Southern Skies

Volume 37, Number 4 Journal of the Southeastern Planetarium Association Autumn 2017

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

Derek Demeter
Emil Buehler Perpetual Trust Planetarium
Sanford, Fl

President's Message

Greetings fellow planetarians!

I'll keep this message simple and say that wow what a great conference! Some say it could not have been done but after three years of planning alongside some great leaders throughout the nation we put together the Pleiades National Conference. I know that some of you weren't able to join us this time due to the timing of the meeting but the good news is that the conference was entirely filmed and will be provided for you all to watch at a future time. Also proceedings of each paper will be available to download so be sure to watch out for an email from me about that. An event such as this cannot have happened without the hard work and dedication of passionate planetarians such as you. It really took a village and I am thankful to be able to meet so many new people and see my old friends that make this field such a rich one to be a part of. The leaders of each region will be discussing in the following year how we want to move forward and will use the data we have collected from the survey will help reach our decision. We promise once we are able to process through the data we will release the results. In other news will also be starting up our new content sharing site in the near future which will allow you to upload images, scripts, movies, and more and share with your fellow SEPA members. We will send out an email to the membership once the site goes live. Lastly we are looking for members to serve on committees. If you're interested in serving on a committee such as membership, conference, or mentoring please email me or any of the other council members. We have lots to do until June of next year but until then may all of you have the clearest and darkest of skies!

IPS REPORT

John Hare
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Sep 30, 2017
John Hare, IPS Council Rep
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By the time you read this, the site for IPS 2020 will have been chosen. The IPS Council met immediately prior the the Pleiades conference. Among the three locations that were competing for the conference were Bogota, Columbia, Edmonton, Alberta, Canada, and Houston, Texas. The chosen site will be posted on the IPS Website.

Toulouse, France will host IPS 2018. The conference theme is "Toulouse Live, In and outside the dome." Conference dates are July 1st to July 5th. A full-dome film festival will take place before the conference on June 27th to the 29th. Winning films will be shown on July 4th.

Registration opened beginning September 2017. Toulouse is located in the south of France about midway between the Atlantic ocean and the Mediterrean sea. It is easily reached by rail, car, and air.

The 2018 Conference Website is ips2018toulouse.org. It contains a wealth of information including pre and post-conference trips, information on Toulouse and the Toulouse-region, and other important information. You really need to begin your planning now if you intend to participate in this conference!
You must be a member of IPS to attend an IPS conference. Membership also gains you access to the online version of The Planetarian, the quarterly journal of the Society. Hard copies of the journal are also mailed to IPS members.

The Website contains many other items of interest, some accessible to members only, but many more available to the planetarium community as a whole. www.ips-planetarium.org.

Vision 2020 is an ongoing initiative of IPS. It's basic purpose is to implement changes to IPS that will allow the organization to grow and better serve the international planetarium community I will report on Vision 2020 in the next issue of Southern Skies.

You can obtain IPS membership forms from IPS Treasurer Ann Bragg at ann.bragg@marietta.edu, myself at johnhare@earthlink.net, or at the IPS Website, www.ips-planetarium.org.

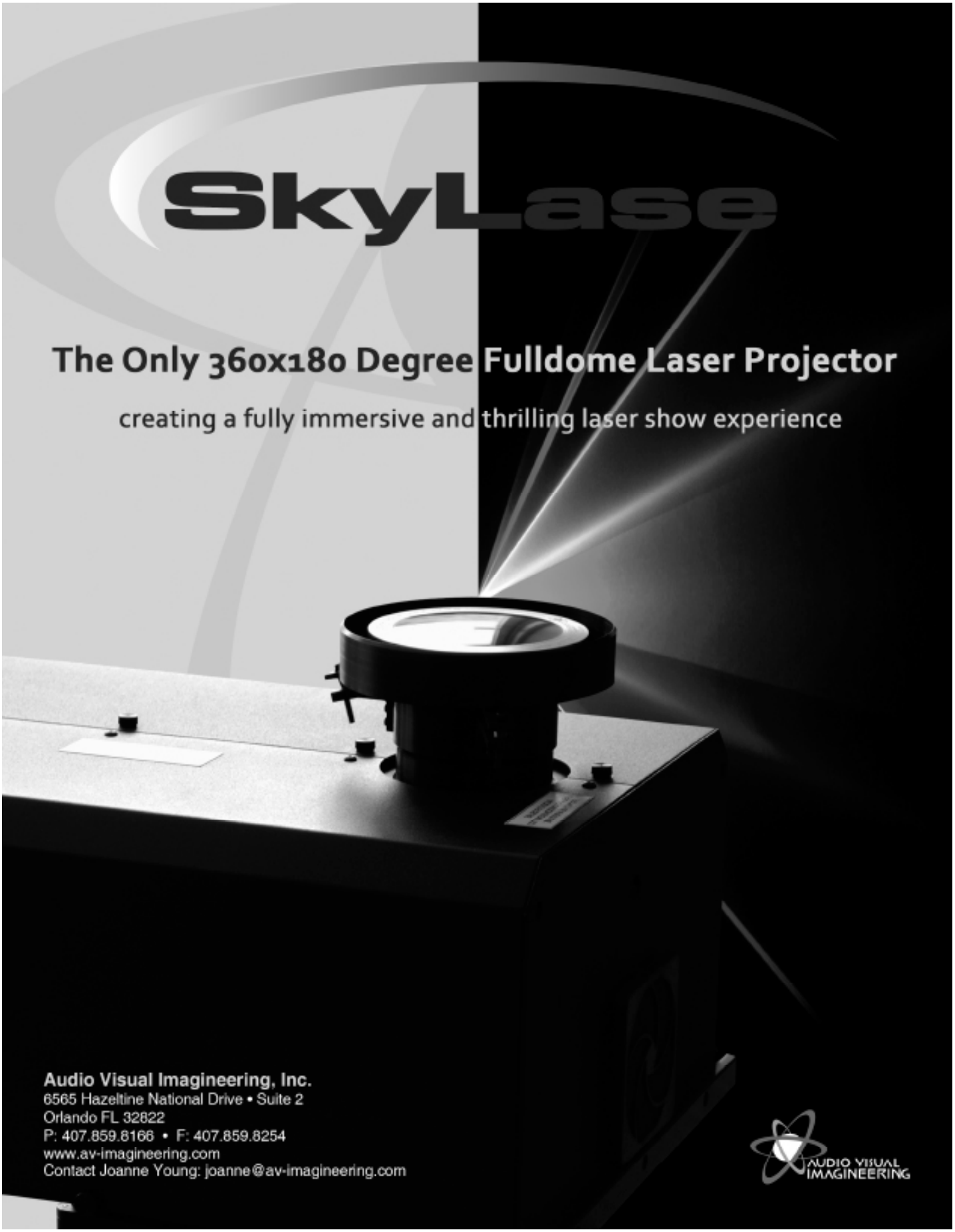
Paul Campbell Fellowship Award Nomination Form

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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Mel Blake
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EDITORS SOAP BOX

Well, the eclipse has come and gone and the image of the totality is burned in my head forever. I can still close my eyes and see it like it just happened. For most of us, it was a special time where science and astronomy captured the attention of the entire country in a way no other event could. Astronomy was center stage. This issue reports on the efforts of many of our planetariums to reach out to the public and help them experience the event. Many of us got to see totality, but some of us got clouds. I know some of my freinds who got clouded out, and while I am overjoyed at seeing it, I hope they get to see the next one in a few years. Statistically, clouds were bound to be somewhere on the eclipse path, but that does not help if you were the unlucky ones who got them. It hurt my feelings that some of my friends missed out.

For me personally, this was a long wait that ended. I have been lucky to have gotten to see many of the famous events that I read about as a kid in astronomy books and magazines at our library way back in Pasadena, Newfoundland. I have seen meteor showers, bolides, lunar eclipses, partial solar eclipses, aurora borealis, the green flash, the southern skies with the Small and Large Magellanic clouds, comets Hyakutake and Hale Bopp, and transits of both Venus and Mercury. I have gotten to experience winter and summer in the same day traveling to Chile for observing. A total solar eclipse was missing from my list, and I finally got to see one. I had seen in thousands of eclipse photos over the years, and yet I was not really prepared for it. It was the most beautiful thing I have ever seen, and I will never forget it.

Reading over the reports from the individual planetariums, it is awesome how every planetarium approached educating people about the event. I particularly like the efforts by my friends at PARI. They got clouded out for the optical event, but obtained the first ever radio observations of a total solar eclipse. So they made history with their program for the eclipse. Well done!

In this issue we have the reports from our president and the IPS report, reports from the planetariums and a new feature, from a new group within SEPA, for planetariums that also have observatories. This issue reports on the facilties a Lafayette Science Center Observatory and Bays Mountain. We also have a feature article from student Christina Moraitis who works with David Weigel at Samford, reporting on their Space Science Mentorship Program. Training the next generation of planetarians is vital for the health of our profession.

Submitt your Articles!

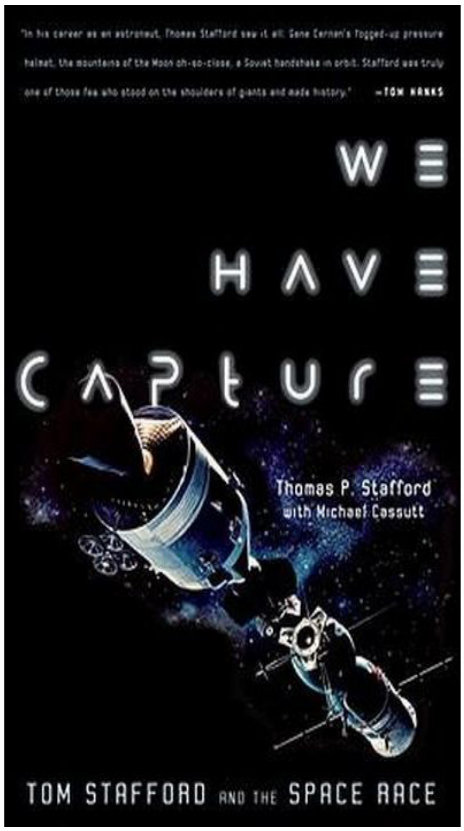
Do you have a great activity to engage your audiences? Have you devised a cool gadget or do-it-yourself upgrade that you would like to share? SEPA would love to hear about it and share your knowledge.

We can receive electronic files in most any format. Graphics can be received electronically or in hard-copy, 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).

BOOKENDS

Robin Byrne
Northeast State Community College
Blountville, TN



Summer reading means time for another book review. This time around, the book is "We Have Capture: Tom Stafford and the Space Race" written by Tom Stafford and Michael Cassut. Another astronaut biography, to be sure, but about an astronaut who did much, while remaining fairly unknown.

The story begins with Stafford's upbringing in Oklahoma and attending college at the Naval Academy in Annapolis. Not only did Stafford excel as a student, but also as a pilot. Stafford moved on to the Air Force after graduating in 1953. Stafford tells of the various places he was posted during the Cold War era, and sundry close calls while flying. His skills eventually led to studying at Edwards Air Force Base Test Pilot School, which led to becoming an instructor. Throughout all these years, Stafford had encountered and worked with people whose names would soon become well known: Slayton, Cooper, Borman, Conrad, Lovell, Collins, Young, and more.

Then the space program begins. While the Mercury program gets underway, NASA is already recruiting for the next batch of astronauts. Despite being headed to Harvard Business school, Tom Stafford submits his application in 1962. Even after going through all the tests and interviews, Stafford still moves his family to Massachusetts, expecting to attend college. Three days as a Harvard student, he got a phone call from Deke Slayton - Tom Stafford was an astronaut! Bye bye Harvard. Hello NASA.

Three years of training, working on the development of the Gemini spacecraft, serving on back-up crews, finally 1965 was the year for Tom Stafford to enter space. Along with Wally Schirra on Gemini 6, they were originally scheduled to rendezvous and dock with an unmanned Aegena rocket, but a launch delay and an exploded Aegena rocket interfered with that plan. Instead, NASA made the bold move of launching Gemini 7 with Frank Borman and Jim Lovell first, and have Gemini 6 rendezvous with them about a week later. Their first launch attempt was unsuccessful, with the engines shutting down just at the moment they should have been lifting off. Thankfully, no one was hurt, the problem was fixed, and they successfully launched a couple days later. The rendezvous was flawless, getting as close as a couple feet apart. The mission was a success.

Stafford's next flight was the following year aboard Gemini 9 with Gene Cernan. This mission's goal was an Extravehicular Activity (EVA) by Cernan, during which he would perform some simple tasks in weightlessness. This would be the first EVA that involved actually trying to do something productive. No one realized how difficult that would be. Cernan had so much trouble, he became exhausted and dehydrated, and could barely function. There was some question about whether he would be able to get back into the spacecraft. If he couldn't, Stafford would have had to cut him loose so that he could close the capsule's

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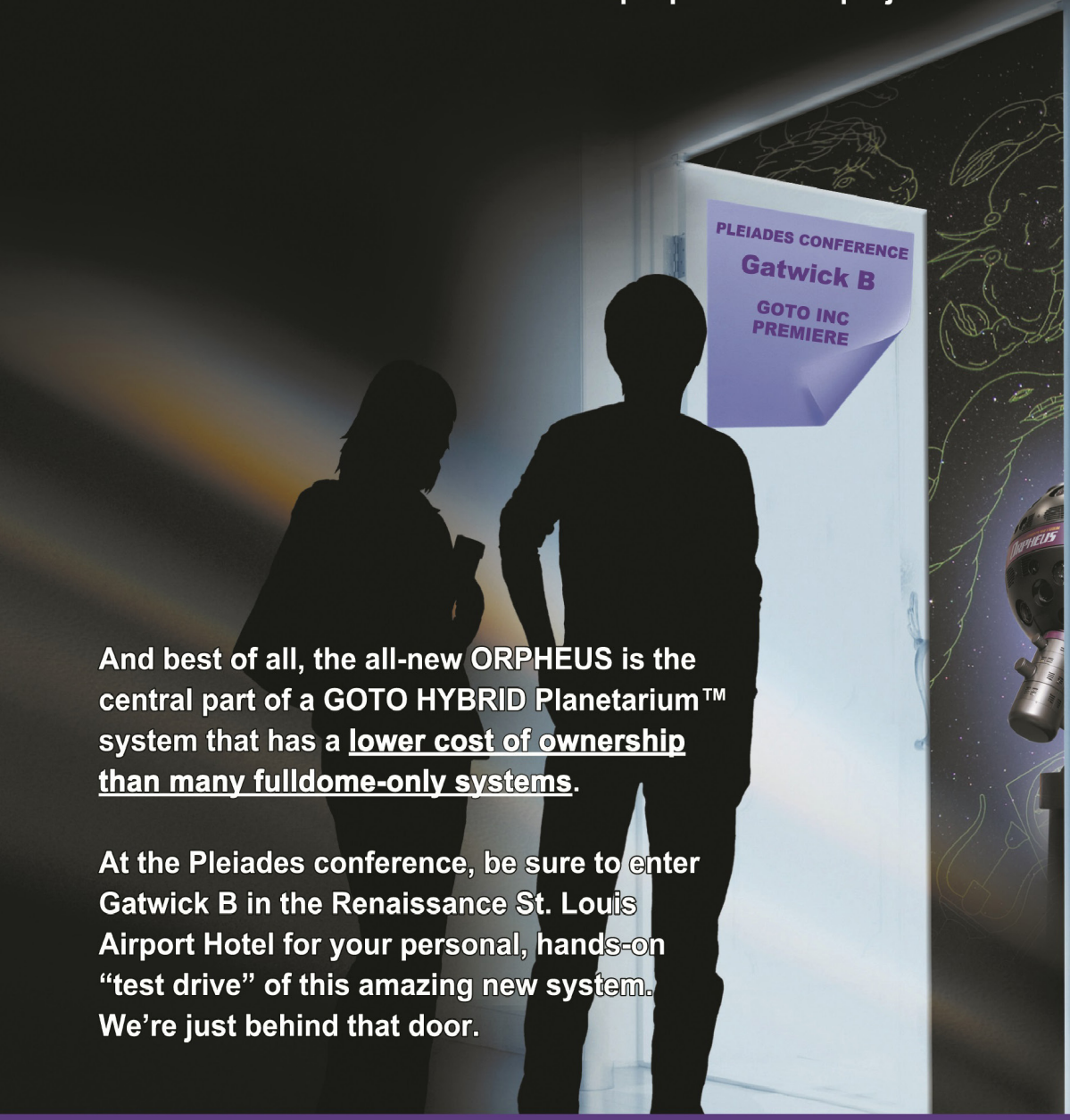

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hatch for reentry. Thankfully, Cernan managed to get back in the capsule on his own, but the mission definitely was a wake-up call.

Stafford's third flight wasn't until 1968 on Apollo 10 with Gene Cernan and John Young. This would be the trial run before the first moon landing. After entering lunar orbit, Stafford and Cernan flew the Lunar Module (LEM) down to less than 10 miles from the lunar surface. They were able to photograph the landing site for the upcoming Apollo 11 mission and test many of the features of the LEM in the lunar environment.

After this last flight in space, Tom Stafford was ready to try something different. Al Shepard had been chief of the Astronaut Office since being grounded with Meniere's syndrome. However, Stafford had told Sheppard about a surgical treatment for the syndrome. The success of the surgery put Shepard back on flight status, and there was a position to fill in the Astronaut Office. Stafford stepped in. Among his duties was to help oversee the Apollo Applications Project, which involved using existing Apollo hardware for other purposes. One of those would become Skylab. Stafford also coordinated the work done on the ground during the Apollo 13 crisis.

Stafford's next, and final, mission would be the Apollo-Soyuz Test Project (ASTP) - the first joint mission between the United States and the Soviet Union in 1973. Many years went into the eventual success of this mission. Astronauts and Cosmonauts had to learn each other's language, hardware had to be developed that would allow the two vehicles to dock, and both crews needed to train with each other and with both US and Soviet ground crews. Despite many differences in style and philosophy, the mission accomplished not only a successful flight, but opened doors for future joint ventures.

After ASTP, it was time for Stafford to move on. He was offered the position of commanding general of the Air Force Flight Test Center at Edwards Air Force Base, and Stafford leapt at the chance. His management skills were just what Edwards needed. One section under his command was "Area 51," also known as Dreamland. Although no aliens, they did have lots of Soviet military aircraft to study and analyze. The people who flew the Soviet machines were known as Red Hats, and Stafford joined their ranks to fly a MiG-17. Stafford was also at Edwards when the first space shuttle, the Enterprise, was being evaluated at the facility for its ability to coast and land (this shuttle never went to space).

Stafford's next job was with the Pentagon as deputy chief of staff for research, development, and acquisition. Here he encountered the role of politics firsthand in relation to military spending. Joining the Pentagon in 1978, Stafford was faced with an era of very low enthusiasm for military spending. Work wasn't his only obstacle at this time. His wife, Faye, had always struggled with social anxiety. While in D.C. it got progressively worse, and she needed to move back to Oklahoma for her sanity. Stafford officially retired at the age of 49 from the Air Force and the Pentagon to move back home. This turned out to be the first step toward their marriage eventually ending in 1985.

Stafford's retirement was hardly quiet. He filled his time on the boards of various companies, and then he opened a consulting business with two former Pentagon colleagues. Stafford, Burke, and Hecker was born. Meanwhile, President Reagan asked Stafford to join the National Research Council's Aeronautics and Space Engineering Board (ASEB), which was an independent committee overseeing NASA. Prior to Stafford joining the group, it had been dominated by people more interested in unmanned spaceflight than in manned spaceflight. Stafford hoped to provide more balance. Meanwhile, because of his experience with ASTP and Russian language skills, Stafford found himself more frequently called upon to act as an unofficial ambassador to the Soviet space program. Other duties included serving on the panels that investigated both the Challenger and Columbia tragedies, plus other NASA advisory panels. That included overseeing the development of the International Space Station, ultimately heading up a team, called the Synthesis Group, which evaluated the various space station proposals. Once the idea of making it truly "international" with the Soviet Union's involvement was decided, Stafford's long experience was once again called upon. While ISS was being developed, we started sending

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astronauts to the Mir Space Station. Yep, Stafford was part of the oversight group for that, too. Once the first crew, Expedition One, inhabited the space station, Stafford could actually have a retirement that looked like a retirement, including plenty of travel with his second wife.

Throughout the book, in addition to plenty of behind-the scenes stories from NASA, Stafford also included what Alexei Leonov (his ASTP counterpart) and the Soviet space program were up to along the way. Stafford's friendship with Leonov, first developed during ASTP, continues on to the present, and that is clear through the stories shared.

For someone who has been involved in the space program since 1962, flown four space missions, and who has been involved with NASA at almost every step of the way, you would think Tom Stafford's name would be better known. Clearly it deserves to be. "We Have Capture" is an enjoyable read for anyone who has an interest in the history of both the US and Soviet space programs, and who would like to learn more about this unsung titan of the space program.

Reference:

We Have Capture: Tom Stafford and the Space Race, written by Thomas P. Stafford and Michael Cassut; Smithsonian Institution Press, 2002.

News From the SEPA Region

Fall 2017

ALABAMA

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UNA Planetarium
University of North Alabama
Florence, AL

Mel Blake reports:

Like nearly everyone else, the summer was spent preparing for the solar eclipse and then in frenzied efforts to do outreach for the event. We were not on the total eclipse path, but that did not stop the public from becoming obsessed with it anyway. The strategy for us was that many people were going to leave town to watch the eclipse, so we did a series of evening programs for two weeks leading up to the event to discuss the history of eclipses, where to see the totality, and what to expect in Florence for those staying in the area. Afterwards people who stayed told me they were disappointed, and I told them they should have come to my talks and they would have known what to expect.

We partnered with the NASA Museum Alliance, Night Sky Network, and SEPA to distribute almost 3000 pairs of eclipse glasses, but no number could possibly have met the demand. We had people from Mississippi calling us asking for them! I was getting stopped on the street and in restaurants with people wanting them. I was a local celebrity

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for about a week!

In the local community we did progams with the Shoals Astronomy Club at the First Friday street festivals in July and August giving out eclipse glasses from the NASA Night Sky Network. We did two programs at the Florence Lauderdale County public library, where over 200 peope came to the talks, one of their most successfull programs ever, standing room only. We also did programs in local schools, and with the Children's Museum of the Shoals, where we made pin-hole viewers with the kids. We even did a progam at the local Social Securty office for their staff. Our efforts were reported on on local TV, print and on-line news media. It was arguably one of the most successful outreach efforts in our planetarium's history. I have to thank volunteer student Stacy Verros, and our unsung adminstrative assistant Sara Beth Humphreys who feilded hundreds of phone calls while trying to get our department ready for the start of the term. There is no way I could have survived with their help.

With the eclipse over we immediately started our fall programs, featuring weekly public nights along with our annual participation in International Observe the Moon Night. For that, we open up the observatory for people to take photos of the Moon. Unfortunately our string of lear weather for this event ended this year, but we did show the program "Field Trip to the Moon", gave out lunar charts and Moon Pies. People still seemed to have a good time.

Next up will be our attendance at the Pleiades Conference, which my department chair is letting me attend, and we are looking forward to Earth Science Week which we use to highlight the connection between solar activity and our dependance on technology. I will also be volunteering for the BEST Robotics Competition which is another annual event that I support.

Have a great fall everyone!

SEPA Membership Form

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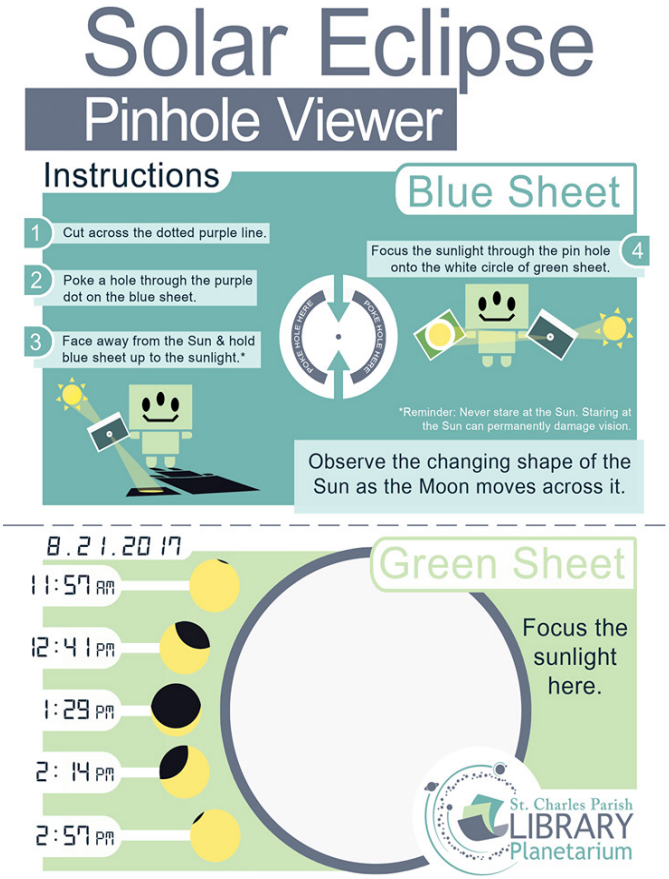
Planetarium
St. Charles Parish Library
Luling, LA

Jason Talley reports:

The planetarium is finally settling down as fall begins. Since reopening in March, attendance remained strong through the summer months. Our surge in attendance since opening is likely due to our renovations and our library's Summer Reading Program. However, our small planetarium is doing big things.

Eclipse mania struck our facility hard over the summer. The local news announced that libraries had free solar viewing glasses to give out. Sadly, our library system was not part of that mini-grant. Our Planetarium Assistant, Sabra Wilson, did create a pin-hole viewer instruction sheet for our libraries to give away. The sheet even featured our new mascot, Cosmo, a stuffed 3.0 from NCS Creative's We Are Aliens.



Ms. Wilson's pin-hole viewer sheet featuring our mascot, Cosmo

Our eclipse event was a success even though we were not in the path of totality. We set up two solar viewing telescopes with the help of a local, amateur astronomer volunteer. I hosted multiple short presentations on eclipses throughout the eclipse. The local, off-beat news show, *News with a Twist*, even covered the event live, giving the planetarium great exposure. I cannot wait for the next eclipse in 2024.

In October, the planetarium and library will host an H. P. Lovecraft themed, teen, Halloween event called "*Under the Stars of Madness*." We are planning an escape room in the library and a dramatized reading of Lovecraft's short tale *The Statement of Randolph Carter* under the dome.

While our renovations are finished, contractors continuously pop into the theater as we continue to discuss small imperfections on our dome, a mysteriously sagging cove and air conditioning troubles. These renovations have taught me a lesson about hiring contractors with experience when it comes to working on one's dome.

Finally, our old Konica Minolta MediaGlobe was put up for auction online at the end of September. We have been using and maintaining our MediaGlobe II for many years now, but it is still sad to see the little "R2" unit go.

Lafayette Science Museum Planetarium
Lafayette, LA
Dave Hostetter reports:

Lafayette had the good fortune to have great weather for our 73% partial eclipse on August 11, and a thousand people or more showed up to see it! Since most of our regular telescope volunteers had gone to the eclipse path, that was about the maximum we could have handled with the telescopes we had available. We partnered during the run-up to the eclipse and during the observing event with the Lafayette Public Library, and that worked so well that we expect to do many more activities together in the future. Planetarium Curator Dave Hostetter was an official NASA 2017 Eclipse Subject Matter Expert and our viewing site at Parc Sans Souci beside the Museum was listed as a NASA Eclipse Viewing Location. To my surprise, the telescope we put out after eclipse maximum to show Venus was very popular and had one of the longer lines. Overall, it was a very happy crowd and a good time was had by all. And no...we don't have any more eclipse glasses. Don't ask.

It turns out that Lafayette has a total eclipse coming up...on May 11, 2078! In fact that path of totality will cross most of SEPA. It may seem like that's a long time into the future, but your current middle school and elementary school students can reasonably expect to see it as Senior Citizens. If nothing else, it's an amusing talking point that audiences seem to like. The eclipse path can be seen at http://xjubier.free.fr/en/site_pages/solar_eclipses/xSE_GoogleMap3.php?Ecl=+20780511&Acc=2&Umb=1&Lmt=1&Mag=0&Lat=29.74530&Lng=-91.09863&Zoom=6&LC=1.

Every October is Louisiana Archaeology Month, and International Archaeology Day this year is October 21. For the past few years, we've used these events as reasons to run programs about archaeoastronomy. This year we are running *Stars of the Pharaohs*.

Weather permitting, International Observe the Moon Night will be observed in Lafayette on Friday, October 27 to take advantage of a ready-made crowd of hundreds at a local weekly outdoor concert.

The University of Louisiana-Lafayette Physics Department will join us to show people our moon along with Saturn and its moon, Titan (at least, until Saturn sets behind a building!).

NORTH CAROLINA

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Pisgah Astronomical Research Institute
Rosman, NC

Christi Whitworth reports:

Pisgah Astronomical Research Institute has received a NC Science Museum Competitive Grant from the NC Department of Cultural Affairs that will sponsor free planetarium programs in disadvantaged counties in western North Carolina and professional development for PARI Staff this fall. PARI is also a partner with Brevard College in an NSF IUSE grant called ROVERS. This grant will create more remotely operated research opportunities at PARI and is sure to be shared more in future posts.

In staff news, PARI engineer Ben Goldsmith has now added educator to his skill set. Expect to see Ben, Lebby and Christi leading activities all over the place this fall like the NC Science Teachers Association Professional Development Institute and other conferences and public events.

PARI will have two delegates at the Pleiades Conference in St. Louis in October. Lebby Moran and Christi Whitworth will present with PARI Volunteer Gary Lazich on the radio observations made during totality. It will be a great learning opportunity for all three attendees.


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North Carolina reports continued from page 17

Morehead Planetarium and Science Center
Chapel Hill, NC

Mickey Jo Sorrell, Amy Sayle, Richard McColman, Jake Evans and Rachel Bridges report:

Morehead Planetarium and Science Center coordinated the North Carolina part of the NC/SC Carolinas Solar Eclipse Party, with the help of PARI and the NC Science Festival and funding from NC Space Grant. More than 30 sites across North Carolina, both within and outside the path of totality, hosted eclipse viewing events on August 21 that were attended by a total of more than 90,000 visitors.

Many of the Morehead staff went to totality, but a few stayed home to host 5000 of our closest friends and family around Morehead's giant sundial (93% max) with activities, games, and a special live eclipse short show in the planetarium.

Local graphic designers brought screenprinted posters. Visitors added the Moon.

Visitors and staff enjoying the 93% eclipse at Morehead Planetarium & Science Center.

Congressman David Price distributing eclipse glasses at Morehead Planetarium & Science Center.

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Here are reports from our totality travelers, summer interns, Jake Evans and Rachel Bridges, whom you met in the last issue of Southern Skies, and Full-dome Theater Manager, Richard McColman:

From Jake: For the 2017 solar eclipse I traveled to the mountains of North Carolina to work with the North Carolina Center for the Advancement of Teachers (NCCAT). They were hosting an event for teachers to learn about astronomy, misconceptions, and of course, eclipses, and how to bring what they learned into their own classrooms. On eclipse day, the atmosphere was tense because clouds had begun to form around the sun and for several minutes during the partial eclipse it was completely obscured.

Just before totality though, we noticed a small break in the clouds in exactly the right spot! Using white poster paper, we observed the first set of shadow bands (heading in a roughly NE direction) and waited eagerly for totality. Having worked all summer at the Morehead Planetarium, I had seen simulations of this eclipse almost every day for three months but I could hardly believe it was only minutes away! We could hear totality hit the communities to our West as cheers erupted from the mountains. When our turn came I was utterly awe-struck

For just a few seconds I lost myself in the Moon's shadow. The corona was unlike any of the pictures I'd seen leading up to that moment. Our cloud cover was even a bit of a blessing in disguise as the thin clouds in front of the Sun gave the event a second, unexpected halo. The excitement of the people around me, the coolness of the air, and the darkness of the real sky drove home that I was seeing something special. Then I remembered that the eclipse was more than the corona! I snapped two quick pictures and started looking for the things I'd been telling visitors about all summer. The stars and planets! I glanced around and managed to spot Jupiter and Arcturus but Venus was obscured by clouds. The whole-horizon sunset! I spun around and saw precisely that.

With my checklist complete I went back to the corona and lost myself again. After totality, we saw the second set of shadow bands (now heading roughly NW!) and tried to process what we'd just seen. Being there drove home for me why I love working at a planetarium. I knew many of my audience members had just seen what I'd seen and shared this wonderful experience. It made me appreciate that my job isn't just to give facts and figures about dots and pictures on a dome. My job is to get people excited and curious and inspired by the sky. My job isn't just to get people to hear an eclipse is coming. My job is to get people to look.

From Rachel: I went to Columbia, South Carolina to see the 2017 total solar eclipse. Although my boyfriend and I dealt with car troubles and an Air BnB host who tried to convince us that the eclipse was the catalyst for the rapture, it was all worth it.

We ended up going to Saluda Shoals Park on the outskirts of Columbia, and were joined by around 500 others. It was a large park with plenty of space for cars and people. I really wanted to see it in a large group of people, and this was a good site because it wasn't too crowded.

It was a partly cloudy day, and every once in a while, a big cloud would obscure the sun, but eventually move away. An amateur astronomer had a solar telescope and computers set up so people could get a closer look. I was the most surprised by how the shadows changed once the partial eclipse started- it was very eerie and felt almost supernatural.

Everyone was getting really excited about five minutes before totality, and a park ranger had a loud speaker and was telling the crowd how we'd see the "diamond ring" right before totality. I was laying down on my back looking up with my eclipse glasses on, when the ranger told everyone to take our glasses off. I was surprised that the sun looked exactly like it did in every photo I had seen of totality. It felt like I was watching a "Carolina Skies: Eclipse" (Morehead) presentation, except this was real life. It didn't get pitch black like I expected, but it was about as bright as it is a little less than an hour after sunset. People were cheering and hugging each other and it was about as picture perfect as I could have possibly imagined the day going.

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From Richard: After a roughly five-hour drive, I staked out a position around 10:30 in the morning, roughly 30 miles southeast of my old stomping grounds of Columbia, SC "just outside of St. Matthews, actually" and about three miles north of the totality center line, site of an old closed down country store, at a rural crossroads. A couple of guys in a Prius were already there, and we chatted for a while as I set up my solar-filtered telescope and home-built solar viewer. We were soon joined by another twenty or so would-be eclipse watchers. To my surprise, though, nobody else had brought along anything for solar observing beyond eclipse glasses, so as we all waited for the event I went around and invited everyone to come over and check out the magnified views in my equipment at their leisure. This ended up garnering an avid audience at the scope and solar viewer, and before long I was fielding lots of astronomy questions, causing me to break into "planetarium presenter mode" before the group.

Initial concerns about morning clouds soon evaporated. In fact, there were no clouds at all near the Sun during the actual eclipse itself!

As with many solar eclipse observers, there were several impressive phenomena to relish. I would say that the most impressive for me was gaining a true sense of the power of the Sun by viewing totality "unfiltered" through the telescope. The visual contrast between the absolute inky blackness of the lunar silhouette and the intensely incandescent looping prominences and inner corona were astounding to behold especially as I contemplated that the light I was seeing paled in comparison to that being blocked by the Moon's silhouette. I was also impressed at how delicate the geometry appeared in the magnetically-formed curls and twists of the corona. No photograph of totality I've ever seen not even high dynamic range photography has been able to display the contrast, power, and delicacy of the actual phenomena as seen with the eyes.

Although I've always chuckled a little about globe-trotting total eclipse chasers, I must admit that I havea little bit more of an appreciation for what drives such folks. Totality seems to be over nearly as soon as it starts, and the depth of the spectacle has a real power of attraction that bears repeating,

SOUTH CAROLINA

contact: Gary Senn
DuPont Planetarium, Aiken, SC
SennG@sc.edu

Blue Cross Blue Shield of SC Planetarium
South Carolina State Museum
Columbia, SC
Liz Klimek

We had an incredibly busy but successful summer. In addition to the usual summer camp and Friday Night Laser Lights summer series madness, there was of course the total solar eclipse. Our specially created show, Shadows From Space, ran throughout the month of August and was well-received. We were also proud to feature a live performance by a local band, The Lovely Few, who had written a new song specifically inspired by the eclipse. They performed in the dome the weekend just before the big day, with fulldome visuals overhead. Their music kept weaving in and out of my thoughts throughout the day on the 21st, such that, for me at least, it served as a kind of soundtrack for the eclipse. We hope to be able to find more ways of connecting with local community musicians and artists in the future.

Overall, our museum's eclipse event was a success, and we were very fortunate to have clear skies during totality. Personally, I have to say that it was the shortest two and a half minutes of my life! We're in the process of documenting as much about our experiences planning and hosting eclipse-related events in the path of totality as possible, so we that can share what we learned with those who will be in the 2024 path.

As soon as the eclipse was behind us, we immediately forged ahead with our fall projects. The next big news in astronomy was Cassini's Grand Finale. Since we were unable to do a public event for various reasons (one of which was the simple fact that everyone was just plain exhausted after the eclipse), we decided to create a homeschool class that focused on Cassini and

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Saturn. In the planetarium we took students on a trip to Saturn to learn about the planet, its rings, and many of its moons. While there, we shared Cassini's incredible mission, talked about its dramatic end, and highlighted some of its amazing discoveries. Through the Museum Alliance, we were able to get stickers and educational materials to hand out to participants.

The next thing on the list was to contribute to the expansion of the museum's Wizard of Oz-inspired theme for October: the "Museum of Oz". The concept was piloted last year and centered around our 4D theater's showing of the 4D version of the movie, with support floor programming done by our education and programs staff. This year the planetarium will feature a special live program we created called Skies Over Oz. It begins with a quick look at the current night sky from right here in Columbia. We then take an imaginary trip over the rainbow to the magical land of Oz and tell Dorothy's story as a constellation myth. How might stargazing Munchkins and the other inhabitants of Oz have immortalized Dorothy and her companions in the sky? The show will run during special times throughout October and will also be part of the museum's new public Oz-themed overnight on Friday the 13th. October is going to be so much fun!

We are also currently in the process of trying to partner with a local media arts professor to see how we can get university students involved in creating full-dome content.

I hope to see many planetarians at the Pleiades Conference in October, where we will be putting in our bid to host SEPA in 2019!

DuPont Planetarium
Ruth Patrick Science Education Center
University of South Carolina 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) has been busy with two major activities. The Great American Eclipse was a huge success. Right on the heels of that we upgraded our planetarium system to a Digistar 6! With a "flip of a switch," we went from having the oldest Digistar system in operation to the newest. After removing the cabling and much of the equipment that went with our original Digistar II, Spice and JHE system; I reconnected the Digistar II components. I started the system and ran our longstanding "Digistar 'Laser' Fantasy" show. I must admit that it was rather moving to watch the show knowing that it would no longer be used to serve the public after 22 years in operation. About 3/4 of the way through the show, our Program Director, Darlene Smalley, came into the planetarium. She paused as she saw the Digistar II images on the dome and asked what I was doing. I shrugged and said, "I am just saying goodbye to an old friend."

The installation of the Digistar 6 was completed during the last week of September. When the installer, Mike Grzar arrived, my first discussion with him was related to how long it would take to have something viewable on the dome. We had our annual stakeholders meeting during the week, but it was before the installation was scheduled to be completed. I mentioned that if there was a way to show something, even if it was not perfect, I would very much enjoy allowing our stakeholders to be the first to view the new system. Mike came through and we were able to show a few trailers, the night sky and a full dome view of our city. People were very impressed and very pleased with what they saw in our theater. After the installation was completed, and I saw the finished product, I was very moved by how the system performed in our dome. The only downside to the entire installation was that we were not able to have our new seats put into the planetarium. There were some

delays in the procurement process, so we missed the opportunity to have the seats installed during the month when the planetarium was closed.

Our first shows were presented during our annual Science Education Enrichment Day where we had over 4,000 people in attendance. There were over 450 people in the planetarium that day, which is not too bad considering that we only have 45 seats plus a few extra that we can bring into our wheelchair area when that is available. We presented 10 shows that day, which included 5 showings of "Defying Gravity: It IS Rocket Science" from the Daniel M. Soref Planetarium at the Milwaukee Public Museum. The other five shows were live presentations of "Georgia-lina Skies." This show began by using the new Digistar system to show the Eclipse that occurred on 8/21. We included images taken in South Carolina during totality. This was followed by a traditional night sky presentation.

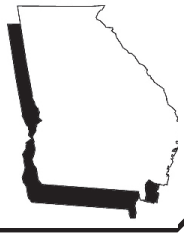
The "Georgia-lina Skies" show brings us back to the Great American Eclipse event. Planning for the eclipse was very exciting. Our planetarium was only 1 mile outside of the path of totality, so we did not conduct the eclipse event at our facility. However, we did partner with a nearby facility, Camp Gravatt, and the City of Aiken to hold a daylong celebration of the eclipse, which included other fun outdoor activities available at the camp. We had 917 people at this one eclipse event with many others enjoying the eclipse from various locations within and outside of totality. We sold over 20,000 eclipse glasses and could have easily sold another 20,000. We ran out of glasses a few times and had to reorder. Eventually, we were not able to find a supply of glasses and had to turn many disappointed people away. During the month of August, we gave our Digistar II system a workout with many extra presentations of our "Dark Shadows" show, which featured the eclipse. It also provided information about lunar eclipses and phases of the moon.

During the remainder of October we presented, "Magic Tree House – Space Mission" by the Morehead Planetarium and Science Center, and "Cosmic Colors" from the Great Lakes Planetarium Association. In November, we presented "Defying Gravity: It IS Rocket Science" again and also showed "Seven Wonders" from Evans and Sutherland.

The excitement of the eclipse and the new installation is part of why it is great to be a planetarian.

GEORGIA

contact: David Dundee
Tellus Museum
Cartersville, GA



Bentley Planetarium - Tellus Science Museum, Cartersville
David Dundee reports:

The total eclipse dominated our summer. Over 3500 visitors descended on the museum that day under clear skies. We had the Bay Mountain production of "*Totality*" in the planetarium along with demonstrations of the circumstances of the eclipse. We had live feeds from our observatory of the eclipse as well as feeds coming in from remote sights. We had several telescopes set up to view the eclipse which reached a maximum of about 98% in Cartersville. I was in Charleston with our local ABC affiliate broadcasting back the total eclipse to Tellus and the Atlanta area TV audience.

In September we opened "*We Are Stars*" and "*Accidental Astronauts*" along with "*Undiscovered Worlds*" in the planetarium.

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Jim Cherry Memorial Planetarium,
Atlanta, Ga.
April Whitt reports:

Still recovering from the eclipse? Fernbank Science Center is using the event as part of its ongoing planetarium lessons for second and fourth graders. In the exhibit hall, we've added a collection box for eclipse glasses, to send to the Astronomers Without Borders group.

Thursday, October 5 was the start of fall break, but Neptune's moon Triton was occulting a distant star, and the Ralph Buice Memorial Observatory geared up to gather data for the crew from MIT. A special presentation about the Stratospheric Observatory for Infrared Astronomy (SOFIA) and its part in the data collection was featured in place of the usual 7 PM public program.

October brought the annual "Fun With Flashlights" planetarium show for the under 6 crowd, while November's Chemistry Day, featured an added showing of the Soref Planetarium's "Cosmic Recipe" program "Setting the Periodic Table."

International Observe The Moon Night fell on a Saturday evening, so we celebrated on Friday night, with "Back To The Moon For Good" show and extended observatory hours for moon watching. The astronomers are working with the horticulture staff to design a "moon garden" of foliage and blossoms that are especially beautiful by moonlight.

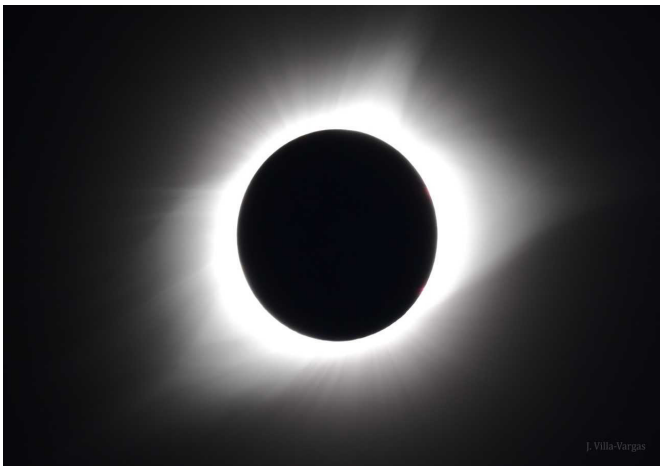
The hurricanes closed the school district for four days, and the instructional time was made up by lengthening the school day during October and November, and replacing one teacher learning day with student instruction. Keeping the schedules straight was a challenge.

Our annual "Upon A Midnight Clear" Christmas concert by Jonn Serrie is scheduled for Friday, December 1, and is billed as part of the birthday party this year. Fernbank Science Center is ramping up our 50th anniversary celebration with a special program on Saturday, Dec. 9th. Invited guests, student caterers, fancy new technology and old friends gather for the fun.

Looking forward to steadily increasing school attendance as the new Georgia Standards of Excellence continue, and wish everyone a safe and happy holiday season, and a prosperous new year.

Georgia Southern Planetarium,
Statesboro, Ga.
Dillon Marcy Reports:

As the year is coming to an end there is much to reflect on from this semester. We were kept busy at the beginning of the semester with the total solar eclipse that engulfed the media. Demand for our shows soared, and the overwhelming question "do you have eclipse shades?" was nonstop. Just in time for the eclipse we held our first Public Evening for our new show "Totality" and within no time we sold out of tickets. The event was perfect for spreading the excitement for the eclipse as well as getting us excited for it as well. During the eclipse itself we aired a live stream of the eclipse as Statesboro, Ga was not in totality. We also went up to Cross Hill, SC to witness the eclipse, and were delighted to find the church we were setting up at had their very own eclipse party. They welcomed us, and we managed to see the spectacular view of the eclipse. The view was a perfect reminder of why we teach astronomy to anyone who visits the Planetarium. The clouds stopped in time for totality, and the magnificent corona shined brightly from where we were. We managed to take pictures, but none were as impressive as the high resolution pictures taken by our own Dr. Jorge Villa-Vargas which we happily share with




NATIONAL GEOGRAPHIC PRESENTS
ASTEROID
MISSION EXTREME
Narrated by
SIGOURNEY WEAVER
NATIONAL GEOGRAPHIC
Sky-Skan
LOCKHEED MARTIN
NATIONAL GEOGRAPHIC STUDIOS presents a SKY-SKAN PRODUCTION ASTEROID: MISSION EXTREME Narrated by SIGOURNEY WEAVER
Written by ANNETTE SOTHERAN-BARNETT & MOSE RICHARDS Exec. Producers BROOKE RUNNETTE & STEVEN SAVAGE Produced & Directed by ANNETTE SOTHERAN-BARNETT
Lead Animator TROY WHITMER Post Production SCOTT WYMAN Music & Sound Design PIP GREASLEY & DALE CORDEROY
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For more information: sales@skyskan.com
Antonietta.Monteleone@natgeo.com John.Wickstrom@natgeo.com Paul.Fraser@natgeo.com

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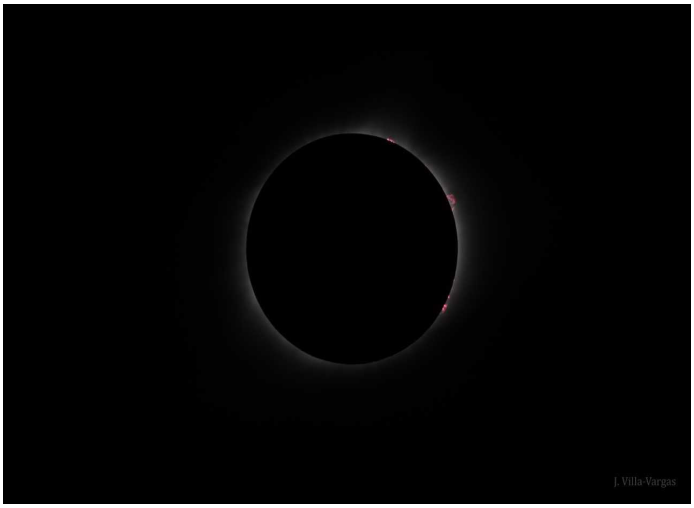

you in the article.

With the eclipse passed we were kept busy as we prepared for our second show of the semester "Exploding Universe." Unfortunately for us the week we were to present "Exploding Universe" we had to prepare for a visit from Hurricane Irma. Sadly we had to shut down for the hurricane and cancel the Public Evening to everyone's dismay. We fully intend to reschedule the show, and so expect this spring for us to be playing "Exploding Universe." With "Exploding Universe" canceled we moved onto our third public Evening "Experience the Aurora." Unexpectedly with this show we sold out within the first thirty minutes of allowing ticket reservations. This was not expected, and this shows us our audience in southeast Georgia is growing. To accommodate this new audience our Public Evenings are being adjusted to add more available show times, and instead of reserving tickets through email the website Eventbrite will be our utility for reserving tickets.

During the fall semester we now have two interns learning all about how to operate the planetarium and present to the public. They have exceed our expectations in their ability to learn how to script and make the shows enjoyable for all ages. Within only a few weeks they had the basics of scripting down and began working on the own visually appealing and informant presentations. With interns we hoped they would gain a greater interest in astronomy and planetariums such as our interns have before. To our delight we have one intern looking to continue and another student interested in taking the internship in the spring.

That's what we have done so far this semester, and much more is expected to come. We are prepping for our most popular show the year "Pink Floyd: Dark Side of the Moon." We fully expect sold out shows to all seven timeslots in November, and may even have to add more to meet the demand. In December we will be hosting our last Public Evening of the year with "Let it Snow" just in time for the holiday season. After a long exciting year as 2017 we are approaching our average of ten thousand visitors to our planetarium. Even though the year is coming to an end we are looking forward to 2018 where we will continue to bring the public exciting Public Evenings, and continue to provide ourselves as a tool for teaching the wonders of the universe to all ages and grades.

James A. Smith Planetarium,
Walker County Schools,
Chickamauga, GA
John M. Hart reports:

Because the school district where we are located starts at the beginning of Aug. we decided to take full advantage of the eclipse to garner some well needed publicity. We kicked off the new school year by offering eclipse programs and events for school groups and the local public. For our eclipse show, we showcased the "Eclipses & Phases of the Moon" full-dome program and received overwhelmingly positive feedback. We also ordered 10,000 pairs of eclipse glasses for students, faculty and the local public. We conducted several interviews for local TV stations in the adjacent Chattanooga, TN area. We also took full advantage of what we call the "eclipse spotlight" to get some things done at our facility. The response was even better than we anticipated and we were able to raise enough money to finish some much needed upgrades. We gave our audio system an overhaul with new speaker runs and a new amplifier. We also gained approval (and funds) to go ahead with a cove lighting upgrade. We are happy to announce that we are upgrading our cove lighting to RGBW LED's. We have been planning this upgrade since the

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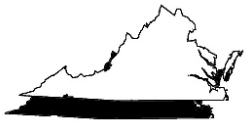
2016 SEPA/WAC conference in Montgomery, AL and are now finally able to do it! The lesson we learned from all of this is that when a significant (and well publicized) astronomical event is coming up, the public will turn to those in our field to get information, be it a planetarium, observatory, or university. We can take advantage of this added attention, even if it is only temporary, to get some items on our "to-do lists" done.

VIRGINIA

contact: Kelly Herbst
Virginia Living Museum
Newport News, VA
Kelly.Herbst@thevlm.org



Chesapeake Planetarium
Chesapeake
Robert Hitt reports:

The Chesapeake Planetarium is starting its 55th year of operation in 2018. Community involvement enabled the planetarium to install a new Sptiz digital cove mounted projection system and LED cove lights. A separate production suite which includes a second set of computers and monitors was also installed in the planetarium director's office. The production suite allows the creating and programming of shows in the office while other shows are running in the planetarium theater.

Learning all the computer steps needed to produce shows has been a real challenge for the director (me). It feels like a new set of skills needs to be learned and mastered. As we all know computers are great then they work... but can be real hair-pulling when things go wrong!

The response from the public on the new equipment had been wonderful and the planetarium shows are full each evening. School classes have started and the students are viewing the sky in a new and exciting way.

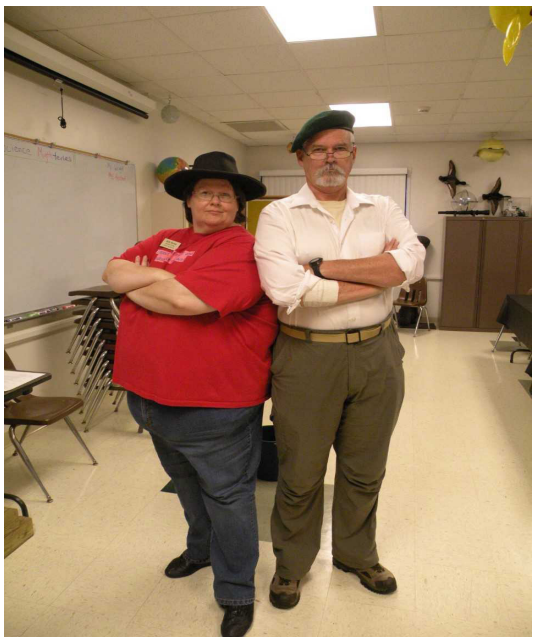
In the future we plan on building a larger facility which will include an observatory and science exhibit area.

Abbitt Planetarium
Virginia Living Museum
Newport News

Kelly Herbst reports:

Fall is here, but it sure doesn't feel like it yet here in Virginia. We've still got warm temps and occasionally high humidity...but relief appears to be coming soon. I, for one, will welcome it.

We've been closed post-Labor Day for a little cleaning and maintenance time. We find that after the summer crowds we usually need to repair a couple of seats, and absolutely everything needs a good cleaning (why are kids so sticky?). Our LEGO exhibit (which runs through November and features LEGO statues of natural objects and critters) continues to be popular, and when we reopen in October we will once again feature Solar System Odyssey in the planetarium. Also running will be Saturn: The Ringworld (a last hurrah for the show as we retire it now that the Cassini mission is over), and as always, Virginia Skies (our live sky program). October will also see our extremely popular Night of the Living Museum Halloween event once again stretch over two nights. We will feature the awesome laser show Fright Light in the planetarium, while John Wright and I once again become John Hyneman and Madam Savage in the Not the Mythbusters Science Show. And a statement like that surely needs a photo.



Thanksgiving will bring the traditional return of Star of Wonder: Mystery of the Christmas Star and Holiday Magic, one of two holiday-themed laser shows we use on rotation. It will also bring back wonderfully cold star party evenings that begin early – we can't wait!

Have a wonderful Fall season!

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

TENNESSEE

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Bays Mountain Planetarium
Kingsport, TN
thanz@kingsporttn.gov

The Autozone Dome at
The Sharpe Planetarium
Memphis, Tennessee
david.maness@memphistn.gov

Dave Maness reports:

The high point of the summer was definitely August 21. I know many of you were fortunate to experience it too, and like you, I am still trying to find the words to describe the indescribable. I remember as a kid trying to convince my Dad to drive up into Canada for totality of an eclipse that was to be visible from Prince Edward Island. I had to be satisfied seeing the partial stages. But to me that was the next best thing. I understood that I would have many more opportunities. So I settled in to watch the eclipse through my little Tasco telescope with a solar filter that screwed onto the eyepiece. I wouldn't find out how dangerous it was until much later.

When I got into the planetarium business years later, it seemed that no matter how close the path of totality came to my location, I always found myself interpreting a partial solar eclipse. But when I moved to Memphis I knew I would have my best chance and I was determined to experience totality in 2017, but I had been disappointed before. There were reports that many hotels on the path of totality were charging upwards of $500 per night! As you know, Philip Groce secured a deal with the Lake Barkley State Resort Park for SEPA members to book rooms for the eclipse. And as a State Park, the prices here were fixed by State Law and guaranteed not to rise as the date grew near. His forward thinking of made it a real possibility for me. Thanks to Phil's efforts; I now know what I was missing for all those years.

As the date grew near, the inevitable hype built up to heights I had not seen since Halley's Comet. I was in demand for eclipse talks all around Memphis. I did eight off site talks in just two days during the week before. All the time I encouraged anyone who had the means to go and see totality. Still my museum had to be prepared for those who would come to us, as was tradition. My feelings of guilt grew with the hype and I worked tirelessly many late nights preparing telescopes, filters, and projection methods for the big day. I trained staff and volunteers to set them up in my absence. The guilt continued to build but I kept telling myself that there was a gap in my knowledge. As a planetarian I needed to have first-hand experience in order to have any hope of being able to adequately describe and interpret a total solar eclipse. Maybe it was rationalizing, but it helped me stay determined to see it through.

My solo travel plans grew to a trio as former planetarium Technician Roy Foppiano and former planetarium Artist Edwin Faughn (now of the Rainwater Observatory in French Camp, Mississippi) joined the expedition. On Saturday afternoon, August 19th we loaded Roy's 2001 Honda Odyssey van with various observing and recording gear and headed out. We were one hundred miles into the journey east on Interstate 40 when the lights went out in the dashboard. The van had suddenly lost power. Roy quickly looked for an opening to ease the van to the right lane and the side of the road. We came to a stop at the entrance to the very exit in Jackson, Tennessee that we needed to go north into Kentucky. With cars and trucks rushing by, Roy popped the hood so we could see what we hoped would be an easy fix. Everything looked normal. Roy phoned his wife and I phoned AAA. Roy's wife was prepared to drive us a car and she would stay with the van for

repairs that would likely take the weekend or more. But she would wait until we had it checked. The tow truck arrived and we decided to take the van to a Firestone Dealership, the only repair place that was open on Sundays. We could even see it from the road, but it might just as well have been miles away! Our hopes were dashed when the manager told us his mechanic was gone for the day. Still he got the battery charger/tester out on the off chance that it was an easy fix. He connected the terminals and the van started right up. It was a dead battery. Lucky for us, he had one in stock and soon we were back on the road!

Kentucky hills interfered a bit with the GPS but we arrived shortly after 9 p.m. hoping we were at the correct place. I was sure of that when I saw Ken Wilson of Ash Enterprises checking out the eclipse souvenirs in the gift shop. We settled into our hotel room for needed rest so we could scout a viewing site for Monday. We chose the "old beach site" which had been allowed to grow over. Fortunately, it was recently mowed for the eclipse. There was a horizon view to the northwest to see the shadow approaching and a grove of trees to southeast in case I might record any effect of the eclipse on wildlife.

Sunday night we were invited to the planetarium at Golden Pond for a reception arranged by Phil Groce and Konica Minolta. There we saw a planetarium show on the new Sigma projector. I took photos of the group that we stitched together. See it below. With the help of Phil's son I was able to get into the picture. Then we went to the observatory for a look at Jupiter through the 16 inch telescope. We then headed back to the room for some sleep before the big day.

Monday morning came and big puffy clouds threatened to ruin the day. After breakfast we moved to set up at our chosen site. Soon we were joined on the site by George Fleenor with his cameras and telescopes, John and Linda Hare, Eric Mellenbrink of Ash Enterprises, Solar System Ambassador Chris Thomson from the Memphis area, and a couple of other car loads of eclipse watchers.

We set up telescopes; one with a sun funnel and another with an H alpha filter. I set up the Cannon camera with a fish-eye lens on the tripod to capture video and maybe a couple of stills. Then I set up a 2x3 foot white sheet of foam core in front of my GoPro camera, just in case there were any shadow bands to be seen before and just after totality. I happened to be looking through the H alpha telescope when I noticed a flattening of one edge of the solar disc and hollered out, "First contact!" From there we watched the steady progress of the moon covering more and more of the sun. It was a while before we noticed changes in sky brightness and temperature. Some cumulus clouds seemed to be moving in from the northwest threatening our view of the eclipse. Amazingly they seemed to vanish overhead and never made it to where they could spoil the view. We speculated that some eclipse-caused changes in the atmospheric temperature were causing the cloud droplets to disperse.

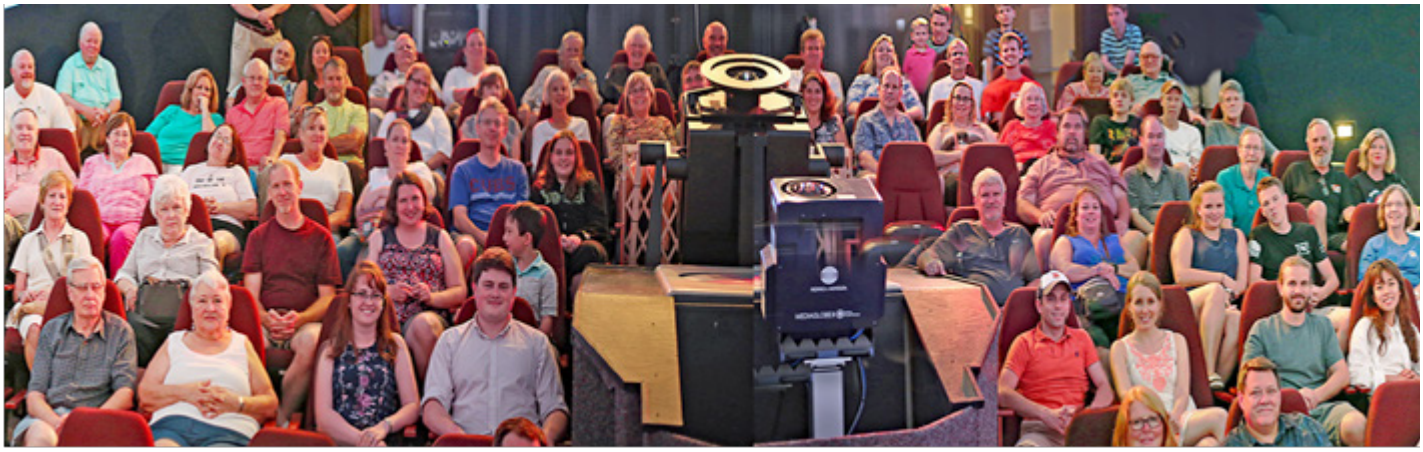
As the big moment approached, I noticed clouds in the northwest that were brightly lit by sunlight a few minutes ago were now dark grey in color. I decided it was caused by the moon's shadow rushing in. The sky darkened at an increasing pace. I looked up with my solar glasses to catch the "Diamond Ring effect" but turned away and removed them to see the light change. It seemed like someone had suddenly pulled down the shades. For a planetarian accustomed to being "in control of the universe" in my little theater, it was incredibly humbling. It was like some great planetarium operator in the sky had just turned down the lights to start the show. Such an eerie darkness at mid-day brought goosebumps. Suddenly I was once again that kid experiencing a planetarium show for the first time and deciding "that's what I want to do". But there was no amplified voice to accompany this vision. I had only my senses to capture the moments that I knew would pass all too quickly. And these precious moments were best shared. I shared them with friends also marveling at something they had never experienced before; the cooling temperature, a soft breeze, and the delicate details of the wispy corona. I shared them with strangers as cheers arose from the boaters who had "rafted up" for the show. Soon the "booms" of fireworks across the lake harkened back to a simpler time when fearful folks tried to scare away the dragon apparently eating the sun, which was so desperately needed for survival. I also shared it with nature as birds took flight to their evening roosts.

continued from page 30

The sun was gone. In its place stood a black hole in the sky surrounded by a feathery gray glow that I have never seen accurately portrayed in photographs. It was much larger than I had guessed it would be, extending more than a couple of sun diameters out. Closer to the moon's obscuring disk were tiny pink flames of prominences stretching out from the sun. I soon noticed a silvery white jewel standing out to the lower right of the eclipsed sun. Of course it was the planet Venus. Low in the sky was a salmon pink glow like sunset but unlike any sunset I had ever seen, the glow went completely around the horizon. Two massive objects in space were demonstrating the clockwork motions of the solar system better than any Orrery or planetarium could ever do. I was in the shadow of the moon, but mere words can ever do it justice.

All too soon, an area near the lower right limb of that "hole in the sky" began to brighten. It seemed to give ample warning that it was unfortunately time again for protective eyewear. As quickly as when it became dark, the "shade" was pulled up again. Shadows reappeared on the ground. Birds roosting in a nearby grove began to sound off, confused about the foreshortened night and the dawning of a strange new day with the sun already high in the sky. Of course there was much more to the eclipse, but the real show was over. Shouts and cheers from the boaters announced their appreciation. The moon would still take a long time to fully reveal the sun, but the shadow had passed us by. No adequate encore could follow what we had just seen. The day had started hot and humid, typical for a southern summer. Totality brought a respite from the heat, making it so much easier to enjoy the experience. Soon the temperatures began to rise again and we knew there was little point in watching the reverse of the stages that lead up to the ultimate event. We packed up and headed back to the hotel, all of us awestruck, trying but always failing to find adequate words. I thought of all the years I spent wondering what this would be like. Now I know. The experience was so unusual that everyone is bound to have their own unique and personal reaction. And that is why I feel I am doomed to fail in trying to describe what it was like to someone who has never experienced it. Regardless I am sure I can do a better job of it now than I could have done before. It still raises the goosebumps just thinking about it and I am very grateful for the experience.

Autumn is here at the Pink Palace Museum, technically, that is. It will be several more weeks before it feels like it. Our new show is We Are Aliens, narrated by Rupert Grint of Harry Potter movie fame. This matches well with our CTI Giant Screen Theater showings of the entire movie series starting with the prequel Fantastic Creatures and Where to Find Them. We are also running One World, One Sky continuing as our offering for the youngest audience members. Seasonal Stargazing is shown several times each day. As always we do a live talk along with every recorded program. SunStruck continues for a few weeks at 4:00 each day as our "extended-run" program.



SEPA members with families and friends gathered at Land Between The Lakes Planetarium in Golden Pond Kentucky the evening before The Great American Eclipse of August 21, 2017. Photo By Dave Maness and Bob Friedstand of The Sharpe Planetarium at the Memphis Pink Palace Museum

Sudekum Planetraium,
Adventure Science Center, Nashville, TN,
Drew Gilmore reports:

Eclipse weekend at Adventure Science Center was a huge success - except for the big fluffy cloud that covered the Sun mere seconds before totality. Outdoor events Saturday through Monday were free, and over 17,000 people visited over the course of the festival. Over 4,500 people purchased tickets to experience even more inside ASC, including several guest speakers and our show Eclipse: The Sun Revealed.

We ran an extremely tight show schedule in the dome, packing in 42 presentations over those three days, including 18 alone on Saturday. While we always value putting a human being in front of the audience before every show, in this case we produced a very quick automated introduction that we could start as soon as we closed the doors. It worked without a hitch and kept us on time.

Speaking of numbers, throughout its run from mid-January to the end of August, the Eclipse show brought in over 36,000 guests. The 2024 version of the show is available for school bookings and will likely make a public appearance every April 8 and August 21 for the next several years!

We're excited to announce that our part time educator Patrick King became a full time educator in October!

Meanwhile, our monthly Fulldome Feature series continues. We have recently run Art Universe, Samskara, and Adler's Planet Nine. Coming soon are two new features: Man from the 9 Dimensions and Aurora: Lights of Wonder.

Bays Mountain Planetarium, Kingsport, TN

Adam Thanz, Astronomy & Space Sciences Program Coordinator - Planetarium Director, reports:

Greetings Fellow Planetarians!

Here it is, post eclipse. From what I've heard, most of you saw the eclipse, including totality. Our excursion to PARI went well, but alas, the clouds had it in for us. We saw various partial phases, but it really socked in a little bit before totality.

At the time of this writing, we are just a few weeks before the cutoff date for registration for our annual StarFest event. When you read this, it will have been - glorious.

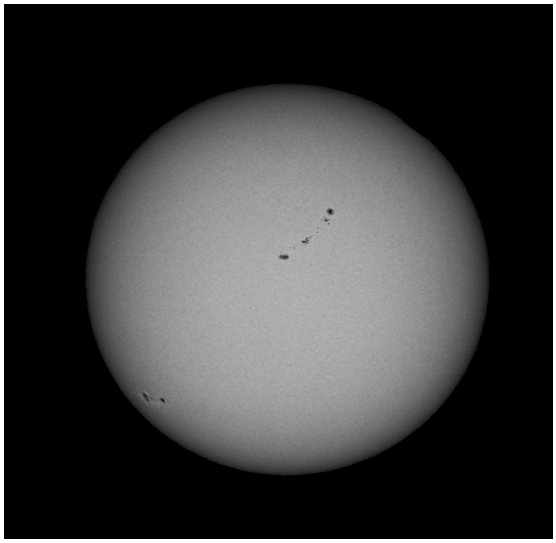
Our main show this season is "Cosmic Origins Spectrograph" from Fiske Planetarium. It is about the spectrum and how it is used with the Hubble Space Telescope to examine the origin of our Universe. Our alternative shows this season are "Appalachian Skies - Fall" and "Two Small Pieces of Glass."

We are also providing our regular, October-November StarWatch observation program. It is free and held on Saturday nights at dusk. If poor weather, we meet in the planetarium. Our astronomy club, the Bays Mountain Astronomy Club, hosts it and it's lots of fun.

I will keep this edition's article short. But, I'm including two images from our eclipse excursion.

'Till next time...

The group photo of our eclipse excursion to PARI in front of one of the 85' radio dishes. Image by Adam Thanz



The Sun just passed first contact. I was surprised as to the Sun's activity during its minimum! I spoke of working on your exposure to reveal the photosphere well in the last journal's edition. I don't know if you'll be able to see the Sun's granulation and limb darkening in the journal's printing, but the sunspots should be clear. Image by Adam Thanz. AP130GT, Losmandy G11, Baader solar filter N5, Sony A7ii, ISO 100, 1/1250s, daylight white balance, and no image stabilization.

KENTUCKY

contact: Steve Russo
East Kentucky Planetarium
Prestonsburg, KY
srusso0002@kctcs.edu

East Kentucky Science Center, Prestonsburg, KY. Steven LJ Russo reports:

Our NASA exhibit: "The Hubble Space Telescope. New Views of the Universe", is now just a memory. In the seven months that it has been here, around 10,000 people visited the exhibit. This included school children, the general public, and tour groups from places like Indiana, Illinois, Michigan, Pennsylvania, and New York. And just before it closed, a woman and her daughter drove here from Atlanta Georgia (over 400 miles) just to see the exhibit on its last day.

But like most other planetariums, our big event was the Solar Eclipse. I would never had imagined that we would have had a crowd that big; 5000 people (we gave out 4800 eclipse watching devices) joined myself and my staff for this amazing event. Prestonsburg's population is only 3200 people!

We had the Sun's image projected on a large screen outdoors, through my old Edmund Astroscan telescope. That proved to be a big hit as many people took pictures with the image of the eclipse. The NASA webcast was shown in our exhibit hall, classroom, and planetarium, and the Science Center was open free of charge for people to come in and see the NASA Hubble Space Telescope exhibit.

Even though from here, we only had 93% totality, we had live TV coverage from local networks,

continued from page 33

CBS, ABC, and Fox.

Prestonsburg Mayor Less Stapleton showed up to help hand out Eclipse glasses and Kentucky House of Representatives member Larry Brown was there too. Also in attendance was Kelsie May, star of The Voice TV program.

This ended up being the biggest event in the 13-year history of the EKSC and one of the biggest public events in the history of Prestonsburg. Because of that, East Kentucky Science Center and Planetarium Director Steve Russo was honored by Prestonsburg Mayor Les Stapleton and the Prestonsburg City Council for the Science Center's historic Solar Eclipse event. He received a Proclamation for his "role as educator and pursuer of the betterment of the community".

And don't forget my Bluegrass friends, send me all of your happenings for Southern Skies.

Until next time, "Look to the Skies!!!!

REMEMBER

YOUR STATE

COORDINATOR!

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The SEPA Observatory Group
by David Hostetter

October, 2017

Here are the members of the SEPA Observatory Group as of October, 2017. If you want to be taken off the list, let me know; if you know someone who wants to be added to the list, have them contact me.

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Our meeting at the Pleiades National Conference was largely organizational, but there seemed to be some enthusiasm for continuing the group and finding ways to work together. Mel Blake made the interesting suggestion that our facilities could do simultaneous observations of the transit of Mercury in 2019, using our observations to find the distance to Mercury, and that similar projects might be possible with Near Earth Objects.

I let next year's SEPA host Dave Maness know we would need a room sometime during the conference for another informal meeting and will keep you posted on that as the conference approaches.

In the meantime to keep things going, if you wish, please send me a brief description of your facility and how you use it. After I get some, I'll put them together and send them to you to help give you an idea of what other facilities have. Perhaps that will be helpful as we consider how to work together in the future. Mine's below.

The Lafayette Science Museum Observatory (LASMO) is in the finishing stages of construction on the Museum's roof. It has a solar dome featuring an 80 mm Lunt H-alpha telescope and an 80 mm William Optics refractor, both mounted together on a Software Bisque MX+ equatorial mount. The other dome has a pair of Celestron Edge800 SCTs on a Software Bisque MEII equatorial mount. One of those telescopes will be stock and the other will use the Starizona HyperStar lens at f/2.1. A variety of cameras will be available.

The solar telescopes will take daily solar images to be posted to our web site, while the other telescopes will be used for educational projects such as virtual star parties, astrophotography, and the livestreaming of special events such as eclipses and occultations. Ultimately we hope to be able to allow local amateur astronomers and classes to operate the telescopes remotely. Since it is in downtown Lafayette, LASMO does have a serious light pollution problem that will no doubt place some limits on what can be done.

Davis weather equipment recently installed on the roof will tie into observatory control and is already used as a source of weather information for local emergency services.

During the construction period we have had success in livestreaming the lunar eclipse in 2015 (in conjunction with NASA), the occultation of Venus in 2015, the transit of Mercury in 2016, and the solar eclipse in 2017 (again in cooperation with NASA). We look forward to many future successes!

BAYS MOUNTAIN
PARK & PLANETARIUM

Adam Thanz

Astronomy & Space Sciences Program Coordinator - Planetarium

Director To All of the SEPA Observatories Group:

Bays Mountain is situated in the heart of the Appalachian Mountains and is quite a beautiful area. The current status of the observatories, as of November 2017, is that we have two small observatory structures on our observing area grounds. One structure is a roll-off building with four and a half foot high walls. It houses a mounted twelve inch Meade LX200, a refashioned truss-tubed seventeen and a half inch Dobsonian, and a few other scopes.

The other structure is a sixteen foot wide domed building with an Ash Dome. Inside is an eight inch refractor designed and built by Fred Mrozek. This telescope is actually owned by a local college, Milligan College. An alumni of theirs wanted the school to have access to astronomy outreach, but the school didn't have the ability to do so. An arrangement was made in 1990 with the Park that if we provide the building and staffing and that we use the scope for public observing, they would provide the telescope.

All of our observing is done with the public and we do not charge for our regularly-scheduled viewings. The viewings are in conjunction with our astronomy club as some of them will volunteer to help. The observing grounds are not very large. Enough that you can have about six scopes on the grassy area in a snug configuration. If the weather does not cooperate, we provide a free, live tour of the night sky in the planetarium theater. That way, folks can come guaranteed to receive some sort of interpretation, regardless of the weather. We have had about twenty show up when it is really raining out!

The night viewings are called StarWatch, are held on the Saturdays of March, April, October & November, start at dusk, and are free. We also provide solar viewing on our dam called SunWatch. Also free, they are held on clear weekends from 3-3:30 p.m. March through October. We are currently using a Coronado PST.

Attendance varies with weather and if they hear about it in the news. But we usually have at least 20 for any StarWatch. Some go as high as 125. SunWatch can be anywhere from 25-75, depending on the Park's visitation. We are working towards a new observatory complex to address our Park's future needs.

KINGSPORT
TENNESSEE

Featured Article:

2017 Space Science Mentorship Program Overview
by Christina Moraitis
(Planetarium Assistant, Physics Major, Senior)

This past summer, we created a mentoring program for local kids in the Birmingham community. After an application process, we enrolled 9 students into our summer program. Each mentee chose the science/technology project of greatest interest and was assigned a specific planetarium employee to teach and guide them. Ben Nilsen, Josh Dave McKinney, and Christina Moraitis (myself) worked with three mentees each and David Weigel (planetarium director) supervised each of the projects.

We had several different projects completed by the end of the summer. 5 students created WorldWide Telescope (WWT) tours for both our 40-foot dome and our Oculus Rift virtual reality headset. After quick software introductions, we assisted them in the tour making process. Upon completion, we uploaded their work to YouTube and each of them presented a video during a planetarium presentation to showcase their case work publicly. Seeing our students publicly present their final product was a magical experience not only for them and their families, but for us at the planetarium as well. One of our students was particularly interested in clouds. To cater to his interests, we developed a project for him to create an informational video using Adobe Premiere Pro about different clouds in Alabama viewable in the summer. This specific video loops in our lobby along with other student made WWT tours. It was particularly enjoyable to teach young kids the works of planetarium videomaking in hopes of inspiring them to take on more projects on their own time.

Along with videomaking, 3 students 3D modeled their own rockets using Tinkercad.com. Working alongside them, we taught rocket science, orbital mechanics, and aerodynamics. All of the rockets were printed using the 3D printer in our physics department. We launched all of these rockets on the quad at Samford. Our kids' eyes lit up as their rockets shot up a few hundred feet into the air and landed as figurative lawn darts in the grass below. Some flew with aerodynamic success and others did not, however, the experience of launching a self-designed rocket was thrilling for our students, regardless. On another hand, one student decided he wanted to design and 3D print a robot to drive around his room. Together we designed a semi-humanoid four-wheeled robot with a front scoop. We divided it into chunks that we could 3D print, wired it with a power switch, Arduino Uno, wheels, motors, ultrasonic sensor and batteries, assembled it, and programmed it.

Two other students focused on astrophotography. We used our telescopes to help familiarize them with the night sky as well as take a couple pictures of distant galaxies. We had a few nights of astrophotography, due to weather, but eventually we took one good picture of M51: The Whirlpool Galaxy. Since not much came from those projects but one picture, we commissioned the students to also create a WorldWide Telescope video for the dome.

Most uniquely, one high school student joined our program interested to learn how space and time relate to one another. After building up a working understanding of fundamental calculus and physics, we jumped headlong into special relativity. We covered relativistic time dilation, length contraction, and other effects.

The purpose of our mentorship program was to stimulate a greater interest in science in the younger generation, specifically in the Birmingham area. The inaugural year was a tremendous success and we intend on continues this program for summers on.

2017 Financial Report – SEPA

Submitted by Patsy Wilson –September 30, 2017

All funds are held at Branch Banking and Trust Company

Balances: (as of 9-30-17)	
Operating	10,310.67
Savings	32,232.73
Professional Development Fund	13,663.36
PayPal Account	338.54
Total	56,545.30

Operating Account (as of 1-1-17)		**10,367.09**
Income:		
Memberships	415.00	
Journal Ads	1,980.00	
Transfer from PD Account	600.00	
Transfer from PayPal	2,037.50	
Donation to PD Fund	55.00	
Total Income		5,087.50
Total Credits		**15,454.59**
Disbursements:		
Website Maintenance	500.00	
Awards, Plaques	45.48	
Eclipse Glasses	2,191.43	
Southern Skies	1,243.36	
Donation to Bobcat Planetarium	500.00	
Postage and Supplies	8.65	
PD Awards	600.00	
Transfer to PD Fund	55.00	
Total Debits		(5,143.92)
Balance (as of 9-30-17)		**10,310.67**

Savings Account (as of 1-1-17)		**32,223.11**
Income:		
Interest earned		9.62
Balance (as of 9/30/17)		**32,232.73**
Professional Development Fund (as of 1-1-17)		**14,208.36**
Income		
Donations	55.00	
Total Credits		14,263.36
Disbursements:		
PD Awards for Registration	600.00	
Total Debits		(600.00)
Balance (as of 9-30-17)		**13,663.36**

PayPal Account (as of 1-1-17)		1056.21
Income		
Memberships	1,375.00	
Total Income:		1,375.00
Total Credits		2,431.21
Disbursement:		
Fees	55.17	
Transfer to Operating Account	2037.50	
Total Debits:		(2,092.67)
Balance (as of 9-30-17)		**338.54**

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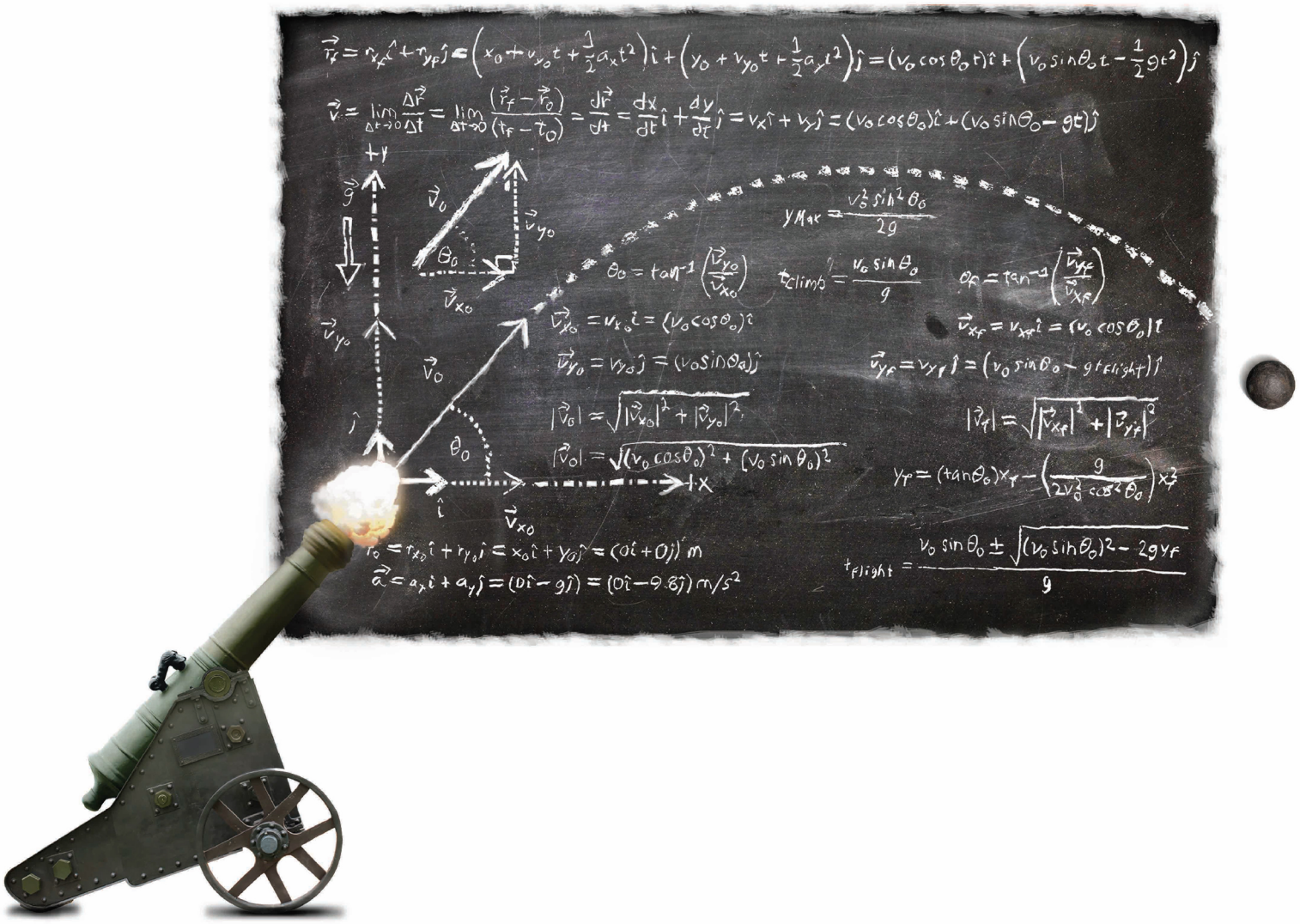

. Coming soon to SciDome: 3D physics, with interactive environments that let you manipulate conditions in a fulldome virtual world. Modules include kinematics (motion), dynamics (forces), oscillations, fluid dynamics, thermodynamics, electromagnetism, quantum mechanics, special and general relativity. It's one of many multicurricular applications designed specifically for the teaching capabilities of SciDome.

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