

President's Message

It's hard for me to believe two years have already gone by since I took office. It has been quite a ride. Soon Council will say farewell to George Fleenor. I can't thank him enough for his six years or more of service to SEPA. I hope and expect that he will still be a part of this organization for years to come.

At the same time, council welcomes the addition of President Elect Duke Johnson. Finally, I must also thank the rest of council: John Hare, Duncan Teague, and Mike Sandras for their support and wise advice over the past two years.

As I write the words of this my final President's message, I can't help but think back over my experiences these two years. The past two nights I have watched the shuttle and the ISS pass overhead right on schedule. During the short time it took them to cross the sky, I marveled at the accomplishments in space science during my lifetime. I was too young to remember Sputnik or the significance of its transmitted beep beep beep as this instrument of Soviet technology and propaganda crossed over worried American heads. About twelve years later, I enjoyed every minute of the American response, with the triumphant Moon landings. What pleased me most was not the idea that we had beaten the Soviets although that was a part of it it was more the thrill of discovery.

Just as it had done throughout the high and low points of the space program, America showed its generosity in sharing those moments and feelings with the rest of the world. We were all along for the ride as those intrepid modern day Columbuses, Armstrong and Aldrin, took their first steps onto a new land. It doesn't seem that long ago, but I never did have a good sense of time. While America's feeling of pride over the accomplishment may have faded slightly over the years, I remember a TV commercial that starts "if they can put a man on the Moon, why can't they..." I still get goose bumps when I see the videos, and the excitement I feel seeing something entirely new has lasted all my life.

I considered writing about the events of the past two years that have affected us all so much. Many of them, like those of

September 2001, are all too familiar. I have already mentioned them in past messages. Instead I wanted to focus on the positives and a couple of discoveries of my own.

High points of the past two years included the great joint conference in Richmond, Kentucky. On the other hand, the rescheduling of our 2002 conference in favor of a business meeting at the IPS conference (which itself had been rescheduled and relocated) was an event that forced us to adapt. We ended up having a very productive business meeting in Wichita, thanks to the hard work of many people including council, Jack Dunn, and Phil Groce.

Thanks also to the many sponsors (mentioned in a previous message) who made it so that there was no cost to SEPA or its members. We changed the By laws and started a grant fund that should grow over time and help some planetarians in the future.

Other high points of the conference included Cyberdome and Exploration Place, the Cosmosphere and Space Center in Hutchinson, and of course seeing old friends and meeting new ones.

Discoveries are almost always a pleasant surprise. At the end of the conference, I ventured into a humble little museum across from the Hyatt Regency and convention center. It is called the Museum of Ancient Treasures. If you didn't get over there, you missed real gem.

It was an eclectic collection of artifacts from all over the world. They ranged from ancient times, with a mummy case from Egypt, right up to fairly recent history with an exhibit of the old west, including interpretation by a descendant of Jesse James. He bore a remarkable resemblance to his forebear and put forth a supportable claim that Jesse faked his death and lived on into old age.

Oddly enough, all this makes me think of another instance where I discovered something new new to me anyway. Near the beginning of my term, I found myself on a different kind of trip. The rangers at

David C. Maness
President
Peninsula Planetarium
Newport News, Virginia



York River State Park had asked me to go out with them and interpret the night sky on their public evening canoe trips. Since I grew up far from city lights, I thought it might be fun and give me a rare opportunity to see dark skies once again.

On this night, the trip was scheduled to begin at 9:15 P.M. and end around 10:45 P.M. I arrived shortly before sunset and the sky just didn't look like it was going to cooperate. Out of the five people who registered, only one person showed up. It was a disappointing number, but then a break in the clouds gave us a brilliant sunset and some hope for clearing. So the four of us one paying customer, two park employees, and myself went around the building to get our paddles and life jackets.

After a short hike down to the dock, we set the canoes on the water. I was trying to get my bearings and looking up any chance I got. No, I didn't fall in, as some of you are by now thinking, but that was a concern. Even though I had only one paying customer, I was just a bit tense about the whole thing. Without my pointer and the security of a clear planetarium ceiling, I was like a fish out of water, worried that I wouldn't have enough to talk about to make it worth the trip. I hardly ever have clouds on my dome, at least for live shows.

It was dusk when we carefully stepped into the canoes and set out on our water adventure. We made our way up the brackish Taskinack creek, a marshy area off the York River at a very pleasant and easy pace. Turning left and right several times, we followed a path of open water through the reeds. I could easily imagine being thousands of miles from home, canoeing up a small tributary the Amazon.

Hungry mosquitoes and such began flying around our heads, causing us to reach for repellent. Dusk was turning into night as we rowed into a larger clearing with a fairly low horizon. The ranger gave us the raft up command, and we slowly brought the canoes close together and held onto them so that we resembled a raft. Whatever the current would do, it would at least carry us all together. We turned out our lamps and it was now time for me to begin.

In the darkened sky between the clouds, I could only make out a few bright stars. I pointed out the summer triangle, and then Antares. Trying hard to fill time until other objects appeared, I talked about seasonal

constellations due to the Earth's motion, Moon phases, planets, satellites, meteors, and even the possibility of alien life in space, maybe on Mars.

I explained how to use a planisphere and answered some questions from our one customer and some from the rangers. After a while, I ran out of steam and we just floated, listening to the night sounds. The rangers identified them as insects, frogs, dogs, raccoons, and maybe even a snort or two from a buck. It was very peaceful out there with the beauty of nature all around.

Too soon it was time to head back. We pushed away from each other carefully, so as to avoid any collisions before heading back the way we had come.

Eventually something in the water caught my eye. I looked down at the paddle. I could see a few stars reflected in the water, but as I pulled the paddle slowly through, the number of visible stars suddenly multiplied and then just as quickly vanished. I wasn't hallucinating. These weren't stars at all but hundreds of little greenish white lights that appeared for a second and then faded out. In my 40 some years I had never seen this before.

Soon people in the other canoes were noticing it too. The park ranger explained that these were tiny bioluminescent organisms that lived in the brackish water. They were flourishing in the hot humid weather we'd been having. He also said that jellyfish would soon move in from the James River and eat them. Within a few weeks there would be jellyfish glowing with the bioluminescence of their prey.

Thrilled as a child by this new experience, I spent the rest of the trip deliberately stirring up the water with my paddle. Needless to say, I was not the first one back to the docks. I did make my way back to join up with the small group, a bit reluctantly though.

We put the canoes away, said our good byes, and then went our separate ways. I filed the wonderful experience away in memory, thinking that some future occasion might bring it back to mind.

Now that I think of it (and at the risk of sounding preachy) we planetarians are in a way, like those jellyfish. We feed upon the light of the stars and let it glow within us. We show that light by passing on our experiences to visitors of our respective

(continued on page 20)

Editor's Message: Southern Skies:

What direction do you want Southern Skies to take? Do you want a journal in which professionals share ideas? Or do you want a seasonal collection of items that are basically housekeeping?

Before you actually read anything, if you had leafed through this publication, you could have counted six actual pages of content that were not news tidbits from barely half the states the SEPA region encompasses, officers messages, lists of slides in our collection, and various forms for membership and award nomination.

Are the only planetarians who have time to submit information about their facilities those on the east coast? Are there no planetariums in Alabama, Kentucky, Mississippi, and West Virginia? (Note: I left Louisiana off the list of non contributors. Michael Sandras, who usually compiles Louisiana planetarium news items, had an accident, and he still has two months of physical therapy to complete before he is 100% again.)

I had absolutely zero responses to a dire request for volunteers to take over the re

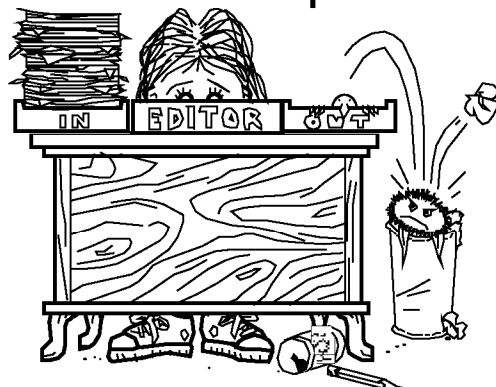
sponsibilities of the Featured Planetarium and Astro Video Review columns.

What do we have to do to get more contributions from our membership? We need articles about how you've solved some problem in your theater, a special effect that you've designed or adapted for use in your star show, or some valuable experience you've had that relates to your profession.

I will draw one name from among all those who submit a non news article of at least 1000 words by one of the next two published deadlines. The prize will be a Yamaha SCSI CD RW drive.

Don't ask me what the next published deadline for submissions is. Look for it within the pages of Southern Skies.

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

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Small Talk

Elizabeth Wasiluk
Small Talk Editor
Berkeley County Plan-
etarium



I'm just getting my receipts into the board for reimbursement for attending the IPS conference in July. If you didn't get a chance to attend, I thought I'd give a summary of what took place that might be of interest to planetaria that are small.

SEPA's had their own meeting, since the regional meeting was put back a year. Directors were kind enough to pick up the tab for a very nice lunch as well.

We brought up establishing a fund for people in a financial crisis and not able to afford attending a SEPA conference. Phil Groce, Dave Manness, and I spoke about the advantages of having such a fund and how it could be maintained and funds raised for it. Jon Bell spoke about concerns that the fund be misused to favor friends and fights breaking out over who gets the grants. In the end the establishment of the fund was approved with only one dissenting vote.

Steve Mitch from Wheeling, West Virginia proposed a triple conjunction meeting at his facility at the end of the decade with GLPA and MAPS. His facility, Ogleby Park in Wheeling, is booked way into 2009 for conferences. If you've ever attended meetings GLPA and MAPS have held at Steve's place, you'll know just what a great place it is, with the zoo and his museum/planetarium complex. There are lodges and cabins on the grounds and a golf course. Steve really would like to hold this conference before he retires. If the conference becomes a reality, we'd have to hold it in October which means MAPS and SEPA would have to change their meeting dates. October is great. Leaves are turning color, and the place is beautiful. The October date could put a hardship on those who rely on the school year for business in our domes, but hopefully, this conference together will work out. The location is close to all three groups. If we hold the triple conference in Wheeling, vendors would bring their best stuff, knowing they only had to lug it to one, instead of three conferences.

Speaking of vendors' areas, the one in Wichita was fantastic. Lots of tiny and not so tiny domes. Lots of great new projectors to check out. Starlab had one, as did, Goto. Goto's new Chronos machine was a big

hit with planetarium directors and had many long overdue features, such as a projectionable control board. I especially liked the little portable Goto projector. Inside the dome was a tiny ball shaped video projector that looked great up on the tiny dome. Everybody wanted one of those with a Chronos as well. Ken Miller wants everyone to visit his Website and post their star image size. He feels Chronos has the smallest projected size. E-mail your projected star size at <GotoUSA@earthlink.net>. Also Chronos made the front page of the Wichita Eagle in full color. Yours truly made the second page in black and white. Look on the Web at <wichitaeagle.com>.

Spitz showed their Electric Sky a brilliant display of all sky video along with sci fi programs and a sky projected using the familiar The Sky software.

Digistar had a new Digistar 3, and we saw some of its programs too. They had full dome video, but not stars. Many were disappointed not to see a starfield.

Another crowd pleaser was Minolta's Media globe projector. It was the size of an ATM machine. You can download stuff from the Web and put it on your dome à la full sky video. A nice touch I saw was Phil Groce using those push battery lamps in star and Moon shapes which sell at Dollar Tree and Dollar General and Wal-mart for a dollar. This would make a good supplemental lighting system if you have a Starlab as well.

Speaking of all sky video, there was a great, late night show with samples and complete shows you could see from planetaria all over the world. This was great to check out if you wanted to see a show you were thinking of buying. It was like a Cannes Film Festival of planetaria shows. My favorite part of the evening was when smoke detectors went off after the smoke machines turned on for the laser show.

For those who are curious, the new Starlab projector has a cooler star bulb which should alleviate disasters such as Bob McMillan's students deflating the dome onto a hot light bulb and melting the dome. Star images were smaller, brighter, and major stars were colored correctly. The only discouraging word I heard was that

the Milky Way was too bright.

I made the constellation shoot out by scoring in the top 13 in the written test. I did get out on Aries. The Digistar sky was blurry in the east, and I couldn't find it in time. I did get a copy of James Kaler's Little Book of Stars as a consolation prize and a plastic planisphere.

Papers were awesome. So were panel discussions. I especially enjoyed a talk by Jeremy Amarant of Sage Planetarium in Palmdale, California about building a remote observatory in Australia. Get more info from: <jsamarant@psd.k12.ca.us> or at (661)273 7646.

I enjoyed learning about free software available for download from The American Museum of Natural History, in cooperation with the National Center for Supercomputing Applications and NASA. The 3D atlas of the observed Milky Way, assembled at AMNH and the Hayden Planetarium allows you to fly among the stars of our solar neighborhood and out to the galaxies surrounding our Milky Way. Lots of great data here, most in 3D. Check it out at <www.haydenplanetarium.org>, and follow the links to the Digital Universe.

Send Jack Dunn in Lincoln, Nebraska a blank CD, and he'll burn you a CD of the live concert done in his dome with music composed by astronomers such as William Herschel. You can reach Jack at Ralph Mueller Planetarium, University of Nebraska State Museum, 210 Morrill Hall, Lincoln, Nebraska 68588 0375.

I'd be remiss if I didn't mention the great talks given by astronauts and astronomers alike. I particularly enjoyed hearing Carolyn Porco from JPL's imaging team with some sample Cassini videos along with Seth Shostak from SETI who remained with us throughout the entire conference.

Minolta provided two evenings with food and gifts at the beautiful and very hands-on Cyberdome at Exploration Place. It's a spectacular location with helpful staff who showed us around.

One of the best things about an international conference is getting to sit and speak with people from around the world and learn about them and the countries they come from. I did this one morning at breakfast where one of the Australians gave me a little Koala Bear to attach to my conference badge to promote their possible hosting of the 2005 IPS meeting. Now that we have to wear staff badges at our high

school, the name tag holder comes in handy, declaring to all where I spent my summer vacation.

Who could forget the infamous Hutchinson, Kansas Cosmosphere? Rumors have it that Max Ary moved to direct the museum in Oklahoma City because he ran out of room to bring more NASA stuff to Kansas. The museum was fascinating and presented the history behind the space race in a truly unique and engaging way. Dave Hostetter claimed that for him, it was Mecca. The infamous Apollo 13 command module was there, as well as gloves from Neil and Buzz's historic first walk on the Moon. Important Soviet crafts were there, and in the gift shop there were discounts on a piece of film retrieved from the Liberty Bell, the famous Mercury capsule in the news for being retrieved from the ocean floor. We got a 10% discount on everything in the store. I got a piece of film from the end of Apollo 13 as well as an autographed picture from Charles Duke, an astronaut who walked on the Moon, a postcard of the Apollo 13 capsule and a cool pen that clicks on and off and shows the highlights of the museum. Check out the incredible stuff done at the Cosmosphere at their Website at <www.cosmo.org>.

Finally, people keep saying that this conference was a watershed conference, meaning that it clearly dictated that full dome video seems to be the up and coming future of the planetarium field. We may finally come to realize a standard for planetarium theaters. Full dome video being cheaper than IMAX, it may have them running scared. (There seemed to be no one representing IMAX at the conference.)

If you are thinking that this is definitely out of the league for a small planetarium, guess again. Phil Groce when demonstrating Media Globe in a 16' x 20' foot demo dome said it could allow a small planetarium to show the same shows a large planetarium shows, allowing wider circulation of good written programs. He's predicting it to be the great equalizer and to throw power and creativity back into the tiny dome theater. Only time will tell where this goes, but one thing is certain, all dome video is hot!

If I neglected to mention something you noticed at the IPS conference that would be of interest to small planetaria, drop a line, phone, fax or e-mail me.

Digital Cosmos: Starry Night Pro



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

Starry Night Pro is Designed for anyone who demands the utmost in realism, richness of detail and depth of information... Starry Night Pro is serious astronomy software. This statement is, without doubt, true. If you are in need of a good astronomy simulator this is one worth buying, end of story.

Starry Night Pro is published by SPACE.com Canada, Inc. and is available in three flavors: Beginner, Backyard, and Pro. I received version 3.12c of the Pro flavor. Pro has a MSRP of \$ 129.95 and requires either

a Pentium PC running Win 95 or later, or a Macintosh PowerPC running System 7.5 or later. Memory requirements are only 24MB, and disk space is a minuscule 50 75 MB. I did not find a single machine that this software would not run on.

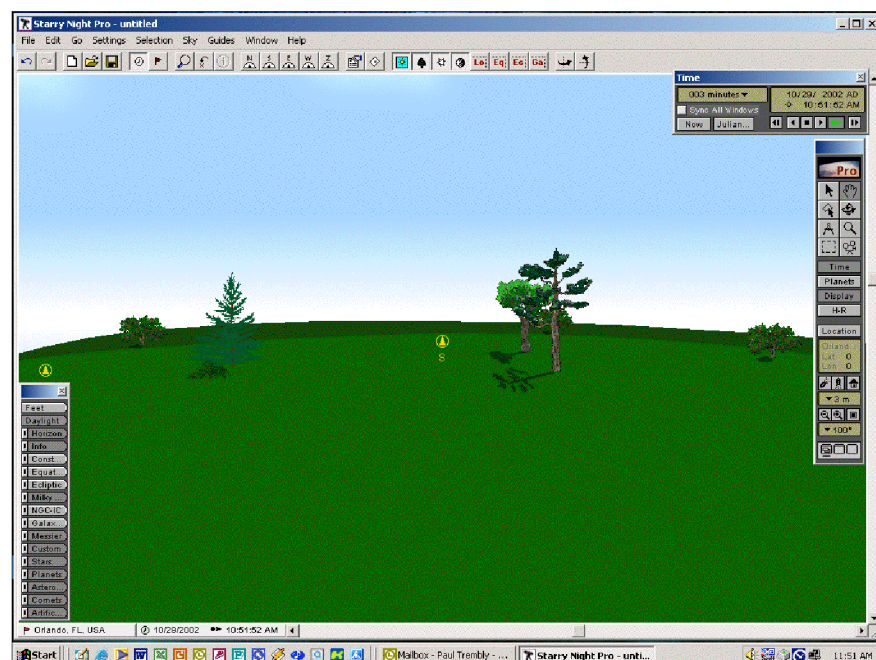
This software has a full complement of features such as:

- View from any location on Earth
- View from any planet, moon, comet, asteroid, or satellite
- View from anywhere within 20,000 light years of the Sun
- Automatic online database searches for any object via Internet connection
- Over 19 million stars
- 200,000 years of time
- Classical constellation illustrations
- Over 80,000 objects with links to the Digitized Sky Survey
- And much more...

When first loaded, the software will ask if you want to do an automatic upgrade of the object files. Assuming you have an active Internet connection, when you click yes, the software will retrieve the most current files for satellites, comets, and asteroids. If you don't have an active connection

during installation, there is a menu selection that allows you to do this at a later time.

You must set your home location. This is one area that can really make or break astronomy software. In this case the process is extremely easy. If your site isn't on the rather large list, it's a simple task to add your city name and its



latitude, longitude, and time zone.

There are a vast number of options that can be set everything from screen display to object type, labels, and more. There are two floating tool palettes, one for time and another for everything else. These, combined with the top menu bar, allow quick, easy access to all functions. On the tool palette you can easily turn constellations on and off and do the same for planets and stars, as well as all other objects.

Finding an object can be a bit daunting at first, as it seems every named object in the database is listed, but you can limit your search to just planets, stars, or objects in certain catalogs. Even with the large number of objects, searches were very quick.

Two interesting features on the tool palette are make movies and angular separation. Make movies takes your simulation and turns it into a QuickTime™ movie, which is very useful for Web sites and computer kiosks. Angular separation allows you to measure the separation between two objects very useful for close conjunctions and for locating those dim comets. This is not a tool that everybody will use; this software is for the serious astronomer.

One cute feature: If you look straight down toward the ground you'll see a pair of shoes and legs. If you're not on Earth, these are changed to space suit boots.

Information can be found about any object you click on, and charts can be printed. I have found that the chart department is where most programs seem to be lacking. To a degree that's true here. The charts were clear and concise, but they lacked a detailed legend. You're told the limiting magnitude, but you don't know by what symbols other magnitudes are represented.

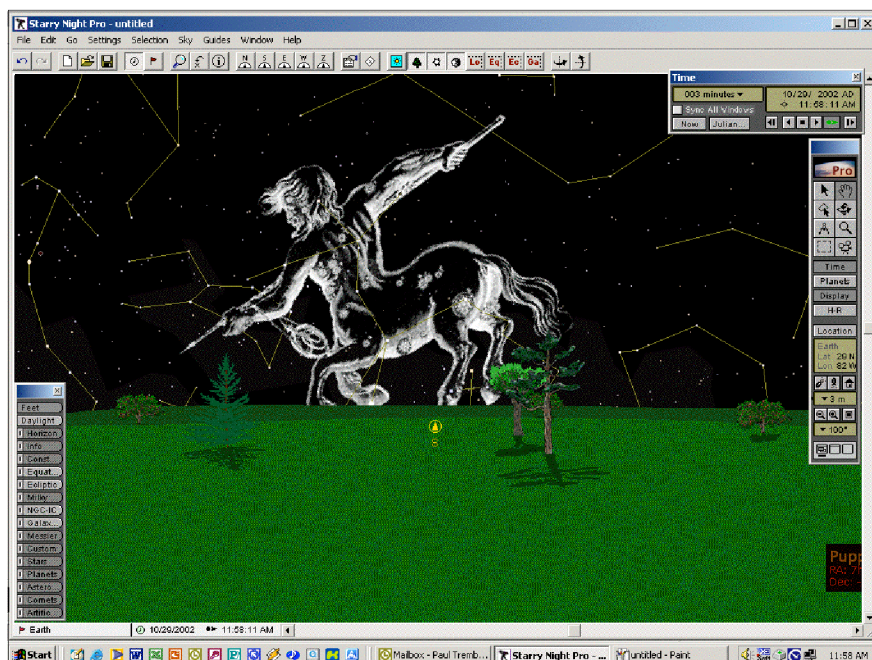
Other nice features include the ability to add light

pollution, set the sky to chart mode, and display a night vision mode. One of the more unusual features is the option to attach Internet bookmarks to objects. Click on the Sun and you get a link to Kitt Peak very clever and useful in an educational environment.

Starry Night allows you to connect to the Digitized Sky Survey and attach images from the Survey to the objects in Starry Night. If you're running SETI@Home on your machine, you might be interested in the SETI Plug In. This allows Starry Night to show you what section of the sky your SETI@Home is currently searching. It also links the signal strengths to the stars in the search area.

The feature that will get the most use is Interesting Events. This menu selection brings up a list of solar and lunar eclipses and allows you to view from your home location or from the Best Viewing location.

The features and options are abundant, and I would never be able to do them justice in just one article. There is a very nice companion book included on the CD, and the help files are great. Other than rather weak chart printing, this program truly offers everything that a serious amateur astronomer or planetarium professional could want. It's a bit expensive at \$129.95 perhaps, but well worth it. I did find it on Amazon.com for \$99, so bargains are out there. This is one program that will join my collection of astronomy software.



Astronomy Song: The Irish Leviathan

by Jon U. Bell
April 2, 2002
Sung to the tune
"Rosin the Bow"

Audience: All ages

1. In Ireland in 18 and 40,
Out at the Birr Castle Demesnes
The Earl of Rosse built the Leviathan
To gaze at the sky's starry plain!

CHORUS:

To gaze at the sky's starry plain me lads,
To gaze at the sky's starry plain,
The Earl of Rosse built the Leviathan
To gaze at the sky's starry plain!

2. The tube length was well over fifty,
The mirror was six foot across,
So big was it they couldn't turn it,
Just raise it 'tween stone walls of moss.

CHORUS

3. At first light they gazed upon Castor,
Then Luna and Jupiter's moons,
But the famine raged over the country,
And Leviathan shut down too soon.

CHORUS

4. Now once the cursed famine was over,
Lord Rosse observed great nebulae;
He sketched out the arms of the Whirlpool
And saw there a great galaxy!

CHORUS

5. For seventy years the Leviathan
Was the biggest on Earth to be found,
But in 19 and 14 the Great War
Needed metal, so they melted it down.

NO CHORUS

6. For eighty more years at Birr Castle
The crumbling walls empty did stand,
But as the new century was dawning,
Leviathan returned to the land!

CHORUS

How Many Planets Do We Have?

Object Larger Than All Asteroids Discovered Beyond Pluto



Astronomers have discovered a new object beyond the orbit of Pluto. Dubbed Quaoar (pronounced KWAH oh wahr), the object is some 800 miles across (approximately one tenth the diameter of the Earth), and it orbits the Sun once every 288

years.

Although the object is half the size of Pluto, it probably won't be considered a planet. Even Pluto's planetness is a topic that is hotly debated. With a distance of four billion miles from Earth, Quaoar is the largest solar system object to be measured since Pluto was discovered in the 1930s and the most distant to be resolved by a telescope.

Quaoar is an inhabitant of the Kuiper Belt, solar system objects made of ice and rock that orbit the Sun beyond Neptune. Spotted first as a mere dot of light, Quaoar has now been imaged by the Hubble Space Telescope.

California Institute of Technology scientists announced the finding at a meeting of the American Astronomical Society. Ironically, Quaoar was seen in images taken as far back as 20 years ago; astronomers just

didn't realize what it was.

It's about the size of all the asteroids put together, so this thing is really quite big, stated planetary astronomer Michael Brown of Cal Tech. Using the telescope at the Mount Palomar Observatory, Brown and his colleague, postdoctoral scholar Chadwick Trujillo, spotted the object in some images taken on June 4, 2002. Follow up observations with the Hubble Space Telescope confirmed its size. It was given the name Quaoar, a Tongva name that comes from the god of creation of Native Americans who lived in the Los Angeles basin.

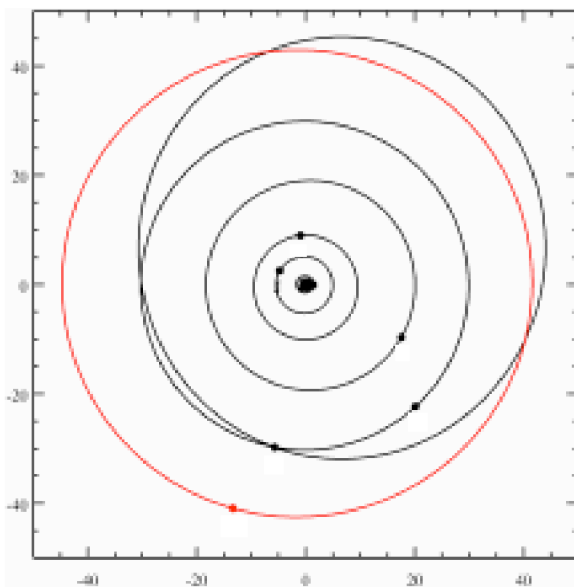
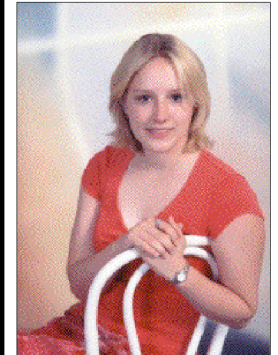


The Kuiper Belt is remnants of a disc of debris that coalesced to form our solar system. It is believed to be the source of some comets. As larger Kuiper Belt objects turn up, the case for Pluto as a planet weakens.

Pluto lies within the Kuiper Belt and is considered by many astronomers to be merely the largest of the bunch, not a planet in its own right. It's pretty clear, if we discovered Pluto today, knowing what we know about the other objects in the Kuiper Belt, we wouldn't consider it a planet, Brown said.

It's about the size of all the asteroids put together, so this thing is really quite big.

Andrea Dawn Finley
Senior Intern
Craigmont Planetarium



News from SEPA States

Alexander Brest Planetarium, Jacksonville

Patrick McQuillen reports the Alexander Brest Planetarium at the Museum of Science and History in Jacksonville is busy running fall programs for school groups and the general public. The current public program offerings include Fall Skies/ More Than Meets the Eye and What's Up? Fall Skies/ More Than Meets the Eye is a program that combines More Than Meets the Eye with a fall sky constellation ID. What's Up? is a tour of the current night sky.

School programs are in full swing. We are presenting school programs in both the planetarium and one of our classroom spaces. We present a program on the ISS and the Moon (phases, history, etc.) for every 6th grade student in Jacksonville's public school system. This is a two hour program that is presented two times a day, every day, the entire school year. We have that many 6th graders. So we are presenting concurrent programs almost every day. Whew!

Our Lexel laser is currently out to be re gassed, so we have a short break from presenting Cosmic Concert Laser shows. We should be starting them up again in time for the holiday season. We are also beginning to create laser programs for sale. So if you are running an ILDA compatible system on ADAT, email us. Our first offering is a dinosaur themed program entitled Prehistoric Rocks! It includes songs such as Alley Oop, Wild Thing by the Troggs, Theme from Jurassic Park, Walk the Dinosaur by Was Not Was, Dorothy, the Dinosaur by the Wiggles, Theme from Land of the Lost, When I was a Dinosaur by Trout Fishing in America, and more. It is a fun show for all ages. It was very well received this summer while we had an exhibit of the giant robotic dinosaurs in the museum.

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 In Search of New Worlds, Larry Cat In Space,

The Cowboy Astronomer, African Skylore, and Women Hold Up Half The Sky.

We continue to rotate shows on Wednesday, 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.

Hallstrom Planetarium, Fort Pierce

Singing Astronomer Jon U. Bell reports he spent a hectic summer traveling all over the place and writing a few more space songs for the Astronomer's Songbook. He had a recording session with Cindy Ressler Kays of C Shells in Virginia Beach in July, where he laid down some of the music on CD. It looks like in addition to making the 2003 edition of the Songbook available through IPS and also through our Web site <www.ircc.cc.fl.us/atircc/commout/planetarium/planet.html>, Indian River Community College where he works has also expressed interest in the project. We'll see what develops.

Just a couple of days ago (around about the equinox) we got a pretty neat shipment a few dozen special effects projectors that had formerly belonged to Hansen Planetarium in Salt Lake City. Now that facility is closing to pave the way for a new planetarium, (saturated with all that immersive video some folks keep going on about), and they auctioned off some neat stuff like rotating Jupiter effects, aurora projectors, and the like. The real gem is the Conic orrery projector. When Hallstrom was built in '93, there weren't very many special effects, just a rotator, a lightning projector, an aurora effect, a meteor shower, a revealer (which I pretty much don't use), a fireball (which I use a lot), and a ripple wheel effect. I'm unboxing the Hansen effects now and hope to incorporate many of them into our shows this year. We'll give 'em a good home.

Our first show opens October 11. Universe Calling will be a live interactive program that showcases stars and constellations as well as a good introduction to the sky and the cosmos. Star of Wonder plays in December, we'll be bringing back The Voyager Encounters in the winter to go

George Fleener
GeoGraphics
Imaging and Consulting
Bradenton, Florida

along with good observing opportunities of Jupiter and Saturn, and in the spring, I'm going to put my mouth where my mouth is and present Space Songs, in which I will attempt to sing many of the songs in the Astronomer's Songbook accompanied by our usual breathtaking visuals and cosmic views of outer space.

Oh, and we'll also do Astronomy Day, but on March 15 instead. We'll be working with the Treasure Coast Astronomical Society again and want to bring out our mobile (It's mounted to a trailer.) Springfield Cassegrain telescope again, as it was such a hit with the crowd at the last Astronomy Day event. This 24 inch reflector was built by IRCC's Tom Embry and friends back in 1985, and is now being refurbished with an eye toward using it on a regular basis.

Orlando Science Center, Orlando

Paul Trembly reports: Steve Goldman, OSC Interim CEO, and Joyce McLeod, OSC President Search Committee and Board Chair Elect, are pleased to announce the appointment of Dr. Brian Tonner as OSC's new President.

Dr. Brian Tonner is joining Orlando Science Center as President and CEO, following a very successful term as Chair of the Department of Physics at the University of Central Florida. During his time at UCF, Tonner fostered strong corporate partnerships and oversaw the use of some of the most advanced concepts in modern science education. He plans on bringing the same level of creativity and vision to his new position at OSC.

I view the Orlando Science Center as one of the future leading institutions for public science education in the nation, Tonner said. It has tremendous potential, with a superb facility in an ideal location, an outstanding board of trustees with a wide range of talents, and a dedicated and experienced staff.

He was named president following a comprehensive national search by OSC's leaders, which included both senior staff and their Board of Trustees. Dr. Tonner is exactly the type of visionary we need to lead us into the next phase of our development, said OSC's Interim President/CEO Steve Goldman. He has the skills and foresight necessary to help us expand and improve our science content in order to provide a higher level of education.

The importance of real world experience

in science education has always been one of Tonner's top priorities. He began his own education after leaving high school to start a business publishing newspapers for local youth groups. He later received a Bachelor of Science degree from Brown University in 1976 and a Ph.D. in Physics from the University of Pennsylvania in 1982. In his early scientific studies, Tonner worked as an intern at Xerox Corporation and with scientists at General Electric and IBM research labs.

Prior to coming to Central Florida, Tonner was employed by the University of Wisconsin at Madison and at Milwaukee in a variety of positions. He always encouraged his own students to work on projects that involved close partnerships with industry research and development groups, a practice he continued when he joined UCF as chair of the Physics Department in 1998.

Tonner took science teaching to new levels while at UCF. He encouraged innovation in the classroom, including the use of personal response system technology for large classes, and the integration of studio classrooms, which replaced the old-fashioned passive classroom with active hands-on learning environments. He was also a key participant in University Industry partnerships in the area of micro-electronic devices and initiated a program in Nanostructure Physics, which has since become a major national priority in science and technology.

A passion for discovery also spills over into his activities outside the office and classroom. He is a certified scuba diver, and relaxes as a glider pilot and by constructing experimental aircraft. He is married to Dr. Valerie Westhead Tonner, Medical Director of the Seminole Community Mental Health Center. They have four children.

Tonner sees great promise in OSC, praising what the organization has already achieved and excited about its future. He is eager to get started once he completes his duties at UCF. I see the Orlando Science Center as becoming the hub for activity in public science education where students, parents, and professionals will meet, work together, and enjoy the beauty and wonder of science, he said.

Mark Smith Planetarium, Macon

Toby Click from Macon reports that on June 17 he became Manager of Mark Smith Planetarium at the Museum of Arts and Sciences in Macon, Georgia. He has a B.S. in Physics with Astronomy Option from New Mexico Tech in Socorro, New Mexico and was previously employed as a technical writer.

Toby Click

Mark Smith Planetarium
Macon, Georgia

Georgia Southern Planetarium, Statesboro

Becky Lowder reports from Statesboro that Georgia Southern Planetarium is busy with lots of school groups.

Fernbank Science Center, Atlanta

At Fernbank Science Center in Atlanta we are busy with school groups too. This fall we are running Through The Eyes of Hubble and, for children, Cherokee Moon. We premiere a new Christmas show in December, The Christmas Star and, for children, we are going to run Tis the Season.

Morehead Planetarium, Chapel Hill

Morehead Planetarium has experienced some changes over the last few months. It now includes a Science Center component that is developing programs in areas other than astronomy. Genomics (study of genetics), Virtual Reality, Nanotechnology, and Scientific Visualization are some of the topics. Also, their live sky show called Sky Rambles for many years has now been renamed Carolina Skies.

Duke Johnson

SciWorks Planetarium
Winston-Salem,
North Carolina

Robert R. Gotwals, Jr has been named associate director. He replaces Lee Shapiro who is now Director of Education and Public Outreach for the National Radio Astronomy Observatory in Charlottesville, Virginia. Gotwals comes from the Shodor Education Foundation in Durham, a non profit research and education organization whose mission is to advance science and mathematics education specifically through modeling and simulation technology. He has spent nearly 20 years as a science educator.

Through the end of 2002, the Morehead Planetarium continues a partnership with the New York Times whose logo is displayed on the planetarium Web page. Visitors can subscribe by clicking on the logo. For each subscription, \$25.00 is donated and is used dually by the planetarium for educational programs and by Newspapers

The Planetarium is expanding the number of weekends it is open to the public, being open over Thanksgiving and Christmas weekends. We are also adding Presidents weekend, DeKalb spring break, and Memorial Day weekends. These were weekends that the school system used to have the science center closed but will now be open.

We have a new mural being painted in the observatory of the stars around the inside of the observatory. It is a 360 representation of an SC 1 star chart.

Emory University Planetarium, Atlanta

Rick Williamson is pleased to announce that the Emory Planetarium has been strengthened by the addition of a 24 inch DFM telescope located on the roof of the Physics Building. First light through the new telescope was achieved at 8:15 p.m. on Saturday, September 28. The planetarium is being used on a daily basis, although the official open house for the new Math and Sciences Center hasn't occurred.

in Education teacher workshops.

Several future proposals are under consideration, including renovation of the star theater to incorporate current digital and video technology, a new multimedia area for presentations, a hands on children's learning area, outreach initiatives to include Destiny, a privately funded traveling science lab and an exhibit to highlight the work of leading UNC CH researchers.

Pisgah Astronomical Research Institute PARI, Rosman

Our mission is to provide research and educational access to radio and optical astronomy.

Teacher workshops are being offered in October and November to high school teachers. They will participate in eight astronomy, physics, and math related labs which use the PARI 4.6m radio telescope remotely through the Internet in the classroom. These workshops are part of the SGRA (School of Galactic Radio Astronomy) that is an experience based schoolroom for regular use by elementary, middle and high school teachers and their students. It relies on Internet access to remotely control the radio telescope. It is partially funded by the STScI Ideas Program.

Robert Hayward, astronomer and edu

cator, continues to provide outreach with the facility's Starlab. Programs offered include Reasons for the Seasons, Realm of the Planets, Motion in the Sky, and The Sky Tonight.

Robeson Planetarium and Science Center, Lumberton

A US Department of Labor grant allowed 20 honor students from the six Robeson County high schools to serve as interns this past year. The program was called Summer Rewards 02. Interns had two specific tasks: to design and provide a free summer day camp for children in kindergarten through second grade which integrated reading and science and to research, design and construct new exhibits for the Science Center. The exhibits focused on fossils, Lego robotics, an aquarium and astrophotography.

It is evident that Matthew Perkins has been busy over the last few years buying and programming new shows to enhance the planetarium's offerings. He has also produced several shows. One, Weather Watch, is a curriculum based program for seventh grade students. A Starlab has been purchased and is available to take the stars out into the community.

James H. Lynn Planetarium, Gastonia

Fall programs include Planet Patrol: Solar System Stakeout, Sky Over Gastonia and Cosmic Frontiers. Cosmic Frontiers was produced at the James H. Lynn planetarium. It is a show that has viewers traveling the cosmos in examination of birth and death of stars, formation of planets and the beginning of time itself.

SciWorks, Winston Salem

The planetarians of North Carolina wish to congratulate SEPA President Elect, Duke Johnson. We're very proud of him and know that he will serve us well.

Duke is running Mystery of the Missing Seasons, Case of the Disappearing Dinosaur and Explorers of Mauna Kea this fall. The most recent observing session was on November 16th.

Stuart Ingram Planetarium, Sunset Beach

The newest planetarium in North Carolina opened on May 25th. It is located in Sunset Beach and is affiliated with the Museum of Coastal Carolina in Ocean Isle Beach. This facility installed a Spitz 1024 machine, has a 40 foot dome and a seating

capacity of 85.

Rik Zawadzki is the theater manager and teaches computer classes at Brunswick Community College. His expertise is in technical theater production and Web page development.

Mark Jankowski is a show operator who also volunteers at the museum. His background is in robotics and electrical applications. And finally, an old friend... Jim Hooks is the astronomer on staff. He helps in show production and consults on astronomy and planetarium issues. It was great to hear that Jim is back at work in a planetarium!

The Ingram Planetarium is open to the public Tuesday - Saturday evenings from 3 - 9 during prime tourist season (This changes to Wednesday - Saturday after September.) Programs that are up and running include Just Imagine, The Explorers, and The Sky Tonight. In the very near future, the planetarium will begin serving school groups.

Margaret C. Woodson Planetarium, Salisbury

Over 50 rising 4th, 5th and 6th graders enjoyed a week of Junior Space Camp this summer. The campers explored toys in space, hands on activities about the solar system, rocketry and constellations. They made a variety of crafts, spent time in the planetarium, and hosted their families at the end of the week in a show and tell event.

With the installation of JHE's Screen Master, all shows currently being run have been completely checked, edited, and updated. Every show now has an accurate and consistent storyboard with detailed set up and operating instructions. Hopefully, this will encourage a few more volunteers who want to learn how to operate a show.

The Woodson Foundation generously gave the planetarium a \$5,400.00 grant for the current school year. This will be used to help pay for planetarium equipment maintenance, new DVDs to build our library since our DVD player has just been installed, and new shows.

The Friendly Stars (DVD version) was just purchased and is being programmed. In addition, Ancient Horizons and Northern Lights will be added to our list of public shows.

News from SEPA States
continued

Duke Johnson
SciWorks Planetarium
Winston-Salem,
North Carolina

Settlemyre Planetarium, Rock Hill

We here at the Settlemyre are in full swing with our school shows. The Christ mas show is also loaded and ready to go. We have changed our weekend program ming somewhat by presenting two live sky shows on Saturday and Sunday, and attendance by museum visitors to these shows has increased. We still offer a chil dren s and a feature program as well.

The fire at Bishop really got me thinking and I have been spending time inspecting and sometimes replacing all those wires we all have running from our automation systems to our dedicated spfx projectors. Maybe this is a task we should all consider doing.

Well, that s it from South Carolina. Hope you all have clear fall skies and high at tendance.

Chesapeake Planetarium, Chesapeake

Dr. Robert Hitt left Monday November 18 for his 9th total solar eclipse, this time in Africa. He was group leader on a Cali fornia travel company cruise ship Marco Polo (of the Orient Cruise Lines.) He set up a Website and planned to bring his stu dents along. They (and you) can check in on his activities by visiting the site. There they can see a photo travelogue including some great views of the African scenery. Sky & Telescope provided solar viewers for the passengers and crew. You can check on his trip by going to the eclipse Website at <www.eclipse.cps.k12.va.us>.

of Urania the muse of astronomy (Kelly) and Sir Martin de Tennere, a spirit of the castle who came to life to animate a suit of armor. Together we told about the origins of Halloween and helped the audience solve some astronomical riddles.

The new building is coming along very well. The roof is on and the interior walls are going up. The walls of the new observa tory are finished too. Without the dome on top, it looks like the gun turret from the Monitor. People have jokingly asked when the heavy artillery gets installed. Unfortu nately the new planetarium theater has not yet been added back into the plan. That will need to await a separate fund raising campaign after the main exhibit building is substantially paid for.

Virginia Living Museum Planetarium, Newport News

It has been a very busy several months since I last wrote. During the summer we ran an in house production of A Solar Celebration. This program on the Sun al lowed us to tie in well to the reptile exhibit that ran through the end of September. We had live albino American alligators on display. In the show we talked a bit about how reptiles use the energy of the sun to regulate temperature and activity level.

Hopkins Planetarium and MegaDome The ater, Science Museum of Western Virginia, Roanoke

Mark Hodges and his two part time staff are showing Autumn Skies in the Planetarium. The winter show, Jewels of the Night coming soon, will deal with the night sky of the Holiday season. The current Mega Dome film offering is The Human Body. Also playing is Cirque Du Soleil: the Journey of Man. Mark s email address is <mhodes@smwv.org>.

That program was followed this au tumn by a great family program called A Whale s Tale: and Other Fishy Folklore. Jon U. Bell wrote this one as a follow up to his Bear Tales and Other Grizzly Stories (distributed by Joe Hopkins Engineering.) It covers the fall sky and includes a lunar eclipse, stories of sea monsters, and songs about life on the sea. Our visitors leave with a smile on their faces and humming the tune to the whale song at the end.

Ethyl Imax Dome and Planetarium, Rich mond

Eric Mellenbrink reports that the budget is tight in Richmond (just like everywhere else in the commonwealth.) They have needed to make adjustments and do things to try and boost income and lower expenses.

We just finished our special program in the planetarium for our annual Night of the Living Museum event in celebration of Halloween. Once again we transformed the theater into a medieval castle by covering the walls with a rolls of paper printed to look like stone masonry. It comes from the Anderson s Prom and Party catalog. My assistant and I created the characters

In the planetarium theater is a program called Rocks In Space. This is an in house production that compares the geology of planets, comets, and meteorites, with that of Earth.

Another program in the planetarium is Hubble/ Night Sky. This is a daily look at recent Hubble images plus an evening

star ID of the current evening sky from central Virginia. Once each month (on the 3rd Friday) there is a special evening presentation called Live Sky. A telescope observing session outside follows this, weather permitting.

The museum is hosting a traveling Titanic Science exhibit, developed by the Maryland Science Center. This accompanies the Imax movie Titanica (45 minute version.) Also on the Imax Dome is the very popular Starwars Episode2: Attack of the Clones.

Virginia Beach Public Schools Planetarium, Virginia Beach

Charles Dibbs, Director writes: Outgoing Director Herb Teuscher retired in June of 2001 after 32 years of service for the school system. Since the planetarium here opened in September of 1969, Herb was the only Director the planetarium has ever had. His presence and style have been missed, but he still stops by occasionally to check up on me.

The Virginia Beach City Public Schools Planetarium has successfully completed one full year with a new Director and administrative assistant. Marla Frye was hired to give the planetarium a presence on the Internet. Her skills as a Webmaster have given this planetarium another avenue to reach students, teachers, and the

general public at large. Her creativeness can also be seen throughout the planetarium in the form of displays, brochures, and other electronically generated forms.

The major task of improving our digital equipment and upgrading and automating our star ball was completed last year. With the addition of another Sony CRT projector, several DVD players, a new faster computer, and software to bring it all together, the planetarium has greatly enhanced its ability to deliver stimulating lessons to the students of Virginia Beach City Public Schools and those of neighboring cities.

Weekly public presentations have seen a rise in attendance this past year, and the trend looks as though it will continue. Presentations are educationally driven. Children's programs are combined with presentations suitable for older viewers throughout the year, but all who come seem to learn something from their visit. While stepping back somewhat from the repeated delivery of canned shows, I try to mix slideshows with live talks with scheduled speakers or events, etc. Themes vary, of course, but sticking to educational presentations seems to draw the most visitors. And, of course, we do not charge anyone for admission.

News from SEPA States
continued

Dave Maness
Peninsula Planetarium
Newport News, Virginia

Craigmont Planetarium, Memphis

This year's theme has been repairs. We've fixed a short in the Spitz console; a nagging problem with diurnal motion; the mixer for our sound system, which also provides an external sync signal to our JHE ScreenMaster automation system; one of our three panorama systems; and one of our zooms. Keeping a 28+ year old planetarium in tiptop shape is like trying to keep an antique automobile running smoothly. It's a constant battle.

A few weeks ago we took our interns to visit the staff of the Sharpe Planetarium across town. Planetarium Manager Jim Greenhouse, formerly of the Mark Smith Planetarium in Macon, Georgia, was our host. If it weren't for occasional visits like this, we'd never see our colleagues except at SEPA conferences. It was fun to see Roy Foppiano - a former Craigmont intern and other staff members like Diane Curtis and view their production of Sol & Co.

Last year we hosted one of the sessions of the Southeast Regional Convention of the NSTA. In December we're anticipating one of the attendees at that session bringing her middle school students all the way from Oxford, Mississippi. They'll see our in-house production of The Star of Bethlehem and a lecture/demonstration on the Earth's motions.

The Star of Bethlehem has been edited and dubbed several times. It has needed a better soundtrack for some time. Last month I went on a spree and digitized some of our production soundtracks, cleaning them up as much as I could. I wish I knew what I was doing with Bias Peak, a digital audio editing program that came with our Onkyo digital audio processor.

Over Christmas I'm visiting the southern hemisphere. Judy and I are going on a cruise from Santiago, Chile to Buenos Aires, Argentina. We'll visit the Antarctic and Montevideo, Uruguay along the way.

Duncan Teague
Craigmont Planetarium
Memphis, Tennessee

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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

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01	Central supermassive black holes in galaxies NGC 3377, NGC 3379, and NGC 4486B:	17	stars surround their mother
03	SN1987A Fireball: One tenth light year long dumbbell structure expanding at six million miles per hour in supernova 1987A	18	A collision between two spiral galaxies in the heart of galaxy Arp 220
08	Changes in the nucleus of Comet Hale Bopp as it moves closer to the sun beginning in September 1995	19	Fireworks near a black hole in the core of Seyfert galaxy NGC 4151
09.a	Transition from spring and summer in Mars's northern hemisphere; photo taken shortly before opposition	20	STIS reveals an invisible high speed collision around a supernova
09.b	Three photos of Mars taken six hours apart with 90 degree difference between images; photos taken shortly before opposition	21	Hubble pinpoints the optical counterparts of a gamma ray burst in a distant galaxy
11	The Egg nebula in which stars are born and die violently; photo shows jets of gas being blasted into space	22	Hubble captures a volcanic eruption plume from Jupiter's moon Io
12	A supermassive black hole located in galaxy M84	23	A gamma ray burst blazes from a titanic explosion in deep space
13	NICMOS captures region of the Orion nebula filled with action as a center for the birth of new stars	24	Hubble's look at Mars shows a canyon dust storm, cloudy conditions for Pathfinder's landing in July 1997
14	Supernova 1987A: different colors represent different elements in the ring	24.a	Dissipation of a large dust storm on Mars
15.a	A view of Mars's cloud cover	24.b	Hubble shows dust and water ice clouds exhibit substantial daily variations
15.b	Seasonal changes in Mars's north polar ice cap	25	Powerful telescopes discover the largest galaxy in the universe
15.c	Four views of Mars rotated 90 degrees between images during summer in Mars's northern hemisphere	26	Hubble separates components in the Mira binary star system
16	The Cone Nebula: six baby sun like	27	Hubble reveals huge crater on the surface of the asteroid Vesta.
		28	Hubble finds a bare black hole pouring out light.
		29	Hubble shows blobs of gas formed by some nova outbursts.
		30	Hubble keeps track of a fading gamma ray burst.
		31	Mars at the beginning of autumn in the Martian northern hemisphere.
		32	Hubble sees a neutron star alone in space.
		33	Hubble identifies what might be the most luminous star known.
		34.a	Hubble reveals stellar fireworks accompanying galaxy collisions.
		34.b	Detailed images of colliding galaxies.
		35	Hubble shows images of a blue straggler star.
		36.a	Hubble tracks clouds on Uranus.
		36.b	Hubble spots northern hemispheric clouds on Uranus.
		37	Hubble shows infrared view of moon, ring, and clouds of Jupiter.
		38.a	Hubble sees supersonic exhaust

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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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- 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 NGC4650A: a polar ring galaxy
- 18 Rings, arcs, and crosses as seen in

- Hubble's top ten gravitational lens effect images
- 19 NGC4603: magnificent spiral galaxy associated with Centaurus cluster
- 20 NGC3603: various stages of the life cycle of stars in a giant galactic nebula
- 21 AB Aurigae: a swirling disk of dust and gas surrounding a developing star
- 22 Mars: a colossal polar cyclone
- 23 N159: a turbulent cauldron of starbirth in Large Magellanic Cloud
- 25 NGC4414: magnificent details in the dusty spiral galaxy
- 26 NGC6093: a stellar swarm in a dense globular cluster
- 27 Mars: the red planet at opposition during April-May, 1999
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NASA JPL has sent us the following slides for the Mars Pathfinder and Cassini/Huygens missions. Slides are \$1.25 each

planetariums. By doing this we inspire other people to explore the wonder filled Universe around us. It is my hope that the more we do this, the more people will care that the stars should always be there for us, to satisfy our need for that awesome beauty, as well as our need to explore. It is comforting to know that there is an infinite Universe out there. The incredible diversity of life on Earth is the best indication I know, that the universe is full of possibilities. What will we find out there? I can hardly wait to find out.

As always, the light of the stars is in ultimate contrast to the darkness in between them. Looking back over the past couple of years, there have been a lot of dark things happening in our world. The depressed economy risks adversely affecting space exploration and education. The recent sniper shootings and other acts of terrorism have lead up to a lot of saber rattling. I can't help but worry for a moment about what the future will be like. But after attending conferences and speaking with so many of you, I can smile with hope reassured. It is a well founded hope after all. First, because I know that Americans will adapt to the future as it comes, just as we have always done. Next, because SEPA will be in the capable hands of Mike Sandras on January 1. But my best

reason for hope comes from the fact that we are planetarians. We, who work under dome and sky, are accustomed to looking for light in dark places.

Thank you for the privilege of serving you as president for the past two years. Best regards to you all, and keep on sharing the light!

Dave Maness

THE DEADLINE FOR THE NEXT ISSUE OF SOUTHERN SKIES IS JANUARY 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

VOLUME 22, NUMBER 4

JOURNAL OF THE SOUTHEASTERN PLANETARIUM ASSOCIATION

FALL 2002

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