

THE WRIGHT STUFF

THE OFFICIAL NEWSLETTER OF THE U.S.S. KITTY HAWK NCC 1659

A VIEW FROM THE CATBIRD SEAT

By J.R. Fisher

Happy New Year! When you get this issue of the newsletter, it will be the new year. 1998 was certainly an interesting one for everyone. For the Kitty Hawk it was perhaps the slowest one on record. But that is history.

We were able to close the old year with an excellent effort on the part of the crew. Twenty seven family and friends showed up for our ninth anniversary/holiday dinner. It was, as always, an excellent meal made brighter by the expectations of the coming convention in January. Next year December 17th falls on a Friday and it will be our tenth anniversary, so let's **all** plan to attend that one.

The other good news at the end of the year was just that; the end of the year. Our annual participation in Raleigh First Night was once more a successful one. We did not have to be out there as long this year, it was not as cold as it has been some years, and we still should clear about \$300.00 for the event. I would like to thank everyone who came out to help with the button sales; especially John Troan, who stayed the entire time with me. It really is a great event and can be a lot of fun.

So we begin a new year on the Kitty Hawk. What will it hold for us? What will it hold for you? Only you can answer these questions. The key is how much you give of yourself to the organization. The more you give, the more you will get in return.

We have been given a great opportunity to learn, grow and have fun with this upcoming convention! We will be assisting with the security, recruiting for STARFLEET and the Kitty Hawk, and will be presenting eight panels or programming segments! Everyone should get involved according to your interests!

I you are not comfortable doing

any of these things, please come to the convention and wear your Kitty Hawk shirt. We want everyone to know just how great a ship we have and we especially need to make our presence felt at this event. Let's make this the first Kitty Hawk convention!

For those of you who want to participate in a panel or presentation, please contact the following people:

Amy DeJongh - Alien Food Panel

Diana Waldier - Costuming

Brad McDonald - Model building/
special effects

Barry Jackson - Collecting

Janet Williams - Sci Fi writing

- Klingon language

- Beginning astronomy

Jeff Cohn - Children's programming

Carey Muse - Recruiting

Spring Brooks - Security

If you simply come to the convention and pay to come in and listen to the guests, etc., please stop by our table and let us know that you are there. Some of you we have not seen in person for some time and it would be nice to chat with you face to face.

The other item of immediate concern is the upcoming PBS telethon. We have been **asked** to help out this year by manning the phones on the night of February 27th from 7 p.m. until 12:30 a.m., and the night of March 27th from 7 p.m. until 11:30 p.m. They are going to be running a Red Dwarf marathon on that first evening (right after the Lawrence Welk special with live guest) and thought we would enjoy it! Uniforms are appropriate, wear one!

If you have not seen the new Star Trek movie: Insurrection; go see it. It is good. Some of us spent the first weekend at the Park Place 16 in

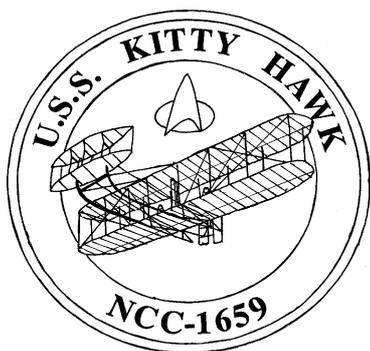
Morrisville as the guests of the manager: Ryan Foster. Brad brought part of his model fleet and John Troan brought an exposed view of the new Enterprise for display. We had good crowds Friday, Saturday, and Sunday; and we were well received by both staff and patrons. Mr. Foster donated the lobby display to the Kitty Hawk for auction at the January convention with the proceeds going to the Duke Children's Hospital jar. A letter of appreciation is being sent to him. Also, we hope to be back at his theater in January for "Virus" and to hand out flyers on the convention.

We have not had a lot of events this past year for various reasons, so there have not been many opportunities for the crew to excel. But as always, one person does step forward and give that extra effort to propel this ship to even higher heights of achievement. This year, our "crew person of the year" is Jeff Cohn.

Jeff has donated boxes and boxes of books to the club which we have sold and will auction to the crew with the proceeds going to the Duke jar. But more importantly, he has established a web page for the Kitty Hawk on the internet. He did all of the work and then simply said that it was ready if we wanted it. It will surely be upgraded and updated by department heads and others who play with that sort of thing, but it is there for all to see. Besides these things, Jeff has always volunteered his time when he was available.

Jeff has the Wright Stuff. I am convinced all of us on the Kitty Hawk do, or we would not be here. Let's show them all!

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VOLUME 9

CONTENTS

NUMBER 6

A VIEW FROM THE CATBIRD SEAT 1

MEDICAL REPORT 3

SCIENCE REPORT 3

FIRST OFFICER'S LOG 3

A CHANCE TO PARTICIPATE IN THE SEARCH FOR EXTRA-TERRESTRIAL INTELLIGENCE 4

SPACE FRONTIER CONFERENCE 5

UPCOMING EVENTS 6

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MEDICAL REPORT

By Amy DeJongh

I recently discovered the most expensive candy in the world, or close to it. Between the leftover Halloween candy we had to pass out to the ghosts, goblins and Teletubbies (the new toddler craze) and the candy that our girls collected (how much candy did these people think an 11 month-old could eat?), Glenn and I were faced with the task of somehow disposing of the candy that had accumulated at our house. Yes, some went to work and Elizabeth had some, but there was still a bowlful on the counter.

Day after day, the bowl stared at me. The temptation finally grew too much to avoid and I gave in to

the craving. Having changed my eating habits in my newest weight loss attempt, I decided that if I was going to have any candy, it needed to be the fat-free kind—no chocolate for me. So I selected an individually wrapped round ball that appeared to be a gumball. What could be better than chewing gum to avoid all the other goodies in the bowl?

The wrapper crackled as I removed the sphere, my mouth already salivating at the thought of the sweetness (I told you I had been dieting). I opened my mouth and popped in the ball, rolling it around to make the moment last. For anyone who has chewed gum, you know the sugar doesn't last for more than 5 seconds. I then gave in, biting into the...

CRACK! I don't know what made the sound, but I sure know it wasn't GUM. It was at that time I realized my wonderful, succulent

gumball was simply a jawbreaker masquerading as another treat. Oh, the deception I had been lead to! Curses on Willy Wonka and his chocolate factory making Everlasting Gobstoppers with only one side of the wrapper marked!

It was also then that I realized the Gobstopper was not what made the cracking noise. It was my tooth, making me realize that somehow, somewhere, someone was telling me I should not have been in the candy bowl. My poor innocent tooth, which wanted nothing else than to chew a piece of gum, had to be filed and drilled and fitted for a crown due to the microscopic fractures. Luckily, the dentist says that a root canal is only a distant possibility.

I hope that you all may learn from my mistakes. You can stop laughing at me now.

Be safe, be happy, be healthy.

SCIENCE REPORT

By Elaine Pischke

The editor apologizes to the Chief Science Officer for accidentally reprinting the Science Report from the October, 1997 newsletter in the previous newsletter. The report that should have been printed follows.

Got the space bug? Wish you were there? Buzz Aldrin has a dream - to send you there. It's called ShareSpace and it's a plan to send vacationers into orbit (for a large fee, I'm sure - but less than a cruise around the world). So far it's still on the drawing board, but if Buzz can raise the start-up money, it may not be too many more years before you can book a flight into orbit, possibly

even with a stay at an orbiting hotel. Talk about getting away from it all! And I guess you wouldn't have to worry about the weather ruining your vacation. Stay tuned.

Now for the current report!

Happy New Year, everyone. I hope everyone had a wonderful holiday season. Here we are at the start of a new year (again), and it promises to be a busy one. We have conventions coming up and I encourage everyone to participate in these activities and support them, so that we can get more real conventions in the area. In the world of science, there is exciting news from the moon, believe it or not. It appears there may be a rather large

supply of frozen water on the moon, in each of the polar regions. This is exciting because it makes the possibility of a lunar colony or commercial base a more realistic possibility. The discovery was made by Lunar Prospector, which has been orbiting the moon since January 1998 studying the chemistry of the soil from an altitude of 63 miles. A private corporation, LunaCorp of Arlington, VA, is proposing to land a robotic rover on the moon to drill for ice samples. This would piggyback their already in the works project to land a robotic rover on the moon in July 2002 for entertainment purposes. They plan to let people "visit" the moon by controlling the rover's cameras from a theme park here on Earth. What will they think of next?

FIRST OFFICER'S LOG

By Carey Muse

Hope everyone is having a happy holiday season and has great plans for a fabulous 1999. Just want to remind you that we do have a commitment for a convention. Please be thinking about your personal commitment to the convention as well as to the Kitty

Hawk. There is still plenty of opportunities for each of us to work and be involved in this convention.

I am suspending for now the Collector's Corner column. There doesn't really seem to be all that much available right now that is spectacular or unusual. When I hear of something that I think fits into one of these categories, I will be more than happy to pass this along either in a column or at a meeting. As far as the current movie

goes, there are the standard fare of items available, such as soundtracks, posters, trading cards, T-shirts, etc., but again this is common stuff that you know is already out there. As we approach the new Star Wars film coming out in May, I will try to keep you informed of what collectibles are available.

Again, my best wishes to all for the upcoming holiday season.

A CHANCE TO PARTICIPATE IN THE SEARCH FOR EXTRA-TERRESTRIAL INTELLIGENCE

By Jeff Cohn

An exciting opportunity will become available this spring. The UC Berkeley SETI program is setting up a worldwide program in which home computer users will be solicited to help analyze data obtained from the Arecibo radio telescope in Puerto Rico. When available, the software you need to participate can be downloaded for free. The following is taken verbatim from the SETI@HOME web established by UC Berkeley. The URL is:
<http://setiathome.ssl.berkeley.edu>.

SETI at Home

SETI@home is a grand experiment that will harness the spare power of hundreds of thousands of Internet-connected computers in the Search for Extra-Terrestrial Intelligence (SETI). With SETI@home, computer users from around the world will participate in a major scientific experiment. Each participant will have the slight but captivating possibility that his or her computer will detect the faint murmur of a civilization beyond Earth.

What is SETI@home?

The SETI@home program is a special kind of screensaver. Like other screensavers it starts up when you leave your computer unattended, and it shuts down as soon as you return to work. What it does in the interim is unique. While you are getting coffee, or having lunch or sleeping, your computer will be helping the Search for Extra-Terrestrial Intelligence by analyzing data specially captured by the world's largest radio telescope. While the SETI@home program is running you will be able to choose from three main "visualizations" of the experiment.

Science Mode shows the analysis taking place on the local machine. The significance of each

result is explained, and the process is illustrated to a level understandable by high school science students.

Sky Progress Mode shows how the entire experiment is covering the sky, and summarizes at a glance all the potentially interesting results found so far. The background for this visualization will usually be an accurate image of the bright stars in that region of the sky, but participants may choose more abstract representations as well.

Earth Progress Mode focuses on the people participating in the experiment. A view of the earth will be shown with a highlight for every individual or organization who is currently participating. The total number of computers involved will be displayed in real time, and participants who have been involved the longest, or have analyzed the most data, will be featured.

SETI@home will be accompanied by a Web site showing the current status of the search, providing various educational material and links on SETI, astrobiology, and astronomy, and hosting the download of the client software.

SETI Background

Current SETI research consists primarily of radio astronomers searching for narrow-bandwidth radio signals (radio waves are able to penetrate interstellar dust clouds, and narrow-bandwidth signals are not found in nature). There are a handful of such projects. Some are focusing on particular nearby stars, others are scanning star-dense parts of the sky. The SETI Institute's Project Phoenix is the best known of these projects.

All existing SETI projects use custom signal processing hardware, listening to the real-time telescope output on millions of frequency channels simultaneously. This analysis, though impressive, only

skims the surface of what is possible. Because real-time searches can only check a small number of bandwidths, frequency drift rates and pulse periodicities, it makes sense to consider a new kind of search -- one that analyses a smaller part of the frequency spectrum in a much more thorough way. This is the mission of SETI@home.

The Science Behind SETI@home

SETI@home is real science. The data is from the Arecibo radio telescope in Puerto Rico, the largest and most sensitive radio telescope in the world. By the time 50,000 PCs are involved, the scope of the search will rival all current SETI projects. SETI@home may indeed detect a signal that would otherwise be missed.

The project has three major components:

Data collection. SETI@home is working closely with SERENDIP, a SETI project based at UC Berkeley, which has continuous access to the Arecibo radio telescope. SERENDIP has designed a PC-based system that will extract a limited frequency band of their signal, sample it, and write it in real time to a digital tape. These tapes will be mailed to a file server in the U.S.

Data analysis. SERENDIP has developed a program for SETI@home that searches for strong signals at 4,000,000 different combinations of frequency, bandwidth, and chirp (the drift in frequency with time) illustrated here. The diversity and sensitivity of this analysis exceeds anything that can be done in real time.

Distributed computation. We have developed server-based software that divides the radio telescope data into chunks, distributes these chunks to clients, and collects the results. It also manages the distribution of architecture-specific versions of the

(Continued on page 5)

SPACE FRONTIER CONFERENCE

By Alastair Browne

On Columbus day weekend, at the Sheraton Gateway Hotel at Los Angeles Airport, the seventh annual Space Frontier Conference took place.

The Space Frontier Foundation is an organization of people dedicated to opening the space frontier to human settlement as rapidly as possible. The goals include protecting the Earth's fragile biosphere and creating a freer and more prosperous life for each generation by using the unlimited energy and material resources of space. The purpose is to unleash the power of free enterprise and lead a united humanity permanently into the solar system.

Many space advocates, from entrepreneurs to former Apollo astronauts attended this conference. Various subjects were covered, from rockets for CATS (cheap access to space) to mining asteroids, and also included space tourism and plans to return to the Moon-and stay.

Cheap Access to Space was covered, not only with the current development of the X-33 (VentureStar - single stage to orbit vehicle to succeed the space shuttle), and the X-34 (New York to Tokyo in two hours), but also privately proposed launched vehicles. For example, the Rotary Rocket that will lift off to orbit, then descend in the Earth's atmosphere, emit a propeller like that of a helicopter, slow down and land vertically. Other examples are rocket planes that ride piggyback on jets and

then launch at 120,000 feet. Spaceports, like the one being built in Alaska, have also been discussed.

Before business can prosper in space, the launch vehicle business must become a lot cheaper than it is now. The only role of the government here is to help the transportation industry develop inexpensive launch vehicles and then get out of the way. The obstacles to this are no tax incentives, bureaucratic infighting, and political favoritism towards certain companies.

Near Earth Asteroids, as seen in *Armageddon* and *Deep Impact*, may be a threat to our civilization, but they are also a treasure. We can send unmanned probes to sample an asteroid, and if it is found to be worth mining, we can do so. A Carbonaceous asteroid, two kilometers wide, can contain Iron, Nickel, Cobalt, and up to 20 Platinum group metals, worth up to \$20 trillion (that's right, trillion) - more money than what the world produces in goods in a year. With literally thousands of asteroids this size and bigger, there are more riches out there to provide for every human on this planet-and more!

The answer to "why are we sending people in space when there is so much poverty here on Earth" is that space has an infinite amount of resources that can provide for the poor. Instead of giving smaller pieces of the pie (the Earth's resources) to

everyone, we can go out in space and make the pie bigger. With the depletion of Earth's natural resources, we can exploit the resources up there, while we conserve down here.

Solar Power Satellites are satellites in Earth's orbit, absorbing the sun's rays and beaming them down to a receiving antenna (rectenna) in the form of microwaves to supply electricity.

Buzz Aldrin, the second man on the Moon, is now an advocate of space tourism. This, he believes, will open up the space frontier.

Returning to the Moon was also covered, since the Moon also has resources to be exploited, such as Helium-3, for yet to be developed fusion power.

Friday night was a champagne reception, with Apollo 7 astronaut Walter Cunningham. A new organization was formed, called Space Watch, to watch for Earth crossing asteroids that may pose a threat to our planet.

Saturday Night was the awards banquet, congratulating all those who worked with and for the Space Frontier Foundation the past year.

On Sunday, there were more forums, and then everyone departed with the confidence that a new space revolution was underway, a revolution for people to venture into space!

(Continued from page 4)

analysis code, and takes care of various security concerns. A data-flow diagram illustrates the entire process.

Project Plan

The project has been split into five phases:

Phase I -- Scientific and Technical Feasibility, 1996-1997. A scientific plan was developed that received widespread academic support at the 5th International Conference in Bioastronomy in July 1996. In 1997, a prototype of the client-based analyzer and distributed

computation infrastructure were created.

Phase II -- Science-Only Software Development, Jan-Aug 1998. We are currently creating a "Science Only" version of the software, and plan to make it available for download and testing in the summer of 1998.

This testbed will allow volunteers to perform real analysis of automatically distributed data, but will not include any of the compelling visualizations described earlier. Email will be sent out on the mailing list when this software is available.

Phase III -- Sponsorship Commitments. With definite

progress to show, we will actively solicit tax-free donations from our mailing list, and work with the Planetary Society to secure significant corporate sponsorship. As soon as we are sure we can raise at least \$200,000 from individual donations and corporate sponsors, we can proceed to...

Phase IV -- Hardware Development and Software Completion. To receive data from the telescope and write it to magnetic tape 24 hours per day, custom hardware must be developed, and control software written. During this period, which should take no more

(Continued on page 6)

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than six months, the client-side software will be significantly upgraded to include the screensaver functionality and visualizations described above. The web site will be upgraded to prepare for launch, and a database will be developed for post-processing the information sent back by the client program.

Phase V -- Launch and Operations. To survey as much of the sky as possible, the experiment will run for two years. The web site will be updated regularly with progress reports, and explanations of the results found so far.

Participate

Please show your support by joining our mailing list. This list will only be used for major SETI@home announcements, the first being the

availability of a Science-Only version of SETI@home in summer of 1998.

To join more than 100,000 people who have expressed interest in the project, please enter your full email address. When the Science-Only version of the software is available, we'll be asking friends of the project to make a small (or large!) donation to help us launch the full experiment. If you'd like to beat the rush and become one of the project's Founding Supporters, please click here. Donations are fully tax deductible.

A major issue for the SETI@home project is finding the right promotional partners and corporate sponsors. If you represent an organization with the resources and motivation to help us make SETI@home a reality, please send email.

SETI@home is sponsored by:

The Planetary Society
Sun Microsystems
Engineering Design Team, Inc.
(EDT).

The friends of SETI@home (people like you)!

SETI@home is scheduled to start in April 1999. To join our mailing list, please enter your full email address.

We will notify you when the free SETI@home software is available for downloading. Versions for the PC, Mac and Unix will be available.

Sponsors and technology partners of SETI@home include The Planetary Society, Paramount Pictures, Sun Microsystems, Fuji Film Computer Products, Informix, and Engineering Design Team, Inc.. SETI@home is also supported by private donations. It is based at the University of California at Berkeley.

UPCOMING EVENTS

Jan	3:	Laser Tag
	29 - 31:	Vulkon
Feb	6:	Kitty Hawk Meeting
	7:	Laser Tag

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