NASA
National Aeronautics and Space Administration
Goddard Space Flight Center

Goddard News

Greenbelt, Maryland and Wallops Island, Virginia

Vol. 31 No.1 January 1985

Space Technology Aids Restoration Of Venetian Buildings

By Charles Recknagel

Space technology developed for mapping the chemical composition of the Moon and planets is being tested in Venice as a new means of understanding the decomposition of priceless monuments.

The tests are part of an international effort to apply the most modern methods available to saving the city's historic buildings as Venice continues to sink slowly into the Adriatic (the sea lying east of Italy).

Scientists from the Goddard Space Flight Center, Computer Sciences Corporation (CSC) of Silver Spring, MD, and the University of Maryland, College Park, this summer tested the use of a gamma ray detector to map salt and water seeping into the walls of the famous St. Mark's Basilica and the Gradenigo Palace.

The detection system is the first nondestructive technique for detecting the often invisible rise of saltwater within the interior of building walls and for mapping the deposits of salt which gradually decompose their materials. Because water damage is common to many architectural monuments beyond those in Venice, the new technique could also be useful in helping preserve other historic trusts around the world.

Use Neutrons to Explore

Previous techniques have utilized drilling for core samples which had to be used

Continued on page 2

Inside

Rocket Launch Marks End Of Era

Payload Records Ultraviolet Emissions

By David W. Thomas

NASA's successful launch of an Aerobee liquid-fueled sounding rocket from White Sands Missile Range, New Mexico on January 17, marked the end of that rocket series. Introduced officially on September 25, 1947 with the first range launch, the firing of Aerobee 1058 was the last of the oldest continuous rocket firing program.

Since 1959, NASA's Sounding Rocket Division has launched 537 Aerobees, 504 successfully - a 94 percent success rate. The Aerobee series was one of the first rockets developed for scientific research in the U.S. Because of its reliability, Aerobee became the "workhorse" vehicle for high altitude studies.

"Virtually everything that's been done in space research can be attributed to sounding rocket technology," according to Maury Dubin, a Goddard physicist who worked extensively in the early sounding rocket program. "The Aerobee and other sounding rocket research precipitated the rise of many disciplines, from astronomy to the Earth's atmosphere."

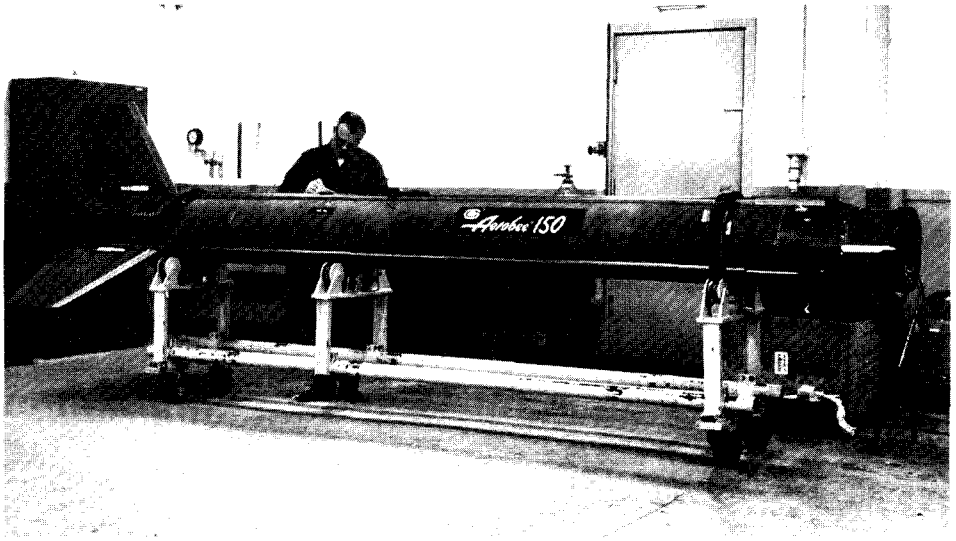
The Aerobee program began in 1946, when Applied Physics Laboratory (APL), John Hopkins University, Baltimore Maryland suggested to noted scientist Dr. James Van Allen that he determine what existing rockets were available for scientific research, specifically for augmenting high atmospheric studies. Other rockets were available, but were deemed too small for the anticipated space research.

Aerojet Engineering Corp. won a contract from the U.S. Navy to develop new scientific sounding rockets; APL was assigned technical direction, and Dr. Van Allen became director of the project. He derived the name Aerobee from the combination of Aerojet and APL's series of Navy missiles, the Bumblebees.

Used During IGY

Aerobees were used extensively during the International Geophysical Year (IGY, July, 1957-December 31, 1958). They were among the more than 300 instrumented sounding rockets launched from

Continued on page 2



AEROBEE ROCKET - An Aerobee undergoes final preparations before having nose cone attached at the White Sands Missile Range, NM.

A New Year's Message From The Center Director

Tradition summons me to recollect some of the accomplishments which contributed to an amazing 1984. Delta folk kept their remarkable string of successes alive; Landsat-5 ensured continuity of the Nation's civil remote sensing program; AMPTE, ERBS, and NOAA-9 set about their business of contributing to the well-being of all Earth's inhabitants; Goddard's IUE keeps exploring for cosmic secrets; you fixed Solar Max!; Hubble Space Telescope and TDRS teams worked wonders; Procurement, contracting, and the Plant Operations and Maintenance Division kept us in business; UARS, COBE, GRO and SOT are chugging along; hundreds of science papers were published; our Wallops colleagues filled the skies with sounding rockets and balloons; I could go on and on but let not the lack of space diminish any of the unmentioned contributions.

Yet, something possibly more significant than our visible accomplishments happened this year. I sense that in spirit we have become one Center. We fretted, agonized, argued about and then reached agreement on Goddard goals and carved out our niche in information systems and Space Station.

The year was not without its share of pain, frustration and sadness. I regret that reorganizations did cause individual hurt and that I could not get you all the resources you need. We lost valued colleagues and friends by retirement, resignation or death but have wonderful memories. These are inescapable facets of living and working together as we strive to make our lives productive and meaningful. From them, though, renewed purpose and determination can emerge.

For 1985, you have my admiration, respect and trust.

Noel W. Hinners

Noel W. Hinners
Director

Aerobee Rockets

Continued from page 1

sites around the world and made discoveries regarding the atmosphere, cosmic radiation, auroras and geomagnetism. The IGY was largely an investigation of the natural environment.

The rockets carried instruments into the upper atmosphere for investigations and gathered data from as high as 250 kilometers (155 miles). They also flight tested instruments to be used in satellites. Sending instruments in the high atmosphere was one of the principal motives for 20th century rocket development, according to the early rocket design studies of Dr. Robert H. Goddard, called the Father of American Rocketry.

Rocket Series

The rockets consisted of five in a series; 100, 150, 170, 200 and 350. Each rocket carried as many as six different experiments. Cameras, vacuum bottles, mirrors, girds, sensing devices, lenses and many other mechanical units were flown and returned to Earth. Most of the data collected involved transmitting telemetry from the rocket to ground stations during flight and recording data simultaneously.

The final Aerobee payload tested a new spectrograph to be flown on Astro; a NASA ultraviolet astronomy mission. This spectrograph will record extreme ultraviolet Dayglow emissions in the Earth's upper atmosphere.

Sounding Rockets Needed

Although the demise of the small, liquid-fueled sounding rocket is imminent, there always will be a need for sounding rockets in general, according to George Kraft, head Goddard Flight Support Section. "The small, liquid-fueled rockets aren't economically feasible anymore, compared to their solid-propelled counterparts," Kraft said. "But sounding rockets always will have a place in scientific research. They're virtually the only vehicles that can conduct studies in the 40 km (25 mile) to 200 km (125 mile-high) zone of the atmosphere. "Balloons can go only as high as 40 km (25 miles) and satellites are ineffective lower than 200 km (125 miles).

The NASA Sounding Rocket Program is managed by Goddard's Wallops Flight Facility, Wallops Island, Virginia, where the Suborbital Projects and Operations Directorate is located.

Space Technology

Continued from page 1

sparingly for fear of further damaging endangered walls and frescoes. By using neutrons instead of drillbits to explore the wall interiors, the gamma ray detector offers a fast and comprehensive look at damaged structures, permitting building restorers a way to better plan and focus repair efforts.

Dr. Jacob Trombka, of Goddard's Solar Physics Branch and a member of the investigators group, developed the X-ray and gamma ray detection techniques starting in 1968 as part of an effort to map lunar soil during the Apollo program. Recognizing that the lunar soil continuously releases gamma radiation as it is naturally bombarded by cosmic rays in space, the Apollo remote sensing X-ray and gamma ray team proposed a detection system which was included aboard the Command Service Module to record patterns in the lunar soil's gamma ray and X-ray emissions. Such patterns provide a reflection of the elements composing the soil, as each element tends to give off a characteristic "signature" of X-ray and gamma radiation.

"Between 1968 and 1972, we mapped twenty percent of the lunar surface this way," says Trombka. "Then with the completion of the manned lunar program,

Continued on page 3

Space Technology

Continued from page 2

we began looking for ways that we could spinoff some of the technology we had found so useful in exploring the Moon to solving problems here at home."

In the mid-1970s, Dr. Larry Evans (CSC) joined Trombka to extend these systems for future planetary missions and to adapt the detection technique to Earth, where cosmic rays do not penetrate the atmosphere sufficiently to stimulate natural gamma emissions.

The immediate solution was to apply neutron excitation methods to simulate gamma ray emissions. Using low intensity neutron sources, prompt gamma ray emissions could be detected, thus reducing the radiation hazard by leaving the sample with negligible residual radioactivity.

This method, called "prompt neutron gamma ray analysis for application to analysis of extended materials" proved so successful that its developers patented the technique in 1984.

Tested at Williamsburg

Trombka and Evans first applied the gamma detector to an architectural site in 1981, when arrangements were made by Richard Livingston, of the University of Maryland, and Thomas Taylor, of Colonial Williamsburg Foundation, to test it on the walls of an 18th century smokehouse in Williamsburg, VA. The Williamsburg preservationists had discovered the bricks of the smokehouse were being damaged by salt deposits. They needed a device for measuring the salt and water content in the walls before and after they applied a remedy to be sure they had found the correct solution.

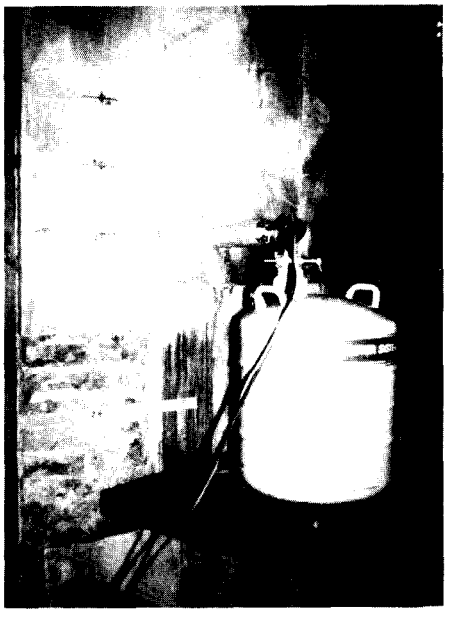
This led to the realization that the salt could date back to the use of the building for smoking and curing meats, a condition calling for quite a different ultimate solution than a groundwater problem. Thus the tool also proved its usefulness as diagnostic device for finding problems and identifying solutions.

So successful was the test, in fact, that Richard Livingston mentioned the device to Italian colleagues working to preserve historical buildings in Venice. Dr. Roberto Frassetto, the head of the Interlaboratory Group of Scientists for the Venice restoration effort, subsequently invited Trombka, Evans, and Livingston to the city for a two-week test in November, 1984. The travel was supported by a collaborative research grant from the NATO Science Committee.

Measurements Show Damage

The measurements were carried out with a team of scientists from the Italian Nuclear Agency led by Drs. Mauritzio Diana and Pietro Moioli. Placing the detector on one side of a wall and a neutron source on the other to briefly irradiate the intervening material, the investigator group sampled walls in a variety of Venice's most famous structures. At St. Mark's Basilica, for example, the technique provided the first picture of conditions as deep as 20 inches inside walls which were faced with marble or precious frescoes.

The neutron gamma detection system not only proved its worth by successfully measuring the salt content, it also discovered salt higher in the walls than ground water could have deposited it.



GAMMA-RAY DETECTOR - A radioactive detector is positioned to measure radiation through a pillar at San Marco. The discoloration is caused by salt contamination.

Now back at Goddard, Trombka, Evans and Livingston are analyzing the readings made in Venice to fine tune their approach for more tests in 1985. At the same time, they are sharing their analysis techniques with Italian colleagues to transfer the technology.

AMPTE Satellite Creates World's First Man-Made Comet

Generally speaking, comets appear so infrequently that when one is viewable ground observers scurry to see it. Comet Encke appears most often at 3.3 year intervals, according to a Goddard scientist.

Early in the morning on December 27, ground observers in select parts of the world anticipated an even rarer comet, one that never had been seen before.

The world's first man-made comet - the holiday comet - was created 72,000 miles above Earth (over the Pacific Ocean west of Lima, Peru) that morning. Even though clouds obscured the viewing from official ground observation sites, scientists called the artificial comet a success - documented by on-station aircraft - and marked another milestone in the ongoing international project designed to study the solar wind's interactions with Earth's magnetosphere.

The comet was created by one of three spacecraft in the Active Magnetospheric Particle Tracer Explorers (AMPTE) program, involving the U.S., West Germany and the United Kingdom. Essentially, the mission entails using one satellite to inject barium and lithium particles inside and outside the magnetosphere, while the other two spacecraft monitor and measure the ensuing activities.

The holiday comet was formed when two barium canisters exploded into a cloud after being relased. Scientists say the solar wind caused the barium particles to form a tail more than 10,000 miles long, which lasted about ten minutes.

Employee Profile

Deputy Project Manager Handles Resources For International Programs

By David W. Thomas

As a college student in the early 60s, her career plans may have loomed cloudy. At that time, she was working each summer in NASA Headquarters Public Affairs Office, fielding queries on agency programs.

Today, however, the diminutive blonde-haired Goddard employee is the

AMPTE RESOURCES MANAGER—Suzanne Gallagher is the Deputy Project Manager for Resources of the Active Magnetospheric Particle Tracer Explorers project.

Deputy Project Manager for Resources (DPMR) of an international program that, among other things, created the first man-made comet in December. In her position, she's deft at dealing with resources and rock-sound about her future.

"I had not decided on may career back then," recalls Suzanne "Suzie" Gallagher, who is with the tri-national Active Magnetospheric Particle Tracer Explorer (AMPTE) project. "I originally considered becoming a bilinguist because I majored in Spanish, but I opted for NASA because I had developed a genuine interest in the space program."

She stayed with NASA, but not in Public Affairs, where she was offered a job as a writer. After graduating first in her class from Marjorie Webster College, Washington, D.C. with an A.A. in Liberal Arts, she took her first permanent NASA position in 1963 as a secretary in the Office of Advanced Research and Technology (OART).

Once in the "real" work world, Gallagher displayed the same studiousness in the office that made her valedictorian. After less than a year in OART, she was offered a secretarial position in Bioscience Programs, Office of Space Science and Applications (OSSA). She said she took the position with the understanding that she would eventually assume administrative duties.

Zeal for Work

Her zeal for "doing a good job" often drove her to read material outside of her area of expertise and to work weekends, even though it was not always necessary. Within a year in OSSA, she was promoted to administrative assistant in Planetary Programs, OSSA.

"I worked weekends not so much because of the workload," she said, "but because I wanted to learn to be the best at what I did. Similarly, I decided while I was working for NASA I should learn everything I could about the space program."

"...But I had not planned on a career with NASA ...I kind of soaked up everything there was to know about the job and became an asset to the office. People recognized I was a diligent worker and began giving me more responsibilities."

After working about 12 years in OSSA in several administrative/resources positions of increasing responsibility, Gallagher moved to the Low Cost Systems Office in 1976, when she became an operations analyst, assisting in managing resources for the Standard Equipment Program, and promoting and monitoring agency-wide business practices.

Then, in 1979, she became the Program Control and Resources Analyst in the Office of the NASA Chief Engineer. Her responsibilities included overall office administration and resources management plus similar management of special tasks assigned to the Chief Engineer by the NASA Administrator, such as the independent Shuttle Certification Assessment.

Gallagher came to Goddard in 1981 on a four-month detail in her current position.

Other Projects

In addition to AMPTE - which involves the U.S., West Germany and the United Kingdom and uses three satellites to study the magnetosphere - she also is active in two other international projects, ROSAT (Roentgen Satellite) and Lageos 2 (Laser Geodynamic Satellite).

ROSAT is scheduled for a Shuttle launch in 1987 and will perform the first all sky survey of X-ray sources with an imaging telescope; Lageos 2 is scheduled for launch in 1987 and will join Lageos 1 to augment the current program that studies the movement of the Earth's crust.

"I am really excited about these projects," she said. "This is the first time I have been part of a project from beginning to end. Some of the projects I have worked on in the past were either unpopular or short-term, and I never saw them come to fruition."

She said its great to see some tangible results from programs she has worked on for years.

Gallagher has been married for 19 years to Kevin J. Gallagher. They have a six-year-old daughter and reside in Potomac, MD.

Retirees

After years of dedication and service to Goddard, the following employees retired recently. We wish them well on their new endeavors and hope we will continue to benefit from their experience and wisdom. Listed are their codes and dates of retirement.

Armiger, John
754.4
01-03-85

Bialek, John
712
01-03-85

Blaine, Lamden
674
01-03-85

Canali, Vincent
716.2
01-03-85

Day, Louise
560
01-03-85

Falwell, Richard
711.1
01-03-85

Figueroa, Victor M.
542.1
01-03-85

Flannigan, Thomas J.
553.2
01-03-85

Fridie, Mildred F.
503
01-03-85

Gantt, Edward
752.3
01-03-85

Dr. Louis W. Uccellini Gets AMS' Meisinger Award

Dr. Louis W. Uccellini, a meteorologist in Goddard Space Flight Center's Laboratory for Atmospheres, has received the American Meteorological Society's (AMS) coveted Meisinger Award, presented to a young scientist for significant research achievements.

Dr. Uccellini, 35, works in the Center's Severe Storms Branch and received the award for his "innovative research on the coupling of the high- and low-level jet streaks (the highest winds embedded within a jet stream) and the role of this interaction in the development of severe thunderstorms and in winter cyclogenesis."

He is the 50th Meisinger awardee since 1938, when the AMS began acknowledging young scientists; the award includes a $100 check and a certificate.

The award was presented at an awards banquet during the AMS' 65th annual meeting, held January 9 at the Biltmore Hotel, Los Angeles, CA. Award recipients are cited for "research achievements that are at least in part, aerological in character," and preference is given to "promising atmospheric scientists," 35 years old or younger, "who have recently shown outstanding ability."

Dr. Uccellini is an authority on jet streaks and how they affect the weather. He has done extensive analysis on upper and lower level jet streaks and related their interactions to the development of severe convective storm systems.

He jointed Goddard in 1978 and since 1979 has been project scientists (PS) for the Visible Infrared Spin-Scan Radiometeric Scanner (VAS), flown on three Geostationary Operational Environmental Satellites (GOES); he also is Head, Mesoscale Analysis and Modeling Section.

Previous citations for his work have included the AMS Father Macelwane Award; a NASA/Goddard Outstanding Service Award; a NASA/Goddard Exceptional Performance Award; a NASA Group Achievement Award, as project scientist for the VAS demonstration team; the Maryland Distinguished Young Scientist Award; and the NASA/Goddard GLA Peer Award for Scientific Achievement.

Red Cross Cites Blood Donors

Goddard blood donors who have given a gallon or more were cited recently by the American Red Cross. Receiving pins for their donations were:

		Gallons Donated			Gallons Donated
Walter Allison	730.3	1	Steven Kempler	694	1
Thomas Bacon	531	2	Floyd Kramer	Contractor	1
Robert Barnes	233	5	Nancy Laubenthal	664	1
Michael Blizzard	562.8	3	Paula Liebrecht	562.8	2
Frank Boumila	530.9	1	Sherry Madison	752.1	2
Charles Boyle	200	2	Gregory Manfra	405	5
Steven Brodd	Contractor	1	Timothy McCain	271.3	1
Edward Brosnan	247.2	2	Alison McNally	151.1	1
Virgil Cleveland	302	15	James Metzger	731.3	1
Gilbert Colon	713.3	2	Thomas Mooney, Sr.	290.1	8
Shirley Cooke	610	2	Elaine Montgomery	653	4
John Crapster	530.9	3	Ronald Muller	402	3
Thomas Cygnarowicz	713.1	5	Hugh O'Donnell	531.2	3
Thomas Delaney	750.1	2	Ronald O'Leary	753.2	4
Brian Dennis	682	2	Stephen Peregory	633	1
Howard Dew	511.1	2	Michael Prokopchak	513	6
Stephen Edwards	745.2	1	David Reuben	272.2	1
Wayne Eklund	750.5	1	Donald Righter	661	5
Virginia Eller	740.1	4	Wyatt Rinker	750.5	2
Charles Fleetwood	717.2	3	Christopher Scherer	531.1	3
Herbert Foster	745.1	4	Bruce Schmidt	Contractor	1
James Foster	624	8	Thomas Schmugge	624	3
Neil Gehrels	661	1	Richard Stavely	732.1	1
Theodore Gull	683	2	Frank Stocklin	531.3	2
Raymond Haney	750.5	2	George Stonesifer	633	1
Powell Hinson	562.8	4	Walter Sullivan	533	5
John Hodge	201	2	David Thompson	662	2
Stephen Holt	660	1	Jan Turkiewicz	675	6
Keith Hope	Contractor	2	Lynne Zink	750.5	1
Barbara Karth	200.9	2			

DONORS LISTED ABOVE WHO DID NOT PICK UP THEIR PINS AT PREVIOUS BLOODMOBILE VISTS, SHOULD STOP BY THE CANTEEN AT THE NEXT BLOODMOBILE VISIT.

South Pole Data Link Installed

by David W. Thomas

Nearly three quarters of a century after five Norwegians became the first to reach the South Pole on December 14, 1911, a six-man Goddard team at the South Pole commemorated that explorative milestone with yet another historic event.

On December 14, 1984, 73 years later, they took turns talking to their colleagues in Greenbelt, MD, some 8,000 miles away, using one of two unprecedented satellite communication links the group installed during the month they were in Antarctica.

"The conversation was amazingly audible" said Tony Comberiate, a Goddard communications expert and a member of the South Pole Satellite Data Link Project team. "The folks at Goddard sounded like they were just a few feet away."

The capability for voice communications from the South Pole using Ham radio and the like has existed for some time, "but those systems usually are weather dependent and usually much noisier," he said.

The group, working closely with Pat Corrigan, code 602, manager, Orbiting Satellites Project, used the 17-year-old Applications Technology Satellite (ATS-3) to establish the two-way voice link.

But is was the installation of the scientific data link, which enables daily transmittal of information from the Pole, across Antarctica and onto the U.S., that is being heralded by the scientific community as the key, long-term breakthrough.

Before the group installed the system, scientific data from the pole had to be stored during the region's winter months and could be shipped out by aircraft only during the Austral summer (November 1—February 1), when weather permits landing at the Pole.

By using three existing polar orbiting satellites, a fourth is to be added soon, high quality scientific data can be transmitted on a routine basis. Each satellite passes the Pole about 14 times daily nearly every hour and a half, allowing about ten minutes to uplink data during each pass.

The satellites relay the data from the Pole to McMurdo Sound, which then retransmits the data to a geosynchronous satellite, which, in turn, transmits the information to the U.S. This relay route is necessary because signals from a transmitter at the Pole are too far below the horizon to be acquired by normal communications satellites. The McMurdo Station is located on the edge of Antarctica (-77 South Latitude), where it has access to the geostationary satellites.

A communications link from the South Pole has been considered before, but the logistics involved was too impractical and too costly. For example, planning a project of this magnitude usually would have taken several years and cost an estimated $35 million, according to project representatives.

Tremendous Support

"Our approach cost only about $250,000 and took only nine months," said, Mike Comberiate, the Goddard engineer who conceived the idea, "because we used existing satellites, excessed equipment and had tremendous support from several organizations."

The link will augment the investigations in the South Polar region currently being conducted by an international science community. And it will encourage even more studies, Mike said, "because now experimenters don't have to wait so long to get their data."

Scientists now can receive daily transmission of reliable data on: global weather patterns; the magnetospheric cusp; the upper atmosphere; and glaciological and seismic studies, to name a few disciplines. The link also has the potential to evolve into a data collection network for the many of the unmanned observatories (ground-based satellites) scattered throughout Antarctica.

According to team member Dave Provost, code 730, "this system can evolve into the high-quality data recovery operation that scientists have been getting from their counterpart instruments on NASA spacecraft."

The unqualified success of this project has led the world's largest Antarctic museum, the Canterbury Museum in Christchurch, New Zealand, to consider these achievements to be historic milestones heralding in the Space-Age for the White Continent. Mike said the museum is requesting a representative display from NASA.

Joe Walters photo

GRO MODEL AWARDS - From left to right: Ray Saxton, code 403; Bob Ross, 602, and Dennis Asato, 713.2 are shown with a model of the Gamma Ray Observatory (GRO). A GRO schedule analyst, a systems engineer for a GRO instrument and a systems engineer for the GRO propulsion subsystem respectively, the three received GRO model awards recently for significant contributions to the project. The GRO is scheduled to be launched by the Space Shuttle in 1988 and will use four instruments capable of making a comprehensive study of the gamma-ray universe. Designed to provide unique information on the high-energy processes associated with celestial objects, it will allow simultaneous observations with good time resolution and high sensitivity over the full gamma-ray energy range.

Silver Snoopy Awards Presented To Employees

Individuals Commended For Support Of Shuttle Missions

The Seventh Silver Snoopy Awards took place on December 7. Recipients are rewarded for professionalism, dedication and outstanding support that greatly enhanced flight safety and mission success for the STS program.

Mr. Robert O. Aller, Associate Administrator for Tracking and Data Systems, and Center Director Dr. Noel Hinners addressed the awardees. Astronaut Bryan D. O'Connor presented the awards.

The following individuals were recognized:

NASA: Henry W. Albright, John D. Azzolini, Nancy L. Deacon, Stephen K. Dolan, James H. Donohue, William E. Edeline, Jimmie C. Elswick, Philip B. Farwell, Bernard C. Fath, Thomas W. Flatley, Walter K. Frazier, Kevin J. Grady, Paul E. Henley, Donald G. Henry, Henry C. Hoffman, L. Jane Lankford, John F. Laudadio, Edward A. Lawless, Richard McAvoy II, Grace M. Miller, Seaton B. Norman, Susan P. Olden, John L. Parks, Jr., Anthony J. Pierro, Sr., Clarke R. Prouty, Fidel R. Rul, Jr., Chester H. Shaddeau, John F. South, Ervin D. Summerfield, Carollyn M. Thompson and Eugene R. Zink.

BENDIX: Beatrice M. Belovarich, Matthew J. Belovarich, Robert J. Beno, Harry B. Berman, Melissa L. Blizzard, Richard R. Borucki, Wayne L. Cocayne, H. Donald Correll, Edward G. Crough, Simon A. Dumas, Wiliam T. Dunkin, Edward J. Edwards, Alexander Green, Jr., Lawrence A. Haug, James F. Lifsey, David L. Love, Everett L. Martin, Donald T. Murray, Donald N. Potter, Joseph A. Schmid, Richard W. Seeley, Josef W. Segur, Pradeep Sinha, Herbert M. Small, Joseph H. West, Daniel N. Yannuzzi; the Antenna Engineering Team (Alois Betmarik, Jr., Hermie A. Caballes, Dhanalaksh Colundalur, Joseph J. Fiorino, John A. Foschetti, Joseph Keim, Quat V. Ngo, George L. Olsen, Larry Smith, and Thomas E. Wise).

Also, Mission Managers (Joseph M. Curley, Roger A. Hunter, Donald E. Johnson, and John L. McAdory, Jr.)' Fault Isolation and Monitoring System Team (Ernie Hassell, Daniel J. Hein, Allan C. Lane, Robert L. Muir, Jr., Dale Schnepf, Michael B. Uffer, and John Vogel); Programmable Data Formatter Software Team (Joan L. Fritz, Brian Goldman, Diana B. Gumas, Marjorie P. Klein, and John D. Sheckler); Shuttle Documentation Coordinators (Maureen O'Connell Brunk, Michael Cogar, and Nancy V. Klein); Special Events Controllers (Nathaniel W. McGuire, Joseph T. Modesty, Elliott M. Simons, Joseph W. St. John, Jr., and Hollice Toomer); STS Mission Teletype News Service (R. John Leupold, Orest Petrenko, and James Rattigan); and Technical Writing Supervisors (John R. DeShong, Earl H. Daniel, and Winslow S. Johnson).

COMPUTER SCIENCES CORP.: Matthew Bond, John G. Hasenei, Jr., Patricia A. Johnson, Robert H. King, Raymond W. Luczak, John W. McGarry, Margaret C. Mix, Lloyd G. Rubidoux, Tracy L. Scagliarini, Milton V. Slade, Sr., Leonard W. Switalski, Sr., the Network Control Center Data Base Specialists (John Brown, Michael A. Causey, Carolyn Goodwin, Pam LaBossiere, Lisa Levine, Mary Wood, and Anne McGinnis Wood); On-Site Support Team (Kevin Bailey, Frank Castello, David Salisbury, and Frank Weinstein); and Network Control Center System Programming Team (Burgess A. Ferguson, Shantaram M. Ingale, George T. Kallarakal, Tai H. Kim, and Vinod Malhotra).

FORD AEROSPACE: Shawn B. Belton, Debra Lucas, Gerald Mansberg, Stephen A. Mayville, William E. O'Donnell, Richard Y. Stafford, and Mission Operations Integration Specialists (Albert W. Duany, Roy S. Goldsmith, Edward P. Plyler, and Alfred A. Wright).

RAYTHEON: Emergency Logistics Support Group (Patrick M. Berry, Alston E. Jeffries and Sylvia A. Sykes).

SPERRY: Michael E. Blackstone and Joseph A. Simpson.

OAO CORP.: Stephan R. Hammers

Joe Walters photo

ASTRONAUT AUTOGRAPH - Astronaut Bryan O'Connor signs his autograph for employees children during Silver Snoopy Awards on December 7 at Goddard Space Flight Center.

GODDARD MOURNS

Goddard retiree Daniel G. Mazur, 68, died of a brain hemorrhage December 16 at Holy Cross Hospital, Silver Spring, MD. He retired in 1973 as Associate Director of the Center's Engineering Directorate and served in the Federal government for more than 32 years.

Director to Address Center Employees

Center Director Noel W. Hinners will speak to employees at the Goddard Space Flight Center Visitor Center February 4 from 2 p.m. - 3 p.m. on future Goddard activities.

Specifically, Dr. Hinners will discuss plans for the future, new activities and issues that concern employees. He also will answer questions after his presentation, which will be aired on Goddard's TV in the Building 3 and Building 8 auditoriums and at the Wallops Flight Facility, audience questions will be entertained from all three locations, as will questions submitted in advance of the program.

Goddard Solicits Proposals For Commercial Space Platform

In a move designed to attract commercial activity in space while simultaneously satisfying government needs, officials at Goddard have asked industry to develop a space platform for providing five years of on-orbit services to NASA payloads and still allow the developer to market to a wide variety of commercial users.

In a departure from customary practices, industry would finance, develop, own and operate the platform.

The Request For Proposal (RFP) released by Goddard officials recently is considered a major "first step" toward creating a closer partnership between government and industry in space. Officials at Goddard described the action as a "pioneering effort that will allow many payloads from different users to share the same platform, with the first use in late 1988."

As envisioned, the platform—which is totally apart from NASA's plans for a government-developed permanent manned space station—the commercial entrepreneur would be free to market the platform services for materials processing or other manufacturing type activities.

However, the government stipulates that the platform must be capable of providing services for three of NASA's forthcoming projects—the Extreme Ultraviolet Explorer (EUVE), the X-Ray Timing Explorer (XTE) and a Zero Gravity Payload—as well as for a fourth as yet unidentified project.

The EUVE will be a free flyer after its deployment from the Space Shuttle on a mission now scheduled for December 1988. Its primary objective will be to conduct a survey of the entire celestial sphere (full-sky) in the extreme ultraviolet. The science payload will weigh 730 kg (1600 lbs).

The XTE will explore X-ray sources to help scientists learn more about the physical laws governing their behavior. The XTE payload will weigh between 1500 and 2000 kg (3300-4400 lbs).

The Micro-Gravity Payload carrier will weigh 900 kg (2000 lbs) and will be used to house micro-gravity experiments on orbit for up to six months. The contractor will be required to maintain the zero-gravity environment and to supply continuous power up to 2000 watts.

As planned, the commerical platform would be launched from either the shuttle or another launch vehicle into an orbit in space. In one possible scenario, payloads launched in the shuttle would be taken to the platform, where the astronauts would remove the payload that had been aboard the platform, install another payload and bring the payload which previously had been on the platform back to Earth.

Presidential Award Presented To Center

Goddard Space Flight Center has received a Presidential Award for its 1985 Combined Federal Campaign (CFC). With 99 percent of the pledges in, Goddard personnel have contributed $261,250 to the 1985 CFC. This represents 120 percent of the Center's goal of $215,000.

Another $3,340 was contributed on Central Maryland pledge cards. The combined total of 264,590 respresents an all-time Goddard record for giving. To qualify for the Presidential Award, organizations must have total contributions averaging $75 or more per employee.

NASA National Aeronautics and Space Administration
Goddard Space Flight Center

Goddard News

Greenbelt, Maryland and Wallops Island, Virginia

The GODDARD NEWS is published monthly by the Office of Public Affairs, Goddard Space Flight Center, Greenbelt, Md. 20771. Deadline for submitted material is two weeks before the date of publication. For additional information on articles contained herein, contact the editor on (301) 344-8102. Editor: David W. Thomas

Mail your story to the Goddard News, or call the Editor at **344-8102**