

Southwest Florida Astronomical Society

SWFAS



The Eyepiece April 2010

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A MESSAGE FROM THE PRESIDENT

April will hopefully bring some warmer weather and help us to turn around the corner from a winter that has been described by many as the worse they have seen here in over thirty years. We have had two great nights of observing down at the Fakahatchee Strand viewing site, and I understand that we had a good night on March 20th at the Caloosahatchee Regional Park. The Lyrid meteor shower peaks this month before dawn on April 22nd. The shower will remain active from April 16th through April 22nd and should produce around 25 meteors per hour if you are viewing from a dark site. The moon will set around 3:00 AM on the 22nd, and this should make prime viewing of the shower under a dark sky.

We had to cancel two more events in March, namely the Gulf Elementary School Astronomy Night, and the Cape Coral Rotary Club's event that was to be held on March 12th. The Gulf Elementary School event has been canceled for this year due to a more pressing situation. I have sent an email to Ms. Katie Locklin of the Cape Coral Parks and Recreation Department and proposed some new dates for April and May for her to consider. I have been contacted by additional groups that are looking for our support, but nothing has been firmed up yet. Our club continues to get visibility through our many events that we support, and through our website and the Night Sky Network. We currently have 108 members in the club and we continue to attract new members each month.

Planets in the evening sky consist of Mercury and Venus in the west, Mars in the southwest and Saturn in the southeast. Around midnight, Mars will be in the west, and Saturn will be in the south. Jupiter and Uranus will be in the east in the morning sky along with Saturn in the west.

President's Message Continues...

Please remember to pay your dues for 2010. Dues can be paid at our monthly meeting, or mailed to our post office box i.e. Southwest Florida Astronomical Society, Inc., P.O. Box 100127, Cape Coral, Florida 33910. Your continued support will be greatly appreciated as our annual costs continue to rise. If you have a question as to whether you have paid your 2010 dues, please contact our Treasurer, Stewart Rorer or me.

Also, if you want to buy a shirt and hat with the SWFAS logo on them, you can send a check to our post office box along with your size. The check should be made out to SWFAS. The new shirts will be white with our logo being blue as before. Shirts and hats will be \$30.00, or if you just want a shirt it will be \$24.00. If you just want to buy a hat, the cost will be \$6.00. Stewart Rorer has put in one order all ready, but we can order them at any time.

April Meeting

Our April meeting will be at the Calusa Nature Center Planetarium at 7:30 PM on Thursday, April 1st. Our guest speaker for the evening will be Mr. Robert Gurnitz. Mr. Gurnitz's presentation will be on the 2009 solar eclipse that he traveled to China to observe and photograph. Please make an effort to attend and provide Mr. Gurnitz a good size audience. His talk will begin at 7:30 PM, and then will be followed by a short business meeting.

CRP Dates

Jon Martin has selected the dates for the rest of the year for Caloosahatchee Regional Park observing. They are: Apr 10, May 8, June 12, Jul 10, Aug 7, Sep 11, Oct 9, Nov 6, and Dec 4.

WGPU's Gulf Coast Live Interviews SWFAS Members

From SWFAS Member Stewart Rorer:

On March 2, 2010 Dr. Fauerbach and I were interviewed on WGPU's "Gulf Coast Live" from 12 noon to 12:30 p.m. We answered questions that listeners called in. I mentioned our meeting at the Calusa Nature Center this Thursday at 7:30 in response to an inquiry about light pollution. Dr. Fauerbach waxed enthusiastic about FGCU's new Hydrogen Alpha deep sky filter for the 16" telescope. In response to "What is the most impressive astronomical object you've ever seen?" Dr. Fauerbach answered, "Saturn with the Orion Nebula in second place." My answer was "Omega Centauri, a globular cluster with over 500,000 stars in a single field of view." Dr. Fauerbach cited the lunar landings as having stimulated his initial interest in astronomy. Mine had been awakened by the sight of a total lunar eclipse out of a second floor window in our house. While off the air, we all discussed the development of self-pointing telescopes and the decreasing prices of larger aperture amateur telescopes.

Link to WGPU website: <http://wgcu.org/programs/gulfcoastlive/default.aspx>

To listen to the entire program, <http://wgcu.org/audioplayer/6692.aspx>

- *Stew Rorer*

2010 Exploring Space Lectures Online

The 2010 Exploring Space Lectures will feature world-class scholars discussing the incredibly diverse worlds that make up our solar system. The lectures will be held at the National Air and Space Museum in Washington, D.C., and are free to attend. If you are unable to attend the lectures, they will be webcast live for free viewing online. Lecture videos will be archived.

Give and Take: The Story of Martian Winds

Mars is a vast cold desert whose red surface is swept by winds. These winds can raise enormous amounts of dust, with some storms enveloping the entire planet. Ronald Greeley of Arizona State University will use remarkable images from multiple Mars missions to discuss the power of the wind.

The lecture will take place on **April 7, 2010**, at 8 p.m. For more information, visit <http://www.nasm.si.edu/events/eventDetail.cfm?eventID=1767>.

Impact Cratering and the Solar System Cataclysm

Impact cratering is a process with devastating effects on a planet and its environment. Very large impacts have the power to destroy whole oceans and life. Robert G. Strom of the University of Arizona will discuss how impacts have shaped the solar system we see today.

The lecture will take place on **April 29, 2010**, at 8 p.m. For more information, visit <http://www.nasm.si.edu/events/eventDetail.cfm?eventID=1768>.

Phoenix's Arctic Adventure

For five months in 2008, the Phoenix spacecraft studied a northern arctic plain of Mars on a quest to understand the history of water in the planet's polar regions. Peter Smith of the University of Arizona will discuss what Phoenix taught us about water, climate cycles and habitability on Mars.

The lecture will take place on **June 3, 2010**, at 8 p.m. For more information, visit <http://www.nasm.si.edu/events/eventDetail.cfm?eventID=1769>.

Noted Astronomers and Latest Astronomical Discoveries Featured in Two Podcast Series from the Astronomical Society of the Pacific

The web-site of the nonprofit Astronomical Society of the Pacific now provides two different series of podcasts involving interviews with and talks by leading astronomers: 1) "Astronomy Behind the Headlines" features short interviews that give you a look at the latest discoveries in astronomy and space science and provide links to related resources and activities. It is particularly designed for the staff of science museums, planetariums, and nature centers, but can be enjoyed by educators in all settings and everyone who follows astronomy.

The latest episode takes a look at the black hole at the dusty heart of the Milky Way Galaxy. We can't see it visually, but radio astronomers can spot it with their instruments. A group led by Dr. Shep Doeleman at MIT's Haystack Observatory recently made a startling measurement of the disk through which the black hole is gathering in material, and in a brief interview, Dr. Doeleman explains the meaning of his discovery. To listen to the latest episode, access related resource and subscribe via iTunes or XML, go to:<http://www.astrosociety.org/abh/>

Other podcasts in the series include interviews with planetary astronomer Heidi Hammel and meteor expert and meteorite discoverer Peter Jenniskens.

2) "The Silicon Valley Astronomy Lectures" feature complete talks by noted astronomers, recorded in both audio-only and video formats. Among the scientists who have spoken recently in the series are: Paul Kalas, whose group took the first visible-light image of a planet around another star (using the Hubble Space Telescope); Lynn Rothschild, an astrobiologist who explores some of the most hostile places on Earth to find life forms that might also survive on other worlds; and Patricia Burchat, a physicist who is seeking a better understanding of the dark matter and dark energy that seem to make up most of the universe through experiments.

Recordings of past speakers include Frank Drake, the father of the experimental search for extra-terrestrial intelligence, planet hunter Geoff Marcy, and Stephen Beckwith, the former Director of the Hubble.

You can find the audio podcasts, and instructions for getting to the video versions at: <http://www.astrosociety.org/education/podcast/>

- Founded in 1889, the Astronomical Society of the Pacific is an international scientific and educational organizations, whose primary goal is to increase the public understanding of astronomy.

Saturn and Lutetia Share "What's Up?" Podcast

Our favorite planet is daring you to step outside and look at it this month! Its easy to see from the city from now through July, the later the better.

In a dark sky, and through a telescope you'll see subtle cloud bands of custard, butterscotch and hazelnut crème, and the wafer-thin ring bisects the planet, allowing you to see its oblateness this month. What a tasty treat for your eyes!

So it should come as no surprise that the topic of my What's Up podcast for March 2010 is Saturn. But I also share the podcast space with a challenging object, the 12th magnitude (nearly as faint as Pluto) asteroid 21 Lutetia, which is halfway between Saturn on the horizon and Mars (nearly overheard and the color of a blood orange).

I had a look at Lutetia last month, and by month end it will be well placed right next to some pretty galaxies in Leo! Next to M105 on March 31st, to be specific.

Here are several podcast viewing options:

- JPL's new Video Banner points to all the awesome JPL video products :-)
<http://www.jpl.nasa.gov/index.cfm>
- SSE: Additional formats of my podcast, with several educational activities about Saturn and asteroids to compliment the podcast, plus archives of all 33 podcasts back to April 2007 <http://is.gd/a5kUj>
- YouTube <http://is.gd/7ITxd>
- NASA podcast page, RSS feed, Itunes <http://is.gd/a5lc4>

Here's looking at you, Saturn!

- Jane Houston Jones, Senior Outreach Specialist, Cassini Program,
jane.h.jones@jpl.nasa.gov

Historic Deep Space Network Antenna Starts Major Surgery



Like a hard-driving athlete whose joints need help, the giant "Mars antenna" at NASA's Deep Space Network site in Goldstone, Calif. has begun major, delicate surgery. The operation on the historic 230-foot antenna, which has received data and sent commands to deep space missions for over 40 years, will replace a portion of the hydrostatic bearing assembly. This assembly enables the antenna to rotate horizontally.

The rigorous engineering plans call for lifting about 9 million pounds of finely tuned scientific instruments a height of about 0.2 inches so workers can replace the steel runner, walls and supporting grout. This is the first time the runner has been replaced on the Mars antenna.

The operation, which will cost about \$1.25 million, has a design life of 20 years.

The repair will be done slowly because of the scale of the task, with an expected completion in early November. The network will still be able to provide full coverage for deep space missions by maximizing use of the two other 230-foot antennas at Deep Space complexes near Madrid, Spain, and Canberra, Australia, and arraying several smaller 110-foot antennas together.

NASA built the Mars antenna when missions began venturing beyond the orbit of Earth and needed more powerful communications tools. The Mars antenna was the first of the giant antennas designed to receive weak signals and transmit very strong ones far out into space when it became operational in 1966.

While officially dubbed Deep Space Station 14, the antenna picked up the Mars name from its first task: tracking the Mariner 4 spacecraft, which had been lost by smaller antennas after its historic flyby of Mars. Through its history, the Mars antenna has supported missions including Pioneer, Cassini and the Mars Exploration Rovers. It received Neil Armstrong's famous communiqué from Apollo 11: "That's one small step for man. One giant leap for mankind." It has also helped with imaging nearby planets, asteroids and comets by bouncing its powerful radar signal off the objects of study.

A flat, stable surface is critical for the Mars antenna to rotate slowly as it tracks spacecraft. Three steel pads support the weight of the antenna rotating structure, dish and other communications equipment above the circular steel runner. A film of oil about the thickness of a sheet of paper - about 0.010 inches - is produced by a hydraulic system to float the three pads.

After decades of constant use, oil has seeped through the runner joints, slowly degrading the structural integrity of the cement-based grout that supports it. Rather than continuing on a weekly schedule to adjust shims underneath the runner to keep it flat, Deep Space Network managers decided to replace the whole runner assembly.

Over the next few months, workers will lay a new epoxy grout that is impervious to oil and fit the antenna with a thicker runner with more tightly sealed joints. They will then test that the rotation is smooth before turning the antenna back on again.

- The full version of this story with accompanying images is at:

http://www.jpl.nasa.gov/news/news.cfm?release=2010-083&cid=release_2010-083

Researchers reassert that impact killed dinosaurs

An all-star panel of researchers says it was the crash of a giant asteroid that killed off the dinosaurs.

Think you've heard that before? You're right.

In 1980, Louis Alvarez and his son Walter published a paper blaming the dinosaur extinction 65 million years ago on an asteroid impact. The probable crater was later found at Chicxulub, Mexico, and the idea gained wide scientific acceptance.

In the past few years, however, suggestions were made that the demise of the dinosaurs might have been caused by the eruption of volcanoes, known as the Deccan Traps, in India, or multiple asteroid impacts.

That prompted 41 geologists, paleontologists and other researchers to come together to review the data.

Their conclusion, in the journal *Science*: It was a giant asteroid striking Chicxulub that blasted a cloud around the world that led to the end of the dinosaurs. The argument for multiple impacts isn't supported by worldwide data, and the Deccan eruptions actually began 400,000 years before the end of the dinosaurs.

- http://news.yahoo.com/s/ap/20100304/ap_on_sc/us_sci_dino_demise

Science magazine: *Science*: <http://www.sciencemag.org>

The Multiplying Mystery of Moonwater

Moonwater. Look it up. You won't find it. It's not in the dictionary.

That's because we thought, until recently, that the Moon was just about the driest place in the solar system. Then reports of moonwater started "pouring" in – starting with estimates of scant amounts on the lunar surface, then gallons in a single crater, and now 600 million metric tons distributed among 40 craters near the lunar north pole.

"We thought we understood the Moon, but we don't," says Paul Spudis of the Lunar and Planetary Institute. "It's clear now that water exists up there in a variety of concentrations and geologic settings. And who'd have thought that today we'd be pondering the Moon's hydrosphere?"

Spudis is principal investigator of NASA's Mini-SAR team – the group with the latest and greatest moonwater "strike." Their instrument, a radar probe on India's Chandrayaan-1, found 40 craters each containing water ice at least 2 meters deep.

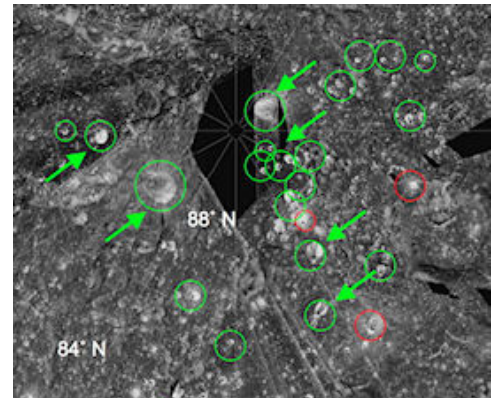
Right: A Mini-SAR radar map of the lunar north pole. Craters circled in green are believed to contain significant deposits of frozen water.

"If you converted those craters' water into rocket fuel, you'd have enough fuel to launch the equivalent of one space shuttle per day for more than 2000 years. But our observations are just a part of an even more tantalizing story about what's going on up on the Moon."

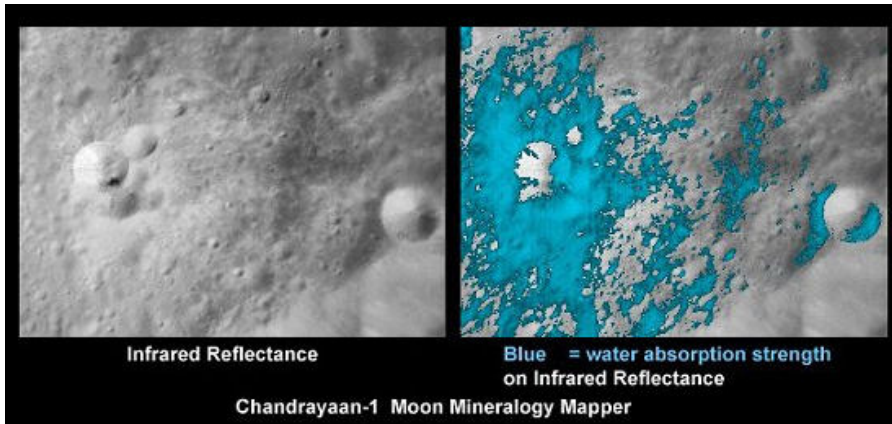
It's the story of a lunar water cycle, and it's based on the seemingly disparate – but perhaps connectable – results from Mini-SAR and NASA's recent LCROSS mission and Moon Mineralogy Mapper (M3) instrument also on Chandrayaan-1.

"So far we've found three types of moonwater," says Spudis. "We have Mini-SAR's thick lenses of nearly pure crater ice, LCROSS's fluffy mix of ice crystals and dirt, and M3's thin layer that comes and goes all across the surface of the Moon."

On October 9, 2009, LCROSS struck water in a cold, permanently dark crater at the lunar south pole. Since then, the science team has been thoroughly mining their data.



"It looks as though at least two different layers of our crater soil contain water, and they represent two different time epochs," explains Anthony Colaprete, LCROSS principal investigator. "The first layer, ejected in the first 2 seconds from the crater after impact, contains water and hydroxyl bound up in the minerals, and even tiny pieces of pure ice mixed in. This layer is a thin film and may be relatively 'fresh,' perhaps recently replenished."



Left: Shown in false-color blue, a thin layer of water-rich minerals cover an expanse of terrain around a young lunar crater. Credit: Chandrayaan-1/Moon Mineralogy Mapper.

According to Colaprete, this brand of moonwater resembles the moonwater M3 discovered last year in scant but widespread amounts, bound to the rocks and dust in the very top millimeters of lunar soil.

The second layer is different. "It contains even more water ice plus a treasure chest of other compounds we weren't even looking for," he says. "So far the tally includes sulfur dioxide (SO₂), methanol (CH₃OH), and the curious organic molecule diacetylene (H₂C₄). This layer is probably older than the ice we're finding on the surface." They don't know why some craters contain loads of pure ice while others are dominated by an ice-soil mixture. It's probably a sign that the moonwater comes from more than one source.

"Some of the water may be made right there on the Moon," says Spudis. "Protons in the solar wind can make small amounts of water continuously on the lunar surface by interacting with metal oxides in the rocks. But some of the water is probably deposited on the Moon from other places in the solar system."

Right: A plume of water-rich vapors billows up from crater Cabeus on Oct. 9, 2009, after LCROSS's Centaur booster hit the crater floor.

The Moon is constantly bombarded by impactors that add to the lunar water budget. Asteroids contain hydrated minerals, and comet cores are nearly pure ice.

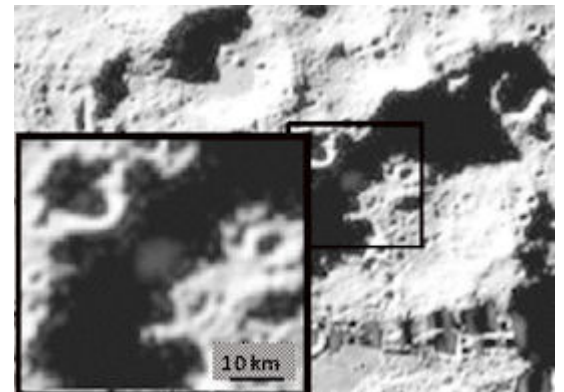
The researchers also think that much of the crater water migrates to the poles from the Moon's warmer, lower latitudes. "All our findings are telling us there's an active water cycle on the Moon," marvels Colaprete.

Think about it. The "driest place in the solar system" has a water cycle.

"It's a different world up there," says Spudis, "and we've barely scratched the surface. Who knows what discoveries lie ahead?"

Moonwater. Add it to the dictionary.

- Author: Dauna Coulter | Editor: Dr. Tony Phillips | Credit: Science@NASA



Cassini Data Show Ice and Rock Mixture Inside Titan

By precisely tracking NASA's Cassini spacecraft on its low swoops over Saturn's moon Titan, scientists have determined the distribution of materials in the moon's interior. The

subtle gravitational tugs they measured suggest the interior has been too cold and sluggish to split completely into separate layers of ice and rock.

The finding, published in the journal *Science*, shows how Titan evolved in a different fashion from inner planets such as Earth, or icy moons such as Jupiter's Ganymede, whose interiors have split into distinctive layers.

Scientists have known that Titan, Saturn's largest moon, is about half ice and half rock, but they needed the gravity data to figure out how the materials were distributed. It turns out Titan's interior is a sorbet of ice studded with rocks that probably never heated up beyond a relatively lukewarm temperature. Only in the outermost 300 miles is Titan's ice devoid of any rock, while ice and rock are mixed to various extents at greater depth.

"To avoid separating the ice and the rock, you must avoid heating the ice too much," said David J. Stevenson, a professor of planetary science at the California Institute of Technology. "This means that Titan was built rather slowly for a moon, in perhaps around a million years or so, back soon after the formation of the solar system."

This incomplete separation of ice and rock makes Titan less like Jupiter's moon Ganymede, where ice and rock have fully separated, and perhaps more like another Jovian moon, Callisto, which is believed to have a mixed ice and rock interior. Though the moons are all about the same size, they clearly have diverse histories.

The Cassini measurements help construct a gravity map, which may help explain why Titan has a stunted topography, since interior ice must be warm enough to flow slowly in response to the weight of heavy geologic structures, such as mountains.

Creating the gravity map required tracking minute changes in Cassini's speed along a line of sight from Earth to the spacecraft as it flew four close flybys of Titan between February 2006 and July 2008. The spacecraft took paths between about 800 to 1,200 miles above Titan.

"The ripples of Titan's gravity gently push and pull Cassini along its orbit as it passes by the moon and all these changes were accurately recorded by the ground antennas of the Deep Space Network within 0.2 thousandths of an inch per second even as the spacecraft was more than 600 million miles away," said Luciano Iess, a Cassini radio science team member. "It was a tricky experiment."

The results don't speak to whether Titan has an ocean beneath the surface, but scientists say this hypothesis is very plausible and they intend to keep investigating. Detecting tides induced by Saturn, a goal of the radio science team, would provide the clearest evidence for such a hidden water layer.

- JPL News Release

Ten Craters on Mercury Receive New Names

The International Astronomical Union (IAU) recently approved a proposal from the MESSENGER Science Team to confer names on 10 impact craters on Mercury. The newly named craters were imaged during the mission's three flybys of Mercury in January and October 2008 and September 2009.

The IAU has been the arbiter of planetary and satellite nomenclature since its inception in 1919. In keeping with the established naming theme for craters on Mercury, all of the craters are named after famous deceased artists, musicians, or authors.

"All of the newly named features figure importantly in ongoing analysis of Mercury's geological history," says MESSENGER Principal Investigator Sean Solomon. "The MESSENGER Science Team is pleased that the IAU has responded promptly to our latest request for new names, so that the identities of these craters in the scientific literature can be clearly conveyed."

The newly named craters include:

- Bek, named for the chief royal sculptor (active c. 1340 B.C.) during the reign of Pharaoh Akhenaten, a Pharaoh of the 18th dynasty of Egypt. Bek is credited with the development of the "Amarna Style," the distinctive combination of the exceptionally mannered and the naturalistic.
- Copland, for Aaron Copland (1900-1990), an American composer of concert and film music, as well as an accomplished pianist. He was instrumental in forging a distinctly American style of composition.
- Debussy, for Claude Debussy (1862-1918), among the most important of French composers and one of the most prominent figures working within the field of impressionist music.
- Dominici, for Maria de Dominici (1645-1703), a Maltese sculptor and painter said to have made portable cult figures used for street processions on religious feast days.
- Firdousi, for Hakīm Abu'l-Qāsim Firdawsī Tūsī (935-1020), a revered Persian poet and author of the *Shāhnāme*, the national epic of Persian people and of the Iranian world.
- Geddes, for Wilhelmina Geddes (1887-1955), an Irish stained-glass artist and member of the Arts and Crafts Movement. She created a new view of men in stained glass windows, portraying them with close-shaven crew cuts.
- Hokusai, for Katsushika Hokusai (1760-1849), a Japanese artist and printmaker of the Edo period. He is best-known as author of the woodblock print series, *Thirty-six Views of Mount Fuji*, which includes the iconic print, *The Great Wave off Kanagawa*, created during the 1820s.
- Kipling, for Rudyard Kipling (1865-1936), a British author and poet regarded as a major innovator in the art of the short story. He is best known for his works of fiction, poems, and many short stories, including those in *The Jungle Book*.
- Picasso, for Pablo Picasso (1881-1973), a Spanish painter and sculptor best known for co-founding the Cubist movement and for a wide variety of styles.
- Steichen, for Edward Steichen (1879-1973), an American photographer, painter, and art gallery and museum curator. He was the most frequently featured photographer in Alfred Stieglitz's groundbreaking magazine *Camera Work*.

More information about the names of features on Mercury and the other objects in the Solar System can be found at the U.S. Geological Survey's Planetary Nomenclature Web site: <http://planetarynames.wr.usgs.gov/index.html>.

- *MESSENGER Mission News, March 16, 2010, <http://messenger.jhuapl.edu>*

Teachers Sought as NASA MESSENGER Educator Fellows

Teachers from across the U.S. are invited to apply to become Educator Fellows for NASA's MESSENGER mission to Mercury. The 30 master teachers chosen for the program will receive

special training to help them conduct teacher training workshops featuring lessons for grades pre-K to 12 developed in support of the mission.

The MESSENGER Educator Fellowship Program is designed to provide teachers and school districts with exceptional educational materials and professional development strongly tied to the space science curriculum, as well as to inspire the next generation of America's scientists and engineers through NASA missions. Since the program's inception in 2003, more than 14,000 educators across the nation have been trained by the Fellows.

The Fellows selected for the program will receive a five-day training workshop in Washington, D.C., business cards that identify them as a MESSENGER Educator Fellow, copies of lessons, a how-to manual on conducting effective teacher training workshops, online resources to promote the workshops, and other NASA resources. In return, Fellows commit to conducting teacher training workshops that reach a minimum of 100 teachers per year for two years. Practicing teachers and teacher trainers in both formal and informal education settings are encouraged to apply.

The deadline for applications is April 10, 2010. Additional information is available online at <http://messenger-education.org/teachers/ao.php>.

The Space Place



Deadly Planets

By Patrick L. Barry and Dr. Tony Phillips

About 900 light years from here is a rocky planet not much bigger than Earth. It goes around its star once every hundred days, a trifle fast, but not too different from a standard Earth-year. At least two and possibly three other planets circle the same star, forming a complete solar system.

Interested? Don't be. Going there would be the last thing you ever do.

The star is a pulsar, PSR 1257+12, the seething-hot core of a supernova that exploded millions of years ago. Its planets are bathed not in gentle, life-giving sunshine but instead a blistering torrent of X-rays and high-energy particles.

"It would be like trying to live next to Chernobyl," says Charles Beichman, a scientist at JPL and director of the Michelson Science Center at Caltech.

Our own Sun emits small amounts of pulsar-like X-rays and high energy particles, but the amount of such radiation coming from a pulsar is "orders of magnitude more," he says. Even for a planet orbiting as far out as the Earth, this radiation could blow away the planet's atmosphere, and even vaporize sand right off the planet's surface.

Astronomer Alex Wolszczan discovered planets around PSR 1257+12 in the 1990s using Puerto Rico's giant Arecibo radio telescope. At first, no one believed worlds could form around pulsars—it was too bizarre. Supernovas were supposed to destroy planets, not create them. Where did these worlds come from?

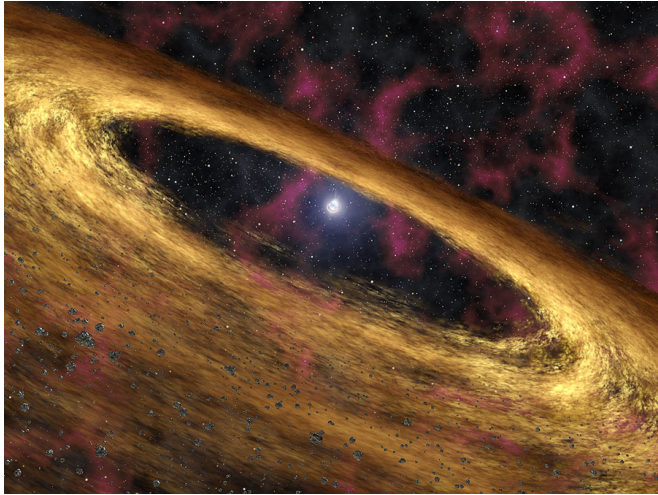
NASA's Spitzer Space Telescope may have found the solution. In 2005, a group of astronomers led by Deepto Chakrabarty of MIT pointed the infrared telescope toward pulsar 4U 0142+61. Data revealed a disk of gas and dust surrounding the central star, probably wreckage from the supernova. It was just the sort of disk that could coalesce to form planets!

As deadly as pulsar planets are, they might also be hauntingly beautiful. The vaporized matter rising from the planets' surfaces could be ionized by the incoming radiation, creating colorful auroras across the sky. And though the pulsar would only appear as a tiny dot in the sky (the

pulsar itself is only 20-40 km across), it would be enshrouded in a hazy glow of light emitted by radiation particles as they curve in the pulsar's strong magnetic field.

Wasted beauty? Maybe. Beichman points out the positive: "It's an awful place to try and form planets, but if you can do it there, you can do it anywhere."

Find more news and images from Spitzer at <http://www.spitzer.caltech.edu/> . In addition, The Space Place Web site features several games related to Spitzer and infrared astronomy, as well as a storybook about a girl who dreamed of finding another Earth. Go to <http://tiny.cc/lucy208>.



Caption:

Artist's concept of a pulsar and surrounding disk of rubble called a "fallback" disk, out of which new planets could form.

This article was provided courtesy of the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



Quarterly Prizes and 400 Years Rebroadcast

Be sure to log your first quarter events by Thursday April 1st to qualify for the Quarterly Prize Drawing on Monday, April 5th and increase your chance of winning a 400 Years of the Telescope DVD and official companion book, and a Night Sky Network red LED flashlight. Remember your Glass and Mirrors ToolKit was made to complement the PBS program, 400 Years of the Telescope, which will be re-broadcast in April. Check your local listings for airdate and time: <http://www.400years.org/en/>

Quarterly prize winners will be chosen randomly from the NSN events held between January 1 and March 31. The more events you log using NSN resources, the better your chances of winning. For those clubs that have not yet received all the ToolKits, remember you just need to log two events in the last quarter to qualify for the next ToolKit.

Need a Detective to Find Your Events?

In May 2010, the NSN will reach out to public audiences through a variety of technologies to let them know about your astronomy clubs and events. Stay tuned.

How can you help? Make it easy for new members to find your club by posting upcoming public events on the NSN calendar! Remember, we're shipping the new Night Sky Network banner to active clubs that have posted at least 10 upcoming public events. (Editor's note: SWFAS received our new NSN banner last week.) To add your events: Log into NSN and go to <https://nightsky.jpl.nasa.gov/club/event-edit.cfm>

Yet More Goodies

Have you checked the "Request Outreach Handouts" page on the Night Sky Network recently? Several new NASA handout items have been added. Request these colorful, engaging materials for visitors to your upcoming springtime events. Log in and go to:
<https://nightsky.jpl.nasa.gov/club/item-order1.cfm>

Special Events

GAM stands for Global Astronomy Month. It includes the entire month of April and builds on the excitement from the 100 Hours of Astronomy from last year. Check out:
<http://www.astronomerswithoutborders.org/index.php/projects/global-astronomy-month.html>

Just like you, the Astronomical Society of the Pacific (ASP) believes in improving science literacy through the enjoyment of astronomy. To keep up-to-date on activities, events, and resources provided by the ASP, sign up for free monthly notifications here:

<http://www.astrosociety.org/pubs/newsletter.html>

- *Marni Berendsen, Kenneth Frank and Jessica Santascoy, Night Sky Network*

SWFAS Minutes – February 4, 2010 and March 4, 2010

Minutes will be posted in a future newsletter.

Calendar of Events

Thursday, April 1, 7:30 PM, Meeting at the Calusa Nature Center and Planetarium

Monday, April 5, 6:27 AM, Space Shuttle Discovery launch, STS-131

Saturday, April 10, dusk, Star party at Caloosahatchee Regional Park

Saturday, April 24, 7:30 PM, Astronomy Day

Thursday, May 6, 7:30 PM, Meeting at the Calusa Nature Center and Planetarium

Saturday, May 8, dusk, Star party at Caloosahatchee Regional Park

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