Southern Skies

Volume 24, Number 1 Journal of the Southeastern Planetarium Association Winter 2004

In This Issue

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

Officers

President
Michael D. Sandras
Freeport-McMoran Planetarium
409 Williams Boulevard
Kenner, LA
Voice: (504) 471-2149
Fax: (504) 471-2159
Email: astrox@ix.netcom.com

President-Elect
Patsy Wilson
Margaret C. Woodson Planetarium
1636 Parkview Circle
Salisbury, NC 28144
Voice: (704) 639-3004
Fax: (704) 639-3015
Email: wilsonpk@rss.k12.nc.us

Secretary/Treasurer
Duncan R. Teague
Craigmont Planetarium
3333 Covington Pike
Memphis, TN 38128-3902
Voice: (901) 385-4319
Fax: (901) 385-4340
Email: teagued1@k12tn.net

Past-President
David C. Maness
Peninsula Planetarium
524 J. Clyde Morris Boulevard
Newport News, VA 23601
Voice: (757) 595-1900 x31
Fax: (757) 599-4897
Email: Pegasus321@aol.com

IPS Council Representative
John Hare
3602 23rd Avenue West
Bradenton, FL 34205
Voice: (941) 746-3522
Fax: (941) 747-2556
Email: jlhare@aol.com

Southern Skies Editor
Duncan R. Teague
3308 Bluemont Drive
Memphis, TN 38134-8454
Voice/Fax: (901) 388-3266
Email: dteague2@midsouth.rr.com

Associate Editors

Astro Video Review
Priscilla Bernardo
Orlando Science Center
777 East Princeton Street
Orlando, FL 32803-1291
Voice: (407) 514-2049
Email: pbernardo@osc.org

AstroWeb Review
Dennis Joseph Cowles
Louisiana Nature Center Planetarium
10601 Dwyer Road, Box 870610
New Orleans, LA 70127
Phone: (504) 243-3385
Fax: (504) 242-1889
Email: CowlesD@aol.com

Book Reviews
Patrick McQuillan
Alexander Brest Planetarium
1025 Museum Circle
Jacksonville, FL 32207
Phone: (904) 396-7062
Fax (904) 396-5799
Email: PatAstro@aol.com

Digital Cosmos
Paul Trembly
Orlando Science Center
777 East Princeton Street
Orlando, FL 32803-1291
Voice: (407) 514-2000
Email: ptrembly@osc.org

Featured Planetarium
Mike Chesmann
853 Bays Mountain Park Road
Kingsport, TN
Voice (423) 229-9447
Fax (423) 224-2589
Email: bmplanet@tricon.net

Small Talk
Elizabeth Wasiluk
Berkeley County Planetarium
109 Ridge Road North
Hedgesville, WV 25427
Phone: (304) 754-3354
Fax: (304) 754-7445
Email: ewasiluk@access.k12.wv.us

President's Message

I hope everyone had a very nice holiday season, and I wish everyone the best in the New Year. It is hard for me to believe, but I have already served half of my term as SEPA President, and I have mixed feelings about the job I have performed so far.

I have really tried to work through my medical problems over the past year, but it has still kept me from doing many of the things I set out to do within SEPA. Hopefully, if my health allows, I will be able to accomplish much more in this upcoming year. I would like to thank you all for not being too critical of me, but I have had a great group within the SEPA Council that has made my job much easier.

Unfortunately we continue to have a problem with the *Southern Skies* journal. Early last year we had a good number of submissions to *Southern Skies,* but our editor, Duncan Teague, has informed me that submissions have fallen off once again.

I feel bad about this since in the last journal I complemented our SEPA membership on its increased contributions, and now I find out that the submissions have fallen off. As I have stated in the past, I know everyone is busy, but please consider a submission. If not an entire article, as requested in the last journal, you may consider a photograph, hand out, or some other bit of information to your state round up. Duncan has his hands full and can't do everything by himself, so please let's help him. In addition, I would also like to thank the associate editors who do contribute on a regular basis as well.

I would also like to remind everyone of the SEPA scholarship award account. Past President David Maness, to help needy planetarians receive monies for expenses to SEPA conferences and other worthwhile activities, started this program.

If you need more information on this program, please contact Past President David Maness. If you would like to contribute to this fund you can add it on to your membership form. You will notice that the membership form included in *Southern Skies* has a space to make such a donation.

I would like to also remind everyone that this year's SEPA conference is not too far away. More details will be coming soon, but remember it will be in June and is being held in Richmond, Virginia. Please remember if any of the conference organizers ask for your help, please be willing to do so.

Personally I never realized how much work went into a conference until I helped (in a small way) with the conference held in Baton Rouge last year. These conferences require a great deal of work and please remember to thank the conference host when you see them at this year's event. Also, in connection with this year's conference, remember elections will be held. If you are interested in running for the position of President-Elect, please contact Kris McCall at the Sudekum Planetarium in Nashville, Tennessee.

If anyone within the organization has any proposals or questions that may need the Council's attention, please contact me as soon as you can in case this matter would need to be addressed at the upcoming conference.

Just to let everyone know, we are still running into many construction problems with the new Kenner planetarium project. I am bringing this to everyone's attention because this marks the 12th year of my involvement with this facility and it isn't finished yet. Hopefully this will make you realize that there are others out there that share your pain. Keep this in mind and hopefully it will bring a smile to your face in starting off 2004!

Michael Sandras
President
Kenner Science Center
Planetarium
Kenner, Louisiana

2003 SEPA Conference Archive

Adam Thanz
Bays Mountain Park
Planetarium
Kingsport, Tennessee

Included in this issue of the *Southern Skies* journal is a CD ROM I made to archive the 2003 SEPA conference. It also includes last year's *Southern Skies* journals, an up-to-date listing of members with contact information, and a copy of the SEPA Guidebook as it stood at the end of 2003.

The reason for this archive is simple. There have been way too many conferences where there were great speakers, presentations, workshops, *etc.,* and no one had recorded them, either with audio or video. Many attendees may take snapshots, which is good, but no official portraits were taken. If you happen to miss any talks, this archive will let you see what was missed. Another reason is that this will hopefully show all those other planetarians out there in the southeast U.S. region that the conference is worth while.

After about 300 hours of work, this archive is made of a small number of elements:

HTML pages: This allowed for the most condensed form of data with the most easily viewed format. Only a free HTML browser is needed.

Images: There are about 700 images included. Almost half of them I took, but the other half are from other SEPA members. Each photo gives credit to its taker. These are accessed *via* a photo link on the bottom of pages that have appropriate photos. A new page will open that shows thumbnails and all data that goes with the photo. Clicking on the thumbnail links to a larger version of the image. They are in JPG format (600 pixels wide, or long, whichever is the greater side) compressed to about 60%. In addition, all of the images are organized by the photographer and date (if applicable). These links are found in the Main Conference Page. This allows multiple ways of finding an image and guarantees that all images are within the archive. Note: I apologize for not having everyone's name associated to an image that may include them. I don't know everyone's name (or know what they look like), but I did the best I could.

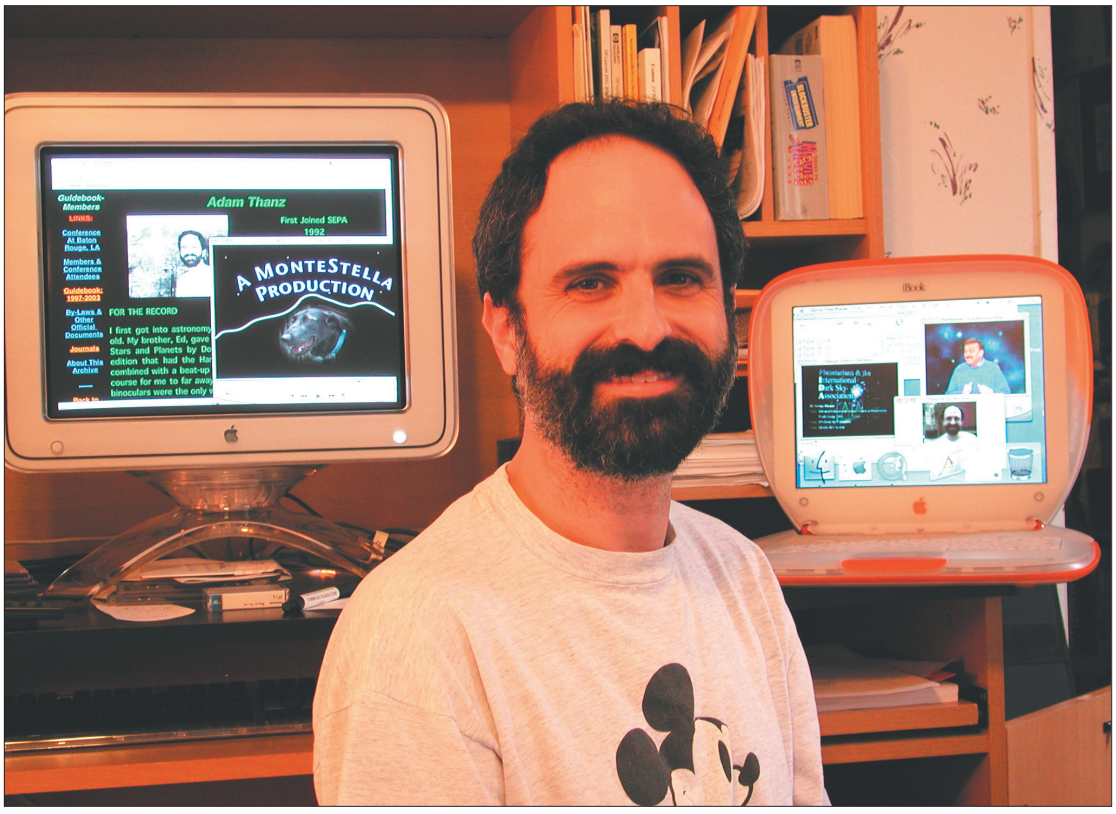
QuickTime video/audio: Most of these are compressed with an MPEG-4 codec. The video size is generally small. This allowed me to compress about 18 hours of video/audio to be stored on the CD-ROM. I have also included the Jack Horkheimer video that was shown during the conference welcome. This is in a larger size to be easily seen. Wow!

Adobe Acrobat PDF files: This was used for the *Southern Skies* journals and the registration document. See *Southern Skies* in living color!

All the video is being saved to DVD video, too. Along with the uncompressed versions of all the images and files, a somewhat complete archive of the SEPA conference can be achieved.

I hope you enjoy the archive.

Right: Adam Thanz uses his Macs to the max.



Editor's Message:
Archive History, Maintain the Present

Duncan Teague
Secretary-Treasurer
Craigmont Planetarium
Memphis, Tennessee

What a pleasure it is to bring you this issue of *Southern Skies*. It includes the first ever archive of a SEPA conference. Adam Thanz has put in countless hours (Oh, wait… Adam *did* count how many hours he put into this project—300!) to compile, compress, edit, burn, and duplicate a one-disc archive of 2003 conference workshops, panel discussions, talks, papers, presentations, and videos.

Adam must not have slept very much in Baton Rouge. I think I saw him at every session as he set up a mini-dv camcorder, took digital photos, passed out release forms, and interviewed delegates.

All his hard work—and a labor of love it must have been—is included in the form of the CD ROM that is included with this issue.

In January Tennessee planetarians met together in Nashville at the Sudekum Planetarium for the first time ever. Thank you, Kris, for organizing this event. It was one of the most substantive meetings I have attended since I joined SEPA thirty years ago.

I mentioned this first meeting of the Tennessee Organization of Planetariums because Adam had a chance to explain in detail the process necessary to compress 18 hours of video and audio so that all this material could fit on one CD ROM. Devine bovine!

Also in this issue is a review of a small screen version of the IMAX® movie Solar Max. Available on VHS and DVD, the movie and its related material (on the DVD ROM version) sounds great. I usually purchase a copy of any media Priscilla Bernardo reviews. This one will be no exception.

Paul Trembley reviews a shareware program named *SkyGlobe*. Since one can distribute the program freely, Patrick suggests that you can give away copies to the visitors to your facility.

Patrick McQuillan's Book Review tells us about *A Traveler's Guide to Mars* by William K. Hartmann, and Dave Hostetter describes his new facility in Lafayette, Louisiana in the Featured Facility column.

Now I need to clarify a matter from nearly nine months ago. Many of the delegates to the conference in Baton Rouge checked a box on the registration form that asked if the registrant wanted to make a donation to SEPA's Scholarship Account to provide some funds for a member to attend a future conference.

Of all the registrants who checked the appropriate box, only George Hastings and Mike Sandras actually included any funds—in additional to the registration fees and other expenses—to donate to the account. It's not too late to rectify this oversight.

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

I wanted to tell you about the Great Lakes Planetarium Meeting in Cleveland, Ohio. It was promoted as a great meeting, and I decided to go in October. My dad lives in Cleveland, and I intended to meet up with him, but even though that did not work out, the meeting was well worth attending.

I was not the only SEPA member to attend. I had talked with April Whitt of the Fernbank Science Center in Atlanta, Georgia about possibly sharing a room. She had said that she usually shares with three other women during GLPA meetings and that five in a room might be a bit much. I was resigned to being in a room by myself, when I received an e-mail from April that said that Dayle Brown had won the competition to travel to Italy to present a planetarium program to English speaking students in a Starlab and would not be attending the GLPA meeting. Would I still like to share?

Granted, I never shared a room with three other women before, but surprisingly, it wasn't a big deal, and we didn't all fight for the bathroom. Now I can say I literally slept with Jeanne Bishop of the Westlake Planetarium in Westlake, Ohio as we shared a bed! Actually, everyone had celestial peejays so the whole thing felt like a giant planetarium pajama party.

The first night, a group of us took advantage of the "dinner on your own" statement and went to the Boca restaurant, an Italian restaurant chain recommended to us. We got a tour of the place which included the Pope Room, which appropriately seated twelve and had pictures and the history of past popes and a bust of John Paul II in the middle of the table that revolved on a turntable. This was all a great prelude to hearing our first speaker, Brother Guy Consolmagno, direct from The Vatican Observatory in Rome to speak on God Under the Dome: Dealing With Religion While Presenting Astronomy. Those of you who have read his book *Brother Astronomer* or recommended *Turn Left At Orion* to a planetarium visitor have a flavor for him.

The next day we spent a most enjoyable time at the Cleveland Museum of Natural History. After taking way too long to get a nice photo of everyone. (I don't remember its taking that long at Baton Rouge.) I went to attend a workshop given by David Hurd, of the planetarium in Edinburough, Pennsylvania called "Constellations By Touch" where we got a huge braille planisphere and instructions on how to use it.

During lunch I got to chat with Paul Kupinski, from Buffalo, New York who was an undergraduate student when I was a graduate student at Buffalo State College. He now owns outright his own Starlab planetarium that he takes around to schools in the Western New York area and works part time for Steve Ferness at Strasenburg Planetarium in Rochester, New York.

I also ran into Kathy Michaels from Maryvale Planetarium, Cheektowaga, New York. I student taught for her long before coming to SEPA. Kathy is debating retiring, after she decides on a new direction for the planetarium in Maryvale.

There was no shortage of SEPA members in attendance. Todd Slisher from the planetarium at the new Detroit Science Center was there, and he brought along left over Woodchuck from a party he threw at the hospitality suite that evening. Todd will be hosting next year's GLPA meeting in Detroit, so start saving up cash now, to attend both SEPA and GLPA in 2004.

Gary Lazich was there from the planetarium in Jackson, Mississippi as well as Shawn Laatch, who is back in SEPA territory with a move to East Carolina Science Center in Greenville, Nouth Carolina.

We enjoyed dinner under the dinosaur skeletons that evening with some high school students, along with the teacher they work for in a middle school planetarium. The teacher wisely forbade them to sit together, so they could have every opportunity to meet new people.

I also met a gentleman from Ohio in a high school planetarium that is new to the field. We enjoyed the talk by Dr. Paul Hodge on Higher Than Everest (But Not as Crowded). Dr. Hodge, an avid mountain climber and hiker, went to great lengths to tell us what it would take to explore the solar system's great peaks and locations, if we could as astronauts.

To make a long day even longer, a group of us ventured to Shaker Heights High School in Shaker Heights, Ohio to see Gene Zajec's planetarium now that it has been updated by East Coast Control Systems and Bowen Productions. Gene is the 2004 Brennen award winner, the Astronomical Society of the Pacific's award given for significant contributions in teaching high school astronomy.

The final full day dawned bright and sunny, so we all got to view the giant naked eye sunspot that was visible that day. I had never seen one without optical aid, so it was quite a treat. I didn't, however, get into the completely full Transit of Venus workshop. If you are a member of GLPA, they will be providing a completely finished program on the Transit of Venus. If you are not a GLPA member, go to their Web site,

(continued on page 20)

Astro Video Review

Solar Max: The Hottest New Film Under the Sun

Priscilla Bernardo
Orlando Science Center
Planetarium
Orlando, Florida

Solar Max: The Hottest New Film Under the Sun

Welcome to the world of Solar Max. Originally crafted by John Weiley as a 15/70 film, it has now been released on VHS ($19.95) and DVD ($27.95). If you have the chance to see Solar Max as a giant screen film it will definitely be an enjoyable experience. For a total Solar Max exploration, skip the VHS and get the DVD.

The 40-minute main feature opens with one statement that sets the stage. Every image of the Sun in this film is real. No CG. Not one single flat, yellow dot. Viewers get to see a Sun in all of its magnificent, raw, and at times, almost terrifying power.

From New Grange to Japan this film weaves a path through history and myth to understand how the Sun's presence in our sky has influenced the lives of both ancient and modern people. Following the evolution of science, we leave behind the concepts of Aristotle to ride on the back of SOHO into the new frontiers of understanding our resident star.

The images are fantastic, and the quality of the production is excellent. The film alone, however, is not an in-depth NOVA type experience. It has the basics. The science is in keeping with the intended purpose of the film, to spark the curiosity of the viewer. It drives home the fact that we live in the vicinity of an occasionally violent neighbor and that our existence is subject to a fragile balance of forces.

This film would be a wonderful piece to play in an exhibit hall mini-theatre. It would be a great way to introduce the wonders of the Sun to a beginning astronomy class. If you want more, that is where you will find the DVD worth the buy.

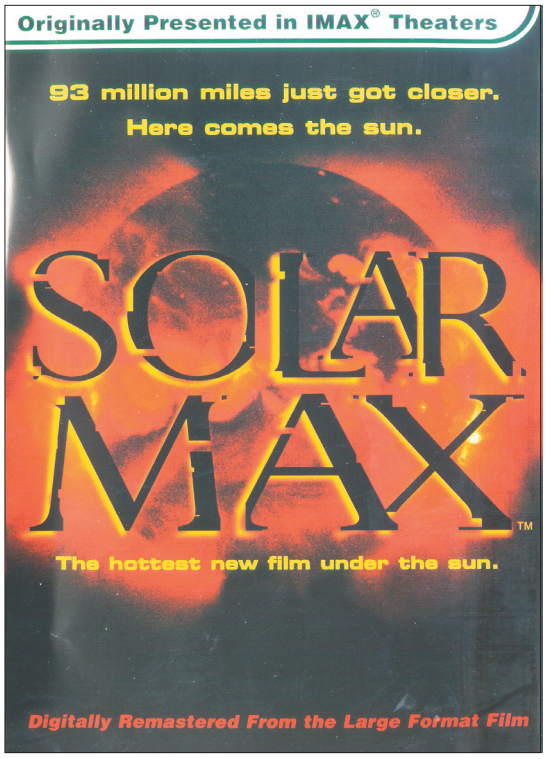
The exclusive ESA DVD ROM "SOHO—Exploring the Sun" is a very nice interactive experience and provides a good format example for anyone creating exhibits. It also would make a great addition to a (middle to high school level) school's computer program teaching tool library. The program covers many topics from new discoveries and views of the Sun to composition and the historical evolution of solar research.

If you don't know what *corona* means, just click on the highlighted word, and you have an explanation. The same holds true with all of the anachronisms *[sic]*. You can also explore an overview of ESA's past, present, and future. Web resources are just a click away, and you can print out a text version of most screens.

The down side is that Mac users are out of luck, with the package clearly stating that the program is PC compatible only. *[Macintosh users can install Virtual PC. Formerly a product of Connectix, the program was recently bought and is now distributed by Microsoft. It comes available with any PC operating system from MS-DOS to Windows XP. Virtual PC allows Macintosh users to run such programs under either MacOS 9 or MacOS X. —Ed.]* Just make sure you have the latest version of Shockwave installed, or the program won't even launch.

For a trip down memory lane (well, for some of us) try out the documentary Spirits of the Polar Night—the Aurora. This portion of the DVD will take you through the early days of aurora research. You will see some of the first attempts to film auroras at their true speed and color. It is a fun little nostalgic piece of filler. Have a good chuckle at styles of the time and try not to think about how you looked in your high school yearbook.

The Hot Facts Trivia section is accessible through the DVD player and would make a fun classroom or planetarium game. It tests the basic concepts about the Sun and ranks you at various levels of expertise according the number of correct answers. If you get the answer wrong, however, you don't get a second chance to guess, and you don't get the correct answer. The only option you have is an annoying one. You have to start the game all over again.



Featured Facility

Lafayette Natural History Museum & Planetarium, Lafayette, Louisiana

Mike Chesman
Bays Mountain Park
Planetarium
Kingsport, Tennessee

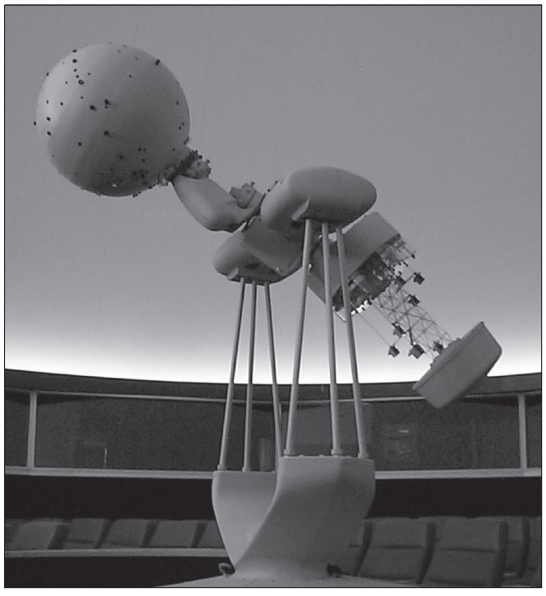
Author
Dave Hostetter
Lafayettte Planetarium
Lafayette, Louisiana

Top: The new theater features glass enclosed projection galleries around the perimeter of the dome and an uncluttered and spacious operating console.

Lafayette Planetarium is a part of the Lafayette Natural History Museum, which opened its doors in 1969 and was the host of the 1989 SEPA conference. The 1990s saw the completion of long-delayed plans to move to a readapted department store building in downtown Lafayette, with a grand opening in late October 2002. The facility has about 10,000 square feet of exhibit space and a new planetarium, and our exhibit plan includes some emphasis on astronomy and aerospace exhibits (including a newly established permanent collection of meteorites). A rooftop observatory for remote video imaging of the Sun, the moon, the planets, and the brighter deep sky objects is under construction.

The new 40 foot planetarium features the original Spitz A-4 with an enhanced star globe. Star machine modifications, all controls, crossfading all-skies, dissolves, video systems, zoom-slews, sound system, and audio/video production facilities are by JHE, and associated work areas are excellent. Full-time planetarium staff consists of a curator and a technician, with an assistant curator to be added soon.

Since opening, the museum has concentrated on traveling exhibits to fill its exhibit space, but its support association has committed to raising $4.5 million for long-term exhibits. The aerospace exhibits will depict not only the history of space flight, but also the basic science of flight and rocketry, much of it in a setting resembling the interior of a space station. The astronomy exhibit will concentrate on planetary science, in particular on cratering and its importance as a process in the sculpting of surfaces in the solar system. It will be tied into our meteorite collection.



Bottom right: Lafayette's Spitz A-4 projector with its enhanced starball.

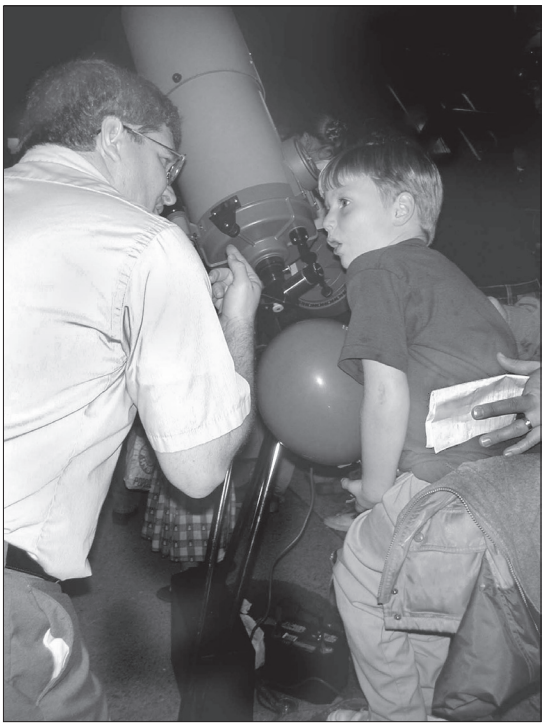
Our growing meteorite and tektite collection remains popular. Although small, it introduces visitors to the major types of meteorites and tektites, and includes small slices of two of the three meteorites found in Louisiana (we're working on the third!). We pass around a 2 pound, baseball-sized iron meteorite at the end of school programs, and make it available to visitors after public programs. In October 2003, we obtained our first large meteorite, a 78 pound iron. It's an interesting contrast to one of our other prizes—a near perfect button tektite only about an inch in diameter.

Public attendance at the new place has been good; in fact, in 2003 we passed our previous annual attendance record by the end of August! Eight to twelve public programs will be presented weekly, with public telescope viewing every clear Tuesday night once the observatory is finished. Usually three or four commercially available programs will be produced each year, with live "Sky Tonight" programs throughout the year. School groups will be offered over a half dozen different live presentations on a variety of subjects, with 16 program times available each week. Most of the school visits are expected to be from elementary and middle schools.

Yearly special events include activities and a star party for Astronomy Day in the Spring; public workshops, field trips, and model rocket launches for Space Frontier Week in July and National Aviation Week in August; and public star parties at least twice a year and for special celestial events.

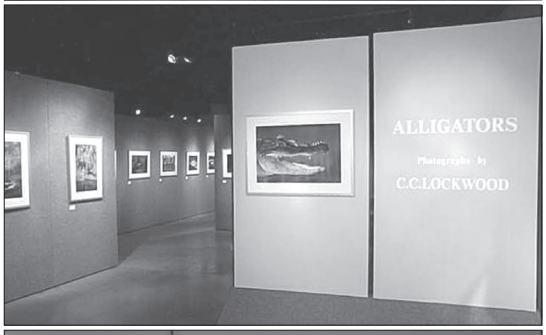
Because of the region's strong French heritage, in 1992 Lafayette Planetarium twinned with the planetarium at Espace Mendes France in Poitiers, France (one of Lafayette's sister cities). We are beginning to experiment with programming from the Association des Planétariums de Langue Française including offering a program in French, and are one of the few North American sites celebrating Fête de la Science, the French national festival of science each October (in our case, scheduled around our autumn star party). Since we've discovered that Semaine de la francophonie (a French celebration of language and culture) is concurrent with Sun-Earth Day in March, in 2004 we expect to celebrate both with a bilingual exhibit about the Sun. It's all rather challenging, considering that no one working in the planetarium actually speaks French.

The Lafayette Natural History Museum & Planetarium emerged strong and intact from the trauma of moving. It has a lot of potential for an exciting future, but what a long, strange trip it's been!

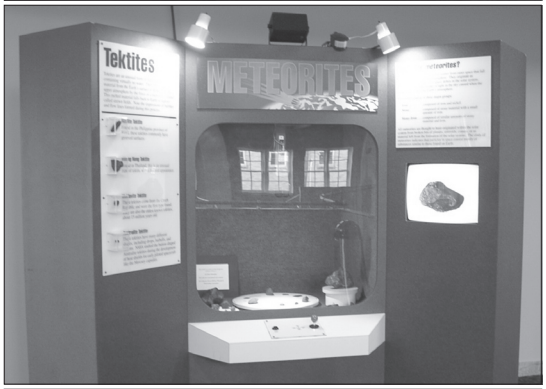


Featured Facility continued

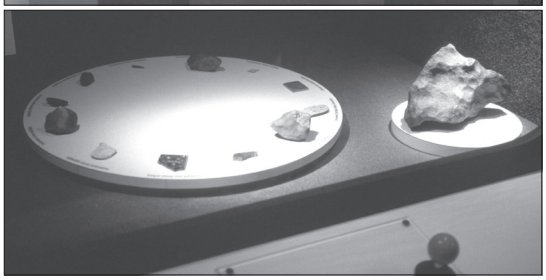
10,000 square feet of exhibit space provides room for current collections and allows for future exhibit expansion.



The new facility can accomodate large displays like this recent photographic collection on alligators.



A small but diverse collection of meteorites from around the world is a major attraction for planetarium visitors.



Meteorite specimens can be rotated under a color TV camera for close-up views on a large monitor at the meteorite exhibit.

Bottom Left: The author gets an awed response from a excited young astronomer.

Digital Cosmos: *SkyGlobe*

Paul Trembley
Orlando Science Center
Planetarium
Orlando, Florida

SkyGlobe

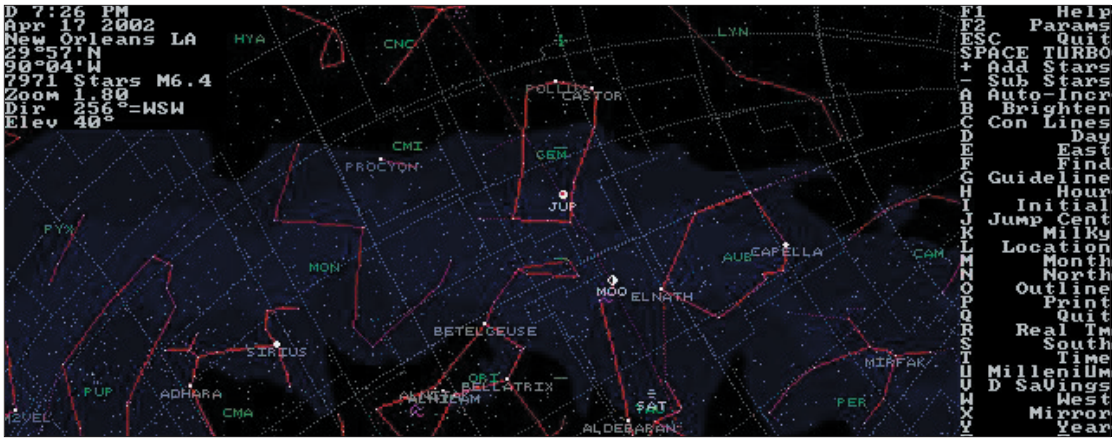
SkyGlobe has been around for years, dating back to the days of DOS based software and CGA graphics. Being shareware, finding the most current version will require a search on the Internet, a search using Google returned everything from V2.5 – V 4.0 (some of these date back to 1994). In short, you should be able to find a version of it without too much effort.

So, in this day of 3 GHz processors and high resolution graphics is there a place or need for software such as *SkyGlobe* While distributed for free, being shareware the author is requesting a $20 registration fee—a fair price. Does it boast ultra realistic graphics? No. Are there NASA images available at the click of a mouse? No. Are the printed maps on par with Uranometra 2000? No. Can you find what objects are in the sky for any given time? YES. In the end, that is all that a vast majority of users want: an easy way to see what's up.

The interface is extremely simple, using function keys and letters. And while the display is often rough, you can find stars and constellations with ease. Planets are clearly labeled. With just a few keystrokes you can find any of the Messier objects and selected NGC objects. Planets are just as easy to find. The manual is non-existent, but you don't need one. It is totally intuitive—so simple in fact that my seven-year-old son was using it without my having to show him anything. This is not the case with some of the other packages I have on my machine.

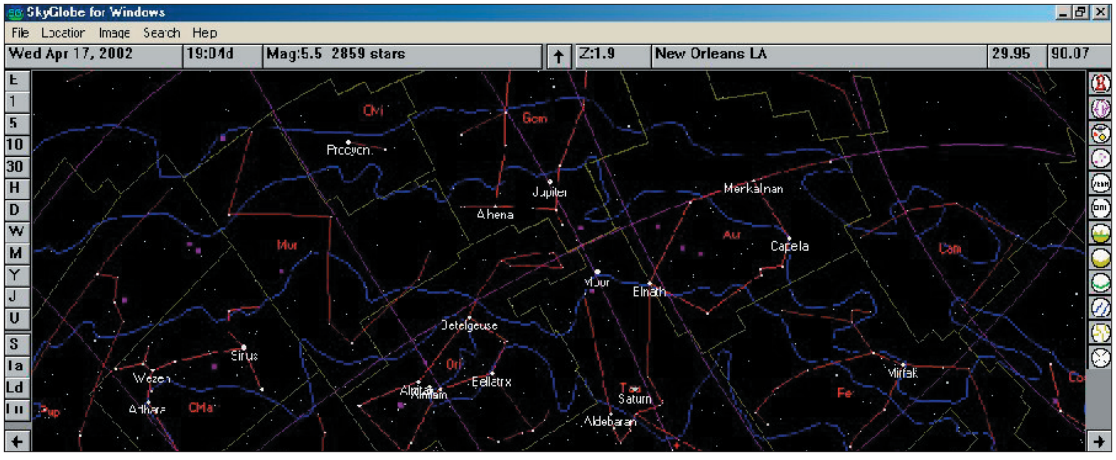
Still not convinced that this program is useful? Consider this: It is practically free (A $20 registration gives you updates as they become available). It will run on any machine that can run DOS (I couldn't get it to run on our Macs at work; our editor might have better luck). *[It works any Mac with Virtual PC installed. —Ed.]* For schools looking for a very affordable astronomy package, *SkyGlobe* fits the bill. It lacks the bells and whistles of programs such as *The Sky* or *Starry Night,* but it does get the job done showing you what is in the night sky at any given time.

There is one last reason this software still has a place in today's world: you can pass it out to your visitors and students. Since it was put out as shareware in the first place, there are no legal issues with organizations such as ours giving away copies of *SkyGlobe* It fits on a single floppy disc with room to spare. While it may seem a step backward, take the time to download a copy; you might be surprised at what you find.



Top: screenshot from* SkyGlobe, *version 3.6, which operates under MS-DOS

(Both screenshots have the bottom of the image cropped so they could fit on the same page.)



Bottom: screenshot from* SkyGlobe, *version 4.0, which operates under Windows 95

Book Review:
A Traveler's Guide to Mars

Patrick McQuillan
Alexander Brest Planetarium
Jacksonville, Florida

A Traveler's Guide to Mars
William K. Hartmann
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As I write this book review most of you are devoting at lest part of your time to digesting the exciting photos and science data from the Spirit and Opportunity rovers. Hopefully by the time you read this, NASA will have fixed the problems with Spirit and gotten back to the fun of exploring. And, as anyone who has taken a trip to a new place knows, exploring the new locale is half the fun of going.

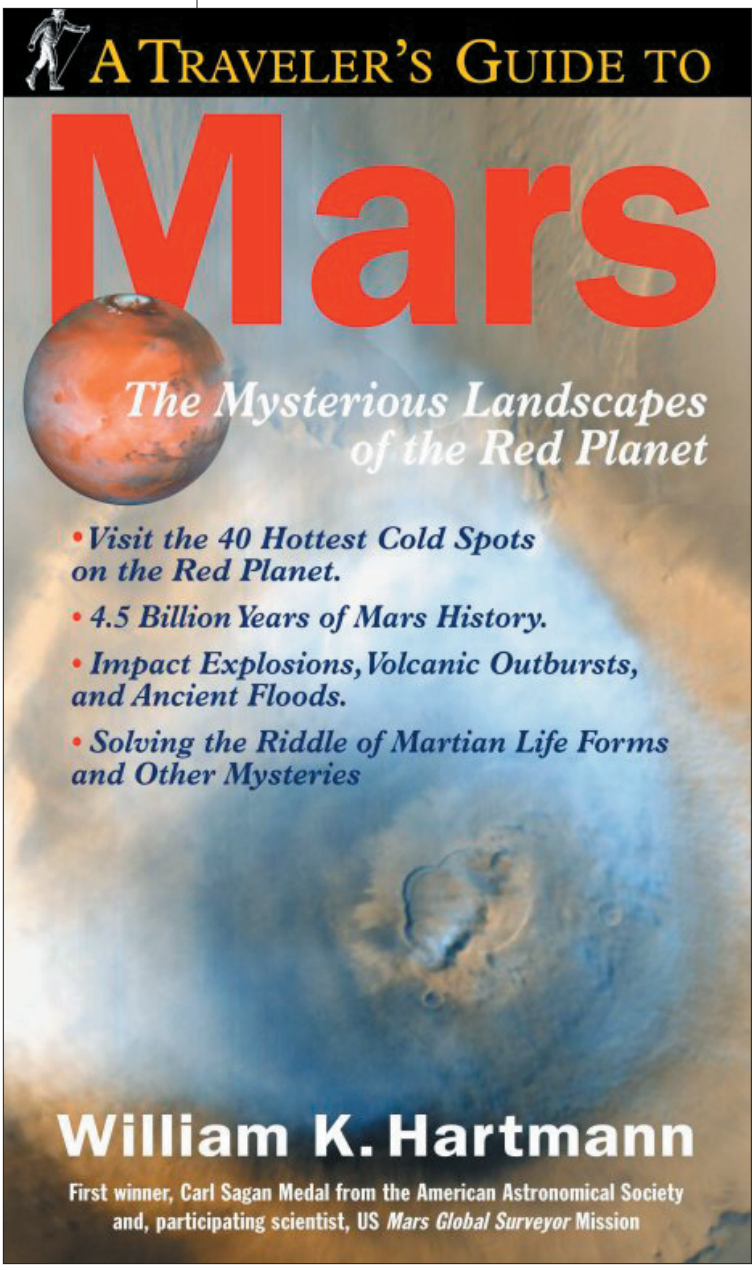
A Traveler's Guide to Mars is written much like the travel books you might purchase before planning a vacation trip. A good travel guide can make or break a trip. As a planetarian, this guide to the red planet can be quite useful for filling in details in a live show, a script for a taped program, or just general background knowledge for use in answering questions.

Every geographic region of Mars is covered by a different section, and reading from cover to cover will give you an overview of the entire planet. But you can skip to your favorite locale. If you have ever read a Fodor's, *et al.,* travel guide, you often don't read it cover to cover. You go to the parts that are of interest to you and read those. You can do the same with this guide to the red planet. Do you lava volcanoes on Mars? Read chapters 26, 27, and 28. Giant valleys up your alley? Read chapter 29. Face on Mars comments got your face all wrinkled up? Then read chapter 32. And so on and so on.

One of the really interesting parts of the book is just on the inside front cover. There you will find two maps. The first map is the best map of Mars, based on telescope views, that existed in the 1960s. Many of the "canal" markings are indicated. The other map is a surface map taken by Mars Global Surveyor's laser altimeter. It is fun to compare the two maps and see what telescopic viewers were "seeing" when they saw those dark marks on Mars.

As for the current MER missions to Mars, only brief mention of them is made near the end of the book under future missions. Given how this book was written in 2003, more should have been included. Only one of the two landing sites is specifically discussed (Terra Meridiani: Opportunity's landing site). Also some information is getting outdated as current missions add to our knowledge. One section in particular has became outdated in January 2004. The Mars Express spacecraft found water ice at the South Pole of Mars. This changes comments about how the south polar ice cap "may have water ice."

All in all this is a great reference book to the fourth rock from the Sun. You will most likely need it in the coming year.



News from SEPA States

George Fleenor
Geographics Imaging
Bradenton, Florida

Alexander Brest Planetarium, Jacksonville

Patrick McQuillan reports: The Alexander Brest Planetarium survived the busy holiday season. Two programs were well received, as usual. *Star of Wonder* is in its 15th year. It has become a holiday family tradition. A new tradition may be starting with our third annual showing of our *Peter and the Wolf* laser show.

Winter programs will include *Bear Tales and other Grizzly Stories* from JHE and written by Jon Bell. Audiences always enjoy this program of springtime constellation stories. Also showing will be *What's Up?,* a live tour of the current night sky.

Laser shows will start up again in late February for our winter/spring evening laser show run. This year we are offering a triple whammy of *Pink Floyd* followed by *Pink Floyd: Wish You Were Here,* followed by *Dark Side of the Moon.* There are not many music groups that you could run back-to-back shows of their music and have visitors purchase tickets to both shows. Pink Floyd is one of the few that will work. At any rate, we'll let you know.

Matinee shows will include a shortened version of our evening *Elvis Presley's Greatest Hits.* And a new show called *Pop.* The show will include Duran Duran, The Police, The Cars, Talking Heads, Madness, and the GoGos to name a few. It should be an upbeat fun program.

School programs continue in the mornings with offerings from K – 12th grade. We added two new programs to our lineup this year. *The Friendly Stars* from Bays Mountain has been well received with the K – 1st grade crowd, and *Explorers of the International Space Station* from the Bishop Museum Planetarium in Hawaii has replaced another ISS program we offered in conjunction with the now defunct Star Station One program.

Hallstrom Planetarium, Fort Pierce

Jon Bell reports: Because ours is a college planetarium and I have no staff, I can't do public shows every day, or even every single weekend for that matter; a casual visitor can't just walk in on any given day and see a sky show. So public attendance depends on good aggressive public relations. For the past ten years since Hallstrom Planetarium opened, I've run four major shows a year, and it's hard to get a newspaper or other media outlet to give us the necessary promotion on an every other weekend basis. But at last I've built up enough of a show library that I can change out good quality programs faster, and this year we're offering six different shows plus an astronomy day event on March 27 (not to mention the Mars watch and lunar eclipse events we hosted earlier this year).

The show in October and November was *Eclipse!,* an in-house production (thanks for the great mix music, Jonn Serrie!), which discussed and displayed not just solar and lunar eclipses, but transits and occultations too. It was a fairly straightforward script: a humorous phone call to the planetarium about eclipse viewing followed by a discussion of solar safety; then mythology, folklore and history of eclipses; followed by the science of eclipses and backyard eclipse watching tips; plus a few seasonal stars and constellations. The show was just over 35 minutes long, and it covered a lot of material, which pretty much goes along with my education philosophy of trying to cram as much astronomy information into people's heads as I'm able in the time given me.

Star of Wonder was presented in December. This is the show I wrote and produced for the Virginia Living Museum and Bishop Planetarium in Bradenton, Florida back in 1989. I keep promising myself I will write a new script and show soon. On the other hand, folks like the current show a lot, and I improve the visuals each year (now I got a cool snowfall effect for the end of the show, and the Christmas lights on the panorama wreaths match up well). I do see many of the same faces every year, so like most of us I enjoy being locked into this great tradition; but whenever I listen to the soundtrack and hear about the sky event which took place "nearly" 2000 years ago, I remind myself that I need to change it to "over" 2000 years ago. Technically, of course, "over 2000" is still "nearly 2000," I suppose.

As I write this, the Mars probe "Spirit" has just sent back its first images from its landing site, and at the end of January I'll do a live show, *Neighbor Worlds: Venus and Mars* to showcase those planets' appearance in our winter sky. In February I'm going to bring back *Space Songs* because frankly, I won't be happy until everyone has been forced to listen to me sing astronomy tunes in the dark. And it's the show that many of my colleagues said, "couldn't be done." (Or was that, "shouldn't be done?")

Incidentally, for those of you who like to sing (and who doesn't?), you may want to check out our Website at <ircc.edu/atircc/commout/planetarium/planet.html>. There you'll find not only the 2003 edition of the Astronomer's Songbook, but also the 2004 addendum, including such new songs as *Moon Crater, Tumbling Asteroids, Oh-oh, Black Hole,* and what is sure to be a cult classic, *Good Morning Tycho Brahe.*

In March I'm bringing back *Bear Tales and Other Grizzly Stories,* and in April and May I'll run *Ringworld.* Then I'm going to the SEPA-MAPS conference and hope to see you all in June.

If I can swing it, and maybe get the college to help with expenses, I'd also like to go to the IPS meeting in Valencia. I got an A in an introductory Spanish class I took last year, so those of you who have been there with me when I've spoken another language (and who were lucky enough not to have gotten involved in some kind of international incident whenever I did), will have a chance to hear me mangle Spanish in Spain.

St. Petersburg Community College, St. Petersburg

Daryl Schrader reports: Our planetarium is gearing up for its new show *The Stars of Winter.* Of course current events on Mars and what is currently in the night sky will be included. Telescopes are set up after the shows to view the sky. The planetarium is upgrading its sound system for the new show. Our planetarium director is Prof. Craig Joseph, who will be attending the AAS meeting in January.

We offer three astronomy courses at the St. Petersburg Campus: Solar System, Stellar, and the Astronomy Lab. All utilize the planetarium and observatory. Craig and I teach the courses.

Everyone had to move out of the southern half of the science building, which will soon be torn down. Unfortunately the observatory is in this half and will not be operational until Session I of next year. There is a new half that has been built to replace the old, and faculty and staff will be moved into it this January. Once the old building is torn down, the two buildings left will be connected, and a new observatory will be located on the top of the structure. Access to the new observatory will be much improved for classes, planetarium shows, and public events. We are all hoping the dust will settle and all will be up and running in August. Fortunately none of this affects the planetarium.

I have been invited to give a talk on astronomy at the annual Center for Inquiry-Florida Conference in Tampa this February. Alan Hale (as in *Hale*-Bopp Comet) and Paul Kurtz are also invited speakers. I have continued to write my monthly astronomy column for the *St. Petersburg Times* since 1990. The column highlights what is in the night sky and what is happening in the Tampa Bay area: astronomy club meetings, planetarium shows, lectures, *etc.*

The local astronomy club is SPAC (St. Petersburg Astronomy Club), which is one of the largest and oldest in Florida. They have offered a large number of observing events, lectures, and shows for the general public since 1993. A recent event was their 10th Annual Orange Blossom Special Star Party in February near Brooksville. The club has one of the few optical workshops where their members can build their own telescopes and test them.

George Fleenor
Geographics Imaging
Bradenton, Florida

Tennessee Organization of Planetariums

On January 12, Kris McCall invited planetarians from all over the state to a meeting in Nashville. Representatives from Bays Mountain Park Planetarium, Akima Planetarium, Cybersphere, Sharpe Planetarium, and Craigmont Planetarium all met at the Sudekum Planetarium. We saw examples of all-dome video shown by Evans and Sutherland. Talks were presented about compressing information on CDs, how to build binocular mounts with no counterweights, and the ViewSpace exhibit. Everyone participated in a workshop about the planet Mercury called the Messenger Program.

In the afternoon, we all moved to the McGavock High School Planetarium for a workshop on teaching seasons to high school students and a discussion on the formation of the Tennessee Organization of Planetariums (TOP). Spitz demonstrated their SciDome projection system. The next morning's activities included a visit to the Renaissance Center in Dickson.

Sharpe Planetarium, Memphis

The Liberty Bell 7 spacecraft from Project Mercury will be on display in the Pink Palace Museum from February 7 – May 9. The craft sank to the bottom of the ocean after it splashed down in 1961, but it was recovered by an expedition in 1999. This exhibit was not planned to stop in Memphis, but a scheduling issue gave us the opportunity to display it on short notice. For more information, go to <www.gomemphis.org>, and click on the exhibit's link.

The planetarium will be showing *The Explorers* again through April and then premiere *RingWorld* (This seems to be the year of planetarium shows we got for free). We are working on a new summer seasonal star show and will bring back *Sol & Company* as a family show at the end of March. A new *Pink Floyd* laser show will be presented through March 20.

A series of telescope and astronomy workshops were held in January and February. The Observing on the Lawn programs are moving to Friday nights this spring and are planned for March 26, April 23, and May 21.

Left: NASA Astronaut Gus Grisson poses in front of his Liberty Bell 7 spacecraft

Jim Greenhouse
Sharpe Planetarium
Memphis, Tennessee

Jim Greenhouse
Sharpe Planetarium
Memphis, Tennessee

Craigmont Planetarium, Memphis

In the wake of the recent update of our French Language Star Show, now dubbed *Les Etoiles Françaises* by one of the private school teachers who brought her classes to see the show, we're working on a Spanish language version of the same program. This is prompted by her request to bring nearly 400 Spanish students from her school to see the program. I suppose we'll have to name this program *Los Estrellas del España.*

The original versions of our foreign language star shows came to us from Long Island's Wagner College Planetarium. They received a grant to translate the same simple astronomy lesson into six different foreign languages: French, Spanish, German, Italian, Russian, and Hebrew.

The idea was to give students studying a foreign language a very different context in which to experience the language they were studying. The lesson is simple enough that a first year student should be able to understand the program if given a copy of the script to study before viewing the star show. A second year student should need only a list of new vocabulary words; a third year student, no advance preparation.

More than 20 years ago we re-recorded the narration for the Spanish show. The original narrator had a rather breathy voice that was hard to understand. The talent for the new narration was one of our planetarium's interns, senior Debbie Mapstone. All the groups who viewed Debbie's version of the show said her accent sounded quite authentic.

Since we haven't performed the Spanish version of this show in a while, we plan to update it. A native Spanish speaker, a senior who also happens to be an excellent typist, has typed the sixteen page script for us so we can manipulate it with InDesign. Our two interns are working on cleaning up the recording with some digital sound editing software. Once we're finished with the narration, we'll add music and sound effects to the soundtrack. Finally, using iMovie and some excellent video from one of our SkySkan special effects laser disks, we'll replace a static Kodalith slide image of the solar system with some digital video.

We're showing Sudekum's *Our Place in Space* to kindergarten students and first graders; *The Secret of the Cardboard Rocket* is our staple for second and third grade; and GLPA's *Solar System Adventure Tour* is our upper elementary feature. We get occasional requests for *Starfinding,* my version of an excellent lesson from the Lawrence Hall of Science. In *Starfinding* the participants invents their own original constellations before learning to use star maps to find traditional star patterns in the planetarium sky.

For older students we present Sudekum's *Lunar Odyssey,* our own in-house production *Hubble: From Here to Eternity,* and *Outer Space/Inner Mind,* a star show for English students.

Outer Space/Inner Mind consists entirely of quotes from literature, ranging from poetry like "Twinkle, Twinkle, Little Star" to drama from Shakespeare to prose from Mark Twain. All the quotes pertain to things you can see in the sky. There's no commentary about the quotes—verbal at least. The interpretation of the quotes is accomplished with music, the motion of the star projector, and special effects. What we hoped to accomplish with *Outer Space/Inner Mind* was to show the audience what the authors may have experienced that influenced them to write what they did.

Sudekum Planetarium, Nashville

Kris McCall has some great news to report: The Fiscal Year 2004 Omnibus Conference Report, which includes more than $13 million for Middle Tennessee, will go to the President for his signature. The report includes $1.5 million for the Adventure Science Center in Nashville to construct a new air and space wing that will include a planetarium.

This grant, when finally signed by the President, combined with the gift from the Sudekum Family we received last year, will allow us to investigate possibilities for the future of the Sudekum Planetarium. In the meantime, a variety of studies have to be done to determine the feasibility of the project and how to make the most effective use of funds. We hope to be able to share details soon.

Dave Maness
Virginia Living Museum
Planetarium
Newport News, Virginia

M. T. Brackbill Planetarium, Harrisonburg

Joe Mast reports that the M. T. Brackbill Planetarium continues to present programs to classes for the local schools, focused on the Virginia Standards of Learning. This winter the Sunday afternoon program for the public is *Our Star: The Sun.* The most recent addition to the planetarium is a Dell computer/video projector, which is replacing our 16 mm movie projector, which finally quit working. The next step is creating short video clips on DVD, which can be easily selected for use in our predominantly live presentations.

Falls Church HS Planetarium, Falls Church

No word from Gary Purinton.

Chesapeake Planetarium, Chesapeake

No word from Dr. Robert Hitt.

Radford University Planetarium, Radford

No new word from Dr. Rhett Herman.

As he wrote before, "I prefer email. My address won't change, and I'll be running the RU Planetarium for years to come. You can see more about it on the planetarium Website: <planetarium.radford.edu>.

Virginia Living Museum Planetarium, Newport News

Since I last wrote, we have seen some changes here at the Virginia Living Museum and Planetarium. Planetarium Lecturer April Bahen left to go back

into teaching. It was her plan to do so as soon as her young son approached the age to enter day care and more formal schooling. Melissa Brooks was hired to replace her. "Missy" is filling in nicely. Update: Since I first wrote this, Missy has taken another job for better pay. I am now taking applications for the part time position of Planetarium Lecturer.

It has been a cold winter so far, for one of the northernmost of the SEPA regions. Work has not slowed on the new building, however, since most of the construction is now inside a heated building. The Governor is slated to attend our grand opening scheduled for March 28. Plans for that event are finalized at this time.

While we continue to work toward the opening of our new exhibit building, we still have the constant flow of school children. Our programs focus on reinforcing the Virginia Standards of Learning. We offer *The Sky Tonight, Day and Night, Stacey Stormtracker, Follow the Drinking Gourd, Assignment Earth, Reasons for the Seasons, Worlds in Motion,* and *WSKY: Radio Station of the Stars.*

The public is now enjoying a program from the Abrahms Planetarium called *Spirits from the Sky: Thunder on the Land.* This one follows a modern day Native American family as they rediscover their heritage as part of the Skidi Band. This group has one of the most extensive cultural connections to the night sky. It runs daily at 3:30 p.m., Saturdays at 11 a.m., 1:30, and 3:30 p.m. and on Sundays at 1:30, and 3:30 p.m. We also offer a live tour of the night sky at 2:30 p.m. on weekends. After grand opening of our new exhibit building we plan to open a new in-house production, *Ten Steps to the Universe.*

On January 30th, we had another *Evening Under the Stars* scheduled. This one featured the winter sky and Mars. We also arranged for guest speaker. He is an earth-imaging specialist who uses data from NASA satellites. He will talk about how the data from NASA's Earth Observation System can be used to benefit life on earth.

Hopkins Planetarium, Roanoke

Mark Hodges reports that the museum is busy as usual. The current seasonal star show is *Jewels of the Night.* This program is designed to familiarize the public with the winter skies from the local Blue Ridge Mountains. It runs through March 6th. The next program will be *Visions of a Spring Night.*

The Mega Dome movie offerings are *Lewis and Clark: Great Journey West* and *Ultimate Gs: Zac's Flying Dream* (in 3D). Coming soon are *Cirque du Soleil: Journey of Man* (in 3D) and *Mysteries of Egypt.*

Ethyl Imax Dome and Planetarium, Richmond

There was no recent word from Eric Mellenbrink. He reported last time that his back is doing better, but it may be a slow recovery. They are working very hard preparing for the SEPA/MAPS conference this June.

Jane and George Hastings

They report that they "are volunteering as gophers" to track down stuff for the SEPA meeting."

Portsmouth Children's Museum

Planetarium Director Dan Borick in his second year as planetarium director, reports that the Children's Museum is currently in Phase III development. "We are about to replace our ATM 3 automation system with Spitz's ATM 4 automation system. The new ATM 4 automation system is Windows based and certainly more programming friendly. We can now incorporate PowerPoint media into our presentations."

He has also replaced the Tascam 4 track recording and playback player with an 8 track DAT system and has upgraded the video media with the addition of 2 dvd players. They replaced one older video projector and have been replacing the Ektagraphic slide projectors with Ektapro 7000 series projectors. The addition of the projectors, automation system and emedia capabilities should allow for greater ease in presentations and a more seamless product.

He changes the public program monthly. He also runs lots of school programs incorporating live, hands on activities as much as possible. He also runs commercial programs like *WSKY, Star Stealers, Christmas Story,* and *Mystery of the Missing Seasons,* for example. He says he has Powerpoint games and lesson plans for all grade levels on his Website <www.portsva.com/childrensmuseumva/>. We may get to meet him this June, as he is interested in attending the conference in Richmond

Virginia Beach Public Schools Planetarium

No word from Charles Dibbs.

Dave Maness
Virginia Living Museum
Planetarium
Newport News, Virginia

Avampato Discovery Museum ElectricSky™ Theater, Charleston

Christmas has come and gone, and our crowds continue to meet and surpass our expectations. Spitz recently installed *Legends Of The Night Sky: Orion.* We hope to have premiered it by the end of January. Despite some cranky computers and continued issues with the building contractor, so far so good!

Journey Into Amazing Caves is our current film, and Dr. Hazel Barton, star of the film, visited us on January 24. Our next film premiering in early spring, will be one of the first 870 copies of *Bugs!*

Last, and unfortunately least, our laser shows are not doing well at all. Part of the problem I'm sure was high school football, nearly a religion in these parts. We'll see if things pick up over the winter.

Curt Spivey
Avampato Discovery
Museum Planetarium
Charleston, West Virginia

HST's Greatest Hits '96

Duncan Teague
D T Publishing
3308 Bluemont Drive
Memphis, Tennessee
38134-8454

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

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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

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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

HST's Greatest Hits '99

Duncan Teague
D T Publishing
3308 Bluemont Drive
Memphis, Tennessee
38134-8454

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 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

Duncan Teague
D T Publishing
3308 Bluemont Drive
Memphis, Tennessee
38134-8454

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

Duncan Teague
D T Publishing
3308 Bluemont Drive
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Small Talk continued

<transitofvenus.org> to check out the material and to get ready for the event.

People who did attend the workshop showed me a very cool device that Chris Janssen of the planetarium in the Wausau School District in Wausau, Wisconsin refered to as a *kickass (sic)* device. It was made of rear*[What else? —Ed]*view projection screen material and an automotive fluid funnel that fit where your eyepiece goes in your telescope. You then merely project the Sun and anything dark on it, a passing planet in transit or a sunspot. It looked easy to use in demonstrations after the workshop.

At lunch we got to listen to Laurence Krauss talk on Dark Matter, and I am sure if this were SEPA, the Star Trek fans would be lining up to get him to sign copies of his *Science of Star Trek* book.

We also got to see Jim Kaler deliver a talk on the past year in astronomy. He's pretty funny. He kept telling folks that he discovered this very amazing thing; it is a little piece of film that you can project up onto a screen. I think he called it a *slide.* I got Dr. Kaler to autograph my copy of *The Little Book of Stars.* We also had fun discussing the interference man at NRAO.

Steve Mitch and I sat in the Ohio State Planetarium meeting. If you are interested in driving a ways to an Ohio State meeting, they are holding one in Youngstown, Ohio with Rick Pirko on Saturday, April 3rd. You propably met him at past SEPA meetings. I have him on my list of favorite planetarium tech guys, and I am seriously thinking of delaying my spring break to attend the meeting.

Like SEPA, the GLPA meeting ended with the door prize drawing. I really think, however, that SEPA using their name tags is a much better idea so we do not have to wait so long to see if the person was still around to pick up their prize.

In news closer to home, I am happy to report that Rod Martin of William Brish Planetarium in Hagerstown, Maryland is back at his planetarium director's job—but only part time. It seems just before the school year started, the powers that be realized how difficult it is to find a planetarium professional to work part time.

Since Rod wasn't ready to retire, with a kid getting married and one still in college, they created a part time science supervisor's job at the outdoor school, and Rod is back part time at the planetarium. Rod says that is nuts, since he doesn't do anything at the outdoor school, yet when he comes to the planterarium, there is work waiting for him. Seems like the powers that created this fiasco are hard pressed to admit they made a mistake.

I hope some of you had fun with the burst of solar activity and the lunar eclipse in the fall. Here in dark sky territory, many reported seeing spectacular aurora.

Log onto <www.tristateastronomers.org> and <home.att.net/~shenastro/wsb/html/view.cgi-home.html-.html> to view pictures of these autumn event. I wish that by the time you read this, 2004 is treating you well.

Paul Campbell Fellowship Award Nomination Form

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

Nominee's name: _____

Qualifications: _____

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_____

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