

# Southern Skies

Volume 36, Number 2

Journal of the Southeastern Planetarium Association

Spring 2016



## Table of Contents

SEPA Officers.....	3
President's Message .....	4
IPS Report .....	7
Editor's Message .....	8

### Bookends:

A History of Pi .....	11
SEPA / WAC 2016.....	17
News from SEPA Region.....	21

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**Ken Brandt**  
**Robeson Planetarium**  
**Lumberton, NC**

How did you become a planetarian? How do you end up with a dream job like this?

It is 1979, in June. Unable to sleep at night, I go above decks aboard my ship, the USS Ponce. The ship is dark adapted, with only red lights illuminating the interior, and no lights on the outside. "Darken ship" is what it's called, and it helps to hide the ship from a potential enemy combatant. Naturally, this made for outstanding stargazing! This is when I learned my way around the night sky. It helped that some very friendly shipmates were always on the signal bridge-the highest point on the ship accessible, and they had a pair of 90x binoculars. On nights when the ocean was calm, this allowed me to see Jupiter and its moons, Saturn's rings, and the Orion nebula. My favorite was always the Pleiades though, since you could point out the cluster to an interested sailor, and then shoot them with the binoculars! I knew I was in trouble when the Captain climbed the ladder to the signal bridge, but he just wanted



the stargazing tour, because he'd heard about them from some of the other sailors. He ordered me to give the rest of the officers "the tour," and I was officially dubbed the stargazer. "Hey doc, will you be up on the signal bridge?" Unless I was the duty corpsman in sick bay, that answer was always yes.

The journey accelerates in 1992. I was selected by my high school to attend a "Starlab workshop" for Marion County, FL science teachers. We would learn how to use the local science museum's new portable planetarium, and then check it out for use with our earth and space science students. The workshop was led by this wacky couple, Jim and Shirley Smith.

Jim and Shirley both taught us how to inflate the dome, change cylinders, and gave us a primer on the star projector, and what you could show in the sky. I used the Starlab at least twice a year, and more when I was teaching astronomy in addition to earth and space science.

I transferred schools to Buchholz HS in Alachua County, FL, and was shocked to discover that they had no portable planetarium! So, I wrote a grant for one, and it was approved, giving my students the opportunity to see a beautiful night sky. Practice and more practice setting up the Starlab, enthralling more groups of High School students.

Fast forward to late 2003. In September, an ad

(Continued on page 14)

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

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

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

My Town, Our Planetarium # 193

**GOTO**

## Again and Again

Some years ago, an advertisement similar to this one announced installation of the world's first GOTO CHRONOS HYBRID planetarium, at the College of San Mateo near San Francisco, California. It was a fantastic system that for the first time, brought the perfect synchronization of a state of the art opto-mechanical planetarium projector with a full-dome digital video system. Instructors Darryl Stanford, Mohsen Janatpour and astronomy technician Dean Drumheller loved working with the system to teach college astronomy courses and to inspire visiting school students.



So in January 2016, Darryl, Mohsen, and new astronomy technician Justin Stevick began using a brand new system. The new system includes a second generation CHRONOS II, which replaces earlier incandescent lamps with new high-output, high-efficiency LED illumination, and brings even more reliability. Dean says that the new CHRONOS II stars, sun, moon, and planets are so much brighter he actually has to dim them down a bit for some scenes. And Justin will never have to replace another burned-out lamp.

Then the unthinkable happened. Only a few weeks after the planetarium's dedication, the fire suppression sprinkler system in the new building accidentally went off, flooding the entire planetarium with water! The CHRONOS HYBRID equipment was ruined. But Darryl, Mohsen, Dean had enjoyed working with the system so much that they immediately ordered another one.

Fast forward to today, when funding became available to add upgrades to many of the college's science facilities. Since the planetarium was so tremendously successful in not only educating but also inspiring current and future students, the decision was made to once again continue investment in the planetarium. And once again, the choice was GOTO.

The full-dome video system was updated with new computers and software, and video projector resolution was improved from 2K to 4K. The full, synchronized system continues to be controlled by the HYBRID manual control console, which makes teaching live lessons easy, accurate, and fun.

So yet again, a new GOTO state-of-the-art planetarium is in place, and ready to go. And the College of San Mateo becomes the first planetarium in the world to have had three (3!) GOTO HYBRID systems installed!



\*Planetarium Tech Justin Stevick and instructors Darryl Stanford and Mohsen Janatpour (l. to r.) beam almost as brightly as their CHRONOS II HYBRID.\*



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 Contact: Ken Miller



# IPS REPORT

**John Hare**  
**ASH Enterprises**  
**Bradenton, FL**

By the time you read this, the 2016 IPS conference in Warsaw, Poland will be history. Hopefully you were in attendance.

It is essential that you visit the IPS Website for the very latest developments in the Organization.

An ongoing initiative, Vision 2020, is headed by SEPA's own Jon Elvert. Changes are in the offing for IPS including a major revamping of the governing structure of the organization. Feel free to contact me regarding the latest developments of IPS, anytime after this year's Warsaw conference where I'll represent SEPA at the Council meeting.

The future of IPS will be built upon a solid founda-

tion that the Organization has created over four plus decades of existence. The IPS Website continues to evolve as more and more information is posted. A good example is the suggestion on the Home Page to "get involved." Four possibilities are listed.

1. Submit an article to their publication, "The Planetarian."
2. "Pages of Stars" where 3 to 5-minute clips on planetarium teaching are shared.
3. An astronomical experience in Italy supported by a \$1000 stipend.
4. An educational video collection project

*(Continued on page 16)*

## 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: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
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 \_\_\_\_\_



# Editor's Message

**James Sullivan**  
**Buehler Planetarium & Observatory**  
**Davie, FL**

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.

I have always enjoyed the News from the SEPA Region. But lately, it has been filled with the comings and goings of long-term Sepians. Some have changed domes, and others have stepped out from under the darkness, while not necessarily just retiring, but pursuing other interests and opportunities. All this made me realize that time passes. This school year ends, and there is a pause before the new beginnings. I hope that all is well for everyone this coming academic year

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.



## SEPA Membership Form

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# BOOKENDS

**Robin Byrne**  
Northeast State Community College  
Blountville, TN

## *A History of Pi* by Petr Beckmann

Let's take another trip to ye olde bookshelf and see what we might find. "A History of Pi" by Petr Beckmann is a look at how we determined the value of a number that is taken for granted. Beckmann is an electrical engineer with an interest in both mathematics and history. He takes us on an historical journey through the discoveries that ultimately lead to finding an accurate value for pi.

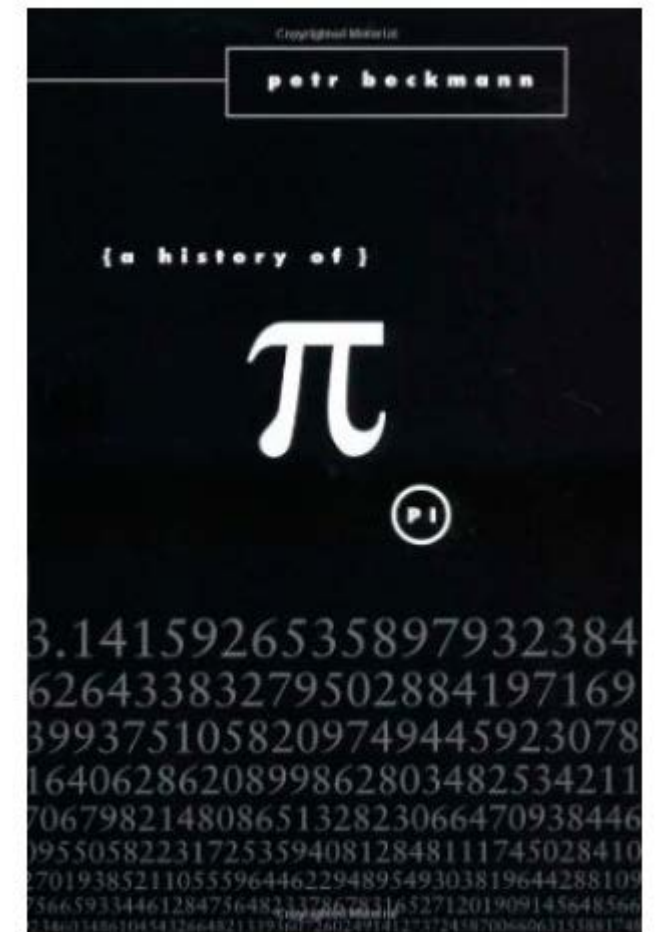
The earliest technique was likely a physical method. Draw a circle, use a piece of rope to measure the diameter, then see how many lengths of that rope would complete one trip around the circle. This would yield, approximately, a value of 3. Good enough for the time, and that value became the one used in the Bible. (As a side note, some state legislatures tried to pass a law fixing the value of pi to the Biblical amount. That didn't fly.)

The next method came along as mathematics advanced. The early Greeks were responsible for many discoveries in geometry, so it was natural that they would be interested in finding a more accurate value of pi. Their approach was to "square the circle," which means to find a geometrical shape (preferably a square) which has the same area as the given circle. Knowing the area would then allow for the determination of pi. Many versions of this were attempted for centuries, and many approximations for pi were found. All of these values were quite similar and acceptable for practical purposes. (Historical aside: You might think that because pi is a Greek letter, it must have been the Greeks who

proposed the symbol. Instead, it was a little-known mathematician, William Jones, who first used it in one of his publications, in 1706. However, due to his obscurity, it didn't catch on until 1737, when Leonard Euler used the symbol in his writings.)

The third stage in the hunt for pi was to use mathematical equations to find its value. During the Renaissance, a wide variety of infinite series equations were developed, using trigonometry. This became the age of calculating, by hand, as many digits as possible. Various records were achieved and broken as each person took the challenge to more and more digits, reaching hundreds of decimal places.

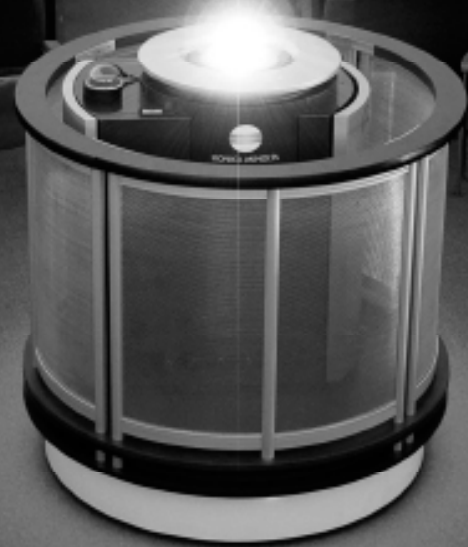
With the development of calculus, more techniques



(Continued on page 15)



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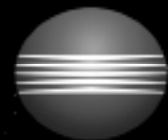
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for a planetarium directorship in Lumberton, NC appeared. I applied, thinking that they'd never hire me, but what the heck. I was called in for an interview-the first team interview I'd ever experienced. I don't remember much, except for this exchange: "How would you handle a situation where an administrator was unhappy with what you had done?" I replied; "I find it is better to ask forgiveness than to ask permission." My boss-to-be (although I didn't know it at the time) said, "No. That's not the right answer. Try again!"

Shortly after the interview, they wanted to have a public event at the planetarium for a lunar eclipse, and asked me if I'd be willing. They agreed to pay for lodging and gas, so I said why not? I'd never actually run an A3P before that night, but the labeled knobs were pretty self-explanatory. Needless to say, they liked it, and hired me away from the high school and the students I loved teaching.

But this was a special task that would involve seeing many more students (roughly 9,000 per year) in a small dome where I could share my love for space exploration and the stars. And share I have. For the last 13 and a half years, I have had the com here at the Robeson Planetarium. So, when a student asks me if I can show them Pegasus, or Perseus; my answer is always yes!

Little did I realize that this was "the mother dome" of SEPA! Organized by Jimmy Hooks, several people got together in Lumberton to forge ahead with the formation of SEPA. Jimmy also went on to help start IPS, and became the first SEPA President, and an early President of IPS.

So, how did you end up on the operating end of a star pointer, or video production team? How did you become a "star hustler?" What a great conversation starter in the various venues we'll find ourselves in come conference time!

(and digits) were discovered. Now the goal was to find a series that would converge on the value of pi in the fewest number of steps. A whole slew of Who's Who in mathematics worked on this problem, including Newton, Leibniz, Huygens, Pascal, Gauss, and Euler. Last came the era of computers, which can brute force their way to as many digits as desired. The current record is around 13 trillion digits.

But the more interesting question for mathematicians moved from calculating more and more digits, to determining what kind of number is pi? Fairly early on, it was found that pi was not rational, which means it cannot be determined by a simple ratio of two numbers (that's why they resorted to various infinite series to find the value). The next question was whether pi was transcendental, which means it is not even the root of an algebraic equation. It turns out that pi is, indeed, transcendental. One consequence of that discovery is the conclusion that you can never "square the circle." So much for the early attempts.

Overall, I enjoyed this book, with some caveats. First, it's a topic I hadn't even considered as an area of discovery. We take pi so much for granted that it feels like we've always known its value. Also, the mathematical history is interesting and reveals topics I had not encountered before. However, if equations give you the willies, you may want to give this book a pass. Honestly, I glossed over the equations without losing the gist of what was going on. Beckmann tends to assume the reader has more than the average amount of mathematical knowledge and seems to leave out the kinds of details that would have made following the equations an easier process. So, I recommend just looking the other way when the equations crop up. My second concern has to do with Beckmann's occasional political commentaries. The book was written in 1971, and Beckmann was originally from Czechoslovakia before taking residence in the United States. During this time, Czechoslovakia was under communist rule, and that has clearly influenced Beckmann's view of politics. In particular, he has a very negative reaction to any society under a similar

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system of government and immediately dismisses any advancements made in those countries. Expect periodic tirades against totalitarianism.

So, is "A History of Pi" a book for you? If you enjoy the history of discovery and can tolerate discussions of math (with occasional political rants), you will likely enjoy it. If the mention of math gives you the hives, walk away and don't look back.

"A History of Pi" by Petr Beckmann, St Martin's Press, 1971



IPS (Continued from page 7)

where submitted videos are archived with a focus on astronomy lessons and teacher training.

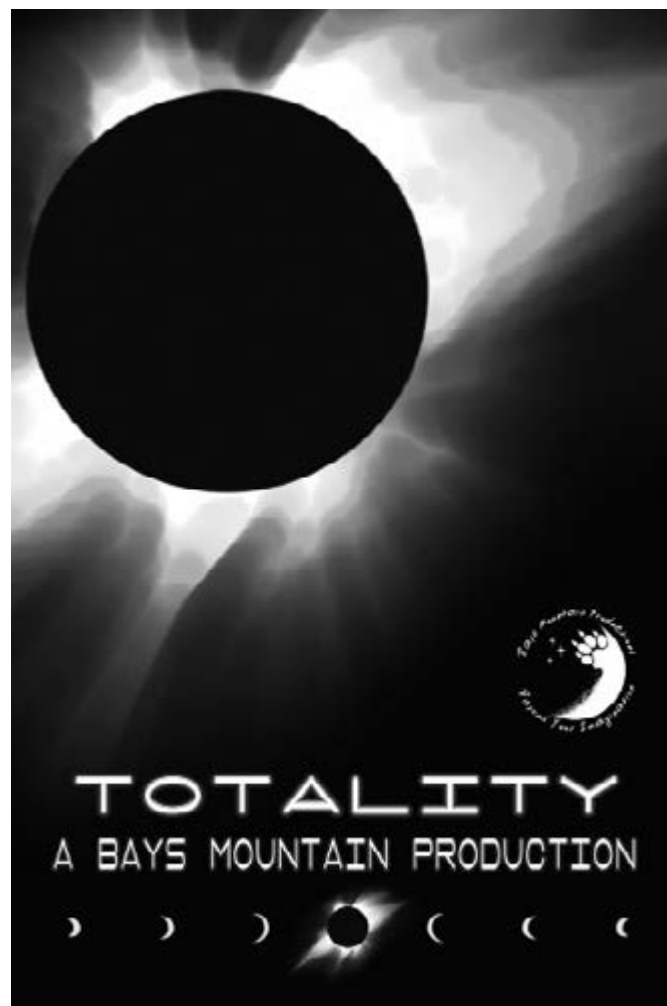
This is just the tip of the iceberg.

Many items and services from IPS are available regardless of membership, but once you visit and discover the wealth of possibilities, you'll realize what additional benefits can be gleaned thru membership.

Looking down the road, Toulouse, France will host IPS 2018. Conference dates are July 1-6.

Invitations are now being accepted to host IPS 2020.

You can obtain membership forms from IPS Treasurer, Ann Bragg at [ann.bragg@marietta.edu](mailto:ann.bragg@marietta.edu), myself at [johnhare@earthlink.net](mailto:johnhare@earthlink.net), or at the IPS Website, [www.ips-planetarium.org](http://www.ips-planetarium.org).



# SEPA / WAC 2016

## May 31 – June 4, 2016

**On behalf of the W.A. Gayle Planetarium, we look forward to your visit to our facility!**

The Gayle Planetarium is owned by the city of Montgomery and operated by Troy University. The fully-digital planetarium seats 159 comfortably under its fifty-foot Spitz dome.

Our Planetarium is an iconic fixture in historic Oak Park, home to 40 acres of gardens, a fishpond, playgrounds, and multiple walking trails. Situated in the center of the city, the Planetarium is just minutes away from a number of city attractions, historical landmarks, restaurants and the state's premier shopping experience at the Shoppes at Eastchase.

The theme of this year's SEPA/WAC conference is "Eclipsed by No Other". We will all certainly be inundated with inquiries from news affiliates and the general public regarding the Solar Eclipse of 2017, and this conference will prepare you to be the subject matter experts.

Our keynote speaker will be Fred Espenak, aka Mr. Eclipse. A retired NASA astrophysicist, author, photographer, and eclipse expert, his talks capture his passion and excitement about this topic and astronomy. We are so honored and excited that he has agreed to come to the SEPA/WAC conference and share those things with us.

*(Continued on page 17)*

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(Continued from page 17)

As is the norm with most SEPA/WAC conferences, you will be kept very busy. We will have a number of workshops, multiple papers, dome demonstrations, and much more.

Workshops will cover a variety of topics, including: the World Wide Telescope project, Preparing for the

Eclipse, and Full-dome digital Photography tips, educational materials for your programs, and the fun of live shows.

We have a great field trip to the Wetumpka Meteor Crater planned as well. This field trip is less than an hour away, so it won't be an all-day bus ride.

# ***SEPA / WAC 2016***

***Joint conference***



***May 31 - June 4, 2016***  
***W.A. Gayle Planetarium***  
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# News From SEPA Region

## FLORIDA

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



### Florida Planetarium Association (FLORPLAN)

Contact George Fleenor for details.

### Planetarium Pensacola State College Pensacola, FL

Billy Jackson reports: This has been a busy season in Pensacola. As our program is geared toward schools and field trips, the impact of standardized testing is especially noticed. This year our local districts all pushed to get field trips in early before statewide testing dates. As a result, we saw very high attendance in the first two months of the year.

About a week before a scheduled school program, a special needs class teacher called to ask how her deaf students would experience the audio portion of the program. She said they would be bringing a sign language interpreter and wanted to know if we could have lights on during the show, so the students could see the interpreter signing for them. I reminded her that to truly experience the planetarium, it would need to be very dark in the theater. I then assured her that we would have lighting in

place where the interpreter would be seen by those needing to see her, without affecting the viewing of other students. She seemed a bit skeptical and had her school ADA representative contact the college to be sure we would have adequate accommodations.

Enter black lights and white gloves. When the interpreter arrived, she asked where she would be and how the students would be able to see her. I showed her the area near the rear of theater where her students would be seated, and her location, just ahead of them. The students had a great view of dome, looking slightly upwards. The interpreter was just ahead of them in same line of sight. The student's field of vision easily included the dome graphics and interpreter. I had the interpreter put on lightweight white cotton gloves provided by us, and a black light nearby was turned on. As the theater lights went down, the interpreter's gloved hands were luminous. The smiles of the students were very apparent throughout the program. Afterwards, the interpreter said she had never used this simple combination, but was sure she would be using this technique again.

In addition to our school programs, we offered a couple of public shows in conjunction with the January full moon. *Back to the Moon for Good*, and *Pink Floyd's Dark Side of the Moon*, were both well attended. We also presented a week of laser music shows for our on campus students and the public. Of course the *Pink Floyd* selections sold out first. In February, Pensacola again became an Intergalactic hub as Pensacon came to town. Our presentation there, *Skywatching: Indoors and Out*, gave us a chance to talk about planetariums and amateur astronomy with a varied and costumed audience.

### Buehler Perpetual Trust Planetarium Seminole State College of Florida Sanford, FL

Michael McConville reports: The first three months of 2016 have been remarkably productive! As we focus on new public presentations, bigger outreach events, and expanding our school-age curriculum, we're finding more opportunities than ever to serve our College and our community.

We started 2016 in impressive fashion as we hosted our third Winter Sky Festival on Jan. 16. More than 2,100 visitors packed the faculty parking lot north of our planetarium to take part in one of the largest astronomy events in Florida. Working with several local astronomy clubs, including our own Central Florida Astronomical Society, we were able to set up more than two dozen telescopes and binoculars and provided countless “first views” for our visitors. Additionally, we welcomed several local food trucks to take part in the festivities, only to hear that every truck had sold out by the end of the event!

Even as the weather wavered outside, we also offered numerous presentations indoors, including our first laser shows in more than a year – six shows, back-to-back, all sold out! We packed classrooms full of participants for talks on the history of the constellations, the future of crewed spaceflight, nocturnal birds of prey from the Avian Reconditioning Center of Orlando, and a dedicated “kid’s corner” with singing, dancing, and plenty of astronomy. With such an array of activities, we found that many families stayed for most, if not all, of the event’s four-hour length. We’re already in the planning process for 2017!

We’ve been working on several productions simultaneously for the past six months, including taking research trips to the Pacific Northwest for an Earth Science show and to several sites in the Southwest for our Native American presentation that premiered this past November. But our most unique undertaking has been production for “How Do We Know?”, a show that helps to answer some of the questions we hear most often in the planetarium. How do we know the speed of light, or the age of the Universe, or the existence of black holes and exoplanets? They’re answers we often take for granted, but they’re also answers that can help our audiences better understand and appreciate modern science.

The show itself is a full-dome presentation, produced live with our Uniview system. But what separates it most from any show we’ve ever done – or done elsewhere! – is our Planetarium Interactive Response System, or PIRS. The PIRS utilizes off-the-shelf classroom clickers to give our audi-

ences almost complete control over the content of the show. They choose the five or six questions they most want answered before the show begins, and we’re able to provide our visitors with a different show every single time it’s presented. While there are numerous logistical and integration issues that have been worked out, and continue to be worked out as we move toward our premiere on Apr. 2, we’re very hopeful that the show will be a huge success. Look for a review of the production process for this “choose your own adventure” planetarium show in a future issue of Southern Skies.

Our monthly public outreach series “Telescope Thursdays” remains strong, as we visit different locations throughout Central Florida on the third Thursday of each month. Few things are simpler than setting up a telescope or two in a high-traffic area and watching person after person better appreciate their place in the cosmos. Weather has been surprisingly cooperative for us this year, and the crowds seem to build with each passing event.

Finally, we’re beginning our revisions on the “Seminoles Space Science” series of shows for elementary and middle school classes. This has been one of our very best received programs during the past decade, and we’re tirelessly working to refine our curriculum to best complement what happens in the classroom. By August of this year, we’re planning on completely resetting the curriculum to bring an entirely new level of learning to the students of Central Florida. And you’ll want to keep an eye out in the coming months for a full introduction to one of the newest members of our planetarium – Zeke, the puppet Zodiacal zookeeper! Designed over the past year, Zeke is a fully articulated puppet that will be the star of our first dedicated preschool-age production. While Zeke has a place on the dome during the show, he’s most impressive when brought to the kids themselves – a show character fully fleshed out and brought to life for our youngest visitors. It’s a show experience we think is unlike any other!

2016 is already off to a great start, but we have so much more planned for the remainder of this year. We can’t wait to tell you all about it!

Until then, stay bright.

### **Planetarium Riverview High School Sarasota, FL**

Khaya Klano and Jason Mocherman report: It has been an exciting year for the Riverview High School Planetarium! We continue to see around 10,000 elementary and middle school-aged children on field trips to the planetarium every year. In addition to our Stars to Starfish program, which combines our own self-produced show and a tour of our aquadome, we have a wide variety of shows that we run for the visiting students, who come nearly every school day during our busy spring season! We give the students night sky tours on the dome to teach them about stars, constellations, planets, and other objects visible in the sky.

We also recently had our second “Astronomy Night” of the year, during which we open the planetarium up for free to the public to view shows. We played “Back to the Moon for Good”, gave tours of the aquadome, and had the Local Group of Deep Sky Observers outside with telescopes to view astronomical objects.

We are looking forward to our system upgrade in mid-April, when we will trade in our 6-year-old Mediaglobe II for a brand new Mediaglobe III (Sigma). The first system was paid for completely by private fundraising, but we have received a grant from the Sarasota County School Board to fund our upgrade.

Even with the school board’s support, we still continue fundraising in order to fund projects, such as the lighting project that we have recently completed. We installed dome lights and cove lights, colorful LEDs that can change between pre-programmed scenes with the click of a remote. Our unique lights have become very popular with both guests and fellow planetarium professionals alike.



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

David Dundee reports: We have had a great winter. Fortunately, very little frozen precipitation impacted our school visitation. We opened “Firefall” in the planetarium in January and continued our run with “Extreme Planets”. We brought back for an encore performance “One World, One Sky”. March has been a record breaking month of over 10,000 students visiting the museum for programs. Thanks to our partnership with Harvard-Smithsonian, we implemented a new workshop for the public on Exoplanets. I began the implementation of a new grant through the same partnership targeting 8th grade girls and training them to use Harvard’s robotic telescopes. We conducted another successful “Build & Blast”. This is a biannual workshop where we build and launch rockets and have our local NASA ambassador come to talk about NASA’s latest rockets. We had two sold out junior astronomy workshops aimed at ages 6 – 12 as an introduction to the night sky. We also conducted a workshop for girl scouts on astronomy. Planetarium has already seen over 20,000 visitors at this writing in mid-March. So all in all, a very busy Winter.

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

Dillon Marcy reports: We have been kept busy here at the Georgia Southern Planetarium as we move towards summer. We have had many great weekly shows this year already from many of our local school systems. Our spring has been full of exciting events. Not only have we had our Public Evenings, but we have assisted in the local Science Olympiad by giving students the opportunity to test their



knowledge in the Planetarium.

We partnered with the Georgia Southern Music Department to be a venue for the Society of Electro-Acoustic Music Conference where presenters made their own Planetarium Shows, and presented them to the public and to SEAMUS members. With summer approaching we are preparing our last Public Evening of the spring semester “Lichtmond”, a show where the public will be immersed in musical journey to a poetic parallel world. A personal favorite of mine, we hope that it will give time to relax for the university students before they begin their final exams.

With this exciting semester winding down, we will begin planning shows not just for the public of Southeast Georgia, but all the university students that further their education during the summer. We also look back on our year where we have our near 9000 visitors for our Public Evenings and school groups. We included a new show to our library, “Accidental Astronaut” which has been a big hit with our younger visitors and their parents. We also began a partnership with Georgia Southern Society of Physics Students which has volunteered their members to assist in the smooth operation of our Public Evenings.


**Rollings Planetarium**  
**Young Harris College**  
**Young Harris, GA**

Steve Morgan reports: Thanks to a generous \$1 million gift from long-time college trustee Dr. Harry Hill and his wife, Harriet, a number of renovations were recently made to the Maxwell Center for Mathematics and Sciences, which is the building where the planetarium is located. Included were a facelift for the lobby and hallways—new carpeting, painting, furniture and lighting—as well as an energy-efficient new HVAC unit and generator to improve the temperature and humidity control in the planetarium and stabilize the electrical structure.

Program-wise, we just finished a public run of “STARS: The Powerhouses of the Universe” and are getting ready for a special evening featuring “Magic Tree House: Space Mission” for kids and

families, followed by our own live-narrated “Skies Over Georgia” for general audiences. Later in the spring we’ll be running the ever-popular “Led Zepelin Cosmic Concert.” Then in May we will start our summer line-up of “Solar Quest” and “Aurora Storm,” a pairing of shows to provide an overview of the Sun-Earth environment.

**KENTUCKY**  
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**Haile Digital Planetarium**  
**Northern Kentucky University**  
**Highland Heights, KY**

Steve Russo reports: Dan Spence retired at the end of July 2015. The new director is Christa Speights.

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

Steve Russo reports: We had a pretty busy Fall and Winter here at the Science Center.

In September, my staff and I spent a day at the Hummel Planetarium at Eastern Kentucky University. We exchanged ideas with them and viewed some shows. Many of you remember this planetarium from years ago. Over the years it hit some hard times, but new life has been breathed into it with a new director, a new staff and a Sky Skan Definiti Full Dome System. This is still one of the largest planetariums anywhere, with a dome diameter of just under 70 feet and a 27 degree tilt!

Our Floyd County Early Childhood event in October, brought in over 200 people for hands on science activities and planetarium shows for preschool kids. We held two special Halloween events during that same month; a night time Frightlight

Laser show and an all-day Halloween event that attracted 150 people for “spooky science activities” and planetarium shows.

Our annual regional science fair in November attracted over 125 students and parents.

For the Christmas Season we had a brand new (new for us) show, Season of Light from Loch Ness Productions. Our old Christmas show, which was the only one produced “in-house” was 12 years old, and by today’s standards, too long. Running at a length of 55 minutes, there was not time to do a “live” night sky session, and that is something we do after all of our shows, including our laser shows.

January and February brought the usual snow fall that closes everything in this area, and a 17 inch snowfall had the college closed for a week!

We opened up after the snow, with a visit from the staff of the Hummel Planetarium. Since we went there in September, they came out to see us. The two staffs have decided to try to work together and help each other out with programs, and one of their staff is going to be a guest speaker at a conference we are holding in April.



*Staffs of the EKSC and the Hummel Planetarium*

March opened up with an interesting event, A Buddhist Monk, Tsering Phuntsok, doing a talk about Compassion, in our Planetarium. Residing

in the foothills of the Himalayan Mountains in Dharamsala, India, Phuntsok’s home is less than a minute walk from the temple and residence of the H.H. Dalai Lama.



*EKSC Director Steve Russo with Buddhist Monk, Tsering Phuntsok*

The event was held by the college, but at the last minute there were no rooms available for the event so it was held in the planetarium. Before his talk, we showed him the night sky and some full dome trailers. He started his talk by saying that this was the first time he ever gave a talk in a building that was devoted to teaching about science, especially Astronomy.

As of my writing this at the end of March, plans are under way for a Girls STEM Collaborative conference in April, Astronomy Day in May, and Summer Camps in June, of which we already have kids registered.

It’s going to be a busy next few months here in the mountains.

## LOUISIANA

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

Jay Lamm reports: There have been many changes at the Art & Science Museum since the last update. The entire organization has had a face-lift in the form of a new website and branding scheme, focusing on the link between art and science. A new pricing structure has also been successfully implemented.

During March 15 through August 3, our Universe Gallery will be host to Josh Simpson's *A Universe in Glass*. Inspired by the beauty of the night sky and other astronomical phenomena, this exhibition captures the vastness and complexity of the universe in sculptures of glass. Luminous spheres, called *Megaplanets*, enclose intricate, imaginary landscapes, underwater scenes, and vistas of outer space while his *Tecktite Portals* offer otherworldly views.

New and original content is being produced in the planetarium as well. Not only are we updating our original *Sky Tonight* shows, but the planetarium is also putting out a series of featurettes that coincide with what is current in the art galleries. Our recent *Solarium* and *Sun Light/Star Light* exhibitions were coupled with a series of four featurettes devoted to the *Sun: Secrets of the Sun: Beginning To End*, *Secrets of the Sun: The Life of Light*, *Secrets of the Sun: Strange and Beautiful*, and *Secrets of the Sun: Size of the Matter*. And with the arrival of the art galleries *The Artist Revealed: Artist Portraits & Self-Portraits*, the planetarium has also produced a new featurette called *Portraits in Space*, a show detailing how the Hubble Space Telescope captures the breathtaking images we've all come to know and love. The planetarium also debuted a new special show named of *The Astronomical World of Harry Potter*. This presenter-led program first debuted during the inaugural **Halloween Night at**

**the Museum** and was so popular that it was brought back as the cornerstone to our ever-evolving, **Far-Out First Fridays**. This monthly event brings back our planetarium evening programming in the form of laser shows, music shows, and—as mentioned—the *Astronomical World of Harry Potter*, where audiences get their own Platform 100 ¾ tickets, Butterbeer served at our Leaky Cauldron bar, and earn their O.W.L. certificates.

We're also pleased to announce that April's **Far-Out First Friday** will be sponsored by Cirque Du Soleil and will mark the debut of our new show, *Synesthesia*. This presenter-controlled music show combines real-time music visualizations with full-dome content and traditional DigitalSky capabilities. *Synesthesia* will be a new show every month with new music in 5.1 surround sound. April's event will be *Synesthesia: The Music of Cirque Du Soleil's Ovo*.

Since the recent changes the planetarium has seen an increase in planetarium attendance by 47 percent. This is expected to increase even more with the addition of our recently acquired 65-million-year-old *Triceratops* skull. On loan from Raising Cane's and the Graves family, the *Triceratops* skull, dubbed "Jason" in honor of its discoverer, was offered to the Art & Science Museum for a two-year loan. To coincide with this exhibit, the planetarium will be debuting *Dinosaurs Alive!* as part of our summer programming.

In addition, the planetarium will be rolling out a series of updates in our dome as part of the *Astronomical Calendar of 2016* production series. This series will allow our dome to have constant updates for all significant astronomical events happening in the year. Plus, these dome updates will be connected to the planetarium blog in a 1920x1080 format.

### Lafayette Planetarium Lafayette Science Museum Lafayette, LA

Dave Hostetter reports: The Lafayette Science Museum Planetarium had a good spring with slightly better than average attendance. Our area had no serious problems with the terrible rains and

floods that hit several other parts of the state.

We're nearly finished refurbishing a seven foot model of the Space Shuttle that we acquired from Bays Mountain Park last fall (Thanks Adam!) and will soon hang it in our lobby beside a model of the Wright Flyer.

The equipment for our new solar observatory is in testing and we expect to live stream the transit of Mercury in May in conjunction with NASA TV (weather permitting, of course!).

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

Jason Talley reports: The planetarium closed for renovations following an evening showing on March 9, the last show for about a year.

For the past few years, I have sat in planning meeting after planning meeting for a building-wide renovation of the West Regional branch of our public library system and its fateful addition, the planetarium. I half expected to retire before any plans came to fruition. However, the process started moving quickly towards the end of 2015.

I began the process of clearing out the planetarium's old storeroom in the fall of 2015, only to wish I had started sooner. On top of my regular duties, I cleared out multiple filing cabinets packed with slides and old show materials dating back to the planetarium's opening in 1977. My Planetarium Assistant, Sabra Wilson and I digitized and then organized additional filing cabinets full of reports dating to before our original opening. We let go of a lot of slides, old equipment (non-functional) and even old SEPA materials. It was not an easy process.

Working from a temporary office for the next eight to ten months, I hope to overhaul the planetarium's workflow and file organization. Then, I will focus on creating short, full-dome video segments to improve interaction with future audiences. Sabra will work to reanimate an old favorite, *Don't Duck Look Up!* with my help.

During the renovations, the planetarium will receive a facelift and new, light-lock entrance. Our MediaGlobe II projector and current seating for 42 will remain.

## NORTH CAROLINA

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### Morehead Planetarium Morehead Planetarium and Science Center Chapel Hill, NC

Amy Sayle, Mickey Jo Sorrell and Richard McCollman report:

#### "Take Flight" Family Science Day

In conjunction with the opening of our newest full-dome production, *Take Flight*, Morehead Planetarium and Science Center hosted a family science



A Family Science Day visitor examines a red-winged blackbird.



day on March 6, 2016. A diverse crowd of more than 500 visitors came for an afternoon of hands-on activities, demonstrations, and presentations related to the four forces of flight; space travel; insect and bird flight; and nano materials.

### North Carolina Statewide Star Party

As we write this, planning is underway for the 4th annual North Carolina Statewide Star Party, on April 8 and 9, 2016. The Statewide Star Party - [www.ncsciencefestival.org/starparty/](http://www.ncsciencefestival.org/starparty/) - is a signature event of the NC Science Festival, which is coordinated by Morehead.

This year's Star Party features 52 public skywatching events from the mountains to the coast. Thanks to funding from NC Space Grant, Morehead has provided Star Party kits with hands-on astronomy activities on the theme of "find your way in the sky" for all the hosts, which include several SEPA members. As far as we know, this is the biggest star party in the universe!



*Kelvin, the "spokesbot" of the NC Science Festival, peers through a telescope at an NC Statewide Star Party event.*

With the help of NC Space Grant, planning is underway for a 2017 statewide eclipse party.

### The OmniSphere Greensboro Science Center Greensboro, NC

Roger Joyner reports: The main thing I have to

report is that I am retiring. April 15th will be my last day as the Planetarium Curator at the Greensboro Science Center's OmniSphere. I have enjoyed my 41 years of sharing the universe but it is time to move on and let someone else take over.

As for the Science Center and Planetarium, we, like most of you, I'm sure, are entering our busy season. It's not uncommon to run 750-1,000 kids through the museum in a morning and sometimes 300+ through the planetarium. Busy, Busy, Busy. Work has started on the expansion to the SciQuarium and the plans are being formulated for the renovation of our paleontology/dinosaur hall. We are also planning new shows for the OmniSphere/Planetarium but that will be up to the "new guy."

It has been my pleasure to be associated with all of you although I have probably not met you. I wish you the very best. Live long and prosper.

### Robeson Planetarium and Science Center Lumberton, NC

Ken Brandt reports: As we complete the successful run of another school year, I want to give a great big shout out to our incredible bus driver, Cleveland Oxendine; and our wonderful secretary, Joy Ivey. Cleveland has completed the year with a spotless driving record, and has taken on the duty of giving the old school house presentations. Joy has continually found new ways to get the attention of upcoming visitors so they don't forget to do the mechanics of permission slips, among other things.

We are entering our summer program schedule, and have selected shows from Bays Mountain's *Exploring New Horizons*, as well as CalAcademy's *Fragile Planet* and *Incoming!* Also included are Mirage 3d's *Dawn of the Space Age*, and *Natural Selection*. We'll also be celebrating Juno's July 4th orbit insertion around Jupiter with a program I'm building from JPL videos and other clips called *I'm Watching You* - an allusion to Juno's role in Greek myth of keeping her husband Jupiter under heel. Well, we all know how well THAT works out. :)

We have a brand new set of solar panels that generate a cool 1 KW of power. That's about right to

run an A3P star projector, and with the help of Ash Enterprises, we aim to do exactly that. Stay tuned as we try to light up the stars using star power!

Finally, we participated in the 6th annual NC Science Festival, and as always, Mickey Jo Sorrell and Amy Sayle do a great job of getting us all ready for the statewide star party. The materials they put together, along with the time they take to make sure we're properly trained are deeply appreciated.

### PARI (Pisgah Astronomical Research Institute) Rosman, NC

Christi Whitworth reports: 3D Planets has visited Hands On! A Child's Gallery in Hendersonville, NC, Horizons Unlimited in Salisbury, NC, and the Museum of Life and Science in Durham, NC since January. The program will travel to Port Discover in Elizabeth City, NC, in May. This means thirty new models of the Moon and Mars will be completed this spring after PARI staff works with sixty students. These models are being used by the museums in their educational programs and shared in presentations by the students. This program is sponsored by the Burroughs Wellcome Fund and Red Hat. Top right are two photos of the group in Durham from March.

Bob Hayward and Christi Whitworth were invited to present on the electromagnetic spectrum to students competing at the Western Regional Science Fair at Western Carolina University in Cullowhee in February. PARI also had a booth sharing information about Smiley and SCOPE for the students, judges and other visitors to the Science Fair. PARI supports an award in astronomy at this event each year. This year's winner in the elementary division was Dasgididi Denili Brody Hill from New Kituah Academy for his project on counting stars. The winners in the Junior Division were Whitley Sumpter, Amanda Gibson, and Madison Logan from Hayesville Middle School for their rocketry project.

Lower right are photos of Christi and Bob during the presentation and of Brody Hill receiving his award.



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

Neil Pifer reports: The new first surface mirror I received from Acril mirrors in Australia is working great and we are now full dome! We have had great public openings this spring and everyone loves the new full dome content in addition to our Skylase system and Spitz A3P star ball. Our supporting foundation is even going to join us in April to see what the new content looks like. Very exciting!

After hosting *3D planets* at Horizons in February, my director, our staff, and I are furiously working on setting up an engineering space next to our planetarium that allows students to design all kinds of bots, Lego spaceships, and even design original 3D printer models. This space is being called a “makerspace” and is a welcome kid-friendly addition to our facility. We are super proud of what it will become very soon.

I look forward to seeing everyone very soon at SEPA! Have a great Easter and spring!

**SOUTH CAROLINA**

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**DuPont Planetarium**  
**Ruth Patrick Science Ed. Ctr., USC Aiken**  
**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) continues to run its Digistar II system. In March, our “Legend Tube” provided its last show. We did not know that it was the tube at first and spend over a week with Evans & Sutherland trying different components to identify the odd problem that we were having. In the end, we tried 6 old tubes before we found one that worked. The Legend Tube was so

named because it was installed in September 2000 and ran shows for us on an average of 5 days per week for over 15 years! It was a sad day when we learned that this tube had finally stopped working.

In March we showed, *Engineering the International Space Station*, which is a local production. We also showed, *Blown Away: The Wild World of Weather*, from the New Detroit Science Center. In April, our public shows were *In My Backyard* from the Calgary Science Centre and *More than Meets the Eye* from Lochness Productions.

On May 14, we will be hosting what we call, “Earth & Sky Night.” Since National Astronomy Day is usually close to Earth Day, we combine the two into one celebration, although the astronomy side is certainly the highlight of the event. A variety of hands-on activities will be available from 6:30 - 9:30 p.m. to help people understand the wonders of planet earth and space beyond. Many activities will provide materials that visitors may take home with them. Live animals such as snakes, turtles, alligators, and owls will be on display. Telescopes operated by members of the Astronomy Club of Augusta will also available on the lawn outside of the RPSEC, and the RPSEC Observatory will be open.

In May we will feature *To the Moon and Beyond*, a local production, and *Larry Cat in Space* from Lochness Productions. Our school groups will finish in mid May, and we will begin to focus on our summer programs, which we offer for groups on Tuesdays, Wednesdays and Thursdays.

In June, our public shows will be *Mission to Mars* and *Digistar Virtual Journey*, which are both local productions.

**BlueCross BlueShield of SC Planetarium**  
**South Carolina State Museum**  
**Columbia, SC**

Liz Klimek Reports: Here in Columbia, the year got off to a great start. As part of the museum’s Valentine’s Day-themed event, That’s Amore, Y’all!, the planetarium featured a special program entitled “Cosmic Love Stories.” Local theater students from the University of South Carolina told the dramatic

tales of cosmic couples Perseus and Andromeda, Orion and Artemis, and Venus and Mars under the dome’s starry sky. The 15-minute program ran four times throughout the evening and was very well-received. The event as a whole included special romantic themed tours through the museum’s exhibits, telescope-viewing in the observatory, food, and local craft beer.

At the end of February/beginning of March, the planetarium closed for a full week to address some maintenance issues. The primary purpose of the shut down was to replace dome panels that were stained and damaged just before Grand Opening by a sprinkler system leak at the top of the dome. Finding a good time for Spitz to come out and do the repair work had been a challenge given how busy both Spitz and our planetarium have been over the past year and a half. It was fascinating watching the panel replacement, as I had moved to Columbia just after the dome had gone up in the summer of 2014. The dome is now beautiful, and if only it didn’t have the two sprinkler heads poking through the top, it would be perfect!

Our SkyLase also got some TLC, which included upgrading the green diode to a more powerful one. The end result was amazing, as the colors are more balanced and incredibly vibrant.

Things ramped up with the approach of Spring and the increased number of school group visits. In mid-March we kicked off Spring Break with the debut of a new show, ESO’s *From Earth to the Universe*, a visually stunning tour of magnificent celestial objects in our solar system, Milky Way, and beyond. During the ensuing three weeks we increased the number of public shows during the day in anticipation of elevated attendance due to the holiday season. Additionally, the Education Department introduced Spring Break camp during the last week of March. Throughout the week, each day was devoted to a different subject, one of them being astronomy. Astronomy campers got to make (and smash!) comets, have a special live interactive planetarium program, and visit the museum’s observatory for more activities and solar observing. Everyone had a ton of fun!

I’m not sure I’ll be able to make it to SEPA this year,



*Getting to the panels at the top of a tilted 55-foot dome is no small feat!*

but I will definitely be at IPS and hope to catch up with many of you there!

**TENNESSEE**

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**Bays Mountain Planetarium**  
**Kingsport, TN**

Adam Thanz reports: Greetings Fellow Planetar-



ians!

Our main program is “The Transit of Mercury - Featuring ‘Solar Quest.’” It was fully produced and directed by Jason Dorfman. It is a live presentation about the upcoming Mercury transit on May 9, 2016. It uses our Carl Zeiss ZKP-4 optical star projector to animate the transit. Still images and full-dome content are included to educate about Mercury and the transit. This show is really a hybrid show in that it also incorporates pre-made content from another source. In this case, the Buhl Planetarium in Pittsburgh, PA. To highlight the Sun, we’re showing their short, “Solar Quest.” Jason also created a fun activity in which three volunteers work together to line up small, scale models of the Sun, Earth and Mercury. The scale works with the diameter of our 40’ dome. The Sun is about 4” wide. Earth is a pinhead about an eighth of an inch wide. Mercury is an actual poppy seed! It’s not that easy to line up tiny Earth with tinier Mercury. Our audiences have really enjoyed the presentations. Kudos goes to Jason for a very good job.

Our alternate show is currently “Cosmic Colors” from GLPA. A nice, family-friendly show about the electromagnetic spectrum. We add a live star-ID program at the end and highlight stars with colors.

Arriving just around the corner is the upcoming SEPA/WAC 2016 conference hosted by Rick Evans and staff in Montgomery, AL. This is the first SEPA conference in Alabama! If you haven’t registered for this event, you should. I know Rick is going to do a great job with it. There’s a host of cool workshops, trips, and activities planned. I can’t wait!

A new full-dome project is in full swing at Bays Mountain. I’ve alluded to it a few journals ago but could not reveal any details until now. We are producing a very special program about eclipses. It is entitled, “Totality.” You’ve heard me speak about our approach to script writing and production many times over many, many years. We do our best to not provide any misconceptions either in writing nor visually. Scientific errors should never occur. But it can be easy to not realize you may be supporting an incorrect understanding by illustrating or stating something that is not quite correct nor clear. Add our incessant attention to detail, quality, and fun,

and you’ll get a sense of our show production.

“Totality” is about all types of eclipses, but we like to open up our production to include history, humor, and more. Our opening sequence will be stunning. I have never seen anything like it in any other production. I think you, and your audiences, will really enjoy the show. The show is still in production, but will be complete by the end of the year. We’ll be highlighting this show at the upcoming SEPA/WAC conference. We’ll see you there!

### Sharpe Planetarium Memphis, TN

Dave Maness reports: As I write this, we are completing our second full month of operation. We like our new theater and the response to the capabilities of the new Konica Minolta Super Media Globe 2 has been almost universally positive.



*Planetarium Interior*

The only complaints so far, refer to the tilt of the seats in the back rows. So we had the seating company make a return visit and adjusted the seats to correct the issue by tilting the back two rows a bit more. There was one incident that I should mention since it may help other people plan for it, in case it happens in their theaters. One older gentleman apparently had a bad reaction (possibly due to the vestibular disconnect he experienced) while watching some of the more dynamic parts of the showing of *Astronaut*. He became nauseated and so

the show was stopped to care for him. Fortunately he was all right and there was only minor cleanup needed. After this, I stressed to my staff the need for a warning to the audience before shows about the immersive nature of full dome video, stating that “if anyone feels nausea coming on due to the action on the screen, you should close your eyes and the feeling should pass.” I now wonder if I can ever put *Space Park 360* onto the schedule and if I need to issue “barf bags”.

We are doing well with our premier show *Firefall*. As I mentioned last time, it was produced by SEPA’s own George Fleenor with artwork by former Sharpe Planetarium artist Joe Tucciarrone, based on a script by architect’s consultant Phil Groce. It has an original score and sound design by frequent SEPA conference attendee Troy McClellan. It seems to be popular and has a lasting appeal, so it will have an extended run. While *One World, One Sky* is a popular choice for teachers of kindergarten through second grade, I hope it builds a following in its regular 9:45 a.m. Saturday public time slot. Since *Seasonal Stargazing* has four versions it will remain on the schedule through our first year. It is a relatively short show, which gives us a longer period of time to do a live sky tour and demonstration of the system capabilities. *Astronaut* fills out the show schedule with a showing at 4:00 p.m. daily.

One of our popular museum events takes place on April 30 this year. This is the annual Members’ Day at Coon Creek. The Coon Creek formation is well known among paleontologists as one of the richest fossil bearing areas of North America. Seventy million years ago it was a sandbar jutting into the great inland sea that covered much of what is now the southern and central United States. Our Coon Creek Science Center lies right on top of it and Coon Creek itself flows through the site.

Unique conditions found here include a type of silt that sealed most remains before they could be eaten or dissolved. This preserved not only the impressions of prehistoric marine life but in most cases the actual shells and bones of the many varieties of crustaceans, mollusks, fish and reptiles. On this day only we open the site for our members to pick clumps to excavate from a selected hole to find their own 70 million year old fossils. Of course we retain



*Edwin Faughn Director of Rainwater Observatory French Camp, MS catching a daytime view of the moon at Members’ Day at Coon Creek 2015.*

the right to keep for scientific study anything new or unusual. In the process, we teach them about pre-history and how to preserve and display their fossil treasures. I look forward to this fun event each year. If skies are clear, I set up telescopes for solar astronomy interpretation and usually end up bringing home some of my own baked potato-sized clumps to excavate later. My desk already holds several of my finds, one of which comes from another site nearby. It’s a Brachiopod that it has made about two revolutions of the galaxy, as a fossil!



*Fossils on desk.*

The museum’s Education Department hopes to put a new spin on the popular **Science of Beer** winter program with the **Science of Wine** early this

summer. This program will include lectures and activities as well as the expected sampling of various wines. Coincidentally the event nearly corresponds with the change in Tennessee law permitting the sale of wine in grocery stores for the first time in decades.

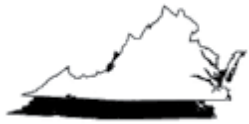
If skies are clear enough on the second Monday in May, I hope to have solar telescopes on the lawn to show the planet Mercury as it transits the Sun's disc until early afternoon.

Opening on June 4, we hope **Black Holes** narrated by John de Lancie of Star Trek the Next Generation fame, will suck the tourists into the planetarium this summer. This show joins ...**Big Bird's Adventure**, **Seasonal Stargazing: Summer**, and **Firefall** which drops down to the 4:00 p.m. daily time slot.

I also hope that the cogs of City government will soon let me hire a replacement for my long time staff member Bill Wood who passed away in December.

## VIRGINIA

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### Chesapeake Planetarium Chesapeake Public Schools Chesapeake, VA

Robert Hitt reports: The Chesapeake Planetarium is now a SciDome XD digital dome installation by Sptiz. It replaces our original Sptiz A3P which served faithfully for more than 53 years. We have lowered the A3P on its elevator and will keep it as a back-up in case of emergency. We are also keeping the Sky Skan automation to supplement the star field. In addition to the computers driving the projectors in the planetarium, we have the duplicate set of computers in the office as a production suite for the development of shows. Our cove lighting was also updated with a ChromaCove system to rid us of those Lumiline lamps. It seems the cosmos is

going digital!

### Abbitt Planetarium Virginia Living Museum Newport News, VA

Kelly Herbst reports: Spring returns at last...along with about 800 pounds of pollen. But it's nice to have the warm temperatures back again. After the winter doldrums, guests have been returning to the museum.

We've increased our daily show schedule, but continue with **Stars to Starfish**, **Legends of the Night Sky: Perseus and Andromeda**, and **Virginia Skies** as our main shows. We've added a laser show to the afternoon line-up on weekends as well. Next week will begin two weeks of local Spring Breaks, and we'll be running 5 shows a day, 7 days a week for the duration. It's a busy time!

May 7th will mark the opening of another dinosaur exhibit for the summer months, and of course the planetarium will be opening dinosaur-themed shows as well. **Dinosaur Prophecy** will return to our theater, and for the younger crowd, we're opening a new show! **The Zula Patrol: Down to Earth** will debut in our theater on May 7. It's my favorite of the two Zula shows available, and I'm glad to finally have been able to get it for the theater. With a cameo by T. Rex, I'm sure the kids will love it, and there are quite a few good chuckles in there for the adults as well. We'll get a lot of mileage out of the show, as the museum prepares to open a new dinosaur-themed fitness trail with non-moving dinosaur statues and a mock paleontology camp for kids to play in. Dinosaurs have always been incredibly popular here at the Virginia Living Museum, and it's going to be awesome to have them with us year-round. The new exhibit is slated to open in October.

Happy Spring!

Any Virginia planetarian with news to share with SEPA should contact Kelly Herbst at [kelly.herbst@thevlm.org](mailto:kelly.herbst@thevlm.org) or 757-595-1900 ext. 256



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