

ANNOUNCEMENTS!

The IAAA touring Art Exhibit is about to move on, to Rutgers College. We are in great need of a volunteer in that area who can check on the setting up of the exhibit, or at the very least look in and review it, and report back any problems to the Board. Points to look for are the general layout, lighting, whether our captions etc. are properly placed, and in particular, that the IAAA name and URL are prominently visible. Anyone who can help, please mail Dave Hardy directly.

Web Surfin' Sites to check out :

- www.rotaryrocket.com/content.html
- spaceprojects.arc.nasa.gov/Space_Projects/pioneer/PNStat.html
- www-pao.ksc.nasa.gov/kscpao
- www.fas.org/spp
- stp.msfc.nasa.gov/stpweb/x34/x34home.html
- www.dfrc.nasa.gov/Projects/X38/index.html
- www.taaccl.org/DIGSArtShow/main.htm
- cnn.com/TECH/space/9907/26/shuttle.imaging
- www.boulder.swri.edu/~durda/research.html
- www.sdss.org/news/releases/19990531.dwarf.html

The film "Out of the Present" which describes the experience of cosmonaut Krikalev who spent nearly ten months aboard MIR while the USSR imploded is available on VHS and DVD. It includes the first 35 mm footage filmed in space. More information (in French, though film is in English) at <http://perso.wanadoo.fr/k-films/OUTOFTHEPRESENT.html>

Alexa Smith is developing a web library for space art for kids. All artists are welcome to link to it. A small thumbnail type image is required for the link as people browse by image/category rather than by text. The goal is to try and centralize futuristic artists so people not familiar with the art can be exposed to it. It's all free - no percentages or reciprocal anything is required. Check out : <http://www.artfuture.com>



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Aug / Sep 99

The Official Newsletter of the



International Association of Astronomical Artists



Planetary Disk by Lynette Cook

Comets, comets, everywhere! Lynette shows an exquisite image of a newborn sun and planets with a sky full of comets.

Editor: Jon Ramer

IAAA Website: <http://www.iaaa.org>

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Astronomical Feature of the Month -
COMETS

By Jon Ramer

Astronomical Feature of the Month : -- COMETS --

Comets are small, fragile, irregularly shaped bodies composed of a mixture of grains and frozen gases. They have highly elliptical orbits that repeatedly bring them very close to the Sun and then swing them deeply into space, often beyond the orbit of Pluto.

Comet structures are diverse and very dynamic, but they all develop a surrounding cloud of diffuse material, called a coma, that usually grows in size and brightness as the comet approaches the Sun. A small, bright nucleus (less than 10 km in diameter) is sometimes visible in the middle of the coma. The coma and the nucleus together constitute the head of the comet.

As comets approach the Sun they develop enormous tails of luminous material that extend for millions of kilometers from the head, away from the Sun. When far from the Sun, the nucleus is very cold and its material is frozen solid within the nucleus. In this state comets are sometimes referred to as a "dirty iceberg" or "dirty snowball," since about half of their material is ice. When a comet approaches within a few Astronomical Units (1 AU equals approximately 150 million kilometers) of the Sun, the surface of the nucleus begins to warm, and volatile material on the comet evaporates. The evaporating gases carry small grains with them, forming the comet's coma of gas and dust.

When the nucleus is frozen, it can be seen only by reflected sunlight. However, when a coma develops, dust reflects still more sunlight, and gas in the coma absorbs ultraviolet radiation and begins to fluoresce. The volatile gases in the coma are ionized and sweep away from the sun. Since the gas and dust weigh different amounts, the solar wind pushes them differently, giving the comet "two" tails, one from the ionized gas and another from the reflecting dust. Often, these two tails are of different colors.

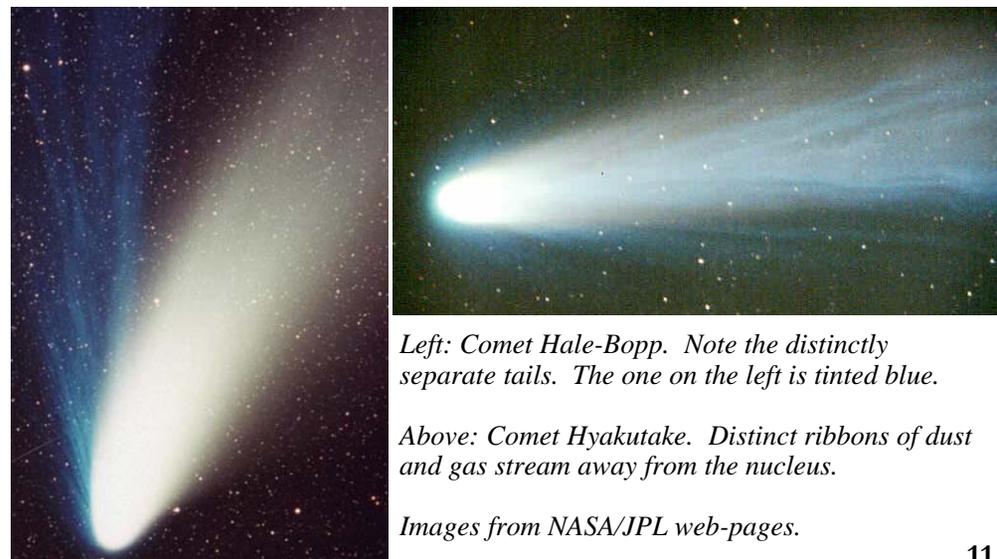
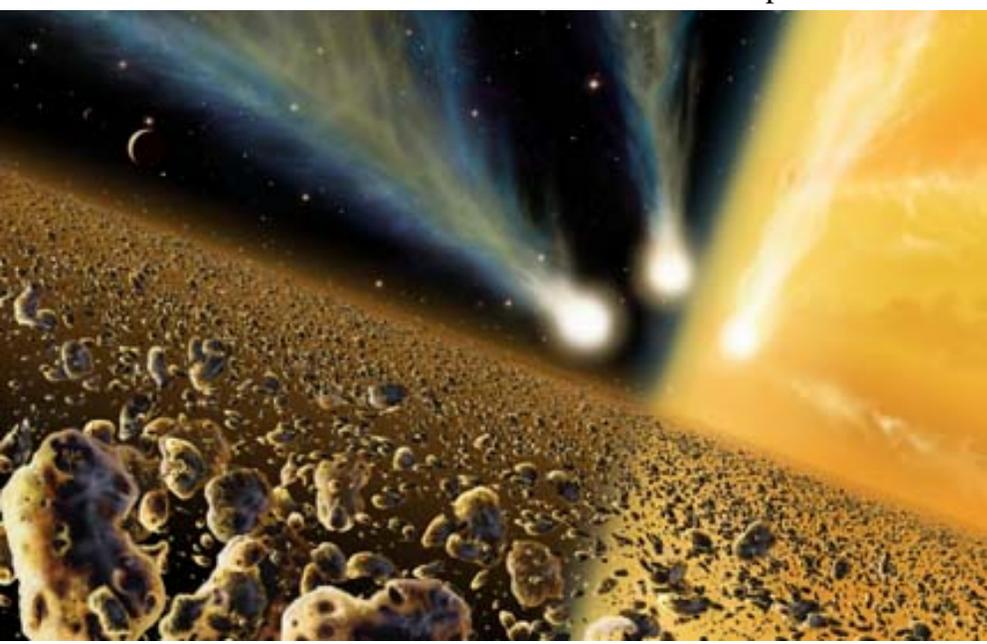
From the Editor-

Hi Gang. Here we go - an issue dedicated to those "wanderers in the night" - comets! Enjoy the artwork, and be sure to check out the short notice contest on page 10. Next time we're going galactic. Later!

Jon!

Destination Saturn by Mark Garlick

Here Mark ponders what it might have looked like if SL9 had impacted Saturn instead of Jupiter.



Left: Comet Hale-Bopp. Note the distinctly separate tails. The one on the left is tinted blue.

Above: Comet Hyakutake. Distinct ribbons of dust and gas stream away from the nucleus.

Images from NASA/JPL web-pages.

Call For Entries!

The IAAA is proud to be working with the Space Frontier Foundation to present a stunning display of space art for the Space Frontier Conference VIII Art Show. The Space Frontier Foundation's annual conference is the world's leading edge space event. From Mars colonies to asteroid mining, space tourism to space power, this is THE event for anyone who wants to know what our tomorrow in space will look like. Learn what's new in transportation technology, commercial opportunities on the international space station, space hotels, solar power, asteroid mining, and other ventures for the Space Millennium. Join leaders of private space enterprise, government, finance, and the media at the 8th annual Space Frontier Conference, September 23-26, at the Sheraton Gateway hotel near Los Angeles International Airport. Conference speakers include: David Gump, CEO, LunaCorp; Gary Hudson, CEO, Rotary Rocket Company; Mike Kelly, CTO, Kelly Space and Technologies; and Apollo 11 astronaut Buzz Aldrin. Legendary author Ray Bradbury will be featured as a luncheon speaker.

Art Show Purpose: To illuminate the vision of our future in space through the universal language of art. To capture people's imagination, and engage them in the possibility that this is accessible to them. The context of a conference focusing on the commercial opportunities in space will underscore that this is not only possible, but imminent.

Entry Specifics: All types of media are welcome: original paintings, prints, digital prints, sculpture and video. There is an entry fee of \$5 US per entry, and you can enter up to three images for consideration. Entries need not be available for sale.

The theme of the show is Exploration, Visitation and Inhabitation of other worlds by mankind. All works must fit this theme - no UFO's, aliens, fantasy, etc., but future hardware, living arrangements, or 'uninhabited' space art is welcome, as it fires the imagination.

Deadline for entries is short! All entries must be received by September 3, 1999. They will be juried and announced by September 6, 1999 to give enough time for shipping or delivery before the September 23rd start of the conference. Shipping instructions will be included with the acceptance letter.

Entries should include title, size, medium, special requirements (backlighting, electricity, etc.), price (for insurance purposes), and if it is available for sale. Entries can be sent as jpeg e-mail attachments (under 1M, please), or as a URL or ftp address for retrieval. Video as a partial mpeg. Videotape, slides, photographs, floppies, zips or CDs can be sent via post office (please include an SASE). All entries will be held in confidence, and immediately returned with high care given to protect your copyright.

Acceptance is based upon representation of your work by your entry. If work differs substantially from your entry, it may not be displayed. All accepted works must be framed, ready to hang and it is advisable to have plexiglass glazing on them.

Please send your entries and entry fees to: Joy Day, PO Box 3939, Carmel, CA, 93921 entry@glassnebula.com. Feel free to contact Joy via email or 10 phone (831-622-9616) if you have any questions or concerns.

NOTE FROM THE PRES....

I had a surprise phone call -- a looooong call -- from none other than Bert Ulrich at NASA. I took the opportunity to chat to Bert and express our concerns. Now it may be that Bert is very good actor, or that I'm easily impressed (but I don't think so :-)), but he came over as being genuinely sorry and indeed puzzled that we in the IAAA perceive some kind of conflict between the NASA Art Program and ourselves. There is absolutely NO way they they have been deliberately 'snubbing' us, he said. But he admitted that it's more a case that NASA has always sought out more 'mainstream' artists, from galleries, museums etc., and has not really been aware of the IAAA except as illustrators. I explained that while that does apply to a number of us, other artists work in a whole variety of styles and media, and I suggested he look at our website and follow up the links to individual artists, which he said he would definitely do. He added that it was only natural that NASA wanted to include as many artistic styles as possible, and get away from purely illustrative work, which is understandable. But they do not exclude us.

There was a lot more, but it boils down to the fact that we HAVE now made contact and he has promised not to ignore us in the future. Further, today I received the following e-mail, which answers my original letter asking about NASA's position on copyright. And there's no further excuse for IAAA artists (as long as they're American. . .) being excluded from the NASA Art program. (But it will be interesting to see what response they get.)

OK, it's down to you now guys! Dave H

Dear Dave:

Regarding your inquiry, if imagery is being used as a visual reference for artistic purposes, I cannot imagine that there would be a problem with virtually any subject. One possible exception might be privacy issues involved with astronaut imagery (if they are recognizable). If an artist were to do a painting of Neil Armstrong, for example, and that image were to be sold commercially, he could technically undergo legal action against that artist selling his likeness commercially. I would veer away from recognizable people.

Otherwise, you should be fine. The copyright language on the web is geared towards protecting the works of art in the NASA Art Program (which shouldn't be reproduced without proper permission).

By the way, please tell your members that if they are American citizens and are interested in doing a commission for the art program, they should submit slides to me at Bert Ulrich, NASA Art Program, Code POS, NASA Headquarters, Washington, DC 20009. There are fewer commissions and no art "teams" sent down to KSC these days (rarely do artists get sent down anymore and it is usually one at a time). Nonetheless, we would be excited to review the great talents in your organization.

Thanks and if you need anything else, please do not hesitate to contact me.

Sincerely, Bert



View from the Night Side of a Comet Nucleus
by Bill Hartmann

The coma of a comet has a high surface brightness (witness that some have been visible in daytime and dusk skies). Thus, the night side of an active comet would be illuminated by a fairly strong glow from the coma. In this view, we are looking in the anti-solar direction, down the comet's tail. This produces apparent convergence of streamers toward the anti-solar direction. These include the blue-glowing streamers of the ion tail, and the more diffuse pinkish streamers of the (somewhat offset) dust tail. The black shape in the middle is the diffuse shadow of the peanut-shaped comet nucleus, cast through the dust of the coma. To my knowledge, this 1991 painting is the first and only time these effects in the night sky of a comet nucleus have been painted

Profile: Jeremy Thomas My name is Jeremy, though my friends call me Jez (I've never been too keen on my name). Anyway I'm 23 years of age and live in Ebbw Vale, which is a small town in South Wales. I am a trained graphic designer but have turned to teaching art and design over the past year or so. At the moment I'm looking for a more permanent teaching post around my area.

As I said, I'm a graphic designer- but to be honest I've always preferred to think of myself as a graphic artist/illustrator. Most of the work that I produce these days takes the form of oil on canvas, but I do occasionally use acrylics, mixed media, sculpture, digital art, photomontage, photography, sculpture and installation... phew!!

So far I've tried to convert my pupils into mini space artists - quite successfully I may add. I've worked with lots of children from the ages of 11-16+ but am only a newcomer to the teaching industry (if anyone has any tips, teaching schemes, etc... I'd be most grateful, on the other hand if anyone would like lesson plans, etc. for my workshops thus far I'd love to send them).

I'm a great fan of space art and am basically welded to my copy of "Visions Of Space." As an amateur astronomer I'm a member of the UK Astronomical Society. We've just held an exhibition of artwork, telescopes, CD-ROM etc. which was very well received. I've enjoyed astronomy for many years now. I observe with a 5.25 inch refractor and an 8.5 inch reflector - which are my father's. My father has been my main source of inspiration - he practically glued me to the eyepiece!! He's recently become a Fellow of The Royal Astronomical Society - so he's pretty chuffed as you can imagine. It's an honor to become a member and I'll try my best to be an active one

ART TIPS

This month: Applying acrylic varnish II - from Bob Kline.

Last issue Bill Hartmann talked about the effects of humidity on dry time and achieving a uniform coating of clear acrylic varnish on a painting. At the end of the article Bill asks for hints on achieving a more uniform look. One technique that I found that works in a wide variance in humidity and produces a uniform sheen is to spray paint the varnish. I use a Binks 15 touch-up gun which I got a garage sale for about \$20.00 and a large airbrush compressor that can still put out enough air to power it for an average size canvas or board. A touch-up gun is in between the size of an airbrush and a full size spray gun like what is used to paint cars. I recommend spraying on a flat level surface to eliminate the possibility of runs and thinning with Liquitex airbrush thinner which is a polymer material, although distilled water will work. It is also helpful to have a glaring source of light (at about 45 degrees to the board) this way you can see the wetting pattern and helps to avoid skipping areas and "orange peel areas" which are areas that did not receive enough paint. The best finish is achieved spraying one direction first, let dry, then spray the second coat 90 degrees to the first. This technique also works good on making a nice paintable ground to brush or airbrush on, especially black backgrounds. I have also seen some "imitation" Binks touch-up guns at discount outlets such as Harbor Freight and sometimes Home Depot. I highly recommend one in any artist's stable of airbrushes.



Close Call by Jon Ramer

A Mars-like planet with a large moon has a close call as a small cometary fragment passes between the two bodies.

Little Snowballs - Big Facts

Comets...

- * May be the oldest, most primitive bodies in the solar system preserving the earliest record of material from the nebula which formed the sun and the planets.
- * Bring volatile light elements to the planets, playing a role in forming oceans and atmospheres.
- * Are the most organic-rich bodies in the solar system providing ready-formed molecules possibly involved in the origin of life on Earth.
- * Impact the Earth and other planets at hypervelocities, causing major changes in climate and dramatically affecting the ecological balance, possibly including the extinction of the Dinosaurs.
- * Are the building blocks of planetary systems around other stars.
- * Make great pictures for the IAAA artist.... ;-)

Kudos Korner

- There is a space art show at the Brea City Gallery in Brea California from August 14 thru October 15. NASA and JPL will also have displays there. The gallery is fairly large and several IAAA artists will be showing works there. They are Chris Butler Aldo Spadoni, Laura and Kelly Freas, Bob Kline, and Robin Hart
- Check out the September 99 *Sky and Telescope* for a Jon Lomberg cover and some nice interiors
- The latest issue of *Astronomy* has a great image by John Whatmough of a brown dwarf
- Hope you saw the second half of "To The Moon" NOVA special on PBS. Bill Hartmann had a nice segment! Way to go Bill!!!
- Anybody got any news out there?.....

Profile: Brian Franczak These days, while I make my living and am best known for my work as a dinosaur illustrator, I was born in 1955 and have always considered myself a true child of the Space Age. My youth was spent quite enthusiastically glued to the television set through the Mercury, Gemini, and Apollo programs. My most cherished memory, the one that still gives me a thrill and unfailingly brings a tear to my eye, is of watching -- live! -- Neal Armstrong stepping off the LEM onto the lunar surface. Of my artistic influences from that period, Chesley Bonestell's wondrous work in *THE WORLD WE LIVE IN* and *BEYOND THE SOLAR SYSTEM* caught and sparked my imagination early on. But not only images of space captured my youthful mind: I began reading science fiction while still in elementary school as well; Lester del Rey's *MOON OF MUTINY* and *OUTPOST OF JUPITER* were two early favorites, as was H.G. Wells' *THE WAR OF THE WORLDS*. I also avidly watched *STAR TREK* on TV during those years, and remember quite well sitting in the dark at the Strand Theater in the summer of 1968 when Stanley Kubrick's *2001: A SPACE ODYSSEY* debuted. Later on, in the mid-1980s, influenced by the works of Sternbach, Miller, Hartmann, Hardy, Pesek and others, I seriously began considering a career as a space art/science fiction illustrator, and started preparing several paintings that, while containing fanciful elements, were still grounded in hard astronomical science. Alas, somewhere in the middle of creating that work, I was distracted by my other childhood passion, dinosaurs, and have spent the last decade-and-a-half in worlds of the past rather than worlds of the future. But through all that, I was and am still enthralled by science fiction and space, and lately, my mind seems to be being drawn outwards again. I think the time has come to revisit those other worlds.

WATCHING FOR A LUNAR IMPACT

by Don Davis

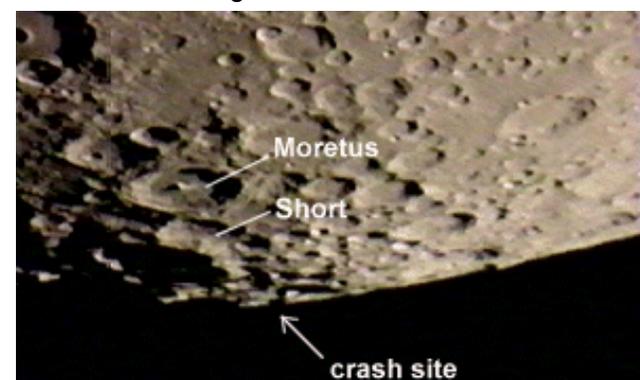
The night that Lunar Prospector was to impact the Moon I took out my 10 inch Dobsonian, cleaned the filmy and dusty mirrors, then took the telescope outside an hour before the impact and returned to a temperature acclimated telescope just before the scheduled event.

The seeing was fairly good for the area, a bit of rippling air texture overlaid the crisp shadow detail along the southern edge of the otherwise brilliant nearly full Moon. The dazzling starburst 'ray' pattern around Tycho crater is the most prominent full moon landmark, and its streaky 'rays' were draped across the irregular southern terrain. A few isolated tall mountains stood out over the edge of the disk, or the 'limb' and a few shadowed crater rims nearly skirting the edge gave striking illusions of tall precipices across the region the Prospector was destined to plunge. The time came and went, I studied this region which sported much flickering fine detail and textures, and saw nothing. I scanned along the dark skies with the Moon just out of frame and saw no expanding envelope of debris nor any angled dust spray. I really didn't expect to, but it was nice to look at the Moon and know something was happening there for the first time in over a quarter century.

It brought back just a bit of the old thrill of the Glory days of Apollo to know the hand of man was at work on this nearby world. After the event was over I swung the telescope towards two rising planets, first bright Jupiter rising above the trees. Its flattened bright disk was escorted by the four large satellites, and the globe was white in the equatorial zone, ivory across the rest of the disk, and two prominent tan-brown belts with irregular edges separating the two major color zones. More fainter belts swam in and out of visibility in the higher latitudes.

Next I glanced at Saturn and was delighted to see the bright rings nearly widened enough to cover the poles of the planet. Saturn's shadow is especially prominent now, and the ringed planet is looking strikingly three dimensional. I can't wait to see the Hubble photos being taken around this time and as the rings widen.

Although spacecraft close-ups of the planets and moons may be harder to come by in the future, at least the various great observatories are gathering images from distant space which will provide inspiration to us all on a continuing basis.



Lunar Prospector's last resting spot, and Gene Shoemaker's. A small vial of Gene's ashes were on board LP.

Image from NASA Lunar Prospector page.

WINNING BIG AT THE DIG!

From Pat Rawlings

I am happy to announce that ALL of the OPEN CATEGORY winners in The First Annual DIGS Digital Space Art Competition are IAAA members. Check out the web site to see the images :

www.taaccl.org/DIGSArtShow/main.htm

The winners are as follows:

BEST OF SHOW

Aurora Planet

Mark Garlick

1ST PLACE

Daedulus

Joe Bergeron

2ND PLACE

Encounter: The Final Trim

B E Johnson

THIRD PLACE

Oceans of 70 Virginis

John Whatmough

HONORABLE MENTIONS

Abandon in Place

Paul Hoffman

Sunrise on Triton

Walt Myers

Congratulations to all!! And see you next year...

Crossing Orbits

by BE Johnson

The view is from primordial Earth with a swollen, red, impact cratered Moon in the distance, about the theory of most of our water and life-building molecules arriving here in the form of comets.

