

# President's Message

Greetings, all. I apologize for the lateness of this issue. We thought it best to hold it until after the IPS conference so that we could inform you of the goings on there. When I got back I had several technical problems in my theater to deal with, an out of town commitment for a few days, and a wedding in which I was best man. That is over now and I can focus on the tasks at hand.

The IPS conference was well worth the trip. Wichita is a beautiful city on the western frontier. The conference hotel was packed with about 450 planetarians. There were plenty of large meeting rooms and other amenities to make our stay pleasant and productive.

I want to thank Martin Ratcliffe and his staff for a very professional conference set up on short notice after Morelia, Mexico was forced to back out from hosting. Jack Dunn, and George Fleenor deserve special mention for their work to make our SEPA business meeting a success.

I also want to thank again all those businesses whose generous donations helped to defray the cost of our luncheon: ASH Enterprises; Astro Tech Manufacturing, Inc.; Audiovisual Imagineering, Inc.; East Coast Control Systems, Inc.; MegaSystems; Minolta Planetarium Company, and Goto. I do hope I am not forgetting anyone. If I have, I will try to correct that in my next message.

Last but not least, John Hare and Phil Groce worked hard to secure donations. As a result, there was no charge to members for the great meal we had or for the room rental. The support of our vendors is always greatly appreciated.

The meeting went very well. Our first worry was that we have a quorum for the meeting. Duncan reported to me that the number for a quorum was 20. There were 24 voting members in attendance. Whew! That was a relief. Without a quorum, Council would need to act as autocrats and appoint new council members, something we did not want to do. With the quorum achieved, high on the agenda was the election of officers. As you read in the last issue, the excellent candidates for President Elect were Duke Johnson and

Patsy Wilson. Although they were from the same state (North Carolina), they were from different facilities as our By laws require. The voting was reasonably close and Duke Johnson is the new President Elect beginning his six year term of service to SEPA on January 1, 2003. What? You didn't know that, Duke? For those who may be new to SEPA, the individual elected serves for two years as President Elect, two years as President, and another two years as Past President. Council congratulates and welcomes him. Thanks go to Patsy Wilson for caring enough to throw her hat into the ring. Many candidates who have not won in the past have come back later and served as President (yours truly included). So I hope we have not heard the last of Patsy. The other positions of Secretary/Treasurer and IPS representative and were unopposed, and those candidates were re-elected to terms. Congratulations to Duncan Teague and John Hare.

Another item on the agenda was designed to avert future problems. The By laws require that we hold a business meeting each year, and do not allow for election of officers by mail. Under the circumstances, we were worried that there might not be a quorum present. In that case, Council would have needed to appoint officers. To give us a better alternative, I suggested we amend the By laws to allow for election of officers by mail if a quorum is not present at any future annual business meeting. My feeling was that the founding fathers and mother wanted us to meet every year. The friendly sharing of ideas when we get together is a defining character of SEPA. I therefore worded the amendment to keep the requirement that we still make the effort to hold our business meeting every year. This would simply allow for election of officers by mail if a quorum is not present. The amendment was passed unanimously. It will be up to future SEPA Presidents to try to broaden the scope of that or to alter it in any way as they see fit.

Another item considered was the SEPA

David C. Maness  
President  
Peninsula Planetarium  
Newport News, Virginia



scholarship program. This will be an award amount determined by Council and offered to needy members who wish to attend a SEPA conference or an approved production workshop. This was brought up and discussed in Richmond, Kentucky, but there was no time to vote on the issue. I brought it up again. There was some more discussion before it was passed. Duncan will shortly set up an account for donations and funds raised from various SEPA activities. It is hoped this may grow as an endowment so that we may eventually be able to make awards from the interest alone and not touch the principal.

SEPA Web page work continues. Drew Gilmore of Sudekum Planetarium is doing a great job maintaining this. If you would like to make suggestions or add a link to your Websites, please contact him at <drewbert@mac.com>.

The SEPA Guidebook created and main

tained by former SEPA President Mike Chesman is in need of more submissions. Mike will be assembling updates to be delivered later. You can contact Mike at <bmplplanet@tricon.net> for more information. I polled the membership about their preference of having a special mailing of updates or waiting until the next conference to distribute them. They voted in favor of waiting for our next meeting. The committee working on the next SEPA show production was reactivated, and Patrick McQuillan agreed to serve as chairman.

There were presentations from future conference sites. Steve Mitch from Wheeling, West Virginia proposed a three way joint conference (SEPA, GLPA, and MAPS) for 2007. This would need to be in the fall time period, however, due to previous commitments for the hotel. As a result of

(continued on page 22)

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## IPS Report

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John Hare  
IPS Representative

For those of you who missed the IPS conference in Wichita, my sincere condolences. This year's conference was unquestionably the most spectacular gathering for the demonstration and discussion of technologies that will determine the future of our profession. Over 450 delegates assembled for nearly a week of activities. Vendor displays alone were worth the price of the conference, let alone the many interesting speakers, dome demos, and opportunities for socializing with friends and colleagues from around the globe.

Wichita proved to be a most interesting venue. Southerners were right at home with high temperatures and humidity and occasional thunder. Old Town ambiance provided an interesting setting for dining, drinking, and other late night activities.

My week began with IPS Council meetings Saturday and Sunday and an unscheduled wrap up later in the week. The details of the 2004 IPS conference in Valencia, Spain were presented by staff from the planetarium. We have almost two years until that meeting, so I will furnish detailed information in a future issue of Southern Skies.

IPS Council was briefed on invitations for the 2006 conference. Bids were received from Vienna, Austria and Melbourne, Aus

tralia. A vote for the 2006 site will be taken at the 2003 Council meeting. Incoming IPS President, Jon Elvert, has selected Jena, Germany for the next Council meeting. I'll submit detailed information to Southern Skies about the 2006 sites prior to the next SEPA conference with the purpose of discussing and receiving a mandate from SEPA at our next business meeting.

It seems Wichita has yet to discover the pleasures of our unofficial regional brew, Woodchuck. Efforts to obtain the beverage locally in sufficient quantities were unsuccessful. However, Kris McCall was seen with several bottles of the treasured elixir and actually shared some of it with a few privileged individuals near the conclusion of the conference (Kris for life!).

SEPA had a relatively large turnout for the conference. Our pre IPS luncheon was well attended, and we were able to conduct official SEPA business, since a quorum was present. You'll read about the results elsewhere in Southern Skies.

Thank you for the vote of support in re-electing me as IPS Council Representative. I look forward to serving you and our fine organization for the following term. Please don't hesitate to contact me if you have any questions, suggestions, or comments regarding SEPA and IPS.

# Editor's Message: Business as Usual

I offer my thanks to those 24 delegates who re-elected me Secretary/Treasurer at the business meeting/luncheon held in conjunction with the IPS Conference in Wichita, Kansas in July. Now that I'm no longer a lame duck officer for the balance of this calendar year, I return to business as usual: pleading and nagging. Pleading is going to take the form of soliciting two new associate editors.

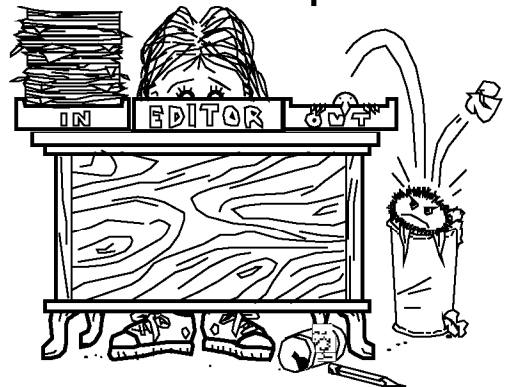
More than a year ago, one prospective member assumed the responsibility of submitting a review of astronomy related video material for exactly one issue. Other than that one issue, Southern Skies hasn't had an Astro Video Review associate editor in several years. If you have access to sources of videotapes or DVDs in the field of space science or astronomy, I ask that you please consider sharing your opinion on such material with your SEPA colleagues. What's involved? Write a documentary and/or a critical review of the item, and send it to your Editor four times a year. Send me 500 words and a couple of images to go with your text.

Southern Skies is also in desperate need of a new Featured Planetarium associate editor. Dave Hostetter performed that job admirably and consistently for years before job responsibilities required him to pass the torch to Kelly Quinn. We lost Kelly when the Bishop Planetarium closed.

What would you have to do? A little gentle arm twisting. Select a planetarium that has a good story to tell, and get its director to brag about his or her facility's history, mission, staff, current operations, and future plans. Send me 1,000 words and four to six images taken with a digital camera or scanned from photos or a brochure.

**Nagging:** Look for the published deadline for submissions and then meet it.

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



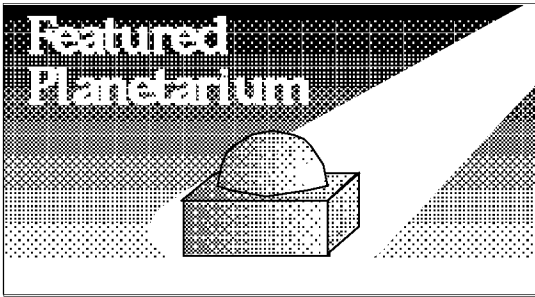
Mike Cutrera

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		

# Featured Planetarium

## Rauch Planetarium, Louisville, Kentucky



Contributed by

Scott Miller

Gheens Science Hall  
and Rauch Planetarium  
University of Louisville  
Louisville, Kentucky

Rauch Memorial Planetarium opened in 1962 and provided a focus on astronomy education for the public and the K-12 community for the next 36 years. The original facility was a 30 foot dome housing a

Spitz star machine first an A3P and later a 512 and boasted automation, multiple slide projectors, special effects projectors, and even video projection capability, all used to dazzle those in attendance about the wonders of the universe.

On November 24, 1997, the board of trustees of the University of Louisville approved a request to demolish the planetarium. The public outcry that followed secured the future for a new facility. During a December 11, 1997 press conference, it was announced that an initial major donation from the Gheens Foundation with additional pledges from the city and county governments were to be used as the startup capital for a new facility. The university pledged to raise additional capital to help make sure that the new planetarium is properly equipped, maintained, and preserved, so that it will be a permanent fixture, according to our

President Dr. John Shumaker. More donors contributed. Design and construction were underway.

That new star now glimmers on the campus of the University of Louisville. On April 24, 2001, the Gheens Science Hall and Rauch Planetarium opened its door to the public. Unidirectional in design, the dome itself is 55 feet in diameter with a tilt of about 12.5°. New patrons can occupy 160 very comfortable seats. The star machine, an upgrade from the original 512, is now a Spitz 1024 that boasts some 4000 star projection points.

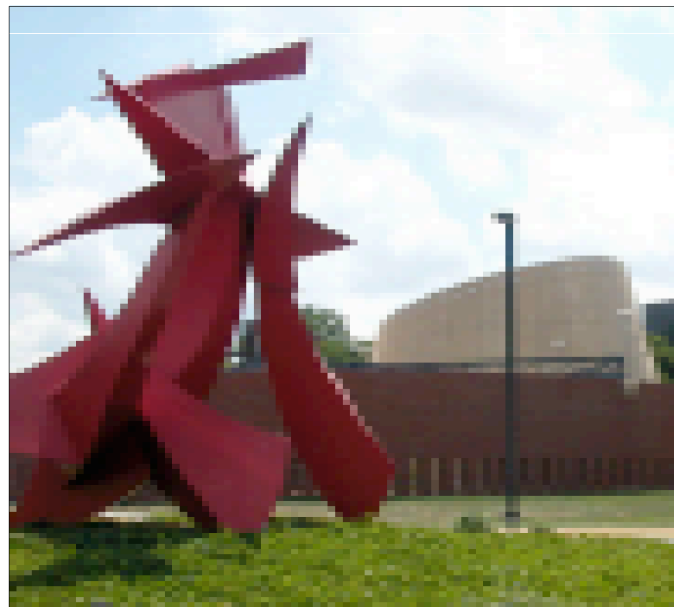
The heart of the system is Spitz's Electric Sky™. This features three Electrahome CRT projectors that are edge blended to produce a panoramic screen that is 200 wide and 60 high. In addition to providing imagery of such programs as Oasis in Space and BIG, as well as our own produced Star of Bethlehem, this large screen has been utilized in the projection of real images gathered in from such sources as the Hubble Space Telescope and Chandra X-ray Observatory, giving audiences the opportunity to be immersed in the environments observed by these telescopes.

Supporting the video panorama is an All Sky projection system consisting of six dissolvable pairs of projectors. These are used to fill in the dark areas left by the panorama video system or simply to im-

merse the audience in a stationary, fully wrapped environment. There is a fourth Electrahome projector on an X-Y tilt mount that can be used to slew images across the dome; three dissolve pairs of dedicated projectors; programmable cove lighting; Roboscan lighting; and cloud, rain, and snow projectors.

Complimenting some of this more traditional planetarium equipment is an Audio Visual Imagineering Omniscan Laser Projection System™. This laser system is used for laser music presentations and educational programs too. The staff has even begun using it for creating logos for corporate events that

Right: the Calder-esque mobile known as "Big Red" stands near the courtyard entrance to the new Gheens Science Hall and Rauch Planetarium (Photo by D. Teague)



are held here. Additional training is being pursued to be able to manipulate the laser to provide overlays for constellations to further enhance live sky talks. The hope is that in using the laser, the audience will have a better feel for what those mysterious constellation figures might have looked like by providing both connect the dot style drawings and full figure overlays, some of which are even animated. Plus, with that additional training, the staff will be in a better position to use the laser system in a variety of additional educational and entertainment opportunities.

No planetarium presentation is complete without a sound system, and the one housed within the dome of GSHRP is a good one. The advanced digital multi channel 15,000 watt surround sound system provided by MegaSystems allows the audience to hear (and sometimes even feel) the experience they are also seeing on the dome. The place really rocks during some of those laser music shows.

That's not all. A fifth video projector does work under the dome. A JVC High Definition projector can project images across the full width of the dome. It provides crisp images at that throw for use with our Cinemuse documentary tapes. This projector also is used for DVD imagery and computer imagery, especially when used by faculty members and corporate users for PowerPoint presentations.

Behind the scenes, making all of this work, is a network of seven computers. A minimum of three are used in most presentations, but the others can be incorporated as well, primarily to provide additional imagery, including two which have access to the Internet to provide some of the most recently available images to our audiences in our live presentations.

The facility itself is of grand design. When you arrive, you enter through a triangular gate into an enclosed courtyard. The wall is a mimic of Stonehenge, matching it in height if not in breadth. There are even sighting gaps throughout it, including one taller than the others indicating true north from the site.

Within the courtyard, one proceeds up a walk of planets. These are scale models based on the Sun being the size of the courtyard itself. Yes, we do include Pluto in our list of planets! In addition there are two sundials featuring different designs and a projection telescope for showing off images of the Sun in white light. These



three items were provided (and in the latter case designed) by one of the physics faculty members who has been deeply involved in the project.

Completing the package on the inside is a large lobby where we hope to add displays with which the public can interact, a gift shop, and a classroom where we can do some hand on activities and host distant learning programs.

All in all, this shimmering star is one that the University of Louisville, the Louisville area community, and even the state of Kentucky can look on with pride.

Above: the Spitz 1024 star projector inside the Rauch Planetarium theater (Photo by D. Teague)

Below: the computer room behind the console has lots of racked equipment (Photo by D. Teague)



# Small Talk

Elizabeth Wasiluk  
Small Talk Editor  
Berkeley County Plan-  
etarium



I am afraid that this installment of Small Talk will be a hodgepodge of many different things, as a lot of stuff has happened since last I wrote the column.

I got my very first ever e-mail with responses to my column. Donna Thomas who works with Duncan Teague at the Craig T Planetarium in Memphis, Tennessee decided to write me with regards to my last column where I described my run in with Genghis and the Roche Limit on a sci-fi literature discussion board. She had wanted me to address how outreach to planetaria can be done on the Web environment. I had to mention that I haven't a clue as to how to do this.

One thing I do on the discussion boards is have a signature that says, Inside Outer Space, Visit Your Local Planetarium. Anybody else have any ideas along this realm? Feel free to e-mail me with ideas. Other than having a Website and linking it to other Websites, I have no ideas.

Joyce Towne of Spitz Inc. e-mailed to let me know that Robert Clive of the Stuart Ingram Planetarium in Sunset Beach, North Carolina installed a Spitz System 1024 with automation, a sound system and lighting and should be open for business, now. Robert Clive can be reached at (910) 579 1016, or you can send him an e-mail at the address <museumofcc@atmc.net>. Whoever does the state news from planetaria in North Carolina please take note.

To put a postscript on the last column's Genghis story, I had posted a message back in March about a sale on science fiction books I had found at the local Borders and at the Borders in Cleveland, Ohio that I noticed when I went to visit my father over Easter vacation. I had posted a notice asking if the sale was throughout the country, to which engineer and arguer on the Roche Limit, Genghis, said that he had seen no such sale in New Orleans where he lived. New Orleans! I replied. I will be going there for the SEPA meeting in June, I said.

Then the strangest thing happened. My fellow adversary, Genghis, sent me a private message inviting me to dinner in

the French Quarter when SEPA would be visiting there. Genghis was no longer an adversary, and finding out who Genghis, the engineer, really was behind the inflammatory posts died when we all learned that SEPA's visit to Louisiana was postponed until next year.

Speaking of which, I don't know how many of you had problems switching gear and coming to Wichita after the 2002 SEPA meeting turned into a non-event. First it was Mexico, then it was Louisiana, then it was Kansas. Okay, good thing I am not inflexible and do need a vacation. It was too late to deliver a paper as the deadline date had passed, and I was not planning to go to Wichita. Now I was also paying the higher fee to register.

Plus I found out the conference was canceled, not by the Internet or letter, but by visiting the Air & Space Museum for a talk with astronomer Vera Rubin on How An Astronomer Studies Something She Cannot See. I just happened to run into Sean O'Brien, and he let me know that he heard SEPA's meeting had been canceled. If it weren't for this accidental meeting, I might not have been able to go to the International Planetarium Society Meeting at all.

I had to confirm the story via e-mail with Dave Manness. I wonder how many people planning to go to SEPA ended up with no time to make the Wichita IPS meeting? Well, for what it is worth, I will see you at the IPS meeting, but maybe not at the business meeting. Seems I did not get the reservation until after July 1st and I had already signed up for the NASA Teacher's Workshop, and I will have a hard time being in two places at one time. I have yet to get confirmation on the NASA Teacher's Workshop and whether I can attend or not.

What a sordid mess this is all beginning to look like. Oh well, perhaps it will sort itself out and the conference will go smoothly. Stay tuned to this column for further adventures.

School let out for us on June 6th. Immediately I had packed the telescopes and headed out to the Mason Dixon Star Party in York, Pennsylvania. Here I was

graced with two clear nights where I commandeered a 10 inch Dobsonian a two inch improvement over the planetarium's Schmidt Cassegrain from a member of Delaware's Mount Cuba Astronomy Club and viewed as many Messiers as I could find until I was washed out by dawn's early light. Admiring Jim Morgan's classy LED pen paid off as well. Now I have one of my very own. Great to take notes in the dark and not any bigger than a regular pen.

After Mason Dixon, I joined forces with Dr. Jason Best an astrophysicist at local Shepherd College and a middle School teacher named Steven from Jefferson County. Together we taught a graduate course in cosmology. Great fun. We included a trip to the Air & Space Museum in Washington, DC to take in the new astronomy exhibit, which is really spectacular. We saw the planetarium program *Infinity Express: The Universe in 20 Minutes* at the Einstein Planetarium. Also we took a look at the new 3 D IMAX Film on the Space Station. The 3 D effect is very cool, especially when they show the launch from Star City!

Colleague and friend, Conrad Jung, managed to escape from the craziness at Chabot Observatory and Planetarium in Oakland, California for a visit. Together we did a NASA workshop on aurora at the Maryland Science Center. Jim O'Leary and staff gave us a rousing welcome and behind the scenes tour. We caught the new program in Davis Planetarium called *Star Bizarre*, which lasts 20 minutes and contains everything you ever wanted to know about stellar evolution. While teaching my class, I managed to also attend a workshop on SIRTf, the new infrared telescope and brought back all sorts of cool infrared info sheets, posters, and a video which will come in handy when I teach about infrared astronomy next school year.

Before Conrad flew back to Oakland, we visited the Morgan County Observatory which is on a very dark site near an elementary school in the county next to us. It was quite an accomplishment to get a 16 inch Cassegrain donated by the Naval Observatory, refurbished and up and running with little cash and little experience. Kevin Bolles did an outstanding job and is looking forward to having it open to the public soon.

Visit their Website for more information at <http://www.nitesky.org/>.

Sad news came from a friend who e

mailed me to say that any hopes that the McLaughlan Planetarium in Toronto would re open were dashed when they demolished the building that used to house it. This news was taken very sadly as I spent many happy days visiting that planetarium when in Toronto.

Other sad news came from the Great Lakes Planetarium Association newsletter. For those who do not get their newsletter, I will write what was found therein.

On May 22nd, Minnesota Governor Jesse Ventura vetoed \$9.5 million in state funding to build a new planetarium in Minnesota. Without this funding, the future of the 52 year old Minneapolis Planetarium is uncertain at best.

Bob Bonadurer would like to thank all of his planetarium colleagues who took time to voice their support. The staff and friends of the Minneapolis Planetarium will continue to work with state and local community leaders in an attempt to keep the stars alive. If they are not successful, the Minneapolis Planetarium will close on Friday, September 13, 2002.

If you remember Bob Bonadurer from the joint meeting last year and could offer advice and/ or support, contact him at:

Robert J. Bonadurer  
The Minneapolis Planetarium  
300 Nicollet Mall  
Minneapolis, MN 55401  
(612) 630 6151  
<rjbonadurer@mpls.lib.mn.us>

I enjoyed seeing many of you in Wichita, Kansas at the IPS meeting.

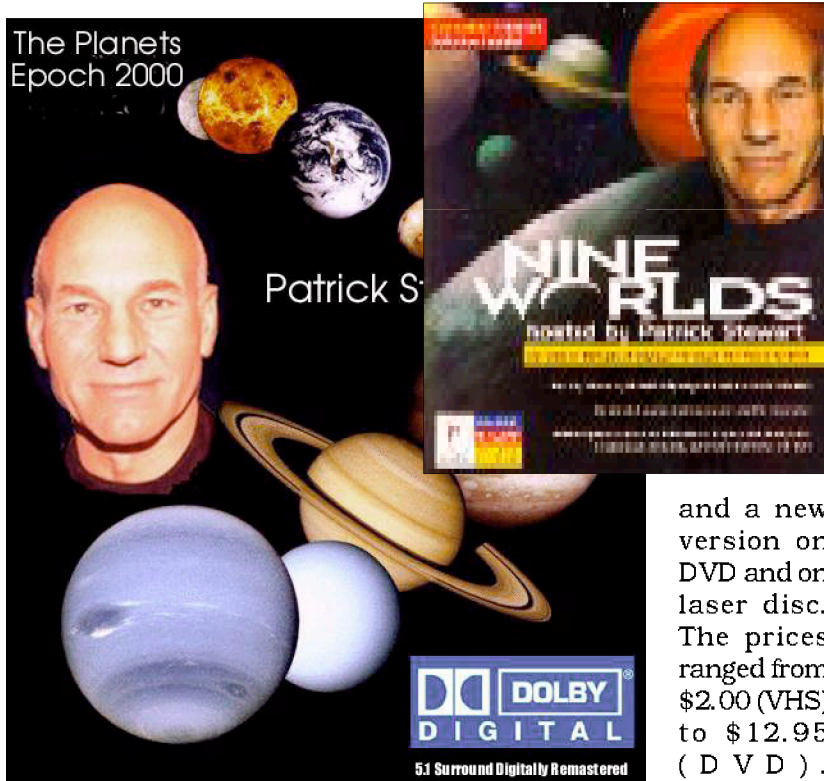
# Digital Cosmos: Nine Worlds



Paul Tremblay  
Digital Cosmos Editor  
Orlando Science Center  
Planetarium  
Orlando, Florida

Based on the videotape Patrick Stewart Narrates... The Planets, the Nine Worlds CD ROM by Palladium Interactive is filled with wonderful images, a wealth of information, and, of course, the music of Gustav Holst. Designed for ages eight and up, I have found Nine Worlds priced everywhere from \$19.95 to \$39.95. [A <google.com> search using the tape's full title turned up many sources for the CD ROM and VHS versions

Below: old and new versions  
of Nine Worlds in CD ROM  
and DVD formats



and a new version on DVD and on laser disc. The prices ranged from \$2.00 (VHS) to \$12.95 (DVD).

Ed.]

The software will run on almost anything so long as it's faster than a 33 MHz 486. It even likes Windows 2000, so there should be no problem running it on modern machines. Macs will need at least System 7.01 and a 68040 processor. I'm told by the Mac users here that these machines are about as common as the aforementioned 486. Anyway, the software liked our 500 MHz G4 with OS 9.0.4, so I can only assume that it likes all flavors of Macs.

Nine Worlds runs in its own Macromedia like interface and is intuitive to navigate. The introduction is very good and gives you all the information you need for finding your way around. The program is organized into Planets, Resource Explorers, and Mankind's View. Planets allows you to explore each planet as well as the Sun. Resource Explorers is an area of quizzes and materials for further study. Mankind's View allows users to experience planets from Stonehenge to today's space probes.

When you click on a planet, a new view is created, and rather than having to read about the planet, Patrick tells you about it. Very dramatic, but not filled with good information either. To get to the meat you have to use a set of icons and drag each one to the planet's picture to get things like, temperature, orbital period, etc.

In Resource Explorer you can pick such things as Backyard Astronomer which talks about how to purchase a telescope, or Organizations, which will give you a somewhat out of date listing of astronomy clubs around the world. (I know it to be out of date, as it lists the contact of our local astronomy club as meeting in our old building. That was nearly five years ago.)

Mankind's View is a very enjoyable history lesson on astronomy. You do have to read a fair amount of text which students may find boring compared to Patrick's early narration. Information is excellent, however, and images are superb.

This is a fantastic software package. For classrooms and exhibits (We have this on our exhibit floor.) it's wonderful. [You can find Don Barrett's history of the Nine Worlds project's versions and formats and media in CD, VHS, DVD, and laser disc via the aforementioned <google.com> search.

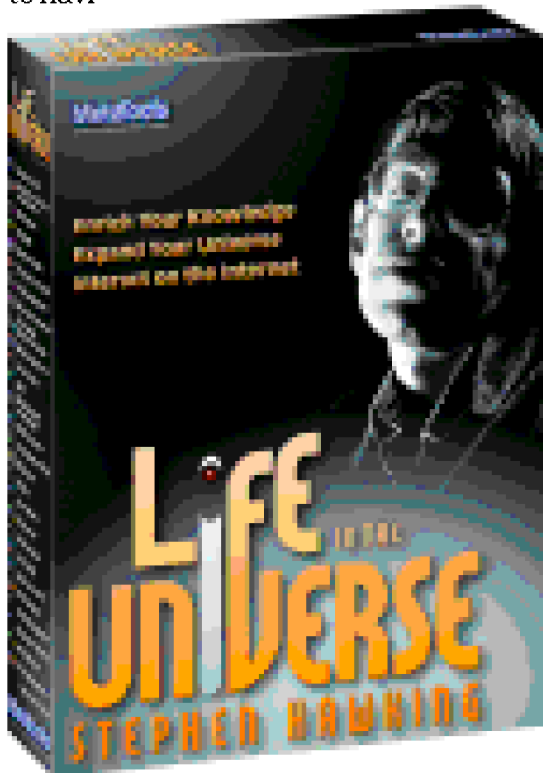


# Digital Cosmos: Life in the Universe

Life in the Universe is a collection of the writings of Dr. Stephen Hawking. On the surface one would expect good things from software such as this. I was disappointed not in the work of Dr. Hawking but in the rather poor interface I had to wade through to get to the information.

Published by MetaTools (<<http://www.metatools.com>> and <<http://www.lifeintheuniverse.com>> Neither site is still active.) and intended for Windows 95 systems or Macintosh System 7.5, I found it to be finicky during installation and cumbersome during use.

Once the program is running you use an animated intelligent agent, the Phage, to navi



gate the program. This Phage looks a little like a picture of a virus I once saw not some thing I find comforting. I printed out the User's Manual which I found hidden on the CD. It was some help, but still not much. At most the User's Guide told me what I was supposed to be finding.

The program is divided into six areas: Lecture, Articles, Terrains, History File, Preferences, and Help. Once you get to them, Lecture and Articles are filled with



fantastic information. The lecture version of Life in the Universe is fascinating and a rich source of information. Terrains takes you to one of the three scrollable environments such as Cosmological, Organic, and Mathematical.

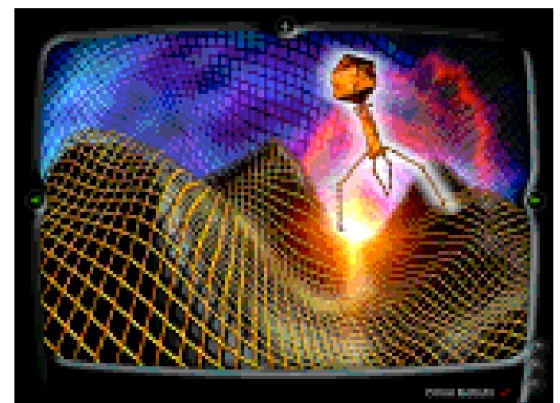
I stumbled around and occasionally came across things like a discussion of DNA/ RNA, but not with any regularity. Having the Phage floating around on the screen did nothing to help matters. Clicking the beastie did nothing except take me back to the place from which I had come. To get the information you need to click on little colored dots, which the User's Guide refers to as spheres. They don't look very sphere like.

The History File keeps track of where you have been useful when you want to return somewhere. Preferences will allow you to adjust the Voice, Music, and Effects. Help is an animated help file, which I found to be of very little help.

I found this product listed for \$24.95 on the Internet at <[CDAccess.com](http://CDAccess.com)>, so there appear to be a few copies left out there. You'd be better off, however, buying one or two of Stephen Hawking's books.

Paul Trembly  
Digital Cosmos Editor  
Orlando Science Center  
Planetarium  
Orlando, Florida

Below: The "Phage" lurks near the Orion Nebula in the CD ROM Life in the



# Grazie, Padre Piazzi

## (The Asteroid Discovery Song)

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by Jon U. Bell  
April 2, 2002  
Sung to the tune  
"Funiculi Funicula"

Audience: All ages

Author's note:  
Here's another song I've  
written that hasn't yet  
been published, and thought  
it could appear in Southern  
Skies first. This one's re-  
ally fun to sing!

1. One night Padre Piazzi was a searching  
The starry sky, the starry sky,  
He used a telescope he'd bought in London,  
A Ramsden scope, a real good buy,  
He saw a little star beside some others,  
A tiny star, eighth magnitude;  
He knew it wasn't found on any star charts,  
It wasn't there, it must be new!  
Piazzi said, Aha! What have we here?  
This may be a planet way out there!  
And so began the search anew  
For planets, moons and asteroids too  
Grazie, Padre Piazzi, we're indebted to you!
2. It was a new year's night so long ago now,  
Eighteen oh one, two centuries;  
And in the weeks that followed Padre Piazzi  
Tracked his star, though he did freeze.  
He saw to his amazement that it wandered  
From night to night, a moving light,  
He knew that by its motion it was wand'ring  
Out beyond Mars, that's pretty far!  
He told his colleagues, Look what I have found!  
They said, For sure for this you'll be renowned!  
And so it was as they had said as others followed where he led,  
The search for asteroids began, just look what he started!
3. Piazzi named his little planet Ceres,  
A goddess she, of Sicily;  
It was the largest rock ever discovered  
From Sicily, we all agree.  
Five hundred miles of solid real estate there,  
Up in the air above the air;  
And yet it wasn't big enough to be a full fledged planet,  
It was too small, it wasn't fair!  
William Herschel made a small request:  
I suggest that asteroid sounds best,  
And so a minor planet round  
An asteroid it was named  
Ceres was the very firstest asteroid ever found!
4. A year went by without another hint of  
Discovery, oh woe is me!  
And then just as the lonely winter ended  
In eighteen two, in Germany;  
Wilhelm Olbers thought he'd look along the zodiac arc,  
Along the paths the planets track;  
Another little dot was then found out out,  
It moved about, he gave a shout,  
Wilhelm Olbers found an asteroid,  
He named it Pallas, floating in the void!  
And then Juno was one more and then old Vesta made it four...

# Astro-Web Review

## Planet Junkies Only: <astrogeology.usgs.gov>

The US Geological Survey Astrogeology Research Program just premiered its very own Web page, and it is good. There is understandably a lot of information here for planet junkies, an epithet which applies to most of the planetarians that I know. This page promises to become one that all planetarians should have bookmarked.

Navigating this site is easy, very easy. On the index page are the major categories such as solar system, missions, etc., and putting the mouse over each category name brings up a menu with subheadings that are clickable. Each page also features a navigation bar at the top with the major headings, and the subheadings are listed in pop up fashion underneath. As I said, easy to navigate.

The Hot Topics page has links to news and to current events happening in solar system research. Also included are links to current research projects (such as the Lunar Pyroclastic Volcanism Project), including the results of meetings, reports, images, databases of information, current project status, etc. a wealth of information for planetarians to dig through at their leisure.

What I found most useful were links within the various pages that indicate what planetary maps are available from the USGS. In the old days, it was a major headache to wade through the lists of maps to find the few that I was looking for. Now it's very easy to find a geologic map of Europa.

One cute feature is that the image on the index page changes each time you go to it. The first time it might be Earth, the second time the Sun, then Jupiter, etc. Cute, and visually appealing.

One particular feature I appreciated was that the webmaster has included links to

other sites under each listing. For example, under Pluto, there is basic information about the planet, a picture of it, links to documents within the Astrogeology site, as well as links to the SEDS Pluto page, Lowell Observatory's Pluto page, and the Planetary Photojournal page. If pertinent, there are links to mission, moons, and other Web sites.

Education is notably lacking in the site, which is unfortunate. There are a lot of good sites on teaching geology and planetary geology, and it would have been nice to see some links to those. Something that I didn't find on the page but I did find out by contacting Astrogeology Research is the fact that they have planetary maps and geological maps available for free to educators if they have extra copies available. I use this resource when we offer teacher workshops that include planetary geology so that teachers can have planetary geology maps to use in their classrooms. This is a resource that should be more widely known, but I didn't find it mentioned anywhere on the site.

On the whole, however, this is a very good site and one that will be of interest to planetarians.

Dennis Cowles  
AstroWeb Review Editor  
Audubon Louisiana  
Nature Center Planetarium



Left: The index page at the USGS Web site displays a different planet behind its links each time you return to the page.

# News from SEPA States

## Bishop Planetarium, Bradenton

George Fleenor (former employee) reports: Many of you have heard about the fire that destroyed the Bishop Planetarium in Bradenton, Florida last August 23, 2001. After months of public support and an in depth research on the part of the Board of Directors it has been decided to rebuild the Bishop Planetarium. This is great news for the community! However, just because I was employed there for 18 years and the last six of those years as the Director... please don't assume that I have returned to my old position! Many people have contacted me with congratulations and assumed that I naturally was involved. So, you have now heard it from me... I am not involved nor has the President of the Board of Directors asked for my involvement. I am, like you, a spectator.

The Museum Board of Director's President and two others representing the Executive Board and the local astronomy club made the trek out to Kansas for the IPS conference to look at equipment for a new facility. I believe their targeted opening date is two years away. I tried to point them in the right directions so it will be interesting to see what they end up with. I have tried to stay out of it but you know me. I, along with others, have a lot of time invested in the facility and hate to see the community lose such a valuable resource. I have no clue what my involvement will be in the future or whether I want to be a part of it or not. Only time will tell.

So, what am I up to? I do have a couple of irons in the fire. I have started my own independent Planetarium imaging and consulting company that will be based out of Bradenton. I am currently collecting a lot of allsky and panoramic images for future use in planetariums and booking concerts for Jonn Serrie. (Be sure to ask me about my photo/Grand Canyon experience next time you see me or talk to me!) I will also assist other domes in their quest to update their equipment, programs and/or facilities. A Web site is slowly evolving, and all of the images that will be available will be viewable once the site becomes fully operational. I have been a planetarium professional for the last 22

years and can't stop now. I am too young! The bottom line is... I love the planetarium field too much.

I am still very involved with the International Dark Sky Association (IDA) and currently Chair of their Informal Education in Science Centers and Planetariums work group. I presented a paper at IPS on Planetariums and the IDA and will continue to do so at other conferences. I look forward to seeing everyone and catching up on everything. It truly has been an unbelievable year... so far.

## Buehler Planetarium & Science Center, Davie

Susan J. Barnett reports: The Buehler Planetarium & Observatory is running public shows four days a week. The weekend shows and monthly specials include Springtime of the Universe, Our Place In Space, Lunar Odyssey, In Search of New Worlds, and The Explorers project.

We continue to rotate shows on Wednesdays, and these shows include The People, Ancient Horizons, The Explorers, Clouds of Fire: The Origins of Stars, Astrology: Fact or Fiction, The Secret of the Cardboard Rocket and The Mars Show.

## Orlando Science Center, Orlando

Paul Trembly reports: Our search for a new CEO continues, and any interested parties, please feel free to apply. We will be hosting all of the Florida Planetariums in October for our regular meeting, hope to see everyone. Life in Orlando has been otherwise calm, wet, and rainy, but calm (not counting having a lamp explode in our 15/70 film projector - very little damage done). We have just finished up some remodeling in our production area. Our darkroom had to be relocated due to some staffing changes elsewhere in the building, so it has been moved from the exhibits dept. to our area. Our feature planetarium show is Case of the Missing Dinosaurs and we will be opening Sudekum's Just Imagine in March.

George Fleenor  
Bishop Planetarium  
Bradenton, Florida

## Fernbank Science Center Planetarium Atlanta

From Dave Dundee: We've been having a very busy summer at Fernbank. We've been running Happy Birthday Moon for children. It's a show based on the books of Frank Asch. For adults we have been running Other Moons all about the moons of our solar system. The week we installed the show 11 more moons were discovered around Jupiter. Couldn't they wait until the show closed? Should we complain to JPL?

This fall we open Through the Eyes of Hubble a new space telescope show and for children a show about native American legends of the sky called Cherokee Moon. Both shows open in September and run through November. We added Angela Sarrazine to our intrepid band of astronomers at Fernbank. Angela is finishing her Ph.D. in astronomy from University of Indiana.

## Emory University Planetarium, Atlanta

Rick Williamon reports: This is Emory University's first, and perhaps a bit premature, report from the new Emory Planetarium. We are pleased to announce the installation of a Zeiss Skymaster ZKP 3 planetarium instrument in a 10 meter dome in the new physics and Mathematics Building. This is Atlanta's third Zeiss planetarium instrument and first ever ZKP 3 installed on an elevator.

At the moment of this report, the elevator is installed and the ZKP 3 is being put through its final tests. The seats and AV equipment, however, have not yet arrived. Everything is on schedule for completion in time for fall semester which begins in about four weeks.

The Zeiss elevator is a truly substantial creation that would make the tank division of the Swiss army very envious. It lifts the ZKP 3 by means of four massive screw jacks, and the cover mechanism alone weighs about 500 kg.

The stars produced by the ZKP 3 are beautiful and are well matched to the dome supplied by Spitz Corporation. Needless to say, we look forward to fall semester and many happy students.

## Georgia Southern Planetarium Statesboro

Becky Lowder reports her planetarium is closed for the summer. Her husband is recovering from surgery from lung cancer.

## Valdosta State University, Valdosta

Ken Rumstay reports: The Valdosta State Planetarium and Observatory are closed due to renovation on Nevins Hall. Renovation may take from 15 months to two years.

## Walker County Science and Technology Planetarium, Chickamauga

Bobby Thompson reports: We are still trying to build a building for the 40 foot planetarium dome. I am afraid our projector is not in good shape. All my careful packing had long been removed, and there is no pedestal on which to mount it. I have not seen either the four cables or the lamp in quite some time.

We did sell our 24 foot dome to Kinston, North Carolina Parks and Recreation. I was finally able to find all the parts to the dome after two weeks of hunting. I spent two weeks at Kinston's Nueseway Planetarium and Health Museum working on the museum and planetarium. I spent eight days performing six to seven live shows per day for more than 2000 visitors of all ages. I found sucking on ice between shows helped to save my voice.

The Spitz AP3 projector was from Cleveland, Ohio and was made for a 30 foot dome. I had been making compromises for the 24 foot dome. The annual motion power supply did not work, so I manually had to set the instrument's solar system every day. The biggest problem was loss of the main lamp and the spare. The cost from Spitz for a replacement was \$5900. I had to go with an incandescent lamp.

I trained marine biologist Desta Hudson, and she has done quite well in the planetarium. I think Kinston has done well for a town of 25,000. As it goes, it took one dreamer to make it happen, and that was Parks and Recreation Director Bill Ellis. It only took \$350,000 over a 3 year period. I sure miss that THX video and sound system already.

## Mark Smith Planetarium, Macon

Please welcome Toby Click to the SEPA region. He is the new Planetarium Manager, replacing Jim Greenhouse who is now in Memphis.

News from SEPA States  
continued

Jim Greenhouse  
& Carole Helper  
Mark Smith Planetarium  
Macon, Georgia

Dennis Cowles  
Audubon Louisiana Nature  
Center Planetarium  
New Orleans, Louisiana

### Freeport McMoRan Science Center Planetarium, Kenner

Freeport McMoRan Science Center Planetarium currently runs *Quest for Space and Saving the Night/Dark Sky Astronomy*. *Quest for Space* is an in-house production delving into the origins of astronomy and spaceflight. It's a companion piece to our tour of *Space Station Kenner™*, an exhibit centered around the full scale model of Martin Marietta's space station proposal to NASA in the 1980s. *Saving the Night* is the SEPA produced light pollution show written/narrated by David Levy. This is a shorter show; we've turned it into a double feature with another in-house production called *Dark Sky Astronomy*. This show deals mostly with deep sky objects which can only be seen in non light polluted areas. The shows complement each other well.

Unlike most places, we decided to do a *Yuri Day* instead of a *Yuri's Night*. We decided to do it on Saturday, April 13. With presentations, a film, a guest speaker from the Mars Society, and a planetarium show, it was quite an ambitious event for us.

Mike Sandras has been appointed JPL Solar System Ambassador for the state of Louisiana and has been doing some outreach in that capacity. He also attended a NASA educators workshop at the Marshall Space Flight Center in Huntsville at the end of January and into February. He had nothing but good things to say about it.

Tom Finicle has been having fun with our *Young Astronaut* program this year with a very interested group of kids. This month they will get to ride our full motion flight simulator. As a bonus, the manager of the simulator is a retired aircraft engineer and has agreed to speak to the group and field questions on aviation.

Work progresses on our space theater. We hope it continues as well as it's gone so far.

### Lafayette Natural History Museum and Planetarium, Lafayette

Lafayette's building project is in the home stretch as this is being written in mid June. Except for my desk, telephone, and computer, my office is completely packed, on pallets, and ready to go out the door. After 22 years in this room, the bare walls really look jarring! The planetarium technical equipment and office is also ready to go, and there are about 400 packed boxes jammed into the plan-

etarium itself. It's getting a little hard to get around in there.

JHE equipment installation in the new place is nearly finished. By August we should be unpacked enough to begin serious installation of programs. We still plan to open to the public in October. It's going to be a busy summer!

As of this month, it's been 12 long years since we began planning this move, and it's still hard to believe it's finally actually happening. Once we are officially in the new place, I will post the new address and contact information to Dome L.

### St. Charles Parish Library Planetarium, Luling

St. Charles Parish Library Planetarium is in the middle of a major upgrade. I am expecting to begin renovation in early August. We'll install a Minolta MediaGlobe digital sky projector and get new seating, carpet, dome repair, sound system, electrical, and new control console. Our 20 foot dome will be able to compete with the big guys. We do not know exactly when we will be reopening, but the best guess will be sometime before the holidays. I look forward to having SEPA visit our little planetarium in the swamps during next year's Baton Rouge convention.

### Audubon Louisiana Nature Center, New Orleans

Dennis Cowles reports all is well in New Orleans. Dennis just returned from a meeting in Hawaii—a combination of the 91st AAVSO spring meeting and the 2nd High Energy Astrophysics for Amateur Astronomers workshop. Dennis ran into Mike Murray at the meeting. Mike went back to Bozeman to pack up for a move to the Hansen Planetarium in Salt Lake City. Tim Slater was there as part of the TOPS teacher program from the University of Hawaii's Institute for Astronomy. Mitzi Adams from Marshall Space Flight Center in Huntsville was present—and presenting as well—yet another SEPA person! You can't swing a dead telescope anywhere, not even Hawaii, without hitting a current or former SEPAn.

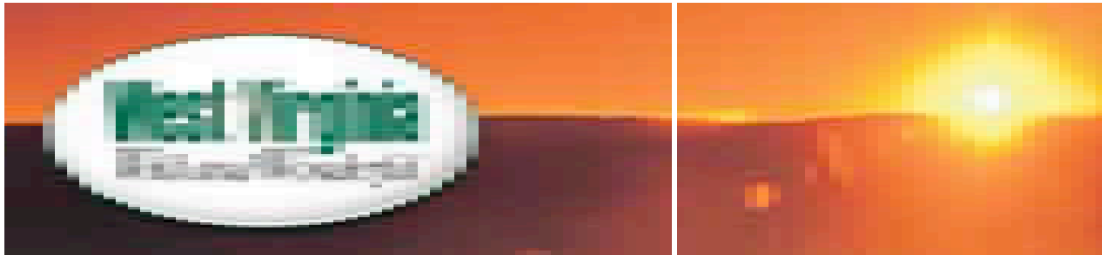
British astronomer/author Duncan Steel came to the Nature Center on June 6th, lectured on eclipses, and signed copies of his new book *Eclipse: The Celestial Phenomenon that Changed the Course of History*. The talk was excellent, as was the audience response.

The Clay Center for Arts and Sciences prepared for the Exploration Day July 20th, Curt Spivey in Charleston, West Virginia is probably extremely happy because of the Spitz Electric Sky System about to be placed into the Clay Center for Arts & Sciences to be installed in the fall. Along with it will be Nomad which uses a combination of tactile and virtual controls that can be customized by users to adapt to different

control scenarios. It works in conjunction with the ATM automation control theater from any location and can even replace a traditional console. Both Electric Sky and Nomad were demonstrated in October at the Western Alliance Conference in Eugene, Oregon. No doubt there was a demonstration of Electric Sky at the IPS conference in Wichita this summer.

News from SEPA States  
continued

Elizabeth Wasiuk  
Hedgesville HS Planetarium  
Hedgesville, West Virginia



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# HST's Greatest Hits of '96

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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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| <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>11.a Planetary nebula NGC 7027: a brief stage in the evolution of a medium mass star</p> <p>11.b 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>14.a Centaurus A: nearest active galaxy to Earth shows turbulent firestorm of starbirth</p> <p>14.b 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>17.a GRB 971214: gamma ray burst is most energetic event in the universe</p> <p>17.b 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>26.a Galaxy Cluster MS1054-03321: thousands of galaxies 8 billion light years from Earth</p> <p>26.b 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>32.a Infrared views: left: faintest galaxies ever seen; right: objects 12 billion light years away</p> <p>32.b 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>41.a 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 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 42 images distributed in 1999. Numbers next to the descriptions are shortened versions of STScI press release numbers, e.g., 43a refers to PR 99 43a.

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

- 01 M57 Ring Nebula: the sharpest view yet of this planetary nebula
- 02 Combined deep view of infrared and visible light galaxies
- 03 HD 141569: stellar dust rings of a star in the constellation Libra
- 04 SNH1987A: self destruction of a massive star in Large Magellanic Cloud
- 05.a Six images of a young stellar disk found in the constellation Taurus
- 05.b Four images featuring disks around various young stars in Taurus
- 06 NGC 1316: silhouette of dark clouds against a glowing nucleus of an elliptical galaxy
- 07 Mars: visible, infrared light images; evidence of water bearing minerals
- 08 Proxima Centauri: a detailed image of the Sun's nearest stellar neighbor
- 09 GRB990123: fading visible light fireball in a gamma ray burster
- 10 Six images showcasing different views of spiral galaxies
- 12 Tarantula Nebula: multiple generations of stars in the brilliant cluster of Hodge 301
- 13 Jupiter: images of the volatile moon Io sweeping across Jupiter's face
- 14 Copernicus: the 58 mile wide (93 km) impact crater on the Moon
- 16 NGC 4650A: a polar ring galaxy
- 18 Rings, arcs, and crosses as seen in

- Hubble's top ten gravitational lens effect images
- 19 NGC 4603: magnificent spiral galaxy associated with Centaurus cluster
- 20 NGC 3603: various stages of the life cycle of stars in a giant galactic nebula
- 21 AB Aurigae: a swirling disk of dust and gas surrounding a developing star
- 22 Mars: a colossal polar cyclone
- 23 N159: a turbulent cauldron of starbirth in Large Magellanic Cloud
- 25 NGC 4414: magnificent details in the dusty spiral galaxy
- 26 NGC 6093: a stellar swarm in a dense globular cluster
- 27 Mars: the red planet at opposition during April-May, 1999
- 28 MS 1054-03: galaxy collisions in distant clusters
- 29 Jupiter: an ancient storm in its atmosphere (The Great Red Spot)
- 30 Giant star clusters near the galactic center
- 31 HCG 87: a minuet of four galaxies
- 32 HE 2-104: small, bright nebula embedded in the center of a larger nebula
- 33.a R136 in 30 Doradus: a grand view of the birth of stars
- 33.b R136 in 30 Doradus: two detailed views of a highly active region of star birth
- 34.a NGC 1365: a barred spiral galaxy reveals a bulge in its center
- 34.b Eight different views of the central bulges of spiral galaxies
- 35 HH 32: a magnificent example of a Herbig Haro object
- 36 NGC 2261: Hubble's variable nebula illuminated by R Monocerotis (R Mon)
- 37 NGC 2346: a butterfly shaped nebula
- 38 NGC 2440: planetary nebula ejected from a dying star
- 39 OH 231.8+4.2: the rotten egg nebula
- 40 M32: hot blue stars deep inside a dwarf elliptical galaxy

# JPL '99 Slides

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

Duncan Teague  
DT Publishing  
3308 Bluemont Drive  
Memphis, TN 38134-8454

NASA JPL has sent us the following slides for the Mars Pathfinder and Cassini/Huygens missions. Slides are \$1.25 each

a straw poll of those present, Council was directed to pursue this idea. The question we will need to answer is, Should we skip holding the June conference that precedes or follows an autumn meeting?

Eric Mellenbrink spoke about plans for the Richmond, Virginia conference. He will be contacting MAPS to see if they would like to join us in 2004. I reminded those present that the idea for shifting the conferences by one year, came not from SEPA Council but from our Richmond host.

This seemed to be the best option for all involved as long as Baton Rouge still wanted to host. Since all the planning was essentially done for Baton Rouge, it didn't make sense to start from scratch and cancel Baton Rouge outright.

Phil Groce talked briefly about the Baton Rouge conference now set for June of 2003. This wonderful facility is well on the way to completion and will have been in operation for a while, by the time that we meet. Everyone there feels that it will be every bit as good a conference next year as was originally planned, if not better.

Lastly, I want to thank Linda Hare for agreeing to serve as secretary for the meeting in the absence of Duncan Teague who could not make it, and Dave Hostetter for tutoring me on running meetings and serving as parliamentarian. All of council

and several committee members contributed as well. If I am leaving anyone out, I apologize. The meeting went very well largely because of all of them.

Being in a not for profit situation as many of you are, there often isn't enough professional development money to go around for trips like this. I typically pay for my own way. I recover some of the expenses by writing them off on my taxes at the end of the year. If people think it would be worthwhile, I would consider doing a workshop sometime, to show people how to do the same thing. Like I said earlier, IPS 2002 was a great conference. It is a shame that so many of us cannot attend professional conferences such as this, especially when they are held so close to our region.

Have a great rest of the summer and beginning to the next school program season.

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 DTEAGUE2@MIDSOUTH.RR.COM OR TEAGUED1@K12TN.NET

## Paul Campbell Fellowship Award Nomination Form

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

Please submit this form to any SEPA Council member.

Nominee's name: \_\_\_\_\_

Qualifications: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# *Southern Skies*

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SUMMER 2002

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### Officers

#### President

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

#### President-Elect

Michael D. Sandras  
Freeport-McMoran Planetarium  
409 Williams Boulevard  
Kenner, Louisiana  
Voice: (504) 468-7229  
Fax: (504) 468-7599  
Email: astrox@ix.netcom.com

#### Secretary/Treasurer

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

#### Past-President

George Fleenor  
Bishop Planetarium  
201 10th Street West  
Bradenton, FL 34205  
Voice: (941) 746-4132  
Fax: (941) 746-2556  
Email: Jetson1959@aol.com

#### IPS Council Representative

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

#### Southern Skies Editor

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

### Associate Editors

#### Astro Video Review

vacant

#### AstroWeb Review

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

#### Book Reviews

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

#### Digital Cosmos

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

#### Featured Planetarium

vacant

#### Small Talk

Elizabeth Wasiluk  
Berkeley County Planetarium  
109 Ridge Road North  
Hedgesville, WV 25427  
Phone: (304) 754-3354  
Fax: (304) 754-7445