



January 1987

# NEWSLETTER

WOODS HOLE OCEANOGRAPHIC INSTITUTION

## TRUSTEES APPROVE WHOI CENTER FOR MARINE EXPLORATION

A Center for Marine Exploration (CME) will be established at WHOI to foster the continued development of unmanned deep ocean systems and to provide a focal point for marine scientists and others to explore the deep sea. Robert D. Ballard, senior scientist and head of the Deep Submergence Laboratory, will serve as Center Director.

Formal approval of the Center was given by the Trustees at their January 15 meeting. Funding for the new Center will be requested from federal agencies, industry and philanthropy. Government agencies and departments will be encouraged to utilize the Center in their research programs, and research and development partnerships will be established with industrial organizations that will contribute to and benefit from the Center's activities.

CME has four primary goals. The first is to provide scientists with more advanced and cost-effective techniques for deep ocean exploration, furnishing the means to conduct seafloor experiments. Secondly, to enable engineers and technicians to create new technologies for the deep sea. Third, to provide marine archaeologists and other social scientists opportunities to utilize this technology for cultural and historic purposes. The fourth goal is to increase public awareness of the marine environment by making scientific and technological advances and discoveries available through visual means.

"The Center will provide a scientific and cultural window on the deep ocean," said Institution Director John Steele.

## UNITED WAY CAMPAIGN UPDATE

Charlie Innis is happy to report a single contribution of \$1,500 which boosted the WHOI 1987 campaign total to \$13,522.

## FUNDING OUTLOOK BRIGHTENS FOR OCEANOGRAPHIC RESEARCH

The funding picture for oceanographic research, in general, and for WHOI, in particular, has brightened considerably, says Gary Walker, WHOI Assistant Director for Finance and Administration.

"Over the past several years, there has been concern with the overall funding climate, especially in light of Federal budget deficits and the Gramm-Rudman Budget Deficit Reduction Act which adversely affected funding coming to the Institution during the 1985-1986 period," Gary noted. "But things have changed," he adds.

Gary reports that the current outlook for future funding for ocean sciences is especially positive at the National Science Foundation, with generally level funding from our other funding sources.

The National Science Foundation 1987 approved budget for ocean science research has increased from \$120 million in 1986 to \$145 million in 1987, a 21 percent increase. The overall NSF budget request for 1988 which the President sent to Congress requests an increase of 16 percent. Details by program area are unknown at the present time.

Gary notes, "The increased levels are very important to the Institution since we receive approximately 50 percent of our research funding from NSF. A significant portion of the NSF funding increase is to support major efforts in global ocean science." Two programs, the World Ocean Circulation Experiment (WOCE), including scientists from the Physical Oceanography, Ocean Engineering and Chemistry Departments, and the Global Ocean Flux Study (GOPS), with participation by scientists from the Biology, Ocean Engineering and Chemistry Departments, are major parts of the global ocean science initiatives.

The Institution has also begun to receive funding from the National Insti-  
continued on page 2

**FUNDING** — continued from page 1  
tutes of Health (NIH) after a lapse of many years. The funds are from the National Cancer Institute, a part of NIH, and are for research on tumors in winter flounder.

The Institution is also receiving additional funding from NASA. Several seed programs are underway at the moment which have the potential for longer term, significant levels of funding.

"In general," says Gary, "the outlook is promising; a far cry from the doom and gloom of the past two years."

---

#### IN MEMORIAM

The Institution notes with great sorrow the death of Gifford Ewing, the "father of space oceanography," on December 10 in La Jolla at the age of 82.

Dr. Ewing came to Woods Hole in 1964 and coordinated the first conference on oceanography from space. During his ten-year stay at WHOI as associate physical oceanographer and senior scientist, and during the course of his entire career, he nurtured the development of satellite and shuttle oceanography into what is now an integral part of oceanographic investigations in the biological and physical sciences.

Dr. Ewing received his doctorate from Scripps in 1950 for work that showed the internal wave basis for sea surface slicks. During his 14-year tenure in La Jolla, he was active in the application of aerial observation methodology to oceanography, for which he often used his amphibious plane.

Dr. Ewing was elected an honorary member of the WHOI Corporation in 1960 and was named a scientist emeritus in P.O.

---

#### BLAIR BRUMLEY APPOINTED ASSISTANT SCIENTIST

Ocean Engineering's newest assistant scientist is Blair H. Brumley. His research interests include turbulence, gas exchange, mixing processes and air-sea interaction. Blair came to WHOI in 1984 as a postdoctoral investigator and was named a postdoctoral scholar in 1985. He received his undergraduate degree from Brown

University (magna cum laude) and his master's and doctoral degrees from Cornell University in environmental engineering..

---

#### ZAFIRIOU PROMOTED TO SENIOR SCIENTIST

Oliver C. Zafiriou has been promoted to senior scientist in the Chemistry Department. Ollie came to WHOI in 1969 as an assistant scientist and was promoted to associate scientist in 1974. His research interests include photochemistry and redox kinetics in aquatic systems, the aquatic nitrogen cycle, and chemistry of the marine troposphere.

Ollie received his undergraduate degree from Oberlin College and his doctorate from Johns Hopkins University. Before coming to WHOI he served as a research associate at Florida State University and Johns Hopkins, and was an assistant professor at Haverford College.

---

#### GAGOSIAN NAMED NEW ASSOCIATE DIRECTOR

Robert B. Gagosian, Chairman of the Chemistry Department, has been appointed Associate Director for Research for the science and engineering departments, effective June 1. Derek Spencer will continue to serve as Associate Director for Research, with general oversight for the development of major interdisciplinary programs and individual programs within the Centers (Marine Policy Center, Coastal Research Center, Center for Marine Exploration and Center for Analysis of Marine Systems).



Bob Gagosian (right), newly named Associate Director for Research, joins Director John Steele at the Administration Christmas Party.

# People

## VAN ALAN CLARK CHAIRS AWARDED TO JENKINS AND PURDY

On the basis of nominations for the award of "The W. Van Alan Clark (Sr. and Jr.) Chairs for Excellence in Oceanography," selection was made and approved unanimously by the Executive Committee of the Board of Trustees. Awardees are Senior Scientist William J. Jenkins of the Chemistry Department and Associate Scientist G. Michael Purdy of the Geology and Geophysics Department.

The permanently endowed chairs are awarded for a five-year period to tenured members of the scientific staff who have distinguished themselves through extraordinary accomplishments in marine scientific research and education. Funds from the award can be used for salary support at any time during the award period.

Endowment for the Chairs was provided by an \$800,000 challenge grant from the Penzance Foundation, a charitable organization founded by the late Edna McConnell Clark to support those causes in which she and her husband, the late W. Van Alan Clark, Sr., had great interest and involvement during their lifetimes. Mr. Clark was one of the first WHOI Associates and served as a Corporation Member and Trustee. W. Van Alan Clark, Jr., was President and



Mike Purdy (left) and Bill Jenkins are the recipients of the first Van Alan Clark Chairs for Excellence in Oceanography. It has been noted that one criterion for the award may have been height -- both men are over 6'4"!

Chairman of Sippican Corp. and a former associate dean at MIT. He also served as a Corporation Member, Trustee and Associate.

Bill Jenkins was sited for development of unique methods of analyzing chemical isotopes of important elements in the ocean which allow an understanding of large scale/long term vertical and horizontal circulation. Other efforts have been in the areas of chemical aspects of ocean productivity and geochemical structure and evolution of seamounts.

Bill joined the Institution staff in 1974 as an assistant scientist, was promoted to associate scientist in 1978 and senior scientist in 1983. In 1983 he was presented the Rosenstiel Award in Oceanographic Science from the University of Miami for his pioneering work in chemical analysis and numerical modeling.

Mike Purdy joined the Institution staff in 1974 as a postdoctoral scholar, was named an assistant scientist in 1975 and an associate scientist in 1979. His work has been influential in furthering understanding of the structure of the oceanic crust and in the processes leading to the development of ocean basins and ridges.

Mike has contributed to important developments in his field both theoretically and in the creative introduction of new observational techniques, as well as being actively involved in the Education Program.

## STATE AWARDS THREE CENTER OF EXCELLENCE GRANTS TO WHOI SCIENTISTS

Three out of 21 Massachusetts Centers of Excellence Corporation grants have been awarded to WHOI scientists in conjunction with local industries. The scientists, partners, and projects are: Don Anderson, working with Associates of Cape Cod on "A Rapid, Sensitive Assay for Paralytic Shellfish Poison;" Jules Jaffee, with Marine Imaging Systems on "Characterization of Marine Resources Using Image Processing;" and Ken Prada and Ferranti ORE to "Develop a Low-Cost Compact ARGOS Satellite Transmitter."

THE ORIGINAL R/V ASTERIAS  
BY Edwin B. Athearn

(Edwin "Ed" B. Athearn was employed at WHOI from 1939 through 1946 as Master of ASTERIAS and later ANTON DOHRN. After leaving WHOI, he returned to the sea as a fisherman. Marriage and a desire to spend more time ashore led him to a job in sales as a boat broker for the commercial fishing industry. Now, at age 74, he has taken on a new career as New England Sales Manager for Rock-Dock, a cement/glass flotation material for marinas. The following is his account of the history of the original ASTERIAS. His story of the ANTON DOHRN will be printed in an upcoming issue of the Newsletter.)

Early in the year 1939 I was busy during the winter months operating the fishing dragger ELMARDO as a ferry service between the Islands (mostly Vineyard Haven) and Woods Hole. Steamer service, for economy reasons, had been reduced to one vessel and one round trip daily between New Bedford and the Islands. Winter storms or dense fog would keep the ferry steamer in port, usually at Nantucket. At such times, the ELMARDO was in great demand. Capacity loads of passengers, baggage, and food supplies were safely transported. Many emergency trips were made for medical specialists required by the Vineyard hospital, generally at night (helicopter service not being available in those days).

Among notable people who utilized this service were Stephen C. Luce, influential Island banker, and Columbus O. Iselin, director and co-founder of WHOI. Mr. Iselin was a daily commuter -- and he must have been impressed with my sailing abilities, because he offered me a job as Captain at the Institution.

These were heady times -- World War II was brewing. The Navy was in the process of expanding its limited knowledge of oceanography by instituting wide-ranging research at WHOI.

A short time later the U.S. declared war on Germany. The Oceanographic's R/V ATLANTIS, the world's largest ketch-rigged sailing craft, was cruising in the Caribbean. Although she was ideal for oceanographic research, the world-famous ship would have been an easy target for enemy

submarines. Therefore, she was ordered into Mobile, Alabama, where she was moth-balled for the duration of the war.

Meanwhile, a quaint 73-foot double-ender, the ANTON DOHRN, had been delivered to WHOI by the marine biology division of the Carnegie Institution. (A separate story will be written about this strange craft and her eventual wartime activities.) A decision was made to proceed with rejuvenating the DOHRN -- a complete repowering and reconditioning project on the chance that the vessel would be made ready for wartime sea duty.

There was urgency, however, to get the Navy work started. The DOHRN would not be available for a long time.

We had only one boat ready and able to begin the Navy program -- the 42-foot utility boat ASTERIAS, a husky little vessel built for WHOI in 1931 by Major Casey at his Fairhaven, Massachusetts, shipyard (at about the same time that ATLANTIS was enroute from the Copenhagen shipyard where she was built). ASTERIAS was intended for inshore biological work -- with an operating range of about 200 to 300 miles. Similar to commercial fishing boats of that era, she was substantially built of white oak and Southern hard pine. Fastenings were galvanized iron wedge-shaped hatch nails, known as "button head spikes." Keel bolts and drift rods were 3/4-inch galvanized iron -- very durable. The engine, at that time, was a slow-turning, heavy-duty gasoline masterpiece.

ASTERIAS was promptly pressed into service with me as skipper. Orders were to rendezvous with a Navy ship at a position in the Gulf Stream some 200 miles ESE of Montauk, New York. Several barrels of reserve gasoline, secured on deck, gave us the necessary range to reach the test site and stay on location. At required intervals, gasoline was siphoned into the main tanks -- a somewhat dangerous procedure since most members of the crew and scientific party were smokers.

Rather than broadcast secret activities through radio communication, ASTERIAS converged with the Navy ship late in the working day. At this time the scientific personnel carried on a shouting conversation concerning their cooperative venture.

Over a ten-day period the vessels drifted steadily NE on the deep blue waters

of the Gulf Stream, performing a series of underwater acoustics tests using pre-packaged explosives. In the course of a day a series of "shots" were lowered and fired at variable depths. Water temperatures were continually recorded.

These tests were designed to locate the "cold layers" of water which deflected traditional U.S. Navy sonar signals and allowed German submarines to hide undetected. At stake was a new sonar system being tested on the Navy vessel. Destroyer escorts for troop and ship convoys would henceforth be modernized with this equipment, the best sonar search system available at that time.

On subsequent voyages ASTERIAS continued to carry out a variety of technical projects. One job was to study wave action along the south shore of Martha's Vineyard. The height and frequency of breaking waves was recorded during changeable weather conditions — information that was needed for future military beach landings.

Another adventurous directive was to proceed seaward in prevailing winter gales. Various types of oils were pumped overboard to test the soothing effect upon the breaking waves. Peanut oil proved to be the most effective. The sharp seas became big swells under a layer of congealed peanut oil. Acres of it later washed ashore whereupon gulls and other seabirds had a banquet! But the Navy had found a way to calm the troubled waters.

It was during these rough water projects that I became aware of the extraordinary seagoing qualities of ASTERIAS. In the wildest sea conditions, she rode like a duck, with an easy comfortable behavior — a special advantage for the men who worked on deck. Whether going to windward or at any angle to wave conditions, she handled with ease. A riding sail did not seem necessary. ASTERIAS was a rare combination of excellent design and construction — the NATURAL seaboat!

When the 73-foot ANTON DOHRN was finally ready for sea duty, I made the transfer to the rehabilitated double-ender with considerable reluctance. However, between wartime cruises, which were sometimes of several weeks duration, it was always a special pleasure to commute over to Vineyard Haven with other Island crew members in the ever reliable ASTERIAS.

When the war ended she continued to do whatever oceanographic work was required. Each skipper, in turn, took good care of her. A G.M. diesel replaced the original gas engine. A new larger combination wheelhouse and deck lab had been built, an improvement highly appreciated by the scientific personnel and boat crew.

Capt. Dick Colburn kept ASTERIAS active and in yacht-like condition until she was replaced in 1980 by the new, somewhat larger fiberglass version.

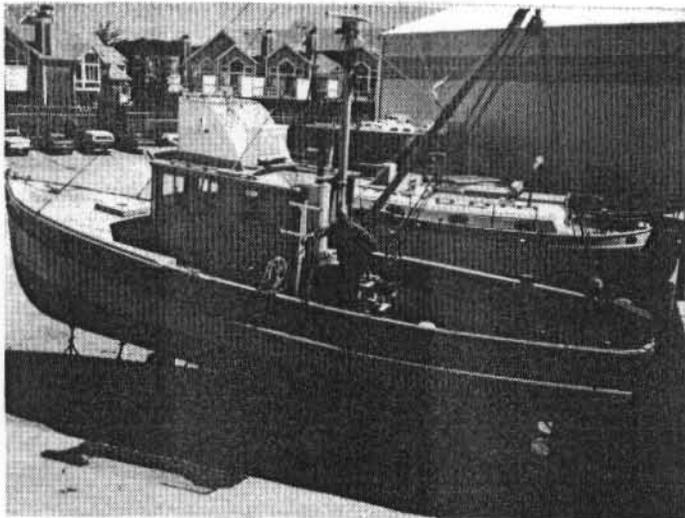
WHOI offered ASTERIAS for sale on a sealed bid procedure. I was among the bidders, but Ocean Research Engineering (O.R.E.) of Falmouth won the contest. She was operated out of MacDougall's Boatyard, testing instruments (with a minimum of maintenance) through 1985. At that time O.R.E. was sold to another company with their own futuristic version of a boat.

With all useable equipment removed, ASTERIAS was hauled out and stored. After six months of sitting on blocks, the veteran seaboat had a rather weatherbeaten appearance. The general concensus was that the boat had served her time. Yard management pondered her future as she sat neglected, in sorrowful contrast to the shiny new playthings around her.

By chance, I wandered into the yard one day. To come upon my favorite boat in such deplorable circumstances was a complete surprise and disappointment. It was time for action! At the nearby O.R.E. office, Bill Eagan was encouraging. Ownership of the ASTERIAS had been transferred to MacDougall's Boatyard. He would check with them regarding the status of the boat. The answer came by phone the following day — ASTERIAS was available! The next step was to negotiate with Fred Metel, yard manager, to have his crew prepare the classic vessel for launching.

David Lewis, a resident of Oyster-ville and a former shipmate, agreed to join the project as a working partner. His assistance proved invaluable as the boatyard crew became too busy to give ASTERIAS their attention. With management permission, Dave undertook practically all of the work on the hull exterior — power sanding, caulking and painting. Plenty of sweaty, tiring work.

The target date for launching was



R/V ASTERIAS and co-owner Dave Lewis.

June 30, 1986. At 5:00 p.m. on that date the R/V ASTERIAS was picked up by the Travel-Lift crew and set afloat in Falmouth Harbor. I celebrated her prospective new career by splashing a cup of coffee over her stem as a christening gesture!

Rays of late afternoon sunlight glistened off the new two-tone gray and blue paint along her topsides. Free of the suspending straps, she was moved and secured at a nearby pier. There were only a few trickly leaks from several dried-out seams under the oak ice sheathing.

By good fortune and the yard manager's tolerance, the boat was allowed to sit quietly at the pier for several days. With time, she resumed her natural posture while the seams slowly tightened and the leaks stopped. During the interlude the complex wiring system was studied. The batteries proved to be in excellent condition. The long-idled diesel engine, to our amazement, started instantly and functioned smoothly.

Dave and some friends delivered the ASTERIAS to her new mooring in Cotuit. It was a beautiful bright July day with a strong tide in their favor. Since that time, we have made every effort to get ASTERIAS in a state of first-class operating condition. The summer weekends were reserved for family "yachting" in our character boat, cruising leisurely along with scores of expensive cocktail craft. Dave and I agree that there is a sense of special satisfaction to be onboard one of the most experienced seagoing vessels of her size in existence!

During the coming winter months we will proceed with further repairs and reconditioning -- all part of the worthwhile project of a complete restoration. The quality and strength of construction in ASTERIAS could very well keep her profitably active for several more decades. She is considered to be adaptable for a variety of practical uses.

There is every reason to believe she will have a pleasant and successful future!

---

#### OCEANOGRAPHIC SHIP NOTES

ATLANTIS II and ALVIN will depart San Diego on January 26 on Leg IX of Voyage #118. This is a transit leg to Honolulu; expected arrival date is February 4. Leg VIII, January 10-21, continued scientific studies of the mechanisms and rates of sediment deposition, sediment mixing and deposit feeding by organisms in the San Diego Trough and the Santa Catalina Basin.

OCEANUS departed Woods Hole on December 29 for a month-long voyage (#180) to the Central Transform Region of the Kane Fracture Zone. The purpose of the cruise is to conduct a microearthquake study using explosive sound sources and ocean bottom hydrophones and seismometers.

KNORR is laid up at the Woods Hole dock until September.



Rod Catanach (center) accepts one of the raffle prizes as Santa and emcee Gordon Glass look on at the WHOI Christmas Party at the Shoreway Acres. Thanks go to the Christmas Party Committee (Cindy Leonard, Debby Marenga, Maggie Walden and Noelle Conway) and all the ticket sellers. Their efforts and hard work made the 1986 party a success.

---

# New Faces

January 1987



Chang Sheng Chen  
J. P. Student  
Physical Oceanography  
Clark 320/x2506  
R. Beardsley



Mark Grosenbaugh  
Postdoctoral Invest.  
Ocean Engineering  
DSL Blake 2/x2608  
D. Yoerger



K.I. Faith Hampshire  
Secretary  
Geology & Geophysics  
Clark 256/x2227  
C.L.R. Smith



Jane Larson  
Secretary  
Education  
Clark 223/x2200  
V. Kaharl



Catherine A. McDonald  
Travel Coordinator  
Controller  
Challenger/x2485  
V. Lefavor



James W. Moffett  
Postdoctoral Scholar  
Chemistry  
Redfield 3-10/x2660  
O. Zafiriu



Michael J. Sawyer  
Ship. & Rec. Clerk  
Services  
Quissett Whse./x2418  
B. Crampton



Sara W. Simpson  
Staff Assistant  
Library  
Clark 135/x2865  
C. Winn



Pamela J. Thorsell  
Travel Coordinator  
Controller  
Challenger/x2365  
V. Lefavor



Sarah P. Wyatt  
Staff Assistant  
Services  
Quissett Whse./x2412  
B. Crampton

---

## PROMOTIONS AND OTHER PERSONNEL CHANGES

Recent promotions include:

OLIVER ZAFIRIOU - Chemistry - from Associate Scientist to Senior Scientist.

Recent appointments include:

BLAIR BRUMLEY - O.E. - Assistant Scientist.

---

NEWSLETTER NOTICES -- Send items of interest to the oceanographic community to Anne Rabushka, editor, Co-op, ext. 2271.

---

# Calendar of Events

## WHOI/SHERATON SWIM CLUB SEEKING MEMBERS

Employees and their families interested in joining the WHOI/Sheraton swim program should contact Jim Churchill at ext. 2544. The membership fee (Feb. 1 - June 1) is \$15 (children under 12 registering with a parent are free). Members are entitled to swim at the Sheraton pool at a cost of only \$1 per swim.

## EXPANDING YOUR HORIZONS IN SCIENCE AND MATHEMATICS CONFERENCE

A program to bring the excitement and challenge of science and math careers to junior and senior high school girls will again be offered on Cape Cod later this spring. The WHOI Women's Committee is coordinating the Institution contribution to the event.

Goals of the conference, part of a national effort, are: to foster awareness of career opportunities in non-traditional fields; to increase young women's interest in math, science and technical fields; and to provide an opportunity to meet and talk with women working in technical and scientific fields.

The conference schedule includes an opening address and hour-long workshop sessions during which time students can get some hands-on experience.

Anyone interested in offering a workshop should contact Anne Rabushka at ext. 2271. Past workshops have included: marine geology and stratigraphy, biochemistry: a tool to study pollution, ecology and technology. The conference will probably be held in late April or May.

## STOP SMOKING FOR THE NEW YEAR

Anyone interested in attending a quit smoking program (six lunch hours over three weeks) should contact Judy Kleindinst at ext. 2745. Days will be chosen to meet the needs and schedules of participants. The program, entitled "Fresh Start," was designed by the American Cancer Society and is being sponsored by the WHOI Women's Committee.

For those WHOI employees who were

unable to attend the "Taking Control--Ten Steps to a Healthier Life and Reduced Cancer Risk" seminar, Judy has additional information packages.

## DIVER'S SPECIAL FIRST AID AND CPR TO BE OFFERED IN FEBRUARY

An intensive course, designed for WHOI SCUBA divers, will be offered Feb. 9, 12, 17, 19 and 24 at 1:00 pm in Redfield Auditorium. Attendees must have previously completed Bob Hindley's Standard First Aid Course.

Terry Rioux, diving safety officer, notes that 8% of the total WHOI population hold diver certification — and that number goes up to 12% if the population is limited to scientific staff, students and ships' crews. "Divers have special considerations, such as embolism and the bends," says Terry. These topics and others will be covered in the course, which will be offered again in November.

On Feb. 3, 5 and 10, CRP/Life Support will be offered in Redfield Aud. at 1:00 pm. Contact the WHOI Safety Office, ext. 2242, if you plan to attend either course.

## FEBRUARY IS BLACK HISTORY MONTH

In celebration of black history month, WHOI, MBL and the Fisheries are sponsoring several events, all of which are open to the public at no charge.

On February 4 at 3:30 pm, Redfield Auditorium, Dr. S. Allen Counter, Harvard University, will speak on "The Peary-Henson Link--The North Pole Secret." Dr. Counter is an author, neurophysiologist, explorer and filmmaker.

On February 11, 3:30 pm, Redfield Aud., Mr. Willie Wilson, Brockton Public Schools, will speak on "Black New Englanders During the Constitutional Era."

Mr. Robert C. Hayden, Executive Director, Mass. Pre-Engineering Program, will discuss "Free Blacks and the Constitution, 1787 to 1900: Emphasis on Inventors" on February 26, 3:15 pm, Meigs Room, Swope Center, MBL. The annual Harambee celebration will be held in Swope Center after the talk.