

Southern Skies

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Andromeda Galaxy - see page 19. Credit: Conrad Jung

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President's Message

Adam Thanz
Bays Mountain Planetarium
Kingsport, TN

Time has surely flown by since my first President's article for this journal only two years ago. Now I write my last article as President of SEPA. Not only do I get to share the news of SEPA with you but I also get to share my thoughts about our most wonderful profession. Who else but us can be in the dark, but still know so much about our cosmos? It does sound like a riddle. Joking aside, I think that we have something special inside all of us that drives us to educate others about the night sky and the space sciences. We create programs that inspire. We use cool equipment like star projectors and telescopes. We have fun at our jobs, even if it means

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 entire back cover of our journal is also available either in B&W for \$125, or in color for \$150. A 10% discount to any size ad can be offered only with a year's (four issues) commitment of advertising. Ads accepted on a space available basis. Ads must be camera ready and conform to dimensions listed. Payment must accompany advertisement order, made payable to the Southeastern Planetarium Association (send payment to Secretary/Treasurer Mickey Jo Sorrell). 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.

hard work and/or long hours. But, we will not last forever. I have mentioned this before. We need to include new, young people in the field. Whether they choose to be in the planetarium or are forced into it as part of their job, we should invite that new person into our own theaters. Let them know about our conferences and that they are exceptional. Share materials with them and even talk to them on the phone or e-mail so they know that they are not alone. I witnessed this supportive behavior on a number of occasions during the 2008 conference when there were a few new people in our field, or at least in SEPA. The first official step of support was the New Member meeting. Carole Holmberg and Ken Brandt take care of this and it really does help. Keep up the great work. Those new people mentioned earlier, now SEPA members, went home with lots of information, some materials, and new friends. I hope we see them at future meetings.

This process of inviting new people in the field should also apply to the young as well. At Bays Mountain, I have always tried to have a high school student as an intern when we are lucky enough to get an intern. These are special students in that



SEPA President Adam Thanz

(Continued on page 16)

IPS Report

John Hare
ASH Enterprises
Bradenton, FL

2010 IPS Conference...

Alexandria, Egypt will host IPS in 2010.

Please note that the conference dates have been shifted earlier due to the total solar eclipse that will occur on July 11, 2010. Conference dates are June 26-30.

Preliminary information is available at <www.bibliotheca.org/ips2010>

2012 Conference site invitations...

Three sites have submitted invitations to host the 2012 IPS conference:

St. Etienne, France
Baton Rouge, LA
San Francisco, CA.

The site will be chosen by IPS Council at the off-year IPS Council meeting to be held in the summer of 2009. Information on the various sites will be included in the next edition of Southern Skies.

IPS to produce a planetarium show on the telescope...

Telescopes are amazing tools for astronomy, but where did they come from? How do they work? Most importantly, how have they shaped our understanding of the universe? In *Two Small Pieces of Glass: The Amazing Telescope* we join two teenage students as they attend a local star party and converse with a female astronomer. With her as their guide, the students learn how telescopes work and are used today. They peer through a telescope to explore the Galilean Moons, Saturn's rings, and a variety of other objects. As they see these celestial wonders the astronomer shares the importance of Galileo, Huygens, Newton, Hubble and how their use of telescopes have helped us understand the cosmos and our place in it.

Show visuals will include actors green screened into a star party environment with a variety of telescopes. As the program progresses we will use video and full dome imagery to present the

(Continued on page 18)

Editor's Message

James Sullivan
Buehler Planetarium & Observatory
Davie, FL

I want to thank the folks who stepped up and sent in articles. Thanks to Robin Byrne for sending something, and she was the first one in this time. Thanks to Adam Thanz for contributing with an article beyond his *President's Message*. I also want to thank all our regular contributors, including Betty Wasiluk who is in every issue, Woodrow Grizzle who started a new column this year, and all you folks who beat the bushes and shake the digital trees in order to get the *News From The States* into the journal.

Also, thanks, Adam, for your words in the *President's Message* encouraging people to write. This journal does belong to all of us, and we need to hear from you. So, keep those articles coming, along

with news and images. As always, I appreciate the opportunity to edit your journal.

We can receive electronic files in most any format. Also, graphics can be received electronically or in hardcopy, including slides or photos, and will be converted to digital with sufficient resolution.

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

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



Paul Campbell Fellowship Award Nomination Form

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

Nominee's Name: _____

Qualifications: _____

SEPA Membership Form

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

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

____ Two Years, \$40

Name _____

Organization _____

Planetarium _____

Address _____

City _____

State / Zip Code _____

Voice Phone _____

Fax Phone _____

Email Address _____

Staff Position _____

IPS Member? Yes _____ No _____

Contribution to Scholarship Award Account: \$ _____

Small Talk

Elizabeth Wasiluk
Hedgesville High School Planetarium
Hedgesville, WV

As the leaves begin to fall and another school year is underway, here are some tidbits to ponder.

Get Your Name on a Space Mission Designed To Look For Extra Solar Planets

The Kepler mission is designed to study stars over long periods of time to search for planets in distant stars. They are taking names and statements to be put onto a DVD to be placed in the Air and Space Museum in Washington, DC in relationship with the mission. Now there are other space missions that have done this. Deep Impact, Cassini and Dawn are three I can remember. What makes this different is that you can add a statement on why you think this mission is important. Go to <http://namesinspace.seti.org/> for details. Hurray, the deadline is November 1, 2008. If you want to find out where Kepler is targeted to look, check out the picture by Carter Roberts in the last issue of Southern Skies, in the "Small Talk" Column to see the grid on the Milky Way in Cygnus. This is just one of many activities set up to celebrate the International Year of Astronomy in 2009.

International Year of Astronomy Activities

Do you have anything to share that other small planetaria might like to try? Feel free to share them here and follow up with how they went over in your dome. Remember that a "small planetarium" is defined however you wish; small size, staff, or budget.

Still trying to figure out what to do? You can go here: <http://www.astronomy2009.org/>

Pulsar Search Update

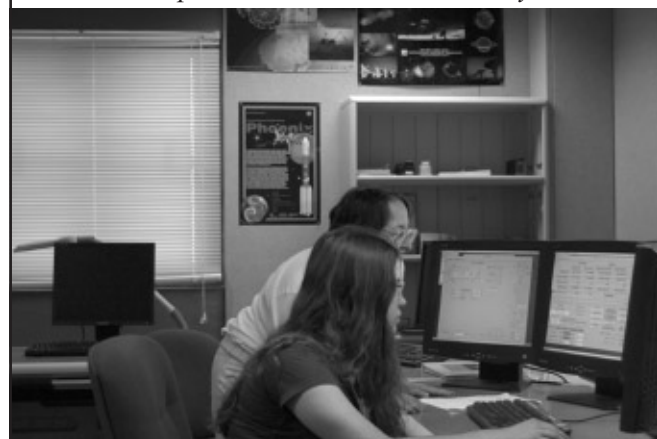
As I write this, I have seven astronomy students

hard at work interpreting pulsar scan data taken from the Robert C. Byrd Green Bank Telescope. While all of you were having much fun in Lafayette, I was hard at work with student April Liska in Green Bank, WV learning how to interpret data scans. Since we have been back, we have been trying to teach others how to do it too. April far exceeded my expectations in being able to do this. We got coverage from the Morning Herald newspaper in Hagerstown, MD. You can go here to read more about our exploits: http://www.herald-mail.com/?cmd=displaystory&story_id=203489&format=html



Above: This is the Robert C. Byrd Green Bank Telescope in Green Bank, WV. Credit: Betty Wasiluk, July 2008

Below: Betty Wasiluk and astronomy student, April Liska at the controls of the Robert C. Byrd Green Bank Telescope. Credit: Sue Ann Heatherly, NRAO



Small Talk (Continued from page 6)

Astrophotograph in Astronomy Magazine

Fellow SEPA member, Conrad Jung's picture of the Andromeda Galaxy made page 19 of the September 2008 issue of Astronomy magazine.

After School Universe

Those of you doing afterschool programs in your dome or museum or school might be interested in NASA's After School Universe program. To find out more about it go here: <http://universe.nasa.gov/au/>

NASA has a Digital Professional Development Program

Want to brush up on stuff about astronomy? On the last Wednesday of the month, NASA hosts a NASA Digital Learning Network webcast: <http://dln.nasa.gov/dln/content/webcast/>

During the webcast, product producers, authors, and experts will demonstrate their materials designed to optimize your awareness and understanding of science concepts. Instructional objectives, how to access the materials, and primary contacts for the material will also be discussed. During the videoconferences, you will have opportunities to submit questions to the presenter which will be addressed during the presentation.

The schedule for the rest of the year is as follows:

- October 29: Observing the Moon
- November 19: Student Observation Network
- December 17: NASA Image Archive
- January 28: STS-119 – Space shuttle Discovery mission
- February 25: Chemistry: What is your Cosmic Connection to the Elements?
- March 25: Kepler Mission
- April 29: Meteorology: an Educator's Resource Guide for Inquiry-Based Learning
- May 27: NASA Explores Virtual Worlds

The program runs from 4-5 p.m. Eastern Time. Sounds like a painless, easy way to learn about stuff happening with NASA.

Have you Heard of Izzit?

This is a website that gives teachers a free DVD

each year if you register with them. The site is run by the Palmer R. Chitester Fund which is a Pennsylvania, Not For Profit Corporation, that was chartered December 26, 1985. Their mission is to create "... easily understood and entertaining popular media to reach inquisitive minds regarding the value and interrelationship of personal, economic and political freedom sustained by the rule of law," in their own words.

The reason I write this is that they have produced a video that stars Scott Bakula of "Star Trek" and "Quantum Leap" about the enterprising space individuals who are vying for the Ansari X-Prize. The program is called "Everyone's Space" and covers a continuing important story not covered quite anywhere else. If you can somehow prove you are an educator, you can request the DVD free if you so choose to. Otherwise the program is \$29.95. It comes complete with a teacher's guide and says it is for students in grades seven through twelve. After getting it free and showing it to students, you must fill out a form describing what you used it for and what you thought about it. Check it out at: <http://www.izzit.org/videoclub/index.php>

The Great Planet Debate/See the Video

In August at the Great Planet Debate conference, top scientists and educators explored the question: What is a planet? They discussed and debated the processes that lead to planet formation and the characteristics and criteria used to define and categorize them.

The video of a public debate between Dr. Mark



Archeo- astronomy

Making Pre-history Historic: Personal Discovery in the Caves at Lascaux

Woodrow W. Grizzle III
Jonesville, VA

Personal discovery. It is toward personal discovery that we planetarians seek to provoke our audiences. If, out of 10,000 people who walk into the chamber, only one makes a personal discovery as a result of our teaching, then our work is worthwhile. I want to share with you a story of my own personal discovery. To do so requires going back in time: first to university, and then to a cave in the distant past.

I recall the event that linked my interests in history and astronomy. In 2000, I learned about the caves at Lascaux, France in an introductory lecture course in ancient art. Upon my fascination with the site, I ended up discovering papers about the paintings, claiming that they had some sort of celestial significance. It turns out that what I had also discovered was archaeoastronomy, and I was hooked. From that time onward, I spent much of my time attempting to link ancient sites and artifacts to astronomy.

The Lascaux paintings are a great testament to man's artistic mind, enduring now for some 18,000 years. Images of deer, aurochs, and spiritual figures dance in parade most ancient across the cavern walls. By torchlight, one can only hope to examine them as a series of vignettes, as the Paleolithic people that created them did. With modern light-

ing, a replica, called Lascaux II, is visited by thousands each year. These modern visitors are treated to the enormity of Lascaux as a magnificent mural.

The papers that I read suggest that at least a portion of the famous paintings may have been a depiction of the night sky; if that is true, then the Lascaux paintings are among the earliest known representations of stellar objects. The paper was written by Dr. Michael Rappenglueck, of the University of Munich. Therein, he states that the Lascaux paintings, and other works in Spain, contain a sort of star map and lunar calendar. It appears that among the figures are representations of the Pleiades star cluster, the Summer Triangle, and even a lunar calendar.

The Pleiades appears as a series of dots perched above a large auroch, or bull (**Figure 1**). The bulls' face features several dots itself, situated in an abstract "V" pattern, much like the Hyades. Five dots appear above the bull's back, and, according to Dr. Rappenglueck, represent the Pleiades star cluster. It is certainly possible that these occurrences are coincidental to the night sky, but additional figures find their theoretical complement in an important celestial position.



Figure 1. Face of auroch with black dots above.
Institute for Interdisciplinary Science. 2002.

In another region of the cave known as the Shaft of the Dead Man, there appear three odd figures, a bull, a bird man, and a bird on a stick (**Figure 2**). Rappenglueck proposes that these figures represent star figures of the Summer Triangle, and that their eyes represent the specific stars of Vega, Deneb, and Altair. Recall that the plane of the Milky Way passes through this region of the sky. The bird man is a fertility figure, complete with an erect phallus.

Archeoastronomy (Continued from page 7)

Rappenglueck used this fact to support his Triangle hypothesis, as the Milky Way was long thought to be a source of fertility, giving renewal to the universe. It is also important to remember that at the time of these paintings, the Summer Triangle was circumpolar, due to Earth's axial precession, giving further significance to this particular region of the sky. The bird on the stick represents the polar point about which the sky revolved.



Figure 2.
Bull,
bird-man,
bird on
stick.
Institute
for Inter-
disci-
plinary
Science.
1998.

Also among the paintings, according to Rappenglueck, is what could be an early lunar calendar. The calendar candidate is underneath a painting of a horse, and is made up of a series of 29 black dots in a wavy line (**Figure 3**). Notable in this line is an area where five dots curl away from the rest in a loop. Rappenglueck suggests that these dots represent the 29 days of the lunar cycle, with the five curling dots representing the time of the New Moon. It would not be the first such calendar known to exist, as similar calendars exist on reindeer and

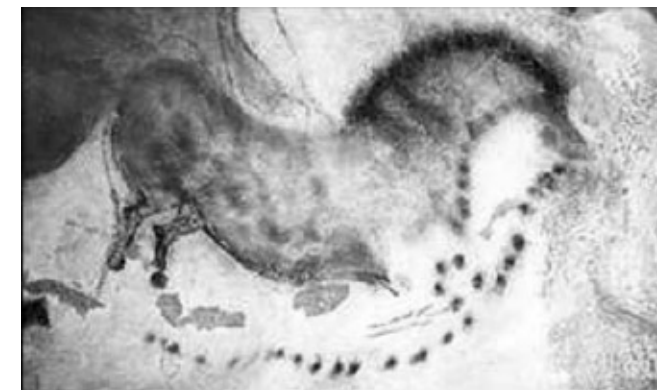


Figure 3. Horse with black dot series below.
Institute for Interdisciplinary Science. 2004.

mammoth bones from some 6 - 12,000 years earlier. However, the Lascaux example would be the earliest known example of such a calendar in fresco and in a permanent installation. This permanence serves to magnify the sense of place that the Lascaux caves had for Stone Age people: significant due to the perceived exclusivity of the hunter-gatherer lifestyle at that time.

Dr. Rappenglueck's arguments are certainly convincing, if possibly coincidental. We know that pre-historic people watched the skies. We postulate that the earliest observations were of the moon, and served at first as fancy, but later may have been used to calculate fertility in women, due to the coincidence of the lunar and human menstrual cycles being about 29 days. During this time, mankind was a hunter-gatherer race, with little tying them to one place over another. Certainly, Lascaux is special, perhaps because it was temperate during the Paleolithic period, as most of the world was gripped in an ice age. This comfort zone may have allowed detailed observations, prolonged settlement, and further cosmological wonderings that lead to the advancement of mankind. On the other hand, the paintings could simply be musings of a race wanting to beautify their surroundings for the honor of deities or of themselves.

Regardless of the iconography, the meaning of this artwork to our heritage is difficult to overestimate. Either it ties us to the heavens from the early days of our existence, or stands as a pre-historic testament to the imaginations of our forebears. I think about them often, and I wonder if their dreams of the universe were as strange and wonderful as our understanding of it is today.

References:

Institute of Interdisciplinary Science, "Published Papers - Michael Rappenglueck." 2008 <<http://www.infis.org/000009a440fb2e03000009a4507dc512.html>>

Rappenglueck, Michael A., "Paleolithic Shamanistic Cosmography: How is the Famous Rock Picture in the Shaft of the Lascaux Grotto to be Decoded?" *Arte Prehistorica* 1998: entirety

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Featured Planetarium

Sue French Lewis
Imagine Communications
Richmond, VA

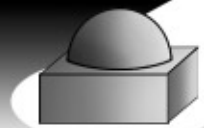
New Science Building, High-Tech Planetarium at Tidewater Community College

From test tubes to telescopes, from biology to astronomy – science education at Tidewater Community College now includes a new state-of-the-art facility at its Virginia Beach Campus. The 70,000-square-foot science building features an observatory and a 90-seat planetarium operating with the highest-resolution laser projection system available today – only the ninth of 11 installed in the world.

TCC's new planetarium runs on a Digistar 3 system – the most advanced digital planetarium system to date, according to Scott Niskach, Evans & Sutherland's director of international sales, and former vice president of the Orlando Science Center.

TCC officials selected W.M. Jordan Company to build the two-story facility, which features a 40-foot tilted dome and entrance atrium. Construction of the planetarium posed unique timing and construction challenges since the planetarium shell had to be completed early to allow for installation of the 3D graphics equipment. While the rest of the construction was being completed, WMJ created and maintained a "clean room" environment for the

Featured
Planetarium



technicians who were installing the sophisticated Digistar 3 system components.

W.M. Jordan Company (www.wmjordan.com) has extensive experience in such carefully designed construction, including the Virginia Air and Space Center and the U.S.S. Monitor Center at the Mariners Museum.

Digistar 3 uses new technology delivered in the last 2 years, with over 16 million pixels and solid-state diode-based laser light, which is much safer with no gas laser or moving parts. It offers higher resolution and richer colors than Hi-Def TV/video and creates a real star field in time and space.

Faculty and students can design their own materials to match class or project needs. "Real-time" allows instant delivery of information, from the Internet to video and broadcast feeds. The new science facility's observatory can link to the planetarium for live star-viewing under the dome.

Serving thousands of students each year, TCC's science programs include astronomy, biology, chemistry, geophysical sciences and physics. Students can apply their science classes to transfer programs as well as earn an associate in science degree.



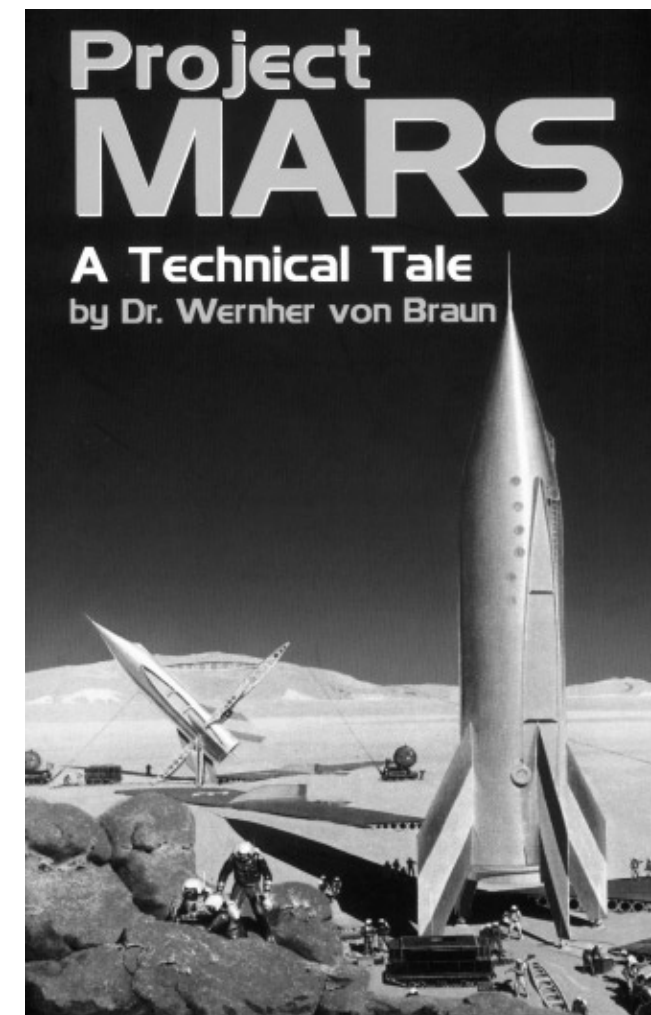
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Bookends

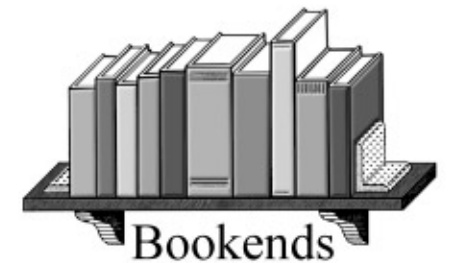
Robin Byrne
Bays Mountain Planetarium
Kingsport, TN

Project Mars - A Technical Tale by Wernher von Braun

Wernher von Braun, the designer of Germany's V2 rocket, is reported to have said after the first V2 bombing of England, "The rocket worked perfectly - it just landed on the wrong planet." Von Braun's fascination with using rockets to travel to other worlds was the driving force behind his work as an engineer for both Germany and, after the war, for the United States. Before he had a chance to design rockets to carry America's astronauts into orbit and,



ultimately, to the Moon, von Braun had already worked out a way for men to travel to Mars.



In 1949, Wernher von Braun wrote "Project Mars - A Technical Tale" as a fantasy set in the distant future of the 1980's. The setting is after the last of the devastating global wars, and the world has united in a single, worldwide government. America's orbiting space station, designed as a military outpost for dropping bombs on our enemies, has now become a scientific station. Astronomers working at the station discover intriguing evidence that Percival Lowell's canals may actually exist. This spurs the world to take action, and to send a flotilla of 10 spaceships and 70 men to Mars to investigate.

For a reader looking for an action/adventure tale, this is not your book. Although the characters face challenges and dangers, none of it is presented in a fantastic manner. The story takes a realistic approach, from convincing the government to fund the mission, to the challenges of designing all of the spaceships, to the tedium of a 6-month journey to Mars. While the discoveries on Mars are pure fantasy, von Braun has made what is found on that planet more of a cautionary tale than one of danger.

However, for a reader interested in technology, the story has much to offer. It's not called a "Technical Tale" for nothing. The bulk of the book deals with the technological aspects of a trip to Mars. Von Braun wrote not only a piece of fiction, he also made sure that all of the designs presented were feasible. In fact, the book includes an appendix with all of von Braun's calculations. Considering the book was written in 1949, von Braun was able to design an achievable mission using the technology of that time. Since computers of 1949 filled entire rooms, the mission uses computer tapes with all possible contingency plans, which could be run on the smaller computers on the spaceships. Means of radio communication were developed to compensate for the weak transmitters and receivers of the time. Nuclear power and solar panels were not an option, so solar heated steam generators would provide the electricity. And the idea of

(Continued on page 18)

Digital Cosmos

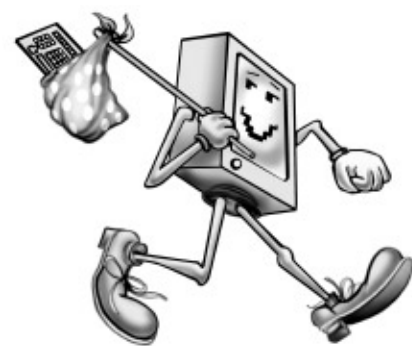
Adam Thanz
Bays Mountain Planetarium
Kingsport, TN

Using Stellarium in the Classroom

Our planetarium has been closed down while we go through a major refurbishment. So in the meantime, Jason Dorfman and I have been providing a program in a classroom downstairs on weekends that is half what's up in the night sky and half update of the planetarium project. We make the night sky part interactive by using the computer program Stellarium and handing out star charts.

We start with introducing daily sky motion, the position of major planets, and describing what a constellation is. After zooming in on a constellation and having only the constellation lines on, we ask them to tell us what pictures they see. This allows them to use their imagination before we tell them what the "official" picture is. It also lets them see how the constellations formed. We describe how these pictures started by people using them as characters in a great play. We try to bring to life that the night sky was the first storybook. We then turn on the constellation pictures so they can see how fanciful they are. Stellarium is great in that it has the constellation pictures from many different cultures available. Then the paper star charts are handed out and we start with a basic overview of how to

use them. The ones we use are from SkyMaps.com. They are excellent charts. We have permission to distribute them and we let visitors know that they can download



the new chart each month at the beginning of the month for free. Using the knowledge of how to use a chart, our visitors are asked to find a specific constellation on the chart without us showing where it is first. This lets them use higher reasoning skills and to apply the previously learned skills in a different circumstance. The second half is a Keynote presentation that provides highlights of the equipment and photos from "behind-the-scenes." Most folks like this approach and we try to make it fun.

A note about Stellarium and how you can make it better for your use: It is freeware and open source. It has been getting better and better as programmers keep adding and updating it. It has a large star database and is very fast on a modern computer. It also has many different constellation culture images and ground panoramas to choose from. Even as great as it is, I have modified the program to make it more useful for me. Note: The following descriptions are for the Mac OSX, version 0.9.1. I don't know about the versions for other platforms like Windows or Linux. I'm sure there is some similarity in file structure.

The texture maps for planets and moons that come with the program are low resolution and square in format. This is fine for seeing an object when it is small in the sky, but when you zoom into one, the surface has no detail. To fix that, you need to replace the texture maps it has to higher resolution ones. On a Mac, you need to highlight the application and control-click on it and select "Show Package Contents." Then, go through the folders: "Contents," "Resources," and "textures." You can replace the planet and moon maps with better ones and that have the standard ratio of 2:1. The trick is that they need to have pixel sizes of 128, 256, 512, 1024, 2048.... Notice it is not a multiple; the other increments, like 384 and such, will not work. It is a doubling. Trust me, the result is a messed-up planet or moon with a distorted gore. Typically, a good texture map size is 2048 wide by 1024 tall. Half of each dimension (1024x512) is fine as well. Replace the images with ones that are the same name and are PNG format. Don't replace Saturn's rings. Better texture maps of the planets and moons can be found online through USGS, NASA, and other places as well. Search for "[planet name] texture map." If you have a slower machine, you may not be able to put in the higher resolution images as it may slow the system. Unfortu-

(Continued on page 13)

Stellarium (Continued from page 12)

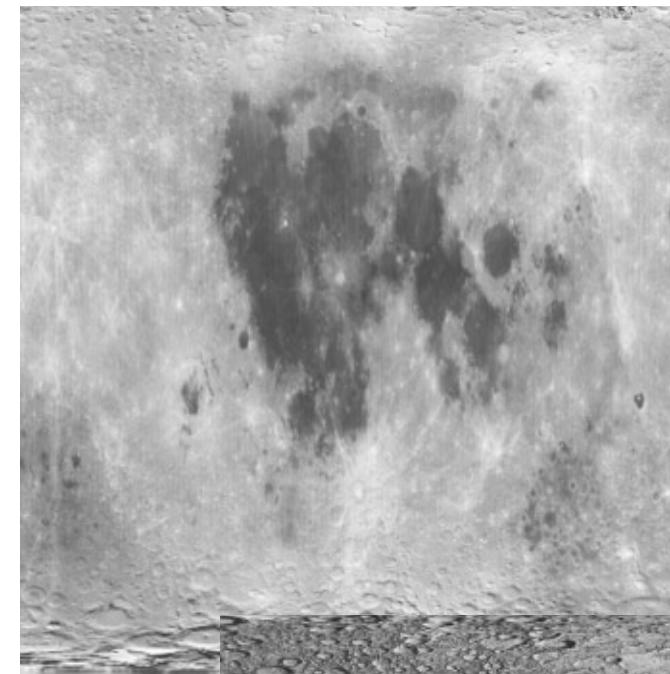
nately for the program, non-round moons like Phobos and Deimos are shown round, not as "potato" shapes. Now when I zoom in, I can show lots of detail and talk about surface features.

The other modification I did was to modify the config file that the program reads upon opening. The main reasons were so that it started with a wider field of view, the view was set to have the horizon low, have our location and altitude on earth as the default, and to brighten the Milky Way so it would be easier to see with a data projector. Another reason was that some of the built-in ways of setting some of these (like place on earth as default), did not work through the built-in interface. On a Mac, go to "Users," "[your user name]," "Library," "Preferences," and "Stellarium." Open the config.ini file in a text editor and look at the settings. You should be able to modify what you want. Save with the .ini extension, not .txt. It was worth messing with so I didn't have to do the adjust-

ments described earlier to the program every time I opened it.

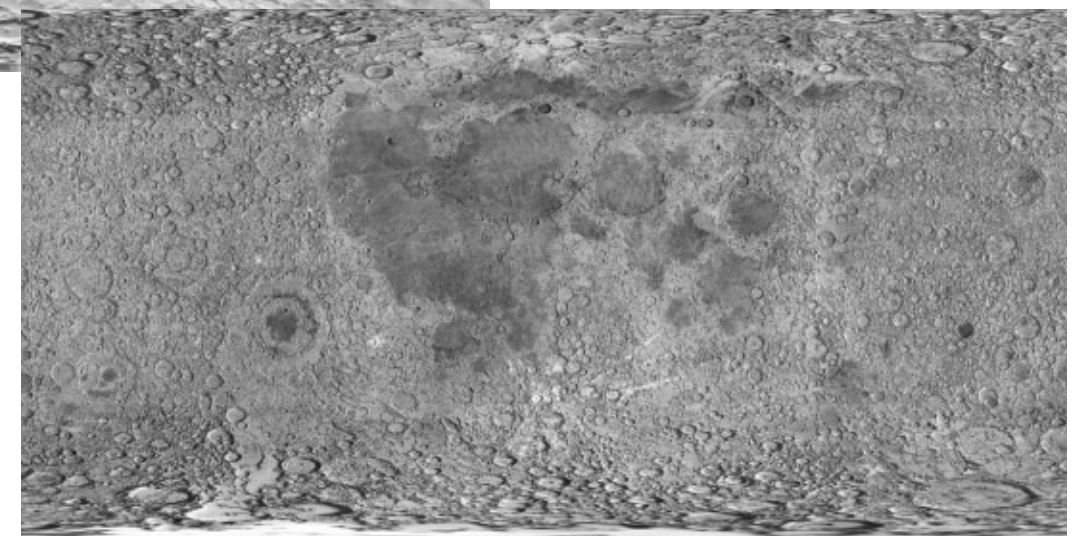
Now, I can use all the great features of Stellarium and the new modifications so I can zoom in to a planet or moon. Since Stellarium rotates the planets correctly based on the date, you can use it for real observing. You will know if the Great Red Spot is visible or which moon is which around any of the Jovian planets. There are many features of Stellarium that I did not cover. It can be scripted so you can create a full show with it, you can control a Go-To telescope with it, you can add your own content like stars, panoramas, etc. I recommend downloading the User's Guide. It includes all the details necessary to do whatever you want. There are lots of programs that have similar features, but since Stellarium is free, it is worth playing with. You may have advanced students that could use it to create their own programs or modify it even more. It has a very simple interface and is fun to use.

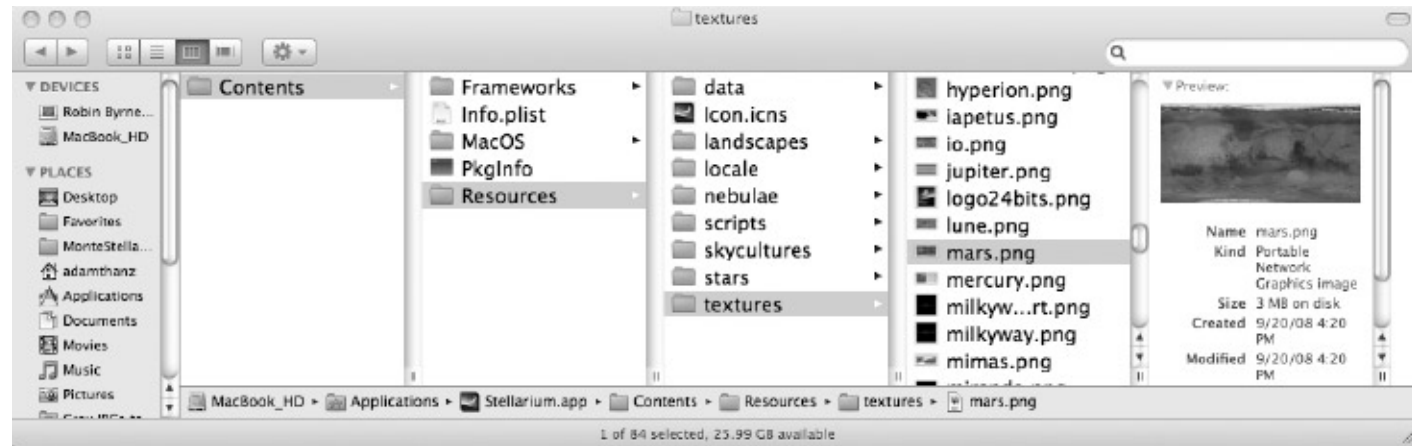
(Continued on page 14)



LEFT: Here's the original moon image used. Notice that craters are barely discernible.

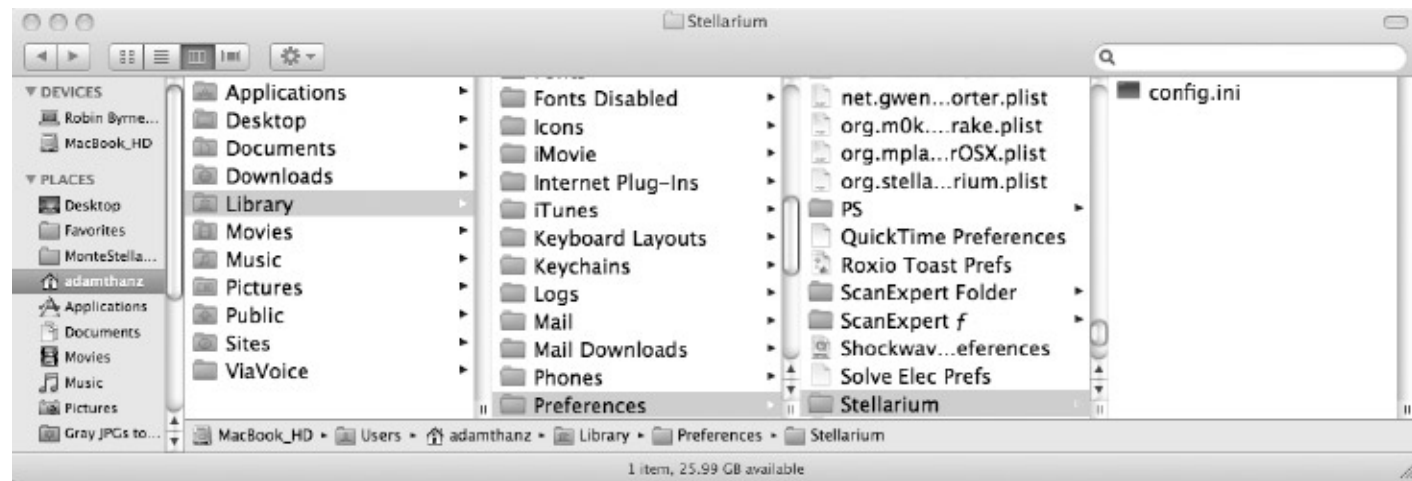
BELOW: This image is higher in resolution, in a standard 2:1 ratio, and you can see craters. So can your audience. The 2:1 ratio comes from converting from polar to rectangular coordinates. The distance from pole to pole on a sphere is half the distance going around the equator. The higher the resolution, the cleaner the poles look. You'll be less likely to see the pinching of the image.





ABOVE: This shows the heirarchy folder structure to find the texture maps within the contents of the Stellarium program.

BELOW: This shows the heirarchy folder structure to find the config.ini file.



This shows how I want the program to start. Notice the wider field of view (fov) and that the horizon is low on the screen and centered on the southwest.

This list shows the expanse of settings for Stellarium. The ones I modified are in bold.

Stellarium Config.ini File

```
[main]
version = 0.9.1

[video]
fullscreen = true
screen_w = 1024
screen_h = 768
bbp_mode = 32
horizontal_offset = 0
vertical_offset = 0
minimum_fps = 18
maximum_fps = 10000
distorter = none
non_power_of_two_textures = false

[projection]
type = stereographic
viewport = maximized
flag_use_gl_point_sprite = false

[spheric_mirror]
projector_gamma = 0.45
projector_position_x = 0
projector_position_y = 4
projector_position_z = 0
mirror_position_x = 0
mirror_position_y = 5
mirror_position_z = 0
mirror_radius = 0.34
dome_radius = 5.0
image_distance_div_height = 2.2
projector_delta = 10.0
flip_horz = true
flip_vert = false
distorter_max_fov = 180
flag_use_ext_framebuffer_object = true

[localization]
sky_culture = western
sky_locale = system
app_locale = system
time_zone = system_default
time_display_format = system_default
date_display_format = yyyyymmdd

[stars]
star_scale = 1.1
star_mag_scale = 1.3
star_twinkle_amount = 0.300000011920929
max_mag_star_name = 1.5
flag_star_twinkle = true
flag_point_star = false
mag_converter_mag_shift = 0.0
mag_converter_max_fov = 60
mag_converter_min_fov = 0.1
mag_converter_max_mag = 30.0
mag_converter_max_scaled_60deg_mag = 6.5

[gui]
flag_show_fps = true
flag_menu = true
flag_help = false
flag_infos = false
flag_show_topbar = true
flag_show_time = true
flag_show_date = true
flag_show_appname = true
flag_show_fov = true
flag_show_selected_object_info = true
flag_show_flip_buttons = false

[landscape]
viewing_mode = horizon
flag_landscape = true
flag_fog = true
flag_atmosphere = true
flag_landscape_sets_location = false

[viewing]
atmosphere_fade_duration = 2
flag_constellation_drawing = false
flag_constellation_name = false
flag_constellation_art = false
flag_constellation_boundaries = false
flag_constellation_isolate_selected = false
flag_azimutal_grid = false
flag_equatorial_grid = false
flag_ecliptic_line = false
flag_meridian_line = false
flag_cardinal_points = true
flag_gravity_labels = false
flag_moon_scaled = true
moon_scale = 4
constellation_art_intensity = 0.5
constellation_art_fade_duration = 1.5
flag_chart = false
flag_night = false
light_pollution_luminance = 0.0
flag_constellation_pick = false

[astro]
flag_stars = true
flag_star_name = true
flag_planets = true
flag_planets_hints = false
flag_planets_orbits = false
flag_light_travel_time = false
flag_object_trails = false
flag_nebula = true
flag_nebula_name = false
flag_nebula_long_name = false
flag_nebula_display_no_texture = false
max_mag_nebula_name = 8
nebula_scale = 1
flag_milky_way = true
milky_way_intensity = 3
flag_bright_nebulae = false
flag_nebula_ngc = false
meteor_rate = 10
flag_telescopes = false
flag_telescope_name = false

[navigation]
preset_sky_time = 2451514.250011573
startup_time_mode = Actual
flag_enable_zoom_keys = true
flag_manual_zoom = false
flag_enable_move_keys = true
flag_enable_move_mouse = false
init_fov = 100
init_view_pos = 0.8,-0.8,1
auto_move_duration = 1.4
mouse_zoom = 10
move_speed = 0.0004
zoom_speed = 0.00035

[files]
scripting_allow_write_files = false
flag_script_allow_ui = false

[scripts]
scripting_allow_write_files = false
flag_script_allow_ui = false

[init_location]
name = Bays Mountain Park
latitude = +36d30'0.00"
longitude = -82d37'8.80"
altitude = 460
landscape_name = guereins
time_zone = system_default
time_display_format = system_default
date_display_format = system_default
home_planet = Earth

[night_color]
default_color = 0.458,0.509,0.671
gui_base_color = 0.7,0.2,0.1
gui_text_color = 0.9,0.4,0.2
azimuthal_color = 0.3,0.2,0.1
equatorial_color = 0.1,0.2,0.3
equator_color = 0.2,0.2,0.6
ecliptic_color = 0.6,0.2,0.2
meridian_color = 0.2,0.6,0.2
const_lines_color = 0.5,0.1,0.1
const_names_color = 0.8,0.2,0.2
const_boundary_color = 0.8,0.3,0.3
nebula_label_color = 0.3,0.3,0.7
nebula_circle_color = 0.2,0.2,0.8
star_label_color = 0.2,0.2,0.8
cardinal_color = 0.8,0.1,0.1
planet_names_color = 0.8,0.2,0.2
planet_orbits_color = 0.8,0.2,0.2
object_trails_color = 1,0,7,0
telescope_label_color = 0.6,0,4,0
telescope_circle_color = 0.6,0,4,0

[default_color]
default_color = 0.458,0.509,0.671
gui_base_color = 0.458,0.509,0.671
gui_text_color = 0.8,0.87,0.87
azimuthal_color = 0.3,0.2,0.1
equatorial_color = 0.1,0.2,0.3
equator_color = 0.2,0.2,0.6
ecliptic_color = 0.6,0.2,0.2
meridian_color = 0.2,0.6,0.2
const_lines_color = 0.13,0.19,0.24
const_names_color = 0.31,0.38,0.46
const_boundary_color = 0.3,0.1,0.1
nebula_label_color = 0.15,0.65,0.65
nebula_circle_color = 1.0,0.68,0.20
star_label_color = 0.4,0.3,0.5
cardinal_color = 0.77,0.22,0.1
planet_names_color = 0.46,0.51,0.67
planet_orbits_color = 0.69,0.2,0.2
object_trails_color = 1,0,7,0
telescope_label_color = 0.6,0,4,0
telescope_circle_color = 0.6,0,4,0

[base_font_size]
base_font_size = 14
base_font_name = DejaVuSans.ttf
flag_show_script_bar = false
mouse_cursor_timeout = 2
day_key_mode = calendar

[base_color]
default_color = 0.458,0.509,0.671
gui_base_color = 0.458,0.509,0.671
gui_text_color = 0.8,0.87,0.87
azimuthal_color = 0.3,0.2,0.1
equatorial_color = 0.1,0.2,0.3
equator_color = 0.2,0.2,0.6
ecliptic_color = 0.6,0.2,0.2
meridian_color = 0.2,0.6,0.2
const_lines_color = 0.13,0.19,0.24
const_names_color = 0.31,0.38,0.46
const_boundary_color = 0.3,0.1,0.1
nebula_label_color = 0.15,0.65,0.65
nebula_circle_color = 1.0,0.68,0.20
star_label_color = 0.4,0.3,0.5
cardinal_color = 0.77,0.22,0.1
planet_names_color = 0.46,0.51,0.67
planet_orbits_color = 0.69,0.2,0.2
object_trails_color = 1,0,7,0
telescope_label_color = 0.6,0,4,0
telescope_circle_color = 0.6,0,4,0
```


they may be unsure of what profession they want to go into. But, with the right student, they can have exceptional skills that will augment your facility. It is worth the short time of training (even if it is a few weeks). They will take their new skills out to the world. They may go into science, but if not, they will have an appreciation for the sciences. You'll get so much out of someone who is young, idealistic, and dare I say, "starry eyed." Try to find a special project that they can do on their own. That type of personal investment will also build character since they will be responsible for that project. Assess as the project goes along. If a problem arises, this is a great way to educate. Never tell them why it is wrong, but ask them what they think may have gone wrong and how to fix it. Good educators guide, they don't tell. I will get off my educator soapbox now.

I was hoping to write that our log home was finished by this last article. Unfortunately, progress has slowed down quite a bit. The electrical work has been done, but there is still much more to do until we can move in. I will write about our home when it is done.

Speaking of writing articles, please write articles for James to include in the journal. James does an incredible job with the journal, but remember, it is YOUR journal. I know that there is much activity in your facilities and we want to hear about it. James is right when he wrote in the Summer 2008 issue of "Southern Skies" about "...starting with a small leap instead of a huge leap." The point is, we all learn when we share. Take that small leap. I do want to thank Woodrow Grizzle of Jonesville, VA for his archeoastronomy column article. Quite interesting! I can't wait to read his next installment.

Jon Elvert of the Louisiana Art and Science Museum in Baton Rouge, LA will write the next President's article for the journal. I'm sure he will do a splendid job representing the membership of SEPA. I look forward to his style of leadership and the programs he will want to implement. Jon will be President on January 1, 2009, and be so for two years. I also welcome April Whitt of the Fernbank Science Center in Atlanta, GA as President-Elect. She will provide a special grace that is her natural character to the Council. John Hare of Ash Enterprises in Bradenton, FL will carry on as the IPS Representative

and will do the great job that he has always done. His long experience is much valued. Mickey Jo Sorrell from the Morehead Planetarium and Science Center in Chapel Hill, NC will remain as Secretary/Treasurer. She has taken to this position superbly and will continue to do so. I respect her sense of calm and thoughtful insight, even if I do mispronounce her name at the SEPA business meeting. Last, but not least, I would like to thank Patsy Wilson of Horizons Unlimited in Salisbury, NC for her six years of Council work with SEPA and also her guidance to me. She will be leaving Council, but not SEPA. I truly appreciate her ideas and straightforward sensibilities. I know that I will continue to ask her opinion. Lastly, I want to thank you, the SEPA membership, for your support. A lot of work goes into this position and I have tried to do my best for you. But, there is always more to do. SEPA is made not of five people in Council, but of the entire membership. You are the reason SEPA exists. I have also enjoyed visiting many of your facilities over the years. Not only during a conference, but also on personal time to visit my good friends in the planetarium profession. What a great way to live! Again, thank you and I'll see you in the planetarium.

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Sykes of the Planetary Science Institute and Dr. Neil deGrasse Tyson of the American Museum of Natural History is available on line. Visit: <http://gpd.jhuapl.edu/index.php>.

A short video on this topic "What is a Planet," is also available for downloading at http://nasascience.nasa.gov/images/animations/what_is_a_planet_nonCC.mov/view.

Questions about the SEPA planet program distributed last year

Last year I used the planet program I got as part of my SEPA membership for several school programs in my 20ft. dome. The good thing about the program is it fit into a class period. The bad thing was that it lacked the interactive activities I do in the planet program that I do live, such as turning on an UV light when showing UV pictures of Venus's cloud tops, passing out 3 D glasses and looking at Mars rover pictures in 3D, doing an interactive demo with a tennis ball Uranus showing it is tipped on its side as it orbits the sun, (posing as the sun in my demo is the star projector in the middle of the room) and looking at the current positions of the planets in the sky and learning to measure sky distance in degrees using fingers and hands.

I would love to hear stories about how you use your new planet program and any audience response. Many of the people who saw both of my programs liked the longer interactive one. Please share comments, especially if you have done the new SEPA planet program and/or done interactive programs in your dome.

Joining the Digital Revolution

O.K. I am trying. I now own three flash drives. I have shown digital movies from one of my flash drives in class. I received a reconditioned lap top last summer for my home use. I now get dome-l in my e-mail inbox.

After reading the scary news about going all digital in the dome on dome-l, it is just a matter of time, before I have to do something. The question is what?

I am a 20ft. planetarium with minimal budget and

some, but not an overwhelming amount of administrative support. Does anyone have any ideas for me? Things that might work?

Has anyone used Wii smart boards with their digital projectors?

Digital Projectors for the dome, LCD? How about Barco?

I know there are many vendors out there who might have some answers. Can one go into the digital waters slowly? If so how? Share your views here to help other planetaria considering the change.

Thanks and Share Your Views

I included contact information so you can share information about anything in this column. I would also like to thank Leah Bug from NASA's Pennsylvania Space Grant Consortium, K-12 email newsletter. If you aren't on your local state list, I highly recommend her at leahbug@PSU.EDU and ask to be added to her K-12 teacher's list.

Betty Wasiluk, Berkeley County Planetarium, Hedgessville High School, 109 Ridge Road - North Hedgessville, WV 25427, 304-754-3354 ext. 3140 ewasiluk@access.k12.wv.us

Archeoastronomy (Continued from page 9)

Rappenglueck, Michael A., "The Pleiades in the 'Salle des Taureaux', Grotte de Lascaux. Does a Rock Picture in the Cave of Lascaux Show the Open Star Cluster of the Pleiades at the Magdalenian era (ca 15.300 BC)?" *Actas del IV Congreso de la SEAC* 2002: 217-225

Rappenglueck, Michael A., "Lunar calendar in the Lascaux cave." *Migration and Diffusion, an International Journal* 5 (18). 2004: 93-119

Whitehouse, David, "Ice Age Star Map Discovered." *BBC News* 09 August 2000 <<http://news.bbc.co.uk/2/hi/science/nature/871930.stm>>

sending an unmanned probe to take a closer look at the other world wasn't even a consideration.

Meanwhile, the social aspects of the story can be a little uncomfortable for a 21st century reader. Apparently, it never occurred to von Braun that women might one day do more than be supporting housewives who stay home while their husbands go off on a 3-year mission. No women are found in the government, as scientists, among the engineers and designers, and certainly not among those who actually travel to Mars. Because it is a one-world government, von Braun includes characters from other countries (although the majority are from the United States). It is clear that von Braun held some stereotypical and bigoted views of certain nationalities, as seen in his descriptions of various characters. Although not heavy-handed, the characterizations stand out to today's readers.

So, is this book for everyone? Probably not. However, for geeks like me who enjoy the history of science, the technology of space travel, the myriad details that are involved (while letting slide some of the social aspects), it is a compelling look at what could have already been accomplished 50 years ago.

story of the telescope and the astronomers who used them to make dramatic discoveries. Time lapse, all skies, and full dome video will transport the planetarium audiences to some of the largest observatories in the world, as well as places of historical significance.

The planetarium show will be produced in 2 formats: 1) a digital full dome show distributed as dome masters with audio in several languages, and 2) a traditional dome version distributed on DVD's featuring stills, video clips, audio, and other resources for non-digital domes.

The traditional version will be distributed FREE to all International Planetarium Society Members.

The digital full dome version will be made available at a cost of \$5-7K for a permanent license.

Laser Talk

Susan Barnett
Buehler Planetarium & Observatory
Davie, FL

ILDA Conference 2008

The ILDA Conference 2008 was held September 8 – 13, 2008. Hosted by LaserNet Production of Miami, Florida, this meeting was memorable since it was held on board the Carnival cruiseship Imagination. Organized by Tom Harmon and Christine Jenkins, meeting included board elections, technical workshops, and an award ceremony, among other events (including a wedding – congratulations to Glenn Wright of LaserNet and his new bride.)

Part of the business meeting included reports from various committees. Of particular note is the reformation of the Planetarium Committee. It was reconvened by its new chair, Mark Bennett of the Miami Space Transit Museum of Florida. Other planetarians in attendance were Simon Böttcher of the Hamburg Planetarium in Germany and Susan Barnett of the Buehler Planetarium & Observatory of Davie, FL. The goals of this committee include education, ie passing on new knowledge and techniques. Another goal is to be a clearinghouse, to gather information about who is doing what. A third goal is to promote and recruit more planetarians to utilize lasers.

The Board of Directors of ILDA consists of five members, each serving a two-year term. Three terms were up for election, and a fourth was added due to a resignation. Board members are Dirk Baur of MediaLas, Peter Mayer of Creative Laser Production, Christine Jenkin of LaserNet, and Paul Berthot of Clandestine Systems. The fifth member was elected ILDA President by acclamation, Tim Walsh, who is serving his second term.

A discussion/seminar was led by Christine Jenkin, chair of the Professional Status Recognition committee. In 2004, members had voted to establish

a way to identify Members who had higher-level qualifications for doing laser shows. There are three areas of certification/accreditation under consideration: ILDA Professional for lasershow-producing companies, ILDA Certified for equipment, and one other category for individuals. Discussions are continuing to design objective and qualitative means of designing criteria.

The Technical Workshop included information about the Qm2000.net Laser Controller from Pangolin, the PASS Professional Audience Safety System, the LASORB laser diode protection, Necsel diode lasers, an ILDA Test Pattern generator and scanner tester, and the infinity laser projector from MediaLas. The ILDA Safety Workshop addressed safe and dangerous audience scanning. The ILDA Artistic workshop, a Pangolin users group workshop and the ILDA Tabletop Tradeshow attracted most registrants of the conference. For more information about any of these topics, please check out the ILDA website at www.laserist.org, and look up the ILDA Conference 2008.

The ILDA Awards Ceremony and the ILDA Laser-Off were held in the ship's main theatre and were open to all cruisers. In addition, MediaLas provided three Infinity Showlaser projectors for a Lido Deck Party late one night for all cruisers.

ILDA is a tremendous resource for anyone utilizing lasers, or considering them. For more information, contact ILDA or Mark Bennett of the Miami Space Transit Planetarium at 305-646-4269.

Laser Talk

Cover picture:

Andromeda Galaxy

Canon 20Da DSLR and a Televue 0.8x reducer corrector attached to a 90mm f/6.9 refractor. The total exposure time was 5hrs 24 minutes (108 x 3min subexposures).

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News From SEPA States

Kika Silva Pla Planetarium
 Santa Fe College
 Gainesville, FL

Laurent Pellerin reports: The Kika Silva Pla Planetarium at Santa Fe College celebrated its First Year Anniversary of opening to the Public and Schools on September 20, 2008. And what a first year it has been, both for the Planetarium and for me!

I had moved to a new city with an atmosphere totally unlike the Metro-Orlando area I was used to. Gainesville has been described as a Suburb in search of a City, but I find it to be more like a piece of a large city dropped into a Rural countryside. We have museums and theaters (and of course Championship College Sports Teams) that rival those of major cities, yet only a few miles away you'll find wide open countryside with very rural pastimes. I love the dichotomy of this area. I also met a wonderful woman and we were married in June. We are now blending two families and preparing to move out onto some acreage we own out in the country where the Milky Way still shines brightly. And I am also dealing with my oldest daughter moving out on her own even though she is attending Santa Fe College and even works on campus. (You take care of them, raise them, and what do you get in return? They grow up and make you feel old!)

As for my new college, it too has grown up during my first year here. Santa Fe Community College, home of the Kika Silva Pla Planetarium, became a 4-year college offering Baccalaureate degrees in intense demand fields like Health Systems Management and Medical Laboratory Technology back in July. With the new status, our name has changed to Santa Fe College.

But the greatest growth has certainly been the Planetarium. I cannot believe the response from the community! Even before we opened, every time someone noticed my name tag in a store they would start asking me when the Planetarium was going to open, what kind of shows would we have, and so on. Gainesville has been eagerly awaiting their own planetarium so that they would no longer have to drive 100 miles to visit one.

It has been a whirlwind year. We opened with 2

FLORIDA

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

**Florida Planetarium Association
 (FLORPLAN)**

Contact George Fleenor for details.

Buehler Planetarium
 Broward College
 Davie, FL

Susan J. Barnett reports: We run public shows four days a week. The weekend shows and monthly specials include *Our Place In Space*, *In Search of New Worlds*, *MoonWitch*, *Springtime of the Universe* and *Clouds of Fire: The Origin of Stars*.

We have been covering the county with MAP, our Mobile Astronomy Program, ie our portable planetaria. We find it a very effective way to serve our youngest clientele.

The Buehler Observatory has viewing four times a week. It has free public observing Wednesday, Friday, and Saturday evenings. In addition, we observe the Sun on Wednesday afternoons.

Back in the theatre, the noteworthy news is we are completing some power upgrades.

shows to start with... one on Friday nights featuring our Goto Chronos Projector and one on Saturday nights featuring our Spitz SciDome projector, and we had over 500 people show up for our Grand Premier show! With only 64 seats! And a year later? Our show library has grown to four in-house productions and ten full-dome presentations. We still had to add shows on our Anniversary to handle the crowds... We did nine shows on the 20th for 350 people, with another 50 or so people who came for telescopes but didn't get in to a show. With the economy and being a brand new facility, I was hoping for 10,000 to 12,000 people during our first year, but we actually hosted over 16,500 guests!

With the response of the public on our opening night, I was able to get funding for a part-time assistant, Kristin Fiaccato, who had just graduated from the University of Florida with degrees in Astronomy and Physics. I was also able to get a local real estate company to donate \$20,000 to purchase Full-Dome shows to increase our show times to handle the crowds. Even after a year, and running six shows per weekend, we still frequently sell out our seats! We now run live interactive in-house productions at 7 PM on Fridays and Saturdays. We run shows from other planetaria and show providers at our Saturday Matinees and Saturday Children's Matinees. Gainesville loves being able to see world class shows from the Hayden, Clark, Denver, etc. It fits right in with the world class shows that they see at the theater and world class exhibits they see at the Art and Natural History museums, but our live shows are still the most popular. We are also running "Music360" shows at 10 PM on both nights. Our new Music360 show, "Rock on Demand," is selling out often.

One of my first duties was to put together a "Planetarium Advisory Committee" (PAC.) I am happy to say that we have a great PAC. With Jack Horkheimer, Jon Bell, George Fleenor, and Carole Holmberg on it, how could it be anything less than great? Between the five of us, we have well over a century of planetarium directorship experience! We also have representatives from the two local school boards, a local celebrity and fund raiser, and the Director of the University of Florida Teaching Observatories (Campus Teaching Observatory (CTO,) Rosemary Hill Observatory (RHO,) and

University of Florida Radio Observatory (UFRO.)) As for the schools, Santa Fe College's service district includes only Alachua and Bradford Counties, but we have hosted field trips from schools and youth groups from 13 counties! One school drove 97 miles to visit us! Planetarium field trips, combined with the Santa Fe Teaching Zoo field trips, are in high demand. Hopefully the cutbacks in educationally funding won't deter these schools from returning.

Finally, we also received the donation of a Meade LX200 12" Telescope. With this telescope, we are providing our Friday night guests with a chance to see what we talked about in our show. (Only show guests can view so that we are not competing with the UF Teaching Observatory's Public viewings a few miles down the road.) And on the Wednesday night closest to 1st Quarter Moon each month, we pack up the scope and head out for some free "Sidewalk Astronomy" viewings for the general public. These viewings are held at widely scattered locations throughout our two-county service district. This allows us to bring astronomy to people up to 50 miles away who otherwise might never look through a telescope. (It also gets them to make the drive into Gainesville to see our shows!)

As you can see, I am being kept very busy.



Tellus Planetarium
Tellus Northwest Georgia Science Museum
Cartersville, GA

David Dundee reports: A new planetarium opens to the public on January 12th! Tellus NW GA Science Museum opens in Cartersville Georgia. The planetarium is a 40 foot dome, MediaGlobe 2 facility. It has 125 seats. We have an observatory too! We will open with a 20" PlaneWave telescope armed with a 90mm solar telescope. This is all part of a 165,000 square feet of exhibit space science museum. Tellus

has four big exhibit halls, one has gems and minerals, one is the hall of dinosaurs, one has an interactive children's area, and one has space capsules, space shuttle tire, rockets, space suits, cars, steam locomotive, Wright flier, jet engine and more. I am so excited to see things come together on this project and in fact this week the dinosaurs are being built, it's very cool.

Mark Smith Planetarium
Museum of Arts and Sciences
Macon, GA

Toby Click reports: On August 8 (8-8-08), Mark Smith Planetarium premiered *Updates From Mars*, an original production featuring some NASA-produced animations, as well as some produced in-house with Celestia. It has been very well-received, and we are even considering how we may adapt it for distribution to other planetaria. The trailer can be seen at <http://www.youtube.com/watch?v=553421pmlIU>

In September, our museum premiered an exhibit called *Merge Visual*, designed to explore the convergence of art and technology. One component of the exhibit was a new planetarium show, *Merge Visual: 360°*. We showcased video pieces produced by some of the artists in the exhibit, some specifically created just for our show. The overall idea is to use the planetarium dome as an artistic medium. Very uncharted territory, and I enjoyed working on this experimental project.

Due to the technical demands of *MV:360*, it was necessary to install three DVD players. We've had one for years, along with three laserdisc players, but now those proportions are reversed. Over the next few months, I will have my hands full adapting our whole repertoire to play on the new equipment. Also in the mix, a new LED cove lighting system, coming by way of ECCS.

To ring in the 2009 International Year of Astronomy, we will exhibit *Beyond: Visions of Planetary Landscapes*, from the Smithsonian Institution Traveling Exhibition Service. We look to debut *ViewSpace* at that same time, as well as an all-new planetarium show on the solar system, of the same caliber as *Updates From Mars*.

Planetarium
Georgia Southern College
Statesboro, GA

Becky Lowder reports: This has been a very busy semester at the planetarium with K-12 school shows, private group shows, as well as university astronomy labs and classes.

We just had our first public evening with 2 shows for the community with *AUTUMN SKIES*. I had a great time teaching everyone how to star hop around the sky to easily find the constellations, planets, and even another galaxy far away! The clouds parted outside so our telescopes gave close up views of Jupiter and Albireo. Star maps for all ages on different topics were given away as well as Moon maps. This was one of my favorite public evenings, simply sharing what I learned over the years to help me find my way around the sky.

On October 10, we will show the fantastic SEPA show, *THE PLANETS!*

Coming up on November 14, we will be testing a new show for the University of California at Berkeley, *STRANGE PLANETS*. This is an interactive show about how astronomers will search for Earth-sized planets and about the Kepler Mission.

I'm really looking forward to seeing the show myself!

Don't forget to put your name on the mission (namesinspace.seti.org) and print out your certificate. Share with your visitors as well!

HOLIDAY SKIES will be presented 3 times on December 6. This is a live show where we share what will be up in the sky over the holidays with festive lights, music, and refreshments for all ages! Our red laser will be Rudolph's red nose leading everyone across the beautiful December sky to find the planets and more. We always have candy canes, sky maps, and we make the December "star finders" from The Space Place at NASA (spaceplace.nasa.gov/en/kids/st6starfinder/st6starfinder.shtml) in holiday colors for the kids. They can take them home and use to find what constellations are up over their backyards until next

time, hope you all have a wonderful holiday season and joyful new year!



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

Jon Elvert reports: We too were closed for a week due to the hurricanes that roared through Baton Rouge, but sustained no damage. The hurricanes came just after a summer of good attendance primarily due to tourists and planetarium shows geared for a variety of summer camps.

After we installed our SXR D Sony projection system earlier this year, we began a series of live presentations taking audiences on a field trip through the universe. Using Sky-Skan's *Digital Universe* software we developed a *Hitchhikers Guide through the Universe* show that is presented in our daily show line-up and as a special event on Friday evenings once every four months. This show has been popular and really fun to present, and has reinforced the fundamental idea that using educational concepts with new technology can still inspire our visitors.

After some skepticism on how well a portable planetarium would be received in schools, our digital portable this year exceeded our expectations in terms of demand and revenue. With an uncertain economy and tight school budgets, we're anticipating a wider reach into outlying parish schools for the remainder of the school year.

Preparations for the Year of Astronomy are underway here too. In addition to participating in some of the IYA's cornerstone projects, particularly the 100 Hours of Astronomy, we're planning family telescope workshops, Galileo themed lectures, a one-time planetarium presentation take on Galileo's famed *Dialogue Concerning the Two Chief World Systems*

(presenters in costume), a telescope exhibit, and several sidewalk star parties throughout the year.

**Lafayette Planetarium
Lafayette Natural History Museum
Lafayette, LA**

Dave Hostetter reports: Things are getting back to normal at the Lafayette Natural History Museum & Planetarium after the SEPA conference in July. It was great to see everybody!

The Museum had no damage from hurricanes Gustav or Ike, although some of the staff had some minor problems. Much of Louisiana was hit very hard, particularly areas southwest of Lafayette that were only now recovering from hurricane Rita three years ago. One result is that school attendance at the Museum has temporarily stopped as teachers scramble to make up lost time –anywhere from a few days to a few weeks – from when their damaged schools were closed.

We are making our preparations for the International Year of Astronomy, and particularly hope to use our telescopes for a lot of sidewalk astronomy. By the time IYA starts, we also expect to have started a Young Astronomers Club as an after-school activity for teenagers and to have enlarged and improved the meteorite exhibit in the planetarium lobby. Funding is still being sought for our rooftop observatory, and we have reasonable hope that it will become a reality during IYA.

**Planetarium
Saint Charles Parish Library
Luling, LA**

Gary Meibaum reports: Our little facility made it through hurricanes Gustav and Ike with no damage. Gustav did close the library for a week due to lack of power and sewerage.

Our current shows include *Autumn Stargazing*, *Winter Stargazing* and *Season of Light* all from Loch Ness Productions.

We have been exploring free shows to add

to our collection. A great source is the series Cool Cosmos which can be found at: <http://coolcosmos.ipac.caltech.edu/videos/irrelevant/index.html>. Be sure to check out RATS (Robot Astronomy Talk Show)! We run a different one from the series at the beginning of our public shows. Another excellent source is from the International Year of Astronomy 2009 site: <http://www.astronomy2009.org/>. Here you can find a HD trailer for the upcoming IYA2009 activities. The Ask an Astronomer video series can be found at: http://coolcosmos.ipac.caltech.edu/cosmic_classroom/ask_astronomer/video/. Since we are a MEDIA-GLOBE fulldome facility, we download the movies in HD and then bend it via software to create a large display at the front of the dome. These shows can also be traditionally projected on the dome.

Shortly after this summer's SEPA conference in Lafayette, La, my associate Jason Talley and I attended the MEDIAGLOBE Users Group (MUG) conference in Ogden, UT. Weber State University hosted this intensive 4 ½-day training session on 3D production techniques for the digital dome. Groups of two people were each challenged to create a 5-minute show from scratch. We needed to write the script, record and edit the narration, add music and sound effects, and create the fulldome 3D visuals. The finished product was presented on the last day of the conference. It was amazing to see the creativity of the shows that were produced in such a short time.

**Sawyer Space Dome
Sci-Port: LOUISIANA'S Science Center
Shreveport, LA**

Greg Andrews reports: The Dayna and Ronald L. Sawyer Space Dome has transited its second summer, but not without a few changes. Two planetarium presenters left to pursue other venues, but that allowed us the opportunity to hire two great replacements. I am excited about working with our new staff members. They are fast learners, and their passion for astronomy (and physics) is definitely a bonus.

Our main summer program was the Summer Space Series. A star party was held every Thursday in July except for July 3rd. Each star party had a great turn-

out and I am positive our future star parties will be just as successful.

Our summer also brought Hurricane Gustav and Hurricane Ike. Although we were not in the direct path, Shreveport became a haven for several thousands of evacuees. Sci-Port opened its doors by offering free admission to evacuees which kept our daily attendance well above average! Sadly, Hurricane Ike closed Johnson Space Center for several days, but I am happy to see JSC is back up and running.

Prior to the hurricanes, JSC loaned Sci-Port their collection of Moon Rocks and we presented them to the public during that time frame.

The month of October will bring about two major changes to Sci-Port. We are celebrating our 10th anniversary with a 10-week celebration. The first week of October kicks off the Sci-Port Bike Ride: le Bon Tour Roule, where our CEO/President, Ann Fumarolo, and other staff are going to ride to Baton Rouge. This 4-day event is certainly worth keeping an eye on.

October will also bring about a name change. Starting October 1st, 2008, Sci-Port's name will be changed to Sci-Port: LOUISIANA'S Science Center. The reason for our name change is to signify just how broad our audience is - what started out as an educational and fun mission in Northwest Louisiana has now grown to include the entire state of Louisiana largely thanks to our outreach program having visited almost every parish in Louisiana. This is a great honor for us.



**Russell C. Davis Planetarium
Jackson, MS**

Gary Lazich reports: During the summer, the Planetarium presented two large-format films (*Dinosaurs*

Alive! and *The Human Body*) and two sky features (*More than Meets the Eye* and *Larry Cat in Space*). Early October featured *Ride Around the World*, a large-format film on cowboy culture worldwide, to coincide with the nearby State Fair. Mid-October saw the Jackson premiere of the large-format film *Pulse: A STOMP Odyssey* when the Broadway Show *STOMP* was playing at the Municipal Auditorium.

On Saturday, September 27, the Planetarium celebrated its 30th ("Pearl") Anniversary. Activities included free daytime Theater programs, demonstrations on living and working in Space by NASA Stennis Space Center, a Mayoral Proclamation, and recognition of current and pioneer staff members.

Earlier that week, the Jackson City Council voted to accept the first of a series of annual distributions from the Marie R. Hoerner Foundation. Ms. Hoerner was an avid world traveler who used to frequent the Backyard Astronomy sessions that then Assistant Manager Gary Lazich taught. Before her death in 2006, she established a foundation to endow three organizations she cared deeply about including the Planetarium. Star Gazer Jack Horkheimer, a close friend of Ms. Hoerner, serves as Foundation President and CEO.

After nine years as Assistant Manager and seven years as Manager, Gary Lazich tendered his resignation effective September 30. He has returned to the Chicago area to pursue a teaching career and wishes all his colleagues, "Clear skies!"

Rainwater Observatory & Planetarium French Camp, MS

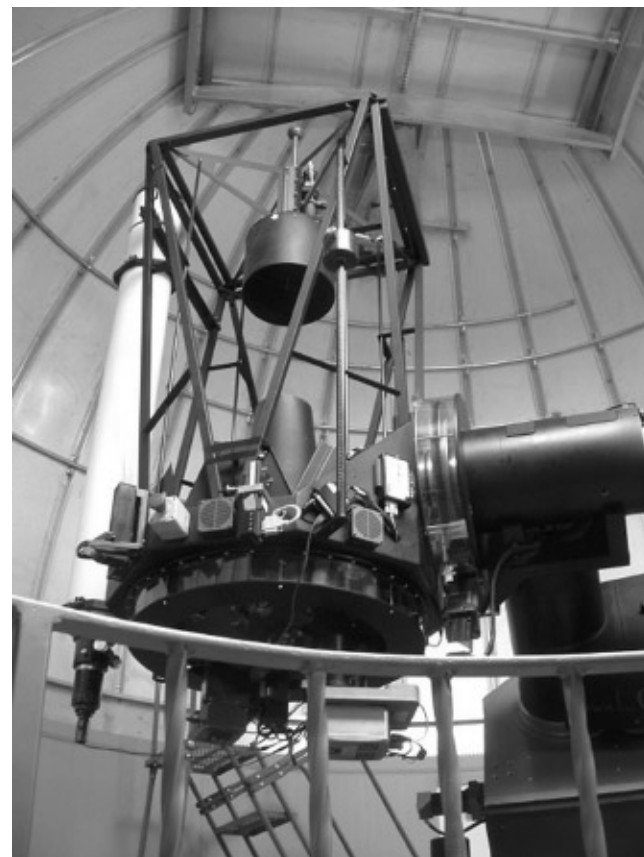
James Hill reports: If you've never been to Rainwater Observatory and would like to see some of what's here, here are a few images posted that you might like to download and view: <http://s289.photobucket.com/albums/ll218/rainwaterobservatory/>.

Thanks to the Mississippi NASA Space Grant Consortium, the Observatory was able to add a summer series of *Backyard Astronomy* that started out slowly but grew each week until the total reached 150. The fall *Backyard Astronomy* series moved to Saturdays to avoid conflict with football stadium lights. Spring *Backyard Astronomy* sessions will take place on the

Friday evenings of March 2009.

Educators can take advantage of workshops on Research Telescope Experience October 31 through November 1 ([http://www.rainwaterobservatory.org/programs/handson_copy\(1\).html](http://www.rainwaterobservatory.org/programs/handson_copy(1).html)) and Hands-On Astronomy Activities February 27 through 28, 2009 (<http://www.rainwaterobservatory.org/programs/handson.html>) The annual Mid-South Star Gaze will run from April 22 through 25, 2009. The Sangre 25" research-grade telescope had been giving error messages during attempts to connect to the remote control computer. Replacement of a faulty "smart" switch brought the telescope back to life. The Mallincam video camera on the telescope is working but still can't connect through the control computer. Las Cumbres Observatory, the source of the Sangre, will be sending someone to upgrade the software controlling the telescope. A CCD camera and a spectroscope will be operating and the catalog of objects will expand.

The Observatory has been able to "Y" off a new fiber optic line to a nearby dorm. The plan is to bring the line to the Sangre facility and then connect to an existing fiber optic line between the Sangre facility and the classroom and meeting room. Once



that is done, the Observatory will add a local wireless transmitter for people to be able to use laptops on the field. The whole system will be connected to French Camp's T-1 line for higher speed Internet access than the current dial-up.

Rainwater has joined the Mississippi Center for Nonprofits. In the next year the Observatory will have to become financially self-supporting. An MCN workshop on setting up 501(c)(3) status in September was a great help. Forms to make the Rainwater Astronomical Association a tax-exempt organization should go out before the end of the year. This will allow the Observatory to take donations and give tax donation receipts. A "Friends of Rainwater" support organization and a fundraising effort should begin this autumn.

NORTH CAROLINA 

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Woodson Planetarium, Salisbury, NC
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James H. Lynn Planetarium Schiele Museum of Natural History Gastonia, NC

Jim Craig reports: The James H. Lynn Planetarium at the Schiele Museum of Natural History in Gastonia, NC is gearing up to produce its first original program since 2002. Titled *Carl's Solar System Adventure*, it features a boy and his family touring the solar system on a trip to visit a family member who lives on Earth. Like the family vacations we all remember from our childhood, everyone loads up in the family car (in this case, a souped-up SUV equipped with interstellar engines) and hits the road. They'll hit all the tourist spots along the way and send postcards to friends back home.

This program is still in the pre-production stages with script, storyboard and production design in progress. Our planetarium director, Jim Craig, will produce script and animation with help from other staff members in the planetarium and around the

museum. Although we could produce this program for our Electric Sky system, this is going to be a classic slide/DVD based production so we can cut costs by using slides produced by our former directors Steve Morgan and the late Jim Lynn. Any additional artwork and animation will be produced in house. We are also negotiating for original music to accent this program.

Millholland Planetarium Catawba Science Center Hickory, NC

Curt Spivey reports: We opened our new show, *Molecularium: Riding Snowflakes* on September 5. It's been very well received. *Molecularium* replaced *SETI* in our lineup, which got a great send off on August 23 when we had Dr. Seth Shostak, senior astronomer for the SETI Institute, came to Hickory for a lecture! We had around 150 in attendance, perhaps a few more if you count the Klingsons. Seth got an extended tour of Charlotte while we waited for his luggage to catch up from Dallas, but nonetheless had a great time!

Thanks to Bob and Christi at PARI for hosting this year's CAPE conference! As I am still new to the area, I enjoyed making contact with so many other domers from around the region. I'll get to do more networking next year, too – CAPE 2009 will be held at the Catawba Science Center! My boss and I are working out potential dates as we speak to see what works best (which means I'll be trying to accommodate those of you at school planetariums if at all possible). Stay tuned for more details as they become available...

Our laser shows continue to sell out! Having a radio sponsor is the best thing since sliced bread. We may even add to our lineup for this fiscal year if things continue like this. Thanks, AVI!

Lastly, two other shows will be joining our schedule in the coming months: *Infinity Express* will replace *Cardboard Rocket* on January 2, and the very excellent *Heart of the Sun* will succeed the very excellent *Astronaut* on March 6.

Have a great school group season, everyone!

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

Ken Brandt reports: The Robeson Planetarium is continuing its mission to serve the students and teachers of Robeson County. In addition to this, we are also planning events for World Space Week, and the kickoff for the IYA2009 on January 10th. a star party, and a presentation of the IYA DVD is on tap.

**PARI StarLab
Pisgah Astronomical Research Institute
Rosman, NC**

Bob Hayward reports: The CAPE (Carolina Association of Planetarium Educators) meeting at PARI in August was a great success. Fifteen people from six states attended the meeting. Reports were made on the SEPA and IPS meetings and on the status of two planetariums, new or undergoing renovation: Millholland Planetarium at the Catawba Science Center in Hickory and Bays Mountain in Kingsport TN. Presentations of new software by Richard Wright of Software Bisque were made and participants were able to see a demonstration of a virtual online planetarium by Pleiades Consulting, Inc. (Go to www.pleiades.ca/en/showroom-val.php for more information.) PARI is working with Pleiades to place its popular Smiley online radio telescope program into a virtual format. Of course, participants at CAPE had a tour of the PARI campus with particular emphasis on the Astronomical Photographic Data Archive (APDA) where over 40,000 photographic plates and spectra from observatories worldwide are now housed. PARI wishes to thank Kensington House, Ltd. and Science First for their financial support and in particular Jim and Shirley Smith for their participation as they slip gracefully into retirement.

Christi Whitworth received the very prestigious President's Award at the annual meeting of the Friends of PARI. This award is given annually to the outstanding staff member at PARI. At the same meeting Bob Hayward was recognized as a Distinguished Supporter of PARI.

PARI will hold a School of Galactic Radio Astron-

omy workshop at High Point University on November 8, 2008. Anyone interested in attending can register at the PARI website. Other host sites are being sought for more workshops in the southeastern U.S.

Requests for PARI's StarLab are coming in rapidly and it looks like a busy school year for those programs. On campus programs such as the scheduled weekly campus tours and the monthly Evening at PARI programs for the community are well attended and keep the staff busy.

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

Patsy Wilson reports: Our school season is in full swing with programming offered to K-6th grade students (and others by special request.) New curriculum-based programs include: *Space Weather Forecast*- 2nd grade; *Earth, Sun and Moon or Stars of the Night Sky*- 3rd grade and *Rocket Science* – 5th grade. In addition we offer a generic planetarium experience for kindergarten and *Friendly Stars* for first grade.

Our September public opening featured Hubble and the upcoming repair mission. It was titled, "*Hubble's Last Tour*". We also offered a rock laser show that evening. *Fright Lights, Laser U2* and *Laser Holidays* will be shown in the coming months.

In November, we will host a community opening of our entire facility that will focus on NASA 50th anniversary. Various space exhibits, hands-on activities, storytelling, art and other special activities will offer guests and families the opportunity to celebrate our space program and its history. The planetarium show will be a retrospective of great moments in NASA history.



**Bays Mountain Planetarium
Kingsport, TN**

Adam Thanz reports: Jason & I continue with our work, even if it is not under a dome. We are in the construction phase of our planetarium theater refurbishment at this time. As I write this, we are about a week away from the dome being installed. We are also working on our full-dome program entitled "Connections." It is a fascinating mix of nature and astronomy and shows how the two are related. Our goal is photorealism in the imagery and we are mastering at 4K. It's amazing how difficult creating a realistic field of grass can be. The space scenes will be outstanding and probably simpler to do. Go figure. Of course, we will be using our new Zeiss ZKP-4 for the star field with constellation overlays we create.

In the meantime, we have been providing a program in a classroom downstairs on weekends that is half what's up in the night sky and half update of the planetarium project. Details of what we do with the program and how we modified it can be found in another article in this journal entitled "Using Stellarium in the Classroom."

We have also been providing solar viewing on the weekends. I haven't seen a sunspot in many, many months! At least the H-alpha view provides something to see. We do need to have the H-alpha filter repaired, though, as it is drying out. If you have a Daystar filter and have noticed the field of view degrading, then it is losing its oil that keeps the mica clear. This is normal, but is made worse if it is allowed to get hot and cold and kept in a humid environment. The degradation looks like a darkening that encroaches inward from the outer edge and has a very soft boundary. Daystar is now run under a new family and they will refurbish your filter for a decent cost. The temperature controller (if yours has one) can also be replaced with a digital one.

By the time you read this, we will have finished our public observing session for the fall. But, we will be gearing up for our grand opening of our new theater set for February 14, 2009. It will be quite an exciting time for us.

I have also been working on getting plans set for the 2010 SEPA conference. I already have the hotel and conference center arranged. As I write this, I am working on scheduling some of the fun activities, arranging for a regionally well-known musician, and establishing the main speaker. The theme for the conference is "The Art of Storytelling." It is very appropriate as our corner of the world has taken storytelling to heart in many ways. The International Storytelling Center is about twenty miles away. So is ETSU (East TN State University) which provides degrees in storytelling. Plan on a great time and mark your calendars for June 8-12, 2010 in Kingsport, TN.

**Sharpe Planetarium
Pink Palace Museum
Memphis, TN**

Dave Maness reports: September has been a very busy month. I held the first of many future public observing sessions. This one was a little break from tradition of several years ago in that it was held on the grounds of Lichterman Nature Center. I've been told that in the past the majority of observing sessions were on the lawn of the Pink Palace. Lichterman offered a somewhat darker location being a few miles farther from downtown. Even though the remnants of a hurricane were nearby, the weather gods steered it around us and we had clear skies. Our next telescopic viewing night is October 11. That may be our last viewing until spring.

Gary Miebaum was visiting the area last month too, having chosen to ride out another hurricane in the Memphis area. I took the opportunity to arrange an impromptu mini-conference in the form of a lunch gathering with newly retired Duncan Teague, former Sharpe Planetarium Artist Edwin Faughn, Gary, and myself present. It was good to see Duncan and Gary.

After weeks of wading through ECCS manuals, and help through a visit by Jon Franz, I programmed my

first new production. I opened a new show (new to us) the SEPA production of /The Planets/ on September 27. We are also running our own seasonal program /Autumn Nights/. Star of Wonder is scheduled to open on November 22.

For my next project, I tossed together an offsite exhibit to be set up and manned by me at the 36th Annual Pink Palace Crafts Fair. I used my personal 14 foot round pavilion (I nicknamed the circus tent) as a home base. I then hung several planetarium banners, posters, solar photos from SOHO and operated an 8 inch Celestron Schmidt/Cass telescope with solar filters, giving the general public safe views of a spotless sun. My jaw was sore after speaking with over 952 people that weekend. I suspect it was more since I frequently caught myself failing to click the counter.

I am still hoping to add a full time staff member. Right now I only have a couple of part timers who do programs for me on weekends. I will be looking for a technician in the future. It looks like that process might get underway by spring of '09. I will keep you posted.

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

Kris McCall & Drew Gilmore report: SEPA 2009!!!



**Challenger Center for Education
Alexandria, VA**

Patrick McQuillan reports: I am no longer at Challenger; I am now with Incorporated Research Institutions for Seismology as an Education and Outreach Specialist. So I will be doing lots of Earth

Science.

My new email is mcquillan@iris.edu.

**Virginia Living Museum Planetarium
Newport News, VA**

Kelly Herbst reports: Renovations to the planetarium proceed apace. We've finished the major physical work, and now are reduced to fussy budget tasks (Is that poster straight? Should we put another coat of flat black on that door?) while we await the coming of the sciDome. We've got some lovely new black carpet on select areas of the floor and walls that were bare (oh how I wish we could have replaced all the carpeting!). We've also had all 71 seats reupholstered, cleaned, and had all the seat pans powder coated a lovely matte black. The seats are now so cushy they (a) sometimes have trouble popping up back when you leave them and (b) we never want to leave them anyway, so who cares? All in all, the theater is looking really good.

The hardest part right now is...well...in the words of Inigo Montoya, I hate waiting. We managed to finish all of our renovation work much faster than we planned (how often does that happen!?), and now we're waiting. Hopefully for only a couple more weeks...by mid-October we should be a flurry of activity again for a couple weeks...and then the real work begins.

Our first program should happen on December 3, a holiday program mixing the local flavor of our traditional *Star of Wonder* program with E&S's *Mystery of the Christmas Star*. While I would love to make *Star of Wonder* full dome, we knew we just wouldn't have the time this year. We've got a laundry list of programs to try to prepare by January and the arrival of school children again. Wish us luck!

John and I are spending our days learning all this new exciting equipment. Little things make us so happy now...I made my first panorama and only spent 3 hours fussing over the edges of the trees! And John is getting ready to shoot quail! With our new video camera, people. Stop thinking like that. We're an animal facility too, we can't shoot the birds! Curatorial gets mad at us. Hope everyone

has a great end to the year...and if you're ever in Hampton Roads, look us up.

**Planetarium
Radford University
Norfolk, VA**

Rhett Herman reports: The RU Planetarium has restarted for the fall semester with weekly shows and Science Day presentations. The weekly shows have drawn audiences from both the University community as well as from the surrounding area. With sunset coming earlier now, and obvious things such as Jupiter and Venus giving us something with which to get novice skywatchers started, this fall has been quite successful in getting people outside to actually turn off the lights outside and actually look up.

The Science Days are days when we bring in K-12 school groups for an entire day rotating around through the planetarium, Geology's Museum of the Earth Sciences, Biology's Greenhouse, a show by the Chemistry Department, and physics/astronomy (weather permitting) demonstrations and activities. We typically have groups of 100-150 rotating around in smaller subgroups. They enjoy their day in our science buildings and groups have started to participate in these events yearly. We make arrangements for these tours within our teaching schedules and we get a great deal of help from the RU students majoring in these fields.

It's a lot of work to make this happen but it's fun for us and our students, and definitely worth it for everyone involved. Just this semester by Thanksgiving we already will have hosted a total of about 500 people in these large tours. (And to think that spring is actually our busier season!)

**Thomas Jefferson HS Planetarium
Richmond, VA**

Leslie Bochenski reports: The school year is in full swing and I have heard from about 100 teachers who want to schedule Planetarium classes. This year, I am offering 3 brand-new programs for 3rd grade, 9th grade, chemistry and physics students.

Over the last few years, I've noticed that the 3rd grade students could name the different moon phases, and describe the shapes of each, but they did not understand that the phases occur in a repeating pattern. So I decided to break the moon phase program into 2 parts; *Keep Your Eyes on the MOON*, in November, will introduce the pattern of phases and encourage students to observe the moon over the course of a month. *The Moon's Changing Face*, in March, will present the reason for the phase change.

The 9th grade program just had too much material to cover in one session. So I've divided it into parts. *The Astronomy Connection* covers constellations and star charts, coordinate systems, and planetary motion. In *The Outer Limits* I present stellar evolution, the H-R Diagram, and galactic structure.

Finally, I have added a program in which chemistry and physics students use Project STAR spectrometers to examine emission tube spectra. Most High School science teachers in Richmond have the equipment for this, but they cannot make their classrooms dark enough for it to be effective.

So it's promising to be a busy year, and I'm looking forward to the challenges of these new programs!

**Hopkins Planetarium & MegaDome Theater,
Science Museum of Western Virginia
Roanoke, VA**

Mark Hodges reports: At Hopkins Planetarium we are currently showing *Africa-The Serengeti* in the Megadome theatre, and will be adding *Australia Land Before Time* in October. We have been gearing up for the start of the new school year. We recently purchased *The Cowboy Astronomer* from Loch-Ness and I am working on getting that up and running.

