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GSFC Telescope Slated for Spacelab Flight

by Carolynne White

Goddard's Shuttle High-Energy Astrophysics Laboratory (SHEAL), originally planned to measure x-rays from the Shuttle payload bay during a 1992 flight, has been reconfigured so that one of its instruments, the Broad Band X-ray Telescope (BBXRT) can fly three years early to measure the x-rays emanating from Supernova 1987A.

The SHEAL payload, as previously configured, consisted of two instruments—the Diffuse X-ray Spectrometer (DXS), to measure the wavelengths of diffuse x-rays scattered throughout the interstellar medium, and the BBXRT, to measure the electrical charges of x-rays emanating from specific sources, such as quasars, active galaxies, galaxy clusters, and Supernova 1987. Both are controlled by a Two-Axis Pointing System (TAPS) which is secured to the shuttle payload bay by a Support Structure (TSS).

New Configuration

The new SHEAL configuration joins the BBXRT and its TAPS system and support structure with the Astro-1 payload for a 1989 Spacelab mission aboard the Shuttle. The complete SHEAL payload—including the DXS and the BBXRT—will still fly as originally scheduled on STS-56, in January 1992.

Astro, an Ultraviolet Astronomical Observatory managed by Marshall Space Flight Center (MSFC), originally was designed to study faint ultraviolet-bright objects such as quasars, active galactic nuclei, and hot stars. Now, Supernova 1987A will also make an excellent target.

Early flight of the x-ray instrument is signficant, because the supernova is already emitting x-rays—an occurrence which some scientists had not expected for another 100 years, officials said.

"Combining the BBXRT with the Astro project creates a powerful scientific complement covering a broad range of data," said Frank Volpe, Mission Manager for the SHEAL project. "The Astro project will measure gamma rays emitted by the supernova, and the BBXRT will measure the x-rays."

"The marriage of these two payloads not only allows this important x-ray instrument to fly three years early, but also provides the astronomy community with a research capability much greater than either payload would have provided alone," said Jack Jones, manager of the reconfigured Astro-1 mission at MSFC.

Astro-1 will carry, in addition to the BBXRT, the Hopkins Ultraviolet Telescope to record the far ultraviolet spectra from very faint cosmic sources; the Wisconsin Ultraviolet Photopolarimetry Experiment to make simultaneous observations of the spectrum and polarization of ultraviolet light from stars; and Goddard's Ultraviolet Imaging Telescope (UIT) to provide imaging of very faint objects in the ultraviolet. Dr. Ted Stecher, Code 680, is the UIT principal investigator at GSFC. Dr. Ted Gull, Code 680, is the Astro mission scientist. Dr. Ron Parise, a Computer Sciences Corporation employee contracted to Code 684.9, is the payload specialist for the Astro-1 mission.

***TWO-AXIS MOBILITY*—Astro Mission Specialist Ron Parise, a Computer Sciences Corporation employee contracted to Code 684.9, discusses the Two-Axis Pointing System (TAPS) for the Broad-Band X-Ray Telescope (BBXRT) with Mission Manager Frank Volpe, Code 420. The BBXRT is one of two instruments developed for the Shuttle High-Energy Astrophysics Laboratory (SHEAL), which has been reconfigured so that the BBXRT can fly three years early on a Spacelab mission, with the Astro Ultraviolet Observatory in November 1989, in order to capture x-rays emanating from Supernova 1987A, which exploded in February 1987.**

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Talk from the Top

John W. Townsend Jr.

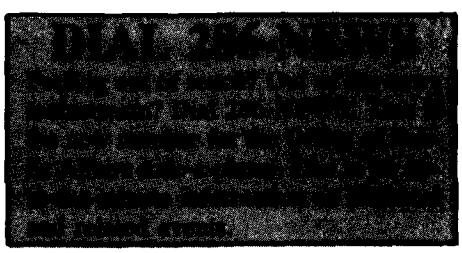
Q: *Other government agencies have been more creative in their alternative work week instead of... "flex time." Why has this agency not gone to the 10-hour, 4-day work week? Another plan which other agencies have instigated is called the "5-4-9" schedule whereby an employee completes 80 hours in 9 days. ...*

A: In the past, I have discusssed the 10-hour, 4-day work week with a number of my friends in industry... and found that when they tried it, they eventually went back because the employees felt that 10 hours daily, week after week, was a pretty tough grind. ... On the other hand, we are looking (because a suggestion was made in the strategic planning process) at a scheme that's similar to the 5-4-9 that Ames is using. ... If it proves to be a success, I would certainly consider using it. I think, though, that the key to this is whether the majority of employees really want to change.

Q: *I've heard about the effort to improve the GSFC environment. Why is this an organized effort? I believe GSFC is already a model facility.*

A: Yes, I am working to improve the Goddard environment. I'm particularly proud of the fact that Goddard already has a nice environment, but I think that anything can be improved. There are some things that we can do to spruce the place up a bit; for example, over the years many trees and shrubs have been the victims of lawn mowers, deer and all sort of things. I think it's a question of making Goddard better. It's already good, but you can always go one more step.

Center Director Dr. John W. Townsend, Jr. wants to hear from you! Send your questions to: TALK FROM THE TOP, Code 130.



Wallops Automates Ship Surveillance With Computers

by Joyce Milliner

Goddard's Wallops Flight Facility soon will install—as an upgraded safety measure—a new computerized ship surveillance system developed at Wallops—to aid in tracking the movement of vessels in the nearby Atlantic Ocean prior to and during sounding rocket launches from the facility.

Quicker and more accurate than the current manual plotting of ship locations by a radio operator in the Wallops Range Control Center, the new system will substitute an overlay of color-coded information on a personal computer (PC) in the Center.

Wallops officials anticipate that the new ship surveillance system will be in operation by June, 1988.

During a typical rocket launch, the rocket motors or stages after burnout fall into the ocean nearby the Wallops range. This area is controlled by the Fleet Area Control and Surveillance Facility at the Oceana Naval Air Station, VA, which assigns the warning area for each launch.

Range safety personnel predict and assign impact areas for the various stages of a multi-stage rocket using computers to determine the ship hit risk.

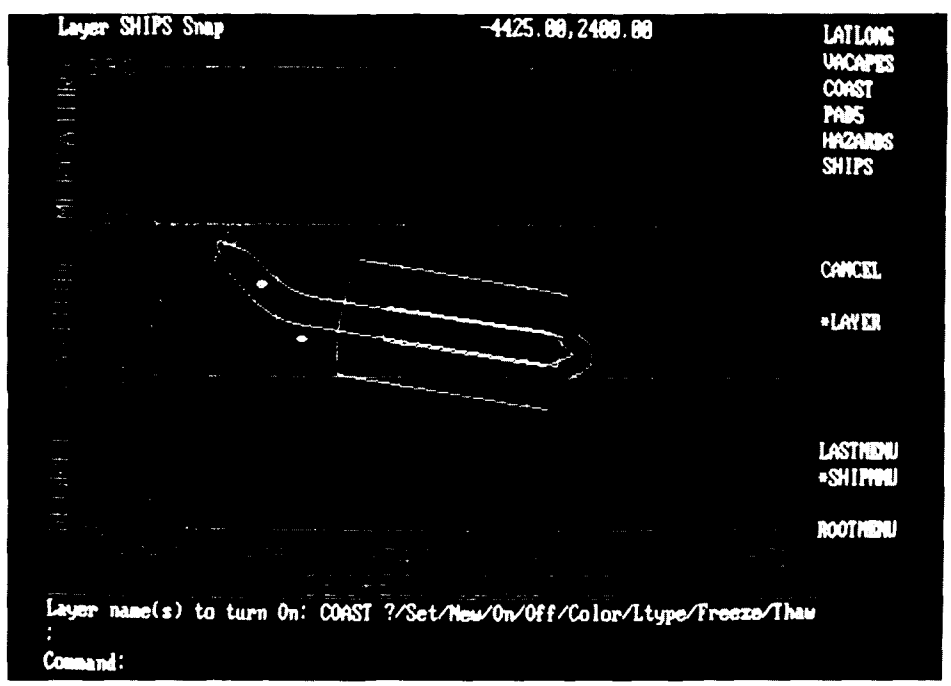
An airborne radar is used to locate and track ships in the impact area and the information is passed to a radio operator in the control center who manually plots the shipping information on a plexiglass window.

During most missions, the impact area is variable and can be moved around depending on water traffic.

Under the improved system, the PC operator in Range Control will be able to choose from a menu of color-coded information screens which can be simultaneously overlayed on the display or individually displayed. This information can include longitude and latitude lines, range and bearing lines, trajectory path, geographic shore line, warning area, predicted impact area, ship locations, and ship movements.

This display also gives the safety officer the flexibility of such actions as moving the impact area to reduce the risk of hitting a ship. At the same time, the computer can be used to predict the probability of hitting any ship in the impact area and assist the safety officer in making a "go-no-go" determination.

Continued on page 3



***COMPUTERIZED SURVEILLANCE*—This view shows the position of two ships in the Atlantic Ocean near the Wallops facility, relative to projected impact areas. The new computerized ship surveillance program overlays an outline of the coastline onto the polar plot grid which shows the range and bearing of the ships from the launch pad.**

U.S. Savings Bond Campaign Comes to Goddard May 8–21

The U.S. Savings Bond Campaign will be held this year at Goddard from May 8 through May 21. This will be every employee's chance to participate in an American tradition.

The opportunity to invest in America dates back to our Nation's beginning, when, in 1776, private citizens were invited to invest in government bonds to help finance the revolution.

Today's savings bonds are attractive to large and small investors alike. They feature a market-based interest rate that is highly competitive with other savings and investment vehicles and offer a guaranteed minimum of 6% interest when held for five years. All interest earned on today's Series EE Bonds is exempt from state and local taxes, while federal tax may be deferred until the bonds mature and interest income is realized.

The payroll savings plan makes it particularly easy and convenient to buy savings bonds. When purchasing savings bonds through a payroll savings plan, a predetermined amount is automatically deducted from an employee's paycheck. Once the full purchase price of the savings bond (half its face value) has been accumulated, the bond is issued and immediately begins earning interest.

During the two weeks of the campaign, a Savings Bond representative will personally contact each Goddard civil servant to participate in an American tradition.

Ship Surveillance

Continued from page 2

A future update planned for the system calls for the airborne radar information to be transmitted electronically to the PC, rather than to be keyed in by the operator.

Sue Semancik, of Wallops Information Processing and Analysis Branch, was assigned the task of taking a commercial drafting-type software program, Autocad, and enhancing it to meet the needs of Wallops range safety personnel.

NASA Pipeline

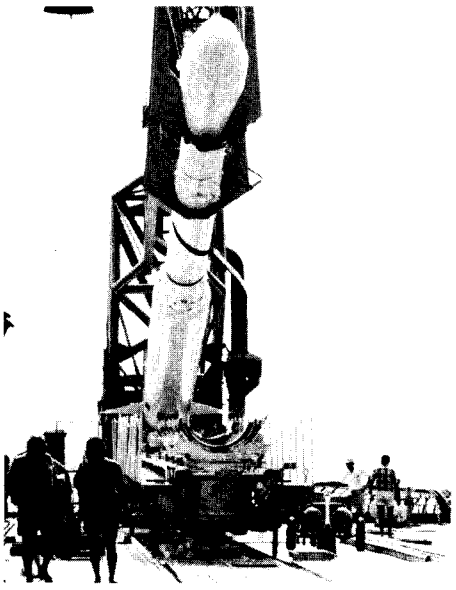
JOHNSON SPACE CENTER, Houston, TX—NASA has named crew members for three 1989 Shuttle missions. Commanding STS-29, scheduled for launch January 19, will be Capt. Michael L. Coats (USN). Col. John E. Blaha (USAF) will pilot. Mission specialists will be Col. James F. Buchli (USMC), Col. Robert C. Springer (USMC) and James P. Bagian, M.D. Commanding STS-30, slated for launch April 27, will be Capt. David M. Walker (USN). Col. Ronald J. Grabe (USAF) will pilot. Mission specialists will be Norman E. Thagard, M.D., Mary L. Cleave, Ph.D., and Maj. Mark C. Lee (USAF). STS-31, targeted for launch June 1, will be commanded by Col. Loren J. Shriver (USAF) and piloted by Col. Charles F. Bolden (USMC). Steven A. Hawley, Ph.D., Capt. Bruce McCandless II (USN) and Kathryn D. Sullivan, Ph.D., will fly as mission specialists.

KENNEDY SPACE CENTER, FL—Preparations are underway to bring on line two new abort landing sites in northwestern Africa. These sites will be used as contingency landing facilities in the event of a transatlantic abort during the launch of STS-26 and subsequent missions. In addition to Gambia, a new site located near Ben Guerir, Morocco, has been selected. Foundations for Shuttle approach and landing aids are being laid at the new sites.

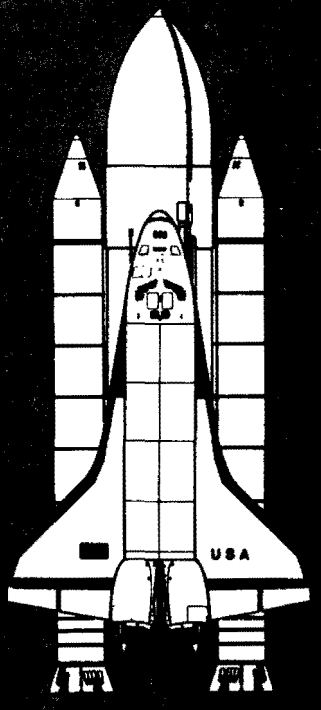
JET PROPULSION LABORATORY, Pasadena, CA—JPL is designing a sophisticated radar receiving system to help image and track Arctic ice flows and study the remote areas of Alaska and its surrounding seas. The system will initially be capable of receiving signals from three satellites carrying synthetic aperture radar (SAR) which penetrate thick cloud cover and produce data for high resolution images. The basic information to be extracted from SAR data is the description of the ice pack in terms of ice type, flow size, open water distribution and motion of the ice.

MARSHALL SPACE FLIGHT CENTER, Huntsville, AL—NASA has announced it will seek offers to lease, to the U.S. government, useable volume and related services in a commercially developed space facility for five years beginning before the end of fiscal year 1993. At least 30 percent of the facility will be available for commercial use. The facility will provide a crew-tended, shirtsleeve work space and also will be able to operate in an untended, free-flying mode, providing a microgravity environment for periods of four to six months.

Congratulations San Marco Project!



Everything's working well on San Marco, the international satellite launched from the Italian range off Kenya on March 25, according to Jerry Longanecker, GSFC Director of Flight Projects. "All five instruments are on and will be ready to support science operations by the end of the month," Longanecker said. The 552-pound (237-kilogram) spacecraft carries five scientific instruments for making studies of the lower atmosphere. Three of the instruments are from the United States (including the Goddard-developed Wind and Temperature instrument and Three-Axis Electric Field Experiment); one from the Federal Republic of West Germany; and one from Italy. Pictured is the Scout rocket and gantry used to launch San Marco from the platform in the Indian Ocean.


USA

Achievements Recognized at Joint NASA/GSFC Honor Awards Ceremony

Assisted by Center Director Dr. John W. Townsend, Jr., NASA Deputy Administrator Dale Myers presented the NASA Honor Awards at the joint NASA/Goddard Awards Ceremony on March 31, in the Building 8 Auditorium. Myers then assisted Dr. Townsend in presenting the Goddard Honor Awards.

The ceremony opened with a prelude by the MAD Jazz Ensemble, followed by the presentation of colors by the Marine Honor Guard. A slide backdrop framed the presentation of medals and plaques to the awardees.

Recipients of the NASA Honor Awards are as follows:

The Public Service Group Achievement Award was presented to the GE/Astro-Space Division and the Special Payloads Division Contractor Support Team.

The Group Achievement Award was presented to the Airborne Oceanographic Lidar Project Team, the IUE Operations and Engineering Support Team, the MEC Management, Operations and Support Team, the METSAT Project Team, the Wallops Flight Facility NASA Balloon Program—Program Recovery Team, the Network Assisted Coordinated Science/Coordinated Data Analysis Workshop Development Team, the Network Control Center (NCC) Building 13A Facility Management Team, and the Stratospheric Ozone/Temperature Analysis Group (SOTAG).

The Public Service Medal was presented posthumously to Charles Curry, of Canadian Astrophysics Limited.

The Exceptional Service Medal was presented to Wesley J. Bodin, Jr., John T. Dalton, Roger L. Jenkin, Jacques D. Knox, Peter Leone, Warner H. Miller, Harvey C. Needleman, William H. Stallings, John O. Tresansky, and James E. Zerega.

The Exceptional Engineering Achievement Medal was presented to William G. Bryant, Jr., Robert A. Burns, David R. Dargo, and David R. Howell.

The Exceptional Scientific Achievement Medal was presented to Alfred T.C. Chang, Bertram D. Donn, Harold P. Larson (of the Lunar and Planetary Laboratory, University of Arizona), Michael J. Mumma, David A. Randall, William B. Rossow, and Harold A. Weaver (of the Space Telescope Science Institute).

The Outstanding Leadership Medal was presented to Jon R. Busse, Frank A. Keipert, and Janet K. Ruff.

The Goddard Honor Awards are as follows:

The Group Achievement Award was presented to the Appropriation Integration Study, the COBE Redesign Team, the MAC/Epsilon Campaign Support Team, the Ocean Color Group, the Optical Field Angle Distortion (OFAD) Development Team, the Property Disposal Management Section, and the Space Station SEBs.

The Community Service Award was presented to Martin A. Davis.

The Equal Opportunity Award was presented to Michael L. Gaffney (posthumously), James P. Harrington, and William J. Kneval.

The Productivity Improvement and Quality Enhancement Award was presented to Susan R. Capretti, the Expert Nimbus Operations System (ENOS) Team, and the Wallops Flight Facility Secretarial NETs Team.

The Exceptional Achievement Award was presented to Richard D. Ceresa, Cynthia L. Cherrix, Bhaskar J. Choudhury, David F. Detwiler, Jr., Randee S. Exler, James L. Green, Richard P. Hockensmith, Frederick J. Kissel (of Westinghouse Electric Corporation), Michael J. Ladomirak, Perry R. Mason, Jr., James A. Munford, Howard K. Ottenstein, Wayne R. Powell, Kenneth O. Sizemore, Thomas H. Stengle, Joel Susskind, Thomas C. Underwood, and Mary J. Watts.

The Award of Merit was presented to John H. Boeckel, Carrol H. Clatterbuck, and Richard E. Hartle.

VC Ribbon Cutting and Community Day Planned

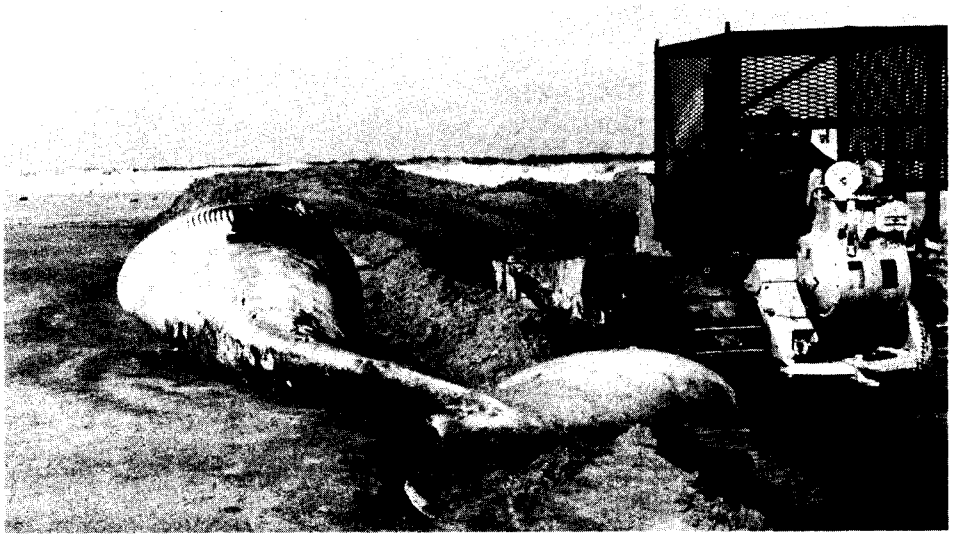
The second half of the Visitor Center (VC) renovation is scheduled to be completed in mid-May and two days of activities are planned to commemorate the opening of Greenbelt's newest attraction.

The newest addition to the VC offers many exciting exhibits: how pictures are sent from space; how we study space science; how we use spacecraft; Goddard's role in researching the "Big Bang" theory of the expanding universe; and America's pioneering rocketeer, Dr. Robert H. Goddard.

All employees are invited to the ribbon cutting ceremony for the grand opening on May 17 at 12:30 p.m. Center Director Dr. John W. Townsend, Jr. will deliver opening remarks. A reception and open house will be held from 12:45 - 2 p.m. Visiting hours for family and friends are set for 6 - 8 p.m. GSFC Geophysicist Dr. David Thompson will present "A Tour Through The Universe" at 7 p.m.

Community Day is planned for May 22 from 10 a.m. to 4 p.m. The day will be chock full of activities: model rockets will launch from 1 - 2 p.m.; the Commodores, a U.S. Navy Band component, will entertain from noon until 1 p.m.; special tours of buildings 3/14 and 7/10 will be given every half-hour, beginning at 10:30 a.m. and ending at 3:30 p.m.; and an "All About Goddard" presentation will be given by William P. O'Leary, 11 a.m. and 2 p.m.

Food and beverages will be on sale throughout the day and free handouts on NASA programs also will be available.



***SEASIDE BURIAL*—A 50-foot finback whale washed ashore on the north end of Wallops recently; estimated weight, between 40 - 50 tons. Shallow water prevented a 44-foot Coast Guard boat from towing the dead mammal out to sea. The Smithsonian Institution and the National Marine Fisheries took tissue samples and determined that the best disposal method was to bury the whale on the shore.**

Center Employee Is Made of Iron—Not Steel

by Michael Braukus

Ed Boggess does not think of himself as special—just doing something that he enjoys as a hobby.

But his is not the typical hobby. In fact, many people probably would consider what he does on weekends as a form of grueling punishment. However, for Boggess, participating in a triathlon—which combines swimming, biking and running—is just a form of athletic competition, despite its reputation as the toughest of all sports.

The 29-year-old computer programmer for ST Systems, a Goddard contractor, Code 401.1, has been competing in triathlons for about four years. He participated in four races in his first year. Now, he does 10–12 races a year.

According to Boggess, he became interested in triathlons because of injuries. "When I was a competitive runner, it seemed I was always injured or had running problems," he said. "I started hearing about triathlons, so I thought I would try it. My rationale was that there were two more sports to do when I was injured from running.

"Making the decision to participate was kind of easy for me because when I went to school in Colorado, I did a lot of recreational biking and running in the mountains. I would swim just for general fitness. So putting them all together seemed natural."

Intense Training

Training for a triathlon is intense. Boggess keeps in racing shape with a weekly training regimen that includes running 45 miles, swimming 10 miles, and, when weather permits, biking nearly 200 miles.

Some of his training is done at Goddard. "During lunch it is not uncommon for me to run or bike four to fifteen miles, three or four days a week. In the summertime, it may be more like five days a week," he said.

His training has paid off. Last year, he won the Columbia Triathlon and the Richmond Briar Wood Triathlon. He placed second in the Lancaster YMCA Triathlon and third in the Oxford, MD, International Triathlon.

Boggess said the biggest race he competes in is the Ironman competition in Hawaii. He considers this the world championship of the long distance races with a 2.4-mile swim, 112-mile bike race, and 26-mile marathon. Last year, he finished 62nd out of 1,500 participants; this year he expects to do even better—barring injury, which hampered his performance last year.

When asked to explain why he likes triathlons, Boggess said, "I like individual competition. Also, I just happen to be better with triathlons than I am any of the individual sports. Besides the competition, I enjoy traveling to the different race sites around the country."

Another reason he prefers triathlons is the sport's complexity. "Just the logistical aspects of a triathlon are more complex than running," said Boggess. "With a triathlon it is much different. You have a bicycle to put on an airplane. You must set up transition areas between the events. You must attend pre-race meetings because each race is unique. But when running a 10 kilometer race, all you have to do is follow the guy in front of you or the lead car."

Winter Break

What does an ironman do during a winter break? The Goddard athlete became interested in cross-country skiing. He recently returned from a 210-mile cross-country ski race in Alaska which took him four days to complete. But he accomplished his only goal—he finished.

"Basically, I am a beginner skier," he said. "I got through because of endurance, not because of technique. But it was still a lot of fun."

Currently, Boggess is preparing for his first race of the '88 season, the Richmond Briar Wood, in which he is the defending champion.

He plans to participate in triathlons for many years but not at his current level of competition. "From the late 20's to the early 30's is the age period when an individual is at his personal physical best. So, it is now or never for me to be as good a triathlete as I can be," said Boggess. "Besides there are other things I want to do that training for triathlons prevents me from doing."

INTENSE TRAINING--**Triathlete Ed Boggess, an ST Systems Contractor, bicycles four to fifteen miles, 3 or 4 days a week. In addition his weekly training includes running 45 miles and swimming 10 miles.**

Secretarial Colloquia: Fitness to Fashion

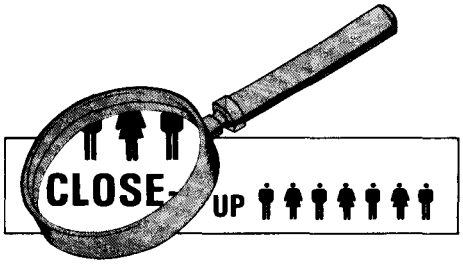
With swimsuit weather just around the corner, physical fitness was uppermost in the minds of employees at the March 8 Secretarial Colloquium given by Gincy Stezar, Goddard's Physical Fitness Facility Supervisor. Gincy, a former secretary herself, explained and demonstrated exercises to do at a desk or in the elevator.

But fitness is more than just exercise, as Gincy explained; diet and nutrition are also very important. Gincy debunked some myths about the nutritional value of "quickie lunches" and foods considered "health" or "diet" foods.

Armed with these ideas for getting bodies in shape and shedding those extra winter pounds, it's time to spruce up the spring wardrobe.

At the April 5 Secretarial Colloquium, "Dressing to Enhance Your Professional Image" (last in the series), Kathy Stearman, from Casual Corner, showed Goddard women how to get the most out of their time and clothing investments.

Kathy showed how accessories—scarves, belts, jewelry, and flowers—could make the same skirts and jackets support several "looks."




FRIEDMAN

Goddard's **DONALD FRIEDMAN,** Chief, Office of Commercial Programs, will speak on "NASA Technologies: Commercialization Mechanisms and Opportunities" May 19–20 at a conference on capitalizing on technology transfer. The conference will be held at the Hyatt Regency Hotel, Cambridge, MA, and is sponsored by *New Technology Week,* a weekly newsletter covering advanced and emerging technologies.


THIENEL

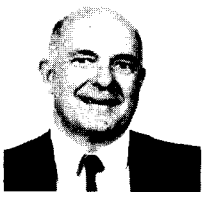
Congratulations to **CHARLES E. THIENEL,** the recently appointed Project Manager, Meteorological Satellites (METSAT) Project. He replaces Gerald W. Longanecker, who was reassigned as Director, Flight Projects. Thienel's career at Goddard began in 1961. Since that time, he has been actively involved in engineering and project management work associated with various meteorological satellites, including Nimbus, the National Oceanic Satellite Systems (NOSS), and TIROS. He has been the Deputy Project Manager, METSAT, since its formation in 1983 and was Deputy Project Manager, TIROS, from 1981 to 1983.

Retirees

Best wishes to the following Goddard employees who retired recently!

	CODE	YEARS
Alberg, Arthur W.	271.3	30
Aleksandrov, Maksim	663.1	26
Caruso, Anthony	717	32
Doss, Lawrence	263	34
Groton, Betty S.	800	32
Hager, Frederick	712	30
Hughes, Wayne E.	727.3	28
Norris, Ernest W.	262	19
Richard, Herbert L.	720.1	32
Stallings, Harry L.	480	27
Werner, Edward J.	403	23
White, Charles A.	711.3	29


WEAVER


SHREWSBERRY

There have been several recent appointments in the Special Payloads Division. **ROBERT C. WEAVER, JR.,** was appointed Chief. He will provide overall leadership for planning, implementing, directing, and coordinating a comprehensive payload development program. Weaver was formerly the Associate Chief, Special Payloads Division and prior to that, held several Deputy Project Manager positions in the Flight Projects Directorate. He has been a Goddard employee since July 1967. Weaver replaces Leonard Arnowitz who retired in January, 1988, **DAVID J. SHREWSBERRY,** the former Head, Attitude Control and Stabilization Branch, was appointed to the position of Associate Chief, Special Payloads Division, Code 740, Shrewsberry will assist Weaver in directing and coordinating a payload development program.

Blood Donors

Following is a list of Goddard donors who were cited by the American Red Cross with gallon pins at the bloodmobile on April 6, 1988:

NAME	GALLONS
Robert Austin	2
Susan Broaddus	1
Tom Dixon	1
LaDonna Earl	2
John Emerson	1
Michael Forman	8
Clyde Freeman	5
Regina Gernatt	1
Ida Hakkarinen	5
Joseph G. Iffrig, Jr.	2
Andy Johnston	2
Jacques Knox	8
Allen Levine	3
Greg Manfra	7
Paul Richards	1
Wyatt Rinker	4
Christopher Scherer	5
Phil Smith	9
Mark Walther	3

The next bloodmobile visit will be on June 1, 1988, from 8:30 a.m. to 1:30 p.m. in the Building 8 Auditorium. Thank you, Goddard, for your continued support of the program!

Cepollina Receives AIAA Award


CEPOLLINA

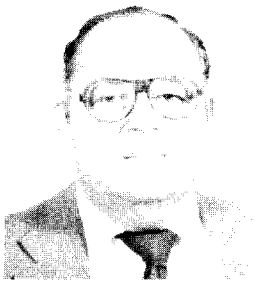
FRANK CEPOLLINA, Goddard's Satellite Servicing Project manager, has received the American Institute of Aeronautics and Astronautics' (AIAA) 1988 Aerospace Maintenance Award.

The award recognizes individuals who have made a major contribution to aerospace maintenance, specifically in aviation, missiles and space, resulting in significant improvement in operational and cost effectiveness.

Cepollina was selected for the award because of his unique contribution to the development and implementation of the concepts, designs and techniques for on-orbit maintenance and servicing of spacecraft. The AIAA award also cited Cepollina's leadership over the past decade which resulted in the evolution of an idea into reality.

The award, which consists of a medal, certificate of citation and rosette pin, was presented to Cepollina at the AIAA Aerospace Engineering Conference and Show held recently in Los Angeles.

In Memoriam



Condolences to friends and family of Werner Kahn, a geophysicist and geodesist from Code 712 who passed away recently. Kahn will be remembered for his pioneering work in satellite laser ranging, and his work as principal investigator for the Apollo-Soyuz mission in 1972.

DOCS Automation Project Meets Major Goal

"Eh, what's up DOCS?"

No, this isn't the dialogue from a Bugs Bunny cartoon. It is, however, a question routinely answered by the Data Operations Control System (DOCS) in Goddard's Multi-Satellite Operations Control Center (MSOCC).

Operational since September, 1987, the custom-designed DOCS automation system continuously provides MSOCC operations personnel with concise, up-to-date information at "jack-rabbit" speed (i.e. real time), showing which of MSOCC's many systems and data lines are currently "up," properly interconnected, with telemetry and command data flowing for support of in-orbit spacecraft control and health monitoring operations. Bob Owen, Code 511.1, Goddard's DOCS Project Manager, reports that another project goal was met with the January, 1988, delivery of DOCS software release 6.0.

The DOCS system was designed to provide automated, centralized configuration control and status monitoring of more than 25 computer systems and to enable more efficient use of the MSOCC's personnel, equipment and floor space, thereby supporting an increased workload.

The MSOCC, which occupies most of the top floor of building 14, has operated more unmanned, non-Department of Defense orbiting scientific spacecraft than any other single control center at GSFC. At times, it has supported simultaneously more than 15 major spacecraft missions.

MSOCC provides dedicated Mission Operation Rooms (MOR's) to each mission or project. The MOR's surround a complex of shared equipment which is the heart of the MSOCC. These facilities provide each Flight Operations Team the physical workspace and command control/data display equipment necessary for successful operation of each spacecraft.

A sampling of past, present, and future MSOCC missions includes the BIOSATs, Seasat, Solar Max Mission, Dynamic Explorer A and B, the Interplanetary Monitoring Platforms, the International Sun Earth Explorer-3 (later renamed the International Cometary Explorer), the Earth Radiation Budget Satellite, the Cosmic Background Explorer, the Upper Atmosphere Research Satellite, the Gamma Ray Observatory, and the Extreme Ultraviolet Explorer.

Steve Matthews, of the Unisys Complex Systems Division/Information Systems Management Group of the Unisys Corporation, leads the contractor team of systems analysts and programmers.

Unisys personnel instrumental in the development of DOCS software are: Joseph Maynard, Linda Rioux, John Woolley, George Gibson, James Beahm, Leon Jude, Steve Knox, Jeff Cox, and Elijah Alexander.

Personnel responsible for operational phase-in support are: Richard A. Schumacher, Code 513, MSOCC Operations Manager; James Haddaway, Bendix Field Engineering Corporation (BFEC); and Janet Hodges, BFEC.

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Building One Cafeteria To Expand Services and Hours

by Carolynne White

What has freshly-baked bread, take & bake pizza, microwaveable dinners, a full salad bar, plus grocery staples like milk and eggs, combined with on-Center convenience? The new deli/convenience store GEWA, and the Canteen Corp. will introduce it in the near future!

"This new service will allow us to provide more product variety at lunchtime and add a new deli/convenience alternative in the early evening hours," said Bonnie Kaiser, Code 201, Exchange Operations Manager.

In addition to the regular luncheon service provided by the Building 1 facility, the new deli/convenience store will be open from 3:00 to 7:00 p.m. and serve a wide variety of products:

- Freshly baked-on-the-premises breads, rolls, pastry, cakes, pies, cookies, muffins and biscuits;
- Freshly sliced deli meats, cheeses and salads packaged in 1/4, 1/2, and 1 pound portions;
- Freshly-ground coffee and gourmet coffee beans in 1/2 and 1 pound sizes;
- Prepared entrees in microwaveable containers to serve family style for any combination of one, three, or five people—meatballs and sauce, pasta, braised beef, steak with onion gravy, fried chicken, vegetarian stew;
- Pizza ready for the oven—7 or 14 inch—take and bake;
- Pre-made sandwiches—subs, ham and cheese, sausage and egg;
- Soups—three selections daily, to include chili;
- Full salad bar, including pasta;
- Staple items—milk in half and one-gallon containers (skim, 2%, regular), soda varieties in one and two liter containers, loaf bread, fresh eggs by the dozen.

So, whether one needs milk and bread for the next morning or one just doesn't feel like cooking, the new deli/convenience store can help.

Watch the GEWA Newsletter and Dateline Goddard for opening date and information.