several county libraries, and daily offerings of "Oceans in Space" and the in-house production, "Planet Quest."

For the general public, an adaptation of Detroit Science Center's "Bad Astronomy: Myths and Misconceptions" opened before Labor Day, along with "Sky Dreams," an in-house production for families with young children.

A full complement of school programs, aligned to changing science standards, has been running since mid-August. New this year is an offering of SEPA's "The Planets" for high school ROTC cadets.

The observatory at Fernbank was named in honor of Dr. Ralph Buice, Jr at a ceremony on September 15th. Even the weather cooperated!

ScienceMakers hosted a dinner and presentation as a "pre-quel" to their nation-wide school kick-off in late September.

And best of all, Dr. Angela Sarrazine is back from maternity leave. Our newest star, Braedon Robert St. John, is in fine health and growing fast.

**Planetarium
Tellus NW GA Science Museum
Cartersville, GA**

David Dundee reports: Busy summer, Planetary Thrill Ride show was a big hit this summer, as the planetarium saw over 35,000 visitors. Looks

(Continued on page 28)

like we are heading for another 100,000 plus year in the planetarium. We have been running “Stars” and have just opened “Forces of Nature.” Our live sky tours and “One World One Sky” programs continue to be popular. Our summer programs for groups were fully booked. We joined forces with some local rocket clubs to conduct our first “Build & Blast.” (Build your own rocket and launch.) We are also were invaded by storm troopers, and other characters from science fiction in our annual “Night at the Museum Event.” Even Dr. Who and his Tardis showed up. This event attracted over 3,000 participants.

We used our membership as a Smithsonian affiliate to host “At the controls” a Smithsonian exhibit of images of cockpits from the Wright flyer to Space Shuttle.

We had our first half million visit the museum since we opened.

**James A. Smith Planetarium
Walker County Science and Technology Center
Chickamauga, GA**

Jim & Shirley Smith report: The Smith Planetarium in Walker County, Georgia is still not operational. We had our grand opening and then one program before a devastating storm hit. The new planetarium is an add-on to an older building. The old building was greatly damaged and will be completely razed. But, before contracts can be let for bulldozers to do their work, asbestos must be abated. It is doubtful that the planetarium will be operational again before 2012.

We are hopeful.

**Georgia Southern Planetarium
Georgia Southern University
Statesboro, GA**

Becky Lowder reports: The planetarium will be going full dome digital to better educate the university students and visitors.

The planetarium will be a total immersion class-

room for not just astronomy, but chemistry, math, geology, biology, and other university classes at Georgia Southern University.

The 30 foot dome will be repainted, new LED cove lighting will be installed, and new individual comfortable seating with fold down tablets will complete the upgrade to the 21st century. Our students will be more comfortable during astronomy labs, finally having a desk top to work from and we will be able to do so much more with the new digital system in teaching. Our planetarium directed study students in PHYS 5490 will be learning the new system along with me this fall. We’ll be able to start 2012 off with a brand new total immersion planetarium to educate and inspire everyone coming through our doors.

More to come in the next *Southern Skies*, clear DARK skies!

**Rollins Planetarium
Young Harris College
Young Harris, GA**

Steve Morgan reports: As the dust finally settled from hosting this summer’s SEPA conference, our 2011-12 public schedule got underway in August with Morehead’s “Earth, Moon & Sun.” The response has been very positive. Of course, we’ve also added the program to our school show lineup, and it’s already proving to be one of the most popular choices by teachers calling in to schedule their classes. It targets those astronomy curriculum standards really well!

In October, we’ll bring in the SkyLase system for a series of “Fright Light” Halloween-themed laser concerts, always popular with both college students and the surrounding community. In early November, we’ll begin a Starry Nights series, with the kids’ show “The Zula Patrol: Under the Weather,” followed by our own live-narrated “Skies Over Georgia.” Then we’ll finish out the year with the perennial holiday favorite, Loch Ness’s “Season of Light.”

(Continued on page 29)



**Irene W. Pennington Planetarium
La. Art & Science Museum
Baton Rouge, LA**

Jon Elvert reports: Our theater closed for three months beginning 1 August to undergo renovations. After eight years of showing 8/70mm films, we decided the time had come to take out our MegaSystem film projector and run with a full line-up of digital movies. Besides, the housing for the film projector occupied the center of the theater which are the best seats. We also removed our Infinium-beta star projector – definitely not an easy decision to make. The gaping holes in the center of the theater were then covered over to make way for additional seats. We replaced all the existing seats with new Graystone seats and increased our capacity from 143 to 172. New theater carpet was also installed, both in the theater and in the adjacent galleries. We’ll continue to raise funds for the possibility of new projection equipment, but right now we’re pleased with the new look and feel of the theater and in November we’ll reopen with *Wild Ocean, Wildest Weather in the Solar System, Life: A Cosmic Story, One World, One Sky* and our visitor’s perennial favorite – *Digital Universe*.

Not a day goes by, including weekends, without time spent on preparations for the IPS2012 conference. For current conference updates, go to www.ips2012.com. Remember that SEPA 2012 will take place a full day prior to IPS2012, but more on that at a later date.

**Lafayette Planetarium
Lafayette Science Museum
Lafayette, LA**

Dave Hostetter reports: In September, the Lafayette Science Museum is temporarily closed for installation of the big traveling exhibit: *Dinosaurs*:

Ancient Fossils, New Discoveries from the American Museum of Natural History. Since we couldn’t figure out a way to get visitors to the planetarium without going through fire exits or construction zones, the planetarium is closed too. We reopen on October 8 with the rest of the museum with *Two Small Pieces of Glass* plus mini-exhibits about early telescopic astronomy, the new decadal report for astronomy and the 1911 flight of the Vin Fiz (the first plane to fly across the USA).

We had a very successful Vesta Fiesta in conjunction with NASA and the Dawn spacecraft entering orbit around Vesta, using that weekend to open our expanded and updated meteorite exhibit. The exhibit now includes more tektites, shatter cones, and information about impact craters on Earth.

**Planetarium
St. Charles Parish Library
Luling, LA**

Jason Talley reports: Our fall programming is under way at the St. Charles Parish Library Planetarium. We are running *ASTRONOMYTHS* from White Tower Media for our evening showings this October. On Saturdays, *One World, One Sky: Big Bird’s Adventure* runs as our children’s show and *Astronaut* runs in the afternoon. We hope these amazing shows will draw in the crowds during this traditionally slow attendance period.

Since the new school year started, I have worked diligently to reach out to local schools. The majority of our school groups travel from outside of our parish (or county for non-Louisiana folk). By visiting with local principals, I hope to generate greater attendance from in-parish schools. I am sure my efforts will bear fruit, but progress is slow.

(Continued on page 30)

NORTH CAROLINA

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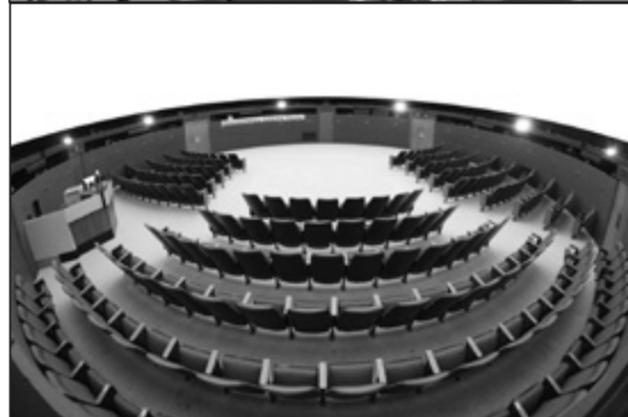
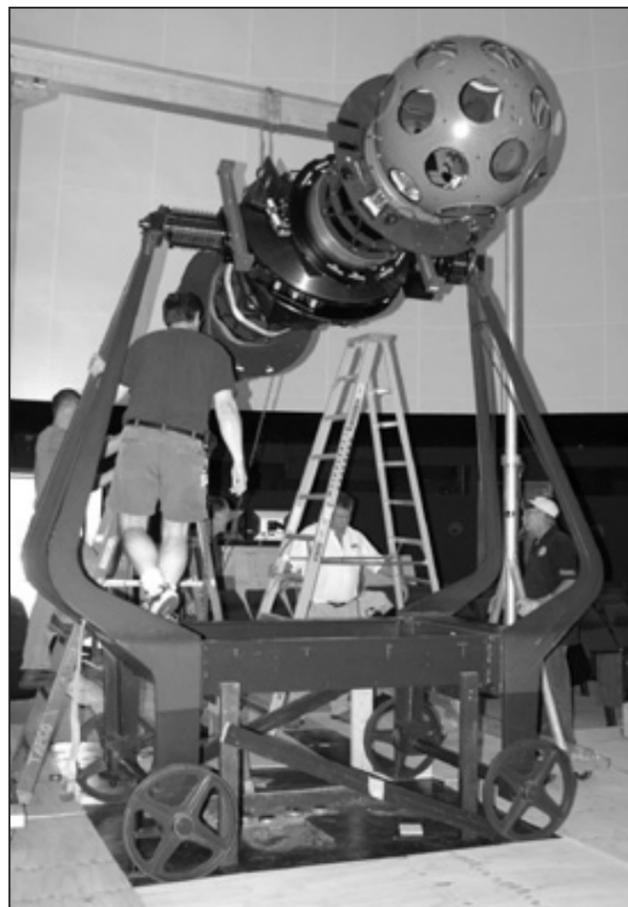


Morehead Planetarium and Science Center Chapel Hill, NC

Richard McColman reports: In August, Morehead Planetarium & Science Center converted completely to digital in its GlaxoSmithKline Fulldome Theater, when we dismantled and removed our 42-year-old Zeiss Mark-VI star projector. We all loved the Zeiss, and it did a great job of projecting a beautiful, crisp star field, so we had mixed feelings about its departure from the center of our dome. However, the fact that the Carl Zeiss company is no longer maintaining a ready shelf stock of replacement parts for the Mark-VI, coupled with the machine's large size, creating significant visual obstructions to projections from our new Sky-Skan Definiti digital full-dome system meant that its time was at an end.

The removal process wasn't instantaneous by any means, though. Morehead's chief technician Steve Nichol had spent several months prior to the final removal tracing out and eliminating a multitude of legacy electrical circuits installed over the planetarium theater's 62 years - circuits which fed the Mark-VI, the previous Zeiss Mark-II, and a variety of video, slide, and special effects projectors that had been mounted at various times inside the plenum wall surrounding star projector. Only after the many scores of circuits and smaller subassemblies from the 5000-pound Mark-VI were taken off did the final disassembly and removal occur, with the help of a contracted rigging crew. Although there is insufficient space to store and display the Mark-VI in its entirety, we are retaining one end of the star machine's "dumbbell" to eventually place on exhibition at Morehead. A large number of the Mark-VI's lenses are being removed and will be sold to interested patrons as specially mounted commemorative pieces.

Meanwhile, the plan is to leave the center of the



theater as a flat, open, flexible space. This will allow us to be creative with events such as "musical

(Continued on page 31)

concerts under the stars," and for our annual gala fundraising events we even plan to set up a modular dance floor extending from the front of the theater into the center for "dancing under the stars." Additionally, leaving a flat, open area in the center means that planetarium show presenters can, as they move around in the theater, gain a closer connection to most audience members, rather than being more isolated out in front of the audience, as would happen otherwise. (At Morehead, we place a major emphasis on making a strong "connection" with visitors, and the closer we can be to them during presentations, the more effectively we can connect with them.) This effectively means that, despite Morehead's 68-foot diameter dome, presenters can maintain a proximity to the audience similar to that of a much smaller planetarium theater!

At approximately the same time as the Zeiss Mark-VI removal, we were also finishing up work on Morehead's newest full-dome production, "Solar System Odyssey," our most ambitious production to date. Designed to meet astronomy science standards for upper elementary and middle schoolers, it is an exciting, character-driven show, with an uplifting feel and an engaging plot. We expect the show to play well to both school and general public audiences. Like our other full-dome productions, "Earth, Moon & Sun" and "Magic Tree House Space Mission," "Solar System Odyssey" will be available for lease to other planetariums through Sky-Skan. The public premiere of the show at Morehead is set for November 9, and is scheduled to include an appearance and talk by Apollo 15 command module pilot Al Worden.

Neuseway Planetarium Health and Science Museum Kinston, NC

Cindy Bingham reports: The Neuseway Planetarium, Health and Science Museum opened in 2002. The Planetarium and Science Museum is a part of the Neuseway Nature Park in Kinston, North Carolina. The park has a Nature Center, campground, large playground, children's train, fishing ponds and picnic area. We are located on 55 acres along the Neuse River. We are a part of the Kinston and Lenoir County Parks and Recreation Department.

Our planetarium has a A3P Spitz planetarium projector. We have a 25 foot dome and we seat about 52 people. We offer daily planetarium shows featuring a basic tour of the night sky. Our public planetarium shows are free for the public. We offer scheduled group shows for a small fee. Most of our groups are elementary schools, preschools, and day camps in the summer. Our field trip offerings include time to play in our museum, a tour of our nature center and a train ride in addition to the planetarium show. We have schools from eleven surrounding counties visit us each year for field trips. We are open every day except Mondays and some holidays. We have one full time staff person and several part time employees.

We are celebrating International Observe the Moon Night in conjunction with our local public library on October 8, 2011. We will have a planetarium show, moon observation with our telescopes and binoculars, games and educational activities for children of all ages.

We hope to make this an annual event.

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

Patsy Wilson reports: In September, our public show took a brief detour from astronomy by featuring a show on Prehistoric Sea Creatures. It was a hit with the younger members of the audience, but equally appreciated by the more seasoned visitor. Fright Light and Laser Zeppelin will be shown in October. November's show will focus on our home planet, "Earth: The Planet of Life."

As a direct result of a session presented by Amy Sayle of the Morehead Planetarium at the CAPE meeting in August, the Woodson Planetarium is going to incorporate a storytelling segment in each public opening. We will begin in October with some "scary" star stories.

Speaking of CAPE, this year's meeting held at USC-Aiken and hosted by Gary Senn and Darlene Smalley was a great success. Participants from

(Continued on page 32)

North and South Carolina planetariums shared lots of new ideas, resources and materials.

Literacy across the curriculum is a focus of our school system this year and we are participating by trying to include connections in our programming to vocabulary, context, meanings from root words and follow-up activities that include literacy.

SOUTH CAROLINA

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DuPont Planetarium, Aiken, SC
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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) had the privilege of hosting the annual Carolina Association of Planetarium Educators (CAPE) conference August 22 & 23. Planetariums from North and South Carolina converged on USCA to mark the 7th annual meeting of this illustrious group. The Roper Mountain Science Center in Greenville, SC will host the next conference in 2012. Details about CAPE can be found at <http://rpsec.usca.edu/Planetarium/CAPE/>

We had a successful International Observe the Moon Night on October 8. 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, *Blown Away: The Wild World Of Weather* from The New Detroit Science Center was the featured presentation for the public. Presenting this show stirred up feelings for the Detroit Science Center as they have been experiencing financial difficulties at their facility. For student programs in October, the planetarium added *More than Meets the Eye* from Lochness Productions and *Dark Shadows* in addition to the option of seeing *Blown Away*. *Dark Shadows* is another local production that features a mostly live presentation of phases of the moon and eclipses.

November will feature *In My Backyard* from the Calgary Science Centre and *Worlds in Motion* from the New Sudekum Planetarium.

After a record-breaking, blistering hot summer in our area, it is nice that things finally started to cool off. With the cooling temperatures, 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.

Timmons Planetarium Charles H. Townes Science Center at Furman University Greenville, SC

David Moffett reports: Located in the Charles H. Townes Science Center at Furman University, the Timmons Planetarium has a 24-foot diameter dome and digital projection system for displaying images of the night sky and full dome video. At the heart of this system is a Konica Minolta Mediaglobe II projector, installed by Audio Visual Imagineering. The dome was manufactured and installed by Astro-tec Domes.

Primarily used as a classroom, the planetarium can seat up to a class size of 30 students, but can accommodate more once the desks have been removed. It has become an invaluable educational resource for students in our Introductory Astronomy course, as well as other physics courses at Furman. The planetarium is also used to educate and entertain visiting

(Continued on page 33)

students from local K-12 schools, and guests of the University. Since January 2008, we have seated an average of 1000 visitors per year. We have licenses for four full-dome shows: Seasons of the Sky (Loch Ness), Hubble Vision 2 (Loch Ness), Oceans in Space (Loch Ness), and The Birth of the Solar System (Antares). Hubble Vision 2 and Oceans in Space were donated by the Osher Lifelong Learning Institute of Furman University

TENNESSEE

contact: Kris McCall
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Nashville, TN
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Bays Mountain Planetarium Kingsport, TN

Adam Thanz reports: The Fall season will be a time of production and lots of public and school shows. By the time you read this, we should have our latest full-dome production of "The Case of the Disappearing Planet" complete, running in our theater, and ready for distribution. The show looks at how we classify planets and see that this has also happened about 150 years ago when the asteroids were discovered. The main character is a clever gumshoe entitled Skye Watcher with a voice like a 1940's movie detective. Written and voiced by Robin Byrne, Associate Professor of Astronomy at Northeast State Community College, it's lots of fun for all!

Starting in November, our secondary show given at the 2 p.m. time slot will be our full-dome production of "A Part of the Sky Called Orion." A really nice program that looks at how the Greeks, Egyptians, and Inupiat looked at the stars we commonly know as Orion.

Like many of you, we'll be busy with lots of public shows, but also school programs. Bays Mountain Park provides educational programming for K and above. With the Park serving the surrounding 45+ counties in five states, it can be a challenge coordinating all the groups and their programs.



Other programming that the Planetarium Department provides is StarWatch, a free nighttime viewing through telescopes. Without the help of the Bays Mountain Astronomy Club, it would not be possible to handle the volume of visitors we receive. Another club related public activity is StarFest. It is held on a weekend in October. 2011 is the 28th year! This year's event is three days (Fri.-Sun.) with all meals, activities, a T-shirt, and being able to sleep in our buildings or your own camper for the super-low price of \$50. How do we do it? No profit and no charge for the use of facilities, electricity, insurance, etc. It is provided as a public activity and is always a great time. Contact me if you want to be on the mailing list for future StarFest events.

Sharpe Planetarium Memphis, TN

Dave Maness reports: It was good to see everyone at the great conference in June. I meant to write something up for the last journal but I got distracted by trying to catch up with work that had fallen

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behind during that week away. On the “free” afternoon, some of us took advantage of the trail ride offered at the conference hotel (Brasstown Valley Resort). It was sunny when we headed out on the trail. But as you can see from one photo, there was a storm a brewin’. The clouds opened up just before getting back to the stables. One last thrill occurred when the horses took off on a trot during the last few dozen yards on the ride toward home. Yee-haw!



Traditionally September is a dismal month for attendance. Fortunately the slow time is coming to an end and I am looking forward to an upturn in school groups coming in October. To help that along I have made some changes to the school program line up. I have brought back the popular SEPA program *The Planets* and added Sudekum Planetarium’s *Our Place in Space* to join the perennial favorites: *Sol and Company*, *Follow the Drinking Gourd*, *Cowboy Astronomer*, the live show *Our Sky Tonight*.

My summer was a bit easier thanks to the addition of an Intern from Mount Holyoke University. Kelsey Moody an astronomy student there also happened to be a local girl home for the summer, making it a winning proposition for all. Kelsey was a big help and I hope she also learned a few things from her experience here.

For the general public I am running a lively but short program (only about 20 minutes) called *Dark Matters*. It comes from the Maryland Science Center’s Davis planetarium. This one provides a nice discussion of those timely astronomical mysteries of Dark matter and Dark Energy. It also gives plenty of time for a longer live update on the current night sky at the end. I am also running the seasonal program called *Autumn Nights*. This popular program was

produced years ago, right here at the Sharpe.

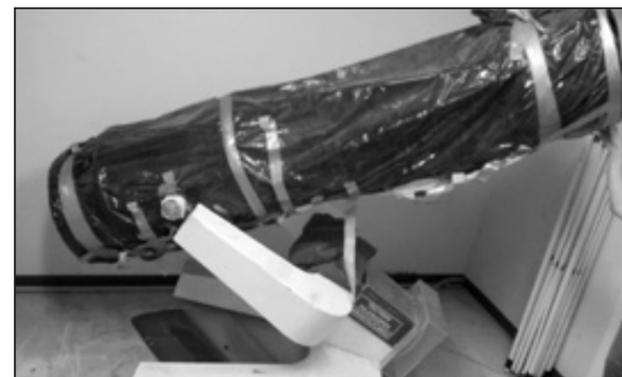
Soon it will be Pink Palace Crafts Fair time here again. This is our annual Thursday through Sunday craft sale event. This is organized each year by the Friends of the Pink Palace organization for the benefit of the Pink Palace Family of Museums. It draws several dozen artists and craft vendors from around the country and thousands of people for a fine experience that blends historical crafts with good food and music. I usually set up my “circus tent” (see photo) there with planetarium and astronomy information, along with a solar filtered telescope, if the weather will permit. This year, I plan to add a “people-powered sundial” assembled with the help of my summer intern from information that I found on the Analemmatic Sundial website by Carl Sabanski (http://www.mysundial.ca/tsp/analemmatic_sundial.html) along with a solar power demonstration, thanks to a kit from Radio Shack.



This month the city granted me an additional part-time staff member. Tad McElroy was added in anticipation of possibly losing a long time staff member Diana Heaton, who is graduating from college this December. Tad worked in the Lambuth University planetarium before graduating recently with a degree in Math. He has already learned the public feature program and is working on the school programs he will present this fall.

Plans are coming together for renovations that we expect to complete in the spring of 2013. As part of the fundraising efforts we will be holding another demo to key people and potential donors of a possible future Full Dome Digital System on October 9 and 10.

Other future plans include construction of a remote controlled observatory to be located at our Coon Creek off-site facility. We already have a possible telescope for the project. It’s a handmade 20 inch Tectron that has been mothballed for way too long. I’ve been told that it may be the very first one of its kind. I have not been able to find a serial number (#001) to confirm that. Also I haven’t heard the story yet about how it came to us. If anyone out there knows about it, send me a note.



**Sudekum Planetarium
Adventure Science Center
Nashville, TN**

Kris McCall and Drew Gilmore report: Kris, Drew, and Theo have been hard at work in the Sudekum Planetarium at Adventure Science Center in Nashville, TN.

We spent this past summer swimming with “Sea Monsters: A Prehistoric Adventure.” While taking tickets, we would ask kids if they knew how to swim or if they brought their bathing suit. When asking visitors to stow their cell phone and other electronic devices during the show, we mention that they don’t want their gadgets to get wet. Cell service was also pretty bad 82 million years ago.

For an adaptation of a flat screen film to the dome, it looks pretty good. Some of the “extinct marine reptiles” look practically full size on our 63-foot dome, especially if you are sitting in the front row. We remind visitors that if the dinosaurs get a little too close for comfort, you can always reach out, tap them on the nose and they’ll leave you alone. We had to chuckle at the little tyke wearing scary T-Rex

on his shirt who wanted to know if the show would be scary.

There not being much to do behind the console much of the time during our countless presentations of “Sea Monsters,” we ended up with a MST3K-style alternate narration script full of wisecracks. It’s amazing the number of times creatures get eaten, or at least strongly bitten. (By Drew’s count, 22). I shudder to think what “wisecracks” people have devised for our own productions.

The summer also featured countless tours of the night sky during “Skies Over Nashville” and a multitude of trips back in time to the “Dawn of the Space Age.”

In May, we opened Laser Country from AVI. We edited the show a bit and added a full-dome interpretation of Johnny Cash’s “I’ve Been Everywhere.”

In mid-June, we premiered “2011: A Space Operassey” in collaboration with the Nashville Opera. Their musical director assembled a “greatest hits” soundtrack with vocal and instrumental selections from fourteen different operas. We provided astronomical visualizations utilizing our GOTO Chiron star projector, full-dome animation, digital kaleidoscopes, lasers, and more. We think it turned out pretty well.

While we prepare for the onslaught of school groups, we’re beginning work on a complete, full-dome re-launch (pun intended) of the ever-popular “Rusty Rocket’s Last Blast.” For those not familiar with Rusty:

After decades of teaching youngsters the basics of rocket physics, Rusty Rocket has decided this will be his last blast, and he already has plans for how he will spend his free time. Still there is one final mission to command: an introductory tour of the solar system for a new class of rocket rookies focusing on the wide variety of planetary environments. Along the way, we learn Rusty is related to every famous spacecraft to explore the solar system. He also emphasizes the immense distances between the planets using cars and jets for comparison.

Our goal is to have “Rusty Rocket’s Last Blast” produced for fulldome by June 2012. This will be a complete reproduction featuring an updated script, new narration and visuals, but with the same great content, songs, and humor - all for a very reasonable price. Allow until the end of 2012 for a digital slide version to become available.

That’s all for now. (Wow, we have been busy.)

**Akima Planetarium
East Tennessee Discovery Center
Knoxville, TN**

Kris McCall reports: From Charles Ferguson -

Greetings, Kris! Unfortunately, I haven’t much to report. My decrepit A3’ (with no planet analogs) is still running, thanks to John Hare’s visit half a year ago. He found nothing wrong, but a lot of things slightly out of their operational parameters. As he said, no one characteristic would have stopped the gizmo from working, but with everything slightly out of operational specification, the A3’ just refused to work.

When it comes to school shows, attendance has been much decreased because of budget cuts. I guess you know about Tom Webber’s situation in Blount Co. He, too, has felt the sting of budget problems. My school shows are graded to present the school kids with more and more advanced topics as they progress through grade levels.

For the general public, I do a live “Sky Tonight” (without projecting the missing Saturn which has been visible in the evening skies). People seem to appreciate what I am doing. As I get no encouragement to do anything more involved, I don’t present any of the half-dozen pre-programmed shows I have already prepared and can show at a moment’s notice.

I was going to write/did write an article for *Southern Skies* about what I have experienced with my cerebral A.V.M. rupture. I wrote it up and mailed it to Duncan Teague about a dozen years ago. Duncan responded that everyone in S.E.P.A. already knew everything about and that it was a waste to print it.

Interesting. Even I didn’t know everything about it until a couple of years ago.

Clear skies! Charles R. Ferguson

(Kris adds - For those who do not know, Charles suffered a massive cerebral aneurysm about twenty years ago. Miraculously, he survived. He has been operating the Akima Planetarium at the East Tennessee Discovery Center in Knoxville for many years. Charles has a unique perspective on life as well as a subtle and sometimes pointed sense of humor. When I received his news for the Journal, I replied with the following:

Dear Charles,

Thank you for the news about Akima. Though it may not seem like it to you, you are making a difference. Maybe not for a million people, but for those who come seeking the sky, you are there. I suspect that were it not for you, they would offer no shows there.

More than thirty five years ago, I went to the planetarium for the very first time. The guy who was there said they were supposed to have at least six people to run a show, but he would do it for the five of us who had tickets. That one show changed my life. If David Sisson had not given that show, I would NOT be where I am today. Do not sell yourself short.

In the meantime, remember that even with all the fancy, expensive equipment and million dollar shows, with Google and desktop software and planetarium apps for your cell phone, people still want someone to guide them on a tour of the night sky. If that’s all you do, you are still making a difference.)

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**Chesapeake Planetarium
Chesapeake Public Schools
Chesapeake, VA**

Dr. Robert Hitt reports: We are starting a new school year and this will be our 49th year of operation. We will celebrate 50 years of educational service soon. The planetarium is still popular with the public and we maintained a full house for every show this summer. We are wishfully thinking of getting some grant money soon to make some improvements in our equipment.

**Abbott Planetarium
Virginia Living Museum
Newport News**

Kelly Herbst reports: It’s that time of the year when everything needs cleaning out – our annual maintenance month. The planetarium has been closed since Labor Day for cleaning, updating, programming, fixing, and many, many other annual “ings.” When we reopen on October 1st, we’ll be featuring **IBEX** as our space science show, and keeping **The Zula Patrol: Under the Weather** in the line-up as we partner with the Children’s Museum of Richmond who will be hosting the Zula Patrol exhibit. **Virginia Skies**, our live show, will round out the offerings. October will bring us a celebration of International Observe the Moon Night on the 8th, and our annual Halloween laser show Fright Light on October 22nd and 29th. And then, before we know it, we’ll be into the holiday season with **Star of Wonder: Mystery of the Christmas Star** and **Laser Holidays**, which will replace everything but the live show in our programming. By the way, our August laser show, **iPop**, was indeed quite popular with the tween crowd, many of whom spent the whole showing singing at the top of their lungs! **iPop** will make an appearance in our regular rota-

tion of laser shows at our Star Party & Laser Light Nights, which continue to be very popular...especially when the weather is clear enough to actually do some observing!

The new year will bring some all-new shows to our theater, including the Cassini mission program **Ringworld 2** and a new in-house production on the subject of the end-of-the-world furor for 2012 (Mayan and otherwise) called – what else!? **DOOMSDAY 2012...or Not!** We’ll also be bringing back **Kaluoka’hina** for the preschool crowd.

All in all, we’re hoping that 2012 will be kinder to us economically than 2011. It’s been a hard year all around. Hope things are well under your dome!

**Pretlow Planetarium
Old Dominion University
Norfolk, VA**

Declan De Paor reports: Please enjoy this flyer from our latest event at the Pretlow Planetarium.



(Continued on page 38)

Check out the website at <http://www.lions.odu.edu/org/planetarium/website/Show.html>

**Thomas Jefferson HS Planetarium
Richmond, VA**

Leslie Bochenski reports: Another school year is off and running. I've been busy scheduling classes for the year, and will open for the first group of 3rd grade on October 3. Nothing much has changed since last year, except that I'm increasing the length of some programs to provide a more comprehensive lesson, and I'm breaking the 'Solar System Survey' program into 2 lessons. After all, who can cover the physical features of 8 planets, 150 or so moons, asteroids, comets, meteoroids, KBO's, the sun, and the scale of the system in an hour-and-a-half?



REMEMBER YOUR STATE COORDINATOR!

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