Southern Skies

Volume 24, Number 4 Journal of the Southeastern Planetarium Association Fall 2004

In This Issue

The deadline for the next issue of *Southern Skies* is January 1. Send submission either on a 3.5" disk or *via* email attached file to <dteague2@midsouth.rr.com> or <teagued1@k12tn.net>.

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President's Message

For those of us who have been spared the horrible weather over the past few months, I am sure your thoughts are for the members who have suffered through this hurricane season. Florida along with much of the Gulf and Atlantic Coasts, has been plagued with many powerful hurricanes this year. We have many members and vendors in the planetarium community that have had to evacuate Florida on several occasions, and the same is true for others within our region as well. This includes myself.

I hope everyone affected by these storms, their families, staff, and property all made it through unharmed. I had to deal with Hurricane Ivan, and this made me think much of my facility. We had to go through the usual precautions of boarding windows, tying things down, and preparing for possible flood damage. These actions had been planned in advance and thankfully so. Not everyone has to deal with these types of storms, but I do recommend that you have a contingency plan in place so your facility could survive whatever natural disasters are inherent to your area.

I only have a few months remaining as president of this organization, and I would like to extend an invitation to anyone within the group that if you have some request or constructive criticism concerning SEPA matters, please let me know.

As I have stated in recent journals, much is going on within SEPA. We are trying to produce a solar system show for free distribution. Incoming President-Elect, Adam Thanz, continues to work on the archiving of our past conference. Current President-Elect, Patsy Wilson, plans on working with Drew Gilmore to update our Website. In addition, Past-President, Dave Maness, continues his effort in the SEPA scholarship fund. I believe all of these efforts will help make SEPA a better organization.

I need to remind all SEPA members that your membership dues are due at the end of the year and not at the time of the conference. This was reaffirmed at this year's business meeting and this ongoing situation has caused Duncan Teague problems. Many of you continue to think that the dues are payable at the conference and thus you are not paying for membership for almost half the year. In the future, be warned that if you do not pay your dues by year-end, you will not continue to receive the *Southern Skies* journal.

I also urge everyone else to do his or her part in helping Duncan Teague with the journal. I know I sound like a broken record, but Duncan really needs your help. As Editor of *Southern Skies,* he only has the material that you send to work with. Everyone can do their part by at least contributing to their state roundup. Remember, we all have useful and interesting information to share with all our colleagues.

I know many of you are already familiar with many of the NASA/JPL outreach programs but if you aren't, you may want to look into these: Solar System Ambassador, the Saturn Observation Campaign, and the Night Sky Network for Astronomy Clubs. I have been involved with all three programs, and in at least my case, have found them to be very useful for acquiring information, networking, and public outreach. Simply do a word search on any of these, and you will be able to find much information.

You may remember that last month I asked everyone to check the SEPA Website and to contact Drew Gilmore in hopefully updating your Websites. I am reminding everyone just as Duncan can only work with material that he receives, the same applies to Drew. I have been guilty of this myself—neglecting the Website of my facility. Its ongoing fight to open is making us change our Website as well. I'm sure many of you have either changed your Website or have some additional information that Drew could use as well. So please check the SEPA website and let him know.

Michael Sandras
President
Kenner Science Center
Planetarium
Kenner, Louisiana

IPS Report

John Hare
IPS Representative
ASH Enterprises

This past summer, conference site invitations for the 2008 IPS Conference were presented to representatives at the IPS Council meeting.

Invitations have been extended by:

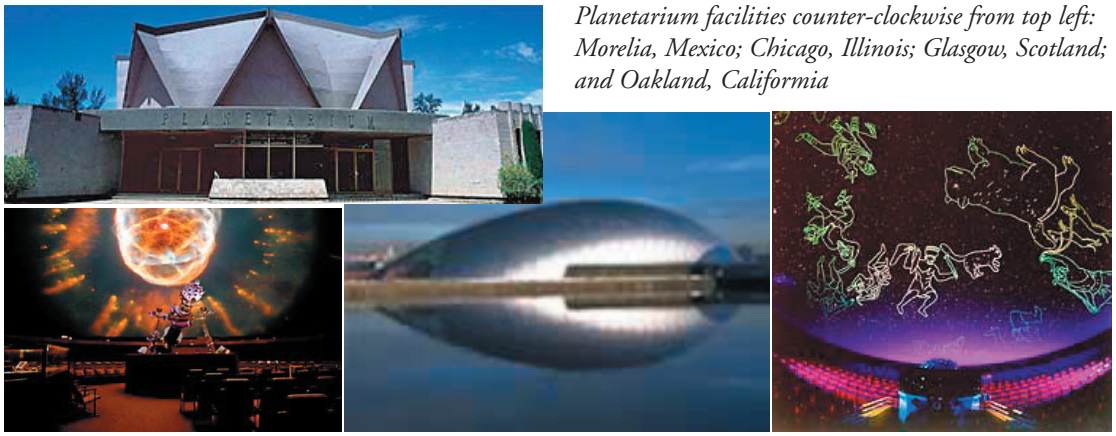
- Morelia, Mexico
- Glasgow, Scotland
- Chicago, USA
- Oakland, USA

The site for 2006 will be chosen at the 2005 IPS Council meeting, which will take place in Beijing, China, September 24th and 25th.

I'll furnish details of the prospective sites in the next issue of *Southern Skies.*

Don't forget IPS 2006: Melbourne, Australia.

You must be an IPS member to attend the conference. Members also receive the quarterly journal, *The Planetarian*, various CDs and DVDs, and special publications such as the *Planetarium Directory and Resource Guide* (to be updated this fall.) Please contact me for membership information.



Planetarium facilities counter-clockwise from top left: Morelia, Mexico; Chicago, Illinois; Glasgow, Scotland; and Oakland, California

Paul Campbell Fellowship Award Nomination Form

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

Nominee's name: _____

Qualifications: _____

_____

_____

_____

_____

Editor's Message:
~~Deadlines and~~ Guidelines

Duncan Teague
Secretary-Treasurer
***Southern Skies* Editor**
Craigmont Planetarium

I got some feedback from Eric Melenbrink that some who attended the 2004 SEPA conference said they prefer to pay dues at the conference. That's not what the majority of the membership prefers. You can't invent your own personal set of rules and expect everyone else to accept the way you want to operate.

You will **not** be able to pay dues at the Atlanta conference. You must be a member of SEPA to register for the Atlanta conference. That means your name must be on my list of current members before you'll be permitted to register. It will make your life easier if you comply with SEPA policy. The late registration fee could equal or exceed the cost of your dues if you haven't already paid them when you try to register.

With this issue comes your one and only 2005 dues reminder. Remit your payment by the end of calendar year 2004 to avoid having your name removed from SEPA's membership role. If your name isn't in the SEPA database, you likely won't be on the list to receive pre-conference mailings.

Let me say this one last time. If your dues aren't paid on time, you will be removed from the membership roles. No *Southern Skies.* No pre-conference mailings. No registration for the Atlanta conference. Got it?

My sincere thanks to all who do what's expected.

I also offer my sincere thanks to everyone for meeting the most recent submissions deadline. One hundred percent of the articles came in on time, and all but one individual read the writers' guidelines and followed them. I have included the writers' guidelines page again in this issue in the hope that the one state news associate editor who didn't read it before will read it now.

Last summer we moved to a new home in a suburb of Memphis. It's well outside the city limits. There are no street lights. There are no through streets. It's very quiet, and I can see the Milky Way from my front yard. This is something I haven't been able to do since my uncle took me outside to look at the Milky Way when I was ten years old.

I had forgotten how beautiful the real sky can be. My wife has actually awaken me at 5:00 a.m. on a few occasions when she woke up early. She excitedly asked me to come outside to see how pretty the sky was.

We would look up at the bright objects in the pre-dawn sky—Venus and Saturn in mid-summer; Venus and Jupter recently—and marvel not only at the clarity of the country sky but also at the sheer beauty of the heavens.

Everyone needs clarity and beauty in their lives.

SEPA Membership Form

Please send your check for $25 (or $15 if outside the SEPA geographical region) to
SEPA, c/o Craigmont Planetarium, 3333 Covington Pike, Memphis, TN 38128-3902

Name _____

Organization _____

Planetarium _____

Address _____

City _____

State _____ Zip Code _____

Voice Phone _____

Fax Phone _____

E-mail Address _____

Staff Position _____

IPS Member? Yes _____ No _____

Contribution to Scholarship Award Account: $_____

SMALL TALK

Elizabeth Wasiluk
Hedgesville High School
Planetarium
Hedgesville, West Virginia

If your planetarium is in a museum, you may have just finished your busiest season, and the tourists are finally going home. The new school year has begun and it won't be long before school groups are dropping by to visit, if they haven't done so already.

I am off to a new school year, our first with a new addition to the building that includes a new gym so we can put everyone from the school comfortably in it and additional classroom space. Even so, we had to retain at least six portable classrooms. The high school where my planetarium is located was originally built for 980 students.We have 1575 students here. The halls are crowded. I have also lost the classroom/holding space outside the planetarium for waiting planetarium groups to an art room. They are learning to paint in a room with carpeting and no sinks and are always in my way when I run to my office.

To kick off the new school year, I threw open the doors of the planetarium for an open house and invited the Tri-State Astronomers <www.ristateastronomers.org>, the Shenandoah Astronomical Society <http://home.att.net/~shenastro/wsb/html/view.cgi-home.html-.html> and the Morgan County Observatory <nitesky.org> to drop by and help out Alan Moeck, a member of the Shenandoah Astronomical Society and a veteran of many Stellaphane Starparties in Vermont, set up a laptop with the computer program called *Starry Night Pro* which I received while taking my graduate classes in astronomy at Penn State this summer. He projected it on the outside wall of the planetarium and entertained visitors.

Dan Kaminsky, of the Tri-State Astronomers was outside with the club scope as soon as the sky cleared and was showing a rather large sunspot that had just rotated into view.

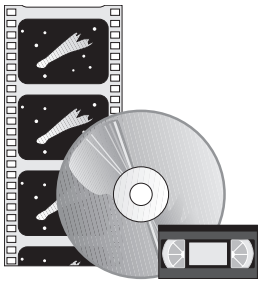
I scheduled the event for Saturday, September 25, and the Star Wars Classic Trilogy had just been released on DVD. I invited the 501st Legion, a group that dress as Imperial troops from the Star Wars Movies. One of their members brought along his 10-inch Dobsonian telescope as he was a member of the Anarundal, Maryland astronomy club and wanted to show it off. In exchange for coming and helping out, I did a live interactive sky program with them and they were one of the best groups I ever had to do star and constellation ID in the planetarium. I got lots of jokes about having them at the event. People were billing it, "Where science fiction and science fact collide" and "Where the dark side meets the dark sky". All in all they were a delight to have around and hopefully didn't cause any accidents from people gawking at them from Rt. 9. Actually people dropped in to check out what was going on with all the people in funny costumes. Since the 501st are an International organization, there is probably one near you, go to their Web site <http://www.501st.com/default.html> for contact information.

Astronomy class is underway with eleven students. Wish we could attract more, but this overemphasis on content standards is putting a crimp into electives at the secondary level and astronomy seems to be taking a hit nationwide. How are other small planetaria in the SEPA doing? Any particular gripes or concerns? Have things such at the "No Child Left Behind" mandate increased or decreased attendance within your dome? Do you see a difference in school vs. museum planetaria in this endeavor?

Speaking of my introductory astronomy class, we are engaged right now in doing spectral analysis, and while I was putting together the lab for the class, I wandered over to Jim Kaler's Web site and highly recommend it for the material that is posted there on stellar spectra. Jim Kaler wrote many books on spectra and spectral analysis. I won his *Little Book of Stars* at the constellation shot out at the International Planetarium Society Meeting in Wichita, Kansas a few years back and got it autographed. Speaking of Dr. Kaler, he will be at the GLPA meeting in Detroit later in October. This meeting is being hosted by Todd Slisher's facility, so hopefully he will remember his SEPA roots and provide some southern hospitality with some Woodchuck waiting for us.

I missed all of you at SEPA. I was at the Wright Center For Innovative Science Education at Tufts University, in Medford, Massachusetts attending the Teaching Science Literacy With Science Fiction Literature Workshop. But I was pleased as punch that Kris McCall, Jon U. Bell, and Gary Meibaum won the Paul Campbell Awards. Can't think of any nicer people to receive it. We know that Chris's *Planet Patrol* is a bonafide classic. Gary is just nice all around. I still play the cricket sound track he gave me as background to live sky shows. John U. Bell's sing alongs under the dome and constellation shootouts have become planetarium conference standards. Who can help but smile when nice folks are recognized for what they do. And with that happy note I am off. Here is hoping that the many hurricanes hitting Florida and the surrounding areas, including our own, left your home and dome safe and dry. Jeanne is pounding rain on our roofs. I am hoping it spawns no tornadoes, as did Ivan in our region earlier. I will give you a report about the GLPA. I look forward to seeing two small domes on side trips. If you have any issues or information you would like me to pass along to the small dome community, e-mail, fax or write me.

Astro Video Review
Magnetic Storm



Priscilla Bernardo
Orlando Science Center
Planetarium
Orlando, Florida

Magnetic Storm

It must have been the title…. I mean anything with the word storm in it is bound to make a Floridian pay attention right now. With my power finally restored, I flop down on my sofa to see what other doom and gloom may now be plotting to render our planet devoid of life. The back cover says it all. Is it possible that the Earth's magnetic field is fading away, leaving us to bake to death in cosmic radiation? Is Earth turning into the next Mars of the solar system? If so, there is nothing that Home Depot sells that can save us?

I have no doubt that this will be a visually interesting exploration. *Magnetic Storm* is a 2003 NOVA production, written and produced by David Sington and directed by Duncan Coop. It is the traditional 60 minutes in length, and the sponsorship spots are included. True to form, the visuals are great but this one is a bit edgier than other NOVA's I have seen.

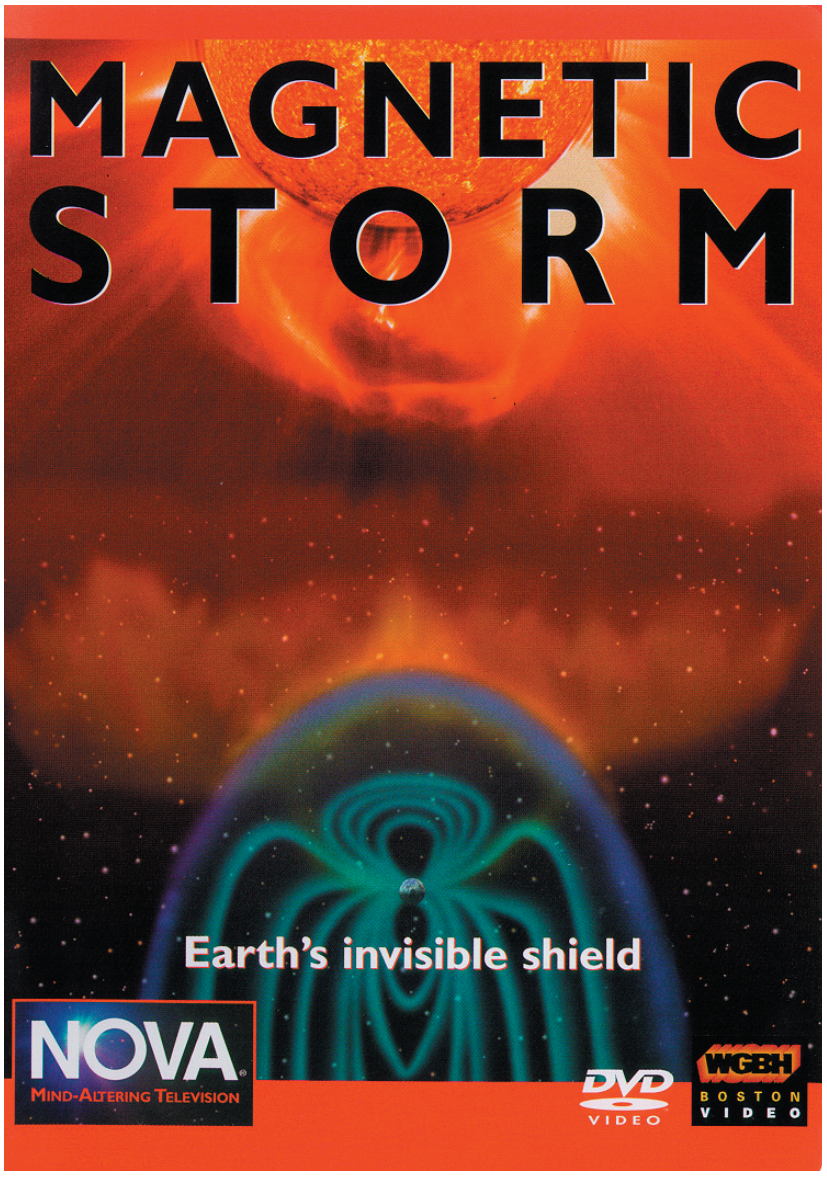
Throughout the presentation there are musical interludes by Judith Edelman that give the piece a folksy funky flavor. The transitions into these musical respites might have been woven a bit smoother but the desired effect was achieved. *Magnetic Storm* could have been all doom and gloom, but with the music, great graphics, and just enough narrative, the balance was well struck between entertainment and lecture.

All the basics were covered. The Earth has a magnetic field. The field protects us on Earth and allows life to flourish. It sets the foundation well and then jerks you into a realm of fear. Thirty minutes in and you are pretty sure that we are all going slowly to cook to death, and you should probably reconsider starting a family after all. Who wants to bring kids into a world that is just going to fry? The remainder of the show is spent beating back these visceral reactions with common sense scientific investigation.

For me, this is where the program really shined. It adeptly demonstrates that what is often a first impression does not directly result in an accurate conclusion. Direct lines are rare in nature and so too in scientific research. Like the web of a spider, *Magnetic Storm* follows a path of revelation that explores data from several different scientific arenas. It is a wonderful example of how science is all around us and that the clues to unraveling a mystery can reside in the most unexpected places.

The only down side of this DVD is the bonus section. It is not spectacular. You have access it through an html link, which is annoying. The education materials are nothing to write home about. It gives you access to the *Magnetic Storm* Website. Not a real bonus when you can go to <http://www.pbs.org/wgbh/nova/magnetic> yourself. The Website is worth a look. The slide shows are interesting and you could expand upon any lessons you may want to teach with the sections under Inquiry and Overview. As for DVD *versus* VHS, I would only spring for the DVD for the longevity of the format. (I found it on the Shop WGBH website. Both DVD and VHS were $19.95) The extras are definitely not worth any extra charge.

Magnetic Storm is worth adding to your library. It does a wonderful job tackling a topic few are familiar with by holding your curiosity and logically resolving any fears it may instill. So with the world currently safe, I pop out the DVD and tune back into the weather channel. The tropical update is on in 15 minutes.



Featured Facility

Heritage Planetarium, Alcoa, Tennessee

Mike Chesman
Bays Mountain Park
Planetarium
Kingsport, Tennessee

Author
Tom Webber
Planetarium Director
Heritage Planetarium

Mostly from afar, I have followed the rebirth of the Heritage Planetarium. However, in the mid-1990s I was actually invited to speak to some school system representatives at a meeting in Maryville, Tennessee to encourage the saving of this planetarium. I'd like to think that my words may have played some small part in keeping the project moving ahead.

However, the reality behind the success of the Heritage Planetarium was the school system's hiring of Tom Webber. The growth and maturing of this planetarium facility is all due to Tom and his tireless efforts to make his the best place possible. He takes great pride, and rightly so, of the achievements he has made in less than a decade. I don't often get to make a personal comment with this column but I've known Tom for about eight years and felt compelled to tell you that.

Most of you will not know of Tom, even though he has been a SEPA member for many years. Involving himself with all kinds of special programs throughout the year (I don't think I've ever heard of him saying no to a program request.) means he has not been able to attend SEPA conferences in recent years. You'll see, from the article he submitted, that he has added some neat *toys* to his operations. However, he's either too humble or embarrassed to share with you the stories of how he's managed to swing some remarkable deals with administrators, corporations and the public at large. If you're a small one person operation that always seems to be without funding and feel unappreciated for all the extra work you do…, Tom's is the shoulder you want to lean on.

—Mike Chesman

The Heritage Planetarium could best be described as "the little planetarium that could." After being mistaken by county commissioners as a "place that grew plants," construction of the planetarium was approved in 1975 along with Heritage High School in Blount County, Tennessee.

Regrettably, the planetarium fell into disuse in 1987 when the first director retired with no replacement. Nine years later, the Board of Education announced plans to demolish the facility, which was then being used for storage. Fortunately, people and businesses in the community spoke out and the planetarium was granted a temporary stay of execution just a mere two weeks before the bulldozers were to arrive.

Over the next two years, volunteers from all walks of life, along with donations from many local industries, including Alcoa Aluminum Company, DENSO Manufacturing, and TVA, slowly tried to make the planetarium operational. In 1998, the Board of Educational finally decided to invest in the facility, and East Coast Control Systems was contracted to begin automation and repair. While the original Viewlex controls remained to operate the Minolta star projector, new peripheral slide projectors and pans became automated.

The facility re-opened to the public in November of 1998. During the next four years, efforts were made to continually improve the system. Video capabilities were added and special effects projectors were purchased. Slowly, attendance started to grow.

Then, in 2002, a dark cloud appeared that would eventually reveal a silver lining. The Viewlex system failed and control of the star projector was lost. After an aggressive fund raising campaign, Jon Frantz of ECCS rose to the challenge and began the process of automating his first Minolta star projector. After spending a great deal of time studying and de-Viewlexing the system, the Heritage Planetarium is now a completely automated facility with 6 main Ektagraphics and 24 auxiliary pan and special effects slide projectors; Laserdisc, DVD, and Bowen Astro FX video sources; and a new sound system.

Looking back on the project, Frantz is glad he was a part of it and speaks highly of Minolta. "The precision and smooth operation of the Minolta system made it a pleasure to work with," he said.

The 80-seat theater is now averaging between 25,000-30,000 guests per year. With 15 programs in its library available at all times, it is the teachers that decide what program would best fit their agenda. Every visit includes a live portion surveying the current night sky and discussing current events. These "forums" are enhanced with a built-in laugh track and Boss Dr. Samples Sound Effects System.

The icing on the cake was added in September of 2003 when a complete laser light show system by Laser Fantasy, International was installed. The selection of seven laser shows to choose from has allowed teachers to plan a longer visit and provide another source of income through public showings.

Between Thanksgiving and Christmas the holiday planetarium program is offered. It is very popular, drawing around 2,000 guests during those 3 weeks. Like many others throughout the country, the program examines the winter sky, Christmas traditions, and the Star of Bethlehem. It ends with a beautiful musical finale: Permission was obtained to use music and lyrics by Barry Manilow that is enhanced with stunning images and scenes. The entire experience invokes a great deal of emotion in visitors.

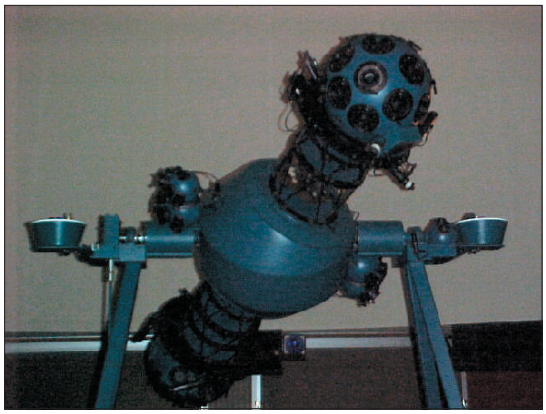
The Heritage Planetarium employs a large staff. That is, there is one person who is rather large in

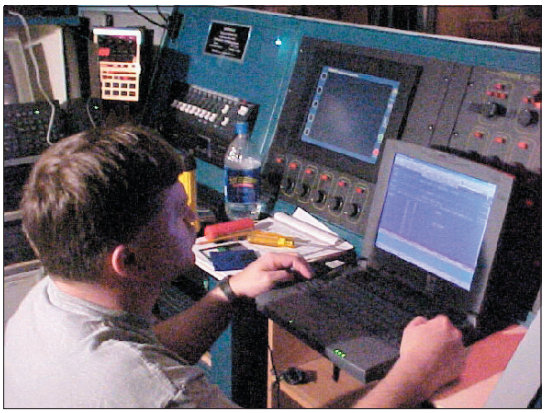
stature! Umm… me. I have been with the facility since it re-opened in 1998, and do all the shows, programming, cleaning, scheduling…, well, everything. In addition to operating the planetarium, I serve as a science columnist for the Knoxville News-Sentinel and a free-lance humor writer. I've been married for 15 years to the lovely and charming Ms. Barbara, who puts in about 10 – 15 hours a week volunteering at Heritage. When not taking care of the needs of the planetarium, we enjoy hobbies far removed from astronomy, such as showing two classic Corvettes, movies, or just being lazy around the house. No children, but we have three dogs (Newton, Pepsi, and Shadow) that are treated just like family.

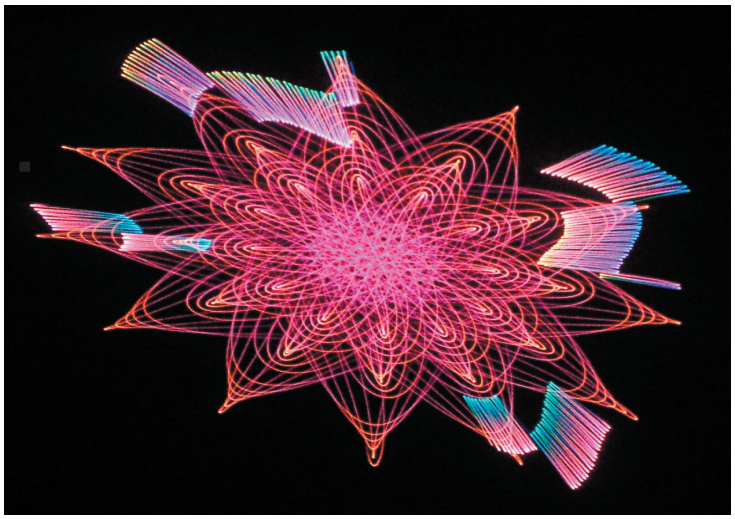
Improvements continue at the Heritage Planetarium, for the goal is to be slightly better with every year. Recently, an LCD projector was purchased with the primary goal of presenting updated Cassini/Huygens images and with the secondary goal of allowing independent PowerPoint presentations. The next major project is to replace the seats and flooring within the next two years, and possibly investing in an all-sky video system in the next five.

Located at the base of the beautiful Smoky Mountains, the Heritage Planetarium has truly become a treasure in East Tennessee. Schools and communities from nine counties now utilize the facility, and attendance continues to grow. If you would like to learn more about the facility, please feel free to call (865) 984-8548 or visit <www.heritageplanetarium.org>.

The Heritage Planetarium: "Watch the stars, and from them learn…."







Top left: A simple, but attractive brick structure houses the planetarium. Although part of the Heritage High School complex, it has its own entranceway as well as one into the high school proper.

Top right: The Minolta projector had been unused for many years and cosmetically was like new; it required a lot of refurbishing to bring it back to useful life.

Middle left: Jon Frantz from ECCS loads configuration commands into the new automation system.

Middle right: The new console controls incorporate ECCS's first automation of a Minolta projector and automation of numerous special effects devices.

Bottom left: The laser system in this small theater is top notch, as you can see from the complexity of pattern generation.

Bottom right: Signs leading visitors to the planetarium feature the planetarium's motto.

Digital Cosmos:
Celestial Explorer: Mars, 1.0

Paul Trembley
Orlando Science Center
Planetarium
Orlando, Florida

Celestial Explorer: Mard

When not buying plywood, boarding up windows, sitting in the dark with no power, dodging falling trees and 100+ mph winds (not to mention doing this a total of three times) I found some time to look at astronomy software. This issue is a look at a sister program to one that I reviewed a while ago. From the same company that brought us Lunar Map Pro (LMP), comes a version for the planet Mars.

I can understand wanting to map the Moon in high resolution as we can look through our telescopes and see these features, but why Mars? We can't see these features from Earth, at least not with the equipment most planetariums have. Well one good reason is that with the rovers showing no sign of stopping, museums and schools need a way to showcase the wonderful geology that we are seeing. This is where *Celestial Explorer: Mars* (CEM) comes in.

First and foremost, the planet is available for viewing in 3D. I know of nothing that makes geology come to life better then seeing features in 3D space. All the 3D data as well as the 2D come from the various NASA satellite surveys that have been done over the past few years. Of course you can look at past and future landing sites, mountains, canyons, and other geological features. There are 1,400 named and documented items complete with historical data.

Keep in mind this is not a product for planning observations like LMP was. This is a kiosk or classroom program. The interface is almost exactly like LMP, and I would refer you back to the review of that product for specifics.

You can display labels, print high-resolution maps, export jpegs, and link user entered notes to objects. This last is great for teachers. When prepping for a lesson, just link your discussion notes to the features you will be discussing, and call them up as needed. Great for you, great for your students. The only downside to printing is, don't bother if you don't have a color printer. In black and white the images do not look so good. The high-end printouts will use a lot of ink, and if you don't use good paper they will come out very wrinkled and sodden. I found the best results from photo paper.

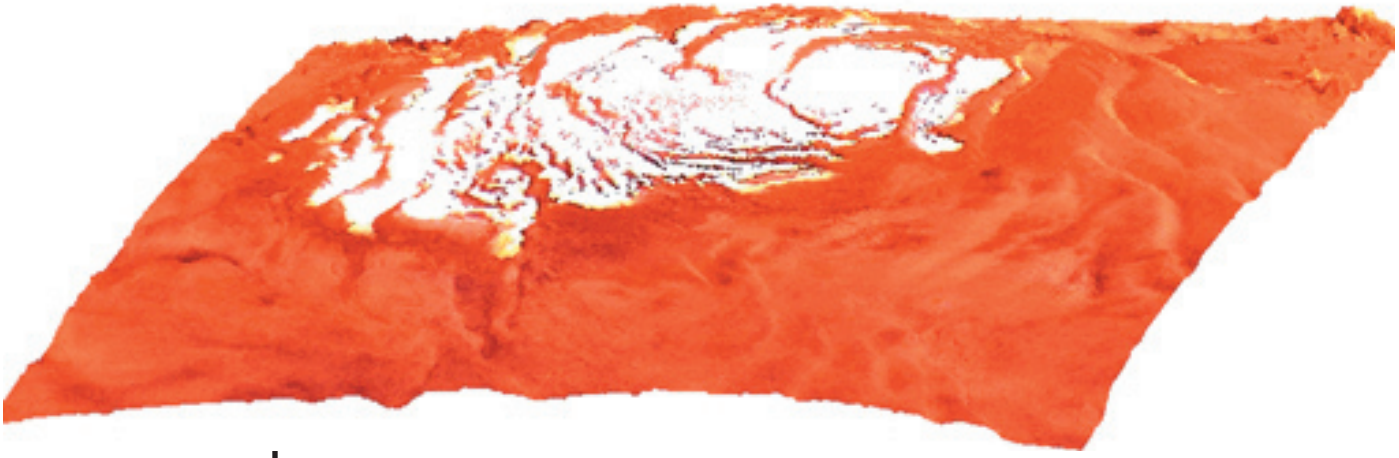
Like its sister, CEM eats processing power. While the product says it will run on an 500 MHz machine with 128 MB RAM, you will have to install the compact version; to get the 3D High Resolution abilities, you need at least a 1.5 GHz computer with 512 MB RAM, and in truth something with more teeth to it. It liked my 2 GHz AMD box with 720 MB RAM and wasn't too unhappy with the 2.8 GHz machine. Even with the compact version, it crashed my Dell 900MHz with 128 MB RAM. You need a good graphics card that is loaded with memory to make the best use of this product. This is not a Mac product, nor are there any indications of one forthcoming. I did try to run this using a Windows™ emulator on one of our G4 machines, but all it did was lock up. [It ran, albeit slowly, on an 800 MHz iBook using Virtual PC™ 6.1. —Ed.]

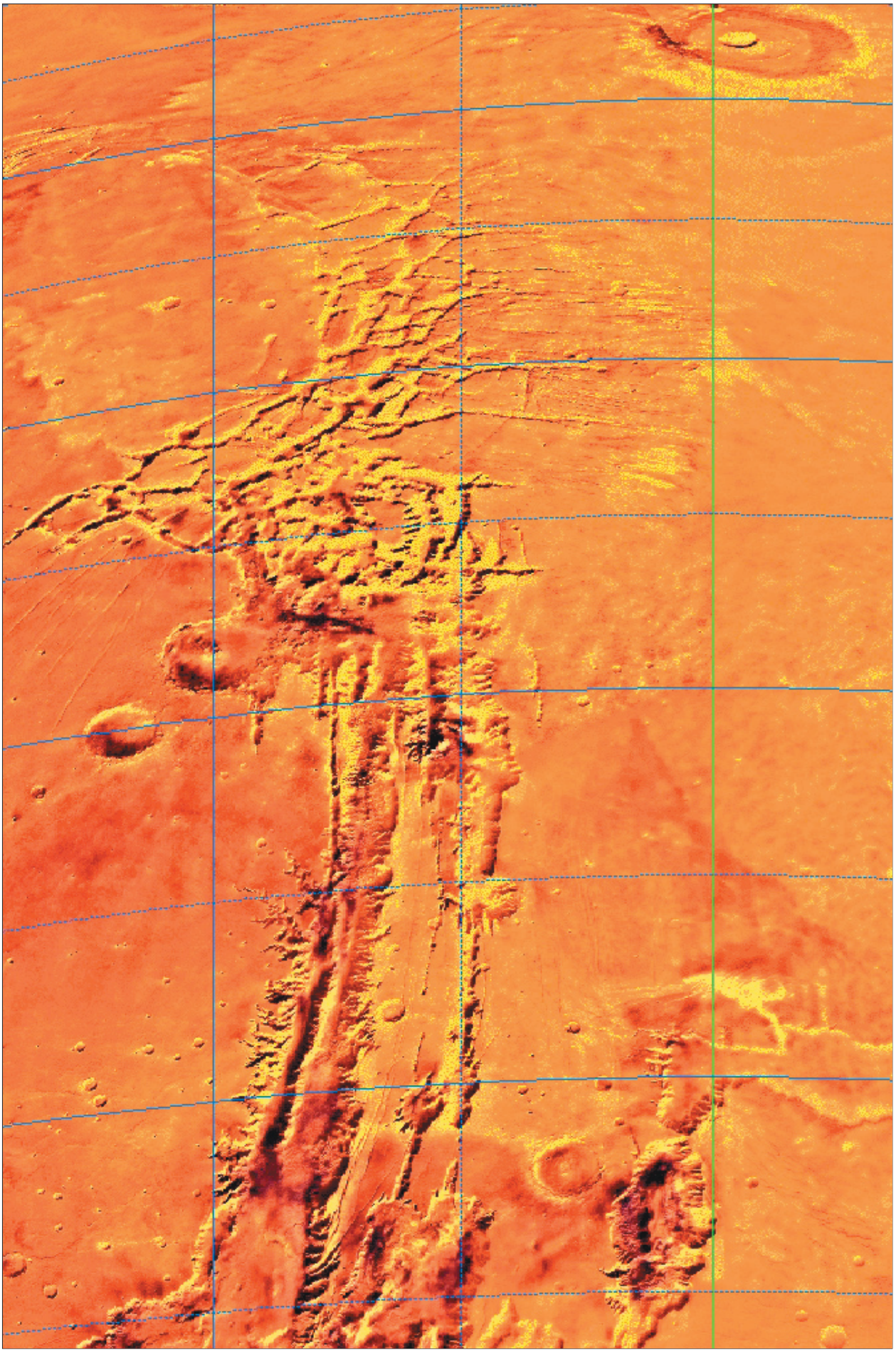
The newest version includes Mars Update from Cal Tech. Many of us received this software through the MUSE program and have been running it on our exhibits floor. This is a wonderful tool and is a great addition to CEM. For those not familiar with Mars Update, it is a software shell that makes Rover images much more accessible to our visitors. It includes drive your own rover, rover facts, Mars history, and some fun games.

CEM is available from RITI <www.riti.com> for $45 or for $35 if you buy LMP with it. This is not for everyone, but it does a good job at what it does. It may not be as useful as LMP, but as an exhibit kiosk, it fills a need very well.

Below: A 3D view of Mars's South Pole

Opposite: Valles Marines





News from SEPA States

George Fleenor
Geographics Imaging
Bradenton, Florida

The State of Florida Address, George Fleenor

From what I can gather from the various areas of our state, most all of the domes in our state have escaped major damage. Many of our Planetarians did have minor damage to their homes, but I have yet to hear of any major damage. It has been a rather unique and sometimes scary situation with limited gas supplies available and in many cases long-term power outages. Florida is not the ideal place to live, especially in the summer, without power and the availability of air-conditioning. Hopefully, as everyone gathers their wits and gets back to their normal lives, we will hear more in-depth news from each of them. Until then, I would like to thank all of those who have been concerned and your willingness to lend a helping hand. We take comfort in knowing that we have so many caring friends in our planetarium community. One way that I have always managed stressful situations is through humor and as they so noted in *The Right Stuff* I try to "maintain an even strain." What follows is a bit of humor as passed along from Paul Trembly in Orlando. It is one of many humorous looks at Florida's recent encounters. I hope you find them humorous as well.

From the Internet:

Gov. Jeb Bush held a special news conference in Tallahassee today to inform the people of Florida of new state symbols. The changes take effect immediately and must be implemented by all official agencies.

The Florida State Flag will now be a blue tarp. The license plate symbol of two oranges will be replaced by a chain saw. The new state song will be "Blowing in the Wind". The state motto will now be "Oh my God, here comes another one". The new state tree will be any that are left standing at the end of hurricane season. The new state bird will be the "whipper" will. The new state nickname will be "State of Disaster."

The Orlando Science Center, Orlando

We survived the first two and are bracing for the third. While we lost a lot of trees in Loch Haven Park, OSC came through with only minor damage. Mostly wet carpet and some wet ceiling tiles. The planetarium suffered no damage. The observatory dome came through with flying colors. At 120 feet in elevation, we expected some sort of damage, but other than some torn rubber skirting, it's nice and dry inside. In the six weeks since school started the students have completed only two full weeks of classes. This has affected our school bookings, but they have mainly just been rescheduled to later in the year. And just to add insult to injury, guess what Large Format film we just opened: *Forces of Nature*. Who would have guessed three storms in a row when we booked this in the summer. We are still running *Ring World* as well.

Most of our time has been taken up with storm recovery. Some of OSC's staff suffered home damage and have been taking time off for repairs, so things have been rather slow. Our September Cocktails and Cosmos saw the return (for only one night) of laser light shows to OSC. We have not had shows since 1997, yet people still call to ask about them. The turnout was wonderful, and we are investigating the possibility of a limited return of laser shows in the future. Planning is underway for the October lunar eclipse, assuming that we don't get blown away by a hurricane between now and then.

Science Center of Pinellas County

The recent Florida Planetariums (FLORPLAN) meeting was scheduled for Saturday, October 16, 2004, at the Science Center of Pinellas County in St. Petersburg, Florida.

The St. Petersburg area is beautiful and conveniently located on the west coast, down the road from Tampa. A full day was scheduled and I think participants found the meeting to be very enlightening and helpful for all types of domes.

The Science Center has a lot to offer and is a busy place with a dedicated and talented staff. Since this is a Konica Minolta MediaGlobe facility, Philip Groce from Konica Minolta was on hand to demonstrate and discuss the future of full dome technology and how it interfaces with traditional optical mechanical systems. Additional media available through other vendors, such as all sky, panoramas, special effect DVDs were also presented.

East Coast Control Systems provided our continental breakfast, and Konica Minolta provided lunch at a nearby restaurant. A special thank you to these vendors for supporting our group!

An update regarding this meeting will appear in the next issue of *Southern Skies.*

Kenner Science Center, Planetarium, & Observatory, Kenner

Mike Sandras reports: Believe it or not. The long awaited Louis Roussell Planetarium is nearing completion. After many delays the dome is finished and Zeiss technicians have installed the Starmaster. AVI has put in the Omniscan and MegaSystems has begun installing the film projector. Our planned opening date is November of this year. I will keep everyone informed

The current planetarium remained busy over the past few months with summer camp groups and the general public. Our daily sky shows and the weekend operation of the observatory has been busy in trying to keep up with all of the astronomical happenings that we have going on.

I am also continuing to help the City of Gretna open its public observatory. This is a 5-meter dome that houses a Meade 16 inch telescope. It should open its shutters to the public in late October.

NASA's Stennis Space Center located in Southwestern Mississippi, has been working with our facility to bring some new displays in. For those of you unfamiliar with Stennis they are the NASA test site for Space Shuttle Engines. In the past Stennis has been a great source of information for our facility, and continues to be so.

Thanks mostly to Heidi Ransom, we had another highly successful year of Young Astronauts. Heidi was instrumental in planning and implementing a year of great projects and experiments for this past year's group. Also, our staff was joined by Jerry Villerie. Jerry joined us several months ago and has been kept busy in both our planetarium and Space Station Exhibit.

Saint Charles Parish Library Planetarium, Luling

Gary Meibaum reports: I am fortunate to say that the Saint Charles Parish Library Planetarium in Luling was unaffected by hurricane Ivan. My sympathies go to our colleagues who sustained damage.

Production continued on shows for our MediaGlobe projector. Added to our list is a cute Xmas show for small children named *George and Oatmeal Save Santa.* Available from the Ward Beecher Planetarium at the Youngstown State University in Youngstown Ohio, it is a very inexpensive show that fits the need for a Christmas show for the little ones. Also converted was Loch Ness's *Sky Quest.*

Our present shows include *Moon Dreams* from Konica Minolta and Loch Ness's *Season of Light.* Progress has been made in conjunction with our local school board in integrating the planetarium into the school's curriculum. We were able to show off the facility to the Superintendent of Schools so they now know what is available to them. We look forward to a much closer working relationship with our local schools.

Irene W. Pennington Planetarium, Baton Rouge

We begin our second year of operations with a series of new in-house school shows appropriately geared for K – 12 grade levels. With the recently installed DigitalSky system, our school shows take on a whole new meaning of an in-depth what's up in the sky approach, especially for middle school students.

The DigitalSky system is incredibly creative and educational and we use this system to compliment our optical sky and SkyVision environments.

Our new school programs are *Dipper's Adventure* for pre-K to 2nd grade and *Surfin' the Solar System* for grades 3 – 5. These programs are in addition to *Seasonal Sky* and *Shadows and Light.*

All our school programs are "live," interactive, and require student participation. Since our planetarium is relatively new to the surrounding school districts, we are developing an outreach program primarily for school educators on how a planetarium compliments the K – 12 curriculum.

Other programs here include our public show *Journey to the Edge of Space and Time* which runs from December through February and makes extensive use of our DigitalSky and SkyVision systems, Saturday night laser shows, and a weekend family show *Legends of the Night Sky: Perseus and Andromeda.* Throughout December we are running a family holiday laser show.

Forces of Nature premiered as our large format film in early September to sold-out crowds. *Forces* will run through February.

Over the summer, we hosted teacher and student workshops and astronomy camps. Two special events were also held in October—a live presentation on the lunar eclipse and a Halloween laser show.

Jon Elvert
Pennington Planetarium
Baton Rouge, Louisiana

Patsy Wilson
Woodson Planetarium
Salisbury, South Carolina

Ingram Planetarium, Sunset Beach

The Ingram Planetarium is currently running the following daily shows: *Endless Horizon* and *Search for Life in the Universe*. They have a diverse show library for various school groups. Popular with Boy Scout troops is *The Explorers*. Young visitors get an introduction to the planetarium with *The Sky Above Mr. Rogers' Neighborhood* or *Things in the Sky*. Shows for elementary and middle school audiences feature the visible light spectrum or an excursion through the solar system. The Ingram Planetarium also offers monthly lecture series which feature specialists in coastal ecology, natural history and other topics of regional interest.

Morehead Planetarium and Science Center, Chapel Hill

The Morehead is rockin' again. Laser shows returned in early September for the first time in nearly a decade. Pink Floyd, the Beatles, Radiohead, and the Beastie Boys are featured in prime time shows. Family matinees are offered to persons whose tastes are a bit calmer. Three different topics, a laser detective mystery, a funny look at the science of time, and a Motown tribute are available.

The Jupiter Ball, an annual black-tie dinner and dance, will be held at the Morehead on October 23rd. Proceeds from this event will benefit the Jupiter Education Hall, a multipurpose facility to be created in 2006. In addition, monies raised will help to fund fellowships for over 50 UNC students who work in some facet of the planetarium's operation.

On November 8th, Story Musgrave, the only astronaut to fly in all five space shuttles, will be the featured speaker for this year's lecture series. He has flown approximately 25 million miles in orbit.

PARI (Pisgah Astronomical Research Institute), Rosman

Bob Hayward reports: All is going well with the StarLab outreach program. More than 10,000 students in western North Carolina and upstate South Carolina participated in programs during the 2003 – 04 school year.

Joining the staff in a postdoctoral Associate Research Astronomer position was Dr. Mel Blake. Mel came to PARI from the University of Toronto and has a research interest in binary stars. He is looking forward to having access to both optical and radio telescopes on site at PARI. Mel is also backing Bob up in the StarLab and gave a number of programs this summer to students such as those from the Duke Talent Identification Program (TIP) who were in residence at PARI for two weeks.

A group of six undergraduate physics and multimedia arts students from UNC-Asheville and Furman University were on-site at PARI for eight weeks this summer working under an NSF grant to produce a StarLab cylinder and associated curriculum materials on the radio sky. That two-year program continues next summer

Robeson Planetarium and Science Center, Lumberton

Ken Brandt is staying busy refitting the science center so that exhibits will be more user-friendly, hands-on, inquiry-based, and fun. He has received support from the folks at NASA Langley. Ken has planned a public viewing event on the night of the lunar eclipse in October. In addition, he has prepared several original class presentations. Fourth graders can see *Martian Rovers: What We've Learned.* Third and eighth grade learn of the Moon missions with *Saluting Apollo* and fifth grade enjoys *The Dream is Alive.* Ken also does StarLab presentations at local high schools. With a staff of one in the planetarium, Ken wears a lot of hats.

Margaret C. Woodson Planetarium, Salisbury

Patsy Wilson reports: Planetariums owned and operated by school systems operate under a completely different set of rules, but it doesn't stop us from getting some unusual requests.

Recently an eight year old borrowed the planetarium to film a movie she had written for a school project. Images of Jupiter were run in the background while the small narrator told of getting soaking wet in the hurricane where she landed on Jupiter. Interesting scenario. I wisely decided to keep my thoughts and my planetary science to myself. After all, I wasn't the one assigning grades.

This request was followed by a college freshman honors English class that was studying native American legends and wanted a planetarium experience that would relate. *Daughter of the Stars* was dusted off and fit their needs magnificently. We are also showing that program during our Sunday afternoon opening in November.

In the coming months the planetarium and its parent facility, Horizons Unlimited, will finally have a place on the information highway. Our page is being designed by high school students in a multimedia classroom in Florida through a partnership developed by our new director and a friend who is the teacher of this class. I'll pass along the URL when it is available.

Dupont Planetarium

The biggest news for the Dupont Planetarium is some restructuring that has occurred at the Ruth Patrick Science Education Center (RPSEC). One of our part time planetarium presenters, Pam Hadsell, is relocating to Alabama. Her husband acquired a new job there and, for some reason, she decided to accompany him. The director of the RPSEC has shifted her duties to establish a professional development school in a nearby county that will require a two year commitment. Our planetarium director, Gary Senn, is now the interim director of the RPSEC. The new duties of the RPSEC director do not displace the duties of planetarium director or full time faculty with the University of South Carolina Aiken. He just gets to add another full time job to the two, existing full time jobs he already holds. Fortunately, the staff at the RPSEC and the planetarium is fantastic and have worked hard to make this transition successful.

Some other big news for the Planetarium and the RPSEC is the establishment of The Science Store. There has been discussion for many years about creating a science store but the time, energy, expertise and funding for such a project were not strong enough to make it happen. To assist with funding for the RPSEC, a group called the Friends of the RPSEC was developed. The first project for this group was to organize The Science Store. The USCA bookstore manages The Science Store on a daily basis and has an employee running the store whenever it is open. Volunteers from the Friends of the RPSEC provide at least one extra person during the open hours of the store. There was an introduction of store merchandise during our annual Science Education Enrichment day on October 16, 2004. The grand opening of The Science Store will be on our annual Fall Earth and Sky Night scheduled for November 20, 2004.

Our school group reservations have been a little higher this year. In September we showed *Journey Into the Living Cell* from the Carnegie Science Center and Buhl Planetarium, *In My Backyard* from the Calgary Science Centre and *Roving the Red Planet,* which one of our own productions. In October we showed *The Voyager Encounters* from Loch Ness Productions and *Dark Shadows,* which is also one of our own productions. In November we will show *More than Meets the Eye* and *Larry Cat in Space,* which are both from Loch Ness Productions.

For the general public we showed *Journey Into the Living Cell* in September and *Dark Shadows* in October. *Roving the Red Planet* is on the schedule for November. To go along with our November show about Mars, we have a special Mars display at the RPSEC that was provided by NASA Langley. The automated display uses future tense to describe events that have already occurred but it is a nice display to have. We will host a special viewing event at the planetarium on October 27, 2004 to celebrate the lunar eclipse that will occur that day.

We are looking forward to the holiday season when we will show our annual Christmas favorite, *'Tis the Season.*

Settlemyre Planetarium, Rock Hill

We here at the Settlemyre Planetarium are already swamped by school kids. It looks like a very good autumn for us. We have been doing school outreach during September as well as planetarium shows. We have added two new shows for school groups we have not been reaching. We are presenting *The Friendly Stars* for preschoolers. A live presentation called *Earth and Sky Connection* is designed for seventh grade. It is a program about both earthly and celestial navigation. It fits well with the opening of our new exhibit *Our Changing Landscape.* The down side is I only have the students for 30 minutes. I have my reservations about such a subject reduced to half an hour but the powers that be insist on this time limitation. We'll see.

We are presenting *Carolina Skies* and *Ring World* twice each Saturday and Sunday and have good visitation. I am also soon to be adapting *Rusty Rocket's Last Blast* for a new children's show in winter or early spring. The planetarium will be showing *Season of Light* for our Christmas show.

Well that's about it from South Carolina. Have a good school year.

Glenn Dantzler
Settlemyre Planetarium
Rock Hill, South Carolina

Dave Maness
Virginia Living Museum
Planetarium
Newport News, Virginia

Virginia Living Museum Planetarium, Newport News

We are in the throes of renovations in the old exhibit building which will soon be the new Harry Wasson Education Center. Our dome received a new coat of paint to cover several stains left by old roof leaks and spot touch ups. The seats are all removed for carpet replacement. We replaced our lighting system with one from Joe Hopkins Engineering. I must say that it looks very much like the original Spitz lighting with the added benefit that the bulbs are available from local distributors for less than one twentieth the cost of the Lumiline type. (BTW, I have kept all the Lumilines in case anyone out there still uses them. Contact me if you are interested.) We will upgrade the automation computer; add a programmable DVD player, and a wireless headset system for hearing impaired, all from JHE.

When we re-open on October 9, our public show will be *Ringworld* with a live update on goings on at Saturn. After that, we will run our 39th showing of *Star of Wonder* the weekend before Thanksgiving. I recently converted our best copy of the original soundtrack (a production of the Virginia Living Museum and Bishop Planetarium) to digital. If you already own the program and want to have a CD version (for a small fee), please contact me and I will see what I can do.

We will hold our annual Night of the Living Museum on October 22 and 23. This is a fun Halloween event for kids, which is not very scary but full of surprises. We also plan to hold a special event for the lunar eclipse in October. It will be another evening of Total Luna-See.

Our new 16 inch Meade UHTC GPS telescope was giving us problems (not engaging the tracking motors and picking random park positions). So we decided the base needed to be shipped back for factory service. It is in their hands now. In the mean time we are using a Celestron 8 inch with a hydrogen-alpha filter for solar interpretation. We designed and built a rolling stand for it, so all volunteers can easily set it up. See the attached photo. The wheels lock into place for stability.

Children's Museum, Portsmouth

Dan Boric of the Children's Museum writes: Over the summer we installed 2 new shows, *SkyQuest* and *Mystery of the Missing Seasons.* The shows were enhanced with our eMedia projection. The eMedia allows us to post the most current images from the Internet in our presentation. It was really helpful in updated the current show *Worlds of Wonder.* Of course it is a bit dated but we were able to update it with the Cassini mission images and time line as well as images from the Mars rovers. Next month we will be showing *Star Stealers, Planet Patrol 2* as our public show. We are currently installing the images and writing the automation programming for this show. This show is set with the autumn sky series. In November we will be showing another new show *A Christmas Story* instead of our usual holiday offering *'Tis the Season.* This should take us into the new year when we will start with *More Than Meets the Eye.* We are also offering Standard of Learning special programming for grades 5 *Adventures Along the Spectrum* with demonstrations as well as *Mystery of the Missing Season* and demonstrations for grade 3 students. Grade 6 students will be getting an updated version of *Worlds of Wonder* and *The Sky Tonight.* Grade 4 *SOL* programming focuses on the cyclic nature of the heavens. It would be nice to get to one of the meetings of the association this year.

Radford University Planetarium, Radford

Dr. Rhett Herman, Associate Professor of Physics Director of the planetarium writes: I've been meaning to get my act together, and was going to submit the story of our homemade planetarium here. I think I mentioned this to you before, but, as you can imagine, teaching and research got the best of me. Should I still submit that? Would you like pictures? Or, just the story? [Ans.: Yes, yes, and whatever you want to submit would be great.]

Note: Rhett runs the RU planetarium. The RU planetarium has an interesting history, and that might be something that people might like to read about. His dome is actually homemade and is a solid, 24-foot dome. You can see more about it on the planetarium Website: <http://planetarium.radford.edu>

News from Jane and George Hastings, Richmond

We continue to pursue a pattern which is basically routed like this: go on a trip (just back from Spain [not IPS-related]), save up our money, and go on another trip (next: cruise through Panama Canal).

Ethyl Imax Dome and Planetarium, Richmond

Eric Mellenbrink reports that this week, we're putting the finishing touches on our in house production of *Mars Mania,* which opens this Friday. During October we will have a triple feature of our *Night Sky* program, along with *Mars Mania,* and the Digistar Halloween program *Nightwalker.*

November will feature just *Mars Mania.*

We continue our popular once a month (third Friday) *Live Sky* planetarium program followed by outdoor observing.

We recently opened the IMAX film *Forces of Nature,* and will debut the IMAX film *BUGS!* on January 22nd."

Thomas Jefferson High School, Richmond

The Planetarium at Thomas Jefferson High School has been closed for a year due to water damage from all the rain in school year 2002 – 2003.

The good news is that they have figured out a way to keep the leaks out, and it will probably be

opened sometime this fall. Leslie Bochenski is the current planetarium person. Most of us have run into her at one time or another. She has been in, in chronological order. at Science Museum of Virginia, Roanoke Planetarium (where Gary Close was), and the planetarium in West Palm Beach, Florida. Now she's back in Richmond!

Hopkins Planetarium & Mega Dome Theater, Science Museum of Western Virginia, Roanoke

When I phoned Mark Hodges to get an update, I got a recorded message saying the museum would be "closed today due to hazardous conditions and rising water." Apparently the remnants of Hurricane Jeanne hit the western part of the state hard. The message went on to say they expected to be open tomorrow at normal hours of 10 a.m. to 5p.m. A later report from them said they faired pretty well in the storm. There was some flooding. Victory stadium was under about 3 or 4 feet of water for a while but the museum was not affected.

In the planetarium theater, Mark and his two part time staff are showing the fall show, *Autumn Skies* at 11:15 on Saturdays (through November 26) and *The People* at 2 p.m. Saturday and 1:45 p.m. on Sunday. It runs through Oct. 30.

The current Mega Dome film offering is *Adrenaline Rush* (through Oct. 29th). After that a new film called *Bugs!* starts on Oct. 30th. Showings are 1 p.m., 3 p.m., and 4 p.m. Tuesday through Saturday and 3 p.m. and 4 p.m. on Sundays. The museum is closed on Mondays.

School planetarium programs are scheduled and run every Tuesday through Friday, but reservations are required. General public and groups are welcome to attend these with prior notice. Call for show times 540-342-5726.

Wild and Wooly Mammals of the IceAge is the current traveling exhibit. A new traveling exhibit starting October 30 called *Backyard Monsters* brings a new perspective to bugs and creepy crawlies in your own back yard. It features gigantic robotic insects and other critters measuring ten to twelve feet in length. For more information contact Mark via email at <mhodges@smwv.org> or Christy <frontdesk@smwv.org>.

Virginia Beach City Public Schools Planetarium

Charles Dibbs, Director writes:"Our humble educational planetarium recently began its 36th year of operation. (I came aboard 4 years ago.) We have seen a progressive and steady rise in classroom attendance throughout the last four years, and the trend appears as though it will continue. Evening attendance at our free public presentations every Tuesday night has also seen a steady rise, and everyone seems very pleased with the direction the planetarium has taken in recent years. We have built or purchased several new models for display here and one of the student favorites is the International Space Station model that our Webmaster Marla Frye painstakingly painted and assembled. Hopefully the real ISS will be completed as well.

I've taken Radio Astronomy courses at both the Green Bank Telescope in West Virginia and the Very Large Array in New Mexico during the past five months and have posted images from these facilities, as well as the June 8th transit of Venus on our Web site.

I also was privileged to tour the Keck Observatories in Hawaii on my honeymoon in August 2003. My wife picked the destination. Honest.

Recently I've been informally collaborating with NASA and Hampton public school employees assisting their efforts to get their planetarium up and running full time, an effort that seems to be gaining momentum. Eleven high schools in our school system now offer astronomy courses with one of them teaching Advanced Astronomy. I am constantly working on newer presentations to address the objectives of these astronomy courses. All is well and the future looks bright.

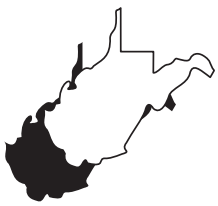
Dave Maness
Virginia Living Museum
Planetarium
Newport News, Virginia

Casey Crouch, our Theater Manager, has taken on the added responsibility of Box Office Manager for our entire facility, the Clay Center for the Arts and Science, West Virginia. That leaves yours truly in charge of day to day operations in the ElectricSky™ Theater (EST).

September is our slowest month of the year, as I imagine it is for all of you as well. It is the first month since we opened in July of 2003 that we have not exceeded our attendance goals. Still, we premiered the classic film Everest in August and our capture rate of Museum visitors has been a phenomenal 40 to 50 percent! Our current planetarium show is Oasis In Space, and we just recently gave Spitz the go ahead to prep the National Space Centre show Mars as our third major production. It should premiere in January. In the meantime, I am adapting the old Loch Ness standby A Season of Light as our holiday planetarium show starting the day after Thanksgiving, our biggest day of the year.

We have just recently had a visit for Luke Donaher of LFI International for a laser tune up, and I intend to incorporate the laser into upcoming star talks for the first time. Darrin Bruce of Spitz will be out for a PMA on October 3 to nurse our ailing StarScape, tune video and figure out why our system remote, Nomad, is cranky.

Last, but not least, one of our part timers has moved on to greener pastures, so we are looking to hire a new part timer. This will be the first time we've had to hire since opening. Here's to employee loyalty!



Curt Spivey
Avampato Discovery
Museum ElectricSky™
Theater
Charleston, West Virginia

HST's Greatest Hits '96

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The Space Telescope Science Institute (STScI) provided slides of Hubble images to individuals within regional affiliates who arranged to duplicate and distribute them. At our '96 conference, I was designated to receive and coordinate STSci materials and make them available to SEPA members.

Below you'll find a brief description of all 40 images distributed in 1996. Numbers next to the descriptions are shortened versions of STScI press release numbers, *e.g.,* 21a refers to PR 96-21a.

The entire set of 40 slides is $50.00, including postage and handling. Send your check or purchase order to the address at the left.

01a___Hubble's deepest ever view of the universe, revealing 1,500+ extremely faint galaxies in various stages of their development
01b___Sample galaxies from the same Hubble deep field
02____The inner region of a warped dust disk around Beta Pictoris once hidden because of the star's glare
03____An image of the Egg Nebula taken by WFPC2; it shows the emergence of some mysterious searchlight beams emanating from behind a dying star
04____The first direct image of a star other than the Sun: Betelgeuse.
05____In more detail than has ever been seen before, the process a star like the Sun goes through when it dies
09a___In clear, detailed pictures the first ever images of Pluto's surface; four views
09b___Pluto surface map
10____Gravitational lens effect captures image of primeval galaxy
11____Images of the globular cluster Mayall II, consisting of 300,000 old stars, in orbit around the Andromeda galaxy
13a___The Helix Nebula, NGC 7293 showing the collision of gases near a dying star
13b___Helix Nebula detail with cometary knots surrounding the dying star
14____A view of Comet Hyakutake that focuses on the near-nucleus region of the comet
15____Three layers of Uranus's atmosphere taken with infrared filters; both clear and hazy layers created by a mixture of gases
16____Image taken of Saturn where its rings appear edge-on because of the position of the Earth in Saturn's orbital plane
17____A view of several star generations found in the central region of the Whirpool Galaxy
18a___A rare view of Saturn's rings seen just after the Sun had set below the ring plane
18b___A series of 10 images of several small moons orbiting Saturn
21a___NGC 1365, a barred spiral galaxy located in the Fornax cluster
21b___NGC 4639, a spiral galaxy located in the Virgo cluster
22a___The Crab Nebula and a detail of the pulsar in its center
22b___Sequence of three images showing changes in the Crab Nebula pulsar
23a___Huge, billowing pair of gas and dust clouds in Eta Carinae
23b___Expansion of Eta Carinae debris
25____Hubble's 100,000th exposure captures an image of a distant quasar
27____A vast nebula, NGC 604, which is known for a great starbirth region
29a___18 gigantic star clusters which may be building blocks for a new galaxy
29b___Blue sub-galactic clumps which may be galaxies under construction
30____Jupiter's moon Io passing above turbulent clouds
31____Clusters of stars and a fishhook-shaped cloud of gases found in NGC2366, a giant star forming region
32____Changes in Jupiter's auroral emissions
33____Views of weather on opposite hemispheres of Neptune
34____A Martian dust storm around the edge of the north polar cap
35a___A survey of quasar host galaxies
35b___A quasar caught in the act of colliding with its companion galaxy
36a___Supersonic comet-like objects in the Cartwheel Galaxy
36b___Cartwheel Galaxy composite image
36c___Cartwheel Galaxy illustration
38a___M8, the Lagoon Nebula showing giant "twisters" and star wisps
38b___M8, the Lagoon Nebula detail showing eerie funnels and twisted-rope structures

HST's Greatest Hits '97

Duncan Teague
D T Publishing
8858 Carriage Creek Road
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The Space Telescope Science Institute (STScI) provided slides of Hubble images to individuals within regional affiliates who arranged to duplicate and distribute them. At our '96 conference, I was designated to receive and coordinate STSci materials and make them available to SEPA members.

Below you'll find a brief description of all 39 images distributed in 1997. Numbers next to the descriptions are shortened versions of STScI press release numbers, *e.g.,* 09a refers to PR 97-09a.

The entire set of 39 slides is $48.75, including postage and handling. Send a check or purchase order to the address at the right.

01____Central supermassive black holes in galaxies NGC 3377, NGC 3379, and NGC 4486B:
03____SN1987A Fireball: One tenth light year long dumbbell structure expanding at six million miles per hour in supernova 1987A
08____Changes in the nucleus of Comet Hale-Bopp as it moved closer to the Sun beginning in the September of 1995
09a___Transition from spring and summer in Mars's northern hemisphere; photo taken shortly before opposition
09b___Three photos of Mars taken six hours apart with 90° difference between images; photos taken shortly before opposition
11____The Egg nebula in which stars are born and die violently; the photo shows jets of gas being blasted into space
12____A supermassive black hole located in galaxy M84
13____NICMOS captures a region of the Orion nebula filled with action as a center for the birth of new stars
14____Supernova 1987A: different colors represent different elements in the ring
15a___A view of Mars's cloud cover
15b___Seasonal changes in Mars's northern polar ice cap
15c___Four views of Mars rotated 90° between images during summer in Mars's northern hemisphere
16____The Cone Nebula: six baby sun-like stars surround their mother
17____A collision between two spiral galaxies in the heart of galaxy Arp 220
18____Fireworks near a black hole in the core of Seyfert galaxy NGC 4151
19____STIS reveals an invisible high-speed collision around a supernova
20____Hubble pinpoints the optical counterparts of a γ-ray burst in a distant galaxy
21____Hubble captures a volcanic eruption plume from Jupiter's moon Io
22____A gamma-ray burst blazes from a titanic explosion in deep space
23____Hubble's look at Mars shows a canyon dust storm, cloudy conditions for Pathfinder's landing in July 1997
24a___Dissipation of a large dust storm on Mars
24b___Hubble shows dust and water ice clouds that exhibit substantial daily variations
25____Powerful telescopes discover the largest galaxy in the universe
26____Hubble separates components in the Mira binary star system
27____Hubble reveals a huge crater on the surface of the asteroid Vesta
28____Hubble finds a bare black hole pouring out light
29____Hubble shows blobs of gas formed by some nova outbursts
30____Hubble keeps track of a fading γ-ray burst
31____Mars at the beginning of autumn in the Martian northern hemisphere
32____Hubble sees a neutron star alone in space
33____Hubble identifies what might be the most luminous star known
34a___Hubble reveals some stellar fireworks accompanying galaxy collisions
34b___Detailed images of colliding galaxies
35____Hubble shows images of a blue straggler star
36a___Hubble tracks clouds on Uranus
36b___Hubble spots northern hemispheric clouds on Uranus
37____Hubble shows infrared view of a moon, the ring, and the clouds of Jupiter
38a___Hubble sees a supersonic exhaust from a nebula
38b___Hubble's planetary nebula gallery

HST's Greatest Hits '98

Duncan Teague
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Below you'll find a brief description of all 40 images distributed in 1998. Numbers next to the descriptions are shortened versions of STScI press release numbers, *e.g.,* 26a refers to PR 98-26a.

The entire set of 40 slides is $50.00, including postage and handling. Send your check or purchase order to the address at the left.

01____COBE's infrared view of the Universe: three maps of the full sky seen in infrared light
02____Distant supernovae: light sources determine the universe's expansion rate
03____Beta Pictoris: disk indicates planets, and possible brown dwarf companion
04____Jupiter aurorae: a "curtain" of light extends several hundred miles beyond Jupiter's limb
05____Saturn's aurorae: "curtains" of light extend 1,000 miles above cloud tops
08____Supernova 1987A: a collision between the expanding blast wave and its circumstellar ring
10____Serendipitous asteroids: HST images show curved trails of asteroids
11a___Planetary nebula NGC 7027: a brief stage in the evolution of a medium mass star
11b___The Cotton Candy Nebula and The Silkworm Nebula: phases of stellar burnout
12____Star birth in barred spiral galaxy NGC 1808 possibly due to interaction with NGC 1792
14a___Centaurus A: nearest active galaxy to Earth shows the turbulent firestorm of starbirth
14b___Centaurus A: tilted disk of gas at the galaxy's core surrounds suspected black hole
15____Stingray Nebula: Henize 1357, the youngest known planetary nebula
16____NGC 1818: globular cluster of over 20,000 stars in the Large Magellanic Cloud
17a___GRB 971214: γ-ray burst; most energetic event in the universe
17b___GRB 971214: γ-ray burst; comparison of Keck Telescope and HST views
18____Saturn: details of the clouds and hazes in the atmosphere of the ringed planet
19____Possibly the first extrasolar planet ever to be imaged orbiting about a newborn binary star
20____Four of NASA's proposed designs for the Next Generation Space Telescope (NGST)
21____Galaxy NGC 4314: bright ring of starbirth around the galaxy's core
22____NGC7052: galaxy with 300 million solar mass black hole in its center
25____N81 in the Small Magellanic Cloud: a celestial maternity ward
26a___Galaxy Cluster MS1054-03321: thousands of galaxies eight billion light years from the Earth
26b___Supernova 1996CL: a March 1996 exploding star in galaxy cluster MS1054-0321
27____Distant galaxy clusters: left, in Virgo; upper right, in Andromeda; lower right, in Taurus
28____NGC7742: a small Seyfert 2 active galaxy probably powered by a black hole in its core
29____Saturn: pastel yellows, browns, and greys distinguish cloud differences
30____Sagittarius Star Cloud: HST peers into the heart of the Milky Way
31____NGC7635, the Bubble Nebula: shows an expanding shell of glowing gas surrounding a hot star
32a___Infrared views: left: faintest galaxies ever seen; right: objects 12 billion light years away
32b___Deep field galaxy: left: visible light areas of starbirth; right, infrared disk structure
34____Neptune: a look at the eighth planet's stormy disposition
35____Uranus, August 8, 1998: its four major rings and 10 of its 17 currently known satellites; false color image
36____NGC6210 planetary nebula described as looking like a turtle swallowing a sea shell
37____Quasar PG1115+080 and the gravitational lens effect:
38____Nebula M1-67 around star WR124: gas ejected into space at 100,000 mph
39____NGC3132: southern hemisphere's "Eight-Burst" or "Southern Ring" Nebula
41a___HST deep field south: thousands of galaxies in Tucana, near the South Celestial Pole
41b___HST deep field south: infrared, visible light, and ultraviolet views of distant galaxies
42____NGC253 galaxy: edge-on spiral galaxy just beyond our Local Group

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Below you'll find a brief description of all 42 images distributed in 1999. Numbers next to the descriptions are shortened versions of STScI press release numbers, *e.g.,* 43a refers to PR 99-43a.

The entire set of 42 slides is $52.50, including postage and handling. Send your check or purchase order to the address at right.

01____M57 Ring Nebula: the sharpest view yet of this planetary nebula
02____Combined deep view of infrared and visible light galaxies
03____HD141569: stellar dust rings of a star in the constellation Libra
04____SNH1987A: the self-destruction of a massive star in the Large Magellanic Cloud
05a___Six images of a young stellar disk found in the constellation Taurus
05b___Four images featuring disks around various young stars in Taurus
06____NGC1316: the silhouette of dark clouds against a glowing nucleus of an elliptical galaxy
07____Mars: visible, infrared light images; evidence of water bearing minerals
08____Proxima Centauri: a detailed image of the Sun's nearest stellar neighbor
09____GRB990123: fading visible light fire ball in a γ-ray burster
10____Six images showcasing different views of spiral galaxies
12____Tarantula Nebula: multiple generations of stars in the brillant cluster of Hodge 301
13____Jupiter: images of the volatile moon Io sweeping across Jupiter's face
14____Copernicus: the 58 mile wide (93 km) impact crater on the Moon
16____NGC4650A: a polar ring galaxy
18____Rings, arcs, and crosses as seen in Hubble's top ten gravitational lens effect images
19____NGC4603: magnificent spiral galaxy associated with the Centaurus cluster
20____NGC3603: various stages of the life cycle of stars in a giant galactic nebula
21____AB Aurigae: a swirling disk of dust and gas surrounding a developing star
22____Mars: a colossal polar cyclone
23____N159: a turbulent cauldron of starbirth in the Large Magellanic Cloud
25____NGC4414: magnificent details in the dusty spiral galaxy
26____NGC6093: a stellar swarm in a dense globular cluster
27____Mars: the red planet at opposition during April – May, 1999
28____MS1054-03: galaxy collisions in distant clusters
29____Jupiter: an ancient storm in its atmosphere (The Great Red Spot)
30____Giant star clusters near the galactic center
31____HCG 87: a minuet of four galaxies
32____HE2-104: small, bright nebula embedded in the center of a larger nebula
33a___R136 in 30 Doradus: a grand view of the birth of stars
33b___R136 in 30 Doradus: two detailed views of a highly active region of star birth
34a___NGC1365: a barred spiral galaxy reveals a bulge in its center
34b___Eight different views of the central bulges of spiral galaxies
35____HH32: a magnificent example of a "Herbig-Haro object"
36____NGC2261: Hubble's variable nebula illuminated by R Monocerotis (R Mon)
37____NGC2346: a butterfly shaped nebula
38____NGC2440: planetary nebula ejected from a dying star
39____OH231.8+4.2: the "rotten egg" nebula
40____M32: hot blue stars deep inside a dwarf elliptical galaxy
41____NGC2207 and IC2163: two spiral galaxies passing by each other
42____M20: Trifid Nebula reveals stellar nursery torn apart
43a___M87: the jet near the galaxy's central black hole

JPL's Best Images of '98

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NASA JPL has sent us the following slides for the Galileo Mission and others. Slides are $1.25 each on both the current page and the following page.

P-35036B _ Launch of Galileo on STS-34 Atlantis
P-35213___ Deployment of Galileo and IUS
P-37218___ Venus Colorized Clouds
P-37327___ Moon: Western Hemisphere
P-37539___ Infared Image of Low Clouds on Venus
P-37593___ Earth: Ross Ice Shelf, Antarctica
P-37630___ Global Images of Earth
P-40449___ Gaspra: Highest Resolution Mosaic
P-41383___ Gaspra Approach Sequence
P-41432___ Moon: North Pole
P-41474___ Earth: Northeast Africa and the Arabian Peninsula
P-41493___ Earth: False Color Mosaic of the Andes Mountains
P-41508___ Earth: Moon Conjunction
P-42501A__ South Polar Projection of Earth
P-42964___ Asteroid Ida: Five Frames Mosaic
P-44130___ Asteroid Ida: Limb at moment of Closest Approach
P-44131___ Ida and Dactyl: Enhanced Color
P-44297___ High Resolution View of Dactyl
P-44520___ Asteroid Ida Rotation Sequence
P-44542___ Comet Shoemaker-Levy 9 Fragment W Impact on Jupiter
P-47058___ Ganymede: Comparison of Voyager and Galileo Resolution
P-47065___ Ganymede: Mixture of Terrains and Large Impact Crater in Unuk Sulcus Region
P-47162___ Full Disk Views of Io (Natural and Enhanced Color)
P-47179___ Three Views of Io
P-47182___ Jupiter's Great Red Spot
P-47183___ Dark Bands on Europa
P-47194___ Live volcano on Io
P-47196___ False Color Great Red Spot
P-47903___ NIMS Ganymede Surface Map
P-47905___ Five Color Views of Io
P-47906___ Europa In Color
P-47935___ Io Glowing in the Dark
P-47961___ Ganymede's Nippur Sulcus
P-47970___ Ganymede Color Global
P-47971___ Io in front of Jupiter
P-47972___ Changing Volcanoes on Io
P-48035___ Stereo View of Ganymede's Galileo Region
P-48040___ Natural and False Color Views of Europa
P-48063___ Thunderheads on Jupiter
P-48112___ Ganymede Uruk Sulcus High Resolution Mosaic Shown in Context
P-48113___ Ganymede Galileo Regio High Resolution Mosaic Shown in Context
P-48114___ Jupiter's Great Red Spot
P-48122___ Two views of Jupiter's Great Red Spot
P-48127___ Ridges on Europa
P-48145___ Io: Volcanically Active Regions
P-48188___ The Main of Ring of Jupiter
P-48231___ Callisto Crater Chain at High Resolution Shown in Context
P-48236___ Europa: Ice Floes
P-48293___ Callisto: Scarp Mosaic
P-48294___ False Color Mosaic of Jupiter's Belt-Zone Boundary
P-48299___ Asgard Scarp Mosaic
P-48445___ True Color Mosaic of Jupiter's Belt-Zone Boundary
P-48496___ Color Global Mosaic of Io
P-48526___ Europa Ice Rafts
P-48527___ Closeup of Europa's Surface
P-48532___ Mosaic of Europa's Ridges, Craters
P-48584___ Io's Sodium Cloud
P-48698___ E4 True and False Color Hot Spot Mosaic
P-48700___ Jupiter Equatorial Region
P-48952___ Jupiter's White Ovals, True and False Color
P-48954___ Ancient Impact Basin on Europa
P-48956___ Active Volcanic Plumes On Io
P-49344___ Arizona-sized Io Eruption
P-49434___ Europa: Ice Rafting View
P-49435___ High Resoultion Mosaic of Ridges, Plains, and Mountains on Europa
P-49436___ Regional Mosaic of Chaos and Gray Band on Europa

P-48439A__ The Mars '98 Lander
P-48440A__ The Mars '98 Lander
P-48494A__ The Mars 98 Orbiter/Lander
P-48495A__ The Mars 98 Orbiter/Lander
P-48567___ Dr. Peter Tsou holds Aerogel
P-48589 __ Stardust Spacecraft
P-48691___ Deep Space 1 Spacecraft

JPL's Best Images of '99

JPL-19-12 _____ NASA/JPL
JPL-25125 _____ Model of Sojourner
JPL-27089AC __ Cassini arrival and orbit
JPL-27089BC __ Cassini interplanetary trajectory
JPL-27748 _____ Thermal vacuum testing
JPL-28046BC __ High-gain antenna
JPL-28162AC __ Cassini assembly
MGS-001_____ Scientists assemble MGS
MGS-002_____ Scientists assemble MGS
MGS-003_____ MGS configuration
MGS-004_____ MGS orbit around Mars
MGS-005_____ Launch of MGS
P-23062_____ Saturnian clouds
P-23209_____ The Saturn System
P-23925_____ Saturn ring spokes
P-41101_____ Huygens descent profile
P-42810AAC ___ Huygens, exploded view
P-42810AC ____ Huygens probe interior
P-43538_____ Saturn: Rings and Moons
P-43560_____ Mars global view
P-43836_____ Scientists' home countries
P-43862_____ Pathfinder landing
P-43966AC ____ Spacecraft, country flags
P-44233_____ Mars landing area
P-44293Ac_____ Cruise stage
P-45424_____ Huygens probe release
P-45893AC ____ Saturn, Titan's landscape
P-46225AC ____ Mapping Titan
P-46278_____ The Cassini mural
P-46356_____ Cassini with Huygens
P-46427_____ Petal deployment, Mars Yard
P-46428_____ Airbag inflation test
P-46506AC ____ Saturn as seen from Rhea
P-46507_____ Saturn orbit insertion
P-46507AC ____ Cassini enters Saturn orbit
P-46586_____ Cassini orbital tour
P-46620_____ Pathfinder landing
P-46655_____ Science targets
P-46656_____ Enceladus and Iapetus
P-46898BC ____ Cassini's trajectory
P-47340AC ____ Propulsion module
P-47936CC ____ Huygens probe installation
P-47991_____ Pathfinder arrival at KSC
P-47992Ac_____ Cruise stack arrival at KSC
P-47992Bc_____ Sojourner checking at KSC
P-48012DC____ Transporting Cassini
P-48045BC ____ Cassini fully assembled
P-48045CC ____ Ready for transport
P-48154Bc_____ Pathfinder mated to rocket
P-48155Ac_____ Launch 12/4/96, 2:11 a.m.
P-48155Bc_____ Petal closing at KSC
P-48156_____ Full stack mated to booster
P-48313BC ____ Cassini in the space center
P-48505AC ____ Huygens probe
P-48505BC ____ Huygens probe
P-48565_____ Titan IV launch
P-48597_____ Cassini ready for shipment
P-48630_____ Saturn tour trajectory
P-48664_____ Cruise stage at KSC
P-48702_____ Pathfinder on Mars
P-48707_____ Cruise stage, spacecraft
P-48753_____ E.D.L. sequence
P-48824_____ Sojourner and Pathfinder
P-48827_____ The airbags by Sojourner
P-48841_____ Sojourner touchdown
P-48842_____ APXS studies "Barnacle Bill"
P-48845_____ "Twin Peaks"
P-48847_____ The rock "Yogi"
P-48866_____ "Barnacle Bill" mosaic
P-48871_____ Rover's APXS at work
P-48877_____ "Wedge" and "Flattop"
P-48878_____ Near "Barnacle Bill"
P-48889_____ "Barnacle Bill" and "Yogi"
P-48891_____ 360° b&w panorama
P-48893_____ "Yogi" and rover tracks
P-48894_____ Sagan Memorial Station
P-48901_____ Sojourner wheelie on "Yogi"
P-48902_____ Rover's view of rocks, lander
P-48908_____ The "Rock Garden"
P-48909_____ Martian terrain, "Wedge"
P-48911_____ Sojourner, "Wedge"
P-48912_____ Forward ramp Twin Peaks
P-48913_____ The "Rock Garden"
P-48914_____ A closer view
P-48915_____ The rover petal
P-48916_____ Twin Peaks
P-48917_____ Martian terrain
P-48918_____ "Barnacle Bill," "Yogi," "Couch"
P-48919_____ Sojourner, "Barnacle Bill"
P-48920_____ "Couch" on the horizon
P-48921_____ The rock "Yogi"
P-48922_____ Airbags, petal, and "Yogi"
P-48923_____ Martian landscape
P-48924_____ "Calvin" and "Hobbes"
P-48925_____ "Calvin" and "Hobbes"
P-48926_____ Martian terrain
P-48927_____ Petal and terrain
P-48928_____ "Little Matterhorn"
P-48931_____ New 360° gallery panorama
P-48970_____ North Twin Peak
P-48982_____ The forward ramp
P-49025_____ Airbag bounce marks
P-49026_____ Airbag roll marks
P-49028_____ Classes of Martian rocks
P-49029_____ Classes of Martian rocks

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Southern Skies Writers' Submission Guidelines

Duncan Teague, Editor
Southern Skies
Craigmont Planetarium
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It's time consuming to have to edit submissions to *Southern Skies* for issues of formatting, typography, style, and consistency before I compose each journal. Effective October 1st, unless these guidelines are followed, submissions will be returned for compliance.

- *Never* double space after punctuation or in any other instance. This is the only rule that has no exception.
- Don't use quotation marks around anything that isn't a direct quote from a speaker. The names of star shows are italicized in *Southern Skies.* Don't put star show names inside quotation marks.
- When you **do** use quotation marks, punctuation goes *inside,* not outside quotation marks.
- Italicize foreign words and any punctuation that immediately follows an italicized word.
- Use italics or bold characters to show emphasis instead of capitalizing words. *Italics* shouts a little bit. **Bold** shouts a lot.
- The general rule for whether to capitalize a word is the following: if you're not sure, don't.
- For consistency, capitalize Sun, Moon, and Earth when referring to our solar system's star, Earth's natural satellite, and our home planet.
- Do **not** capitalize seasons or cardinal directions.
- Only very rarely should one use an exclamation point and never multiple instances of exclamation points. One cannot use this punctuation mark as a substitute for good, strong writing.
- Use the typographically correct symbols for double and single quotes, not the marks that mean feet and inches. Your word processor can do it. Learn how. The typographically correct symbols are "curly," not "straight;" e-mail messages do not transmit the typographically correct symbols, so send submissions as attachments, not in the body text of an e-mail.
- Use the *en dash* for a series of events, and use a space before and after the *en dash, e.g.,* Monday – Friday; September – October; 8:00 – 9:00. The **en dash** (–) is not a hyphen (-). Learn how to type the *en dash* with your word processor.
- Use the *em dash,* without spaces, to show an abrupt change of thought. The *em dash* (—) isn't two hyphens (--). Learn how to type the *em dash* with your word processor.
- Use the correct *ellipsis* character: … This is *not* three periods with or without spaces between.
- Learn the difference between *it's* and *its.*
  Learn the difference between *there* and *their.*
  Learn the difference between *then* and *than.*
  Learn the difference between *from* and *than.*
- The nouns that name decades of time use a leading apostrophe to indicate the missing numerals that refer to the century. They're not possessive. '80s is correct; 80's and '80's are incorrect.
- Spell out numbers from one to ten. Use numerals for numbers greater than ten.
- Note the format for state news submissions and follow that format. Provide the name of the facility and the city. Don't include the state name after the city. It's unnecessary.
- Don't use the tab key to indent. When your text imports into my template, the template will automatically indent the first line the proper amount as long as you have merely formatted the first line of the paragraph to be *indented.* If there's a *tab* marker present in that text, the first line will indent the distance I have already established in my template **plus** the extra distance of any tabs in your text.
- Don't skip a line between paragraphs.
- Graphic files included with your article should be in a generic, cross-platform format. Don't use some file format proprietary to a special software program you use. Acceptable graphic file formats include the following: .eps, .gif, .jpg, .psd (Photoshop), and .tif.
- Text files should be created from a widely used word processor, *e.g.,* Microsoft Word (.doc), or rich text format (.rtf), or plain text (.txt).
- If you want images to be included with your column or article, send them. Don't ask me to go to some Website and download them myself. If you don't have time, neither do I.