

President's Message

Wow! What a great conference we had in Jacksonville, Florida. Patrick McQuillen and staff did an outstanding job. Participation by members contributes to a conference's success. This year was no exception. Thank you, to everyone who attended and participated. There were outstanding workshops and paper sessions. I can't think of any other time of year when I can get up at 6 or 7am; go to paper sessions, workshops, and field trips; network; go to bed at 3 or 4am, and start the process again a few hours later.

During a conference, I find myself being able to function on just a couple of hours of sleep each night. Enthusiasm and adrenaline are truly friends of the Planetarian. A transfusion of coffee doesn't hurt either. I hope you gained as much from this year's meeting as I did. I couldn't wait to get back to my dome to practice what I learned.

If you weren't able to attend, I hope we'll see you next year (June 21 - 24, 2000) in Winston Salem, North Carolina. Duke Johnson and staff are working diligently, and I'm sure it will be a huge success.

Looking farther ahead: Don't forget the joint GLPA/ SEPA conference in 2001. Jack Fletcher, of Eastern Kentucky University's Hummel Planetarium, will host the joint conference the week of June 26 - 30, 2001. SEPA members Carol Helper, Kris McCall and Todd Slisher (all volunteers) will be serving on the 2001 Conference Committee to help Jack organize the event.

On another note: congratulations to this year's Paul W. Campbell Fellowship Award winner Richard McColman. Richard has spent many years with our organization and has played a major role in its professional development. Beyond SEPA borders, Richard has been and continues to be a regular contributor to the International Planetarium Society (IPS). We look forward to hearing and seeing more of what Richard has to offer for many years to come.

Don't forget; your 2000 SEPA dues renewal invoice will have a nomination line for the Fellowship Award. Please be sure to write in who you think best meets the criteria for this prestigious award. Council looks forward to your input. After all, this is your organization.

The 2000 conference will also mark an election year. A nominating committee has been selected to find qualified candidates for Council offices. The committee members are Jon Bell, Dave Hostetter, and Adam Thanz. If you have any recommendations for officers, please contact one of our committee members.

Work on the SEPA mini show (infomercial) is in full swing. The 8 minute program possibly titled *Dark Skies Safe Lights*, is being written and narrated by astronomer and author, David Levy. We will distribute the program, when finished, among the SEPA membership FREE.

The program can be added to the beginning or end of any star show. It will be a great way to promote proper lighting techniques. No one can show the effects of light pollution and have as much impact on an audience, as a planetarian.

Due to the nature of the program, the International Dark Sky Association (IDA) has provided their slide archives to us at no expense. IDA's Executive Director, Dave Crawford, is very excited about the project. Additional artwork will be contracted with regional artists. Jonn Serrie has agreed to score the soundtrack.

We're also working very closely with the International Planetarium Society (IPS) for a wider distribution of the show. IPS will make it available to its membership at cost.

We are also fortunate to have part of the production costs underwritten by Magnaray International, a lighting company

George Fleenor
President
Bishop Planetarium
Bradenton, FL



IPS Report

John Hare
IPS Representative

Under the aggressive leadership of President, Dale Smith, IPS is in midst of many exciting happenings. The next biennial conference is less than a year away. Host Pierre Lacombe has announced a preliminary schedule that promises four days of activities sure to appeal to planetarians from around the world.

The elegant and recently renovated Queen Elizabeth hotel, in the heart of downtown Montreal and minutes from old Montreal, will be conference headquarters. In addition to the formal sessions is an evening at the Botanical Garden with dinner, an evening at Planetarium de Montreal with dinner, and a free evening to enjoy the many offerings of this world class city.

Mark July 9 - 13, 2000 on your calendars and plan to attend! For more information please visit their Web site: <www.planetarium.montreal.qc.ca/ips2000/index.html>.

IPS is in the final stage of production of a videodisc. VHS video tape format will also be available. The project, begun by past president Thomas Kraupe, will include more than 30 sequences and will be made available to members at cost. Prices have not yet been determined, but it is expected that it will be less than \$100.00.

Although English is the official language of IPS, many members speak and understand only other languages. Likewise, there is a wealth of information of interest to all planetarians that by virtue of its language is available only to some.

For this reason efforts are being made to provide translations of information to and from other languages. Abstracts from the French language publication *Planetariums* appear in the June 1999 issue of *The Planetarian*. Selected articles and abstracts from *The Planetarian* appear in the French publication. Smith wants these efforts to expand considerably.

Editor Shawn Laatsch is in the final stage of compiling information for a new *Directory of the World's Planetariums*. A fall publishing and distribution is planned. Efforts have been made to insure accuracy, but the onus is on each individual and institution to see that updated information is furnished. Check your listing and inform Shawn of necessary corrections for future editions by September 10.

Shawn Laatsch
Arthur Storer Planetarium
600 Dares Beach Road
Prince Frederick, MD 20678 USA
410 535 7339 (phone)
410 535 7200 (fax)
102424.1032@compuserve.com
(email)

The IPS Job Service, operated for years by Rochester's Strassenburgh Planetarium, will undergo a major change effective at the end of the year. The sending of notices by mail will be discontinued. A new electronic format will be the exclusive method for distribution of notices. Visit the Job Service page of the IPS Website

President's Message
continued

based in Sarasota, Florida. David Levy is scheduled to have the script finished by the autumnal equinox. Council and the Script Review Committee (Dave Hostetter, Kris McCall, and Jack Horkheimer) will recommend any changes. We hope to record the narration during the Desert Skies conference in Phoenix, Arizona the week of October 13th. We hope to begin distributing the show in early spring 2000.

SEPA members voted unanimously to join IDA as an Institutional Member. This is an organization we need to support. We appreciate their help with our current

project. I urge each facility or individual to join. The strength of IDA is in its membership. For more information see their Web site at <www.darkskies.org>.

Thanks to Mike Chesman for his hard work in launching our Web site. Ken Moore has agreed to serve as our new Webmaster. He has some great ideas for expanding the site. Keep checking <www.sepadomes.org> for the latest updates and SEPA information.

Communication is vital for our organization. If you have suggestions or recommendations, or you just want someone to

The Theme is Renewal

SEPA Has New Writing Talent, Has and Needs a New Feature Editor

I'm sure you all experienced a sense of renewal with the many activities Patrick and his crew scheduled. I don't know how he managed to host a SEPA conference and still found time to write two book reviews. You'll find them on page 12. See the photo montage of conference highlights on pages 4-5, courtesy of Mike Chesman.

SEPA now has more than 150 members for the first time. Despite our organization's desire to maintain our regional focus and only allow full membership from within our geographical boundaries, we still attract many attendees from outside our region. We must be doing something right.

I owe an apology to one member whose name I have consistently misspelled. I'm sorry Rovy. I think I have your name spelled correctly now. Thank you for your patience.

We need a new associate editor for the Featured Planetarium column. Dave Hostetter has held this post for many years, and now he needs to devote more time to other duties. Thank you for all your excellent service, Dave. You did a truly

wonderful job.

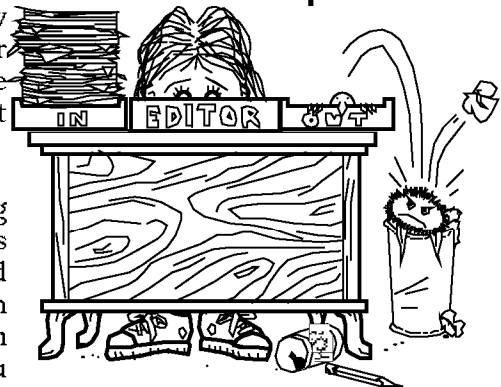
If you wouldn't mind twisting the arm of one of our colleagues four times a year and getting that person to brag about his/her facility, please volunteer to accept this important position.

AstroWeb Review is a new feature for Southern Skies. See the first installment on page 30.

SEPA has a terrific new writing talent. Her name is Kelly Stammer, and she works with Jon Bell at Hallstrom Planetarium. You will really enjoy her writing style and her insights. Read her engaging article "Everything I Need to Know in Life, I Learned in the Planetarium" on page 13. Watch it Jon, your days may be numbered.

I want to thank all of you who told me I was missed at the Jacksonville conference. Thank you for your concern.

Duncan R. Teague
Secretary/Treasurer
Southern Skies Editor
Craigmont Planetarium
Memphis, TN



Mike Cutrera

Send your \$25.00 check made payable to SEPA to the following address:
Craigmont Planetarium, 3333 Covington Pike, Memphis, TN 38128 3902

Name		
Planetarium		
Organization		
Address		
City		
State	Zip	
Area	Voice	
Area	Fax	
Position		
E-mail address		

Jacksonville Conference Highlights:

Photos by
Mike Chesman



Left: A photo from the Cape visit... SEPA members pose by a Saturn V rocket display



Below: Delegates walk past an external fuel tank inside the huge Vehicle Assembly Building on our Cape Kennedy tour.



Left: Everyone wanted his/ her picture taken with the Space Shuttle in the background. (Here s one.)

Right: SEPA members watch a Delta rocket launch (obviously timed for our visit!)



A Photo Montage

Photos by
Mike Chesman



Left: Jon Bell presented a singalong workshop in the planetarium. Jane Hastings assists.



Top right: SEPA folks enjoy the river boat cruise.

Middle right: Alexander Brest Planetarium staff pose with banquet speaker, NASA Astronaut Norm

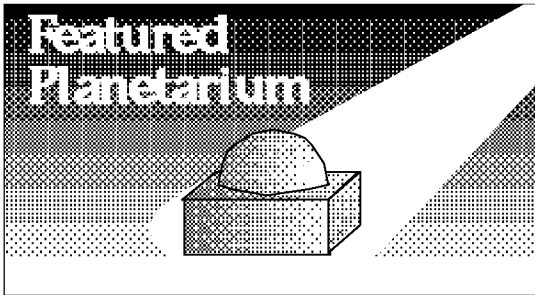


Below: Richard McColman receives his Fellowship award from SEPA President George Fleenor.

Below right: See you next year in North Carolina, says SEPA 2000 host Duke Johnson.



Featured Planetarium: Lafayette Natural History Museum & Planetarium, Lafayette,



Dave Hostetter
Featured Planetarium Ed.
Lafayette Natural History
Museum & Planetarium
Lafayette, LA

Author
Dave Hostetter
Curator
Lafayette Natural History
Museum & Planetarium
Lafayette, LA

Right: the Lafayette
Natural History Museum
and Planetarium building
constructed half above
ground and half below.

Lafayette Natural History Museum & Planetarium is a municipally operated institution housed in a building built in 1969. Although somewhat small, the building has striking architecture, having one story above ground with walls almost entirely of bronzed glass. The planetarium itself is at one end of the facility on a lower, below ground floor. Ironically, the locally celebrated architecture itself would become one of the museum's greatest headaches, allowing damaging light into the exhibit areas and water intrusion into the planetarium, and ultimately leading to the relocation of the entire Museum and Planetarium.

The 30 foot planetarium houses a Spitz A 4 star projector, Mediatech automation and controls, and 58 seats. The seating arrangement is concentric, but each seat rotates 360°, allowing visitors to face any direction. Projection booths and more electrical circuits were installed with the Mediatech controls in 1981. The improved Lafayette Planetarium was the host facility for the 1989 SEPA conference.

Only the planetarium curator is a full time employee, but museum technician, Dexter LeDoux, spends most of his time working on planetarium projects. A part time console operator relieves the curator of program responsibilities every other week and weekend. We have also been fortunate to find a small army of dedicated, long term volunteers who help install programs and operate telescopes during star parties.

School groups form the bulk of the planetarium's audience, with a yearly attendance of about 12,000. Programs are given throughout the school year on Tuesdays through Thursdays. Scheduling quirks discourage programs on Fridays, and other projects have temporarily eliminated Monday programs. Teachers can choose from a half dozen school programs on various subjects, depending on their class age and curriculum. Outreach in the schools is limited.

Most public shows are commercially available programs, but live constellation programs are done between the major shows, as well as on Sunday afternoons and other times that vary during the year. Although public program attendance is a disappointing 4,000 per year, it is slowly rising, and the main problem may be a virtual prohibition against advertising.

We have done more public observing events in the 90s than ever before, and attendance at these events has been quite good (about the same overall as the attendance at public star shows). Our regular Telescope Night on Tuesdays (after a planetarium program) has been a popular double feature for nearly 20 years.

The planetarium also hosts several special events during the year: Spaceweek (first week in March), Astronomy Day (in April or May), Space Frontier Week (a local celebration of US space flight during



the Apollo 11 dates in July), and National Aviation Week (in August).

The Museum hosts a major festival in September, and the planetarium participates with a day of constellation programs and a day of visual and H α solar viewing. We also set up telescopes at a local Christmas Festival of Lights each year, a wonderfully ironic site to hand out information about light pollution. Of course, in addition to public star parties twice a year at a local park, we also do the usual observing sessions for special celestial events such as eclipses and comets.

Since 1995 the planetarium has been collecting meteorites and tektites. Our growing collection has about a dozen and a half meteorites and slices of various kinds (ranging in size from about a gram to about 15 pounds) and a dozen tektites. Most are on display in a specially made case that rotates each specimen into position for viewing either by eye or with a zoom video camera and monitor. I've been pleasantly surprised by the positive reception the exhibit has gotten. It will form the heart of an exhibit on planetary science scheduled for installation in a couple of years.

In 1992, the museum and planetarium closed for three months of repairs, scheduling exhibits during that time at an abandoned department store building in downtown Lafayette. A Starlab was rented for both school programs and public presentations. Three months stretched into three years, and planetarium attendance of all kinds dropped to about a quarter what it had been. In 1995, we returned to the regular museum and planetarium

building although the anticipated repairs had never been made. Attendance slowly rose.

Four months later, the museum and planetarium was abruptly shut down again to do a small part of the repairs originally planned for that three year closed period. Programs and exhibits were immediately canceled, and the staff moved back to the department store building (that no longer had heat or air conditioning). Fortunately Comet Hyakutake showed up at about that time; although we were unable to do any programming about it, we were able to keep in the public eye with a series of media interviews and public observing sessions. We reopened to the public in the museum and planetarium building by May, 1996, and attendance began to build.

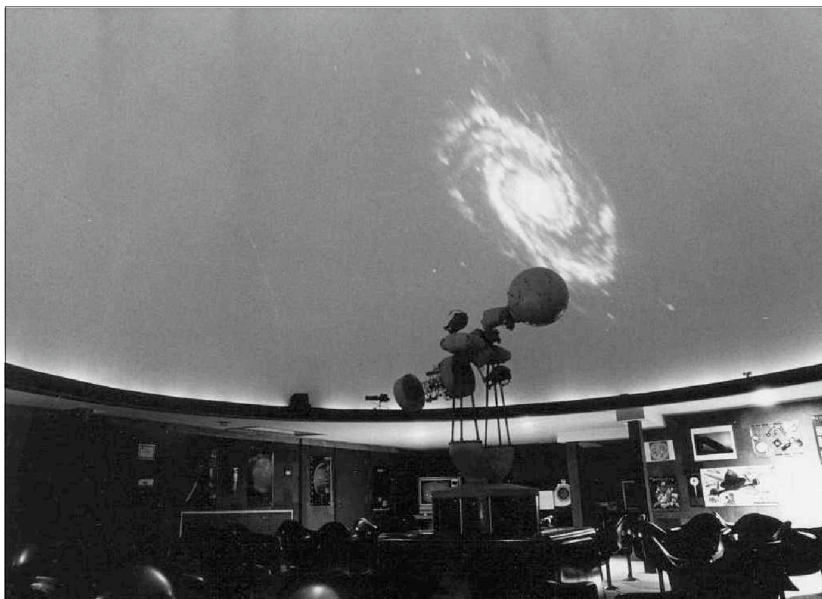
Now, three years later, the museum will again shut down for the summer for repairs originally planned for the closure from 1992-95. A long awaited elevator and rest room will put the building in compliance with ADA. The planetarium will remain open.

The planetarium's biggest project now is the planned move back downtown to permanent quarters in the completely renovated department store where we spent our three year closure. Current plans call for construction to start in January, 2000, the museum and planetarium to close in the original location in September, 2000, and a grand opening at the new location in the fall, 2001. The planetarium dome will increase to 40 feet, and will house our renovated Spitz star projector, computerized automation and controls, and

and about 73 seats. Approximately 1,000 square feet of exhibit space will be dedicated to astronomy, and another 600 square feet to aerospace exhibits.

A rooftop observatory will send live images of the Sun and other objects into the planetarium for video projection. Land is also being sought outside of town for a proposed dark sky

Featured Planetarium
continued



Left: the original star theatre of the Lafayette Planetarium, site of the 1989 SEPA Conference.

Small Talk

Elizabeth Wasiluk
Small Talk Editor
Berkeley County Plan-
etarium



Well, if you didn't make it to SEPA 99 you missed a wonderful time. A hats off to Patrick and his staff for covering all of the details and making it look easy. Where else would you see the launch of the Faraviolet Spectrum Explorer (FUSE)? I taught about that in class last year now I can say I saw the launch. Plus saw the shuttle on the launch pad up close with astronauts inside. Way too cool. On the way back we had Phil and Mega Systems wine and dine us while viewing the great Olympic Dream movie.

For those of you who asked a repeat of the addresses I ran in an earlier column for the Hands On Astronomy programs I discussed in my paper, here they are again:

Hands On Universe
MS 50 232
Lawrence Berkeley Lab
Berkeley, CA 94720
Website <<http://hou.lbl.gov>>
E mail: <hotseat@hou.lbl.gov>

Hands On Astrophysics
AAVSO Headquarters
25 Birch Street
Cambridge, MA 02138
phone (617) 354 0484
fax: (617) 354 0065
Website: <www.aavso.org>
E mail: <aavso@aavso.org>

If you got a free video or got the posters from the AAVSO, or the free video in Jacksonville, please drop a thank you to Michael Saladyga or Lynn Anderson and Janet Mattai who helped make this possible. Any comments on how you have used these materials, or how they can be made better will be most appreciated by them.

Also, while you're doing thank yous, send one to Jeffrey Potter at the Alexander Brest Planetarium for helping get the videos to you, as they arrived only the night before I gave my talk.

As to my other paper, by every right, Kristen Lester of the Alexander Brest Planetarium should share co authorship.

Heck, I wish I could convince men to take their clothes off! She lined up the volunteers and made sure none of them chickened out. So thanks to all the guys who helped out. I owe you a big favor.

Many people said they'd be interested in using the glow in the dark body paint for a laser show. Others had more tame uses for dance programs and face painting planetarium style as a fund raiser, which we have also done. If you'd like to get a jar for yourself, Fredericks of Hollywood is having a sale. (Did they know there would be such a rush on sales after my paper?) It is 10% off if you order two jars or more. It comes in blue, green, pink, and yellow all in the same jar. Order #90104 for \$8.00 each jar at:

Fredericks of Hollywood
P.O. box 229
Hollywood, CA 90078 0229
800 323 9525
(24 hours a day, 7 days a week)
Website: <www.Fredricks.com>

Jack Fletcher has already asked me to repeat my paper when we meet with GLPA in 2001. You know this will get them oriented to SEPA ways.

You know, SEPA wasn't the only conference I'd been to recently. I'd also been to the Ohio State Meeting at the planetarium at Shawnee State University in Portsmouth, Ohio back in April. I drove the 400 miles there and had a great time. I'm really happy I went.

Bruce Brazell is the planetarium director there. I had a nice chat with his son about the R&B band that stayed in my hotel the night before the conference and about all the girls trying to get in to see them. Bruce had been working in Massachusetts and West Texas before coming to Ohio. Not being familiar with any of us, he paid me the highest compliment by mistaking me for Jeanne Bishop. I'm sure that won't happen again.

Bruce's facility has only been there a year. It has a Digistar star projector and I think it has a 40 foot dome. Dr. Jeff Bauser, an SSU Geology Professor told about hiring Bruce before the facility was opened and

trying to pass the room off as a storage room when the science building on campus was built before the funding for the planetarium was secured. Why no one asked why there was a five story storage room in the building plans is beyond me.

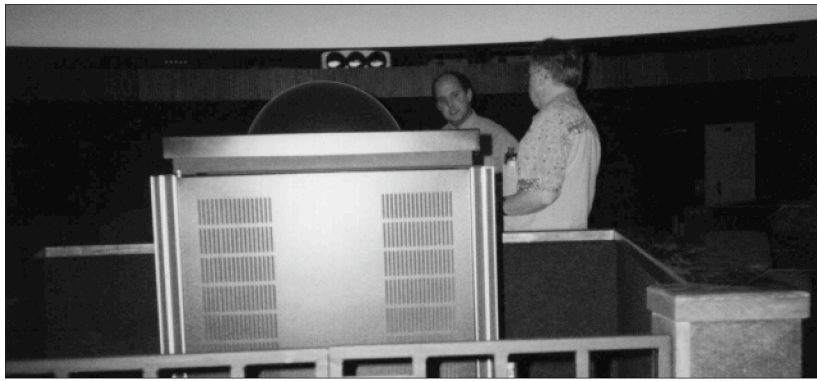
The real Jeanne Bishop did show up, and bless her, brought an honest to goodness drinking gourd for every one in attendance. She also brought seeds to plant some more. I have some, if anyone would like some, write or call.

Chuck Bueter did some of his infamous paper plate demos on how to make star trails. Rick Pirko talked about fun things to do with Kodalith. I did my Hands On Astronomy talk and got free videos and t shirts for door prizes.

During our tour of the planetarium we saw the new Star Wars preview over the internet projected onto the dome. It looked awesome! We also saw the South Park Spoof of the Star Wars Trailer. Doug Fowler also got into dark skies a part of a SkyWatching as a Wilderness Experience.

Jeanne Bishop did a talk on Inuit sky stories and wanted to go to 69 north latitude. She definitely doesn't teach high school students! I can just hear my students... Ms. Wasiluk how many degrees was that? Also I'd never hold my drinking gourd in that manner and expect not to hear about it from my students. But it was great seeing all the GLPA folks again.

It was a great one day gathering that I really needed to get away to, well worth the drive. I've volunteered to help out Rod Martin in Hagerstown, MD show off his renovated place come October since he has no staff for the Maryland meeting. Perhaps I will get up enough courage to



Photos by Elizabeth Wasiluk at the Ohio State Planetarium Meeting:

Top: Bruce Brazell tries to hide behind the Digistar projector at the Clark Planetarium.

Middle: Old technology meets new in this photo. That's an A1 Planet Projector among the computers in the Clark Planetarium. It is now functioning happily on an A1 Star Projector in Westerville, Ohio.

Bottom: The Foucault Pendulum in the science building at Shawnee State University where the Clark Planetarium is located. Note the sign on the railing above which promotes the next R&B band whose fans kept the Small Talk associate editor up the night before the meeting. [The thin wire suspending the pendulum actually shows up on my monitor. I'll be curious whether that fine line survives the printing process. —Ed.]

Digital Cosmos

Pathfinder and the Best of Mars CD ROM



Erich Landstrom
Digital Cosmos Editor
South Florida
Science Museum
West Palm Beach, FL



Pathfinder and the Best of Mars

- 187 royalty free clips of Mars
- Video and 3D images
- Compilation by Finley Holiday Film Corporation

Cost

Suggested Retail Price: \$24.95

PC requirements:

80486DX; Windows® 3.x or Windows 95/NT; 8 Mb RAM; 2X CD ROM drive

PC minimum configuration for installation of QuickTime for Windows:

386SX/ 20Mhz; 4 Mb RAM; 6 Mb hard disk space available; VGA or better display card; Windows compatible sound card; CD ROM drive recommended; Windows 3.1, Windows for Workgroups 3.11, Windows 95, or Windows NT 3.51 or later

MacOS Requirements:

System 7.1; 8 Mb RAM

Image Specs:

RGB TIFF and RGB BMP
Average 8.5 x 6.5 at 72 dpi (800k)
Mars! Your ominous, blood red color

once evoked awe and wonder in the human mind. For too long, you remained enigmatic an unknown entity and humans fear the unknown.

But within the last thirty years, a small armada of spacecraft have peeked beneath the veil of Martian mystery; Mariners, Vikings, a Pathfinder and a Sojourner, as well as the Hubble Space Telescope have photographed and probed the fourth planet from the Sun. The next spacecraft to land, NASA's Mars Polar Lander, should touch down in a little over one hundred days from now.

In preparation for the December 3, 1999 landing and the accompanying interest from the public, I picked up an image library of Mars footage from Finley Holiday entitled Pathfinder and the Best of Mars featuring Pathfinder, Hubble, Mariner, and Viking missions pictures.

It has 133 full color and 22 stereo 3 D images in TIFF and BMP format, and 31 live motion video clips. Although labeled middle school and up, this is not an educational disc. This is a reference resource to supply a Planetarian with pictures to complete a presentation.

For a satellite overview of Mars's south pole, call up #129. For a pan of the Carl Sagan Memorial Station, call up #8. For a closeup of meteorite ALH84001, call up #75. For a vision of a partially terra formed Mars, call up #132. For an movie of Sojourner rolling, call up #169. For a three dimensional view of the Twin Peaks, call up #143 and put on your enclosed red blue 3 D glasses.

The high resolution Pathfinder images are generated from Jet Propulsion Laboratory's first generation originals. Other Mars images have been scanned with Kodak's Digital Science Photo CD technology. The overall result is not only gorgeous, but also handy.

The file formats can be easily converted and used in multi media programs, web sites, handouts, brochures, favorite word processor, publishing or paint application, or in any program that can read TIFF or BMP graphic formats. Best of all, is that every image in Best has no copyright asserted. That's right all the images are

royalty free.

The Best CD ROM comes bundled with easy to use software. The Kudo Catalogue Reader 3.1 is the image catalog that organizes the image file using thumbnail images. These thumbnails provide a visual reference for each image file, including Kodak Photo CD pictures and QuickTime movies. (Quicktime for Windows 2.1 is required to view the video clips and also comes bundled with the package.) Kudo adds additional information, such as captions, the original image file's name, its location, size, and file type, to complete the catalog.

Say you need the image of a Martian sunset for your current project. Kudo presents you with thumbnails of all image files on the Best CD. Now you can see exactly what the image in each file looks like. Using the Riffle Control, you quickly zoom through the catalog until you see the one you want. Once you find an image that will work, you display it with a simple menu selection.

When you are satisfied with the selection, you simply Drag and Drop the image directly into your favorite graphics or desktop publishing application.

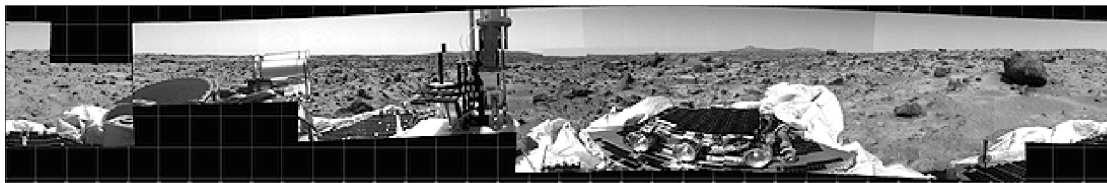
The final software is a screen saver from Finley Holiday that cycles through the images of Mars and its moons on the disc at a leisurely pace. When you are not hard



at work (When else would your computer be on screen saver?), it gives the mind a chance to wonder at the wonder.

It sounds so simple, but to watch this world from a variety of vistas, from its rusty dust plains and desiccated deserts, to its vast volcanoes, colossal chasms, immense impacts and frosty fog, with an occasional glimpse of a lander leg or tire tracks, makes it a place. In my opinion, Pathfinder and the Best of Mars may simply be the best.

Below: As Erich says in his review, For a pan of the Carl Sagan Memorial Station, call up #8.



Pathfinder and the Best of Mars CD ROM continued

Planet Quest: *The Epic Discovery of Alien Solar Systems*

A Man on the Moon: *Illustrated Three Volume Edition*

Patrick McQuillen
Book Review Editor
Alexander Brest
Planetarium
Jacksonville, FL



Planet Quest...

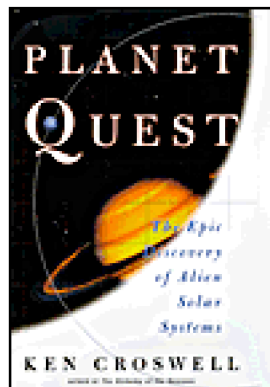
Once again Ken Crowell has written an excellent book on a particular subject of astronomy. His book is not only a wealth of information but also gives an enjoyable and readable account of the astronomers who search for new planets.

From Giordano Bruno's execution in 1600 to Geofrey Marcy's discovery of a Jupiter sized planet orbiting 51 Pegasi, Mr. Crowell weaves a lively tale of the trials and tribulations involved in the quest for planets. He relates the tails of the discovery of Uranus, Neptune,

and Pluto. The frustration experienced by those searching for Planet X (beyond Pluto) and Vulcan (inside Mercury's orbit) is next. Finally, examining current extra solar planet searches, we are brought up to date.

Mr. Crowell does an excellent job of explaining the personal side of the astronomers' jobs. We get insight into what it feels like to discover a new astronomical object only to find out that the data is bad or someone beat you to the announcement. The tales of scientific competition give you a sense of how competitive it is to be an astronomer who is obligated to publish in scientific journals to keep getting funding.

A new era of scientific exploration began in earnest in 1995 with the discovery of the first extrasolar planets. Now that we had proof that planets existed beyond our solar system, we needed to search for them, and search we did.



Over a dozen potential other solar systems have been discovered at this time. More are sure to follow. A Man on the Moon...



You may remember my review of a book with the same title not too long ago. A Man on the Moon is the book that was used as the basis for Tom Hanks's Emmy winning HBO miniseries From the Earth to the Moon.

In order to commemorate this year's 30th anniversary of Apollo 11's landing on the Moon, the book has been reissued as a three volume, fully illustrated edition. The three volumes sell together in an attractive case that holds all three books. The three volumes are titled: One Giant Leap, The Odyssey Continues, and Lunar Explorers.

The illustrated edition includes more than 500 photographs, many of which have never before been published. Mr. Chaikin personally chose each of the photos. Some of the photos are from the astronauts themselves.

I did get a look at this edition while at the 30th anniversary of Apollo 11 celebration at KSC in July, and it is spectacular! It is definitely one to have on your shelf.

Sure, the price is steep, but (secret hint) if you order it online, it is cheaper. Two places to check are: Barnes and Noble's Website (\$69.99), or Amazon.com's Website (\$59.99).

In the next issue of Southern Skies, I hope to review two more books I picked up while at KSC. The first is called The Last Man on the Moon by Eugene Cernan. Mr. Cernan relates the adventures he had between being the first man to spacewalk all the way around the Moon during the Gemini program to his leaving the last footprints on the Moon during Apollo 17.

The second book is a science fiction piece written by Homer Hickam, author of Rocket Boys. Rocket Boys was the basis for the popular film October Sky. [Did you know those two titles are anagrams of each other? Ed.] Mr. Hickam's new book is entitled Back to the Moon. In this book, the

Planet Quest:
The Epic Discovery of Alien
Solar Systems
by Ken Crowell
ISBN: 015600612X
Publisher: Harcourt Brace &
Company
324 pages

A Man on the Moon: Il-
lustrated Three Volume
Edition
by Andrew Chaikin
Retail Price: \$99.95
ISBN: 0783556780
Time Life Books
July 1999

Everything I Need to Know in Life, I Learned in the Planetarium

I came to the planetarium business only recently, when I was searching for a career that would have meaning for my life not simply provide a fat paycheck and a pleasant schedule. I wanted to be happy to go to work, excited about my job.

Give me the Sun, the Moon, and the stars! I insisted.

I took an introductory astronomy course, and I was hooked. I found my way into the planetarium, where the Sun, the Moon, and the stars were at my command.

Be careful what you ask for, you just might get it.

As I began learning the skill of planetarium presentation, I re-discovered many of the most important life lessons with a extra dimension that could only be appreciated under the dome.

The first lesson I was met with was the need to control the perihellions. Any time you gather a group of children, the excitement of a field trip, and the adventure of a dark planetarium, you have the potential to blast off. Rules and clearly expressed expectations offer the best defense against dancing the seats, crawling on the floor, hanging from the dome ceiling, random LED effects, and unexpected supernova explosions, also known as unauthorized EVAs.

Noise pollution prevents you from getting your message across demand respect for the opportunity you are offering to take a trip across the universe. And don't forget to leave your chewing gum on the balpost not the video projector.

While simple rules will keep you from careening wildly into orbit, you will need to be able to see where you are going. This brings me to the next lesson always wear your shades!

We all know it takes time for our eyes to become dark adapted. Time that isn't there when we are rushing out into the blinding Florida sunshine, herding perihellions into the dome, and getting the show started on schedule. Just when you're about to sigh with relief as the show starts on time, you realize that in less than 30 seconds you are supposed to be pointing out stars and constellations that you can't see! After guessing and approximating where

constellations should be a few times too many, I discovered the value of wearing shades.

Sure, people laugh as you slap on your shades every time the lights go up and the planetarium door swings open, but you are rewarded by actually seeing the stars and constellations right where they are supposed to be. Of course, no one else will be able to see anything up there, as evidenced by the chorus of Stars, what stars? and But there's nothing up there! you'll be hearing as you point things out.

The third lesson which I learned the hard way was to eschew polysyllabic discourse. Huh? Don't use five dollar words when short and simple will explain exactly what you mean.

After watching confusion flit across the faces of second graders when I used terms like atmosphere, Roche limits, and spectroscopy, I learned that simple terms like air and simple explanations like studying the light coming from the stars would convey my meaning in a way that my young audience could relate to and understand. The more complex explanations and technical terms are saved for more advanced students with a more sophisticated level of knowledge.

Another useful tip when explaining complex concepts to students is to use simple and simple, concrete examples. Describing black holes as messy eaters gives students a clue about how scientists find them and is something they can integrate into their understanding of the universe.

Two different size and color hula hoops can effectively model planetary orbits. The idea that light moves so fast it can whip around the earth seven times in a second gives students a picture of just how fast light is really moving. Translating complex information into information with meaning for our audience ensures that they will enjoy their visit to the planetarium, be inspired to learn more, and remember some of the information the hallmark of an effective and enjoyable learning experience.

When you try to concentrate on correctly conveying all this information and main

Kelly Stammer
Hallstrom Planetarium
Fort Pierce, FL



taining control in the planetarium, it's easy to forget something even more basic.

This brings me to the next life lesson I rediscovered under the dome—don't forget to breathe! The first time I narrated a live star identification for a public show, I did it all on one breath. I pointed out all of the constellations of winter—the heavenly G—without pausing once to take a breath. I remembered to speak slowly and to name clearly the brightest stars and point out the constellations they belonged to, but I forgot to allow myself to take a breath until after I had thanked my audience. By that time, I was about to pass out from lack of oxygen—which would not have been a very professional ending to our show.

Since then, I have learned the importance of breathing. When you are most nervous, when something goes wrong, when you make a mistake, when you need to regain control over your audience—the first thing to do is to take a deep breath. You can handle the rest, as long as you remember to breathe!

In a similar vein, the next lesson I learned was to hold the laser pointer steady. When I first began to point out the stars, my confidence level was not very high. I sometimes felt lost under the planetarium sky searching desperately for the star patterns I recognized.

My skill at identifying the stars and constellations has grown tremendously, and my understanding of how the sky works allows me to predict where the stars I'm looking for are, but I still clearly remember the feeling of doubt in my ability to find the next star pattern. My hand shook so badly that I was tracing out cookie cutter patterns as constellations. Gradually, I learned to hold the laser pointer steady and trace out the star patterns slowly and clearly on the planetarium dome, leading my audience in the discovery of the great star patterns over our heads.

Once the doors of the planetarium have closed and the lights have gone down, it gets dark. That's the idea, right? How else are we going to show our audience the wonders of the night sky? As planetarium operators, we don't always get to sit back and enjoy the show. We have tasks we have to complete and equipment to keep in working order, sometimes even during the show.

This brings me to the next life lesson I rediscovered under the dome—memorize the placement of planetarium equipment

and furniture. That way, when you remember that you have to go turn on the slide projector, NOW, you'll be able to without turning on the lights or injuring yourself. I guess you could develop sonar like a bat; however, until that works, remembering where the furniture and equipment are is the best way to protect your audience from bumps in the night and yourself from bruises, scrapes, and embarrassment.

Once you've saved yourself from embarrassment and figured out how to breathe steadily and point out the stars smoothly, it's time to develop your own style. Not everyone can tell a story with realistic sound effects, and not everyone can speak like a learned professor.

I have learned to be adaptable—what works really well with a group of kindergartners won't work with fifth graders or a public audience composed largely of adults. I've had to find expressions I felt comfortable with—for a while I was hearing Patrick Stewart discussing robotic probes every time we looked at pictures of Viking on Mars. I figured I'd be directing my audience to make it so any time.

Our planetarium director, Jon Bell, likes to sing little ditties to help school children remember some of the concepts we discuss. When I tried to imitate him, I discovered that if you can't carry a tune, it's best not to sing into a mike. Your style will change and develop as you do, so remain open to suggestions and experimentation—as long as you are having fun, your audience will too!

Part of the challenge of planetarium presentation is staying on top of current information about the universe and everything in it so you know what you're talking about. That's a tall order. Having a strong grounding in basic astronomy is a must. Reading current astronomy publications allows you to be aware of new findings and discoveries so that when someone asks you about that star that keeps getting brighter somewhere down south, you know that they are talking about Eta Carina. You can keep atop current sky events, so you can tell your audience to look for a conjunction between Venus and the crescent Moon tomorrow night, for example.

It is also important to listen to the questions that you are being asked. It's easy to jump to a conclusion about what someone is asking. Clarify if necessary.

I've found it valuable to repeat questions for everyone to hear before offering an an

swer; it helps to avoid repeat questions and fosters better listening if the whole audience knows what we are talking about.

If you really don't know the answer to a question, don't be afraid to say so. Suggest a call back after you have a chance to look up the answer and complement the questioner. Be clear in your own mind about what you're explaining; pay attention to your wording. The axis is an invisible line through the Earth, but it is not imaginary; it is real. That way, you'll be able to speak with confidence that you know what you are talking about.

Once you have a grasp of what you're talking about, you need to make sure EVERYTHING'S set up for the show. Are the slides in the right positions? How about the video discs? Is the star field in the proper configuration? Are the constellation figures turned off or on as the program calls for?

We've had surprise slides of Stonehenge on Mars; Astronauts have cavorted on the rings of Saturn. Mies Van Der Rohe wrote that "God is in the details." When you are presenting a planetarium show, this is certainly true. If you make sure everything is set, you reduce the risk of disaster. However, Murphy's Law is alive and well in the planetarium! Be prepared because slides will still surprise you, the stars will wander when you expect them to stay put, and the unexpected is part of the adventure.

The last and most important life lesson I re-discovered in the planetarium is to keep your own sense of wonder alive. When you're describing that the rings of Saturn are made of ice chunks for the 15th time this week, it can slip into the same old routine if you let it. But for this particular audience, the rings of Saturn are still a wonderful mystery—what could they be? We came into the planetarium for many reasons, we were fascinated by the nighttime sky, we wanted to learn more, we dreamed of space travel. Whatever our reasons for coming, we stayed. We need to communicate the wonder and the excitement that brought us here to our audience.

Physicist Victor Weisskopf relates a story about a time when he was asked to deliver a series of lectures at the University of Arizona at Tucson. He was excited by the prospect of visiting Kitt Peak Observatory and having the chance to look through the powerful telescope there, so he replied

that he would be delighted to deliver the lectures if the University would arrange for him to visit the Observatory and look through the scope. The University told him that his request was impossible because the telescope was in constant use for photography and research activities. Dr. Weisskopf regretfully replied that in that case, he would be unable to present a lecture series.

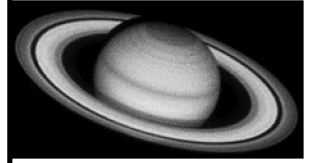
Within a few days, he was again contacted and informed that the visit to the observatory was arranged as he had requested. The night of Dr. Weisskopf's visit to Kitt Peak Observatory was clear and the party approached the mountaintop under glistening stars and a good view of the Milky Way.

Dr. Weisskopf entered the observing dome and told the technicians that he wanted to look at Saturn and several of the galaxies. As he marveled at the unprecedented view he saw through the eyepiece, Dr. Weisskopf noticed that the room had filled up with people who were trying to take a peek through the telescope. When he asked who they were, he was informed that these were the astronomers connected to the facility who were conducting the sophisticated research with the telescope. They had never before had the opportunity to look directly at the objects of their research, and they were thrilled at the opportunity!

What a boost to their hard work to remember that the reason for their research was the sense of wonder they rediscovered looking through the telescope at the mysteries of the universe—it was their job to unravel.

As planetarium professionals, we have the best of both worlds. If we learn the life lessons offered to us by the planetarium, we will have the knowledge and understanding to translate the universe to our audience, at least in some small way. We will also have the opportunity to be part of the audience and share the wonder and the beauty with them. If we retain our sense of wonder, our audience can't help but be drawn in with us. We have the opportunity to share the Sun, the Moon, and the stars.

Everything I Need
to Know in Life,
I Learned in the
Planetarium
continued



News from SEPA States

Bishop Planetarium, Bradenton

George Fleenor reports they are running Sudekum's Lunar Odyssey at 1pm and Worlds in Motion at 4pm. The Saturday morning children's star show features Snooty's Great Space Adventure in July. Larry Cat in Space will be featured in August followed by Bear Tales in September. The first two weeks in September, following Labor Day, the facility closes for annual maintenance. It is during this time we tear apart the planetarium and do equipment upgrades or repairs. We hope to install more East Coast Control Systems equipment, in addition to an all sky system.

Visitors seem to love our new matinee laser show Space Rock. This show features music with a space theme. We thought it would be a great way to celebrate the 30th anniversary of Apollo 11 and secretly educate at the same time we are entertaining. Songs include; Star Wars theme (the 1979 Disco version), 2000 Lightyears from Home by the Stones, Countdown by Rush, Space Oddity by David Bowie, Rocket Man by Elton John, Walking on the Moon by the Police, Fly Away by Lenny Kravitz, and The Galaxy Song by Monty Python.

We have been swamped with camp visitations. Each day, 120-180 campers from nearby counties flock to our facility. In addition to our three afternoon star shows, we generally run two morning programs for these groups (standard year around practice). July also offers an increase in tourist visitation. For this reason, we are open seven days a week, through July. The museum education staff also conducts camps of their own. Typically, 30 campers weekly enjoy specialized camps on Florida history, dinosaurs, space, etc. Combine all these groups and we have mad house in our facility.

We're also heavily involved with museum renovations. Currently, our Executive Director, Staff, and Board of Directors have been busy designing a new museum facility. This is a project long overdue. It should be complete within the next couple of years. Phase 2 and Phase 3 will involve the planetarium and aquarium directly. I'm looking forward to all three phases being completed. Our whole area along the

waterfront is growing rapidly, and we are expecting higher visitation and visibility. Once we complete all phases, I will offer to host another SEPA conference, if I'm still employed here and still alive. (I didn't say anything about having a sane mind!)

On the light pollution front: we've had a few more lights shielded. (Yeah!) Nothing to report on the Green Bridge that sits adjacent to our facility. We are still working on those 40+ lamps. Slowly though, our city sky is getting better. <www.sfmdbp.org>

Hallstrom Planetarium, Ft. Pierce

Jon Bell reports SEPA was great, although he was sorry to have had the Constellation Shoot out postponed until next year. On the bright side, though, it was gratifying to have everyone participate so willingly in the Space Songs sing along. Contact me at <bell@ircc.cc.fl.us> if you want me to e mail you the Astronomer's Songbook. Thanks too to Jane Hastings for harmonizing with me on our collaborative hit, You Picked a Fine Time to Leave My Star Show, sung to the tune of Lucille.

Evidently somebody took me up on my offer last time to see if I could possibly be even busier. Now in addition to having a family, operating the Hallstrom Planetarium, teaching college classes, and pursuing my doctorate, I've been appointed chairman of... the Biology Department! Previously biology and physical sciences at Indian River Community College were all in one department, but the Board just approved the split. I now dare anyone to top me in the most unusual career change by a planetarium operator category. I'll still run the planetarium of course, and have also been promoted to Associate Professor of Astronomy at IRCC.

Alexander Brest Planetarium, Jacksonville

Patrick McQuillen reports it is back to busy ness as usual after the SEPA conference at the Alexander Brest Planetarium. He would like to thank his staff, all the vendors, and especially all the members of SEPA who helped to make this year's conference such a great success. We are still cleaning up in the conference's af

George Fleenor
Bishop Planetarium
Bradenton, FL

termath. Phrases like, OK, staff, where did we throw those original Hubble slides that we need for this week s talk? doesn t usually produce results. I m sure it will be more like guess what I found wedged inside the console? I was particularly fond of the Woodchuck was here! note that was written on the erasable Moon map used in the crater location activity by one of the Challenger Learning Center workshop participants.

As for real business, the Monday after the conference we went on summer schedule. This bumps up our program schedule to 5 shows in the planetarium each day. We also have summer camps at both the planetarium and the Challenger Learning Center. In our first week of camp at Challenger, we hosted a group of students from Argentina. Try building model rockets with a group that speaks Spanish as their first language. Mucho Importante! became a well used phrase during construction.

We are running Sudekum Planetarium s Lunar Odyssey and a live night sky tour show as our summer program fare. Lunar Odyssey makes a very nice tie in for the anniversary of the first human landing on the surface of the Moon.

Calusa Nature Center and Planetarium, Fort Myers

Jill Evans reports she attended the SEPA conference and had the opportunity to meet and speak with many kind people who were willing to offer advice and encouragement! Thank you, all! We recently had our star ball refurbished, which proved to be a major undertaking by Spitz. We are now in the process of raising the money needed to have an automation system installed.

Our slow season is turning out to be quite busy with our summer camps, other groups and our public shows. We are enjoying their enthusiasm. Currently, we are offering Starlit Nights and Secret of the Cardboard Rocket as our public shows, but more is in store since we change our shows monthly and we have ordered the Explorers program and we are looking to buy two more planetarium shows! Buzz Aldrin Planetarium, West Palm Beach

Erich Landstrom reports that the Buzz Aldrin Planetarium presents Laser Buzz sponsored by WPBZ The Buzz 103.1 FM. That s essentially how I explained Laser Fantasy International to my executive

director and the director of marketing. We provide the venue, LFI provides the shows, and the radio station provides the audience. In the particular case that I cited, it was LFI s ever evolving alternative rock show. The repetition of the word buzz was just a fortuitous coincidence that Florida s new rock alternative happens to be The Buzz, just as we are the Buzz Aldrin Planetarium. Either way, the name Buzz stood out in the title, and the buzz from them was that the shows were going to be great.

The logistics were a little more complicated. I planned an ambitious schedule (by our standards) from June 11th September 6th in my 30 foot dome. Eight shows across seven days at six time slots with four different radio station sponsors and two ticket prices. WHEW!! Our daily matinee show at 3pm is Symphony of the Stars. With the museum open later on Friday, Saturday and Sunday, we run Laser Country at 4pm. On Fridays evenings at 9pm, we have Jim and Jimi the Laser Doors/Hendrix Show, and we close out Friday nights with the double shot of the Great Gig in the Sky Laser Pink Floyd: Dark Side of the Moon. For an audience On The Run, they make Time at 10pm and 11:30pm, and for \$6.50 of their Money, we give them Any Colour You Choose and a little fog to Breathe. Saturday nights are given over to alternative rock. Laser palooza runs at 7:30pm and 10pm, Laser Buzz runs at 9pm and 11:30pm. Sunday evening returns to classic rock, with Laser Beatles: Sgt. Pepper s Laser Light Show as our 7:30pm presentation, followed by a 9pm Led Zeppelin/ Grateful Dead: Laser Led/Laser Dead performance.

The results to date have been what you might expect. Our sold out shows have been Floyd and Symphony, our hold out shows have been Laser Country. Although all Arbitron ratings indicate an huge country and western audience in Palm Beach, the dome sits two thirds empty on our best days. All other shows have been very well attended, although in retrospect, I probably should not have programmed two compilation alternative rock shows. Next year, as the companion piece to Laser Buzz, I ll pick a band, one, singular, and stick with them (probably Laser Offspring or NIN). Truth to tell, Scott Huggins kindly advised me that I pick Beastie Boys this year, but if I had heeded Scott s advice, then I would have never plugged in an

News from SEPA States
continued

George Fleenor
Bishop Planetarium
Bradenton, FL

George Fleenor
Bishop Planetarium
Bradenton, FL

untested 30 foot extension cable into the controller which blew out scanners and driver cards in the projector.

This is why my conference time at SEPA 99 was so short. After our presentations on Friday, Scott and I jumped in our vehicles, and drove back down to the Aldrin for an on site technical repair. Almost immediately after Scott left, things began to go wrong again, necessitating another on site repair, this time from a technician flying in from Europe! With a balky laser projector on my hands, almost every spare moment was consumed in maintenance. I had no time to install the summer's planned planetarium program All Systems Go! from Loch Ness Productions. Larry Cat in Space has had his life extended another month, while I have scrambled to assemble an in house show about the Moon and the history of the Apollo Moon landings. Only major crises, like the new star lamp installed by John Hare exploding three weeks after installation, have superseded it in importance. Administrative tasks, like developing a budget for Fiscal Year 1999 2000, or an education guide for School Year 1999 2000, have fallen by the wayside. The unofficial motto of the Aldrin Planetarium is AD ASTRA PER ASPERA (To the stars through hardships).

Fortunately, the Laser Fantasy system now fires focused, reflected, and frequency modulated photons fantastically. And as you may have deduced from the previous paragraph, we were paid a service call in June from Ash Enterprises. Actually, we paid John, so the star projector is in top notch condition, and on his swing by in early September, we will replace the Cygnus panel for the East Coast Control System with an upgraded model.

Other bright spots include the success of the museum's summer exhibit Not Of This World: A Journey to the Planets. It was with pride that when the local media asked how we were observing the 30th anniversary of Apollo 11, we could invite them to film visitors gazing in awe at a 38 foot model of the Saturn V rocket, 8 foot models of the lunar module Eagle and command modules Columbia, an Apollo era space suit, and an actually Moon rock. We were similarly prepared for the followup of what comes after the Moon. Our Mars Yard features a full scale Athena Rover model from Cornell University situated amongst a Martian dust devil and a fragment of SNC meteorite. Television and newspaper coverage was excellent. We have extended the

display until November 1st to give school groups an opportunity to visit.

Interesting trivia: the total lunar eclipse on Thursday, January 20, 2000 is the same date as Dr. Buzz Aldrin's 70th birthday. I am planning a combination star party/birthday party that will feature our namesake as a guest of honor via the Internet. That way, even if the eclipse is clouded out, we still have a backup attraction. But if all goes well, at the moment museum visitors blow out the candles on the cake, the Earth will put out the lights at Tranquility Base. The day after the eclipse, we open our Winter 2000 exhibit Star Trek: Federation Science to museum members, and on Saturday the exhibit opens to the general public. Thus, along with a special midnight showing of Dark Side of the Moon, I may also preview my collaboration with Jon Bell on the 20th of January.

Boldly Go examines the science of Star Trek in a semi satirical show.

Yet before that happens, I have to get through the repair of the Hubble Space Telescope and the Mars Polar Lander mission. Working backwards from Boldly Go opening January 20th, I am preparing Destination: Mars from Spitz and Star of Wonder from Bishop/VLM for early December through mid January, Hubble Vision from Loch Ness for mid October though early December, and the in house show about the Moon and the history of the Apollo moon landings from early August until mid October. So I suppose I should stop writing now and go finish that I H S A T M & T H O T A M L show.

We're on the Internet at <www.s fsm.org>.

Mark Smith Planetarium, Macon

Jim Greenhouse and Carole Helper at the Mark Smith Planetarium in Macon will start presenting *Seeing the Invisible Universe* towards the end of August. They are also planning public observings for the Perseid and Leonid Meteor Showers. They will be taking some serious time off after working many hours to program planetarium effects for 12 different laser shows that ran during the summer.

Patterson Planetarium, Columbus

Clay Powers of the Patterson Planetarium in Columbus has been busy programming shows for schoolchildren. Since the opening of the nearby Coca Cola Space Science Center, his planetarium has seen a decreased attendance in the number of middle school children, but a doubling of the attendance of elementary school kids. Children in pre K, K, and first grade now make up half of all school children attending shows.

Clay also continues to collaborate with Lee Johnston of LaGrange College. Their videotape of *Trail of Tears* (a one hour benefit concert benefit for the Cherokee Nation) aired on Oklahoma Public Television and placed 4th at the Houston Film Festival.

Clay has bought a Tascam DA 88 and is transferring all of their audio tapes from analog to digital. Clay says that the purchase came just in time, as some of the old reel to reel tapes are starting to disintegrate.

Oatland Island Nature Center, Savannah

Max McKelvey reports that the Nature

Freeport McMoran Planetarium and Observatory, Kenner

Our space station exhibit is finally opening. The new museum is being called Space Station Kenner. For those of you who do not know it by now, our facility has built a museum around the then Martin Marietta mock up for the space station. The space station mock up was completed around 1983, and after Martin Marietta lost the contract to Boeing, it fell to disrepair. Kenner acquired the mock up in 1995 and is now opening it to the public. The opening of the facility will be held on July 20. The opening will also commemorate the anniversaries of Apollo 11, Viking, and Comet Shoemaker Levy's impact on Jupiter. At the opening ceremony there will be speak

Center is still closed, but outreach continues. More than 6,000 people saw Starlab shows in the last year, and there is already a contract in place for next year's field trips with the Savannah Chatham County School Board. A public meeting during the first week of August will determine interest for a planetarium in the Savannah area.

Perimeter College Planetarium, Atlanta

Jim Guinn writes that he hopes to be purchasing a Starlab soon. He and his wife are the proud parents of a new baby son, Owain, born May 17.

Rollins Planetarium, Young Harris

Kent Montgomery at the Rollins Planetarium in Young Harris is currently showing *The Light Hearted Astronomer* in his dome. Their next show will be *The Explorers*.

Georgia State University Planetarium, Statesboro

Becky Lowder at the Georgia State University Planetarium in Statesboro has been showing *The Explorers* and it has had very good responses from the public and teachers. A big thanks to the Bishop Museum and NASA for offering this planetarium show free of charge! She built a slewing projector for the show, which consists of a Kodak projector on a lazy susan that she carefully moves by hand during the show. Becky is planning to hold the Georgia Association of Planetariums meeting at GSU around the end of August.

ers from NASA, the Lunar and Planetary Institute, Boeing, Lockheed Martin, and the University of New Orleans.

We are also excited about acquiring several meteor specimens for display. This seems to be a trend in Louisiana planetariums. The facilities in Lafayette and New Orleans East have done similar displays in the past year.

In the planetarium, we are currently showing HPS's *The Sky Tonight* and *Summer Colors*, and our own productions of *Our Neighbors in Space* and *The Quest for Space*.

No, new news on our Ongoing 50 ft. Planetarium Project. Louisiana Nature and Science Center Planetarium, New Orleans

News from SEPA States
continued

Jim Greenhouse
and Carole Helper
Mark Smith Planetarium
Macon

Michael Sandras
Freeport-McMoran Plan-
etarium

Mark Trotter and Dennis Cowles are as busy as ever. For the public, they are running The Sky Tonight, Cosmos, and the Family Laser Show. For school groups, they offer The Little Star That Could, Planet Patrol: A Solar System Stake Out, a live program on the seasons, and a live program on meteorites. On Friday and Saturday nights they run laser shows, including Pink Floyd's The Wall, Laser Thrash, Pink Floyd's The Dark Side of the Moon, Metallica, Rush 2112, the Best of Pink Floyd, the Alternative Laser Show, and Led Zeppelin. They plan to premier a new laser show in September. They continue to offer the monthly topical Science Insight programs on the first Saturday of each month. Recent topics have included the search for life in our solar system, the Apollo program, Easter and the calendar, and a program on how lasers work.

They are working on getting a hydrogen alpha filter. This will facilitate the solar viewing opportunities that they offer to the public on the weekends. Mark is busy producing the new laser rock concert and Dennis is tinkering with the new meteorite program. Dennis has continued to add new AstroNotes there are 17 as of this writing. They can be found at their website, <<http://www.communicue.net/~strotter>>, in PDF format. They can be downloaded and distributed as long as they are printed in their entirety and given out for free. The Nature Center Planetarium is working in a cooperative venture with the NASA New Millennium Program at the Jet Propulsion Laboratory. The planetarium sponsors a Space Place wall display with materials provided by various NASA facilities and astronomical drawings provided by local children. The Space Place project helps to promote interest in science at the elementary level. Mark asked for and was given a replacement for the old, failing, and unstable C band dish antenna. He had a DISH Network system installed to receive NASA TV and other channels. The old C band antenna had become unreliable and needed to be replaced. Mark is very impressed with the image quality on the BarcoData 708 video projector that he bought in January.

Dennis has done several astronomy programs for a local library, and they seem to have been well received (well, they keep inviting him back). He does the programs roughly once per quarter.

On July 17th, the planetarium commem

orated the 30th anniversary of the flight of Apollo 11 with Space Exploration Day. Mark and Dennis offered special planetarium programs, and there were demonstrations by Lockheed Martin Michoud Space Systems. Exhibits were provided by the Laser Interferometer Gravitational Wave Observatory, Jet Propulsion Laboratory, Johnson Space Center, Stennis Space Center, and Lockheed Martin Michoud Space Systems. Giveaway materials were provided by the Planetary Society, the Astronomical Society of the Pacific, StarDate magazine, the Space Telescope Science Institute, and many other facilities and organizations.

Dennis has decided to completely overburden himself and has volunteered to edit the AstroWeb column for this journal. If any of you are interested in reviewing a Website for the column, please let him know. Soon. Don't make him beg... or resort to threats. The Spitz A4 projector will receive a visitor in September: John Hare of ASH Enterprises will come for routine maintenance.

During early summer, the planetarium was infested with some unwanted visitors yellow jackets. They had built a nest in the planetarium wall, and had found a way into the planetarium itself. Nobody was stung, surprisingly, and an exterminator destroyed the yellow jacket nest.

St. Charles Parish Library Planetarium,
Luling

The end of summer brings the slowest time of year for the Library and Planetarium at the edge of the swamps of southern Louisiana. Summer Skies and The People will be our offerings along with Larry Cat... as our kid's show. September brings some hope to getting our star projector resurrected to full working order as ASH Enterprises pays us a visit. Hopefully the unit will be salvageable (I hope). The Planetarium and the Library gear up for the crush of the new school year in September. On to a new season!

Lafayette Natural History Museum Plan-
etarium, Lafayette

During the spring we ran the Sudekum program Worlds in Motion. It proved to be very popular. We followed that up with Discover the Night Sky, a basic constellation program we do between major programs. We expect to open Loch Ness Productions Light Years from Andromeda

in mid July.

We did a small display of Soviet, Russian, and European space patches, commemorative pins, and rocket models during March as the main part of our celebration of Spaceweek (the first week in March). The collection belongs to one of our volunteers, who graciously loan parts of it each spring.

Planning continues for our move to a larger building in downtown Lafayette. Conceptual drawings are finished and construction drawings should be finished in the fall. Current plans call for bids to go out in November 1999, construction to start in January 2000, the current planetarium to close in September 2000,

construction to end in March 2001, and a grand opening in September 2001.

Meanwhile, our museum exhibit area will close throughout July and August because of construction to install a rest room and elevator to make the building ADA compliant. Our discovery Room and Planetarium will attempt to operate throughout the period, but there will be effects on previously advertised activities for Space Frontier Week in July and National Aviation Week in August. Our meteorite exhibit will also be removed during construction to protect the specimens, and will go back on display sometime in September when construction is finished.

News from SEPA States
continued

Michael Sandras
Freeport-McMoran Planetarium

Kelly Planetarium, Charlotte

Thanks to a 2.5 million dollar grant from HUD, Doug Baldwin and crew are enjoying a new Omniscan laser system, new video system, three new Starlabs, and a variety of new resources for use by the Outreach program at Discovery Place. The new Starlabs will be put to good use this fall when the staff will present a mandatory program on Moon Phases and the night sky to all third graders in the 88 schools in their area. Currently running in the Omnimax theater is Mysteries of Egypt and T. Rex: Back to the Cretaceous. The Kelly planetarium is currently running, The Explorers, a show for which it has been a test site. Coming this fall, Search for Life in the Universe. The multi colored, all dome laser system is being showcased with The Wall by Pink Floyd and LaseRetro, a trip back to the 80s featuring many of the greatest hits of that decade. It was a pleasure getting to know Tifferney White, Director of Outreach, who was a first timer at the Jacksonville SEPA conference. I think she is one of the main staffers who will be spending a great deal of time in a Starlab this school year.

Morehead Planetarium, Chapel Hill

Another new face at the SEPA conference was Carrie Anne Spinelli who has been on staff of the Morehead for one year. She coordinates their membership program and does publicity and ads. Carrie Anne is a graduate of UNC and was a console operator during her days as a student. She's very excited about her work and becoming an active member of SEPA.

As part of its 50th birthday celebrations,

the Morehead Planetarium has begun to open a series of new exhibits. The new exhibits will deal with the history of astronomy at the Morehead Planetarium, a graphic illustration of the size of the planets in the Solar System, Moon phases, an explanation of the reason for the seasons and other topics. It is encouraging to read about the BIG celebration held in honor of the 50th birthday of the Morehead, since many newspapers across the state printed articles about the decrease in attendance figures and even the assumption that the Morehead may be closing. Another example of the media taking a fact or number and making it into a false and damaging story. The fall school schedule will include Earth, Moon, and Sun.

SciWorks, Winston Salem

Currently showing is Planet Patrol and In My Backyard. The fall lineup will include: The Explorers and Stardust. A new dinosaur show from Strasburgh will begin running to coincide with the opening of a robotic dinosaur exhibit in January. Also, and most importantly, the staff at SciWorks is searching for individual designs for the t shirt to be given to all attendees at the SEPA 2000 conference in Winston Salem

Patsy Wilson
Woodson Planetarium

THE DEADLINE FOR THE NEXT ISSUE
OF SOUTHERN SKIES IS OCTOBER

1. SEND SUBMISSIONS ON A 3.5
DISK OR VIA EMAIL ATTACHED FILE
TO STARMANTNG@AOL.COM AND
TO TEAGUED1@TEN.NASH.TEN.K12.

Please contact Karen Osterer at <Starfield1@aol.com> or call at (336) 767 6730, ext. 139 if you wish to submit a design for the shirt. Come on all you creative people out there, get busy!

Woodson Planetarium, Salisbury

July is proving to be a month of upheaval for the planetarium. After 15 months of severe roof leaking, the school system provided funds for a new roof. With the generous support of the Woodson Foundation and an additional grant, painting and refurbishing of the dome is becoming a reality. Spitz, Inc. has begun the process to restore our dome.

Following this project, JHE will complete

the installation of BrightStar just in time for our school groups to return in August. Our fall lineup will include Moonwitch, Backyard Stars, Star Stealers which is a new addition to our school programs, and Astronomy 101, an in house, interactive program designed to cover some of the many astronomy topics included in the new curriculum for 6th graders.

Another new venture for our facility is planned for late October. We have contracted with East Coast Control Systems to provide laser shows for a three week run. This is being done by our advisory council in an effort to make the public more aware of our center.

Patsy Wilson
Woodson Planetarium

Settlemyre Planetarium, Rock Hill

We here at the Settlemyre are in full swing with our summer camps. We are in the process of another school curriculum intergration as well as producing our fall weekend show. We will, when time permits, be installing the Cygnus manual control panel from East Coast Controls and constellation projectors so kindly donated by Richard McColman. We'll have more news in the fall issue about a possible grant approval for a digital video system. Grants are like thunderstorms; you can predict them, but until you hear the rumble there is little use concerning yourself.

Stanback Planetarium, Orangeburg

Jim Brown reports they are shut down for the summer and performing the usual routine maintainece. He is planning

several grant applications which will allow the planetarium to operate a small radio telescope. The Stanback is the SC site for NASA's Educator's Resource Center and can be contacted at <www.draco.scsu.edu>.

Dupont Planetarium, Aiken

Gary Senn reports everything well but very busy. He will have more info in the fall issue. Thanks Gary.

Hopper Planetarium, Greenville

Doug Gegan reports the staff is working on teachers workshops and camps. They are continuing their Starry Nights on Friday evening and have aquired a NGT 18 from a generous donor. We may be in for some great news in the planetarium later this year. We will be waiting to hear from

Glenn Dantzer
Settlemyre Planetarium

NOTE: I apologize to all the Virginia planetarians who sent me information for the previous two issues of Southern Skies. A couple of mishaps occurred in the transmission of the email that could not be identified or corrected in time for those publications. If you see this message then those problems were solved. Thanks for your patience continued participation.

M.T. Brachbill Planetarium, Eastern Mennonite University, Harrisonburg

Joe Mast Sent me word about an interesting program he is designing for the new year. It is called Signs of the Millennium. This live program highlights the interesting events in the astronomical world for 1999

2000 such as: two blue moons, Pluto becoming the most distant planet again, the Venus Jupiter conjunction, an eclipse of the Sun, the transit of Mercury, the Leonid meteor storm, and the configuration of the planets in April, 2000. [I thought it was May 5. Ed.]

Virginia Living Museum Planetarium, Newport News

In the spring Worlds in Motion, a fine program from the Sudekum Planetarium about how we are careening through the universe, gave way to a timely show about Mars. The show Mars: Return to the Red Planet came from the Buhl Planetarium in Philadelphia, PA. It is narrated by Mark Hammill of Star Wars fame. Because of

Dave Maness
Virginia Living Museum
Planetarium

early publication deadlines, the title Destination Mars had already been given to the show. So we call it Destination Mars: Return to the Red Planet. It ran through the beginning of June.

Plans for building a new theater and museum are still being formulated. My assistant and I have made trips to visit other facilities for ideas. If there is something about your theater that works especially well, I would like to hear about it. Also, if there is some aspect about your theater that you think could have been done better, I would like to hear about that too. Ground breaking is expected for some time in the next couple of years. The capital campaign for the project went public in December 98.

In May, we conducted our 3rd Backyard Astronomy workshop of the fiscal year. This class is designed primarily for adults who are interested in adding to their basic understanding of astronomy. A more advanced level class is being planned for later in the year.

On July 22, we will have a special program commemorating the 30th anniversary of Apollo. Many activities are being planned. We will also remain open an extra hour (until 10pm) so we can observe a relatively dark night sky through our C 14.

Randy Ray, our Executive Director of the past 4 years has left us after accepting a position at the Museum of Health and Medical Science in Houston, TX. Deputy Director Gloria Lombardi was appointed Executive Director after a short period of discussion among the Board of Trustees.

Hopkins Planetarium, Roanoke

We were all saddened to hear of the death of colleague and friend Gary Close. Gary, who had hosted a very successful

SEPA conference this past June, succumbed in February to complications due to cancer. A touching memorial service was held in February at the planetarium. One speaker remarked how pleased Gary would have been that he finally got a full house. I admired his personality, dedication, professionalism, wit and humor. Gary will be missed by all who knew him.

Dave Godman is Acting Director and has taken over responsibilities for the Hopkins planetarium programs. He says they are holding their own. They are currently recycling older programs during this adjustment phase. He said that, There is this feeling that Gary will walk in any day as though from an extended vacation and resume his duties. Email is not working well for them at present, so any contact should be by regular mail or by phone. They hope to have that problem solved in the near future. It will take a while for them to get accustomed to Gary's absence.

Ethyl Universe Planetarium, Richmond

Eric Mellenbrink says construction on the theater renovations are complete, and they are open for business. All the dome, carpeting, and seating hardware is in place. A new sound system was installed by Mega Systems of Augusta, Georgia. They also upgraded the Imax projector to 15,000 watts from 12,000 watts. It should brighten the image on the 76 foot dome.

The upcoming films will be Grand Canyon, Whales, and Rolling Stones. In April the Seasonal Night Sky planetarium show returns. This program changes every two months. In late May a new show written by the Stardate Group will be added. This program which explores ancient Egyptian astronomy, will be presented in conjunction with the Imax film about Egypt called Horizons.

Parkersburg Planetarium, Parkersburg

Andrea Anderson of Weirton, WV said she'd heard Larry Brown's Planetarium in Parkersburg was closed and he's in a classroom full time. I'm sorry to hear that as Larry and I attended the now defunct Support Program for Instructional Competency in Astronomy (SPICA) together at the Center for Astrophysics at Harvard University.

Charleston Planetarium, Charleston

People keep asking me about the new

science center and planetarium in Charleston, and I don't know anything, having not seen Curt Spivey in a long while. I was in Charleston recently and it seems that it is not a done deal as fund raising has not been completed yet.

Wheeling Planetarium, Wheeling

Steve Mitch in Wheeling, wants to host a joint SEPA/ GLPA/ MAPS meeting at the end of the next decade. Who says West Virginia isn't the crossroads of the universe? Wouldn't that be a great name for

HST's Greatest Hits of '96

Duncan Teague
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The Space Telescope Science Institute (STScI) provides slides of Hubble images to individuals within regional affiliates who arrange 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, including postage and handling. Send your check or purchase order to the address at left.

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| <p>01.a Hubble's deepest ever view of the universe, revealing 1,500+ extremely faint galaxies in various stages of their development</p> <p>01.b Sample galaxies from the same Hubble deep field</p> <p>02 The inner region of a warped dust disk around Beta Pictoris once hidden because of the star's glare</p> <p>03 An image of the Egg Nebula taken by WFPC2; it shows the emergence of mysterious searchlight beams from behind a dying star</p> <p>04 The first direct image of a star other than the Sun: Betelgeuse.</p> <p>05 In more detail than has ever been seen before, the process a star like the Sun goes through when it dies</p> <p>09.a In clear, detailed pictures the first ever images of Pluto's surface; four views</p> <p>09.b Pluto surface map</p> <p>10 Gravitational lens effect captures image of primeval galaxy</p> <p>11 Images of globular cluster Mayall II, consisting of 300,000 old stars, in orbit around the Andromeda galaxy</p> <p>13.a The Helix Nebula, NGC 7293 showing collision of gases near a dying star</p> <p>13.b Helix Nebula detail with cometary knots surrounding the dying star</p> <p>14 A view of Comet Hyakutake that focuses on the near nucleus region of the comet</p> <p>15 Three layers of Uranus's atmosphere</p> | <p>taken with infrared filters; both clear and hazy layers created by a mixture of gases</p> <p>16 Image taken of Saturn where its rings appear edge on because of the position of the Earth in Saturn's orbital plane</p> <p>17 A view of several star generations found in the central region of the Whirlpool Galaxy</p> <p>18.a A rare view of Saturn's rings seen just after the Sun had set below the ring plane</p> <p>18.b A series of 10 images of several small moons orbiting Saturn</p> <p>21.a NGC 1365, a barred spiral galaxy located in the Fornax cluster</p> <p>21.b NGC 4639, a spiral galaxy located in the Virgo cluster</p> <p>22.a The Crab Nebula and a detail of the pulsar in its center</p> <p>22.b Sequence of three images showing changes in the Crab Nebula pulsar</p> <p>23.a Huge, billowing pair of gas and dust clouds in Eta Carinae</p> <p>23.b Expansion of Eta Carinae debris</p> <p>25 Hubble's 100,000th exposure captures an image of a distant quasar</p> <p>27 A vast nebula, NGC 604, which is known for a great starbirth region</p> <p>29.a 18 gigantic star clusters which may be building blocks for a new galaxy</p> <p>29.b Blue sub galactic clumps which may be galaxies under construction</p> <p>30 Jupiter's moon Io passing above turbulent clouds</p> <p>31 Clusters of stars and a fishhook shaped cloud of gases found in NGC2366, a giant star forming region</p> <p>32 Changes in Jupiter's auroral emissions</p> <p>33 Views of weather on opposite hemispheres of Neptune</p> <p>34 A Martian dust storm around the edge of the north polar cap</p> <p>35.a A survey of quasar host galaxies</p> <p>35.b A quasar caught in the act of colliding with its companion galaxy</p> <p>36.a Supersonic comet like objects in the Cartwheel Galaxy</p> <p>36.b Cartwheel Galaxy composite image</p> <p>36.c Cartwheel Galaxy illustration</p> |
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HST's Greatest Hits of '97

The Space Telescope Science Institute (STScI) provides slides of Hubble images to individuals within regional affiliates who arrange 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 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

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| <p>01 Central supermassive black holes in galaxies NGC 3377, NGC 3379, and NGC 4486B:</p> <p>03 SN1987A Fireball: One tenth light year long dumbbell structure expanding at six million miles per hour in supernova 1987A</p> <p>08 Changes in the nucleus of Comet Hale Bopp as it moves closer to the sun beginning in September 1995</p> <p>09.a Transition from spring and summer in Mars's northern hemisphere; photo taken shortly before opposition</p> <p>09.b Three photos of Mars taken six hours apart with 90° difference between images; photos taken shortly before opposition</p> <p>11 The Egg nebula in which stars are born and die violently; photo shows jets of gas being blasted into space</p> <p>12 A supermassive black hole located in galaxy M84</p> <p>13 NICMOS captures region of the Orion nebula filled with action as a center for the birth of new stars</p> <p>14 Supernova 1987A: different colors represent different elements in the ring</p> <p>15.a A view of Mars's cloud cover</p> <p>15.b Seasonal changes in Mars's north polar ice cap</p> <p>15.c Four views of Mars rotated 90° between images during summer in Mars's northern hemisphere</p> <p>16 The Cone Nebula: six baby sun like</p> | <p>stars surround their mother</p> <p>17 A collision between two spiral galaxies in the heart of galaxy Arp 220</p> <p>18 Fireworks near a black hole in the core of Seyfert galaxy NGC 4151</p> <p>19 STIS reveals an invisible high speed collision around a supernova</p> <p>20 Hubble pinpoints the optical counterparts of a gamma ray burst in a distant galaxy</p> <p>21 Hubble captures a volcanic eruption plume from Jupiter's moon Io</p> <p>22 A gamma ray burst blazes from a titanic explosion in deep space</p> <p>23 Hubble's look at Mars shows a canyon dust storm, cloudy conditions for Pathfinder's landing in July 1997</p> <p>24.a Dissipation of a large dust storm on Mars</p> <p>24.b Hubble shows dust and water ice clouds exhibit substantial daily variations</p> <p>25 Powerful telescopes discover the largest galaxy in the universe</p> <p>26 Hubble separates components in the Mira binary star system</p> <p>27 Hubble reveals huge crater on the surface of the asteroid Vesta.</p> <p>28 Hubble finds a bare black hole pouring out light.</p> <p>29 Hubble shows blobs of gas formed by some nova outbursts.</p> <p>30 Hubble keeps track of a fading gamma ray burst.</p> <p>31 Mars at the beginning of autumn in the Martian northern hemisphere.</p> <p>32 Hubble sees a neutron star alone in space.</p> <p>33 Hubble identifies what might be the most luminous star known.</p> <p>34.a Hubble reveals stellar fireworks accompanying galaxy collisions.</p> <p>34.b Detailed images of colliding galaxies.</p> <p>35 Hubble shows images of a blue straggler star.</p> <p>36.a Hubble tracks clouds on Uranus.</p> <p>36.b Hubble spots northern hemispheric clouds on Uranus.</p> <p>37 Hubble shows infrared view of moon, ring, and clouds of Jupiter.</p> <p>38.a Hubble sees supersonic exhaust</p> |
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| <p>01 COBE's infrared view of the Universe: three maps of the full sky seen in infrared light</p> <p>02 Distant supernovae: light sources determine universe's expansion rate</p> <p>03 Beta Pictoris: disk indicates planets, possible brown dwarf companion</p> <p>04 Jupiter aurorae: a curtain of light extends several hundred miles beyond Jupiter's limb</p> <p>05 Saturn's aurorae: curtains of light extend 1,000 miles above cloud tops</p> <p>08 Supernova 1987A: a collision between the expanding blast wave and circumstellar ring</p> <p>10 Serendipitous asteroids: HST images show curved trails of asteroids</p> <p>11A Planetary nebula NGC 7027: a brief stage in the evolution of a medium mass star</p> <p>11B Cotton Candy Nebula and Silkworm Nebula: phases of stellar burnout</p> <p>12 Star birth in barred spiral galaxy NGC 1808 possibly due to interaction with NGC 1792</p> <p>14A Centaurus A: nearest active galaxy to Earth shows turbulent firestorm of starbirth</p> <p>14B Centaurus A: tilted disk of gas at galaxy's core surrounds suspected black hole</p> <p>15 Stingray Nebula: Henize 1357, the youngest known planetary nebula</p> <p>16 NGC 1818: globular cluster of over 20,000 stars in the Large Magellanic Cloud</p> <p>17A GRB 971214: gamma ray burst is most energetic event in the universe</p> <p>17B GRB 971214: gamma ray burst; comparison of Keck Telescope and HST views</p> <p>18 Saturn: details of the clouds and hazes in atmosphere of ringed planet</p> <p>19 Possible first extrasolar planet ever</p> | <p>20 Four of NASA's proposed designs for the Next Generation Space Telescope (NGST)</p> <p>21 Galaxy NGC 4314: bright ring of starbirth around the galaxy's core</p> <p>22 NGC7052: galaxy with 300 million solar mass black hole in its center</p> <p>25 N81 in the Small Magellanic Cloud: a celestial maternity ward</p> <p>26A Galaxy Cluster MS1054-03321: thousands of galaxies 8 billion light years from Earth</p> <p>26B Supernova 1996CL: a March 1996 exploding star in galaxy cluster MS1054-0321</p> <p>27 Distant galaxy clusters: left, in Virgo; upper right, in Andromeda; lower right, in Taurus</p> <p>28 NGC7742: a small Seyfert 2 active galaxy probably powered by a black hole in its core</p> <p>29 Saturn: pastel yellows, browns, and greys distinguish cloud differences</p> <p>30 Sagittarius Star Cloud: HST peers into the heart of the Milky Way</p> <p>31 NGC7635, the Bubble Nebula: an expanding shell of glowing gas surrounding a hot star</p> <p>32A Infrared views: left: faintest galaxies ever seen; right: objects 12 billion light years away</p> <p>32B Deep field galaxy: left: visible light areas of starbirth; right, infrared disk structure</p> <p>34 Neptune: a look at the eighth planet's stormy disposition</p> <p>35 Uranus, August 8, 1998: its four major rings and 10 of its 17 known satellites; false color</p> <p>36 NGC6210 planetary nebula described as looking like a turtle swallowing a sea shell</p> <p>37 Quasar PG1115+080 and gravitational lens effect:</p> <p>38 Nebula M1-67 around star WR124: gas ejected into space at 100,000 mph</p> <p>39 NGC3132: southern hemisphere's Eight Burst or Southern Ring Nebula</p> <p>41A HST deep field south: thousands of</p> |
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JPL '98 Slides

NASA JPL has sent us the following slides for the Galileo Mission and others. Slides are \$1.25 each.

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

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The Documentation of Meteorite Collections

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Many planetaria are collecting meteorites, both for display and for teaching. When there are only a few meteorites in the collection, it is easy to remember the relevant facts about each specimen. As more are added, though, it becomes more difficult to keep track of information regarding the meteorites. This article will discuss ways to document your meteorite collection.

What is the purpose of documentation? I can think of several reasons: to maintain an accurate set of records about each item in a collection; to maintain information for insurance purposes; to make it possible for others to know as much as possible about the collection; to provide complete records of the meteorite for potential exchanges or sales. Maintenance of accurate records is important, and keeping accurate and complete documentation takes time. If your facility insures collections, documentation can be useful if you have to file a claim.

Your efforts to document the collection will be deeply appreciated by those who come after you. Not many people are knowledgeable about meteorites or meteorite collecting, and a well documented collection can educate the next person who manages your collection. Documentation provides useful information to somebody who is interested in buying meteorites from you, or who wants to trade.

For those of you who manage museum collections, documentation can help you in accreditation for professional organiza-

tions (sometimes accreditation teams ask to see documentation). The final reason to document: a professional collection ought to have professional documentation.

The suggested information for documenting meteorites I give below applies equally to the ancillary materials usually found in a meteorite collection. Such materials include tektites, shatter cones, K/T boundary sediment, etc.

My specific recommendations for entries to be included in documentation are derived in part from Philip M. Bagnall's *The Meteorite and Tektite Collector's Handbook*, pages 111-112. If you do not yet have a copy of this book, get one as soon as possible. There is a lot of good information in it about preservation and care of meteorites, including techniques to test, etch, and clean meteorites.

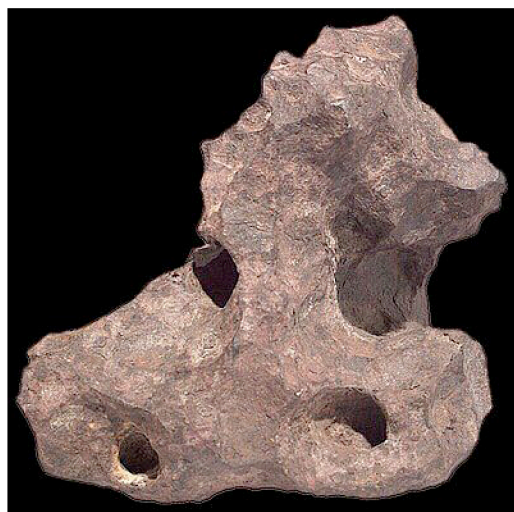
A comprehensive system of documentation should include most if not all of the following categories:

Reference number

If you have more than a few meteorites, you will need a system to reference them. I suggest numbering them sequentially in the order of acquisition. The numbers need to be marked on the specimen itself. If the meteorite is on display, put the number on the bottom. You can either write the number on a piece of adhesive paper and stick it onto the specimen, or paint the number directly on it. My preferred method is to paint a small spot with a couple of coats of lacquer and paint the reference number on top of it, because most lacquers are soluble in either acetone or alcohol and can thus be removed. (Try a test with the lacquer to ensure that it can be removed with acetone or alcohol before using it on the meteorite.)

Bagnall recommends indicating the type of meteorite in the reference number. For example, if specimen 3 is a Pallasite, he recommends writing PAL 003 as the reference number. If you are going to include the meteorite type in the reference number, I recommend writing it as 003 PAL so that the number appears first. It is a matter of personal choice.

Name of the Specimen



Canyon Diablo meteorite
Found 1891
Coconino County,
Arizona
Iron:
Octahedrite, coarse

The name of the specimen is the name of the meteorite. Examples are Canyon Diablo, Gibeon, Allende, Lafayette, etc. The spelling of the name should conform to the spelling found in either the current edition of the Catalogue of Meteorites, or the Meteoritical Bulletin (a supplement to the journal Meteoritics). Meteorites are generally named after a nearby town or geographical feature.

Location of the Fall/ Find

Be specific. For example, Pueblito de Allende, Chihuahua, Mexico. If you have any maps of the area, include them.

Latitude and Longitude of Fall/ Find

Again, maps are helpful.

Date and Time of Fall (or Find)

Use Universal Time. If you know the circumstances of the fall or find, include it here. Who were the witnesses? Who was the finder? Include eyewitness accounts, if possible. Are there any photographs of the meteorite in situ? Did anyone photograph the fireball?

Class or Type of Meteorite

Again, be specific. Example: CV3 Carbonaceous Chondrite. I find it useful to include a short description of the properties of the general type of meteorite.



Mass of Meteorite

Again, be as accurate as possible. Use grams. Don't take the seller's word for it! Determine the mass on an analytical balance.

Description

Very important! Use accurate, descriptive terminology. Describe what you see. Is the piece friable? An etched endpiece? Is there fusion crust? If so, what percent of the piece is fusion crusted?

Supplier

Always include the name, address, phone and fax number of the seller.

Include copies of purchase orders, check requisitions, auction bids, invoices, packing slips, etc. You might want to include copies of your correspondence with the

supplier, too. (Remember, you are making a paper trail for someone to follow later. You want to make it as easy as possible for others to reconstruct the process of acquiring the meteorite.)

Photographic Documentation

This is extremely important. If something happens to the piece, you need photographic evidence. Use color film to produce the documentation. Place the meteorite on a white background, and include either a centimeter block or a centimeter ruler in the picture for scale. Light the piece with two lamps, on the left and the right, to provide a 45° incidence angle to the face of the meteorite. Document the piece from all sides.

Make two copies of the pictures, and store them in separate places. If something happens to one copy, you'll have another.

Value of Meteorite

Periodically check the meteorite market to estimate the value of the specimen. If your collection is very large or has some important pieces in it, it might be a good idea to have the collection appraised periodically. Talk to a meteorite dealer to ask them about appraising your collection. Make sure appraisals are on letterhead, and include the date of appraisal, the name and signature of the appraiser,

the specifics of the meteorite, and its estimated value.

General Information

Include a paragraph or two of general description, suitable for a general audience. This makes an easy reference and a quick refresher. (For each piece in the Louisiana Nature Center's collection, I have a one page description of general information about the meteorite. When we do programs using the meteorites, I offer copies of this description to members of the audience.) If you have a rare or unusual piece (one of the SNC suite, or a unique piece), you might want to include a longer general description.

Special Preparations

Krasnojarsk meteorite
Fell 1865
Siberia, Russia
Stony Iron;
Pallasite (PAL)
80.2 grams

Document any special preparations since it has been in your collection. Such preparations include treatment for Lawrencite disease, re etching, non routine cleaning, etc. This gives you a complete record of what has happened to the meteorite since it s been in your collection.

History of the Specimen (Provenance)

Include this information, if it is known. Ask the dealer how he or she acquired the specimen. If the dealer found the specimen in situ, are there any photographs? If the dealer didn t find it, from whom did he or she get it? Who found it or saw it fall? Try to find out as much as possible about the particular piece. This is extremely important if the piece is rare or unique.

Bibliography

Make a list of references. If you can find references to technical articles on the meteorite, include them. If you have hard copies, include them. Note any articles or books that make reference to the meteorite.

Some General Suggestions

I strongly suggest that you keep two complete sets of documentation for the collection. Keep each set in different places to minimize the odds of losing them.

Periodically review the documentation for each piece to check it for accuracy, completeness, and currency. I usually write the date that I put in each entry, so that I can easily recall when an entry was added or modified. Put in the date when you verify each entry.

Put one person in charge of the collection. That person should be responsible for the overall management of the collection cleaning, display, and documentation.

Write down the philosophy behind your meteorite collection. Do you want to set up a permanent display? Do you want to use them as an adjunct to other programs? Do you want to trade or sell them?

Will you let visitors touch or hold the meteorites? Some think doing so is heresy. I believe differently, but that is the philosophy behind the Louisiana Nature Center s collection: allow visitors to touch something that formed in space, excite them about general astronomy, and educate them about meteorites. (Obviously I helped to define the collection s philosophy!) Such issues should be decided as quickly as possible.

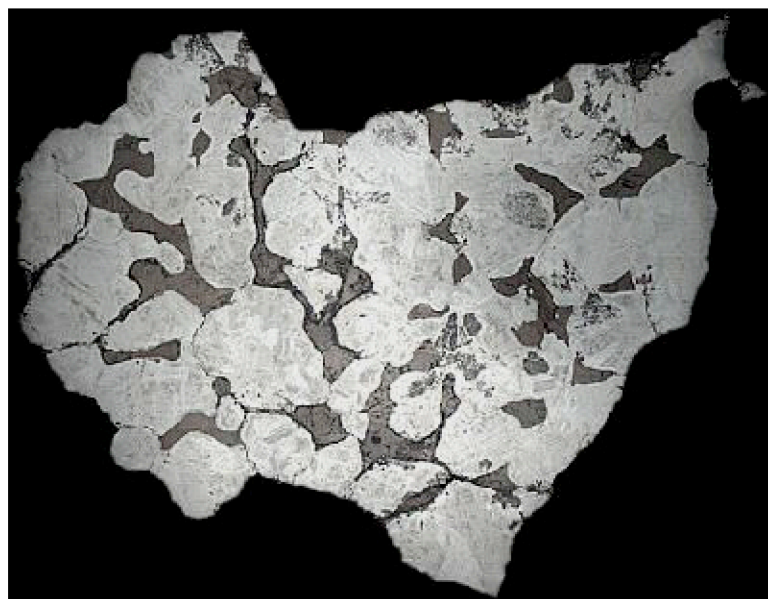
As an addition to the philosophy behind the collection, write down a list of meteorites that you want to have, in the order that you want to obtain them. This is part of the collecting philosophy as well: What is the purpose of the collection? We use ours in programs, and we acquire with the goal of having samples of representative materials that we find in the solar system. In addition, we want materials that illustrate the process of impact. The collection philosophy should help guide you when you acquire specimens.

Within the constraints of the philosophy, however, I urge flexibility. If an incredible deal comes up, don t hesitate to take advantage of it. Sometimes such deals do occur, particularly once you have established good relationships. I deal with

a couple of meteorite dealers on a regular basis, and because I have dealt with them for a number of years, we generally get discounts on pieces for our collection. Many dealers are willing to find pieces for you, if you ve targeted a specific meteorite you want but they don t have.

Documenting your collection is time consuming but worthwhile. It protects the investment in your collection, and it helps manage it. If you re going to collect

Mundrabilla meteorite
Found 1911
Nullarbor plain, Australia
Iron:
Octahedrite, medium:
Sulfide & silicate inclusions (IRANOM)
1189 grams



AstroWeb Review

Lunar and Planetary Institute

Welcome to the first AstroWeb Review. This column will review Websites of interest to planetarians. If you're interested in reviewing a site for the column, please let me know. If you know of a site that you want reviewed but you don't want to do it yourself, let me know that, too. I'm always open to suggestions.

On the default page, the LPI advises that there is something here for you whether you are a teacher, student, scientist, or just a member of the public interested in the planets. The statement is correct; LPI is for anybody with an interest in the planets.

The site is well organized. The main page links to several sections and sub sections. Such organization is straight forward and easy to navigate. The main page has an imagemap for navigation and a set of identical text links below—very savvy since there are surfers who don't like or use graphics. No frames are used on the LPI site, but some of the sites that LPI links to use frames. There are too many sections in the LPI site to talk about each of them individually.

Exploring the Moon is my favorite part of the LPI Website. There is information here about various Moon missions, including the Soviet Zond and Luna missions, and information about future missions. The section on Lunar Orbiter, e.g., discusses each mission and the scientific objectives of the Lunar Orbiter program. It links to the Lunar Orbiter Photographic Atlas of the Moon and to a section on Lunar Orbiter imagery.

The Education area of the site is divided into sections to facilitate finding programs they offer, products (slide sets, CD ROMs, posters, etc.), K-12 educa-

tion materials and activities, and general resources.

I would like to see more planetary science activities on the LPI site, but there are links to other sites that make up for this. The products LPI offers are excellent, both for use in programs and as background information. (We have most of the LPI slide sets in our collection.)

Other neat features of the site: a staff list with telephone numbers and e-mail addresses (nice for contacting researchers), an entire section on the question for life on Mars, the on-line version of the 3D tour of the solar system, lists of LPI sponsored workshops and conferences, access to image, map, and journal article collections (Look under Library.), and access to databases and research projects. You could easily spend days exploring this site.

Not everything is perfect, of course. Not all pages have a link to the search page. If they are going to offer the ability to search the site, it would be nice to be able to search from anywhere within it. Some of the pages on the site are dated. I like pages with dates on them so I can see how current the information is. If they had dates on all the pages, it would make the site more consistent.

All in all, though, this site is excellent. It is loaded with information for levels from student to teacher to post doctoral

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The Lunar and Planetary
Institute
<<http://cass.jsc.nasa.gov/lpi.html>>
June 30, 1999
Reviewed by Dennis Cowles



"The main page has an imagemap for navigation and a set of identical text links below—very savvy, since there are surfers who don't like or use graphics."

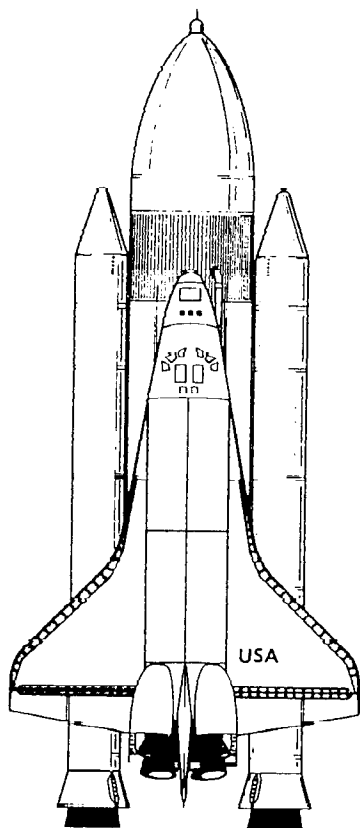
U.S Boosters for Piloted Space Flight

Enlarge these images by a factor of 10 to obtain 1:50 scale graphics

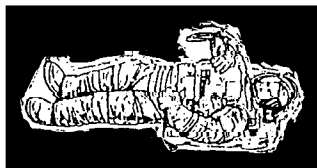
Dave Hostetter

Curator of the Planetarium

Lafayette Natural History Museum & Planetarium



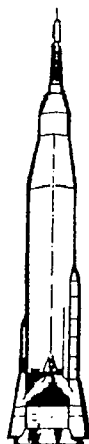
Space Shuttle



$\frac{1}{50}$ Scale Astronaut



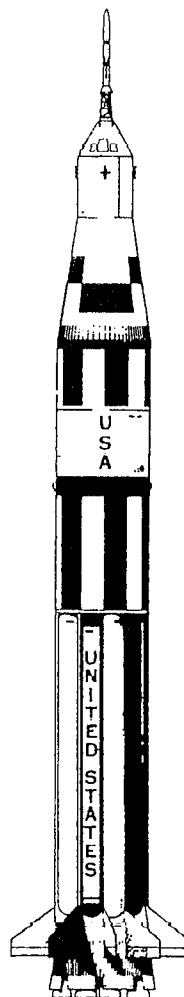
Mercury Redstone



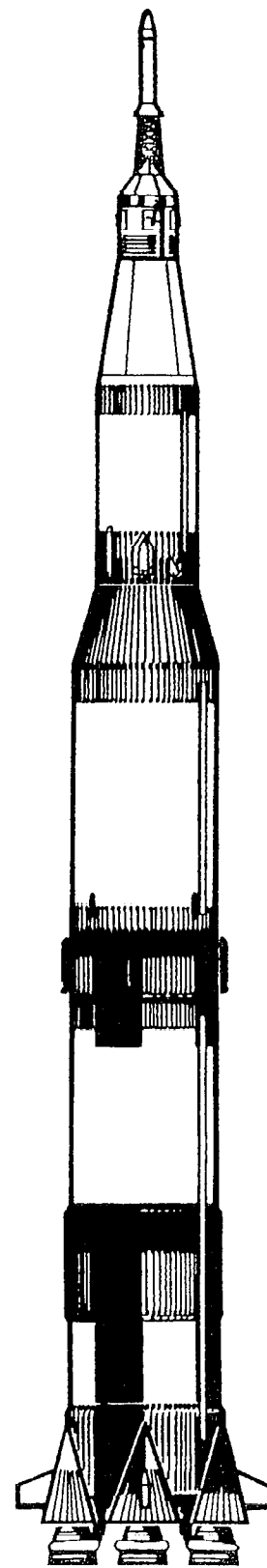
Mercury Atlas



Gemini Titan



Saturn 1B



Saturn V

Southern Skies

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The Fifteen Commandments of Planetarium Education

1. Control the perihellions, and demand respect for the opportunity you're offering your audience to take a trip across the universe.
2. Always wear your shades when you exit the star theatre.
3. Eschew polysyllabic discourse.
4. Use analogies and simple, concrete examples.
5. Don't forget to breathe.
6. Hold the laser pointer steady.
7. Memorize the placement of the planetarium's equipment and furniture.
8. Develop your own style.
9. Remain open to suggestions and experimentation.
As long as you're having fun, your audience will too.
10. Stay on top of current information about the universe.
11. Listen to the questions you are being asked.
12. If you really don't know the answer to a question, don't be afraid to say so.
13. Make sure **EVERYTHING** is set up for the show.
(God is in the details.)
14. Keep your own sense of wonder alive.
15. Communicate to your audience the wonder and the excitement that brought you here.

The Southeastern Planetarium Association wishes to acknowledge the organizations which so generously sponsored our conference in Jacksonville. Thank you.

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