

Summer, 2001



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Panorama

The official publication of the
Pacific Planetarium Association

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Membership/Renewal Form

To join the Pacific Planetarium Association, or renew membership, photocopy this form and send it with your dues to the Secretary/Treasurer, Bob Pippin. Please pay dues by the Fall PPA Conference each year to cover your membership for the following year. Membership list may be found at

<http://www.ccsn.nevada.edu/planetarium/PPA/>.

1. Choose:

- 1 year membership \$15.00
- 2 year membership \$30.00
- Scholarship fund \$ _____

2. Total enclosed: \$ _____

3. Your address/phone/fax/email: Renewing Membership New Member

Name: _____

Institution: _____

Address: _____

City, State Zip: _____

Telephone: _____ **Fax:** _____

E-mail: _____

URL: _____

4. Make check payable to:
Pacific Planetarium Association

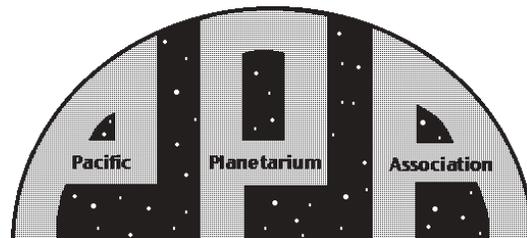
5. Mail to: Keith Johnson
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Greetings fellow Planetarians

As we get ready for the first PPA meeting of the third millennium AD (Gregorian), we need to look to the future. As a professional organization of astronomers and planetarians we have



a sometimes daunting job. Explaining to the public not only the wonders of the universe, but also questions and paradoxes in the exponentially growing field of Astronomy, is what Planetariums do best. The amount of data that is being returned from satellite's, orbiting observatories, solar system roaming spacecraft and ground based telescopes is truly "ASTRONOMICAL".

One way we keep abreast of deluge of information is attending professional conferences. In years past I always attended ASP (Astronomical Society of the Pacific) conferences, and AAS (American Astronomical Society) when they were in the west. Now going to PPA and IPS when it is in this country is about all I can find time {money} for. Panorama and conference proceedings are another way to find out what our colleague's are up to.

Wait a minute that's almost exactly what I said last year, (Oh well it's still true)

Alan was able to get us a very good deal on the printing for the previous Panorama (The Texas 2000 Proceedings) and thinks he can get a like deal on the one you hold in your hands (Well you may be reading it on your computer).

I hope we have a good PPA turnout at our upcoming conference in Eugene, Oregon (The 2001: An Oughtta See Conference). This is the year we elect officers, this year

President's Message

in addition to the President and Secretary/Treasurer we will need to elect a new PPA representative to IPS. Jon Elvert who has served us so well is the new IPS President. Jon feels, properly so, that he can not service both as IPS President and PPA's representative to IPS.

Any PPA member interested in the positions let me know, I am busy twisting arms. Keith Johnson current PPA Secretary/Treasurer has agreed to run again, having our accounts stay in one place for as long as possible is probably a good idea.

A preliminary business meeting agenda follows.

Call to order:

Reading of minutes from the 2000 business meeting.

(If copies for 2000 minutes are available a motion to wave reading can be in order)

A motion to accept will be in order.

A vote to accept minutes.

Treasurer's report:

IPS representative's report:

Old business:

(1) Panorama cost, delivery method, format (Since he works for free the format should probably be what ever Alan feels he can and is willing to do.)

(2) At the 2000 meeting we approved Huston as the site for our 2002 joint conference, I hope to have a progress report. There is some talk of a pre-or post-trip to the World Space Congress.

(3) Do we still like the idea of the joint conference (As long as we can find someone to host them?)

(4) Any other old business.

New Business:

(1) 2003 conference site, The Hansen Planetarium, Salt Lake City has indicated that they will be inviting us to their new facility.

(2) Any other new business.

Election of Officers:

PPA representative to IPS

PPA Secretary/Treasurer

PPA President

Call for motion to adjourn.



Robert Pippin

President, Pacific Planetarium Association

The Planetarium, CCSN

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North Las Vegas, NV 89030-4296

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702 651-4143

Conference Update

The major event of the year here in Eugene (as far as I'm concerned) is the upcoming Western Regional Conference October 4-7th. You should have already received registration materials and I hope you plan on attending. Visit the conference's web-site for up-to-date information at

<http://www.2001-western-alliance-conference.org>

or contact me directly at (541) 461.8227. Please consider attending the pre-conference NASA/JPL workshop from 1 p.m. to 6 p.m. Thursday, October 4th, as well as the post-conference tours to Crater Lake or OMSI in Portland. These events are free to delegates, but registration is required.

The Lane Planetarium anticipates the installation of SkyVision (full-dome and HiDef) in September. If all goes well, SkyVision should be operational for the conference. We are also upgrading our audio and video capabilities to include a 5.1 surround sound, Pioneer DVD players, and a MPEG player which will be all controlled by SPICE.

See you here in October! ---Jon Elvert



Pacific Planetarium Association

Minutes of Conference Meeting, Oct. 6, 2000

10:44 a.m., Dallas, Texas

The meeting was called to relative order by President Robert Pippin. Fourteen members were present initially; one or two arrived during the meeting, but were graciously forgiven and/or ignored by their colleagues.

Minutes. As former secretary Bob Pippin had included a copy with the current agenda, it was agreed to waive the reading of the minutes of the previous meeting (Oct. 16, 1999, Phoenix, Arizona), to the great relief of the new secretary (i.e., me), who had not gotten around to read Finances. Treasurer Keith Johnson passed out copies of an interim financial report, covering 1/1/2000-9/30/2000. There had been little activity in the account during this period. Current assets, including the main checking account in Reno and a tiny amount retained by Bob Pippin in North Las Vegas to cover some printing expenses, was \$5,222.80.

IPS. Jon Elvert gave a report on International Planetarium Society (IPS) activities. He told us we needed to take a vote on the 2004 IPS meeting site at some point. The candidates were Valencia, Spain; Melbourne, Australia; and Chabot Observatory, Oakland, California (whereupon the



secretary demonstrated his national chauvinism by not bothering to include the name of the country for the last site).

There was much spirited (meaning vigorous, not alcoholic) discussion regarding the relative merits of the three. Information is available on these invita

IPS plans to develop an educational Web site; Dale Etheridge was volunteered to supply a link to this from the PPA Web site, if and when. The IPS site has changed its URL more than once, but currently appears to be <http://www.ibiblio.org/ips/> (at least, that's where you end up when you try the published one). The PPA Web site is <http://www.ccsn.nevada.edu/planetarium/PPA/>. It should be noted that neither IPS nor Loch Ness had this URL listed correctly on their Web sites at press time.

Future Conference

OMSI (Portland) had invited the Western Alliance to meet there in 2001, but was forced to withdraw the invitation. Both the Lane E.S.D. Planetarium, Eugene, Oregon (Jon Elvert) and the new Chabot Observatory & Science Center

Planetarium, Oakland, California (Jose Olivarez) had issued formal invitations to host the conference. After some discussion, PPA decided to accept Eugene's invitation.

However, considerable interest was expressed in some kind of meeting in the Bay Area, to see the changes in Chabot, Morrison, and other area planetariums. It was suggested that an additional spring conference, probably in 2002, would be a possibility, as in the past PPA has often had spring conferences in addition to the usual fall meetings. Steve Craig asked Bob Pippin to help investigate the notion and set up such

Panorama, dues. The ongoing discussion about Panorama and PPA dues was taken up.

Basic issues are:

- PPA dues (\$10/year) are low, lower than any other affiliate we're aware of.
- hard-copy publication costs in fact slightly exceed dues income over the long run.
- most members either prefer or would accept an electronic version of Panorama, but some members still cannot use this format (and your secretary was not the one who used the phrase "digital Dark Ages"!). On the other hand, some memb
- it would be possible to set up two or more types of subscriptions: perhaps electronic for \$10, hard-copy for \$30 (that's hard-copy, not hard-core; we're not that kind of organization!), or both.

For the time being, we agreed to increase basic annual dues to \$15, and discuss further changes in the future.

There being no further business, and the approach of an excellent luncheon being dutifully noted, the meeting was adjourned.

Relentlessly submitted,
Keith H. Johnson
Secretary

News from PPA Members

Armagh Planetarium

College Hill, Armagh, Co. Armagh, N Ireland

Dr T R Mason

Director

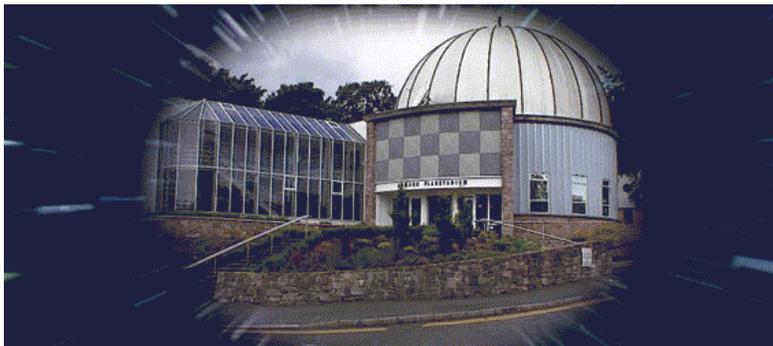
Armagh Planetarium is currently closed for refurbishment, but we will be opening for a limited family fun service during the last three weeks of August. The opening at this time will provide a family service, specifically aimed at kids. We will have our portable planetarium show running in the hall of Astronomy along with lots of other kid friendly activities. They can build and fly their own water powered rockets and make space art.

Phone: +44 (0) 28 37524725 Fax +44 (0) 28 37526187

<http://www.armagh-planetarium.co.uk/>

Mobile 0771 001 3453

trm@armagh-planetarium.co.uk (Work)



Chabot College

25555 Hesperian Blvd.

Hayward, CA 94545

<http://astro.clpccd.cc.ca.us>

Scott Hildreth <shildreth@clpccd.cc.ca.us>

Tue, 10 Jul 2001 11:53:38 -0700

Chabot's Spitz A3-P equipped planetarium is still going strong, supporting all of our college astronomy classes, a small number of school programs, and our entire campus as a very popular multimedia rich theater. We continue to use a Runco system to project multi-source computer data and video onto the curved dome with great success, and we are looking to complete the installation of an East Coast Control Systems Computerized Slide Projector control interface.



For information or questions, please feel free to contact Scott Hildreth.

Reuben H. Fleet Science Center

PO box 33303

San Diego, CA 92163

(619)685-5731

John C. Young

Planetarium Technician

The Reuben H. Fleet Science Center recently installed a Digistar -II, and we have been running a presentation entitled "Night on Dream Mountain", an introduction to astronomy. Dennis Mammana's live presentations "The Sky Tonight" (So popular we added a second show) and his lecture series "Eyes on the Universe" are using the new instrument. I attended both the Technical and the programming training at Salt Lake city. We also installed a System i media control computer to replace the aging MC-10. Both Computers are made by R.A. Gray, inc.. I converted our captioning system to run on a video projector and a Macintosh, and removed the 2 high powered Slide projectors that were used previously. we also replaced the 22 B2 slide projectors that date back to 1973.



Fleischmann Planetarium

Keith Johnson <keithj@unr.edu>

"Arthur Johnson, long-time director of Reno's Fleischmann Planetarium, has announced he will retire from that position at the end of 2001. Art has held the post since 1974, and has overseen many changes in the institution. He plans to turn more to the musical side of his life: he's been organist and choir director at Trinity Episcopal Church for many years, and presided over the installation of Nevada's largest pipe organ a couple years ago.

"A search committee is actively looking for a replacement to take over the reins Jan. 1, 2002. Interested persons can find out more by contacting Keith Johnson (keithj@unr.edu, 775-784-4813)."



Glendale Community College

Dave Hurst

We're getting closer and closer to breaking ground for the building to house our 30 foot dome and Digistar II projector. The architect's plans are in (I think) and there are serious plans being made for the donors' wall. After years of using desktop planetaria I look forward to having the real thing available when I teach astronomy classes.



Goto USA

Ken Miller, USA Liaison

1525 Bernice St., Honolulu, HI 96817-0916

Toll Free: (888) 847-5800, In Hawaii: (808) 847-5800, Fax: (808) 847-5850

E-Mail: <gotousa@earthlink.net> Web: www.goto.co.jp

Ken Miller, former planetarium chairman at Honolulu's Bishop Museum, is now GOTO OPTICAL MFG. CO.'s USA liaison officer. As a full time GOTO staff member, Ken is working to aide in development of projectors for the U.S. market, and helping represent the product line to prospective customers. Many of you at the Texas 2000 conference took part in Ken's hospitality suite focus groups, testing star plates, etc. At this year's conference in Eugene, Ken and Toshi Yasuda will demonstrate the results of that work; the northern hemisphere starball for a brand new 26-40 foot dome projector. Digital planet projectors, 24 moving constellation outlines, extremely low operating costs, and many more features will complete this competitively priced new millennium projector. Deliveries start in March 2002. While working 100% GOTO now, Ken is renting an office at Bishop Museum, in sight of his old dome. Reach Ken at <GotoUSA@earthlink.net>. Mike Shanahan has assumed the planetarium manager's chair, and is continuing with The Explorers Project; now hard at work on "Explorers of the International Space Station."

Griffith Observatory

John Mosley <jmosley@GriffithObs.org>

2800 East Observatory Road

Los Angeles, CA 90027 USA

Griffith phone: (323) 664-1181, Griffith fax: (323) 663-4323

<http://www.GriffithObs.org>

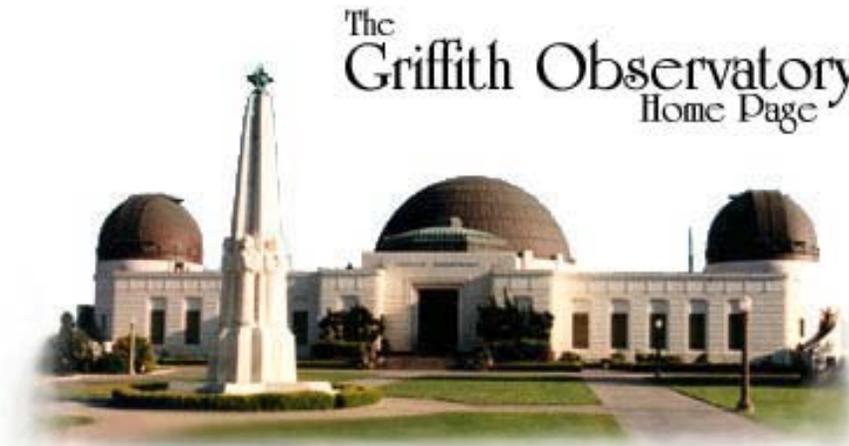
Griffith Observatory is about to undergo a long planned and much needed revitalization. After 66 years of continuous use, visits by over 67 million people, and no significant capital improvements, the Observatory stands at the threshold of a major renovation and expansion. Every system and element of the Observatory will be restored to its original grandeur and improved for the current level of public use (nearly two million visitors a year), including a state-of-the-art planetarium theater.

The Observatory will also be expanded to better meet the needs of its many visitors. By excavating under both the building and a portion of the front lawn, we will double the size of the Observatory without changing the classic appearance of the building. Plans call for a new presentation theater, two large new exhibit areas, a new on-site food service, an expanded bookstore, new elevators (to improve access to the entire building), and more restrooms. The Observatory's exhibit program will also be restored, reconfigured, and expanded.

The Observatory will close to the public in January 2002 to pack up and move everything out of the building. Construction will begin in spring 2002 and should be complete in summer 2004. After equipments and exhibits are installed, the Observatory will reopen to the public in late 2004.

The renovation and expansion project is described at the Observatory's web site at:

<http://www.GriffithObs.org/renovation.html>



Los Angeles Valley College

David Falk <falkdj@laccd.edu>

Planetarium Director and Dept. Chair, Earth Science

The Los Angeles Valley College Planetarium keeping busy with public shows and credit classes, with help from our Astronomy Club. We are currently working on adapting the "Explorers of Mauna Kea" show from the Bishop Planetarium for presentation to college classes and the public. We have also added seven new Santa Barbara Instruments Group STV Integrating Video Camera sets to our array of lab equipment for use in our Observational Laboratory classes. This will allow us to give hands-on demonstrations using CCD technology to our students, many of whom have never looked through a telescope before! (Yes, we'll still give them "eye-to-glass" experiences, too!).



1. **Los Angeles Valley College**

Minolta Planetarium

De Anza College

Cupertino, California

(408) 864-8282

Karl von Ahnen <vonahmen@fhda.edu>

We've had a very busy year here at Minola Planetarium, De Anza College. I haven't had a chance to look at all the numbers yet, but I think this is, by far, the biggest year so far for school field trips.

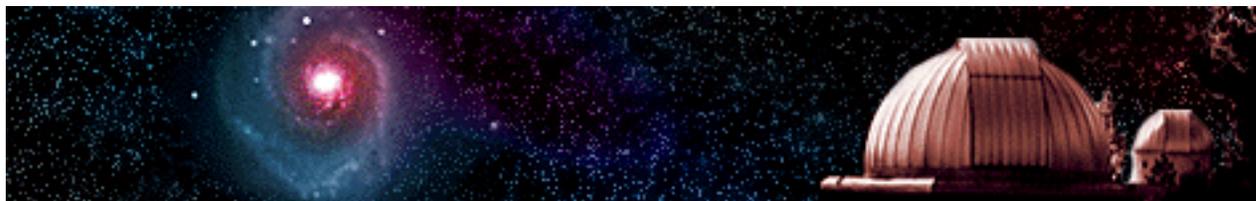
We continue to upgrade, with: a new hard drive audio unit from Bowen Productions, a DVD player and Cosmic tools DVD from JHE, an upgrade to our video projection system, a couple of new Sky Skan special effects, some new all skies from LM Images, and additions to our ECCS control system. ...Wow, we have been busy! There are so many cool products out there. It's great to be able to buy a few, and spread the wealth around.

Well, back to work. I've got a couple of new shows to install too.

Karl

**Minolta Planetarium
De Anza Community College**

Pine Mountain Observatory



Rick Kang <rkang@efn.org>

Pine Mountain Observatory has been open for our Annual Summer Visitors' Program for the past five weekends. Even though we are supposed to be in the middle of a drought, we've only had two clear nights for observing so far!

We have a pair of QuickCams set up, so you can visit us in real time: <http://pmovid24.uoregon.edu/view/view.shtml> shows a view eastward from the window in the 24" telescope dome. The 15" telescope dome is to the lower right, and the 32" dome is to the upper left. <http://pmovid32.uoregon.edu/view/view.shtml> shows the interior of the 32" telescope dome, where we currently present our lectures on Friday and Saturday nights.

Check out <http://pmo-sun.uoregon.edu/~pmo/> for several new features including ready to use authentic research projects that involve digital data from Pine Mountain.

We outreached to around 300 classrooms in Oregon again this past school year with a program that encourages inquiry-based authentic research of astrophysical topics, suitable for all grade levels. At the upcoming PPA conference in Eugene in October, we plan to offer a live imaging session from Pine Mountain to illustrate how Planetarians can make use of data coming directly from an Observatory. We'll also show you the way cool JAVA-based virtual Physics Labs, including a suite involving spectra, that Professor Bothun and his JAVA programmers have produced over the past year at the University of Oregon.

Looking forward to seeing all of you in Eugene in a few months! Rick Kang

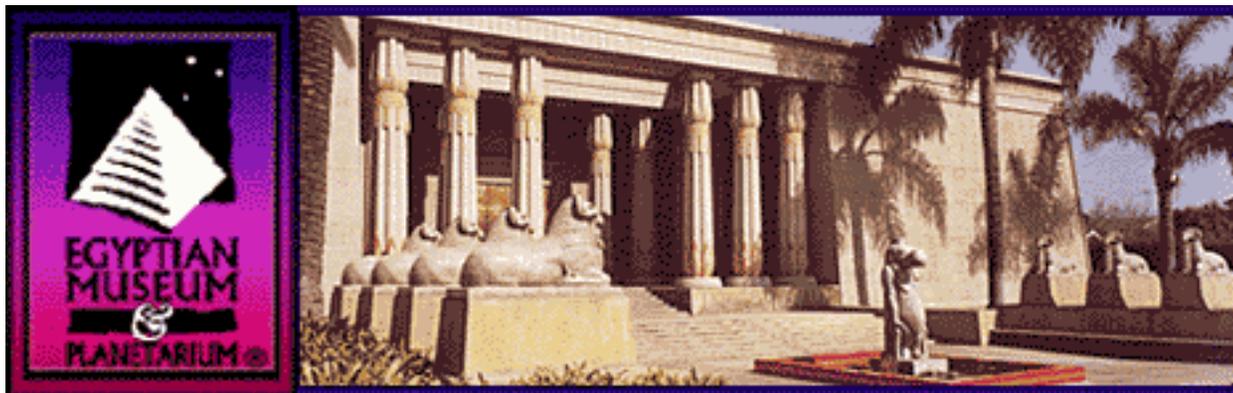
Rosicrucian Planetarium

Letter from Jennifer Rose [via Andrew Fraknoi]

I am a resident of the Rose Garden community in San Jose and recently discovered that the historic Rosicrucian Planetarium (built in 1936) may be in danger of being torn down. My understanding is that the building is unsafe as a result of the 1989 earthquake and is in need of major renovations. In addition, the equipment within the building is totally obsolete, and the Museum Manager indicated there is even some question as to whether or not the Planetarium could accommodate contemporary equipment. The Rosicrucian Order is currently deciding whether or not to restore the building or tear it down and build something in its place that (they feel) would better enhance the mission of the Park and Museum.



I was wondering if you are familiar with this building and what your thoughts are about its potential for restoration. If it is feasible to restore the building and install new equipment, I think it could be a tremendous asset to the community and nearby schools. In addition, it is the fifth planetarium built in the United States and certainly has an historic value to San Jose and the Rose Garden community.



I look forward to hearing your thoughts.

Thank you for your time and consideration.

The Planetarium at Community College of Southern Nevada

"Dr. Dale A. Etheridge" <drdale@nevada.edu>

The Planetarium at Community College of Southern Nevada is pleased to announce a significant change with respect to its monthly publication, onOrbit Magazine. Beginning in July 2001, after 13 years of publication, onOrbit is now a joint publication of the CCSN Planetarium and the Fleischmann Planetarium at the University of Nevada, Reno.

Both the CCSN Planetarium and the Fleischmann Planetarium are units within the University and Community College System of Nevada. They comprise all of the public planetaria in the State of Nevada. As a state-wide publication now, onOrbit is distributed to over 1,000 recipients including all of the K-12 school libraries in the state.

onOrbit is edited by Dr. Dale Etheridge of the CCSN Planetarium. Co-editor is Keith Johnson from the Fleischmann Planetarium. Daisy Polidoro, of the CCSN Planetarium and the NASA/Nevada Regional Educator Resource Center, is the Circulation Manager.



Valley City State University

Eileen Starr <Eileen_Starr@mail.vcsu.nodak.edu>

Through a combination of community donations, alumni support and sales of the "Navigating with Lewis and Clark" planetarium show, Valley City State University will install a new three-light cove in August. The new lights replace the lumiline fixtures which were part of the initial equipment when the installation was built in 1972.



News stories from summer 2001

Christine Shupla collected these and sent them in a newlist to IPS members. More information on most of these stories can be found at <http://www.universetoday.com>

RESEARCHER BELIEVES VIKING FOUND LIFE AFTER ALL

Data collected by the Viking Lander when it touched down on Mars 25 years ago might show evidence of life after all, according to Joseph Miller, a researcher at UCLA. Miller believes that he has found rhythms in the quantity of gases given off in various experiments on the soils, which match the length of the Martian day. All life on Earth follow similar rhythms over the course of a day, so Miller believes the variances in the findings must be due to the presence of organisms.

See: <http://www.cnn.com/2001/TECH/space/07/28/mars.life.ap/index.html>
<http://dsc.discovery.com/news/reu/20010730/microbe.html> <http://www.msnbc.com/news/603024.asp>

CALLISTO MIGHT HAVE AN OCEAN TOO

Astronomers have long suspected that there's a ocean of water underneath the surface of Jupiter's moon Europa, but now a Spanish researcher believes Callisto might be a good candidate as well. Based on the fact that the Galileo spacecraft detected a magnetic field but no metallic core as it flew past the moon, Javier Ruiz believes there's 20km deep ocean located 150km underneath the surface. A salty ocean can create a magnetic field around a moon or planet.

Source: <http://www.nature.com/nsu/010726/010726-12.html>

See: http://news.bbc.co.uk/hi/english/sci/tech/newsid_1458000/1458241.stm
http://www.space.com/scienceastronomy/solarsystem/callisto_water_010726.html

MARS MAY HAVE RESERVES OF WATER

A new analysis of the images taken by the Mars Global Surveyor spacecraft has turned up evidence that there may be large deposits of water ice near the surface. A survey of over 8,000 Surveyor photos by researchers at Brown University found that terrain at mid-latitudes was mostly smooth, with very few impact craters. The team believes that water has collected inside a porous layer of dust between 1 and 10 meters deep across large areas of the surface. If this water is there, it will be a critical resource for future human missions to the Red Planet.

Source: http://www.brown.edu/Administration/News_Bureau/2001-02/01-006.html

See: http://news.bbc.co.uk/hi/english/sci/tech/newsid_1456000/1456708.stm
<http://www.cnn.com/2001/TECH/space/07/25/martian.permafrost.ap/index.html> -- <http://www.cosmiverse.com/space07260102.html>
<http://dsc.discovery.com/news/reu/20010723/mars.html>

CHANDRA DETECTS HALO OF HOT GAS AROUND MILKY WAY-LIKE GALAXY

The first unambiguous evidence for a giant halo of hot gas around a nearby, spiral galaxy much like our own Milky Way was found by astronomers using NASA's Chandra X-ray Observatory. This discovery may lead to a better understanding of our own Galaxy, as well the structure and evolution of galaxies in general.

A team of astronomers, led by Professor Daniel Wang of

the University of Massachusetts, Amherst, observed NGC 4631, a spiral galaxy approximately 25 million light years from Earth with both Chandra and NASA's Hubble Space Telescope.

While previous X-ray satellites have detected extended X-ray emission from this and other spiral galaxies, this is the first time that astronomers were able to separate the individual X-ray sources from the diffuse halo, thanks to Chandra's exceptional resolution. Chandra found the diffuse halo of X-ray gas to be radiating at a temperature of almost 3 million degrees.

The Hubble image of NGC 4631 shows filamentary, loop-like structures enclosing enhanced X-ray-emitting gas and emanating from regions of recent star formation in the galaxy's disk. These data clearly show the hot gas is heated by clusters of massive stars and is now expanding into the halo of the galaxy.

Images at: <http://chandra.harvard.edu> <http://chandra.nasa.gov>

JUPITER'S CLOUDS PUZZLE ASTRONOMERS

NASA technicians have assembled a kaleidoscopic movie from 1,200 images taken by the Cassini spacecraft as it flew by Jupiter earlier this year. This movie shows that storms in the polar regions are just as stable as those around the equator. This is different from what the astronomers were expecting, as photos of Jupiter generally show the poles to be a much more mottled in appearance.

Source: http://www.jpl.nasa.gov/releases/2001/release_2001_146.html

STAR FORMING REGION CAPTURED BY HUBBLE

A new photograph released from NASA's Hubble Space Telescope shows a beautiful view of a star forming region in

the Nebula 30 Doradus, located in the Large Magellanic Cloud, a galaxy located only 170,000 light years from Earth. The photograph shows how the region is both creating stars in nurseries of gas and dust, and destroying others in waves of intense radiation.

Source: <http://opposite.stsci.edu/pubinfo/PR/2001/21/>

SPINNING STAR BULGES IN THE MIDDLE

Astronomers using a high-resolution telescope at the Palomar observatory have detected a significant egg shape to the star Altair. The team found that Altair's diameter is 14 percent greater at the equator than at the poles because it rotates once every 10.4 hours (our Sun rotates once every 30 days). The astronomers were able to make this precise measurement by using a technique known as interferometry, where the light from two or more telescopes is combined to act like one, giant telescope.

Source: http://www.jpl.nasa.gov/releases/2001/release_2001_150.html

"CLAMS" MISSION STUDIES EAST COAST OCEANS AND ATMOSPHERE

NASA scientists are using a Virginia lighthouse, research aircraft and a satellite for a unique field study this summer. On the sea, in the sky, and from outer space, they are hoping for a better understanding of global climate change.

Led by NASA's Langley Research Center, Hampton, VA, the Chesapeake Lighthouse and Aircraft Measurements for Satellites campaign, or "CLAMS," started in early July. Scientists are using equipment mounted on the U.S. Coast Guard's Chesapeake lighthouse about 15 miles off the coast

of Virginia Beach, VA, as well as instruments on six research airplanes and the orbiting Terra research satellite to enhance their knowledge of how the ocean affects the atmosphere.

See: <http://snowdog.larc.nasa.gov/clams/> -- <http://terra.nasa.gov/>

<http://asd-www.larc.nasa.gov/ceres/ASDceres.html>

GENESIS SET TO CATCH A PIECE OF THE SUN

NASA'S next robotic space explorer is ready to do a little sunbathing on a mission to catch a wisp of raw material from the luminous celestial body around which the Earth and other planets revolve.

Genesis, set for launch July 30 (NOTE: it was delayed) from Florida's Cape Canaveral Air Force Station, is designed to collect tiny pieces of the Sun and return them to Earth. The mission is expected to capture about 10 to 20 micrograms of the solar wind, made up of invisible charged particles expelled by the Sun.

The particles, about the weight of a few grains of salt, will be returned to Earth with a spectacular mid-air helicopter capture. Scientists will preserve this treasured smidgen of the Sun in a special laboratory for study. The researchers hope to answer fundamental questions about the exact composition of our star and the birth of our solar system.

In October 2001, Genesis will arrive at a place in space well outside Earth's atmosphere and magnetic environment that will allow it to gather pristine samples of the solar wind.

In September 2004, the solar samples will be returned in a

dramatic helicopter capture. As the Genesis return capsule parachutes toward the ground at the U.S. Air Force's Utah Testing and Training Range, specially trained helicopter pilots will catch it on the fly to prevent the delicate samples from being disturbed by the impact of a parachute landing.

See: <http://genesission.jpl.nasa.gov>

MOST DISTANT OBJECTS SPOTTED

Astronomers with the Sloan Digital Sky Survey (SDSS) have discovered the two most distant objects ever observed. The objects are quasars, and they are thought to have emitted the light we're seeing more than 10 billion years ago. One of the objectives of SDSS is to discover 100,000 quasars, and they've already found 13,000, including 26 of the 30 most distant.

Source: <http://www.sdss.org/>>SDSS Homepage

BROWN DWARFS HAVE CIRCUMSTELLAR DISKS

Observations with the New Technology Telescope (NTT) at La Silla show that many Brown Dwarfs (low-mass objects) in the Orion Nebula possess circumstellar disks. The main conclusion is that these objects form like stars do, by contraction in interstellar nebulae, and not like planets that are formed by condensation in circumstellar disks. Brown Dwarfs must therefore be star-like objects rather than planet-like. The full text of this Press Release, with many weblinks, is available at:

<http://www.eso.org/outreach/press-rel/pr-2001/pr-14-01.html>

NEW IMAGES OF JUPITER AND IO In a second release, new images of Jupiter and its moon Io are presented that were obtained in thermal-infrared "light" with the ISAAC multi-

mode instrument at VLT ANTU on Paranal. They show the northern auroral ring and also a hot spot on the active moon. The text provides a detailed explanation of this type of observation, pointing to interesting future opportunities. Look at:

<http://www.eso.org/outreach/press-rel/pr-2001/phot-21-01.html>

TIDAL TAILS NEAR QUASAR

ESO PR about a fine VLT photo that shows “tidal tails” near a distant quasar. This is taken as support of the idea that the Black Holes in quasars (= very active nuclei of galaxies) are fed material via gravitational interactions. The text, with two images, is now available at:

<http://www.eso.org/outreach/press-rel/pr-2001/pr-13-01.html>

ASTRONOMERS SEARCH FOR ALIEN LASERS

A group of Californian astronomers is searching for proof of extraterrestrial intelligence with a telescope instead of a radio dish. They believe that aliens may try to contact us by flashing a powerful laser beam at our star. Although this isn't the first time this technique, known as optical SETI, has been used, it's the most sophisticated and comprehensive search ever undertaken.

Source: http://www.seti.org/science/oseti_2001.html

See: http://news.bbc.co.uk/hi/english/sci/tech/newsid_1455000/1455115.stm

<http://www.cnn.com/2001/TECH/space/07/25/space.seti.reut/index.html>

<http://dsc.discovery.com/news/reu/20010723/alien.html>

http://www.space.com/searchforlife/optical_seti_010724.html

NASA SENDS TEACHERS OFF TO SUMMER CAMP

The nation's top teachers are about to get an idea of what it's like to live and work in space, thanks to NASA. Outstanding educators from the 50 states and beyond will be

participating in a weeklong series of events in Huntsville, AL, including International Space Camp.

From July 28-Aug. 3, the U.S. Space & Rocket Center and NASA's Marshall Space Flight Center in Huntsville will host the nation's Teachers of the Year and provide them with a unique educational experience. Participating this year are 51 U.S. teachers – including National Teacher of the Year Michelle Forman of Vermont – and 22 educators from other countries.

ESO PHOTO GALLERY UPDATED the ESO

Photo Gallery has now been fully updated, with new images from La Silla and Paranal. At the same time, the latest images have been placed in the area with VLT Astronomical Photos. Look at: <http://www.eso.org/outreach/gallery/> and

<http://www.eso.org/outreach/info-events/ut1fl/astroimages.html>

HUBBLE CAPTURES IMAGE OF RED SPIDER NEBULA

The newest image released from the Hubble Space Telescope shows the Red Spider Nebula - a fiery swirl of gas wrapped around a dying star in the constellation Sagittarius. As the super-hot star approaches the end of its life, it's shedding its outer material into space with solar winds as fast as 16 million kph, creating the nebula.

See: <http://www.cnn.com/2001/TECH/space/07/24/hubble.spider/index.html>

http://www.space.com/scienceastronomy/astronomy/red_spider_010724.html

NASA, NOAA PREPARE TO LAUNCH WEATHER SATELLITE DESIGNED TO SEE SOLAR STORMS

Another workhorse of weather forecasting is ready for launch, but the next advanced environmental satellite sent into orbit will be the first capable of detecting storms

outside our Earth's atmosphere.

The satellite, GOES-M, will monitor hurricanes, severe thunderstorms, flash floods and other severe weather. However, this satellite also comes equipped with the first operational Solar X-ray Imager to detect solar storms.

GOES-M, or Geostationary Operational Environmental Satellite, is scheduled to lift-off from Cape Canaveral Air Force Station, FL, 3:01 a.m. EDT, July 22, on top of a Lockheed Martin Atlas II rocket.

COLLIDING GALAXIES CREATE STAR CLUSTERS

New images from the Hubble Space Telescope show how two galaxies sideswiping each other can create multiple star clusters - the birthplaces of new stars. This latest image of a group of galaxies called the Stephan's Quintet, whose interactions are constantly creating these star clusters. Astronomers didn't know the age of the clusters, until they looked at them with Hubble, and found they were 2 million to 1 billion years old depending on how far they were from the collision areas.

Source: <http://opposite.stsci.edu/pubinfo/PR/2001/22/index.html>

See: <http://www.cnn.com/2001/TECH/space/07/19/hubble.galaxies/index.html>

<http://www.cosmiverse.com/space07190105.html>

NASA REJOINS JAPAN IN X-RAY SPACE OBSERVATORY PROJECT

The United States and Japan will team up to rebuild and launch a powerful observatory for measuring high energy phenomena in the Universe.

The Astro-E2 observatory will replace the original Astro-E satellite, which was lost during launch in February 2000.

The Japanese government recently approved the Astro-E2 mission and has invited NASA to participate.

Scheduled for launch in February 2005, the instruments on Astro-E2 will provide powerful tools to use the Universe as a laboratory for unraveling complex, high-energy processes and the behavior of matter under extreme conditions. These include the fate of matter as it spirals into black holes, the nature of supermassive black holes found at the center of quasars, the 100 million degree gas that is flowing into giant clusters of galaxies, and the nature of supernova explosions that create the heavier elements, which ultimately form planets.

STELLAR APOCALYPSE YIELDS FIRST EVIDENCE OF WATER-BEARING WORLDS BEYOND OUR SOLAR SYSTEM

As an alien sun blazes through its death throes, it is apparently vaporizing a surrounding swarm of comets, releasing a huge cloud of water vapor. The discovery, published in the journal Nature, is the result of observations with the Submillimeter Wave Astronomy Satellite (SWAS), a small radio observatory NASA launched into space in December 1998.

The new SWAS observations provide the first evidence that extra-solar planetary systems contain water, a molecule that is an essential ingredient for known forms of life. "Over the past two years, SWAS has detected water vapor from a wide variety of astronomical sources," said Dr. Gary Melnick of the Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, Principal Investigator on the SWAS mission. "What makes the results we are reporting today so unusual is that we have found a cloud of water vapor

around a star where we would not ordinarily have expected to find water.”

The star in question is an aging giant star designated by astronomers as IRC+10216, also known as CW Leonis, located 500 light-years (almost 3,000 trillion miles) from Earth in the direction of the constellation Leo.

“IRC+10216 is a carbon-rich star in which the concentration of carbon exceeds that of oxygen,” Melnick said. “In such stars, we expect all the oxygen atoms to be bound up in the form of carbon monoxide (an oxygen atom and a carbon atom bound together), with almost nothing left over to form water (one oxygen atom bound to two hydrogen atoms). Yet we see substantial concentrations of water vapor around this star; the most plausible explanation for this water vapor is that it is being vaporized from the surfaces of orbiting comets, ‘dirty snowballs’ that are composed primarily of water ice.”

See: <http://cfa-www.harvard.edu/cfa/oir/Research/swas.html>

MAGNETIC FIELDS WEAVE RINGS AROUND STARS

There are stars with planets. Stars with companion stars. Stars with pancake-shaped disks of rocky debris. But how about young, hot, hefty stars embedded in large inner tube-shaped clouds of shimmering gas? Astronomers had suspected that the thick rings are the signatures of stars with strong magnetic fields. Sometimes, the surfaces of those “magnetic stars” possess peculiar chemical compositions, namely low amounts of “heavy elements” like iron. Now a team of astronomers analyzing archival information on four stars provides convincing evidence of the link between rings and magnetic fields. The team also suggests that rings around massive stars are more common

than scientists thought. The study shows that magnetic stars with normal chemical abundances can have rings, too.

See: <http://opposite.stsci.edu/pubinfo/pr/2001/19>

IPSnews—For changes to your IPSnews subscription, contact

Christine Shupla <shuplac@azscience.org>
Chair-IPS Outreach Committee
Planetarium Manager
Arizona Science Center
(602) 716-2078

New evidence for alien life?

LONDON, England (Reuters) — A team of international researchers said on Tuesday they have found what could be the first proof of life beyond our planet — clumps of extraterrestrial bacteria in the Earth’s upper atmosphere.

Although the bugs from space are similar to bacteria on Earth, the scientists said the living cells found in samples of air from the edge of the planet’s atmosphere are too far away to have come from Earth.

“There is now unambiguous evidence for the presence of clumps of living cells in air samples from as high 41 kilometers (25 miles), well above the local tropopause (16 kilometers up), above which no air from lower down would normally be transported,” Professor Chandra Wickramasinghe, an astronomer at Cardiff University in Wales, said in a statement.

He presented the findings to a meeting of the International Society of Optical Engineering in San Diego, California.

See <http://www.cnn.com/2001/TECH/space/07/31/space.life.reut/index.html>

Bioastronomy 2002: Life Among the Stars

Date: Thu, 26 Jul 2001 15:28:19 -0700

From: Edna DeVore <edevore@seti.org>

The International Astronomical Union (IAU) is sponsored Commission 51 Bioastronomy conference at Hamilton Island on the Great Barrier Reef, Australia, July 8-12, 2002. (Tropical winter). There will be both a scientific and an education meeting, held in tandem, with teacher-participants attending portions of the scientific meeting as well as education workshops and poster sessions. Both conferences will share the same themes, and scientists and educators will be encouraged to move between sessions as they wish.

The preliminary program is:

Session 1: Reviewing the Field: Exoplanets, Astrobiology, SETI

Session 2: Astrochemistry

Session 3: Origin, evolution, and discovery of planetary systems

Session 4: The solar system: Evidence for life in the solar system

Session 5: Biogenesis and the astronomical conditions for evolution of life

Session 6: The search for extra-terrestrial life

Session 7: Education and outreach: Bioastronomy as a tool for scientific education in schools and universities

Session 8: where do we go from here?

Abstracts for both meetings will be solicited soon, and this is an opportunity for Origins missions to reach an international audience of scientists and educators.

Information is available at the conference website:

<http://seti.uws.edu.au/bioastronomyau/default.htm>

You can register your interest in attending the conference via the website.

Education Conference Committee is:

Edna DeVore, SETI Institute

Kristina Wilmouth, NASA Astrobiology Institute (Ames Research Center)

Carol Oliver, University of Western Sydney

Les Vozzo, University of Western Sydney

If you have immediate questions, please send them to Edna DeVore at: edevore@seti.org

Position opening: Fleischmann Planetarium, Reno, NV

Date: Fri, 27 Jul 2001

From: Keith Johnson <keithj@unr.edu>

All,

Arthur Johnson, the director of Fleischmann Planetarium in Reno, has announced his retirement from the profession at the end of 2001 after many years of service. He's told me he'd like to take his life in different directions now, particularly in the area of music (you may know he is the Music Director and organist at Reno's Trinity Episcopal Church, and an occasional performer with the Reno Philharmonic and other musical organizations).

The University of Nevada, Reno, of which the planetarium is a part, is therefore seeking a replacement for Arthur (I know, I know, *no one* could replace Art, but we gotta fill the position). Just FYI, I have decided *not* to throw my wizard's cap into the virtual ring (hey, I know where my talents lie!).

The position announcement is shown below. First let me insert a brief description of the institution. FP is a medium-sized public museum/planetarium. It has 6.5 permanent staff members, plus 5-7 part-time student workers (primarily at the gift-shop/ticket counter). We typically run about 45,000 people through the dome in a year. The dome is 30 feet in diameter, with a Viewlex/

Minolta star projector, one video projector, a pan and an all-sky system, ECCS automation, and one glow-in-the-dark skeleton hanging behind the dome left over from an old Halloween show. A Linear-Loop 8/70 movie projector was installed a few years ago (to replace our old 35 mm projector, the first to project on a dome as far as we know, back in 1963), and all of our public presentations currently are double features: starshow + movie. During the summer we run six shows a day, seven days a week. That schedule is reduced during the rest of the year.

We have a pretty small museum and an active gift shop. We're a department of the university (though they don't always know what to do with us). We have an active school program, doing school shows for about 13,000 kids+teachers each year. We have a small observatory on the lawn (yes, a mile north of downtown casinos: we don't search for any NGC objects), housing a C-14 telescope. We have a NASA grant that is helping us with upgrades to the observatory program.

We're small, but active. Reno likes to call itself "The Biggest Little City in the World." We like to say we're the biggest little planetarium in the world. Reno is not at all a bad place to live. My wife and I love the climate, and proximity to the Sierra; and residents really *don't* run into slot machines at every street corner (though there *is* a small section in most of the grocery stores...).

There may be some exciting changes soon, however. Local citizens and we planetarians are working to expand into a larger full science center for Northern Nevada. This is not yet certain, but we have been negotiating with more than one potential sponsor, and it looks fairly likely that we'll

start fund-raising for an 80,000 sq. ft. facility, perhaps before the end of the year, more likely next year. We have a good reputation in the community, and I think the new science center would be popular. We do have some interesting challenges to overcome first, though. I hope to have more news about this before the end of the year.

Hope to hear from some of you!

University of Nevada, Reno

Director, Fleischmann Planetarium & Science Center

Job Description: Full-time, administrative faculty position, reporting to the Associate Vice President and Dean, College of Extended Studies. The position has executive and operational authority over the Fleischmann Planetarium & Science Center. See: <http://planetarium.unr.nevada.edu>

Qualifications: masters degree in a science discipline, museology, business, education, or other related field from a regionally accredited university and at least four years experience in a science center, museum, or planetarium.

Job Ability Criteria:

1. success in managing significant programs in a science center, museum, or planetarium;
2. ability to manage the fiscal aspects of largely self-financed educational enterprise;
3. ability to interact positively with university faculty, high level administrators, volunteers, corporate and governmental leaders;
4. experience in fund raising, grant writing, and related development activities;
5. experience with marketing a science center, museums, or planetarium;
6. ability to manage and direct staff.

See the full position description at: dce.unr.edu/new or jobs.unr.edu

Salary: Minimum of \$60,838 based on qualifications.

Start Date: As soon as possible after January 1, 2002.

Application: A completed application must include a letter of application, current resume, names, addresses, and phone numbers of three references and typed responses to the enumerated Job Criteria above (1-6). Response to each criterion is limited to one page, single spaced:

*Director of FP&SC Search
c/o Chuck Newell
College of Extended Studies/048
University of Nevada, Reno
Reno, NV 89557.*

Consideration of completed applications will begin on September 21, 2001. AA/EOE

**Position Opening: PLANETARIUM DIRECTOR At
Santa Fe Community College**

Santa Fe, New Mexico

Call for Applications and Nominations

Santa Fe Community College is seeking applications and nominations for the position of Planetarium Director. This position has been recently posted and will remain open until filled.

We see a dynamic astronomy educator who is skilled in Planetarium management and creative show delivery.

Our planetarium is under the Department of Continuing Education and offers shows to schools and the general public. We have a Spitz 512 star projector, other slide and video projection equipment and a library of prerecorded shows for various age groups. The audiovisual display can be controlled manually or by two automation systems. Presentations are made in our 76 seat theater. Part time show presenters are available to provide some of the shows. The Planetarium also has secretarial and student worker support.

The Planetarium Director will be required to teach Introduction to Astronomy courses under our Academic Division and arrange an annual Lecture series to include guest presenters.

If you are interested in applying for this position, or would like to recommend someone to us, please write or call:

Dr. Rita Martinez-Purson, Dean of Continuing Education
Santa Fe Community College

6401 Richards Ave.

Santa Fe, NM 87508

(505) 428-1252

rpurson@santa-fe.cc.nm.us

Santa Fe Community College

Employment Posting

Posting Period: Summer 2001 - Fall 2001

Job Title: Planetarium Director

Minimum Salary: \$34,602 - \$43,252 Range: 46

Hiring Department: Continuing Education and Arts & Sciences

Person Hiring: Rita Martinez-Purson and Fran Levine

Education and Experience:

Master's degree in astronomy, planetarium science or science-related field or Bachelor's degree in astronomy or science plus three (3) years experience in teaching astronomy to all grade levels. Three (3) years minimum experience in teaching astronomy, including college-level courses; two (2) years minimum in planetarium management, including producing/adapting programs. Fundraising experience desirable. Skills and Knowledge: Technical expertise in producing and/or adapting planetarium programs and planetarium management; excellent organizational

skills and interpersonal skills; knowledge of promotional techniques; teaching skills and content expertise in astronomy.

Summary:

Under indirect supervision and reporting to the Dean of Continuing Education

and the Division Head of Arts & Sciences, is responsible for delivery and

oversight of educational programs in the Planetarium, utilizing the

technologies available in the facility.

Duties and Responsibilities:

1. Teaches and schedules astronomy programs utilizing interactive presentations for various target audiences.
2. Incorporates current events into programs.
3. Markets program to area schools, clubs, and organizations and schedules tours.
4. Supervises volunteers, student workers, and part-time clerical staff.
5. Produces, purchases, adapts planetarium presentation, including slides, audio tapes, films, videos, scripts and all pertinent material.
6. Maintains equipment, procures and installs new equipment.
7. Repairs equipment as needed.

8. Participates in fundraising for the Planetarium/

9. Initiates purchase documents and manages planetarium budget account.

10. Teaches college-level Introduction to Astronomy courses each semester for the Division Head of Arts & Sciences/

Application:

The college's detailed application, names, addresses and telephone number of three current references, copies of official transcripts, and a current resume of educational and professional experience must be received by the deadline. Please submit applications to:

*Santa Fe Community College
Department of Human Resources
6401 Richards
Santa Fe, NM 87505
(505)471-8200*

Alice Ortega, Director of Human Resources

Santa Fe Community College is an equal opportunity employer.

PPA Members

All PPA membership data may be found in the PPA database residing at the PPA website:

<http://www.ccsn.nevada.edu/planetarium/PPA/>

which is maintained by PPA membership chair,

Dale Etheridge, drdale@nevada.edu; 702-651-4138; The Planetarium - S1A;

Community College of Southern Nevada; North Las Vegas, NV 89030.

Planetarian's Calendar

Updated: Aug 6, 2001

For latest version see IPS Planetarian's Calendar at

<http://www.ips-planetarium.org/ips-calendar.html>

2001

July 13-18, 2001 Astronomical Society of the Pacific (ASP) 113th Annual Meeting in St. Paul, Minnesota. Includes star party hosted by the Minnesota Astronomical Society and the ASP; two CCD workshops conducted by former Astronomy magazine editor and noted author Richard Berry; Universe 2001 EXPO with talks by noted astronomers such as Alan Dressler, Alex Filippenko, and Virginia Trimble, renowned writers such as David H. Levy, Bob Berman, and William Sheehan, and astronaut Claude Nicollier, who has flown on two Hubble servicing missions and an exhibit hall with the latest NASA missions and approximately 45 vendors displaying telescopes, books, videos, software, T-shirts, and other products; weekend activities for children at the Science Museum of Minnesota by the Minneapolis Planetarium and the Science Museum; Universe in the Classroom – a hands-on teachers workshop

for grades 3-12; high-Energy Universe in Sharp Focus: A Symposium of Chandra Science – a science symposium for research astronomers. For more information, please visit the Annual Meeting website at <http://www.aspsky.org/meetings.html> – Lori Ducey White, Meeting Coordinator, lwhite@aspsky.org, 415-337-1100, x109

July 29-Aug 1, 2001 California State University Northridge is offering a Genesis mission Chautauqua course for educators at Kennedy Space Center in conjunction with the launch. Genesis Outreach Coordinator and Director of the California Chautauqua Field Center Dr. Gil Yanow will lead the three-day course. Teachers can learn more about this course and register online at: <http://davinci.csun.edu/~scnet/chautp27.html>

August 1, 2001 there will be a special one-day, all-day, FREE training workshop GENESIS: SEARCH FOR ORIGINS, to field test Genesis education materials with hands-on activities. Workshop is at Astronaut Memorial Planetarium, Brevard Community College campus, 1519 Clearlake Road, Cocoa, Florida 32922-6597 <http://www.brevard.cc.fl.us/~planet>. Lunch and snacks are provided. The workshop is for K-12 classroom teachers, planetarium personnel, JPL Solar System Ambassadors, JPL Solar System Educators. Instructors will derive lessons from interdisciplinary sources, all suitable for immediate use in the classroom; including language arts, theater, social studies, chemistry, physics, mathematics, and earth science. All lesson plans are designed to match national education standards and strands. Materials including posters, videos, and CD-ROMS to take back for the new school year will be distributed at no charge. Example: The middle school education module titled Dynamic Design: The Cleanroom <http://www.genesismission.org/educate/scimodule/Cleanroom.html>

Contact <http://www.genesismission.org> or <http://genesismission.jpl.nasa.gov> if you would like to enroll in the free Aug. 1 field testing workshop. The Genesis Spacecraft is scheduled for launch from Kennedy Space Center (KSC) on July 30, 2001. The aim of the mission is to give the best estimate ever made of the starting materials from which the solar system formed, with a sample return of solar wind particles.

October 4 - 7th, 2001. This year's Western Alliance Conference is being held in Eugene, Oregon. You can now

register on-line, book your hotel room, sign up for presenting a paper, and let us know whether you're interested in going to Crater Lake. Check the web-site out at <http://www.2001-western-alliance-conference.org> Refer to this site for future up-dates. —Jon Elvert

2002

March 1-3, 2002; CONTACT 2002 Conference—The Search for Life in the Universe; Santa Clara, CA, USA; ; www.softwaremanagement.com/contact and www.cabrillo.cc.ca.us/contact — Join some of the foremost international social and space scientists, science fiction writers, and artists to exchange ideas, stimulate new perspectives, and encourage serious and creative speculation about humanity's future. Conference highlights include a day at NASA Ames and a banquet with keynote speaker Rusty Schweickart, former Apollo and Skylab astronaut and president of NRS Communications. Contact: Judith Marx Golub, Registrar; CONTACT 2002 Conference; B10 ã Suite 237, 4546 El Camino Real; Los Altos CA 93022 USA; Tel: 650-941-4027; Fax: 650-941-4028; Email: contact@softwaremanagement.com

June 25-June 29. SEPA 2002, Baton Rouge, Louisiana. Annual conferemce of the Southeastern Planetarium Association. Host: Irene W. Pennington Planetarium at the Louisiana Arts & Science Center. Telephone: 225-344-9478 Fax: 225-344-9477 web sites: <http://www.sepadomes.org/> and <http://www.lascmuseum.org>

July 8-12, 2002. International Astronomical Union (IAU) sponsored Commission 51 Bioastronomy conference at Hamilton Island on the Great Barrier Reef, Australia, (Tropi-

cal winter). There will be both a scientific and an education meeting, held in tandem, with teacher-participants attending portions of the scientific meeting as well as education workshops and poster sessions. Both conferences will share the same themes, and scientists and educators will be encouraged to move between sessions as they wish. The preliminary program is Session 1: Reviewing the Field: Exoplanets, Astrobiology, SETI Session 2: Astrochemistry Session 3: Origin, evolution, and discovery of planetary systems Session 4: The solar system: Evidence for life in the solar system Session 5: Biogenesis and the astronomical conditions for evolution of life Session 6: The search for extra-terrestrial life Session 7: Education and outreach: Bioastronomy as a tool for scientific education in schools and universities Session 8: where do we go from here? Conference website: <http://seti.uws.edu.au/bioastronomyau/default.htm> Education Conference Committee is: Edna DeVore, SETI Institute, Kristina Wilmoth, NASA Astrobiology Institute (Ames Research Center), Carol Oliver, University of Western Sydney, Les Vozzo, University of Western Sydney

July 14-18, 2002 – IPS 2002 – Host: Ing. Gabriel Mu-oz Bedolla; Director del Planetario “Lic. Felipe Rivera”; Centro de Convenciones y Exposiciones de Morelia; Av. Ventura Puente Y Camelinas; 58070 Morelia, Mich., MEXICO; Tel. +52 (43) 14-24-65; Fax. +52 (43) 14-84-80; <http://www.michoacan.gob.mx/turismo1/3036/cconvenciones.htm>; email: cconvenciones@michoacan.gob.mx

Abbreviations:

AANC: Astronomical Association of Northern California
AAPT: American Association of Physics Teachers
AAS: American Astronomical Society
ADP: Arbeitsgemeinschaft Deutschsprachiger Planetarien
ASP: Astronomical Society of the Pacific
ASTC: Association of Science and Technology Centers
BAP: British Association of Planetaria
GLPA: Great Lakes Planetarium Association
GPPA: Great Plains Planetarium Association
ILDA: International Laser Display Association
IPS: International Planetarium Society
MAPS: Middle Atlantic Planetarium Society
NSTA: National Science Teachers Association
NPA: Nordic Planetarium Association
PPA: Pacific Planetarium Association
RMPA: Rocky Mountain Planetarium Association
SWAP: Southwestern Association of Planetariums
SEPA: Southeast Planetarium Association
WIMPS Wisconsin, Iowa, Minnesota section of GLPA

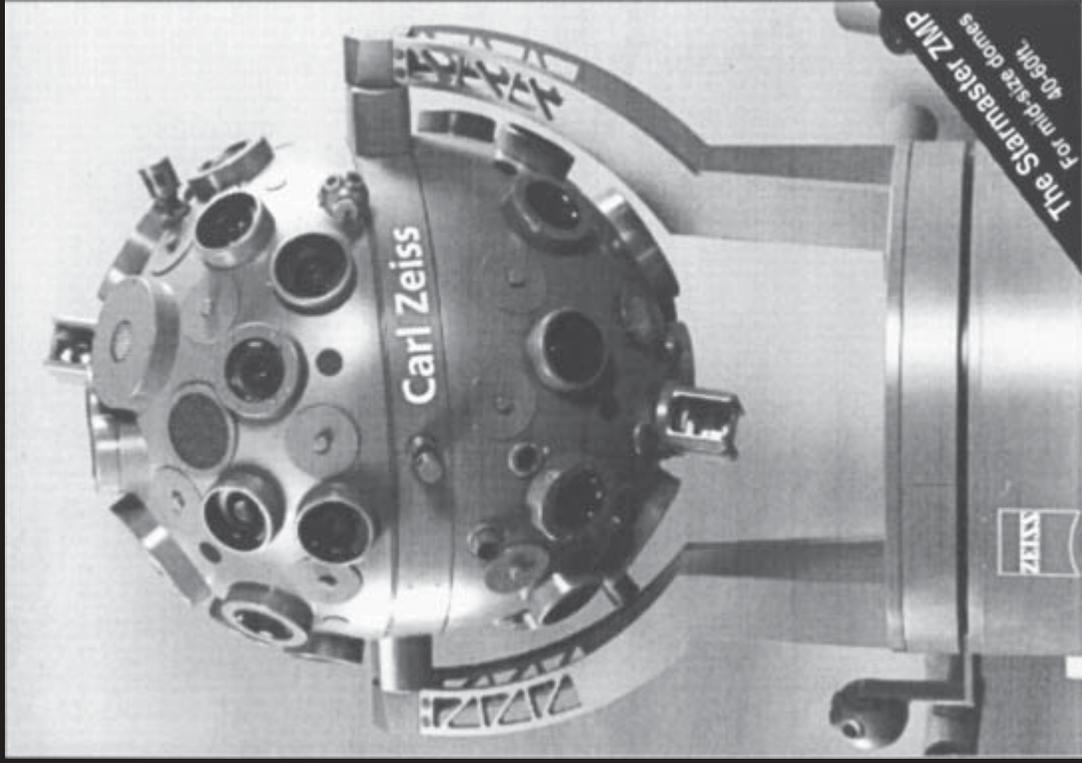
Stars that Need Not Shun The Light. Thanks to Zeiss Fiber Optics.



The stars, those apparent lord of the night sky, are terribly afraid of light. For millions of years, since the first seeing creatures populated the Earth, only the Sun was able to dim down its distant brothers into nothingness. Today, this is easily accomplished by street lamps, neon signs and car headlights.

In the planetarium, things are hardly different. For decades, stars used to be the protagonists of the show, and not even the sun was allowed to outshine them. Today, shows are dominated by fireworks of slides, videos, panoramas and all-sky projections: a profusion of light, which leaves only the gleaming dots that symbolize the boundlessness of the universe no chance to assert themselves. Are planetarium stars doomed to final extinction?

Thanks to Zeiss, they are not. Thanks to a new fiber optic system that makes artificial stars shine more brightly and brilliantly than ever before. No doubt, slide, video, and panorama projectors will hardly extinguish them. An although they are much smaller in size than their forerunners, they are seen as mere points, twinkling as do the real stars. See the world's newborn stars in the sky of a Zeiss planetarium.



Seeing is Believing!

For further information contact Pearl Reilly:

1-800-726-8805

fax: 1-504-764-7665

email: Plreilly@aol.com



Distributor of Zeiss Planetariums

Planetarium Division

170 E. Kirkham Ave., St. Louis, MO 63119-1791

Publish in the Panorama!

Guidelines For Contributors to the Panorama

For those who are presenting papers at a conference, it is ideal if you can give me your paper (and/or diskette) and graphics at the conference, or by email within a week after the conference.

All members: please send me news of your planetarium or facility. I would be happy to include it in the next issue of *Panorama*. Diskette or email is appreciated, especially for lengthy submissions.

The *Panorama* is prepared on a Macintosh computer using Aldus PageMaker 7. *Panorama* is published in black and white hard copy as well as color online version found at the PPA website. <http://www.ccsn.nevada.edu/planetarium/PPA/>. Here are ways to submit material for publication:

Text

1. Send your file by electronic mail.
My Internet E-mail address is:
agould@uclink4.berkeley.edu
Currently, I'm using MS-Word 98 for Mac. I can convert most common word processor files, but please indicate what platform (Mac or IBM) and what program(s) you are using.
2. Mail in word processor files on diskette. Send hard copy as well, if you want particular formatting. I can translate a number of word processor formats, but please indicate what type of diskette (Mac or IBM) and what program(s) you are using as well as the name(s) of the file(s) to use in case there are extraneous files on the diskette.

3. Mail as typed or printed copy on paper. Use at least 12 point font so that my OCR system will have best chance of working.

Graphics & Illustrations:

1. Illustrations saved in TIFF, PICT, JPEG, or GIF are easiest for me to deal with. I also use GraphicConverter to translate many other graphic file formats, both Mac and IBM.
2. I can scan hard copy line drawings or photographs and make them into TIFF files suitable for my Macintosh.

Deadline for any submission is
May 15 for the Summer issue and
November 15 for the Winter issue

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